

February 13, 2019

ATTN: Ariel Martinez
Martinez Couch & Associates, LLC
1084 Cromwell Avenue, Suite 2-A
Rocky Hill, CT 06067

**Re: Wetland Description Report
Bayberry Lane Bridge (no. 04969) over Aspetuck River,
Westport, CT
SS&ES Job No. 2019-2-CT-WES**

Dear Mr. Martinez:

In accordance with your request, Jennifer Beno, Biologist/Wetland Scientist, with Soil Science and Environmental Services, Inc. (SSES) inspected the wetlands within the proposed Bayberry Lane Bridge over Aspetuck River project area on January 9, 2019. The purpose of the inspection was to observe the existing conditions (vegetation and wildlife) and primary functions of the wetlands within the project area. The wetlands were delineated by SSES on the same day. The Wetlands Delineation Report was provided as a separate document and is dated January 28, 2019. We reviewed resource maps available on the Town of Westport and CT Environmental Conditions Online websites for the project area.

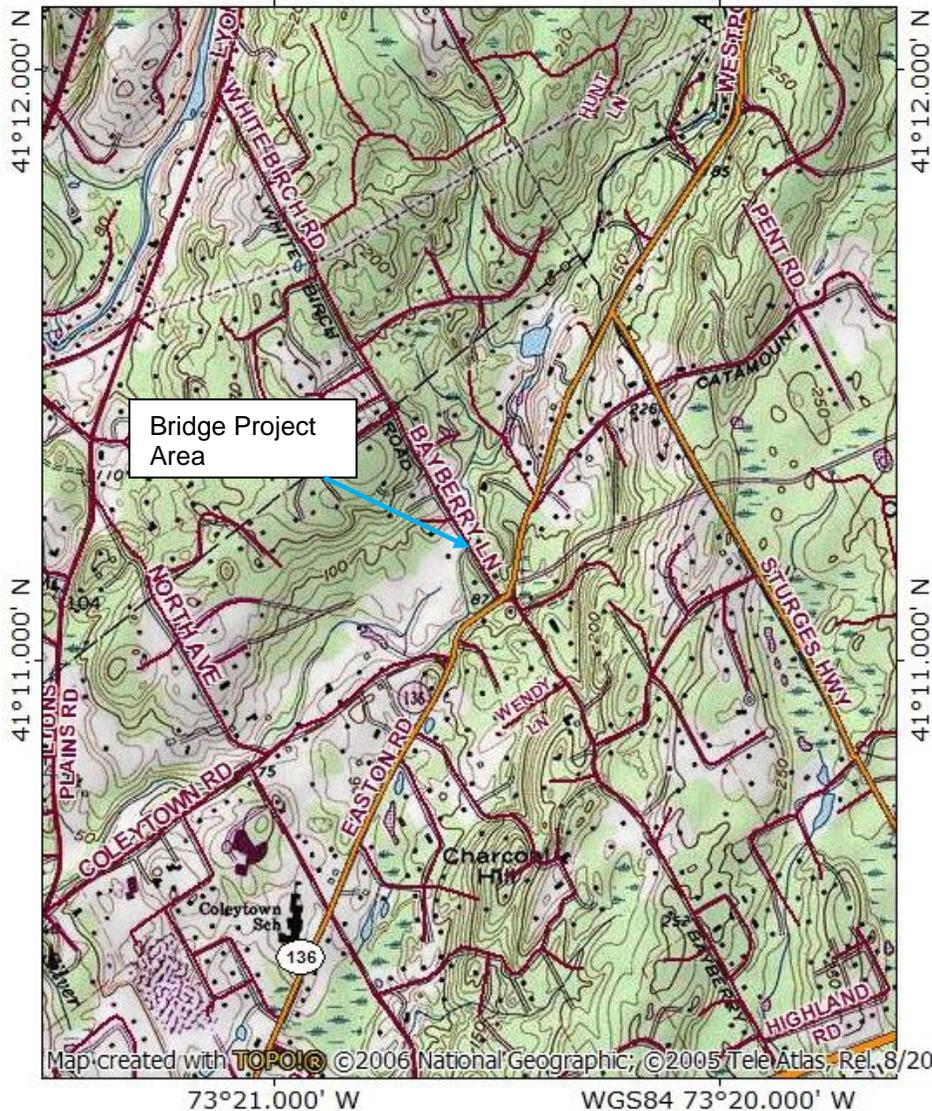
General Site Description

The project area is located within a residentially developed area in the northeastern portion of Westport (Figure 1). It is bordered by single family residential development with associated mowed lawn and paved parking areas and garages as well as wooded upland and the Newman-Poses Preserve area. The wooded upland areas are dominated by sugar maple, beech, ash, black birch, red cedar, white pine, mountain laurel, burning bush, Japanese barberry, Japanese honeysuckle, witch-hazel, multiflora rose, spicebush, Japanese honeysuckle, poison ivy, and bittersweet. Regulated wetlands were delineated to the northeast and southwest of the bridge project area.

TOPO! map printed on 01/10/19 from "Untitled.tpo"

73°21.000' W

WGS84 73°20.000' W



MN 1
13°
01/10/19

**SOIL SCIENCE and
ENVIRONMENTAL
SERVICES, INC.**

U.S.G.S. Topography Map
Bayberry Lane Bridge (No. 04969) over
Aspetuck River,
Westport, CT

