SOIL SCIENCE AND ENVIRONMENTAL SERVICES, INC.

Wetland Delineations Ecological Studies Site Assessments Project Planning Soil Testing

May 28, 2026

ATTN: Larry Pelletier, President
F&L Construction Limited
38 Russell Road, Unit A
East Granby, CT 06026

RE: <u>Wetland Assessment Report</u>
Lukas Pond - 177 Old County Road, Windsor Locks, CT

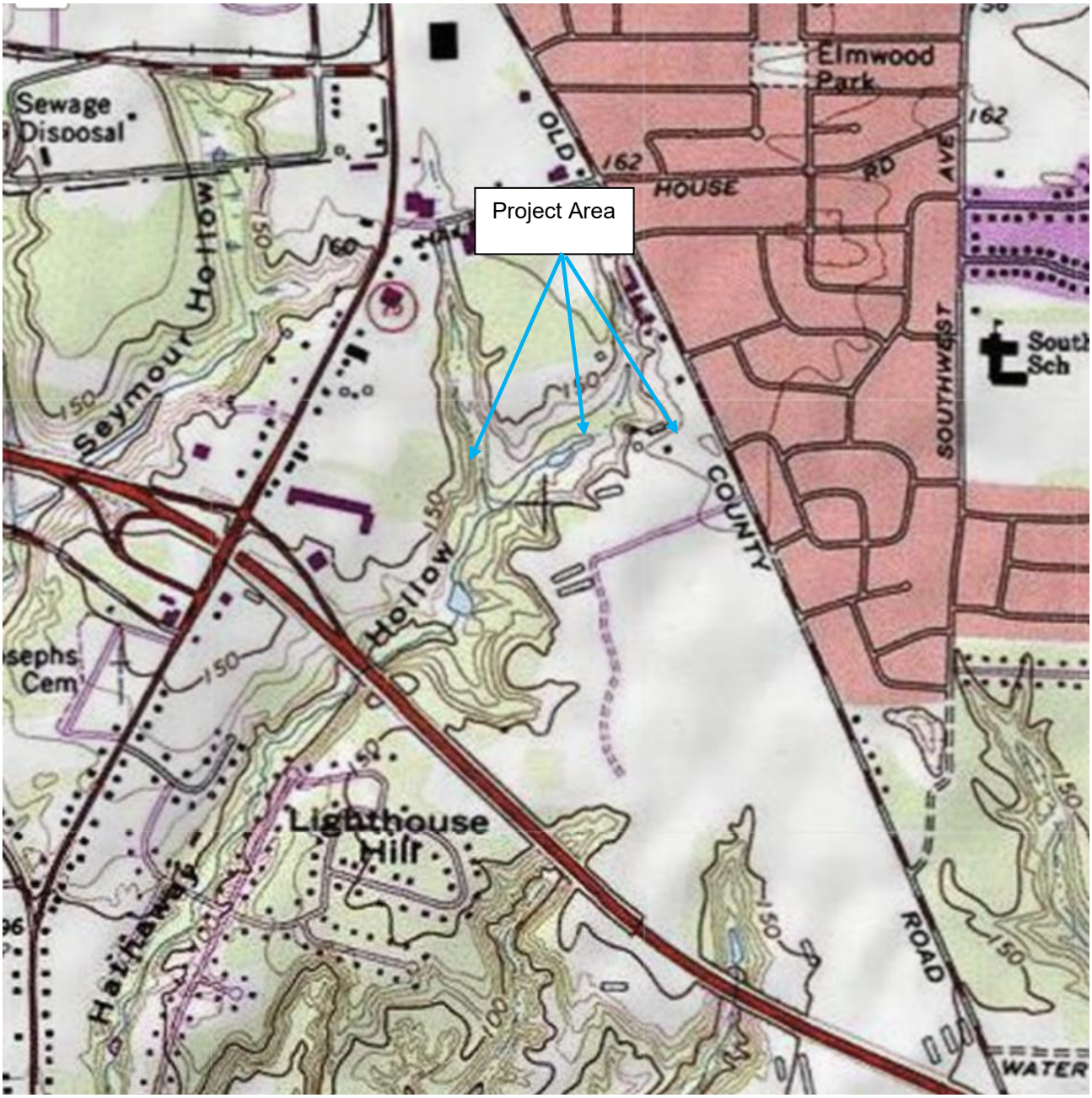
Dear Mr. Pelletier:

In accordance with your request, Jennifer Beno, Biologist/Wetland Scientist, and Scott Stevens, Registered Professional Soil Scientist, with Soil Science and Environmental Services, Inc. (SSES) inspected the above-referenced property on January 29, 2020, December 12, 2025, and April 7 and 9, 2026. The purpose of the inspections was to observe the existing conditions (vegetation and wildlife) and primary functions of the wetlands on the proposed project site. We also reviewed the plan set titled "Lukas Pond – MFSD Site Plan & Special Use, Prepared For, F & L Construction Limited, 177 Old County Road - Windsor Locks, Connecticut," prepared by Barresi Associates, LLC dated March 27, 2026 (4/29/26 revised), in order to determine impacts to wetlands. The applicant proposes to create a condominium development consisting of 41 single-family residences. SSES does not have engineers on staff, therefore, no engineering review of the project is provided.

General Site Description

The project site is located within an existing residentially developed area in the southern portion of Windsor Locks (Figure 1). It is bordered by a single-family residence and farm fields to the north, by Old County Road and single-family residences to the east, by Fox Hollow Condominium development to the south, and by a commercial business off of Route 75 to the west. The project site is accessible off of Old County Road.

Portions of the project site show evidence of former agricultural/nursery use. Large raised garden beds, many plastic pots, and other miscellaneous agricultural tools were observed within the central and southeastern portions of the project site during the inspections. Miscellaneous trash/debris (tires, chairs, glass bottles, plastic products,



SOIL SCIENCE And ENVIRONMENTAL SERVICES, INC.	U.S.G.S. Topography Map 177 Old County Road, Windsor Locks, CT	**Date 4/13/2026** **Figure No. 1**

metal paint can, and car battery) was observed within the upland areas in the eastern portion of the property.

The uplands on the project site consist of a small old lawn area near Old County Road, an abandoned house with associated gravel driveway, overgrown lawn area, and small shed, areas of very dense shrub, sapling, and vine growth, and wooded upland areas. See Figure 2. The dominant vegetation within the old field areas includes grasses, goldenrod, olive, red cedar saplings, and bittersweet. The dominant vegetation observed within the wooded upland areas on the project site include oaks, maples, black cherry, walnut, apple, sassafras, birches, beech, catalpa, white pine, autumn olive, Japanese barberry, multiflora rose, honeysuckle shrub, burning bush, raspberry, lowbush blueberry, garlic mustard, goldenrod, pokeweed, pachysandra, English ivy, wintercreeper, clubmoss, spotted wintergreen, bittersweet, and grape.

Looking westerly into site from Old County Road. Note Fox Hollow condominiums of the left side of the picture (12/12/2025).

