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SOIL SCIENTISTS REPORT

Date: July 21, 2020

Project No.: 42569.00

Prepared For: Gravel Pit Solar, LLC
Gravel Pit Solar I, LLC
Gravel Pit Solar II, LLC
Gravel Pit Solar III, LLC

Project Name: Gravel Pit Solar Project consisting of the following eight properties as identified by the East Windsor' Assessor's Office and VHB:

Parcel ID	Area (Acres)	VHB Survey Area (Acres)
057-65-001	98.0	97.8
057-65-002	3.0	3.6
048-65-007	124.8	132.4
037-65-005A	14.6	14.6
025-49-017C	86.5	86.5
025-49-017A	124.4	127.2
016-49-007	118.7	119.5
016-50-001	156.2	155.5
Total Area	726.2	737.2

Site Location: Apothecaries Hall Road, Windsorville Road, Plantation Road, and Wapping Road, East Windsor, CT

Site Map: Wetland Delineation GIS Figure, dated May 7, 2020

Survey Plan: Existing Conditions Plan

Inspection Dates: 10/16/2019, 11/5/2019, 11/13/2019, 12/13/2019, 1/6/2020, 3/3/2020, 3/26/2020

Field Conditions: Weather: sunny to cloudy 20's to 50's
Snow Depth: 0-1 inches
General Soil Moisture: moist
Frost Depth: 0-1 inches

Type of Wetlands Identified and Delineated:

Connecticut Inland Wetlands and Watercourses ☒
Tidal Wetlands ☐
U.S. Army Corps of Engineers ☐

Engineers | Scientists | Planners | Designers

1 Cedar Street
Suite 400
Providence, RI 02903
P 401.272.8100
F 401.277.8400

Wetland determinations are based on the presence of poorly drained, very poorly drained, alluvial, or floodplain soils and submerged land. Watercourses are defined as "rivers, streams, brooks, waterways, lakes, ponds, marshes, swamps, bogs and all other bodies of water, natural or artificial, vernal or intermittent, public or private, which are contained within, flow through or border upon the state or any portion thereof." Intermittent watercourse determinations are made based on the presence of a defined permanent channel and bank, and at least two of the following characteristics: (1) evidence of scour or deposits of recent alluvium or detritus, (2) the presence of standing or flowing water for a duration longer than a particular storm incident, and (3) the presence of hydrophytic vegetation. (See Inland Wetlands and Watercourses Act §22a-38 CGS.)

Local Regulated Upland Review Areas:

In general, the Inland Wetland and Watercourses Regulations of the Town of East Windsor (IWW Regulations) call for a **150 foot** regulated Upland Review Area from inland wetlands and watercourses.

Section 6.1 of the IWW Regulations describe regulated activities: *The Agency shall regulate any operation or use of a wetland or watercourse involving removal or deposition of material, or any obstruction, construction, alteration or pollution of such wetlands or watercourses, and any earth-moving, grubbing land, filling, construction, or clear-cutting within one-hundred fifty (150) feet of an upland review area that borders a wetland and/or watercourse, and on terrace escarpment soils*[1] *adjacent to a wetland, watercourse or upland review area*.

This means the regulated area around all delineated wetlands and watercourses consists of the 150-foot dimensional off-set from the flagged wetland edge and, where present, those portions of terrace escarpment soils[1] that are adjacent to the wetland, watercourse, or upland review area. Adjacent would seemingly indicate draining to the wetland.

Also, IWW Regulations Section 7.5.n. instructs: *The site plan shall show any potential vernal pools on the affected portion of the proposed property along with a written evaluation as to the quality of the vernal pool and probable effect of the development on the vernal pool(s) conducted by a certified wildlife scientist, professional wetland scientist or similar qualified individual (as determined by the Commission).*

1. A buffer of 100 feet of non-disturbance shall be incorporated into the site plans when a vernal pool is identified. This non-disturbance area can be adjusted at the approval of the Commission based upon evidence of vernal pool quality by an expert.

2. No piped stormwater system shall discharge into a vernal pool.

1 The IWW Regulations provide this definition for "Terrace Escarpment" *means steeply sloping lands denoted under the general soil classifications units Te, Tc, Tg in the Hartford County Soil of the Soil Conservation Service, U.S.D.A. in the Soil Survey of Hartford County, Connecticut (SCS, 1962). The latest revision to the Soil Survey (Web Soil Survey) now correlates the 1962 Tg map unit as 37E.*

Field Numbering Sequence of Wetlands Boundary: The field numbering sequences for wetlands delineated within the Project Area are provided in Table 1.

Table 1 Wetland Delineation Flag Series

Wetland No.	Flag Series
1	WF 1-100 start to 1-198 to 1-195 (dup) to 1-198(dup) end; WF 1-201 start to 1-283 end; WF 1-173 start to 1-198, WF 1-198.2 to 1-198 ties to 1-200 to 1-212 to 1-212.1, 1-212.2, 1-212.3, 1-212.4, 1-212.5, 1-213 to 1-228 end loop; 5-102 start to 5-141 ties to 5-157 to 5-162 ties to 5-166 to 5-180 ties to 5A-100 to 5A-107 ties to 5B-100 to 5B-108 ties to 5-181 to 5-187 ties to 5-194 to 5-210 ties to 5-214 to 5-220 ties to CT5-100 to CT5-104 ties to 5-246 to 5-254 ties to 5-267 ties to CT5-110 to CT5-147 ties to 5-314 to 5-316 ties to 5-318 to 5-342 ties to 5-342.3, 5-342.6, 5-343 to 5-347 ties to 5-348B to 5-355B ties to 5-354 to 5-356, 5-356.5, 5-357 to 5-385 ties to 5-400 to 5-402, 5-404, 5-405, 5-405.1, 5-405.2, 5-406, 5-406.5, 5-407 to 5-411 ties to 5-450 to 5-498 end
2	1-104 to 1-106
3	3-100 to 3-126
4	2-100 to 2-109
5	4-100 to 4-107
6	6-100 to 6-142
7	7-100 to 7-104
8	8-100 to 8-113
9	5-600 to 5-623
10	3-100 to 3-109
11	2-100 to 2-113
12	2-108 start to 2-112 end; 2-115 start to 2-119 end
13	1-103 to 1-105
14	Determined to be off-site
15	15-97 to 15-102
16	5-100 to 5-144

The wetlands are depicted on a separately bound ALTA/NSPS Land Title Survey, entitled East Windsor, Connecticut by Christopher C. Danforth dated June 18, 2020. This survey depicts all flags within the properties included in the Project Site.

Limitations of this Wetland Delineation: The wetland delineation specifically excludes an investigation inside of the mining operation identified as Apothecaries Hall Enterprises, LLC as shown on Parcels 057-49-003, 057-65-001 and 048-65-007 prepared by J.R. Russo & Associates dated May 7, 2015. It is the understanding of the investigator the on-going mining operation is authorized to proceed through a series of phases by a Special Use Permit renewed periodically by the East Windsor Planning and Zoning Commission. Condition 814.3q in the Special Permit issued February 14, 2019 requires a minimum of 8 feet of separation between final grade in the reclaimed gravel pit and the water table. Since conditions within the gravel pit are transient, with closure and mining operation ongoing, no attempt was made to delineate wetlands or watercourses within the open pit, including the process water ponds and depressions which hold water.

Notwithstanding these statements, observations were made in portions of the pit that have been reclaimed and forested and areas excluded from the mining operation regarding regulated wetlands. Parcels 057-49-003, 057-65-001 and 048-65-007 prepared by J.R. Russo & Associates dated May 7, 2015 depicts a wetland to be protected in Phase 9 near the N/F Penn Central Railroad. This area was closely investigated by soil scientists, but no wetland or watercourse was found in the area. Soils consisted of loamy sands and coarser material without hydromorphic features and were evaluated as moderately well drained and well drained.

However, in the southwest corner of gravel mine, in an area designated as Phase 3, a well-established wetland, Wetland 11 was delineated within an area reclaimed for an estimated 10 years or more. Similarly, wooded reclaimed areas along the mine access road from Windsorville Road were inspected and determined that no wetland exist in this long reclaimed part of the gravel mine.

The classification systems of the National Cooperative Soil Survey, the United States Department of Agriculture, Natural Resources Conservation Service, County Soil Survey Identification Legend (as revised and provided on-line by Web Soil Survey https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm, and the Connecticut Department of Energy and Environmental Protection were used in this investigation.

All established wetlands boundary lines are subject to change until officially adopted by local, state, or federal regulatory agencies.

The wetlands delineation was conducted and/or reviewed by:

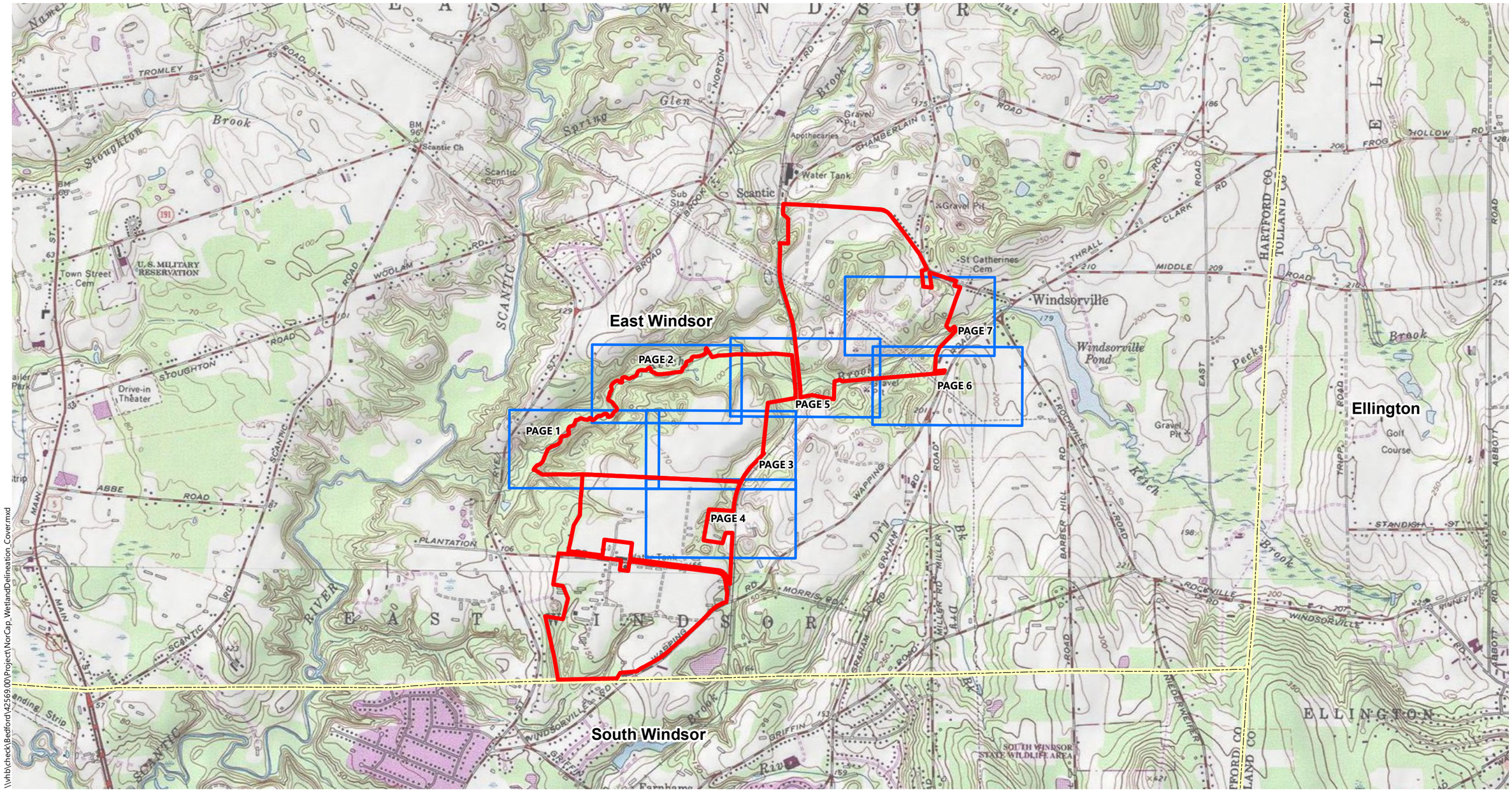
_____

Jeffrey Peterson
Certified Professional Soil Scientist

Enclosures

Attachments

- Wetland Delineation Map
- Wetland Delineation Field Forms
- NRCS Soil Reports and Soil Maps



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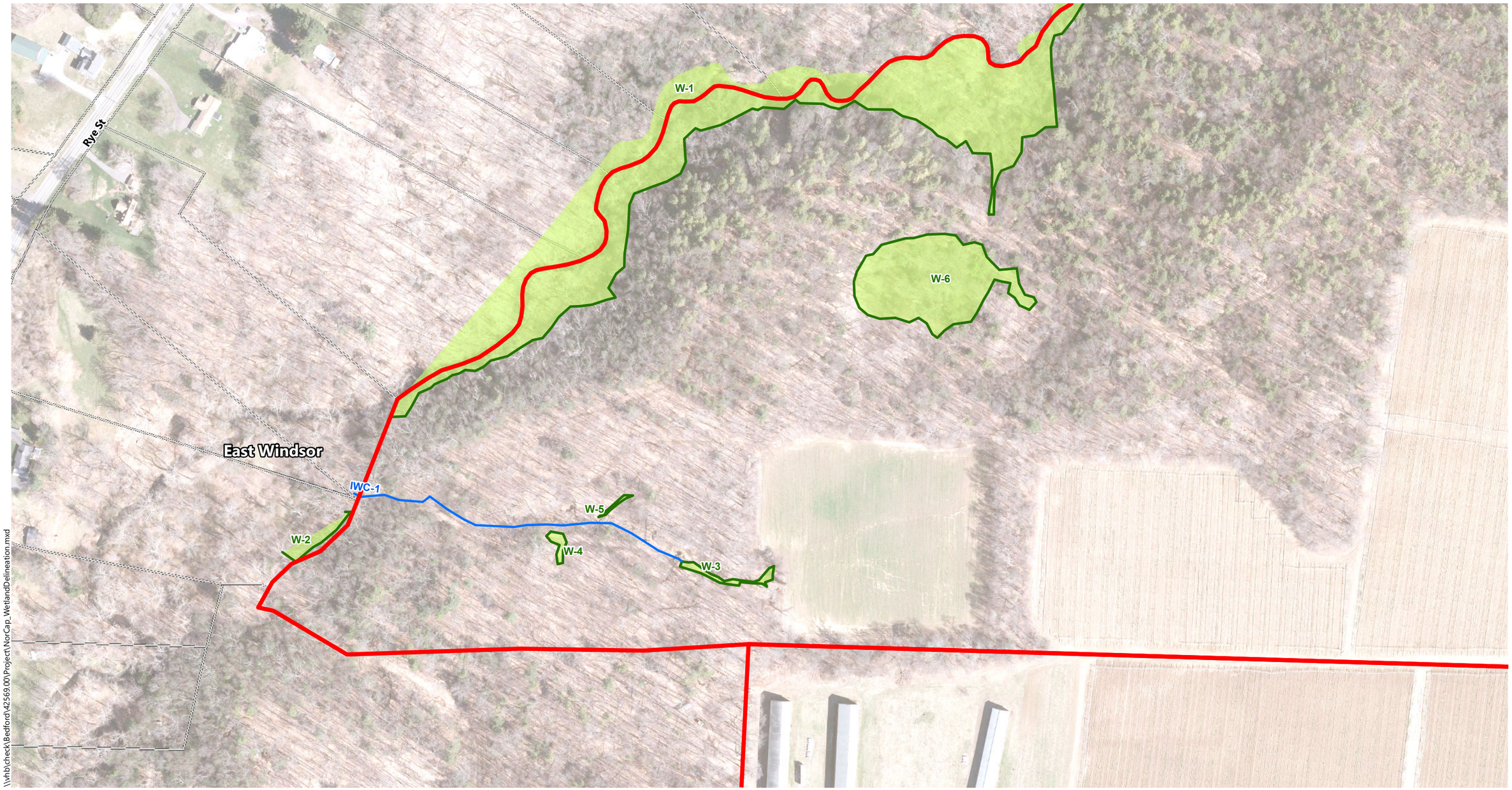
Gravel Pit Solar | East Windsor, Connecticut