Date 1/10/19

Figure No. 1

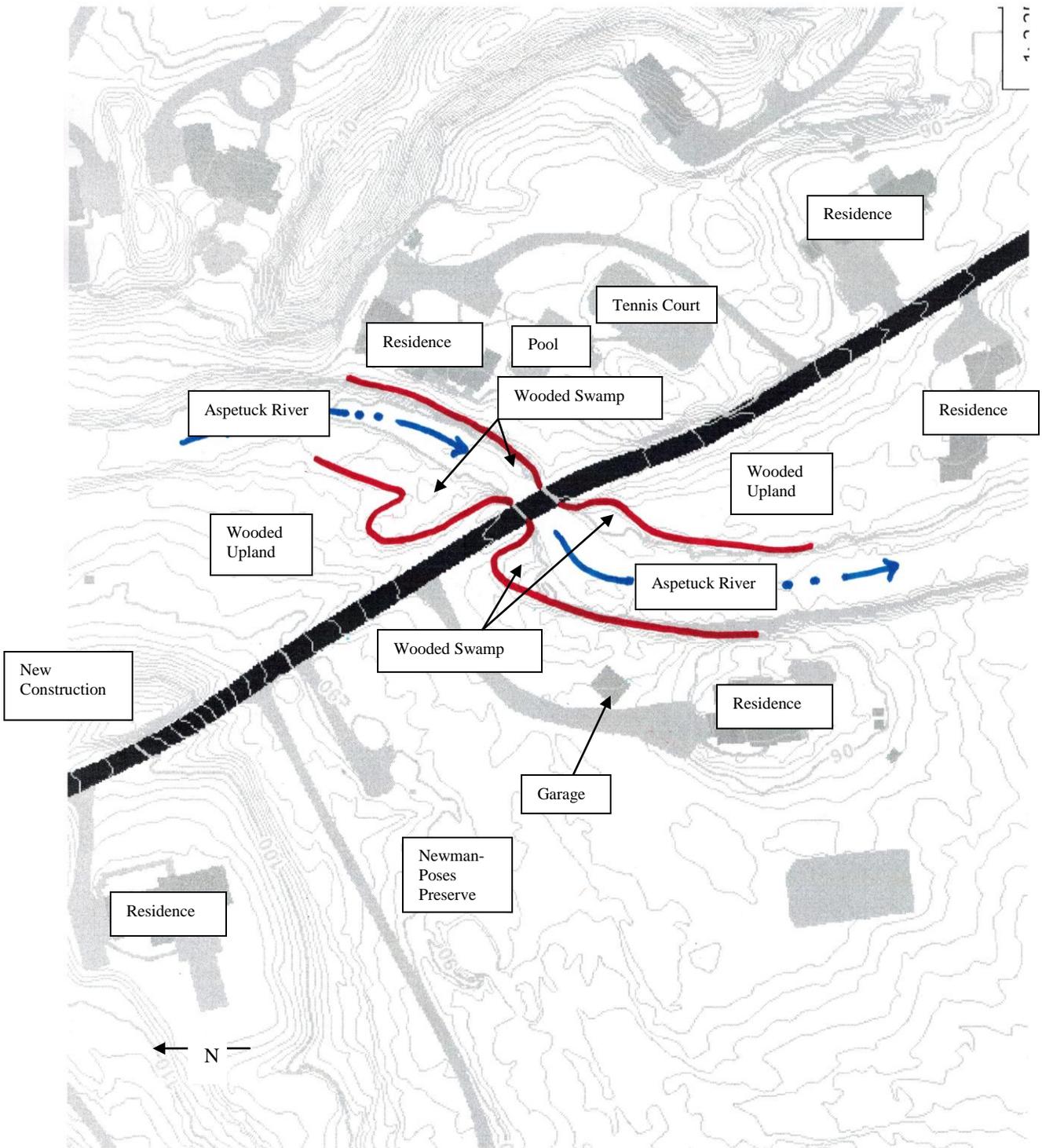


Figure 2 – Existing Conditions

Regulated Wetlands Description

On January 9, 2019, SSES delineated the CT and Federal wetland boundaries along the Aspetuck River to the northeast and southwest of the Bayberry Lane bridge project area (Figure 2). See Wetlands Delineation Report dated January 28, 2019 for additional information pertaining to the wetland delineation.

Northeast Wetland Area

The regulated wetland area to the northeast of the bridge is dominated by a wooded swamp community. The southern bank of the Aspetuck River within this portion of the project area consists of a very narrow wetland bordered by steep fill containing rocks, earthen material, brick and concrete. A residential house is in close proximity to the Aspetuck River and wetland corridor in this area. The northern bank of the Aspetuck River within this portion of the project area consists of a wider floodplain dominated by a deciduous wooded swamp community. The wooded swamp community provides dense tree canopy cover and moderately dense to dense shrub and herbaceous understory growth. The dominant vegetation observed within the Northeast Wetland Area during the inspection includes black birch, ash, hemlock, red maple, ironwood, multiflora rose, raspberry, spicebush, burning bush, witch-hazel, Japanese knotweed, garlic mustard, meadow garlic, Japanese honeysuckle, false nettle, and skunk cabbage.

Southwest Wetland Area

A narrow regulated wetland also exists to the southwest of the bridge project area. This regulated floodplain area is dominated by a wooded swamp community. Fill, stonewalls, and a residence are in close proximity to the northern and western sides of the wetland and watercourse corridor within this portion of the project area. The wooded swamp community provides dense tree canopy cover and moderately dense to dense shrub and herbaceous understory growth. The dominant vegetation observed within the Southwest Wetland Area during the inspection includes elm, red maple, ash, sycamore, burning bush, Japanese barberry, winterberry, multiflora rose, spicebush, ironwood, meadow garlic, garlic mustard, goldenrod, sedges, grasses, skunk cabbage, false nettle, manna grass, and sensitive fern.



Looking at southern bank of Aspetuck River to the northeast of bridge project area (1/9/19).



Looking at northern bank of Aspetuck River to the northeast of bridge project area (1/9/19).



Looking at southern bank of Aspetuck River to the southwest of bridge project area (1/9/19).



Looking at northern bank of Aspetuck River to the southwest of bridge project area (1/9/19).