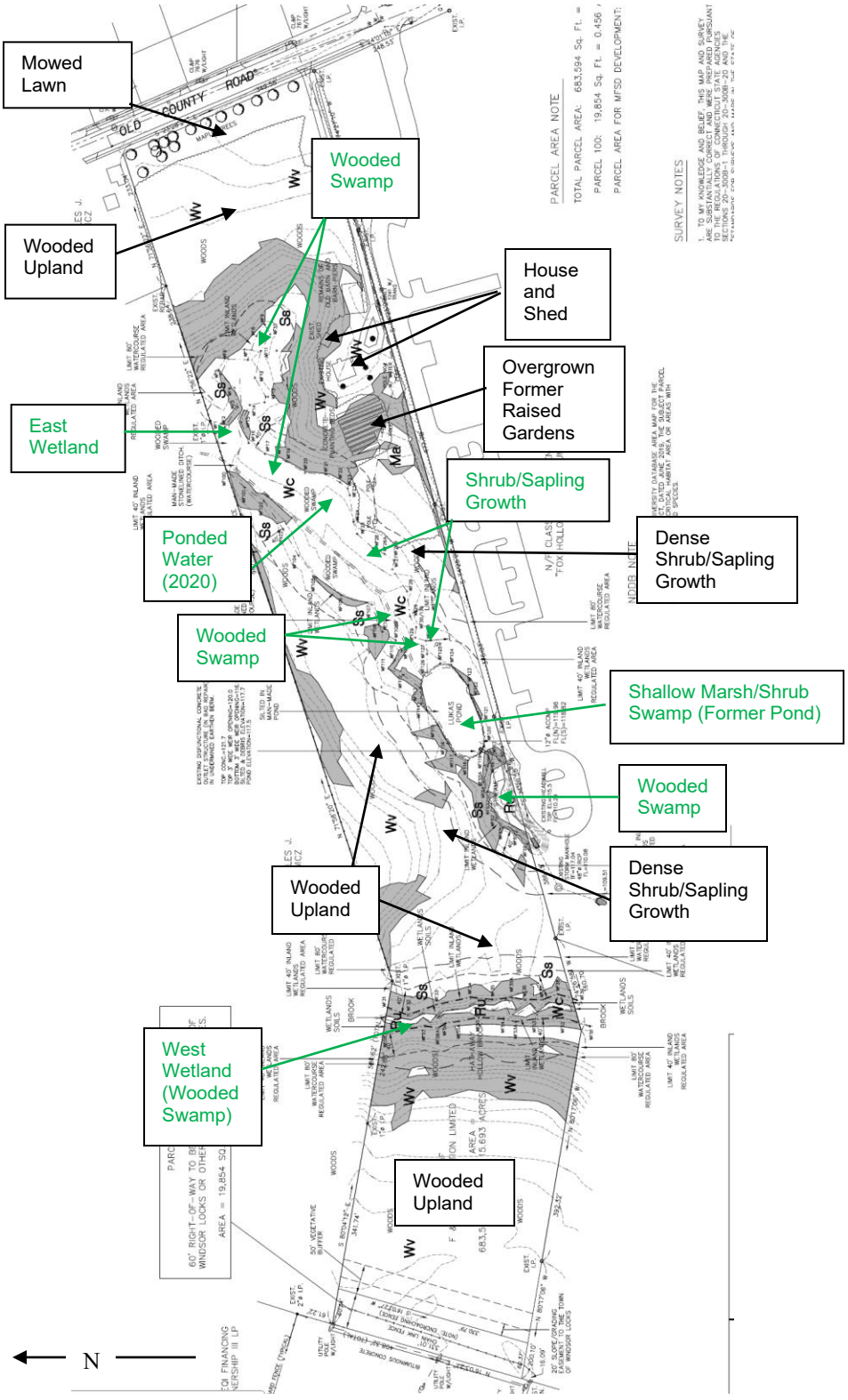
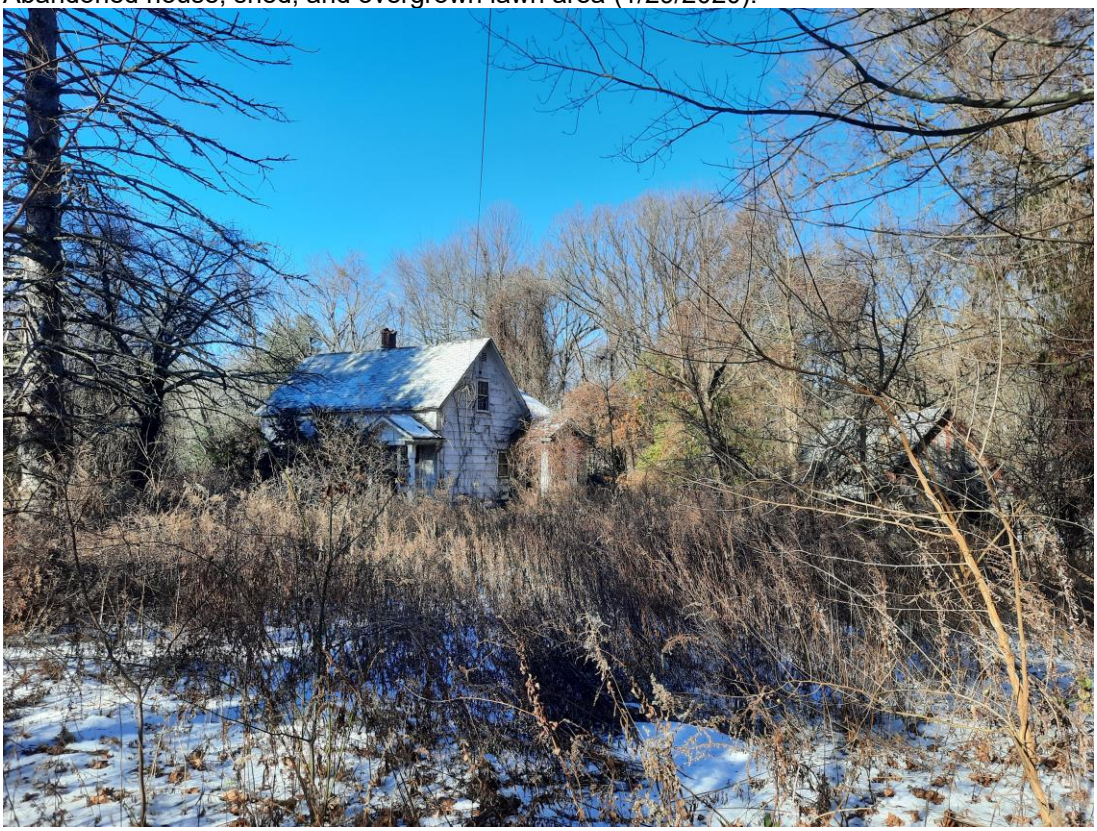


Figure 2 – Existing Conditions
(Boundary and Existing Conditions Plan Sheet, Dated March 27, 2026, Prepared by Barresi Associates LLC)

Abandoned house, shed, and overgrown lawn area (1/29/2020).



Abandoned house, shed, and overgrown lawn area (12/12/2025).

Old lawn area and wooded upland near Old County Road (1/29/2020).

Old lawn area and wooded upland near Old County Road (12/12/2025).

Wooded upland in the north-central portion of the property (12/12/2025).

Wooded upland in the west-central portion of the property (12/12/2025).

Wooded upland in the western portion of the property (1/29/2020).

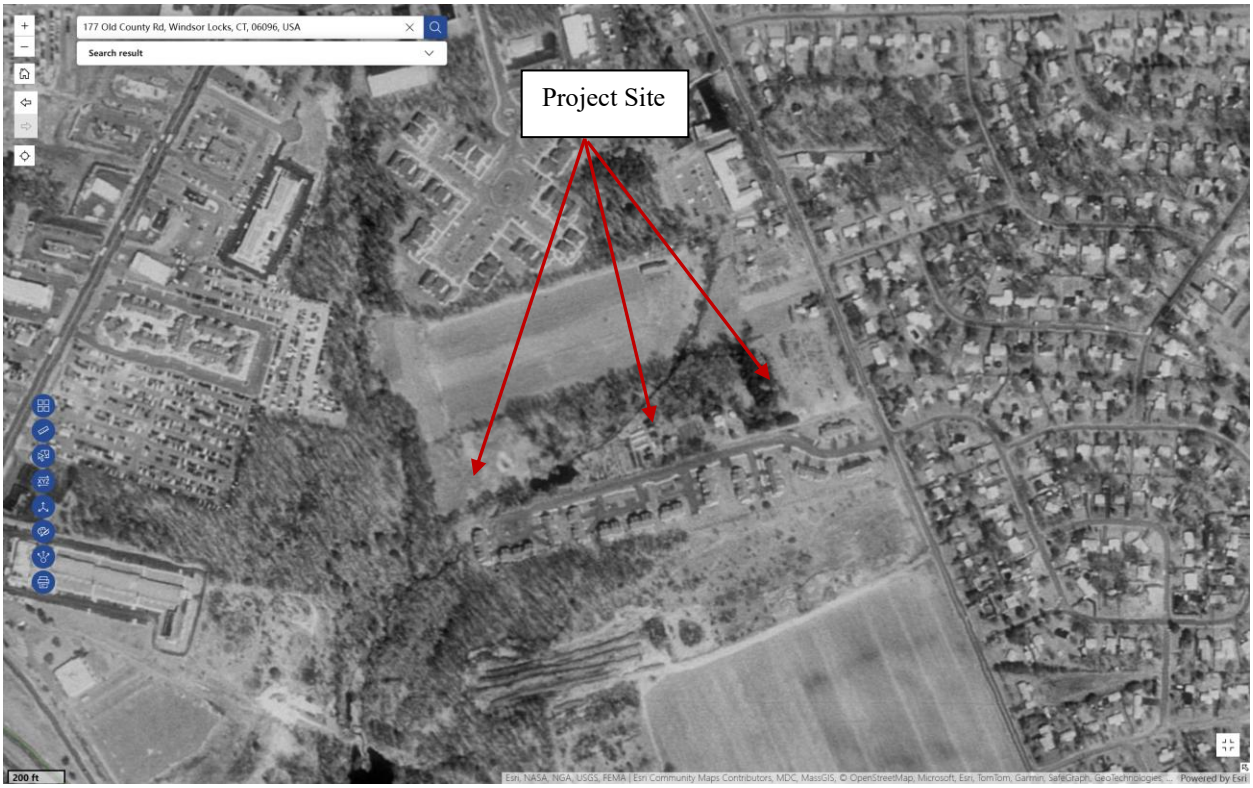
Wetland Description

Two wetland and watercourse corridors were delineated on the property by SSES in 2003. Scott Stevens, Registered Professional Soil Scientist with SSES, verified that the CT inland wetland boundaries are substantially correct with a few minor adjustments to the wetland boundary delineation in January and February 2020. The Federal wetland boundaries were delineated within the proposed impact areas. A "Federal Wetlands Delineation and Description Report" was prepared by SSES and is dated April 24, 2026.