Wetland Delineation

Page Index Map

Source: CTDEEP, VHB, Eversource



0 100 200 400 Feet

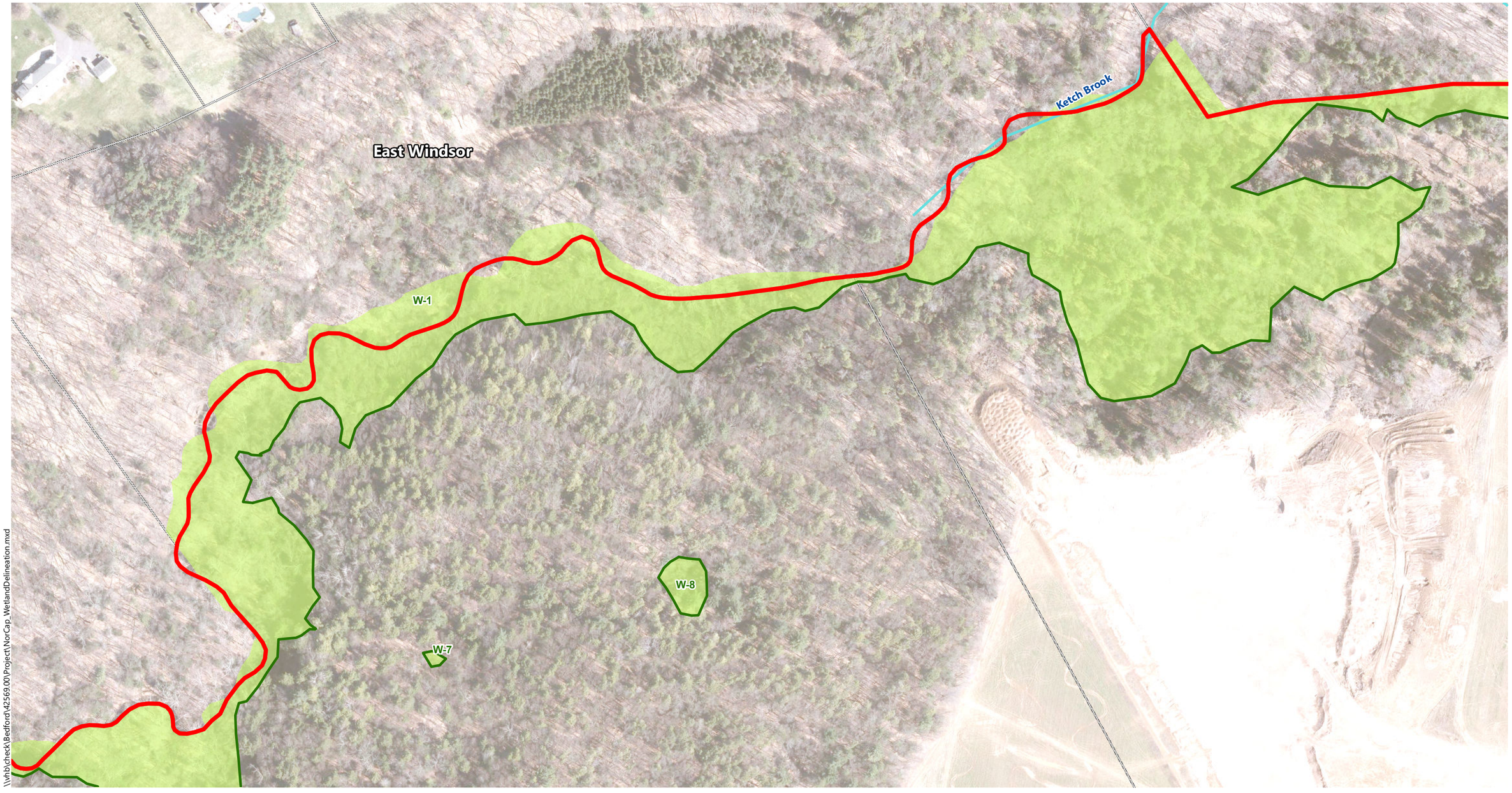
Legend

- Project Site
- Approximate Railroad ROW
- Parcel Boundary
- Town Boundary
- Delineated Intermittent Watercourse
- Stream/River
- Delineated Wetland Edge
- Wetland Resource Area

Gravel Pit Solar | East Windsor, Connecticut

Wetland Delineation

Source: VHB, CTDEEP, FEMA, ArcGIS Online



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Gravel Pit Solar | East Windsor, Connecticut

Wetland Delineation

Source: VHB, CTDEEP, FEMA, ArcGIS Online

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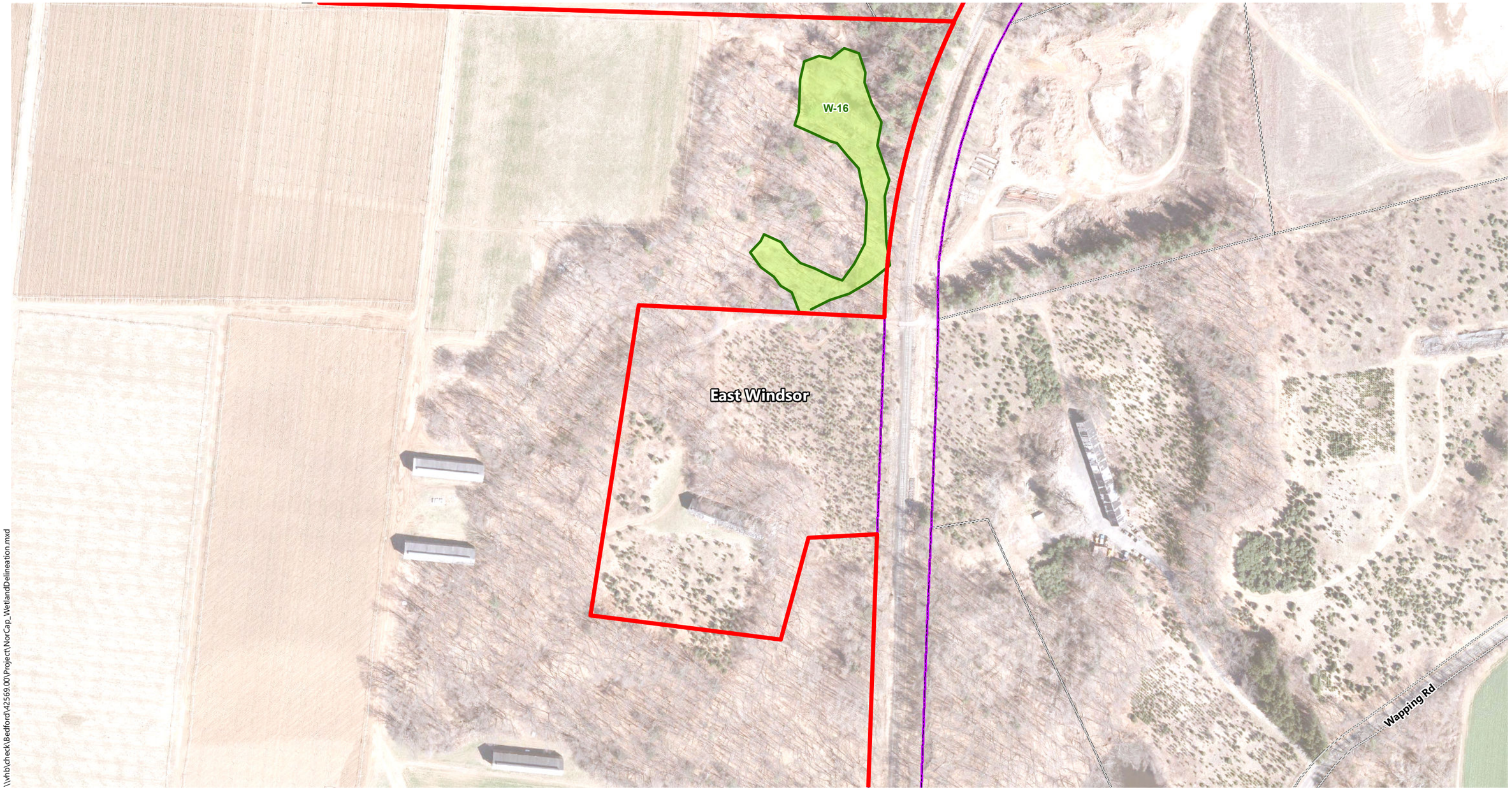
Gravel Pit Solar | East Windsor, Connecticut

Wetland Delineation

Source: VHB, CTDEEP, FEMA, ArcGIS Online



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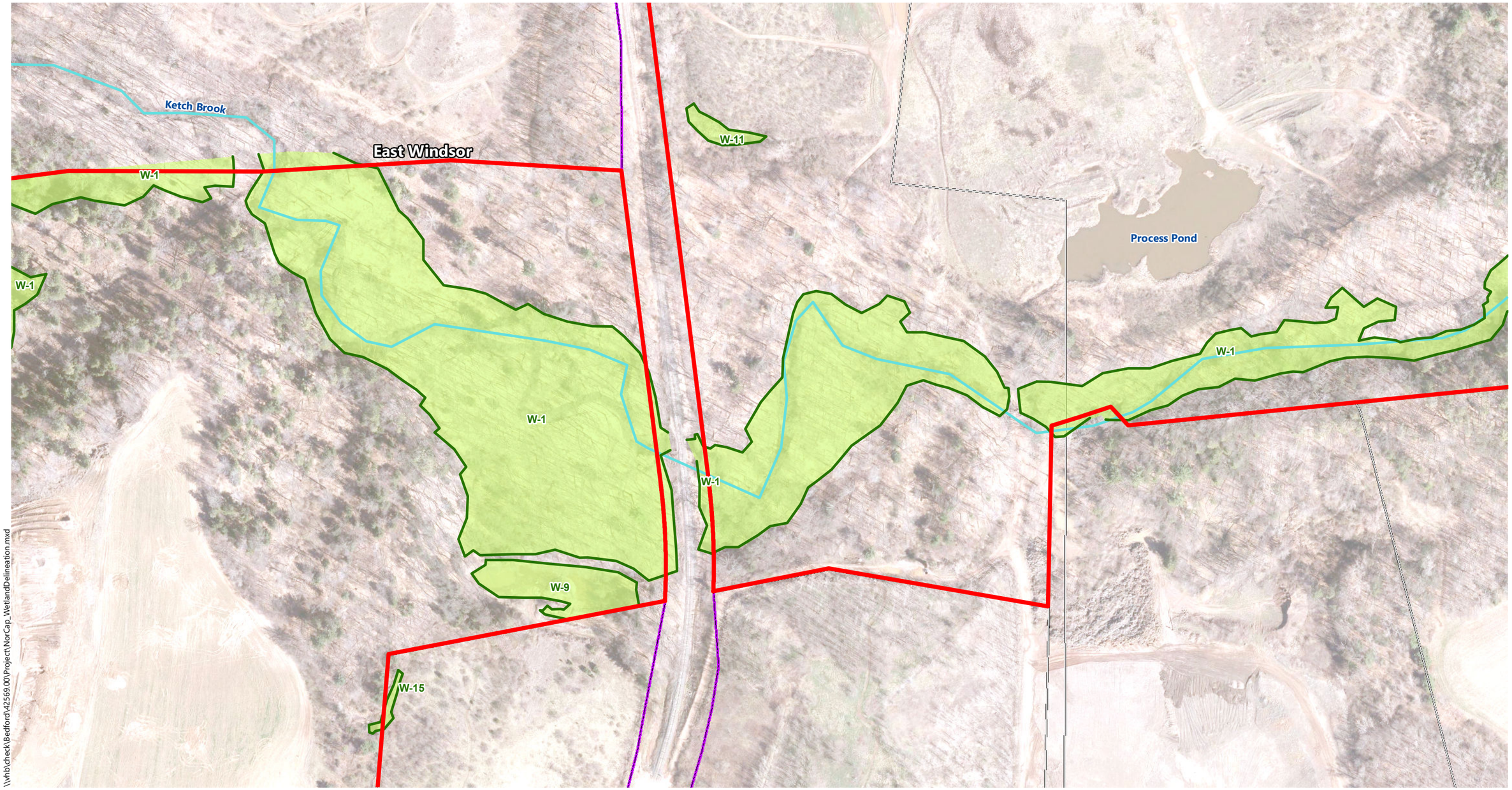
Gravel Pit Solar | East Windsor, Connecticut

Wetland Delineation

Source: VHB, CTDEEP, FEMA, ArcGIS Online



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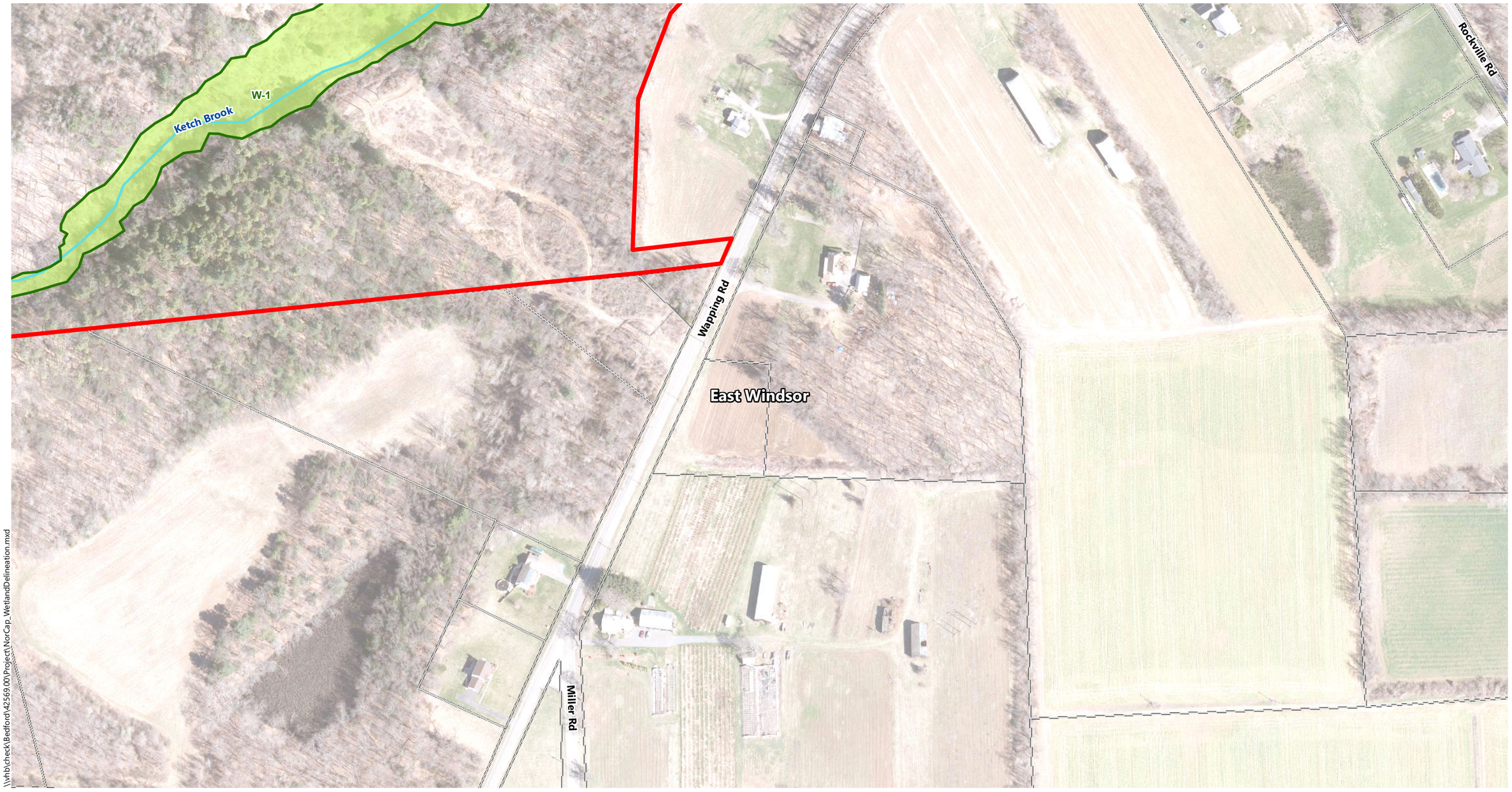
Gravel Pit Solar | East Windsor, Connecticut