Wetland Functional Quality

A Highway Methodology form was completed for the wetlands identified along the Aspetuck River within the Bayberry Lane bridge study area (see Appendix I). Numerous functions are provided by the wooded floodplain wetlands. The principal functions provided by the wetlands within the project area include groundwater discharge, finfish/shellfish habitat, sediment retention, and wildlife habitat.

Wildlife

Wildlife observed utilizing the project area during the January 9, 2019 inspection includes deer (scat), chickadee, woodpecker, and freshwater clams within the river. These species are common in suburban areas of CT. Large machinery was being utilized for residential construction north of the bridge project area during our inspection which likely prevented us from observing other wildlife within the project area. In addition to the site inspection, SSES reviewed the December 2018 CT Department of Energy and Environmental Protection (DEEP) Natural Diversity Data Base (NDDB) division map available on-line for the project area and immediate vicinity. According to the map, no Federal and/or State listed Endangered or Threatened species or Species of Special Concern are known to exist within or near the project area. See Appendix II for map.

Respectfully submitted,
SOIL SCIENCE AND ENVIRONMENTAL SERVICES, INC.



Jennifer L. Beno
Biologist/Wetland Scientist

Appendix I: Highway Methodology Data Forms and Supporting Documents

Table: WETLAND FUNCTION-VALUE EVALUATION FORM

Floodplain Wetland, Bayberry Lane bridge (04969) over Aspetuck River project area,

Wetland I.D. Westport, CT
 Lat. ±41.76381°N Long. ±-73.39940°W
 Prepared by JLB Date 1/28/19
 Wetland Impact:
 Type: fill Area +/- sqft
 Waterway Impact: +/- sqft
 Evaluation based on:
 Office Y Field Y
 Corps manual wetland delineation
 Completed? Y X N

Total area of wetland _____ Human made? No Is wetland part of a wildlife corridor? Yes Or a “habitat island”? No
 Adjacent land use: wooded upland; road; residences Distance to nearest roadway or development +/- 0' (road fill)
 Dominant wetland systems present PFOIE Contiguous undeveloped buffer zone present No
 Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? Mid to Low
 How many tributaries contribute to the wetland? 1 Wildlife & vegetation diversity/abundance (*see included lists*)

Occurrence Rationale Principal

| Function/Value | Y | N | (Reference #)* | Function(s)/Value(s) | Comments |
|----------------------------------|---|---|-------------------------------------|----------------------|---|
| Groundwater Recharge/Discharge | X | | 1, 2, 7, 11, 12, 13, 15 | X | Groundwater is Class GA/ Surface water is Class A; seepage observed in the wetland. |
| Floodflow Alteration | X | | 5, 9, 10, 13, 18 | | Wetland is a narrow floodplain associated with Aspetuck River; signs (stone walls, Rocks, bricks, fill) of previous filling up to the wetland boundary. |
| Fish and Shellfish Habitat | X | | 1, 2, 3, 4, 6, 7, 8, 10, 14, 15, 17 | X | Watercourse likely supports finfish. None observed. Reported trout stream. |
| Sediment/Toxicant Retention | X | | 4, 6, 8, 9, 10, 16 | X | Sediment possibly contributed to this wetland from the adjacent road. Wetland is narrow at project location. |
| Nutrient Removal | X | | 3, 4, 7, 8, 9, 10 | | Floodplain wetland is narrow. |
| Production Export | X | | 4, 5, 6, 10 | | Perennial watercourse; narrow wetland with moderately dense vegetation growth. |
| Sediment/Shoreline Stabilization | X | | 3, 6, 7, 8, 9, 14 | | No significant erosion observed along banks; bordering wetland is narrow; evidence of sand deposits on wetland surface. |
| Wildlife Habitat | X | | 2, 6, 7, 8, 11, 15, 17 | X | Residential development near project area; nests observed in trees and shrubs; see included vegetation and wildlife list. |
| Recreation | | X | none | | Private property; no public access. |
| Educational Scientific Value | | X | none | | Private property; no public access. |
| Uniqueness/Heritage | | X | 5, 14, 18, 27 | | Wetland provides several wetland functions; part of a large wetland/watercourse corridor; no public access. |
| Visual Quality/Aesthetics | | X | none | | Watercourse is contrasting; otherwise appears similar to adjacent upland areas. |
| ES Endangered Species Habitat | | | | | None observed. See attached map. |
| Other | | | | | |