Eastern Wetland System

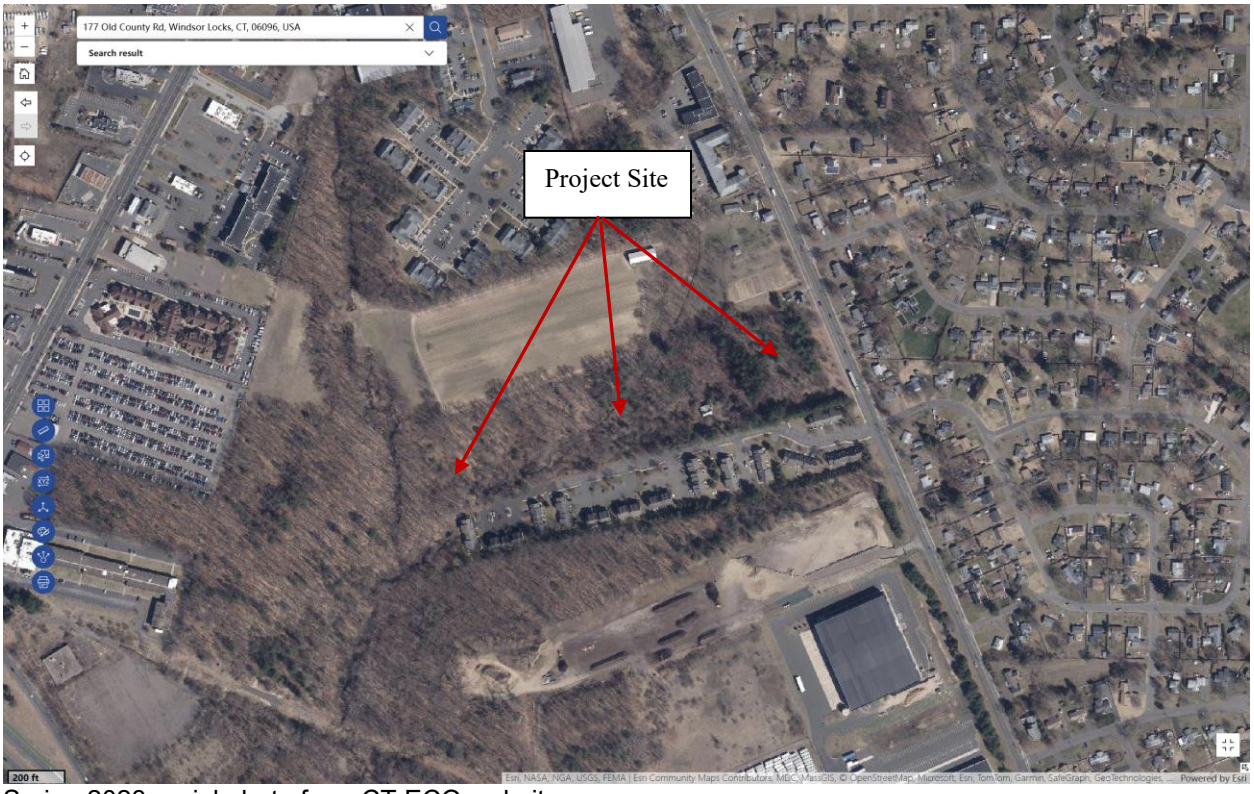
A wetland and perennial watercourse corridor was delineated in the eastern and central portions of the property. The wetland and watercourse corridor passes generally from northeast to southwest through the project site. A perennial watercourse, that ranges in width from approximately 5 to 10 feet, contained a varied water depth from a few inches to approximately 12 inches during our 2020, 2025, and 2026 inspections. Water flows southwesterly through the wetland from the northern property boundary to the southern property boundary. The substrate of the watercourse is comprised dominantly of sediments and sands. Rip rap was observed along the watercourse indicating potential channelization and/or efforts to provide bank stabilization. Evidence (washed debris and sedimentation) of periodic watercourse flooding was observed within the adjacent wetland. No fish were observed in the watercourse channel during the inspections.

The central portion of this wetland south of the perennial watercourse was disturbed during previous activities on the project site. Evidence of those disturbances include shallow fill, piles of discarded plastic pots, and apparent formerly cleared areas with invasive plant species growth. We observed shallow fill and a culvert pipe within the central portion of the wetland indicating past disturbances associated with previous land use activities. The included 1990, 2004, and 2023 spring aerial photos show how site conditions have changed over time. These maps are available on-line at the CT Environmental Conditions Online (CTECO) website (https://experience.arcgis.com/experience/34f549c9ef18479a8630b33e8310c462#data_s=id%3Awidget_100_output_config_0%3A0) and show activities associated with the prior land use extended towards the watercourse channel within the central portion of the wetland.



Spring 1990 aerial photo from CT ECO website.

Spring 2004 aerial photo from CT ECO website.



Spring 2023 aerial photo from CT ECO website.

The wetland is dominated by a complex of palustrine forested wetland (PFO), dense palustrine scrub-shrub (PSS), and palustrine emergent (PEM) communities. See Figure 2. A palustrine forested wetland community exists within the northeastern portion of the wetland, along the northern side of the watercourse channel, and in the southwestern portion of the wetland. Dense shrub growth occurs along the southern side of the watercourse in the central portion of the wetland where evidence of prior wetland disturbances (pots, shallow fill) was observed. The palustrine emergent and palustrine scrub-shrub communities exist within the former man-made pond location which has become filled-in with sediments and organic matter.

SSES observed erosion around the outlet structure (pipe and fill) between the pond and the lower (southwest) portion of the on-site wetland. Very steep fill was observed along the portion of this wetland near the Fox Hollow Condos. Miscellaneous trash debris, including numerous glass bottles, was observed within the steep fill along the northern edge of this area.

The dominant vegetation observed within the palustrine forested wetland community includes red maple, elm, willow, apple, gray birch, spicebush, winterberry, multiflora rose, burning bush, Japanese barberry, highbush blueberry, silky dogwood, soft rush, manna grass, sedges, cinnamon fern, sensitive fern, skunk cabbage, common reedgrass, Japanese honeysuckle, and bittersweet. The vegetation growth within the small areas of palustrine scrub-shrub wetland is dense and includes shrub honeysuckle, burning bush, multiflora rose, apple, and bittersweet. The dominant vegetation observed within the former pond location includes common reedgrass, willow, and silky dogwood. Numerous invasive plant species were observed within the wetland and include shrub honeysuckle, multiflora rose, burning bush, Japanese barberry, common reedgrass, Japanese honeysuckle, garlic mustard, and bittersweet.

A small area of ponded (± 12” deep) water approximately 50 feet long and 15 to 20 feet wide was observed near CT# 106 during the January 29, 2020 inspection. No standing water was observed within this area during the December 2025 or April 2026 inspections.

The primary functions provided by the eastern wetland area include groundwater discharge, sediment and nutrient retention and removal, water conveyance, and wildlife habitat.

Deciduous wooded swamp – northeastern portion of wetland (1/29/2020).

Deciduous wooded swamp – northeastern portion of wetland (12/12/2025).

Perennial watercourse bordered by deciduous wooded swamp (right) and dense shrub/sapling growth (left). Note rip rap along watercourse channel (1/29/2020).

Perennial watercourse bordered by deciduous wooded swamp. Note rip rap along watercourse channel (12/12/2025).

Perennial watercourse bordered by deciduous wooded swamp. Note rip rap along watercourse channel (4/7/2026).

Large pile of plastic pots within the wetland (4/7/2026).

Perennial watercourse with shallow fill and pipe in central portion of wetland. Note pile of pots in upper right background (4/7/2026).

Looking southwest at shallow marsh community in silted-in pond location (1/29/2020).

Looking northeast at shallow marsh and palustrine scrub-shrub wetland communities in silted-in pond location (12/12/2025).

Looking northeast at shallow marsh and palustrine scrub-shrub wetland communities in silted-in pond location (4/7/2026).

Looking southwest at compromised outlet structure (4/7/2026).

Compromised outlet structure. Note former pond in background (4/7/2026).

Deciduous wooded swamp – southwestern portion of wetland near Fox Hollow Condos (1/29/2020).

Deciduous wooded swamp – southwestern portion of wetland near Fox Hollow Condos (12/12/2025).

Western Wetland System

A wetland and perennial watercourse system was delineated in the western portion of the property. It is situated within a deep ravine with steep, eroding side slopes. The wetland and watercourse corridor passes from north to south through the project site. A perennial watercourse, named Strawberry Meadows Brook, which ranges in width from approximately 5 to 10 feet and contained a water depth up to a few inches during our inspections allows water to flow through the project site from north to south. The substrate of the watercourse is comprised dominantly of sediments and sands. No fish were observed within the watercourse during our inspections.

A very narrow, sparsely vegetated wetland is associated with this watercourse corridor. The dominant vegetation observed to be associated with this narrow wetland includes red maple, winterberry, multiflora rose, and burning bush.

The primary functions provided by the western wetland area include groundwater discharge, water conveyance, and wildlife habitat. The wildlife habitat function is limited by the narrowness of the wetland and its location within a ravine with steep eroding side slopes.

Looking downstream at narrow wetland and Strawberry Meadows Brook watercourse channel (1/29/2020).

Looking upstream at narrow wetland and Strawberry Meadows Brook watercourse channel (12/12/2025).

Wildlife

Wildlife observed utilizing the property during the inspections includes gray squirrel, raccoon (prints along watercourses), deer (scat), bluejay, titmouse, chickadee, white breasted nuthatch, flicker, crow, downy woodpecker, goldfinch, mourning dove, house finch, phoebe, robin, and cardinal. These species are commonly observed within suburban areas. In addition to the site inspection, SSES reviewed the December 2025 Natural Diversity Data Base map available on-line for the site and immediate vicinity. According to the map (see Appendix II for map), no Federal or State listed Endangered or Threatened species or Species of Special Concern are known to exist on the property or in close proximity to the property.

Invasive Plant Species

Numerous invasive plant species were observed within the wetlands and non-wetlands within the project area during our December 2025 (non-growing season) inspection. Very dense invasive plant species growth was observed around the house and throughout the woods down to the wetland and around the old pond area. Areas of less dense invasive plant species growth were observed to the west of Strawberry Meadows Brook, in the north central portion of the property, and on the hillside east of the upper portion of the eastern wetland. The remainder of the property generally contains dense invasive plant species growth. Invasive plant species, including shrub honeysuckle, multiflora rose, Japanese barberry, burning bush, olive, common reedgrass, Japanese honeysuckle, garlic mustard, mugwort, and bittersweet, were observed on the project site. See Figure 3 for invasive plant species information.