Wetland Delineation

Source: VHB, CTDEEP, FEMA, ArcGIS Online



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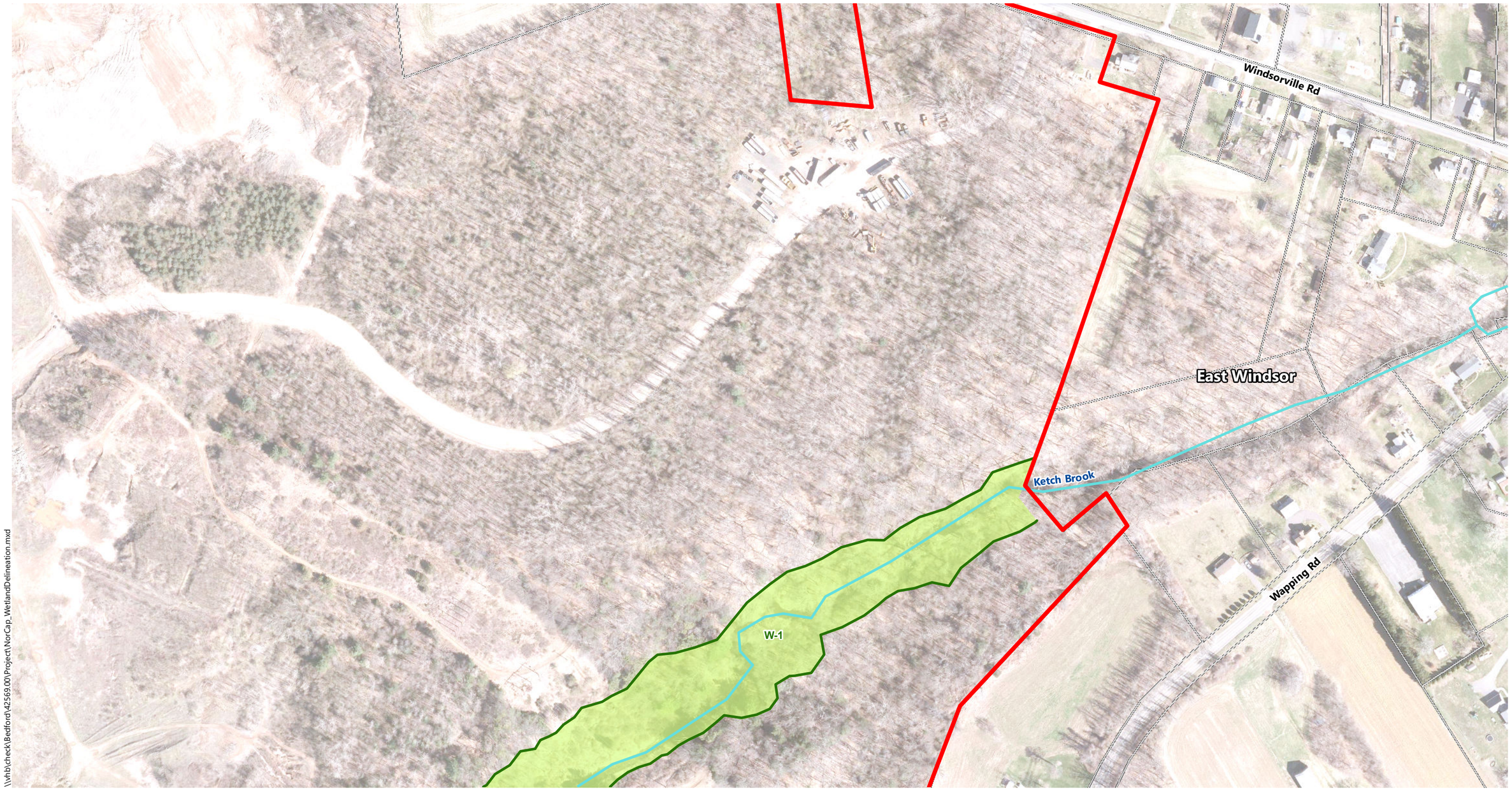
Gravel Pit Solar | East Windsor, Connecticut

Wetland Delineation

Source: VHB, CTDEEP, FEMA, ArcGIS Online



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- Delineated Wetland Edge
- Wetland Resource Area

Gravel Pit Solar | East Windsor, Connecticut

Wetland Delineation

Source: VHB, CTDEEP, FEMA, ArcGIS Online

Wetland Delineation Field Form

Project Address:	Plantation Rd, Wapping Rd, & Windsorville Rd East Windsor, CT	Project Number:	42569
Inspection Date:	10/16/2019, 11/5/2019, 11/13/19	Inspector:	Jeffrey Peterson, CPSS
Wetland I.D.:	Wetland 1		

Field Conditions:	Weather: Clear 30s	Snow Depth: 0 – 2 inches
	General Soil Moisture: moist	Frost Depth: 0 inches

Type of Wetland Delineation:	Connecticut ☒
	ACOE ☐
	Tidal ☐

Field Numbering Sequence: WF 1-100 start to 1-198 to 1-195 (dup) to 1-198 (dup) end; WF 1-201 start to 1-283 end; WF 1-173 start to 1-198, WF 1-198.2 to 1-198 ties to 1-200 to 1-212 to 1-212.1, 1-212.2, 1-212.3, 1-212.4, 1-212.5, 1-213 to 1-228 end loop; 5-102 start to 5-141 ties to 5-157 to 5-162 ties to 5-166 to 5-180 ties to 5A-100 to 5A-107 ties to 5B-100 to 5B-108 ties to 5-181 to 5-187 ties to 5-194 to 5-210 ties to 5-214 to 5-220 ties to CT5-100 to CT5-104 ties to 5-246 to 5-254 ties to 5-267 ties to CT5-110 to CT5-147 ties to 5-314 to 5-316 ties to 5-318 to 5-342 ties to 5-342.3, 5-342.6, 5-343 to 5-347 ties to 5-348B to 5-355B ties to 5-354 to 5-356, 5-356.5, 5-357 to 5-385 ties to 5-400 to 5-402, 5-404, 5-405, 5-405.1, 5-405.2, 5-406, 5-406.5, 5-407 to 5-411 ties to 5-450 to 5-498 end

WETLAND HYDROLOGY:

NONTIDAL

Intermittently Flooded ☒	Artificially Flooded ☐	Permanently Flooded ☐
Semipermanently Flooded ☐	Seasonally Flooded ☐	Temporarily Flooded ☒
Permanently Saturated ☒	Seasonally Saturated – seepage ☒	Seasonally Saturated - perched ☐
Comments: Wetland 1 is the riparian corridor associated with the Ketch Brook floodplain and poorly and very poorly drained soils on terrace deposits adjacent to the alluvial soils along the brook.		

TIDAL

Subtidal ☐	Regularly Flooded ☐	Irregularly Flooded ☐
Irregularly Flooded ☐		
Comments: N/A		

WETLAND TYPE:

SYSTEM:

Estuarine ☐	Riverine ☒	Palustrine ☒
Lacustrine ☐	Marine ☐	
Comments:		

CLASS:

Emergent ☐	Scrub-shrub ☒	Forested ☒
Open Water ☐	Disturbed ☐	Wet Meadow ☐
Comments:.		

WATERCOURSE TYPE:

Perennial ☒	Intermittent ☐	Tidal ☐
Comments: Ketch Brook a perennial tributary to the Scantic River.		

Wetland Delineation Field Form (Cont.)

SPECIAL AQUATIC HABITAT:

Vernal Pool ☒	Other ☒	
Comments: A vernal pool is present in a backwater channel abandoned by Ketch Brook. Cold water fishery		

MAPPED SOILS:

SOIL SERIES (Map Unit Symbol)	WET	UP	NRCS MAPPED	FIELD IDD/ CONFIRMED
Fluaquents-Udifluvent complex, frequently flooded (109)	☒	☐	☒	☒
Occum fine sandy loam (101)	☒	☐	☒	☒
Manchester gravelly sandy loam, 15 to 45 percent slope (37E)	☐	☒	☒	☒
Raypol silt loam (12)	☒	☐	☒	☒

DOMINANT WETLAND PLANTS:

Red maple (*Acer rubrum*)	Jewelweed (*Impatiens capensis*)
Sycamore (*Platanus occidentalis*)	Skunk cabbage (*Symplocarpus foetidus*)
Eastern hemlock (*Tsuga canadensis*)	False hellebore (*Veratrum viride*)
	Evergreen woodfern (*Dryopteris intermedia*)
Spicebush (*Lindera benzoin)*)	
Winged euonymus (*Euonymus alata*)	

WETLAND NARRATIVE:

The active floodplain of Ketch Brook ranges in drainage class from very poorly drained to well drained as it courses through the northeast corner of the Project properties near the intersection of Windsorville Road and Wapping Road and courses southwest leaving the Project Site to cross under Rye Street before reaching Plantation Road. Well drained and moderately well drained soils within the delineation are formed in recent (Holocene) alluvium and are subject to regulation under the Connecticut Inland Wetlands and Watercourse Act. These alluvial soils also contact low terrace deposits that date back to the period of deglaciation and more recent colluvium where near vertical terrace escarpments have collapsed and splayed material into the floodplain. Floodplain soils have also been altered in the past where unimproved dirt roads were constructed and later abandoned.

The delineation includes wetland recently buried by sediment generated from a gravel mining operation. The extent of the buried wetland soil was determined by hand digging test holes and probing with a soil auger. This area may require mitigation and the source of the sediment should be addressed.

The northern most segment of Ketch Brook is characterized by the presence of several small beaver impoundments generally two to four feet in height. Highwater flows through these segments have scoured new channels around the impoundments. The middle and lower segments of the floodplain have suffered severe damage from the illicit operation of all-terrain vehicles that have torn ups banks and ripped up alluvial soils and the terrace escarpments that confine the floodplain. Recent Spring 2020 observations during storm events revealed turbidity levels in Ketch Brook increase markedly. The cold water habitat in Ketch Brook includes stretches of gravel bottom stream suitable for trout spawning ground. Undercut banks, pools and riffles, and woody debris provide potentially high quality aquatic habitat.

The southernmost segment of the Ketch Brook floodplain includes an abandoned backwater channel (or

Wetland Delineation Field Form (Cont.)

"oxbow") which functions as a vernal pool. This feature is fed by a hillside spring downslope of Wetland 6.

Nearly the entire run of Ketch Brook through the Project Site is bounded by steep sand and gravel terraces. According to The Inland Wetland and Watercourses Regulations of the Town of East Windsor (IWW Regulations) "*Terrace Escarpment*" *means steeply sloping lands denoted under the general soil classifications units Te, Tc, Tg in the Hartford County Soil of the Soil Conservation Service, U.S.D.A*. In the Soil Survey of Hartford County, Connecticut (SCS, 1962) the 37E map unit was mapped as Tg, a gravelly terrace escarpment.

Section 6.1 of the IWW Regulations define regulated activity as: *The Agency shall regulate any operation or use of a wetland or watercourse involving removal or deposition of material, or any obstruction, construction, alteration or pollution of such wetlands or watercourses, and any earth-moving, grubbing land, filling, construction, or clear-cutting within one-hundred fifty (150) feet of an upland review area that borders a wetland and/or watercourse, and on terrace escarpment soils adjacent to a wetland, watercourse or upland review area.*

This means the regulated area around Wetland 1 consists of the 150 foot dimensional off-set from the flagged wetland edge plus the portion of the 37E unit that is adjacent to this wetland. Adjacent would seemingly indicate that part of the escarpment draining to the wetland.

Verified vernal pool 3 (see separately bound Vernal Pool Report) within Wetland 1 receives additional protection from the IWW Regulations Section 7.5.n. which instructs: *The site plan shall show any potential vernal pools on the affected portion of the proposed property along with a written evaluation as to the quality of the vernal pool and probable effect of the development on the vernal pool(s) conducted by a certified wildlife scientist, professional wetland scientist or similar qualified individual (as determined by the Commission).*
1. A buffer of 100 feet of non-disturbance shall be incorporated into the site plans when a vernal pool is identified. This non-disturbance area can be adjusted at the approval of the Commission based upon evidence of vernal pool quality by an expert.
2. No piped stormwater system shall discharge into a vernal pool.

Wetland Delineation Field Form

Project Address:	Plantation Road, East Windsor, CT	Project Number:	42569
Inspection Date:	11/5/2019	Inspector:	Jeffrey Peterson, CPSS
Wetland I.D.:	Wetland 2		

Field Conditions:	Weather: Clear 30s	Snow Depth: 0 inch
	General Soil Moisture: moist	Frost Depth: 0 inch

Type of Wetland Delineation:	Connecticut ☒
	ACOE ☐
	Tidal ☐

Field Numbering Sequence: WF 1-104 to 1-106

WETLAND HYDROLOGY:

NONTIDAL

Intermittently Flooded ☐	Artificially Flooded ☐	Permanently Flooded ☐
Semipermanently Flooded ☐	Seasonally Flooded ☐	Temporarily Flooded ☒
Permanently Saturated ☐	Seasonally Saturated – seepage ☒	Seasonally Saturated - perched ☐
Comments: Wetland 2 is a discharge wetland located at the bottom of a terrace escarpment. It is separated from the floodplain of Ketch Brook by a large sediment plume deposited below Intermittent Watercourse-1.		

TIDAL

Subtidal ☐	Regularly Flooded ☐	Irregularly Flooded ☐
Irregularly Flooded ☐		
Comments: N/A		

WETLAND TYPE:

SYSTEM:

Estuarine ☐	Riverine ☐	Palustrine ☒
Lacustrine ☐	Marine ☐	
Comments:		

CLASS:

Emergent ☐	Scrub-shrub ☒	Forested ☒
Open Water ☐	Disturbed ☐	Wet Meadow ☐
Comments:.		

WATERCOURSE TYPE:

Perennial ☐	Intermittent ☒	Tidal ☐
Comments:		

SPECIAL AQUATIC HABITAT:

Vernal Pool ☐	Other ☐	
Comments: NA		

Wetland Delineation Field Form (Cont.)

MAPPED SOILS:

SOIL SERIES (Map Unit Symbol)	WET	UP	NRCS MAPPED	FIELD IDD/ CONFIRMED
Raypol silt loam (12)	☒	☐	☒	☒
Manchester gravelly sandy loam, 15 to 45 percent slope (37E)	☐	☒	☒	☒

DOMINANT WETLAND PLANTS:

Red maple (*Acer rubrum*)	Spicebush (*Lindera benzoin)*)
Sycamore (*Platanus occidentalis*)	Multiflora rose (*Rosa multiflora*)
Green ash (*Fraxinus pennsylvanica*)	
	Skunk cabbage (*Symplocarpus foetidus*)
	Jewelweed (*Impatiens capensis*)

WETLAND NARRATIVE:

Wetland 2 is part of a low terrace above the floodplain of Ketch Brook. It is bounded to the west by the steep terrace escarpment which separates the farmed terraces perched above the valley bottom. Only a small part of this unit is within the property limits of the Project.

According to The Inland Wetland and Watercourses Regulations of the Town of East Windsor (IWW Regulations) "*Terrace Escarpment*" *means steeply sloping lands denoted under the general soil classifications units Te, Tc, Tg in the Hartford County Soil of the Soil Conservation Service, U.S.D.A*. In the Soil Survey of Hartford County, Connecticut (SCS, 1962) the 37E map unit was mapped as Tg, a gravelly terrace escarpment.

Section 6.1 of the IWW Regulations define regulated activity as: *The Agency shall regulate any operation or use of a wetland or watercourse involving removal or deposition of material, or any obstruction, construction, alteration or pollution of such wetlands or watercourses, and any earth-moving, grubbing land, filling, construction, or clear-cutting within one-hundred fifty (150) feet of an upland review area that borders a wetland and/or watercourse, and on terrace escarpment soils adjacent to a wetland, watercourse or upland review area.*

This means the regulated area around Wetlands 2 consists of the 150 foot dimensional off-set from the flagged wetland edge plus the portion of the 37E unit that is adjacent to this wetland. Adjacent would seemingly indicate that part of the escarpment draining to the wetland.

Wetland Delineation Field Form

Project Address:	Plantation Road, East Windsor, CT	Project Number:	42569
Inspection Date:	11/5/2019	Inspector:	Jeffrey Peterson, CPSS
Wetland I.D.:	Wetlands 3, 4, and 5		

Field Conditions:	Weather: Clear 30s	Snow Depth: 0 inch
	General Soil Moisture: moist	Frost Depth: 0 inch

Type of Wetland Delineation:	Connecticut ☒
	ACOE ☐
	Tidal ☐

Field Numbering Sequence: WF 3-100 to 3-126, 2-100 to 2-109, 4-100 to 4-107, respectively

WETLAND HYDROLOGY:

NONTIDAL

Intermittently Flooded ☐	Artificially Flooded ☐	Permanently Flooded ☐
Semipermanently Flooded ☐	Seasonally Flooded ☐	Temporarily Flooded ☐
Permanently Saturated ☐	Seasonally Saturated – seepage ☒	Seasonally Saturated - perched ☒
Comments: Wetlands 3, 4, and 5 are formed on slopes below a terrace where perched groundwater is intercepted. They feed into a large drainage valley first cut during deglaciation and continuing cut into the terrace. Each wetland drains into Intermittent Watercourse-1		

TIDAL

Subtidal ☐	Regularly Flooded ☐	Irregularly Flooded ☐
Irregularly Flooded ☐		
Comments: N/A		

WETLAND TYPE:

SYSTEM:

Estuarine ☐	Riverine ☐	Palustrine ☒
Lacustrine ☐	Marine ☐	
Comments:		

CLASS:

Emergent ☐	Scrub-shrub ☒	Forested ☒
Open Water ☐	Disturbed ☐	Wet Meadow ☐
Comments: Watercourse rarely flows through segments eroded into sand deposits.		