* REFER TO BACK UP LIST OF CONSIDERATIONS (ATTACHED)

Dominant Wetland Vegetation Inventory (January 9, 2019)

Project Area - Bayberry Lane Bridge (No. 04969) over Aspetuck River, Westport, CT

| Scientific Name | Common Name | Indicator Status |
|-------------------------------|----------------------|------------------|
| Trees | | |
| <i>Acer rubrum</i> | red maple | FAC |
| <i>Betula lenta</i> | black birch | FACU |
| <i>Fraxinus pennsylvanica</i> | ash | FACW |
| <i>Platanus occidentalis</i> | sycamore | FACW |
| <i>Tsuga canadensis</i> | hemlock | FACU |
| <i>Ulmus rubra</i> | elm | FAC |
| Saplings/Shrubs | | |
| <i>Berberis thunbergii</i> | Japanese barberry | FACU |
| <i>Carpinus caroliniana</i> | ironwood | FAC |
| <i>Euonymus atropurpureus</i> | burning bush | FACU |
| <i>Hamamelis virginiana</i> | witch-hazel | FACU |
| <i>Ilex verticillata</i> | winterberry | FACW |
| <i>Lindera benzoin</i> | spicebush | FACW |
| <i>Rosa multiflora</i> | multiflora rose | FACU |
| <i>Rubus idaeus</i> | raspberry | FACU |
| Herbaceous | | |
| <i>Alliaria petiolata</i> | garlic mustard | FACU |
| <i>Allium canadense</i> | meadow garlic | FAC |
| <i>Boehmeria cylindrical</i> | false nettle | OBL |
| <i>Carex sp.</i> | sedges | ----- |
| <i>Glyceria striata</i> | manna grass | OBL |
| <i>Lonicera japonica</i> | Japanese honeysuckle | FACU |
| <i>Onoclea sensibilis</i> | sensitive fern | FACW |
| <i>Polygonum cuspidatum</i> | Japanese knotweed | FACU |
| <i>Solidago sp.</i> | goldenrod | ----- |
| <i>Symplocarpus foetidus</i> | skunk cabbage | OBL |
| Vines | | |
| <i>Celastrus orbiculatus</i> | bittersweet | UPL |

Indicator Status : Taken from the "National List of Plant Species that Occur in Wetlands:1988 National Summary," Fish and Wildlife Service, U.S. Department of the Interior

- OBL:** obligate wetland; occur almost always under natural conditions in wetlands
- FACW:** facultative wetland; usually occur in wetlands , but occasionally found in non-wetlands
- FAC:** equally likely to occur in wetlands or non-wetlands
- UPL:** occur almost always under natural conditions in non-wetlands
- +:** more frequently found in specified condition
- :** less frequently found in specified condition

Inspection was conducted during non-growing season conditions. This species list is not all inclusive.

Bayberry Lane Bridge over Aspetuck River, Westport, CT

**Dominant Wildlife Inventory (January 9, 2019)
Bayberry Lane Bridge (No. 04969) over Aspetuck River, Westport, CT**

| | |
|-------------------------------|------------------------|
| <i>Odocoileus virginianus</i> | white-tailed deer |
| <i>Parus atricapillus</i> | black-capped chickadee |
| <i>Picoides pubescens</i> | downy woodpecker |
| Freshwater clams | |

Species were observed utilizing the study area during the inspection.