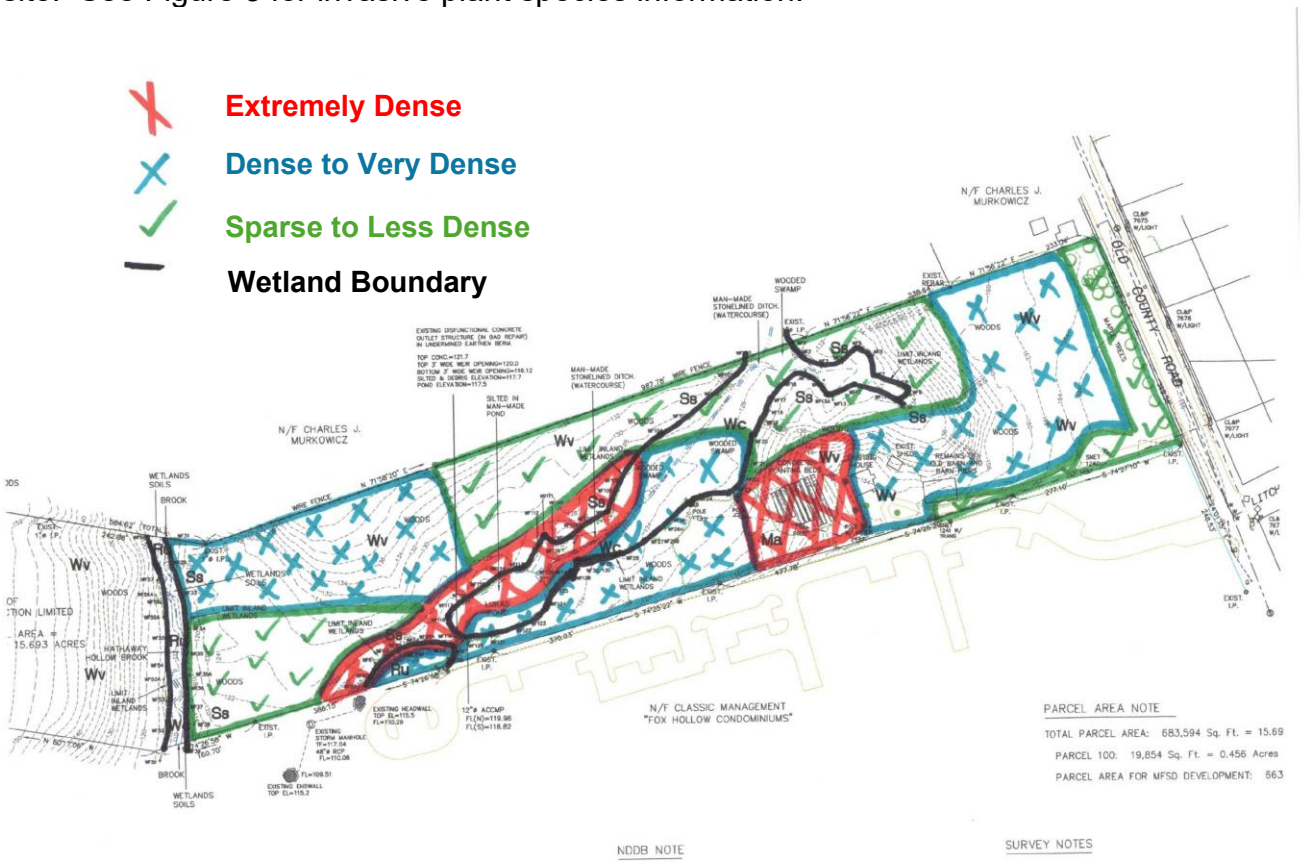


Figure 3 – Approximate Invasive Plant Species Density Map (plan sheet prepared by Barresi Associates, LLC)

Direct Wetland Impacts

SSES reviewed proposed site plan set titled "Lukas Pond – MFSD Site Plan & Special Use, Prepared For, F & L Construction Limited, 177 Old County Road - Windsor Locks, Connecticut," prepared by Barresi Associates, LLC dated March 27, 2026 (4/29/26 revised), in order to determine impacts to wetlands. According to the application material, there will be approximately 0.57 acre (±24,705 square feet) of direct wetland impacts. See Figure 4.

The proposed wetland impacts include clearing and grading of the central portion of the wetland and piping of the watercourse channel to provide access into the central portion of the property, replacing the dysfunctional spillway and stabilizing the eroded banks in the southwestern portion of the main wetland, and clearing and excavation to restore pond habitat in the former pond location. The wetland within the proposed road impact area was previously disturbed by activities associated with the former land use. Evidence of the disturbance includes shallow fill over wetlands, an old piped wetland crossing, discarded pots, rip rap lined watercourse channel, and numerous invasive plant species. The wetland within the road crossing impact area is dominated by palustrine forested (PFO) and palustrine scrub-shrub (PSS) wetland communities. Vegetation within the impact area associated with the road crossing includes red maple, multiflora rose, shrub honeysuckle, Japanese barberry, olive, highbush blueberry, spicebush, skunk cabbage, meadow garlic, sedges, soft rush, common reedgrass, jewelweed, bittersweet, grape, and Japanese honeysuckle. The former pond area is dominated by a complex of palustrine scrub-shrub (PSS) and palustrine emergent (PEM) wetland communities with a narrow palustrine forested (PFO) wetland community along the edge of the former pond. Vegetation observed within the former pond area includes common reedgrass, garlic mustard, multiflora rose, silky dogwood, highbush blueberry, willow, and red maple trees.

In addition to the direct wetland impacts, the applicant is proposing to disturb approximately 1.4 acres (±63,105 square feet) of the regulated upland review area. Potential short-term impacts to wetlands and watercourses that could result from the clearing activities in the upland review area are erosion with resulting sediment deposition and accidental human intrusion into the wetlands during construction. To prevent these potential short-term impacts, erosion and sediment control measures have been designed for this project in accordance with the CT DEEP 2024 Connecticut Guidelines for Soil Erosion and Sediment Control. This includes haybales, silt fence, temporary sediment traps, silt sacks, retention basin, outlet protection, rip rap, seeding, and turf reinforcement mats. All erosion and sedimentation control measures will need to be properly installed and maintained throughout the duration of the project until the site is stabilized. Potential long-term impacts that could result from the upland review area clearing include future encroachment into the regulated areas and increased light into the wetlands that could promote invasive plant species growth.

According to Ed Lally And Associates, Inc., the water supply to the wetlands/watercourses will remain generally the same following development.

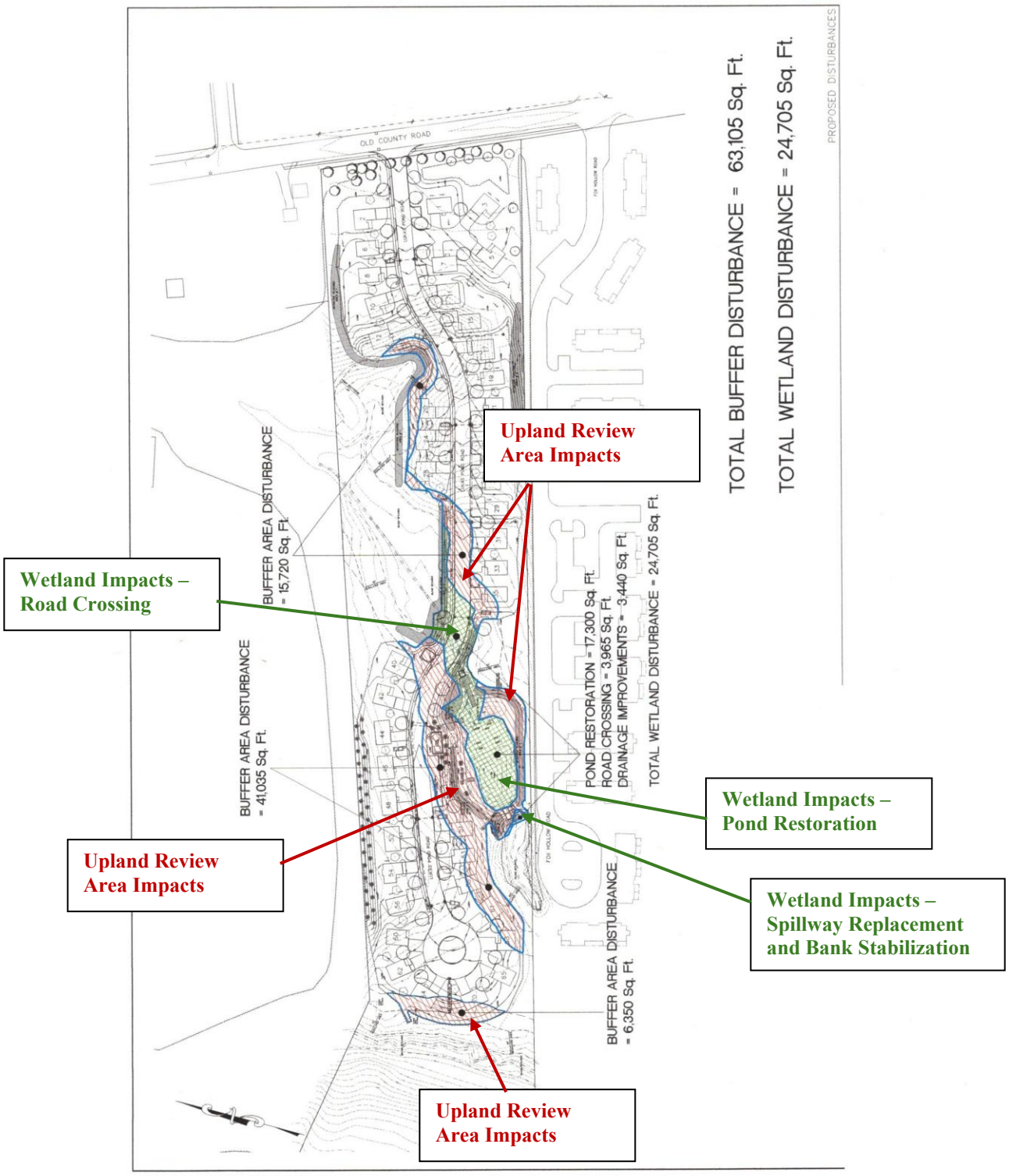


Figure 4 – Proposed Direct Wetland and Upland Review Area Impacts (Proposed Disturbances plan sheet prepared by Barresi Associates, LLC)

According the Ed Lally, Low Impact Development (LID) design techniques have been incorporated into the plan. The LID design techniques include "retention and infiltration of road runoff, retention and infiltration of roof water runoff and discharge of non-direct connected impervious surfaces to lawn and wooded areas." The reviewed plan sheets show stormwater measures including catch basins with sumps, and hydrodynamic separators.