WATERCOURSE TYPE:

Perennial ☐	Intermittent ☒	Tidal ☐
Comments:		

SPECIAL AQUATIC HABITAT:

Vernal Pool ☐	Other ☐	
Comments: NA		

Wetland Delineation Field Form (Cont.)

MAPPED SOILS:

SOIL SERIES (Map Unit Symbol)	WET	UP	NRCS MAPPED	FIELD IDD/ CONFIRMED
Enfield silt loam, 3 to 8 percent slopes (704B)	☐	☒	☒	☒
Manchester gravelly sandy loam, 15 to 45 percent slope (37E)	☐	☒	☒	☒
Raypol silt loam (12)	☒	☐	☐	☒

DOMINANT WETLAND PLANTS:

Red maple (*Acer rubrum*)	Jewelweed (*Impatiens capensis*)
Umbrella tree (*Magnolia tripetala*) (Wetland 3 only)	
Spicebush (*Lindera benzoin)*)	
Multiflora rose (*Rosa multiflora*)	

WETLAND NARRATIVE:

These small discharge wetlands form where water held above clay-rich glacio-lacustral deposits breaks out near the top of a terrace escarpment. Each of these three wetlands drains to the same large swale carved into the outwash terrace and underlying glacial lakebed deposits. Each of these wetlands act as discharge sites and the intermittent watercourse as a recharge site as it travels over rapidly permeable sands and gravel. Flows from these wetlands rarely make it all the way down to the Ketch Brook floodplain.

According to The Inland Wetland and Watercourses Regulations of the Town of East Windsor (IWW Regulations) "*Terrace Escarpment*" *means steeply sloping lands denoted under the general soil classifications units Te, Tc, Tg in the Hartford County Soil of the Soil Conservation Service, U.S.D.A*. In the Soil Survey of Hartford County, Connecticut (SCS, 1962) the 37E map unit was mapped as Tg, a gravelly terrace escarpment.

Section 6.1 of the IWW Regulations define regulated activity as: *The Agency shall regulate any operation or use of a wetland or watercourse involving removal or deposition of material, or any obstruction, construction, alteration or pollution of such wetlands or watercourses, and any earth-moving, grubbing land, filling, construction, or clear-cutting within one-hundred fifty (150) feet of an upland review area that borders a wetland and/or watercourse, and on terrace escarpment soils adjacent to a wetland, watercourse or upland review area.*

This means the regulated area around Wetlands 3, 4, and 5 consists of the 150 foot dimensional off-set from the flagged wetland edge plus the portion of the 37E unit that is adjacent to this wetland. Adjacent would seemingly indicate that part of the escarpment draining to the wetland.

Wetland Delineation Field Form

Project Address:	Plantation Road, East Windsor, CT	Project Number:	42569
Inspection Date:	11/5/2019	Inspector:	Jeffrey Peterson, CPSS
Wetland I.D.:	Wetland 6		

Field Conditions:	Weather: Clear 30s	Snow Depth: 0 inch
	General Soil Moisture: moist	Frost Depth: 0 inch
Type of Wetland Delineation:	Connecticut ☒	
	ACOE ☐	
	Tidal ☐	
Field Numbering Sequence: WF 6-100 to 6-142		

WETLAND HYDROLOGY:

NONTIDAL

Intermittently Flooded ☐	Artificially Flooded ☐	Permanently Flooded ☐
Semipermanently Flooded ☐	Seasonally Inundated ☒	Temporarily Flooded ☐
Permanently Saturated ☐	Seasonally Saturated – seepage ☐	Seasonally Saturated - perched ☒
Comments: Wetland 6 is a broad depression formed in a terrace of ice-contact stratified drift.		

TIDAL

Subtidal ☐	Regularly Flooded ☐	Irregularly Flooded ☐
Irregularly Flooded ☐		
Comments: N/A		

WETLAND TYPE:

SYSTEM:

Estuarine ☐	Riverine ☐	Palustrine ☒
Lacustrine ☐	Marine ☐	
Comments:		

CLASS:

Emergent ☐	Scrub-shrub ☐	Forested ☒
Open Water ☐	Disturbed ☐	Wet Meadow ☐
Comments: Several recent tree throws.		

WATERCOURSE TYPE:

Perennial ☐	Intermittent ☐	Tidal ☐
Comments: NA		

SPECIAL AQUATIC HABITAT:

Vernal Pool ☒	Other ☐	
Comments: Two small vernal pools were identified within this wetland.		

Wetland Delineation Field Form (Cont.)

MAPPED SOILS:

SOIL SERIES (Map Unit Symbol)	WET	UP	NRCS MAPPED	FIELD IDD/ CONFIRMED
Manchester gravelly sandy loam, 15 to 45 percent slope (37E)	☐	☒	☒	☒
Raypol silt loam (12)	☒	☐	☐	☒
Scarboro muck, 0 to 3 percent slope (15)	☒	☐	☐	☒

DOMINANT WETLAND PLANTS:

Red maple (*Acer rubrum*)	Spicebush (*Lindera benzoin*)
White pine (*Pinus strobus*)	
	Cinnamon fern (*Osmundastrum cinnamomeum*)
Highbush blueberry (*Vaccinium corymbosum*)	
Winterberry (*Ilex verticillata*)	

WETLAND NARRATIVE:

Wetland 6 occupies a depression in a pitted, ice-contact outwash plain. Vernal pool indicators were observed in two depressions within the wetland that held water in the spring. The wetland is a dissimilar inclusion in the Manchester gravelly sandy loam map unit (37E).

According to The Inland Wetland and Watercourses Regulations of the Town of East Windsor (IWW Regulations) "*Terrace Escarpment*" *means steeply sloping lands denoted under the general soil classifications units Te, Tc, Tg in the Hartford County Soil of the Soil Conservation Service, U.S.D.A*. In the Soil Survey of Hartford County, Connecticut (SCS, 1962) the 37E map unit was mapped as Tg, a gravelly terrace escarpment.

Section 6.1 of the IWW Regulations define regulated activity as: *The Agency shall regulate any operation or use of a wetland or watercourse involving removal or deposition of material, or any obstruction, construction, alteration or pollution of such wetlands or watercourses, and any earth-moving, grubbing land, filling, construction, or clear-cutting within one-hundred fifty (150) feet of an upland review area that borders a wetland and/or watercourse, and on terrace escarpment soils adjacent to a wetland, watercourse or upland review area.*

This means the regulated area around Wetland 6 consists of the 150 foot dimensional off-set from the flagged wetland edge plus the portion of the 37E unit that is adjacent to this wetland. Adjacent would seemingly indicate draining to the wetland.

Verified vernal pools 4 and 5 (see separately bound Vernal Pool Report) within Wetland 6 receive additional protection from IWW Regulations Section 7.5.n. which instructs: *The site plan shall show any potential vernal pools on the affected portion of the proposed property along with a written evaluation as to the quality of the vernal pool and probable effect of the development on the vernal pool(s) conducted by a certified wildlife scientist, professional wetland scientist or similar qualified individual (as determined by the Commission).*
1. A buffer of 100 feet of non-disturbance shall be incorporated into the site plans when a vernal pool is identified. This non-disturbance area can be adjusted at the approval of the Commission based upon evidence of vernal pool quality by an expert.
2. No piped stormwater system shall discharge into a vernal pool.

Wetland Delineation Field Form

Project Address:	Plantation Road, East Windsor, CT	Project Number:	42569
Inspection Date:	11/5/2019	Inspector:	Jeffrey Peterson, CPSS
Wetland I.D.:	Wetland 7		

Field Conditions:	Weather: Clear 30s	Snow Depth: 0 inch
	General Soil Moisture: moist	Frost Depth: 0 inch
Type of Wetland Delineation:	Connecticut ☒	
	ACOE ☐	
	Tidal ☐	
Field Numbering Sequence: WF 7-100 to 7-104		

WETLAND HYDROLOGY:

NONTIDAL

Intermittently Flooded ☐	Artificially Flooded ☐	Permanently Flooded ☐
Semipermanently Flooded ☐	Seasonally Flooded ☐	Temporarily Flooded ☐
Permanently Saturated ☐	Seasonally Saturated – seepage ☐	Seasonally Saturated - perched ☒
Comments: Wetland 7 is a kettle hole depression in ice-contact stratified drift.		

TIDAL

Subtidal ☐	Regularly Flooded ☐	Irregularly Flooded ☐
Irregularly Flooded ☐		
Comments: N/A		

WETLAND TYPE:

SYSTEM:

Estuarine ☐	Riverine ☐	Palustrine ☒
Lacustrine ☐	Marine ☐	
Comments:		

CLASS:

Emergent ☐	Scrub-shrub ☐	Forested ☒
Open Water ☐	Disturbed ☐	Wet Meadow ☐
Comments: Several recent tree throws.		

WATERCOURSE TYPE:

Perennial ☐	Intermittent ☐	Tidal ☐
Comments: NA		

SPECIAL AQUATIC HABITAT:

Vernal Pool ☐	Other ☐	
Comments: NA		

Wetland Delineation Field Form (Cont.)

MAPPED SOILS:

SOIL SERIES (Map Unit Symbol)	WET	UP	NRCS MAPPED	FIELD IDD/ CONFIRMED
Manchester gravelly sandy loam, 15 to 45 percent slope (37E)	☐	☒	☒	☒
Raypol silt loam (12)	☒	☐	☐	☒

DOMINANT WETLAND PLANTS:

Red maple (*Acer rubrum*)	
White pine (*Pinus strobus*)	
Highbush blueberry (*Vaccinium corymbosum*)	

WETLAND NARRATIVE:

This very small wetland is seasonally wet but does not hold sufficient water to a depth suitable to function as a vernal pool. An ATV trail runs through the middle of the feature.

According to The Inland Wetland and Watercourses Regulations of the Town of East Windsor (IWW Regulations) "*Terrace Escarpment*" *means steeply sloping lands denoted under the general soil classifications units Te, Tc, Tg in the Hartford County Soil of the Soil Conservation Service, U.S.D.A*. In the Soil Survey of Hartford County, Connecticut (SCS, 1962) the 37E map unit was mapped as Tg, a gravelly terrace escarpment.

Section 6.1 of the IWW Regulations define regulated activity as: *The Agency shall regulate any operation or use of a wetland or watercourse involving removal or deposition of material, or any obstruction, construction, alteration or pollution of such wetlands or watercourses, and any earth-moving, grubbing land, filling, construction, or clear-cutting within one-hundred fifty (150) feet of an upland review area that borders a wetland and/or watercourse, and on terrace escarpment soils adjacent to a wetland, watercourse or upland review area.*

This means the regulated area around Wetland 7 consists of the 150 foot dimensional off-set from the flagged wetland edge plus the portion of the 37E unit that is adjacent to this wetland. Adjacent would seemingly indicate draining to the wetland.

Wetland Delineation Field Form

Project Address:	Plantation Road, East Windsor, CT	Project Number:	42569
Inspection Date:	11/5/2019	Inspector:	Jeffrey Peterson, CPSS
Wetland I.D.:	Wetland 8		

Field Conditions:	Weather: Clear 30s	Snow Depth: 0
	General Soil Moisture: moist	Frost Depth: 0 inch
Type of Wetland Delineation:	Connecticut ☒	
	ACOE ☐	
	Tidal ☐	
Field Numbering Sequence: WF 8-100 to 8-113		

WETLAND HYDROLOGY:

NONTIDAL

Intermittently Flooded ☐	Artificially Flooded ☐	Permanently Flooded ☐
Semipermanently Flooded ☐	Seasonally Inundated ☒	Temporarily Flooded ☐
Permanently Saturated ☒	Seasonally Saturated – seepage ☒	Seasonally Saturated - perched ☐
Comments: Wetland 8 is a classic kettle hole wetland formed in ice-contact stratified drift.		

TIDAL

Subtidal ☐	Regularly Flooded ☐	Irregularly Flooded ☐
Irregularly Flooded ☐		
Comments: N/A		

WETLAND TYPE:

SYSTEM:

Estuarine ☐	Riverine ☐	Palustrine ☒
Lacustrine ☐	Marine ☐	
Comments: Wetland has no inlet or outlet		

CLASS:

Emergent ☐	Scrub-shrub ☐	Forested ☒
Open Water ☒	Disturbed ☐	Wet Meadow ☐
Comments: Most of the wetland is forested.		

WATERCOURSE TYPE:

Perennial ☐	Intermittent ☐	Tidal ☐
Comments: NA		

SPECIAL AQUATIC HABITAT:

Vernal Pool ☒	Other ☐	
Comments: Classic vernal pool with amphibian and invertebrate obligate species present.		

Wetland Delineation Field Form (Cont.)

MAPPED SOILS:

SOIL SERIES (Map Unit Symbol)	WET	UP	NRCS MAPPED	FIELD IDD/ CONFIRMED
Manchester gravelly sandy loam, 15 to 45 percent slope (37E)	☐	☒	☒	☒
Raypol silt loam (12)	☒	☐	☐	☒
Scarboro muck, 0 to 3 percent slopes (15)	☒	☐	☐	☒

DOMINANT WETLAND PLANTS:

Red maple (*Acer rubrum*)	
White pine (*Pinus strobus*)	
Pin oak (*Quercus palustris*)	Cinnamon fern (*Osmundastrum cinnamomeum*)
Eastern Hemlock (*Tsuga canadensis*)	Sensitive fern (*Onoclea sensibilis*)
Winterberry (*Ilex verticillata*)	

WETLAND NARRATIVE:

Wetland 8 is formed in a kettle hole depression underlain by an impervious layer, perhaps glaciolacustral silts and clays deposited in Glacial Lake Hitchcock. Several similar kettle holes in the same ice-contact stratified drift field on the terrace above Ketch Brook did not contain wetlands. Slopes above the pool elevation act to discharge groundwater and are similar to the Raypol or Walpole series.

Wetland 16 occupies the bottom of a steep-sided kettle hole one quarter mile north of Plantation Road proximate to the State of Connecticut Railroad Line. This wetland is a dissimilar inclusion in a Manchester gravelly sandy loam, 15 to 45 percent slopes map unit (37E). The wetland does not have an inlet or outlet. Runoff from farming operations to the west are directed to the depression occupied by this wetland. The wetland is disturbed by illicit all-terrain vehicle trails that enter the site from the adjacent State of Connecticut railroad grade. The wetland is believed to intercept the true groundwater table and serves an important recharge function. Sediments and nutrients washed in from farming and railroad operations are also trapped in this wetland depression.

The southern end of the wetland includes a depression below elevation 122 feet which has been determined to be a vernal pool.

According to The Inland Wetland and Watercourses Regulations of the Town of East Windsor (IWW Regulations) "*Terrace Escarpment*" *means steeply sloping lands denoted under the general soil classifications units Te, Tc, Tg in the Hartford County Soil of the Soil Conservation Service, U.S.D.A*. In the Soil Survey of Hartford County, Connecticut (SCS, 1962) the 37E map unit was mapped as Tg, a gravelly terrace escarpment.

Section 6.1 of the IWW Regulations define regulated activity as: *The Agency shall regulate any operation or use of a wetland or watercourse involving removal or deposition of material, or any obstruction, construction, alteration or pollution of such wetlands or watercourses, and any earth-moving, grubbing land, filling, construction, or clear-cutting within one-hundred fifty (150) feet of an upland review area that borders a wetland and/or watercourse, and on terrace escarpment soils adjacent to a wetland, watercourse or upland review area.*

This means the regulated area around Wetland 8 consists of the 150 foot dimensional off-set from the flagged wetland edge plus the portion of the 37E unit that is adjacent to this wetland. Adjacent would seemingly indicate draining to the wetland.