Appendix A

Wetland evaluation supporting documentation and 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 judgement 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.
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. Gravel or sandy soils present in or adjacent to wetland.
17. Piezometer data demonstrates discharge.
18. 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 degree 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 — 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 retains 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, water falls, road crossing, etc.) 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



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 erod-



ing 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. Mineral, fine grained, 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 is present by dense vegetation.
 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 present in the watershed above the wetland.
 5. Wetland saturated for most of the season. Pounded water is present in the wetland.
 6. Deep organic/sediment deposits are present.
 7. Slowly drained mineral, fine grained, or organic soils, are present.
 8. Dense vegetation is present.
 9. Emergent vegetation and/or dense woody stems are dominant.
 10. Aquatic diversity/abundance sufficient to utilize nutrients.
 11. Opportunity for nutrient attenuation exists.
 12. Vegetation diversity/abundance sufficient to utilize nutrients.
- STOP HERE IF WETLAND IS NOT ASSOCIATED WITH A WATERCOURSE.**
13. Waterflow through this wetland is diffuse.
 14. Water retention/detention time in this wetland is increased by constricted outlet or thick vegetation.
 15. Water moves slowly through this wetland.
 16. Other



PRODUCTION EXPORT (Nutrient) — This function evaluates the effectiveness of the wetland to produce food or usable products for man 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 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 which 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 stream banks and shorelines against erosion.



CONSIDERATIONS/QUALIFIERS

1. Indications of erosion, siltation present.
2. Topographical gradient is present in wetland.
3. Potential sediment sources are present up-slope.
4. No distinct shoreline or bank is evident between the waterbody and the wetland or upland.
5. A distinct step between the open waterbody or stream and the adjacent land exists (i.e. sharp bank) with dense roots throughout.
6. Wide wetland (>10') bordering watercourse, lake, or pond.
7. High flow velocities in the wetland.
8. Potential sediment sources present upstream.
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 bordering watercourse, lake or pond.
14. Vegetation comprised of large trees and shrubs which withstand major flood events or erosive incidents and stabilize the shoreline on a large scale (feet).
15. Vegetation comprised of dense resilient herbaceous layer which 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.²



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, wood land, active farmland, or idle land) at least 500 feet in width.
6. Wetland contiguous with other wetland systems connected by 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 interspersions 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/etc.)
16. Plant/animal indicator species present.
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 present.
23. Signs of wildlife habitat enhancement present (birdhouses, nesting boxes, food sources, etc.).
24. Other



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 within safe walking distance to other plant communities.
11. Direct access to perennial stream at potential educational site available.
12. Direct access to pond or lake at potential educational site available.
13. No known safety hazards 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 primarily urban.
2. Upland surrounding wetland developing rapidly.
3. More than 3 acres of shallow permanent open water occur in wetlands (less than 6.6 feet deep) including streams.
4. Three or more wetland classes present.
5. Deep and/or shallow marsh, or wooded swamp dominate.
6. High degree of interspersion of vegetation and/or open water occurring 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 at potential educational site.
12. Two or more wetland classes visible from primary viewing locations.
13. Low-growing wetlands (marshes, scrub-shrub, bogs, open water) 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 which 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 occur within the wetland.
21. Presence of pond or pond site and remains of a dam occur within the wetland.
22. Wetland 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 which 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 visible from primary viewing locations.
2. Emergent marsh and/or open water visible from primary viewing locations.
3. Diversity of vegetation species visible from primary viewing locations.
4. Wetland dominated by flowering plants, or plants which 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