After inspecting the site and reviewing the plans dated March 27, 2026 (4/29/26 revised), it is our professional opinion that although there will be direct wetland impacts to previously disturbed wetland areas with invasive species plant growth, the impacts can be mitigated by the creation of wetlands and the restoration of pond habitat on the site. In addition, storm water flowing off of the site will be controlled to help prevent downstream erosion.

Mitigation Measures

The applicant is proposing to restore the pond and create wetland habitat along the pond edge as mitigation for the wetland impacts. According to the provided information, approximately 1.16 acres of pond/wetland will be restored/created. The intention of the mitigation is to restore the pond habitat and to, over time, create a palustrine forested/palustrine scrub-shrub wetland community around the pond that is free from a predominance of invasive plant species and provides the same or greater wetland functions than what will be impacted. A pond construction specialist should be consulted to determine if any special habitat requirements, such as bottom structure, should be incorporated into the design and for best water handling procedures during construction. A planting plan describing recommended tree and shrub plantings within the proposed wetland and upland review areas has been prepared by SSES in a separate document, dated May 28, 2026.

Additional opportunities to provide measures to mitigate for the direct wetland impacts and potential indirect wetland impacts associated with proposed activities within the upland review area could include developing an invasive species management (removal) plan for the planting areas. This could be incorporated into the grounds maintenance and should be developed by a landscaper familiar with controlling invasive plant species.

Recommendations

SSES recommended the applicant investigate measures to reduce the project impacts by utilizing retaining walls to decrease grading within wetlands and the upland review area near wetlands. According to Ed Lally, P.E., the applicant has agreed to incorporate low precast concrete retaining wall units, which can be placed without significant site disturbance, into their plans to reduce the direct wetland impacts and activities within the upland review area.

SSES recommended the applicant investigate whether or not if it would be prudent to provide a natural streambed within the culvert at the road crossing. According to Ed

Lally, P.E. and the Dana Steele (Town Engineer), the placement of this material would not be prudent as it would be washed out during storm events causing downstream sedimentation.

SSES recommended that the applicant investigate eliminating units to reduce disturbances to the upland review area. According to Ed Lally, P.E., "units with narrower widths were grouped close together to minimize area disturbed at the ends of each row of units. Units of more depth were selected where topography allowed and less deep units where units backed up to an upland review or wetlands area, reducing impacts. The applicant has stated that the number of units were reduced during the preparation of these plans as evidenced by the single loading of 780 feet of the road.

The applicant has stated that further reduction in units would significantly reduce the potential for profit, especially given the cost of reconstruction and restoration of the old farm pond, removal of invasive species which are dense to very dense and dense to extremely dense on large areas of this site and the cost of removal and appropriate deposition of the extensive areas of concrete agricultural structures, plastic debris and irrigation systems."

SSES recommends that any debris from the prior land use activities be removed, by hand, from the wetland.

SSES recommends that all erosion and sedimentation control measures approved by the Town be properly installed and maintained throughout the duration of the project.

Finally, monitoring and maintaining the mitigation planting areas will be important for several years following installation. Following plant installation, an inspection of the planting areas should be conducted by a biologist to document the placement and vigor of the plantings, to document the herbaceous cover (soil stabilization), and to document any invasive species growth requiring maintenance. Annual monitoring inspections to document the health and survival rate of the plantings, possible erosion problems, and invasive species growth should occur during the growing season for at least five subsequent years. If the mortality rate of the plantings is greater than 15%, the plantings should be replaced with the same or similar species depending on the reason for the mortality. Copies of the reports documenting the findings of the inspections should be provided to the Town of Windsor Locks Inland Wetlands Commission.

Respectfully submitted,
SOIL SCIENCE AND ENVIRONMENTAL SERVICES, INC.

Jennifer L. Beno
Biologist/Wetland Scientist

Scott Stevens, Registered Professional Soil Scientist

Mr. Stevens is one of the partners at Soil Science And Environmental Services, Inc. He is the principal Soil Scientist and has been with the firm since 1987. Mr. Stevens has a master's degree in Environmental Science and has graduate and undergraduate studies in Soil Science and Groundwater Hydrology. He is a member of the Society of Soil Scientists of Southern New England. Mr. Stevens has extensive experience delineating Inland, Tidal and Federal Wetland boundaries and classifying soil types. He has completed over a thousand wetland mapping projects throughout CT along with numerous sites in MA and NY. Mr. Stevens also inspects deep test pits, provides detailed soil descriptions, and conducts soil permeability and sieve tests for septic systems.

Jennifer Beno, Biologist/Wetland Scientist

Ms. Beno is one of the partners at Soil Science And Environmental Services, Inc. She is the principal Biologist/Wetland Scientist with the firm and has been with the company since 1994. She has a bachelor's degree in Zoology and is a member of the CT Association of Wetland Scientist and the Society of Wetland Scientists. Ms. Beno has assisted in Federal and Tidal wetland delineations for the past 20 years. She prepares a variety of reports including wetland assessments, wetland impact analyses, mitigation and planting plans, and invasive species identification and control plans. Ms. Beno also conducts vernal pool inspections. Her reports are submitted as supporting documentation for municipal, State and US Army Corps of Engineers review.

Appendix I: Highway Methodology Function-Value Data Forms and Supporting Documents

WETLAND FUNCTION-VALUE EVALUATION FORM

East Wetland Area- 177 Old County Road, Windsor Locks, CT

Wetland I.D.

Total area of wetland _____ Human made? ***No/Yes*** Is wetland part of a wildlife corridor? ***Yes*** Or a "habitat island? ***No***

Lat. ***±41.91777°N*** Long. ***±72.66564°W***

Adjacent land use: ***wooded upland; farm fields; condo*** Distance to nearest roadway or development ***0' (fill)***

Prepared by ***JLB*** Date ***1/29/2020 & 1/5/2026***

Dominant wetland systems present ***PFO1E, PEM2E, PSS1E*** Contiguous undeveloped buffer zone present ***No***

Wetland Impact:
Type: ***fill*** Area ***± 24,705 s.f.***

Is the wetland a separate hydraulic system? ***No*** If not, where does the wetland lie in the drainage basin? ***Upper- Farmington River***

Evaluation based on:
Office ***Y*** Field ***Y***
Corps manual wetland delineation
Completed? Y _____ N _____

How many tributaries contribute to the wetland? ***1*** Wildlife & vegetation diversity/abundance ***(see attached)***

Function/Value	Occurrence Y	Occurrence N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	***X***		2,5,7,8,11,12,13,15	***X***	Groundwater quality designated as Class GA within the area of the project site.
Floodflow Alteration	***X***		2,5,6,7,8,9,10,13,18		Narrow wetland area can detain some water. Associated with watercourse and old pond.
Fish and Shellfish Habitat	***X***		1,4,8,14,17		No finfish observed. Perennial watercourse is shallow and not likely to support large finfish. Possible habitat for small minnows.
Sediment/Toxicant Retention	***X***		1,3,4,5,8,10,11,16	***X***	Narrow wetland contains some dense vegetation. Sediments could settle out in this wetland. Old pond area contains sediments.
Nutrient Removal	***X***		3,5,7, 8,9,10,11	***X***	Narrow wetland contains areas of dense vegetation. Nutrients are trapped and removed within this wetland.
Production Export	***X***		1,2,4,5,7, 8,10		Some nutrients are exported via the perennial watercourse. Some nutrients are attenuated by the wetland/old pond.
Sediment/Shoreline Stabilization	***X***		1,4,6,7,8,9,12,14,15		Bank erosion was observed along watercourse. Some areas of dense vegetation.
Wildlife Habitat	***X***		2,6,7,8,11,13,14,15,16, 17,19	***X***	Wetland dominated by wooded swamp, shrub swamp, and shallow marsh communities with areas of dense vegetation. Periodic ponding water occurs in this wetland. Areas of dense invasive plant species growth.
Recreation		***X***	None		Private property. No public access occurs or is proposed. Could be enhanced.
Educational Scientific Value		***X***	None		Private property. No suitable public access.
Uniqueness/Heritage		***X***	4,5,21,23		Wetland is located within a developed area. Evidence of prior land use and activities.
Visual Quality/Aesthetics	***X***		3,4,11		Limited. Watercourse contrasts with the adjacent uplands.
ES Endangered Species Habitat		***X***	None		None observed. CT DEEP Natural Diversity Data Base map indicates no known listed species on or near the project area. See map dated December 2025. Appendix II.

* REFER TO BACK UP LIST OF CONSIDERATIONS (ATTACHED)

WETLAND FUNCTION-VALUE EVALUATION FORM

West Wetland Area- 177 Old County Road, Windsor Locks, CT

Wetland I.D.