Wetland 8 is a verified vernal pool (see separately bound Vernal Pool Report) and receives additional protection from IWW Regulations Section 7.5.n. which instructs: *The site plan shall show any potential vernal pools on the affected portion of the proposed property along with a written evaluation as to the quality of the vernal pool and probable effect of the development on the vernal pool(s) conducted by a certified wildlife scientist, professional wetland scientist or similar qualified individual (as determined by the Commission).*
1. A buffer of 100 feet of non-disturbance shall be incorporated into the site plans when a vernal pool is identified. This non-disturbance area can be adjusted at the approval of the Commission based upon evidence of vernal pool quality by an expert.
2. No piped stormwater system shall discharge into a vernal pool.

Wetland Delineation Field Form

Project Address:	Plantation Road, East Windsor, CT	Project Number:	42569
Inspection Date:	11/13/2019	Inspector:	Jeffrey Peterson, CPSS
Wetland I.D.:	Wetland 9		

Field Conditions:	Weather: Clear 30s	Snow Depth: 0 inches
	General Soil Moisture: moist	Frost Depth: 0 inch
Type of Wetland Delineation:	Connecticut ☒	
	ACOE ☐	
	Tidal ☐	
Field Numbering Sequence: WF 5-600 to 5-623		

WETLAND HYDROLOGY:

NONTIDAL

Intermittently Flooded ☐	Artificially Flooded ☐	Permanently Flooded ☐
Semipermanently Inundated ☒	Seasonally Flooded ☐	Temporarily Flooded ☐
Permanently Saturated ☐	Seasonally Saturated – seepage ☒	Seasonally Saturated - perched ☐
Comments: Wetland 9 is a sediment control basin constructed for a closed landfill on an adjacent property.		

TIDAL

Subtidal ☐	Regularly Flooded ☐	Irregularly Flooded ☐
Irregularly Flooded ☐		
Comments: N/A		

WETLAND TYPE:

SYSTEM:

Estuarine ☐	Riverine ☐	Palustrine ☒
Lacustrine ☐	Marine ☐	
Comments: Artificial impoundment within the floodplain of Ketch Brook		

CLASS:

Emergent ☒	Scrub-shrub ☐	Forested ☐
Open Water ☐	Disturbed ☒	Wet Meadow ☒
Comments:		

WATERCOURSE TYPE:

Perennial ☐	Intermittent ☒	Tidal ☐
Comments: This wetland is fed by an off-site intermittent watercourse that conveys runoff from an adjacent gravel pit haul roads and State of Connecticut railroad line. Outfall is within Ketch Brook floodplain.		

SPECIAL AQUATIC HABITAT:

Vernal Pool ☐	Other ☐	
Comments: An investigation of the waters in the basin did not find any obligate vernal pool species present.		

Wetland Delineation Field Form (Cont.)

MAPPED SOILS:

SOIL SERIES (Map Unit Symbol)	WET	UP	NRCS MAPPED	FIELD IDD/ CONFIRMED
Walpole sandy loam, 0 to 3 percent slopes (13)	☒	☐	☐	☒
Udorthents-Pits complex gravelly (305)	☐	☒	☒	☒
Fluvaquents-Udifluvents complex, frequently flooded (109)	☒	☐	☒	☒
Manchester gravelly sandy loam, 15 to 45 percent slope	☐	☒	☒	☒

DOMINANT WETLAND PLANTS:

Multiflora rose (*Rosa multiflora*)	Cattail (*Typha latifolia*)
Willow species (*Salix* sp.)	Climbing false buckwheat (*Polygonum scandens*)

WETLAND NARRATIVE:

This wetland was constructed as a sediment basin for the adjacent closed landfill. It is isolated from the adjacent Ketch Brook floodplain by an earthen berm. The basin continues to detain water and discharges out onto the floodplain by a hard pipe structure.

Wetland Delineation Field Form

Project Address:	Plantation Road, East Windsor, CT	Project Number:	42569
Inspection Date:	11/13/2019	Inspector:	Jeffrey Peterson, CPSS
Wetland I.D.:	Wetland 10		

Field Conditions:	Weather: Clear 30s	Snow Depth: 0 inch
	General Soil Moisture: moist	Frost Depth: 0 inch
Type of Wetland Delineation:	Connecticut ☒	
	ACOE ☐	
	Tidal ☐	
Field Numbering Sequence: 3-100 to 3-109		

WETLAND HYDROLOGY:

NONTIDAL

Intermittently Flooded ☐	Artificially Flooded ☐	Permanently Flooded ☐
Semipermanently Flooded ☐	Seasonally Flooded ☐	Temporarily Inundated ☒
Permanently Saturated ☐	Seasonally Saturated – seepage ☐	Seasonally Saturated - perched ☒
Comments: Wetland 10 is a depressional wetland at the edge of a farm field. It is visible in aerial photos dating back to 2006. In may have been created by compaction of the silt loam solum by farm equipment.		

TIDAL

Subtidal ☐	Regularly Flooded ☐	Irregularly Flooded ☐
Irregularly Flooded ☐		
Comments: N/A		

WETLAND TYPE:

SYSTEM:

Estuarine ☐	Riverine ☐	Palustrine ☒
Lacustrine ☐	Marine ☐	
Comments: Perched wetland in a depression underlain by a thick layer outwash sand without a water table.		

CLASS:

Emergent ☒	Scrub-shrub ☐	Forested ☐
Open Water ☐	Disturbed ☐	Wet Meadow ☐
Comments: Heavily rutted by illicit ATV operation, possibly plowed in drier years.		

WATERCOURSE TYPE:

Perennial ☐	Intermittent ☐	Tidal ☐
Comments: NA		

SPECIAL AQUATIC HABITAT:

Vernal Pool ☐	Other ☐	
Comments: Over wintering green frog larvae observed in early March 2020 most dead by mid-April.		

Wetland Delineation Field Form (Cont.)

MAPPED SOILS:

SOIL SERIES (Map Unit Symbol)	WET	UP	NRCS MAPPED	FIELD IDD/ CONFIRMED
Hartford sandy loam, 3 to 8 percent slopes (33B)	☐	☒	☒	☒
Raypol silt loam (12)	☒	☐	☐	☒
Enfield silt loam, 0 to 3 percent slopes (704A)	☐	☒	☒	☒

DOMINANT WETLAND PLANTS:

Woolgrass (*Scirpus cyperinus*)	
Soft rush (*Juncus effusus*)	
Cattail (*Typha latifolia*)	

WETLAND NARRATIVE:

Wetland 10 is a depression within an agricultural field. As evidenced by the absence of a water table in the adjacent gravel pit, the wetland retains water in the compacted silt loam solum. Soils within this wetland had strong hydromorphic development including prominent redox concentrations on a low chroma (depleted) matrix. The soil is similar to the Raypol series. The hydrologic support of this wetland may come from the slopes of an adjacent closed landfill. A review of publicly available aerial imagery shows the landfill active in April 1990 and closed and vegetated in August 2003.

Wetland Delineation Field Form

Project Address:	Windsorville Road & Apothecaries Hall Road, East Windsor, CT	Project Number:	42569
Inspection Date:	11/13/2020	Inspector:	Jeffrey Peterson, CPSS
Wetland I.D.:	Wetland 11		

Field Conditions:	Weather: Clear 40s	Snow Depth: 0 inches
	General Soil Moisture: moist	Frost Depth: 0 inches

Type of Wetland Delineation:	Connecticut ☒
	ACOE ☐
	Tidal ☐

Field Numbering Sequence: 2-100 to 2-113

WETLAND HYDROLOGY:

NONTIDAL

Intermittently Flooded ☐	Artificially Flooded ☐	Permanently Flooded ☐
Semipermanently Flooded ☐	Seasonally Inundated ☒	Temporarily Flooded ☐
Permanently Saturated ☐	Seasonally Saturated – seepage ☒	Seasonally Saturated - perched ☐
Comments: Depression created between cut slope and fill slope		

TIDAL

Subtidal ☐	Regularly Flooded ☐	Irregularly Flooded ☐
Irregularly Flooded ☐		
Comments: N/A		

WETLAND TYPE:

SYSTEM:

Estuarine ☐	Riverine ☐	Palustrine ☒
Lacustrine ☐	Marine ☐	
Comments:		

CLASS:

Emergent ☐	Scrub-shrub ☒	Forested ☐
Open Water ☐	Disturbed ☐	Wet Meadow ☐
Comments: Willow.		

WATERCOURSE TYPE:

Perennial	Intermittent ☐	Tidal ☐
Comments: NA		

SPECIAL AQUATIC HABITAT:

Vernal Pool ☐	Other ☐	
Comments: Only midge, mosquito and caddisfly larvae observed in central pool. A hatch of midges observed in April 2020 attracted a pair of eastern phoebe.		

Wetland Delineation Field Form (Cont.)

MAPPED SOILS:

SOIL SERIES (Map Unit Symbol)	WET	UP	NRCS MAPPED	FIELD IDD/ CONFIRMED
Raypol silt loam (12)	☒	☐	☐	☒
Enfield silt loam, 0 to 3 percent slopes (704A)	☐	☒	☒	☒
Manchester gravelly sandy loam, 15 to 45 percent slopes (37E)	☐	☒	☒	☒
Udorthents-pits complex (305)	☐	☒	☐	☒

DOMINANT WETLAND PLANTS:

Willow (*Salix* sp.)	Sensitive fern (*Onoclea sensibilis*)
Multiflora rose (*Rosa multiflora*)	Common reed (*Phragmites australis*)
Silky dogwood (*Cornus amomum*)	

WETLAND NARRATIVE:

Wetland 11 was created as part of the gravel pit reclamation plan. The wetland is situated in a depression created when fill installed the close the gravel operation was pushed up against the face of the original excavation. Based on a review of aerial photographs, Wetland 11 was first visible in 2008 and has been undisturbed since. This wetland provides groundwater recharge and limited production export.

According to The Inland Wetland and Watercourses Regulations of the Town of East Windsor (IWW Regulations) "Terrace Escarpment" means steeply sloping lands denoted under the general soil classifications units Te, Tc, Tg in the Hartford County Soil of the Soil Conservation Service, U.S.D.A. In the Soil Survey of Hartford County, Connecticut (SCS, 1962) the 37E map unit was mapped as Tg, a gravelly terrace escarpment.

Section 6.1 of the IWW Regulations define regulated activity as: *The Agency shall regulate any operation or use of a wetland or watercourse involving removal or deposition of material, or any obstruction, construction, alteration or pollution of such wetlands or watercourses, and any earth-moving, grubbing land, filling, construction, or clear-cutting within one-hundred fifty (150) feet of an upland review area that borders a wetland and/or watercourse, and on terrace escarpment soils adjacent to a wetland, watercourse or upland review area.*

This means the regulated area around Wetland 11 consists of the 150 foot dimensional off-set from the flagged wetland edge plus the portion of the 37E unit that is adjacent to this wetland. Adjacent would seemingly indicate draining to the wetland.

Wetland Delineation Field Form

Project Address:	Plantation Road, East Windsor, CT	Project Number:	42569
Inspection Date:	11/13/2020	Inspector:	Jeffrey Peterson, CPSS
Wetland I.D.:	Wetland 12		

Field Conditions:	Weather: Clear 30s	Snow Depth: 0 inches
	General Soil Moisture: moist	Frost Depth: 0 inches
Type of Wetland Delineation:	Connecticut ☒	
	ACOE ☐	
	Tidal ☐	
Field Numbering Sequence: 2-108 start to 2-112 end; 2-115 start to 2-119 end		

WETLAND HYDROLOGY:

NONTIDAL

Intermittently Flooded ☐	Artificially Flooded ☐	Permanently Flooded ☐
Semipermanently Flooded ☐	Seasonally Inundated ☒	Temporarily Flooded ☐
Permanently Saturated ☐	Seasonally Saturated – seepage ☒	Seasonally Saturated - perched ☐
Comments: Depression next to railroad fill section		

TIDAL

Subtidal ☐	Regularly Flooded ☐	Irregularly Flooded ☐
Irregularly Flooded ☐		
Comments: N/A		

WETLAND TYPE:

SYSTEM:

Estuarine ☐	Riverine ☐	Palustrine ☒
Lacustrine ☐	Marine ☐	
Comments: Low point near railroad fill section		

CLASS:

Emergent ☐	Scrub-shrub ☒	Forested ☒
Open Water ☐	Disturbed ☐	Wet Meadow ☐
Comments: Shrub dominated area near railroad track		

WATERCOURSE TYPE:

Perennial	Intermittent ☐	Tidal ☐
Comments: NA		

SPECIAL AQUATIC HABITAT:

Vernal Pool ☒	Other ☐	
Comments: Water ponds in the northern part of the wetland.		

Wetland Delineation Field Form (Cont.)

MAPPED SOILS:

SOIL SERIES (Map Unit Symbol)	WET	UP	NRCS MAPPED	FIELD IDD/ CONFIRMED
Raypol silt loam, 0 to 3 percent slopes (12)	☒	☐	☐	☒
Scarboro muck, 0 to 3 percent slopes (15)	☒	☐	☐	☒
Ellington silt loam, 0 to 5 percent slopes (20A)	☐	☒	☐	☐
Hartford sandy loam, 3 to 8 percent slopes (33B)	☐	☒	☒	☒

DOMINANT WETLAND PLANTS:

Red maple (*Acer rubrum*)	Royal fern (*Osmunda regalis*)
	Poison ivy (*Toxicodendron radicans*)
Spicebush (*Lindera benzoin*)	Jewelweed (*Impatiens capensis*)
Buttonbush (*Cephalanthus occidentalis*)	Hop sedge (*Carex lupilina)*
Multiflora rose (*Rosa multiflora*)	Ditch stonecrop (*Penthorum sedoides*)

WETLAND NARRATIVE:

Wetlands 12 occupies a depression adjacent to the fill section of the State of Connecticut railroad line. This wetland also functions as a vernal pool. These wetland depressions trap sediment generated in uplands including the railroad embankment and recharge the groundwater.

According to The Inland Wetland and Watercourses Regulations of the Town of East Windsor (IWW Regulations) "Terrace Escarpment" means steeply sloping lands denoted under the general soil classifications units Te, Tc, Tg in the Hartford County Soil of the Soil Conservation Service, U.S.D.A. In the Soil Survey of Hartford County, Connecticut (SCS, 1962) the 37E map unit was mapped as Tg, a gravelly terrace escarpment.

Section 6.1 of the IWW Regulations define regulated activity as: *The Agency shall regulate any operation or use of a wetland or watercourse involving removal or deposition of material, or any obstruction, construction, alteration or pollution of such wetlands or watercourses, and any earth-moving, grubbing land, filling, construction, or clear-cutting within one-hundred fifty (150) feet of an upland review area that borders a wetland and/or watercourse, and on terrace escarpment soils adjacent to a wetland, watercourse or upland review area.*

This means the regulated area around Wetland 12 consists of the 150 foot dimensional off-set from the flagged wetland edge plus the portion of the 37E unit that is adjacent to this wetland. Adjacent would seemingly indicate draining to the wetland.

Wetland 12 is a verified vernal pool (see separately bound Vernal Pool Report) and receives additional protection from IWW Regulations Section 7.5.n. which instructs: *The site plan shall show any potential vernal pools on the affected portion of the proposed property along with a written evaluation as to the quality of the vernal pool and probable effect of the development on the vernal pool(s) conducted by a certified wildlife scientist, professional wetland scientist or similar qualified individual (as determined by the Commission).*

1. A buffer of 100 feet of non-disturbance shall be incorporated into the site plans when a vernal pool is identified. This non-disturbance area can be adjusted at the approval of the Commission based upon evidence of vernal pool quality by an expert.
2. No piped stormwater system shall discharge into a vernal pool.

Wetland Delineation Field Form

Project Address:	Plantation Road, East Windsor, CT	Project Number:	42569
Inspection Date:	11/13/2020	Inspector:	Jeffrey Peterson, CPSS
Wetland I.D.:	Wetland 13		

Field Conditions:	Weather: Clear 30s	Snow Depth: 0 inches
	General Soil Moisture: moist	Frost Depth: 0 inches
Type of Wetland Delineation:	Connecticut ☒	
	ACOE ☐	
	Tidal ☐	
Field Numbering Sequence: 1-103 to 1-105		

WETLAND HYDROLOGY:

NONTIDAL

Intermittently Flooded ☐	Artificially Flooded ☐	Permanently Flooded ☐
Semipermanently Flooded ☐	Seasonally Flooded ☐	Temporarily Flooded ☐
Permanently Saturated ☐	Seasonally Saturated – seepage ☒	Seasonally Saturated - perched ☐
Comments: Depression next to railroad fill section		

TIDAL

Subtidal ☐	Regularly Flooded ☐	Irregularly Flooded ☐
Irregularly Flooded ☐		
Comments: N/A		

WETLAND TYPE:

SYSTEM:

Estuarine ☐	Riverine ☐	Palustrine ☒
Lacustrine ☐	Marine ☐	
Comments: Low point near railroad fill section		

CLASS:

Emergent ☐	Scrub-shrub ☒	Forested ☒
Open Water ☐	Disturbed ☐	Wet Meadow ☐
Comments: Shrub dominated area near railroad track		

WATERCOURSE TYPE:

Perennial	Intermittent ☐	Tidal ☐
Comments: NA		

SPECIAL AQUATIC HABITAT:

Vernal Pool ☐	Other ☐	
Comments: No water ponds in this depression		

Wetland Delineation Field Form (Cont.)