ES

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

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.
3. Other

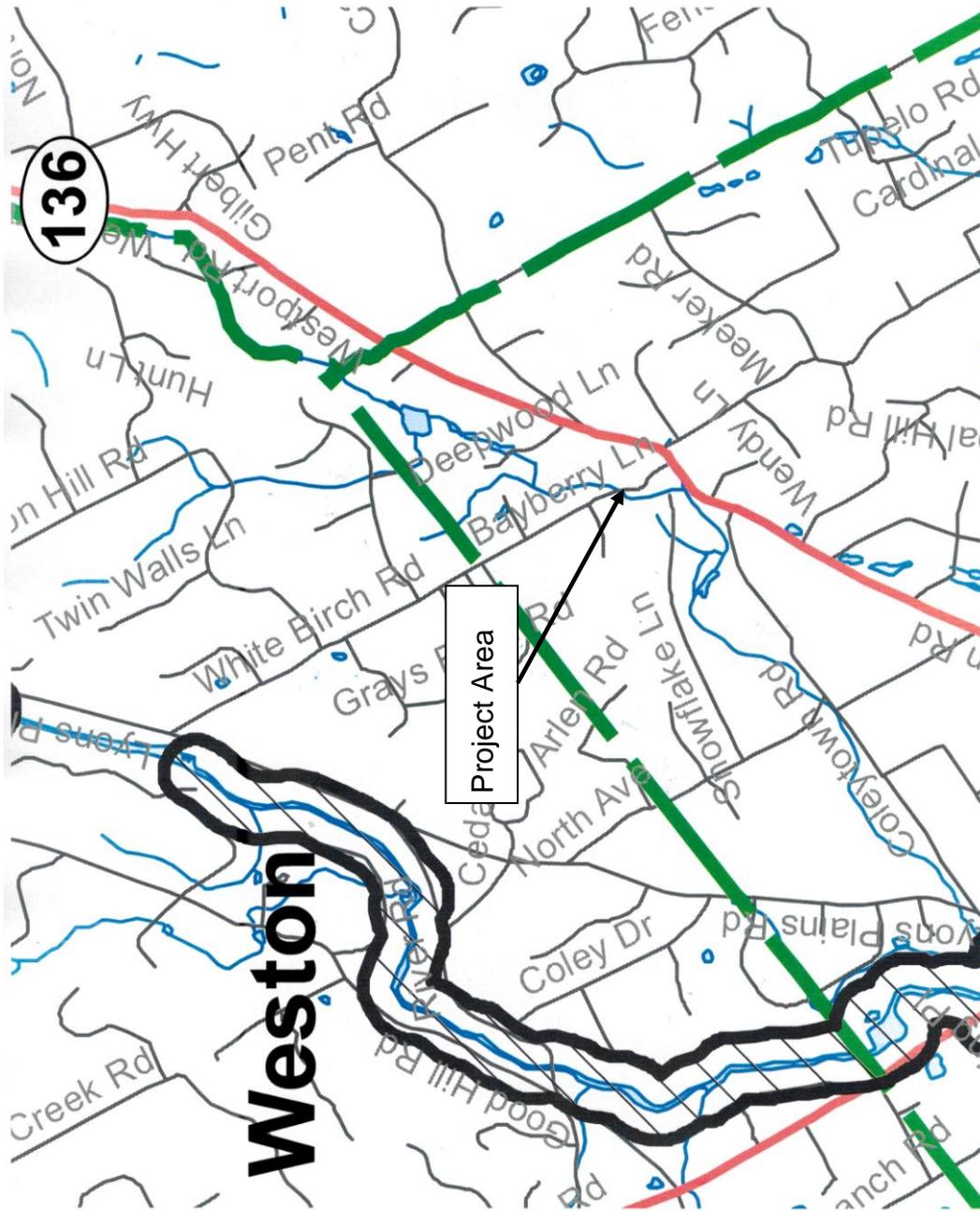
1. Although the above example refers to freshwater wetlands, it can also be adapted for marine ecosystems. Below is an example of an adaptation for the fish and shellfish function provided by the National Marine Fisheries Service.

FISH AND SHELLFISH HABITAT ---- 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 (Marine)

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. Other
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2. 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 WETthings (wetland habitat indicators for non- game species). It produces a list of potential wetland- dependent mammals, reptiles, 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.

Appendix II: Natural Diversity Data Base



Portion of State of CT DEEP Natural Diversity Data Base Map, Westport, CT
Dated December 2018
Map indicates no known populations of Endangered, Threatened or Special Concern
Species or significant natural communities in the study area.