Total area of wetland _____ Human made? ***No*** Is wetland part of a wildlife corridor? ***Yes*** Or a "habitat island? ***No***

Lat. ***+41.91750°N*** Long. ***+72.66781°W***

Adjacent land use: ***wooded upland*** Distance to nearest roadway or development ***0' (fill)***

Prepared by ***JLB*** Date ***1/29/2020 & 1/5/2026***

Dominant wetland systems present ***PFO1E*** Contiguous undeveloped buffer zone present ***No***

Wetland Impact:
Type: _____ Area _____

Is the wetland a separate hydraulic system? ***No*** If not, where does the wetland lie in the drainage basin? ***Upper- Farmington River***

Evaluation based on:
Office ***Y*** Field ***Y***

How many tributaries contribute to the wetland? ***1*** Wildlife & vegetation diversity/abundance ***(see attached)***

Corps manual wetland delineation Completed? Y _____ N _____

Function/Value	Occurrence Y	Occurrence N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	***X***		2,5,7,8,11,12,13,15	***X***	Groundwater quality designated as Class GA within the area of the project site.
Floodflow Alteration		***X***	2,9,13		Very narrow wetland and watercourse corridor with steep eroding side slopes.
Fish and Shellfish Habitat	***X***		1,4,8,14,17		No finfish observed. Perennial watercourse is shallow and not likely to support large finfish. Possible limited habitat for small minnows.
Sediment/Toxicant Retention		***X***	1,8,10		Very narrow eroding wetland and watercourse corridor.
Nutrient Removal		***X***	None		Very narrow eroding wetland and watercourse corridor with little vegetation.
Production Export		***X***	4,5,10		Very narrow eroding wetland and watercourse corridor with little vegetation.
Sediment/Shoreline Stabilization		***X***	1,4,8,9		Bank erosion was observed along the entire wetland and watercourse corridor.
Wildlife Habitat	***X***		2,6,7,11,16,17	***X***	Limited – very narrow wetland and watercourse corridor with steep eroding side slopes.
Recreation		***X***	None		Private property. No public access occurs or is proposed. Steep ravine.
Educational Scientific Value		***X***	None		Private property. No suitable public access.
Uniqueness/Heritage		***X***	5		Very narrow wetland and watercourse corridor with steep eroding side slopes.
Visual Quality/Aesthetics		***X***	11		Wetland and watercourse in a deep ravine - contrasts with adjacent wooded upland.
ES Endangered Species Habitat		***X***	None		None observed. CT DEEP Natural Diversity Data Base map indicates no known listed species on or near the project area. See map dated December 2025. Appendix II.

* REFER TO BACK UP LIST OF CONSIDERATIONS (ATTACHED)

Dominant Wetland Vegetation Inventory (January 29, 2020, December 12, 2025, and April 7 and 9, 2026)

177 Old County Road, Windsor Locks, CT

Scientific Name	Common Name	Indicator Status	Wetland
Trees			
Acer rubrum	red maple	FAC	East, West
Betula papyrifera	paper birch	FACU	East
Betula populifolia	gray birch	FAC	East
Catalpa sp.	catalpa	FACU	East
Malus sp.	apple	FACU	East
Salix nigra	black willow	OBL	East
Ulmus rubra	elm	FAC	East
Saplings/Shrubs			
Berberis thunbergii	Japanese barberry	FACU	East
Cornus amomum	silky dogwood	FACW	East
Elaeagnus umbellata	autumn olive	FACU	East
Euonymus alatus	burning bush	FACU	East, West
Ilex verticillata	winterberry	FACW	East, West
Lindera benzoin	spicebush	FACW	East
Lonicera tatarica	honeysuckle	FACU	East
Rosa multiflora	multiflora rose	FACU	East, West
Salix	willow	FACW	East
Vaccinium corymbosum	highbush blueberry	FACW	East
Herbaceous			
Alliaria petiolata	garlic mustard	FACU	East
Allium vineale	wild garlic	FACU	East
Carex sp.	sedges	---------	East
Glyceria striata	manna grass	OBL	East
Juncus effusus	soft rush	OBL	East
Impatiens capensis	jewelweed	FACW	East
Lonicera japonica	Japanese honeysuckle	FACU	East
Onoclea sensibilis	sensitive fern	FACW	East
Osmunda cinnamomea	cinnamon fern	FACW	East
Pachysandra terminalis	pachysandra	FACU	East
Phragmites australis	common reedgrass	FACW	East
Symplocarpus foetidus	skunk cabbage	OBL	East
Lianas			
Celastrus orbiculatus	bittersweet	UPL	East
Euonymus fortunei	wintercreeper	UPL	East
Lonicera japonica	Japanese honeysuckle	FACU	East
Vitis sp.	grape	---------	East

Indicator Status : From the "NWPL-National Wetland Plant List, Northcentral and Northeast 2016 Regional Wetland Plant List" published by the US Army Corps of Engineers.

OBL: obligate wetland; almost always occur in wetland / **FACW:** facultative wetland; usually occur in wetland, but may occur in non-wetland / **FAC:** occur in wetland and non-wetland / **FACU:** usually occur in non-wetland, but may occur in wetland / **UPL :** almost never occur in wetland

Inventory includes the dominant species that were identified within the wetlands on the project site during the non-growing and early-growing season inspections. This list is not all-inclusive

Dominant Wildlife Inventory (January 29, 2020, December 12, 2025, and April 7 and 9, 2026)

177 Old County Road, Windsor Locks, CT

Cardinalis cardinalis	Northern cardinal
Carduelis tristis	American goldfinch
Carpodacus mexicanus	House finch
Colaptes auratus	Northern flicker
Corvus brachyrhynchos	American crow
Cyanocitta cristata	Blue jay
Odocoileus virginianus	White-tailed deer (tracks and scat)
Parus atricapillus	Black-capped chickadee
Parus bicolor	Tufted titmouse
Picoides pubescens	Downy woodpecker
Procyon lotor	Raccoon (tracks)
Sayornis phoebe	Eastern phoebe
Sciurus carolinensis	Gray squirrel
Sitta carolinensis	White-breasted nuthatch
Turdus migratorius	American robin
Zenaida macroura	Mourning dove

Inventory includes those species that were observed utilizing the site during the inspections and is not a comprehensive list.

Appendix A

Wetland evaluation supporting documentation; Reproducible forms.

Below is an example list of considerations that was used for a New Hampshire highway project. Considerations are flexible, based on best professional judgment and interdisciplinary team consensus. This example provides a comprehensive base, however, and may only need slight modifications for use in other projects.

GROUNDWATER RECHARGE/DISCHARGE— This function considers the potential for a wetland to serve as a groundwater recharge and/or discharge area. It refers to the fundamental interaction between wetlands and aquifers, regardless of the size or importance of either.

CONSIDERATIONS/QUALIFIERS

1. Public or private wells occur downstream of the wetland.
2. Potential exists for public or private wells downstream of the wetland.
3. Wetland is underlain by stratified drift.
4. Gravel or sandy soils present in or adjacent to the wetland.
5. Fragipan does not occur in the wetland.
6. Fragipan, impervious soils, or bedrock does occur in the wetland.
7. Wetland is associated with a perennial or intermittent watercourse.
8. Signs of groundwater recharge are present or piezometer data demonstrates recharge.
9. Wetland is associated with a watercourse but lacks a defined outlet or contains a constricted outlet.
10. Wetland contains only an outlet, no inlet.
11. Groundwater quality of stratified drift aquifer within or downstream of wetland meets drinking water standards.
12. Quality of water associated with the wetland is high.
13. Signs of groundwater discharge are present (e.g., springs).
14. Water temperature suggests it is a discharge site.
15. Wetland shows signs of variable water levels.
16. Piezometer data demonstrates discharge.
17. Other

FLOODFLOW ALTERATION (Storage & Desynchronization) — This function considers the effectiveness of the wetland in reducing flood damage by water retention for prolonged periods following precipitation events and the gradual release of floodwaters. It adds to the stability of the wetland ecological system or its buffering characteristics and provides social or economic value relative to erosion and/or flood prone areas.

CONSIDERATIONS/QUALIFIERS

1. Area of this wetland is large relative to its watershed.
2. Wetland occurs in the upper portions of its watershed.
3. Effective flood storage is small or non-existent upslope of or above the wetland.
4. Wetland watershed contains a high percent of impervious surfaces.
5. Wetland contains hydric soils which are able to absorb and detain water.
6. Wetland exists in a relatively flat area that has flood storage potential.
7. Wetland has an intermittent outlet, ponded water, or signs are present of variable water level.
8. During flood events, this wetland can retain higher volumes of water than under normal or average rainfall conditions.
9. Wetland receives and retains overland or sheet flow runoff from surrounding uplands.
10. In the event of a large storm, this wetland may receive and detain excessive flood water from a nearby watercourse.
11. Valuable properties, structures, or resources are located in or near the floodplain downstream from the wetland.
12. The watershed has a history of economic loss due to flooding.
13. This wetland is associated with one or more watercourses.
14. This wetland watercourse is sinuous or diffuse.
15. This wetland outlet is constricted.
16. Channel flow velocity is affected by this wetland.
17. Land uses downstream are protected by this wetland.
18. This wetland contains a high density of vegetation.
19. Other

FISH AND SHELLFISH HABITAT (FRESHWATER) — This function considers the effectiveness of seasonal or permanent watercourses associated with the wetland in question for fish and shellfish habitat.