MAPPED SOILS:

SOIL SERIES (Map Unit Symbol)	WET	UP	NRCS MAPPED	FIELD IDD/ CONFIRMED
Raypol silt loam, 0 to 3 percent slopes (12)	☒	☐	☐	☒
Scarboro muck, 0 to 3 percent slopes (15)	☒	☐	☐	☒
Ellington silt loam, 0 to 5 percent slopes (20A)	☐	☒	☐	☐
Hartford sandy loam, 3 to 8 percent slopes (33B)	☐	☒	☒	☒

DOMINANT WETLAND PLANTS:

Red maple (*Acer rubrum*)	Jewelweed (*Impatiens capensis*)
American elm (Ulmus americana)	Wood-reed grass (*Cinna latifolia*)
Red oak (*Quercus rubra*)	Skunk cabbage (*Symplocarpus foetidus*)
Spicebush (Lindera benzoin)	
Cottonwood *(Populus deltoides*)	
Silky dogwood (*Cornus amomum*)	

WETLAND NARRATIVE:

Wetlands 13 occupies a depression adjacent to the fill section of the State of Connecticut railroad line. The slopes above this depression have accumulated sediment from years of erosion. This wetland depression traps sediment generated in uplands including from farm fields and the railroad embankment, transforms nutrients, and recharges the groundwater.

According to The Inland Wetland and Watercourses Regulations of the Town of East Windsor (IWW Regulations) "*Terrace Escarpment*" *means steeply sloping lands denoted under the general soil classifications units Te, Tc, Tg in the Hartford County Soil of the Soil Conservation Service, U.S.D.A*. In the Soil Survey of Hartford County, Connecticut (SCS, 1962) the 37E map unit was mapped as Tg, a gravelly terrace escarpment.

Section 6.1 of the IWW Regulations define regulated activity as: *The Agency shall regulate any operation or use of a wetland or watercourse involving removal or deposition of material, or any obstruction, construction, alteration or pollution of such wetlands or watercourses, and any earth-moving, grubbing land, filling, construction, or clear-cutting within one-hundred fifty (150) feet of an upland review area that borders a wetland and/or watercourse, and on terrace escarpment soils adjacent to a wetland, watercourse or upland review area.*

This means the regulated area around Wetland 1 consists of the 150 foot dimensional off-set from the flagged wetland edge plus the portion of the 37E unit that is adjacent to this wetland. Adjacent would seemingly indicate that part of the escarpment draining to the wetland.

Verified vernal pool 3 (see separately bound Vernal Pool Report) within Wetland 1 receives additional protection from the IWW Regulations Section 7.5.n. which instructs: *The site plan shall show any potential vernal pools on the affected portion of the proposed property along with a written evaluation as to the quality of the vernal pool and probable effect of the development on the vernal pool(s) conducted by a certified wildlife scientist, professional wetland scientist or similar qualified individual (as determined by the Commission).*
1. A buffer of 100 feet of non-disturbance shall be incorporated into the site plans when a vernal pool is identified. This non-disturbance area can be adjusted at the approval of the Commission based upon evidence of vernal pool quality by an expert.
2. No piped stormwater system shall discharge into a vernal pool.

Wetland Delineation Field Form

Project Address:	Plantation Road, East Windsor, CT	Project Number:	42569
Inspection Date:	3/26/2020	Inspector:	Jeffrey Peterson, CPSS
Wetland I.D.:	Wetland 14		

Field Conditions:	Weather: Clear 40s	Snow Depth: 0 inches
	General Soil Moisture: moist	Frost Depth: 0 inches
Type of Wetland Delineation:	Connecticut ☒	
	ACOE ☐	
	Tidal ☐	
Field Numbering Sequence: Wetland 14 was determined to be off-site.		

WETLAND HYDROLOGY:

NONTIDAL

Intermittently Flooded ☐	Artificially Flooded ☐	Permanently Flooded ☐
Semipermanently Flooded ☐	Seasonally Flooded ☐	Temporarily Flooded ☐
Permanently Saturated ☐	Seasonally Saturated – seepage ☒	Seasonally Saturated - perched ☒
Comments: Depression at base of closed landfill that holds water.		

TIDAL

Subtidal ☐	Regularly Flooded ☐	Irregularly Flooded ☐
Irregularly Flooded ☐		
Comments: N/A		

WETLAND TYPE:

SYSTEM:

Estuarine ☐	Riverine ☐	Palustrine ☒
Lacustrine ☐	Marine ☐	
Comments: Wetland hydrology driven by surface runoff and discharge from landfill slope cover.		

CLASS:

Emergent ☐	Scrub-shrub ☒	Forested ☐
Open Water ☐	Disturbed ☐	Wet Meadow ☐
Comments: Red maple, willow (*Salix* sp.)		

WATERCOURSE TYPE:

Perennial	Intermittent ☐	Tidal ☐
Comments: NA		

SPECIAL AQUATIC HABITAT:

Vernal Pool ☐	Other ☐	
Comments: NA		

Wetland Delineation Field Form (Cont.)

MAPPED SOILS:

SOIL SERIES (Map Unit Symbol)	WET	UP	NRCS MAPPED	FIELD IDD/ CONFIRMED
Raypol silt loam, 0 to 3 percent slopes (12)	☒	☐	☐	☐
Hartford sandy loam, 3 to 8 percent slopes (33B)	☐	☒	☒	☐
Udorthents-pits complex, gravelly (305)	☐	☒	☒	☐

DOMINANT WETLAND PLANTS:

Red maple (*Acer rubrum*)	
Willow (*Salix* sp.)	

WETLAND NARRATIVE:

This small wetland depression is off-site. It occupies an isolated depression at the toe of a closed landfill site. This feature was created by human alteration of the site which traps water above compacted soil layers. This wetland may trap sediment washing down from the landfill cover.

The Soil Survey Legend for Connecticut has not established series for closed landfills with caps that support plant growth. The classification of the closed landfill soil abutting Wetland 14 and 15 to family level (one level of classification above series) would likely be coarse loamy, methanogenic, mixed, mesic Anthropic Udorthents.

Wetland Delineation Field Form

Project Address:	Plantation Road, East Windsor	Project Number:	42569
Inspection Date:	3/26/2020	Inspector:	Jeffrey Peterson, CPSS
Wetland I.D.:	Wetland 15		

Field Conditions:	Weather: Clear 40s	Snow Depth: 0 inches
	General Soil Moisture: moist	Frost Depth: 0 inches
Type of Wetland Delineation:	Connecticut ☒	
	ACOE ☐	
	Tidal ☐	
Field Numbering Sequence: WF 15-97 to 15-102		

WETLAND HYDROLOGY:

NONTIDAL

Intermittently Flooded ☐	Artificially Flooded ☐	Permanently Flooded ☐
Semipermanently Flooded ☐	Seasonally Flooded ☐	Temporarily Flooded ☐
Permanently Saturated ☐	Seasonally Saturated – seepage ☒	Seasonally Saturated - perched ☐
Comments: Hydrology driven by seepage off landfill cap from Lot 027-49-006.		

TIDAL

Subtidal ☐	Regularly Flooded ☐	Irregularly Flooded ☐
Irregularly Flooded ☐		
Comments: N/A		

WETLAND TYPE:

SYSTEM:

Estuarine ☐	Riverine ☐	Palustrine ☒
Lacustrine ☐	Marine ☐	
Comments: Seepage from landfill cap flows into excavated depression before re-infiltrating into sands.		

CLASS:

Emergent ☐	Scrub-shrub ☐	Forested ☒
Open Water ☐	Disturbed ☐	Wet Meadow ☐
Comments:		

WATERCOURSE TYPE:

Perennial	Intermittent ☐	Tidal ☐
Comments: NA		

SPECIAL AQUATIC HABITAT:

Vernal Pool ☐	Other ☐	
Comments: NA		

Wetland Delineation Field Form (Cont.)

MAPPED SOILS:

SOIL SERIES (Map Unit Symbol)	WET	UP	NRCS MAPPED	FIELD IDD/ CONFIRMED
Scarboro muck, 0 to 3 percent slopes (15)	☒	☐	☐	☒
Manchester gravelly sandy loam, 3 to 15 percent slopes (37C)	☐	☒	☐	☒
Enfield silt loam, 0 to 3 percent slopes (704A)	☐	☒	☒	☒
Udorthents-Pits complex (305)	☐	☒	☒	☒

DOMINANT WETLAND PLANTS:

Red maple (*Acer rubrum*)	
White pine (*Pinus strobus*)	
Sensitive fern (*Onoclea sensibilis*)	
Poison ivy (*Toxicodendron radicans*)	

WETLAND NARRATIVE:

This wetland likely formed in uplands after the Northern Capitol Region Disposal Landfill was capped. Water infiltrates into the friable soils above the impervious landfill cap and flows above the liner (through-flow) to the toe of slope where it breaks out onto the ground surface (reflow). Wetland 15 is a depression where this reflow enters the ground again and recharges the groundwater. The soil in this feature is similar to the Scarboro series as it has a thin muck surface tier above sand and gravel. The wetland provides a groundwater recharge function.

Wetland Delineation Field Form

Project Address:	Plantation Road, East Windsor, CT	Project Number:	42569
Inspection Date:	March 3, 2020	Inspector:	Jeffrey Peterson, CPSS
Wetland I.D.:	Wetland 16		

Field Conditions:	Weather: Clear 40s	Snow Depth: 0 inches
	General Soil Moisture: moist	Frost Depth: 0 inches
Type of Wetland Delineation:	Connecticut ☒	
	ACOE ☐	
	Tidal ☐	
Field Numbering Sequence: WF 5-100 to 5-144, open at property line		

WETLAND HYDROLOGY:

NONTIDAL

Intermittently Flooded ☐	Artificially Flooded ☐	Permanently Flooded ☐
Semipermanently Flooded ☐	Seasonally Flooded ☐	Temporarily Inundated ☒
Permanently Saturated ☒	Seasonally Saturated – seepage ☒	Seasonally Saturated - perched ☐
Comments: Kettle hole depression in ice contact stratified drift adjacent to stagnant ice front.		

TIDAL

Subtidal ☐	Regularly Flooded ☐	Irregularly Flooded ☐
Irregularly Flooded ☐		
Comments: N/A		

WETLAND TYPE:

SYSTEM:

Estuarine ☐	Riverine ☐	Palustrine ☒
Lacustrine ☐	Marine ☐	
Comments:		

CLASS:

Emergent ☐	Scrub-shrub ☒	Forested ☒
Open Water ☐	Disturbed ☐	Wet Meadow ☐
Comments:		

WATERCOURSE TYPE:

Perennial ☐	Intermittent ☐	Tidal ☐
Comments: Isolated wetland in bottom of kettle hole depression		

SPECIAL AQUATIC HABITAT:

Vernal Pool ☒	Other ☐	
Comments: Vernal pool present in southwest corner of wetland below the 122 foot elevation contour		

Wetland Delineation Field Form (Cont.)

MAPPED SOILS:

SOIL SERIES (Map Unit Symbol)	WET	UP	NRCS MAPPED	FIELD IDD/ CONFIRMED
Manchester gravelly sandy loam, 15 to 45 percent slopes (37E) (Tg*)	☐	☒	☒	☒
Walpole sandy loam, 0 to 3 percent slopes (13)	☒	☐	☐	☒
Scarboro muck, 0 to 3 percent slopes (15)	☒	☐	☐	☒
Hartford sandy loam, 3 to 8 percent slopes- (33B)	☐	☒	☒	☒
Udorthents-Pits complex gravelly (305)	☐	☒	☒	☐

* Tg Terrace Escarpment from 1962 Soil Survey of Hartford County, CT

DOMINANT OR COMMON WETLAND PLANTS:

Red maple (*Acer rubrum*)	Cinnamon fern (*Osmundastrum cinnamomeum*)
	Sensitive fern (*Onoclea sensibilis*)
Eastern hemlock (*Tsuga canadensis*)	Jewelweed (*Impatiens capensis*)
Yellow birch (*Betula alleghaniensis*)	Evergreen wood fern (*Dryopteris intermedia*)
White pine (Pinus strobus)	
Winterberry (*Ilex verticillata*)	
Arrowwood (*Viburnum recognitum*)	
Highbush blueberry (*Vaccinium corymbosum*)	

WETLAND NARRATIVE:

Wetland 16 occupies the bottom of a steep-sided kettle hole one quarter mile north of Plantation Road proximate to the State of Connecticut Railroad Line. This wetland is a dissimilar inclusion in a Manchester gravelly sandy loam, 15 to 45 percent slopes map unit (37E). The wetland does not have an inlet or outlet. Runoff from farming operations to the west are directed to the depression occupied by this wetland. The wetland is disturbed by illicit all-terrain vehicle trails that enter the site from the adjacent State of Connecticut railroad grade. The wetland is believed to intercept the true groundwater table and serves an important recharge function. Sediments and nutrients washed in from farming and railroad operations are also trapped in this wetland depression.

The southern end of the wetland includes a depression below elevation 122 feet which has been determined to be a vernal pool.

According to The Inland Wetland and Watercourses Regulations of the Town of East Windsor (IWW Regulations) "*Terrace Escarpment*" *means steeply sloping lands denoted under the general soil classifications units Te, Tc, Tg in the Hartford County Soil of the Soil Conservation Service, U.S.D.A*. In the Soil Survey of Hartford County, Connecticut (SCS, 1962) the 37E map unit was mapped as Tg, a gravelly terrace escarpment.

Section 6.1 of the IWW Regulations define regulated activity as: *The Agency shall regulate any operation or use of a wetland or watercourse involving removal or deposition of material, or any obstruction, construction, alteration or pollution of such wetlands or watercourses, and any earth-moving, grubbing land, filling, construction, or clear-cutting within one-hundred fifty (150) feet of an upland review area that borders a wetland and/or watercourse, and on terrace escarpment soils adjacent to a wetland, watercourse or upland review area.*

This means the regulated area around Wetland 16 consists of the 150-foot dimensional off-set from the

flagged wetland edge plus the portion of the 37E unit that is adjacent to this wetland. Adjacent would seemingly indicate draining to the wetland.

The verified vernal pool (see separately bound Vernal Pool Report) in the southern part of Wetland 16 receives additional protection from IWW Regulations Section 7.5.n. which instructs: *The site plan shall show any potential vernal pools on the affected portion of the proposed property along with a written evaluation as to the quality of the vernal pool and probable effect of the development on the vernal pool(s) conducted by a certified wildlife scientist, professional wetland scientist or similar qualified individual (as determined by the Commission).*
1. A buffer of 100 feet of non-disturbance shall be incorporated into the site plans when a vernal pool is identified. This non-disturbance area can be adjusted at the approval of the Commission based upon evidence of vernal pool quality by an expert.
2. No piped stormwater system shall discharge into a vernal pool.

United States Department of Agriculture

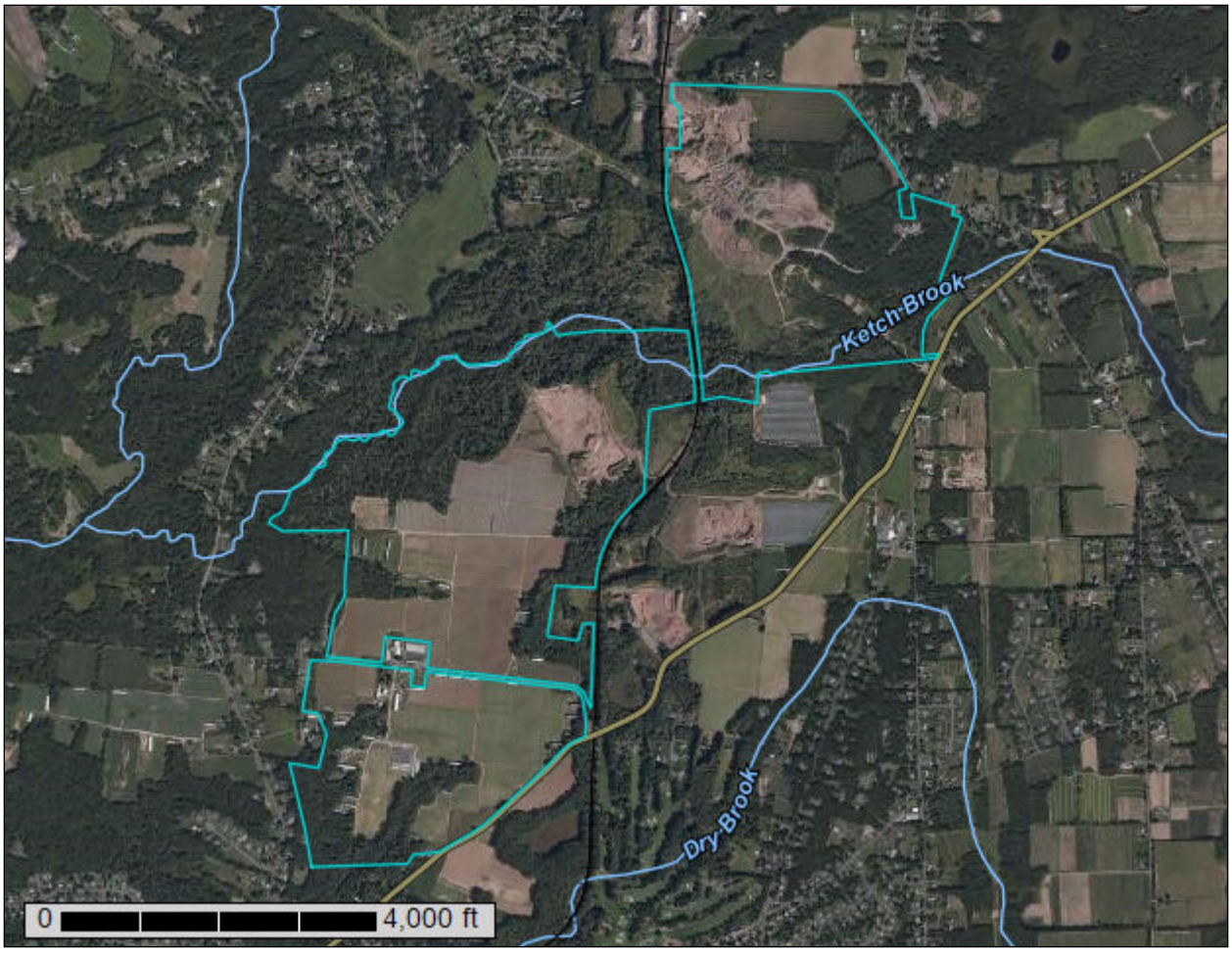
NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for State of Connecticut

GPS Project Site, East Windsor, CT



April 30, 2020

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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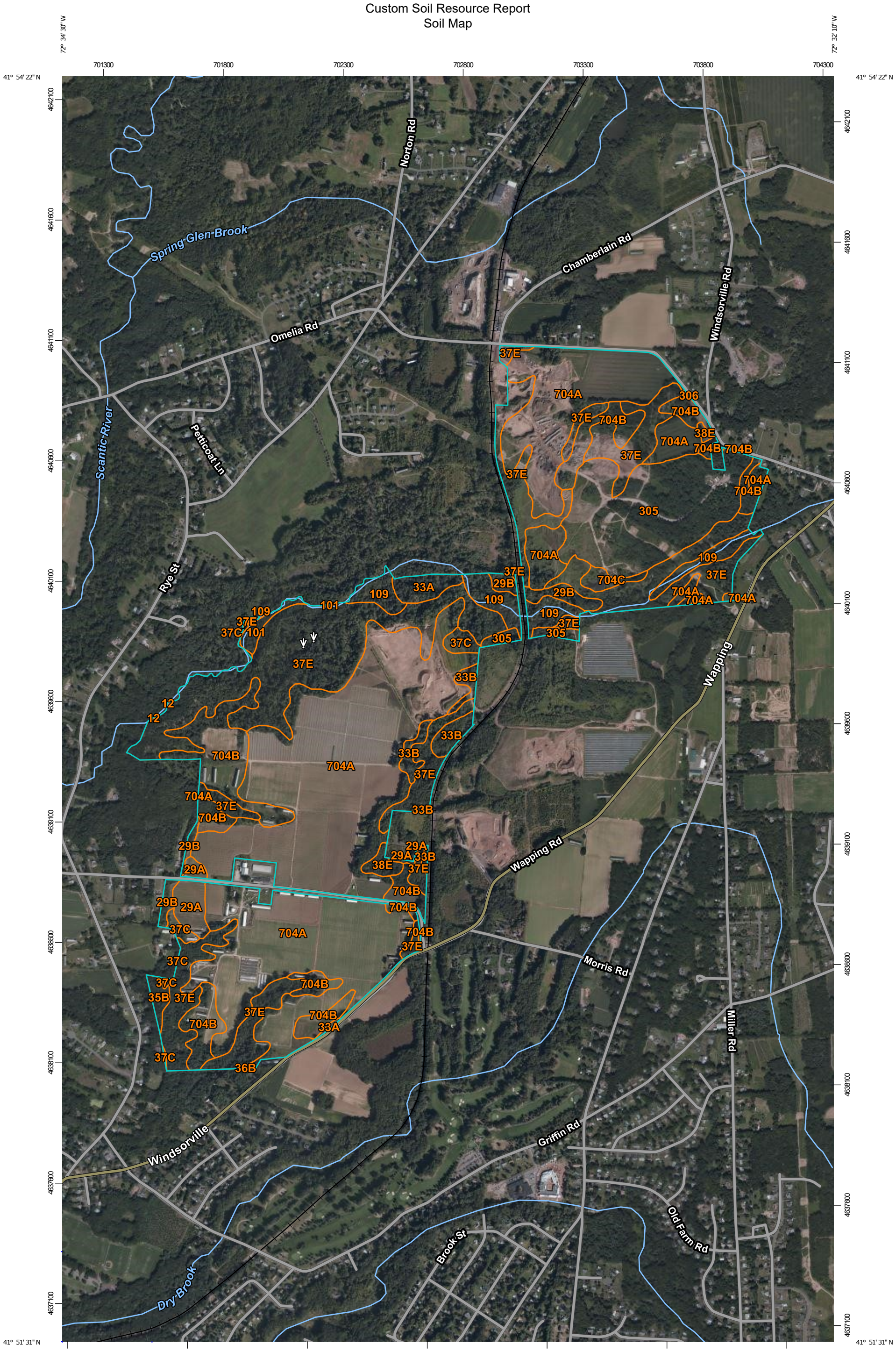
Contents

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



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.

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 19, Sep 13, 2019

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

Date(s) aerial images were photographed: Aug 24, 2019—Oct 24, 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
12	Raypol silt loam	0.0	0.0%
29A	Agawam fine sandy loam, 0 to 3 percent slopes	8.6	1.2%
29B	Agawam fine sandy loam, 3 to 8 percent slopes	9.4	1.3%
33A	Hartford sandy loam, 0 to 3 percent slopes	6.6	0.9%
33B	Hartford sandy loam, 3 to 8 percent slopes	10.6	1.4%
35B	Penwood loamy sand, 3 to 8 percent slopes	2.8	0.4%
36B	Windsor loamy sand, 3 to 8 percent slopes	0.0	0.0%
37C	Manchester gravelly sandy loam, 3 to 15 percent slopes	5.9	0.8%
37E	Manchester gravelly sandy loam, 15 to 45 percent slopes	185.9	25.3%
38E	Hinckley loamy sand, 15 to 45 percent slopes	3.8	0.5%
101	Occum fine sandy loam	3.2	0.4%
109	Fluvaquents-Udifluvents complex, frequently flooded	23.8	3.2%
305	Udorthents-Pits complex, gravelly	72.4	9.8%
306	Udorthents-Urban land complex	0.0	0.0%
704A	Enfield silt loam, 0 to 3 percent slopes	332.5	45.2%
704B	Enfield silt loam, 3 to 8 percent slopes	67.1	9.1%
704C	Enfield silt loam, 8 to 15 percent slopes	3.4	0.5%
Totals for Area of Interest		**736.2**	**100.0%**

Map Unit Descriptions

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, 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 and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils 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. Other minor components, however, have properties and behavioral 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*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one 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.

State of Connecticut

12—Raypol silt loam

Map Unit Setting

National map unit symbol: 9ljx
Elevation: 0 to 1,200 feet
Mean annual precipitation: 43 to 54 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 140 to 185 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Raypol and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Raypol

Setting

Landform: Depressions, drainageways
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Coarse-loamy eolian deposits over sandy and gravelly glaciofluvial deposits derived from granite and/or schist and/or gneiss

Typical profile

Ap - 0 to 8 inches: silt loam
Bg1 - 8 to 12 inches: very fine sandy loam
Bg2 - 12 to 20 inches: silt loam
Bw1 - 20 to 26 inches: silt loam
Bw2 - 26 to 29 inches: very fine sandy loam
2C1 - 29 to 52 inches: stratified very gravelly coarse sand to loamy fine sand
2C2 - 52 to 65 inches: stratified very gravelly coarse sand to loamy fine sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Poorly drained
Runoff class: Low
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 storage in profile: Moderate (about 7.0 inches)

Interpretive groups

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

Minor Components

Haven
Percent of map unit: 5 percent
Landform: Terraces, outwash plains
Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

Enfield
Percent of map unit: 5 percent
Landform: Outwash plains, terraces
Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

Ninigret
Percent of map unit: 3 percent
Landform: Outwash plains, terraces
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: No

Scarboro
Percent of map unit: 2 percent
Landform: Drainageways, depressions, terraces
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Tisbury
Percent of map unit: 2 percent
Landform: Outwash plains, terraces
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Walpole
Percent of map unit: 2 percent
Landform: Depressions on terraces, drainageways on terraces
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Unnamed, loamy substratum
Percent of map unit: 1 percent

29A—Agawam fine sandy loam, 0 to 3 percent slopes

Map Unit Setting
National map unit symbol: 2tyqw

Elevation: 0 to 1,040 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 250 days
Farmland classification: All areas are prime farmland

Map Unit Composition

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

Description of Agawam

Setting

Landform: Moraines, kames, outwash terraces, outwash plains, kame terraces
Landform position (two-dimensional): Backslope, shoulder, footslope, summit
Landform position (three-dimensional): Side slope, crest, tread, riser, rise, dip
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Coarse-loamy eolian deposits over sandy and gravelly glaciofluvial deposits derived from gneiss, granite, schist, and/or phyllite

Typical profile

Ap - 0 to 11 inches: fine sandy loam
Bw1 - 11 to 16 inches: fine sandy loam
Bw2 - 16 to 26 inches: fine sandy loam
2C1 - 26 to 39 inches: loamy fine sand
2C2 - 39 to 55 inches: loamy fine sand
2C3 - 55 to 65 inches: loamy sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: 15 to 35 inches to strongly contrasting textural stratification
Natural drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water storage in profile: Low (about 3.4 inches)

Interpretive groups

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

Minor Components

Ninigret

Percent of map unit: 5 percent
Landform: Terraces
Down-slope shape: Linear
Across-slope shape: Concave

Hydric soil rating: No

Windsor

Percent of map unit: 4 percent
Landform: Outwash plains, dunes, deltas, outwash terraces
Landform position (three-dimensional): Tread, riser
Down-slope shape: Linear, convex
Across-slope shape: Linear, convex
Hydric soil rating: No

Walpole

Percent of map unit: 3 percent
Landform: Depressions, deltas, outwash terraces, outwash plains, depressions
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Hinckley

Percent of map unit: 3 percent
Landform: Eskers, outwash plains, kames, deltas
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Nose slope, side slope, crest, head slope, rise
Down-slope shape: Convex
Across-slope shape: Convex, linear
Hydric soil rating: No

29B—Agawam fine sandy loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2tyqx
Elevation: 0 to 820 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 250 days
Farmland classification: All areas are prime farmland

Map Unit Composition

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

Description of Agawam

Setting

Landform: Outwash terraces, moraines, kame terraces, outwash plains, kames
Landform position (two-dimensional): Backslope, shoulder, footslope, summit
Landform position (three-dimensional): Side slope, crest, tread, riser, rise, dip
Down-slope shape: Convex

Across-slope shape: Convex
Parent material: Coarse-loamy eolian deposits over sandy and gravelly glaciofluvial deposits derived from gneiss, granite, schist, and/or phyllite

Typical profile

Ap - 0 to 11 inches: fine sandy loam
Bw1 - 11 to 16 inches: fine sandy loam
Bw2 - 16 to 26 inches: fine sandy loam
2C1 - 26 to 45 inches: loamy fine sand
2C2 - 45 to 55 inches: loamy fine sand
2C3 - 55 to 65 inches: loamy sand

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: 15 to 35 inches to strongly contrasting textural stratification
Natural drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water storage in profile: Low (about 3.4 inches)

Interpretive groups

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

Minor Components

Sudbury

Percent of map unit: 5 percent
Landform: Terraces, deltas, outwash plains
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Hinckley

Percent of map unit: 5 percent
Landform: Outwash plains, kames, deltas, eskers
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Side slope, crest, head slope, nose slope, rise
Down-slope shape: Convex
Across-slope shape: Linear, convex
Hydric soil rating: No

Merrimac

Percent of map unit: 3 percent
Landform: Eskers, outwash terraces, moraines, outwash plains, kames
Landform position (two-dimensional): Backslope, footslope, summit, shoulder

Landform position (three-dimensional): Side slope, crest, riser, tread
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Windsor

Percent of map unit: 2 percent
Landform: Dunes, deltas, outwash terraces, outwash plains
Landform position (three-dimensional): Tread, riser
Down-slope shape: Convex, linear
Across-slope shape: Convex, linear
Hydric soil rating: No

33A—Hartford sandy loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 9lmv
Elevation: 0 to 1,200 feet
Mean annual precipitation: 43 to 54 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 140 to 185 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Hartford and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hartford

Setting

Landform: Terraces, outwash plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy glaciofluvial deposits derived from sandstone and/or basalt

Typical profile

Ap - 0 to 8 inches: sandy loam
Bw1 - 8 to 20 inches: sandy loam
Bw2 - 20 to 26 inches: loamy sand
2C - 26 to 65 inches: stratified very gravelly coarse sand to loamy fine sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Somewhat excessively 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: More than 80 inches

Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 4.5 inches)

Interpretive groups

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

Minor Components

Penwood

Percent of map unit: 5 percent
Landform: Outwash plains, terraces
Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

Branford

Percent of map unit: 5 percent
Landform: Outwash plains, terraces
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Ellington

Percent of map unit: 5 percent
Landform: Outwash plains, terraces
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Manchester

Percent of map unit: 5 percent
Landform: Terraces, kames, eskers, outwash plains
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

33B—Hartford sandy loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 9lmw
Elevation: 0 to 1,200 feet
Mean annual precipitation: 43 to 54 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 140 to 185 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Hartford and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hartford

Setting

Landform: Terraces, outwash plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy glaciofluvial deposits derived from sandstone and/or basalt

Typical profile

Ap - 0 to 8 inches: sandy loam
Bw1 - 8 to 20 inches: sandy loam
Bw2 - 20 to 26 inches: loamy sand
2C - 26 to 65 inches: stratified very gravelly coarse sand to loamy fine sand

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Somewhat excessively drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 4.5 inches)

Interpretive groups

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

Minor Components

Branford

Percent of map unit: 5 percent
Landform: Outwash plains, terraces
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Manchester

Percent of map unit: 5 percent
Landform: Outwash plains, terraces, kames, eskers
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Ellington

Percent of map unit: 5 percent
Landform: Terraces, outwash plains

Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Penwood

Percent of map unit: 5 percent
Landform: Outwash plains, terraces
Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

35B—Penwood loamy sand, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 9ln1
Elevation: 0 to 1,200 feet
Mean annual precipitation: 43 to 54 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 140 to 185 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Penwood and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Penwood

Setting

Landform: Terraces, outwash plains
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Sandy glaciofluvial deposits derived from sandstone and shale

Typical profile

Ap - 0 to 8 inches: loamy sand
Bw1 - 8 to 18 inches: loamy sand
Bw2 - 18 to 30 inches: sand
C - 30 to 60 inches: sand

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Excessively drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 99.62 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Very low (about 2.8 inches)

Interpretive groups

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

Minor Components

Branford

Percent of map unit: 5 percent
Landform: Outwash plains, terraces
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Manchester