CONSIDERATIONS/QUALIFIERS

1. Forest land dominant in the watershed above this wetland.
2. Abundance of cover objects present.

STOP HERE IF THIS WETLAND IS NOT ASSOCIATED WITH A WATERCOURSE

3. Size of this wetland is able to support large fish/shellfish populations.
4. Wetland is part of a larger, contiguous watercourse.
5. Wetland has sufficient size and depth in open water areas so as not to freeze solid and retain some open water during winter.
6. Stream width (bank to bank) is more than 50 feet.
7. Quality of the watercourse associated with this wetland is able to support healthy fish/shellfish populations.
8. Streamside vegetation provides shade for the watercourse.
9. Spawning areas are present (submerged vegetation or gravel beds).
10. Food is available to fish/shellfish populations within this wetland.
11. Barrier(s) to anadromous fish (such as dams, including beaver dams, waterfalls, road crossing) are absent from the stream reach associated with this wetland.
12. Evidence of fish is present.
13. Wetland is stocked with fish.
14. The watercourse is persistent.
15. Man-made streams are absent.
16. Water velocities are not too excessive for fish usage.
17. Defined stream channel is present.
18. Other

Although the above example refers to freshwater wetlands, it can also be adapted for marine ecosystems. The following is an example provided by the National Marine Fisheries Service (NMFS) of an adaptation for the fish and shellfish function.

FISH AND SHELLFISH HABITAT (MARINE) — This function considers the effectiveness of wetlands, embayments, tidal flats, vegetated shallows, and other environments in supporting marine resources such as fish, shellfish, marine mammals, and sea turtles.

CONSIDERATIONS/QUALIFIERS

1. Special aquatic sites (tidal marsh, mud flats, eelgrass beds) are present.
2. Suitable spawning habitat is present at the site or in the area.
3. Commercially or recreationally important species are present or suitable habitat exists.
4. The wetland/waterway supports prey for higher trophic level marine organisms.
5. The waterway provides migratory habitat for anadromous fish.
6. Essential fish habitat, as defined by the 1996 amendments to the Magnuson-Stevens Fishery & Conservation Act, is present (consultation with NMFS may be necessary).
7. Other

SEDIMENT/TOXICANT/PATHOGEN RETENTION — This function reduces or prevents degradation of water quality. It relates to the effectiveness of the wetland as a trap for sediments, toxicants, or pathogens in runoff water from surrounding uplands or upstream eroding wetland areas.

CONSIDERATIONS/QUALIFIERS

1. Potential sources of excess sediment are in the watershed above the wetland.
2. Potential or known sources of toxicants are in the watershed above the wetland.
3. Opportunity for sediment trapping by slow moving water or deepwater habitat are present in this wetland.
4. Fine grained mineral or organic soils are present.
5. Long duration water retention time is present in this wetland.
6. Public or private water sources occur downstream.
7. The wetland edge is broad and intermittently aerobic.
8. The wetland is known to have existed for more than 50 years.
9. Drainage ditches have not been constructed in the wetland.

STOP HERE IF WETLAND IS NOT ASSOCIATED WITH A WATERCOURSE.

10. Wetland is associated with an intermittent or perennial stream or a lake.
11. Channelized flows have visible velocity decreases in the wetland.
12. Effective floodwater storage in wetland is occurring. Areas of impounded open water are present.
13. No indicators of erosive forces are present. No high water velocities are present.
14. Diffuse water flows are present in the wetland.
15. Wetland has a high degree of water and vegetation interspersion.
16. Dense vegetation provides opportunity for sediment trapping and/or signs of sediment accumulation by dense vegetation is present.
17. Other

NUTRIENT REMOVAL/RETENTION/TRANSFORMATION — This function considers the effectiveness of the wetland as a trap for nutrients in runoff water from surrounding uplands or contiguous wetlands and the ability of the wetland to process these nutrients into other forms or trophic levels. One aspect of this function is to prevent ill effects of nutrients entering aquifers or surface waters such as ponds, lakes, streams, rivers, or estuaries.

CONSIDERATIONS/QUALIFIERS

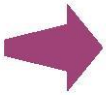
1. Wetland is large relative to the size of its watershed.
2. Deep water or open water habitat exists.
3. Overall potential for sediment trapping exists in the wetland.

4. Potential sources of excess nutrients are present in the watershed above the wetland.
5. Wetland saturated for most of the season. Ponded water is present in the wetland.
6. Deep organic/sediment deposits are present.
7. Slowly drained fine grained mineral or organic soils are present.
8. Dense vegetation is present.
9. Emergent vegetation and/or dense woody stems are dominant.
10. Opportunity for nutrient attenuation exists.
11. Vegetation diversity/abundance sufficient to utilize nutrients.

STOP HERE IF WETLAND IS NOT ASSOCIATED WITH A WATERCOURSE.

12. Waterflow through this wetland is diffuse.
13. Water retention/detention time in this wetland is increased by constricted outlet or thick vegetation.
14. Water moves slowly through this wetland.
15. Other

PRODUCTION EXPORT (Nutrient) — This function evaluates the effectiveness of the wetland to produce food or usable products for humans or other living organisms.



CONSIDERATIONS/QUALIFIERS

1. Wildlife food sources grow within this wetland.
2. Detritus development is present within this wetland
3. Economically or commercially used products found in this wetland.
4. Evidence of wildlife use found within this wetland.
5. Higher trophic level consumers are utilizing this wetland.
6. Fish or shellfish develop or occur in this wetland.
7. High vegetation density is present.
8. Wetland exhibits high degree of plant community structure/species diversity.
9. High aquatic vegetative diversity/abundance is present.
10. Nutrients exported in wetland watercourses (permanent outlet present).
11. "Flushing" of relatively large amounts of organic plant material occurs from this wetland.
12. Wetland contains flowering plants that are used by nectar-gathering insects.
13. Indications of export are present.
14. High production levels occurring, however, no visible signs of export (assumes export is attenuated).
15. Other

SEDIMENT/SHORELINE STABILIZATION — This function considers the effectiveness of a wetland to stabilize streambanks and shorelines against erosion.

CONSIDERATIONS/QUALIFIERS

1. Indications of erosion or siltation are present.
2. Topographical gradient is present in wetland.
3. Potential sediment sources are present up-slope.
4. Potential sediment sources are present upstream.
5. No distinct shoreline or bank is evident between the waterbody and the wetland or upland.
6. A distinct step between the open waterbody or stream and the adjacent land exists (i.e., sharp bank) with dense roots throughout.
7. Wide wetland (>10') borders watercourse, lake, or pond.
8. High flow velocities in the wetland.
9. The watershed is of sufficient size to produce channelized flow.
10. Open water fetch is present.
11. Boating activity is present.
12. Dense vegetation is bordering watercourse, lake, or pond.
13. High percentage of energy-absorbing emergents and/or shrubs border a watercourse, lake, or pond.
14. Vegetation is comprised of large trees and shrubs that withstand major flood events or erosive incidents and stabilize the shoreline on a large scale (feet).
15. Vegetation is comprised of a dense resilient herbaceous layer that stabilizes sediments and the shoreline on a small scale (inches) during minor flood events or potentially erosive events.
16. Other

WILDLIFE HABITAT — This function considers the effectiveness of the wetland to provide habitat for various types and populations of animals typically associated with wetlands and the wetland edge. Both resident and/or migrating species must be considered. Species lists of observed and potential animals should be included in the wetland assessment report.[1]

CONSIDERATIONS/QUALIFIERS

1. Wetland is not degraded by human activity.
2. Water quality of the watercourse, pond, or lake associated with this wetland meets or exceeds Class A or B standards.
3. Wetland is not fragmented by development.
4. Upland surrounding this wetland is undeveloped.
5. More than 40% of this wetland edge is bordered by upland wildlife habitat (e.g., brushland, woodland, active farmland, or idle land) at least 500 feet in width.
6. Wetland is contiguous with other wetland systems connected by a watercourse or lake.
7. Wildlife overland access to other wetlands is present.
8. Wildlife food sources are within this wetland or are nearby.
9. Wetland exhibits a high degree of interspersion of vegetation classes and/or open water.
10. Two or more islands or inclusions of upland within the wetland are present.
11. Dominant wetland class includes deep or shallow marsh or wooded swamp.
12. More than three acres of shallow permanent open water (less than 6.6 feet deep), including streams in or adjacent to wetland, are present.
13. Density of the wetland vegetation is high.
14. Wetland exhibits a high degree of plant species diversity.
15. Wetland exhibits a high degree of diversity in plant community structure (e.g., tree/shrub/vine/grasses/mosses)
16. Plant/animal indicator species are present. (List species for project)
17. Animal signs observed (tracks, scats, nesting areas, etc.)
18. Seasonal uses vary for wildlife and wetland appears to support varied population diversity/abundance during different seasons.
19. Wetland contains or has potential to contain a high population of insects.
20. Wetland contains or has potential to contain large amphibian populations.
21. Wetland has a high avian utilization or its potential.
22. Indications of less disturbance-tolerant species are present.
23. Signs of wildlife habitat enhancement are present (birdhouses, nesting boxes, food sources, etc.).
24. Other

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[1]In March 1995, a rapid wildlife habitat assessment method was completed by a University of Massachusetts research team with funding and oversight provided by the New England Transportation Consortium. The method is called WEThings (wetland habitat indicators for non-game species). It produces a list of potential wetland-dependent mammal, reptile, and amphibian species that may be present in the wetland. The output is based on observable habitat characteristics documented on the field data form. This method may be used to generate the wildlife species list recommended as backup information to the wetland evaluation form and to augment the considerations. Use of this method should first be coordinated with the Corps project manager. A computer program is also available to expedite this process.

RECREATION (Consumptive and Non-Consumptive) — This value considers the suitability of the wetland and associated watercourses to provide recreational opportunities such as hiking, canoeing, boating, fishing, hunting, and other active or passive recreational activities. Consumptive opportunities consume or diminish the plants, animals, or other resources that are intrinsic to the wetland. Non-consumptive opportunities do not consume or diminish these resources of the wetland.