Percent of map unit: 5 percent
Landform: Eskers, outwash plains, kames, terraces
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Hartford

Percent of map unit: 5 percent
Landform: Outwash plains, terraces
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Ellington

Percent of map unit: 3 percent
Landform: Outwash plains, terraces
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Unnamed, gravelly substratum

Percent of map unit: 2 percent
Hydric soil rating: No

36B—Windsor loamy sand, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2svkf
Elevation: 0 to 1,210 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

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

Description of Windsor, Loamy Sand

Setting

Landform: Outwash plains, deltas, outwash terraces, dunes
Landform position (three-dimensional): Tread, riser
Down-slope shape: Linear, convex
Across-slope shape: Linear, convex
Parent material: Loose sandy glaciofluvial deposits derived from granite and/or loose sandy glaciofluvial deposits derived from schist and/or loose sandy glaciofluvial deposits derived from gneiss

Typical profile

O - 0 to 1 inches: moderately decomposed plant material
A - 1 to 3 inches: loamy sand
Bw - 3 to 25 inches: loamy sand
C - 25 to 65 inches: sand

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Excessively drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (1.42 to 99.90 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water storage in profile: Low (about 4.5 inches)

Interpretive groups

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

Minor Components

Hinckley, loamy sand

Percent of map unit: 10 percent
Landform: Eskers, kames, outwash plains, deltas
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Nose slope, side slope, crest, head slope, rise
Down-slope shape: Convex
Across-slope shape: Convex, linear
Hydric soil rating: No

Deerfield, loamy sand

Percent of map unit: 5 percent
Landform: Outwash plains, terraces, deltas

Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread, talf
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

37C—Manchester gravelly sandy loam, 3 to 15 percent slopes

Map Unit Setting

National map unit symbol: 9ln6
Elevation: 0 to 1,200 feet
Mean annual precipitation: 43 to 54 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 140 to 185 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Manchester and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Manchester

Setting

Landform: Kames, outwash plains, terraces, eskers
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Sandy and gravelly glaciofluvial deposits derived from sandstone and shale and/or basalt

Typical profile

Ap - 0 to 9 inches: gravelly sandy loam
Bw - 9 to 18 inches: gravelly loamy sand
C - 18 to 65 inches: stratified extremely gravelly coarse sand to very gravelly loamy sand

Properties and qualities

Slope: 3 to 15 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Excessively drained
Runoff class: Low
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: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Very low (about 2.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e

Hydrologic Soil Group: A
Hydric soil rating: No

Minor Components

Penwood
Percent of map unit: 5 percent
Landform: Outwash plains, terraces
Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

Hartford
Percent of map unit: 5 percent
Landform: Outwash plains, terraces
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Branford
Percent of map unit: 3 percent
Landform: Outwash plains, terraces
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Ellington
Percent of map unit: 3 percent
Landform: Outwash plains, terraces
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Unnamed, gravelly loamy sand surface
Percent of map unit: 2 percent
Hydric soil rating: No

Unnamed, nongravelly surface
Percent of map unit: 2 percent
Hydric soil rating: No

37E—Manchester gravelly sandy loam, 15 to 45 percent slopes

Map Unit Setting
National map unit symbol: 9ln7
Elevation: 0 to 1,200 feet
Mean annual precipitation: 43 to 54 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 140 to 185 days
Farmland classification: Not prime farmland

Map Unit Composition

Manchester and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Manchester

Setting

Landform: Eskers, kames, outwash plains, terraces
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Sandy and gravelly glaciofluvial deposits derived from sandstone and shale and/or basalt

Typical profile

Ap - 0 to 9 inches: gravelly sandy loam
Bw - 9 to 18 inches: gravelly loamy sand
C - 18 to 65 inches: stratified extremely gravelly coarse sand to very gravelly loamy sand

Properties and qualities

Slope: 15 to 45 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Excessively drained
Runoff class: High
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: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Very low (about 2.4 inches)

Interpretive groups

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

Minor Components

Hartford

Percent of map unit: 5 percent
Landform: Outwash plains, terraces
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Branford

Percent of map unit: 5 percent
Landform: Outwash plains, terraces
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Penwood

Percent of map unit: 5 percent
Landform: Outwash plains, terraces

Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

Walpole

Percent of map unit: 3 percent
Landform: Drainageways on terraces, depressions on terraces
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Scitico

Percent of map unit: 2 percent
Landform: Terraces, drainageways, depressions
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

38E—Hinckley loamy sand, 15 to 45 percent slopes

Map Unit Setting

National map unit symbol: 2svmj
Elevation: 0 to 1,280 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

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

Description of Hinckley

Setting

Landform: Outwash deltas, outwash terraces, eskers, kames, kame terraces, outwash plains, moraines
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Nose slope, side slope, crest, head slope, riser
Down-slope shape: Linear, convex, concave
Across-slope shape: Linear, concave, convex
Parent material: Sandy and gravelly glaciofluvial deposits derived from gneiss and/or granite and/or schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 8 inches: loamy sand
Bw1 - 8 to 11 inches: gravelly loamy sand
Bw2 - 11 to 16 inches: gravelly loamy sand

BC - 16 to 19 inches: very gravelly loamy sand
C - 19 to 65 inches: very gravelly sand

Properties and qualities

Slope: 15 to 45 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Excessively drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (1.42 to 99.90 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water storage in profile: Low (about 3.1 inches)

Interpretive groups

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

Minor Components

Merrimac

Percent of map unit: 5 percent
Landform: Eskers, outwash terraces, kames, moraines, outwash plains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope, head slope, nose slope, crest, riser
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Windsor

Percent of map unit: 5 percent
Landform: Outwash deltas, moraines, outwash terraces, eskers, kames, kame terraces, outwash plains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Head slope, nose slope, side slope, crest, riser
Down-slope shape: Convex, linear, concave
Across-slope shape: Convex, linear, concave
Hydric soil rating: No

Agawam

Percent of map unit: 3 percent
Landform: Kame terraces, outwash terraces, eskers, kames, outwash plains, moraines, outwash deltas
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Nose slope, side slope, crest, head slope, riser
Down-slope shape: Linear, convex, concave
Across-slope shape: Convex, linear, concave
Hydric soil rating: No

Sudbury

Percent of map unit: 2 percent
Landform: Kame terraces, outwash plains, outwash deltas, outwash terraces, eskers, kames, moraines
Landform position (two-dimensional): Backslope, footslope
Landform position (three-dimensional): Base slope, tread
Down-slope shape: Linear, concave
Across-slope shape: Concave, linear
Hydric soil rating: No

101—Occum fine sandy loam

Map Unit Setting

National map unit symbol: 9ljm
Elevation: 0 to 1,200 feet
Mean annual precipitation: 43 to 54 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 140 to 185 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Occum and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Occum

Setting

Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Coarse-loamy alluvium

Typical profile

Ap - 0 to 10 inches: fine sandy loam
Bw1 - 10 to 17 inches: fine sandy loam
Bw2 - 17 to 28 inches: sandy loam
C1 - 28 to 32 inches: stratified very gravelly coarse sand to loamy fine sand
C2 - 32 to 42 inches: stratified very gravelly coarse sand to loamy fine sand
C3 - 42 to 65 inches: stratified very gravelly coarse sand to loamy fine sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Very low
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 60 to 72 inches
Frequency of flooding: Occasional

Frequency of ponding: None
Available water storage in profile: Low (about 5.4 inches)

Interpretive groups

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

Minor Components

Pootatuck

Percent of map unit: 5 percent
Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: No

Rippowam

Percent of map unit: 5 percent
Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: Yes

Suncook

Percent of map unit: 5 percent
Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Convex
Hydric soil rating: No

Agawam

Percent of map unit: 5 percent
Landform: Outwash plains, terraces
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

109—Fluvaquents-Udifluvents complex, frequently flooded

Map Unit Setting

National map unit symbol: 9ljw
Elevation: 0 to 2,000 feet
Mean annual precipitation: 43 to 54 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 120 to 185 days
Farmland classification: Not prime farmland

Map Unit Composition

Fluvaquents, frequently flooded, and similar soils: 50 percent

Udifluvents, frequently flooded, and similar soils: 35 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Fluvaquents, Frequently Flooded

Setting

Landform: Flood plains
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Alluvium

Typical profile

A - 0 to 4 inches: silt loam
Cg1 - 4 to 14 inches: fine sand
Cg2 - 14 to 21 inches: very fine sand
Ab1 - 21 to 38 inches: silt loam
Ab2 - 38 to 45 inches: fine sandy loam
C'g3 - 45 to 55 inches: sand
A'b3 - 55 to 60 inches: fine sandy loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Poorly drained
Runoff class: Very low
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: Frequent
Frequency of ponding: None
Available water storage in profile: Moderate (about 7.2 inches)

Interpretive groups

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

Description of Udifluvents, Frequently Flooded

Setting

Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

Typical profile

A - 0 to 2 inches: fine sandy loam
C - 2 to 4 inches: loamy fine sand
Ap - 4 to 12 inches: fine sandy loam
AC - 12 to 18 inches: fine sandy loam
C1 - 18 to 35 inches: loamy sand
C2 - 35 to 38 inches: very gravelly loamy sand
C3 - 38 to 60 inches: very gravelly coarse sand

Properties and qualities

Slope: 0 to 3 percent

Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (0.57 to 35.99 in/hr)
Depth to water table: About 72 inches
Frequency of flooding: Frequent
Frequency of ponding: None
Available water storage in profile: Low (about 4.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6w
Hydrologic Soil Group: A
Hydric soil rating: No

Minor Components

Riverwash

Percent of map unit: 5 percent
Landform: Flood plains
Hydric soil rating: Yes

Rippowam

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

Saco

Percent of map unit: 3 percent
Landform: Flood plains
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Pootatuck

Percent of map unit: 2 percent
Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: No

Occum

Percent of map unit: 2 percent
Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

305—Udorthents-Pits complex, gravelly

Map Unit Setting

National map unit symbol: 9lmf
Elevation: 0 to 2,000 feet
Mean annual precipitation: 43 to 54 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 120 to 185 days
Farmland classification: Not prime farmland

Map Unit Composition

Udorthents and similar soils: 65 percent
Pits: 25 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Udorthents

Setting

Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Gravelly outwash

Typical profile

A - 0 to 5 inches: loam
C1 - 5 to 21 inches: gravelly loam
C2 - 21 to 80 inches: very gravelly sandy loam

Properties and qualities

Slope: 0 to 35 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Moderately well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 1.98 in/hr)
Depth to water table: About 24 to 54 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 6.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C
Hydric soil rating: No

Description of Pits

Typical profile

C - 0 to 65 inches: very gravelly sand

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydric soil rating: Unranked

Minor Components

Merrimac

Percent of map unit: 2 percent
Landform: Terraces, kames, outwash plains
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Hinckley

Percent of map unit: 2 percent
Landform: Outwash plains, terraces, kames, eskers
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Gloucester

Percent of map unit: 2 percent
Landform: Hills
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Windsor

Percent of map unit: 2 percent
Landform: Outwash plains, terraces, kames
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Sudbury

Percent of map unit: 1 percent
Landform: Outwash plains, terraces
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Ninigret

Percent of map unit: 1 percent
Landform: Outwash plains, terraces
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: No

306—Udorthents-Urban land complex

Map Unit Setting

National map unit symbol: 9lmg
Elevation: 0 to 2,000 feet
Mean annual precipitation: 43 to 56 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 120 to 185 days
Farmland classification: Not prime farmland

Map Unit Composition

Udorthents and similar soils: 50 percent
Urban land: 35 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Udorthents

Setting

Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Drift

Typical profile

A - 0 to 5 inches: loam
C1 - 5 to 21 inches: gravelly loam
C2 - 21 to 80 inches: very gravelly sandy loam

Properties and qualities

Slope: 0 to 25 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 1.98 in/hr)
Depth to water table: About 54 to 72 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 6.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B
Hydric soil rating: No

Description of Urban Land

Typical profile

H - 0 to 6 inches: material

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydrologic Soil Group: D
Hydric soil rating: Unranked

Minor Components

Unnamed, undisturbed soils

Percent of map unit: 8 percent
Hydric soil rating: No

Udorthents, wet substratum

Percent of map unit: 5 percent
Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

Rock outcrop

Percent of map unit: 2 percent
Hydric soil rating: No

704A—Enfield silt loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2y07p
Elevation: 0 to 1,200 feet
Mean annual precipitation: 43 to 54 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 140 to 185 days
Farmland classification: All areas are prime farmland

Map Unit Composition

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

Description of Enfield

Setting

Landform: Outwash terraces, outwash plains
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Linear

Parent material: Coarse-silty eolian deposits over sandy and gravelly glaciofluvial deposits derived from granite, schist, and/or gneiss

Typical profile

Ap - 0 to 7 inches: silt loam
Bw1 - 7 to 15 inches: silt loam
Bw2 - 15 to 25 inches: silt loam
2C - 25 to 60 inches: stratified very gravelly coarse sand to loamy sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: 16 to 39 inches to strongly contrasting textural stratification
Natural drainage class: Well drained
Runoff class: Low
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: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 4.3 inches)

Interpretive groups

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

Minor Components

Haven

Percent of map unit: 5 percent
Landform: Outwash terraces, outwash plains
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

Tisbury

Percent of map unit: 5 percent
Landform: Outwash terraces, outwash plains, deltas, valley trains
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: No

Agawam

Percent of map unit: 3 percent
Landform: Kame terraces, outwash terraces, kames, moraines, outwash plains
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Side slope, crest, tread
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Raypol

Percent of map unit: 2 percent
Landform: Drainageways, depressions

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

704B—Enfield silt loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2y07q
Elevation: 0 to 1,200 feet
Mean annual precipitation: 43 to 54 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 140 to 185 days
Farmland classification: All areas are prime farmland

Map Unit Composition

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

Description of Enfield

Setting

Landform: Outwash terraces, outwash plains
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Coarse-silty eolian deposits over sandy and gravelly glaciofluvial deposits derived from granite, schist, and/or gneiss

Typical profile

Ap - 0 to 7 inches: silt loam
Bw1 - 7 to 15 inches: silt loam
Bw2 - 15 to 25 inches: silt loam
2C - 25 to 60 inches: stratified very gravelly coarse sand to loamy sand

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: 16 to 39 inches to strongly contrasting textural stratification
Natural drainage class: Well drained
Runoff class: Low
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: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 4.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e

Hydrologic Soil Group: B
Hydric soil rating: No

Minor Components

Haven
Percent of map unit: 5 percent
Landform: Outwash terraces, outwash plains
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

Tisbury
Percent of map unit: 5 percent
Landform: Valley trains, outwash terraces, outwash plains, deltas
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: No

Agawam
Percent of map unit: 3 percent
Landform: Outwash plains, kame terraces, outwash terraces, kames, moraines
Landform position (two-dimensional): Backslope, shoulder, footslope, summit, toeslope
Landform position (three-dimensional): Side slope, crest, head slope, nose slope, tread
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Raypol
Percent of map unit: 2 percent
Landform: Drainageways, depressions
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

704C—Enfield silt loam, 8 to 15 percent slopes

Map Unit Setting
National map unit symbol: 2y07r
Elevation: 0 to 1,200 feet
Mean annual precipitation: 43 to 54 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 140 to 185 days
Farmland classification: Farmland of statewide importance

Map Unit Composition
Enfield and similar soils: 85 percent

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

Description of Enfield

Setting

Landform: Outwash terraces, outwash plains
Landform position (three-dimensional): Riser
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Coarse-silty eolian deposits over sandy and gravelly glaciofluvial deposits derived from granite, schist, and/or gneiss

Typical profile

Ap - 0 to 7 inches: silt loam
Bw1 - 7 to 15 inches: silt loam
Bw2 - 15 to 25 inches: silt loam
2C - 25 to 60 inches: stratified very gravelly coarse sand to loamy sand

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: 16 to 39 inches to strongly contrasting textural stratification
Natural drainage class: Well drained
Runoff class: Medium
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: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 4.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B
Hydric soil rating: No

Minor Components

Haven

Percent of map unit: 5 percent
Landform: Outwash terraces, outwash plains
Landform position (three-dimensional): Riser
Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

Tisbury

Percent of map unit: 5 percent
Landform: Valley trains, outwash terraces, outwash plains, deltas
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: No

Agawam

Percent of map unit: 3 percent

Landform: Moraines, outwash plains, kame terraces, outwash terraces, kames
Landform position (two-dimensional): Backslope, shoulder, footslope
Landform position (three-dimensional): Side slope, crest, nose slope, head slope, riser
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Raypol

Percent of map unit: 2 percent
Landform: Drainageways, depressions
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

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