CONSIDERATIONS/QUALIFIERS

1. Wetland is part of a recreation area, park, forest, or refuge.
2. Fishing is available within or from the wetland.
3. Hunting is permitted in the wetland.
4. Hiking occurs or has potential to occur within the wetland.
5. Wetland is a valuable wildlife habitat.
6. The watercourse, pond, or lake associated with the wetland is unpolluted.
7. High visual/aesthetic quality of this potential recreation site.
8. Access to water is available at this potential recreation site for boating, canoeing, or fishing.
9. The watercourse associated with this wetland is wide and deep enough to accommodate canoeing and/or non-powered boating.
10. Off-road public parking available at the potential recreation site.
11. Accessibility and travel ease is present at this site.
12. The wetland is within a short drive or safe walk from highly populated public and private areas.
13. Other

EDUCATIONAL/SCIENTIFIC VALUE — This value considers the suitability of the wetland as a site for an "outdoor classroom" or as a location for scientific study or research.

CONSIDERATIONS/QUALIFIERS

1. Wetland contains or is known to contain threatened, rare, or endangered species.
2. Little or no disturbance is occurring in this wetland.
3. Potential educational site contains a diversity of wetland classes which are accessible or potentially accessible.
4. Potential educational site is undisturbed and natural.
5. Wetland is considered to be a valuable wildlife habitat.
6. Wetland is located within a nature preserve or wildlife management area.
7. Signs of wildlife habitat enhancement present (bird houses, nesting boxes, food sources, etc.).
8. Off-road parking at potential educational site suitable for school bus access in or near wetland.
9. Potential educational site is within safe walking distance or a short drive to schools.
10. Potential educational site is within safe walking distance to other plant communities.
11. Direct access to perennial stream at potential educational site is available.
12. Direct access to pond or lake at potential educational site is available.
13. No known safety hazards exist within the potential educational site.
14. Public access to the potential educational site is controlled.
15. Handicap accessibility is available.
16. Site is currently used for educational or scientific purposes.
17. Other

UNIQUENESS/HERITAGE — This value considers the effectiveness of the wetland or its associated waterbodies to provide certain special values. These may include archaeological sites, critical habitat for endangered species, its overall health and appearance, its role in the ecological system of the area, its relative importance as a typical wetland class for this geographic location. These functions are clearly valuable wetland attributes relative to aspects of public health, recreation, and habitat diversity.

CONSIDERATIONS/QUALIFIERS

1. Upland surrounding wetland is primarily urban.
2. Upland surrounding wetland is developing rapidly.
3. More than 3 acres of shallow permanent open water (less than 6.6 feet deep), including streams, occur in wetlands.
4. Three or more wetland classes are present.
5. Deep and/or shallow marsh or wooded swamp dominate.
6. High degree of interspersion of vegetation and/or open water occur in this wetland.
7. Well-vegetated stream corridor (15 feet on each side of the stream) occurs in this wetland.
8. Potential educational site is within a short drive or a safe walk from schools.
9. Off-road parking at potential educational site is suitable for school buses.
10. No known safety hazards exist within this potential educational site.
11. Direct access to perennial stream or lake exists at potential educational site.
12. Two or more wetland classes are visible from primary viewing locations.
13. Low-growing wetlands (marshes, scrub-shrub, bogs, open water) are visible from primary viewing locations.
14. Half an acre of open water or 200 feet of stream is visible from the primary viewing locations.
15. Large area of wetland is dominated by flowering plants or plants that turn vibrant colors in different seasons.
16. General appearance of the wetland visible from primary viewing locations is unpolluted and/or undisturbed.
17. Overall view of the wetland is available from the surrounding upland.
18. Quality of the water associated with the wetland is high.
19. Opportunities for wildlife observations are available.
20. Historical buildings are found within the wetland.
21. Presence of pond or pond site and remains of a dam occur within the wetland.
22. Wetland is within 50 yards of the nearest perennial watercourse.
23. Visible stone or earthen foundations, berms, dams, standing structures, or associated features occur within the wetland.
24. Wetland contains critical habitat for a state- or federally-listed threatened or endangered species.
25. Wetland is known to be a study site for scientific research.
26. Wetland is a natural landmark or recognized by the state natural heritage inventory authority as an exemplary natural community.
27. Wetland has local significance because it serves several functional values.
28. Wetland has local significance because it has biological, geological, or other features that are locally rare or unique.
29. Wetland is known to contain an important archaeological site.
30. Wetland is hydrologically connected to a state or federally designated scenic river.
31. Wetland is located in an area experiencing a high wetland loss rate.
32. Other

VISUAL QUALITY/AESTHETICS — This value considers the visual and aesthetic quality or usefulness of the wetland.

CONSIDERATIONS/QUALIFIERS

1. Multiple wetland classes are visible from primary viewing locations.
2. Emergent marsh and/or open water are visible from primary viewing locations.
3. A diversity of vegetative species is visible from primary viewing locations.
4. Wetland is dominated by flowering plants or plants that turn vibrant colors in different seasons.
5. Land use surrounding the wetland is undeveloped as seen from primary viewing locations.
6. Visible surrounding land use form contrasts with wetland.
7. Wetland views absent of trash, debris, and signs of disturbance.
8. Wetland is considered to be a valuable wildlife habitat.
9. Wetland is easily accessed.
10. Low noise level at primary viewing locations.
11. Unpleasant odors absent at primary viewing locations.
12. Relatively unobstructed sight line exists through wetland.
13. Other

ENDANGERED SPECIES HABITAT — This value considers the suitability of the wetland to support threatened or endangered species.

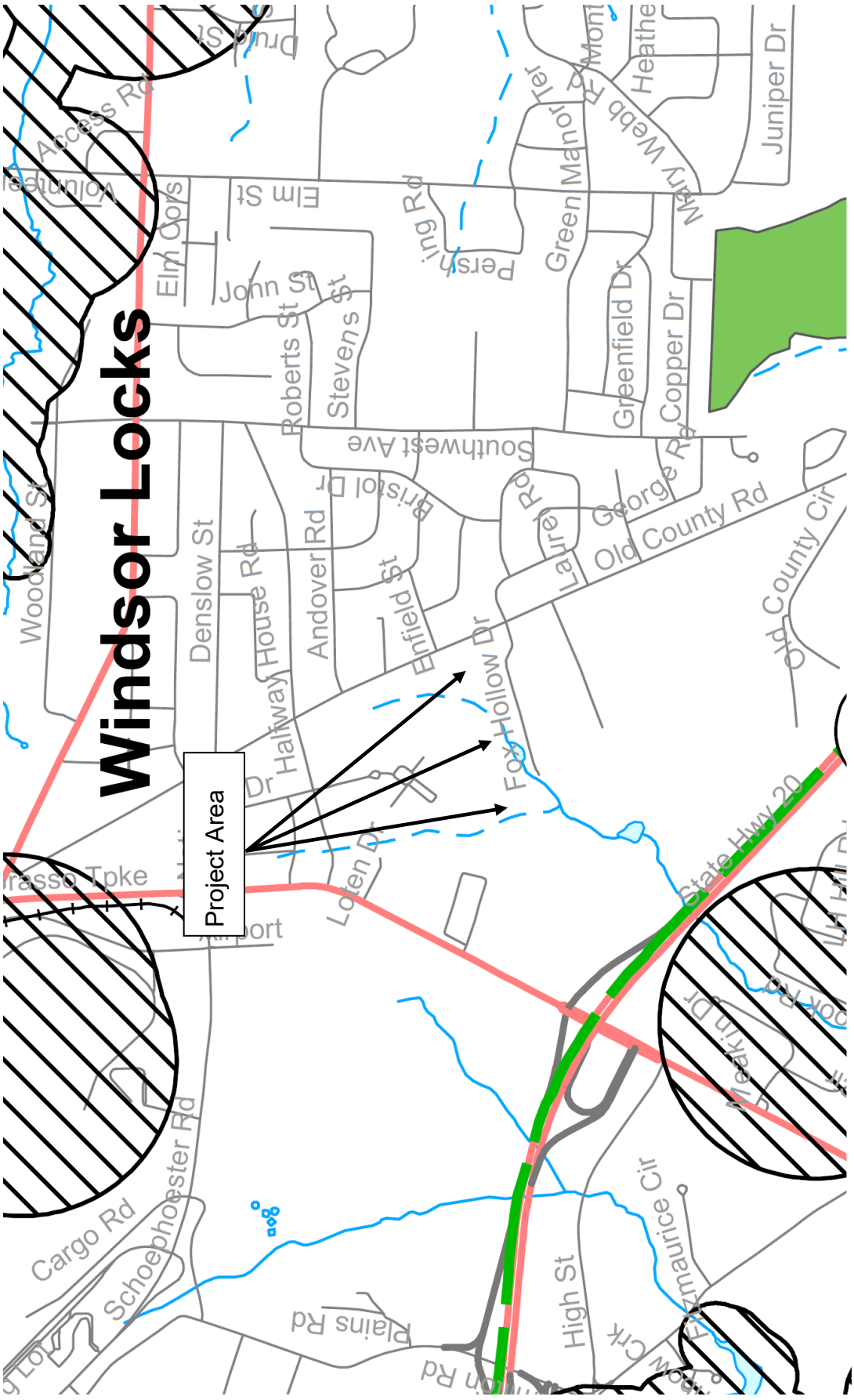
ES

CONSIDERATIONS/QUALIFIERS

1. Wetland contains or is known to contain threatened or endangered species.
2. Wetland contains critical habitat for a state or federally listed threatened or endangered species.

Appendix II: Natural Diversity Data Base Division

Map – December 2025



Portion of State of CT DEEP Natural Diversity Data Base Map, Windsor Locks, CT
Dated December 2025
Map indicates no known populations of Endangered, Threatened or Special Concern Species or significant natural communities on, or immediately adjacent to, the study area.