APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): February 11, 2016

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: NAE-2014-00207 (Rose) Prides Corner Farms, 227 Waterman Road

C. PROJECT LOCATION AND BACKGROUND INFORMATION: Initially, we received a request for jurisdictional determination for this wetland on December 13, 2013. This request was followed by inquiry of the work's eligiblity for an agricultural exemption under Clean Water Act Section 404(f). The wetland resources on the parcel were delineated by Milone and MacBroom, Inc (MMI) on December 6, 2013. Data forms to document the wetland boundary in accordance with the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast, version 2.0 (2012) were provided. They are included as an attachment to this memorandum and our review of the delineation is discussed herein. Records indicate that the parcel of land in Lebanon, Connecticut is owned by Three Sons Realty LLC for Prides Corner Farms Inc (purchased on January 7, 2014) and its predominant historical use has been agriculture. The wetland that is the subject of this request is located on a 17.1-acre parcel of land to the west of Waterman Road and it is currently in agricultural use. The wetland area subject to this request is an approximately 1.3-acre wetland feature within a farm field at the summit of a till landform in the Pease Brook HUC6 (3905-00) watershed. A review of historical aerial photos show that the parcel of land, and in some cases the subject wetland, have been in agricultural use since at least 1934. The surrounding landscape consists almost predominantly of agricultural-related uses including extensive potted plant greenhouses of Prides Corner Farms, livestock range and cropped fields. Much of the surrounding lands within this, and the abutting watersheds, have been modified by instream diversions and construction of irrigation facilities (Exhibit X) for agricultural purposes. There is one area of concentrated residential dwellings to the north and east of the site directly abutting state route 87.

State: Connecticut County/parish/borough: New London City: Lebanon
Center coordinates of site (lat/long in degree decimal format): Lat. 41.6145° N, Long. -72.2057° E.
Universal Transverse Mercator: 18
Name of nearest waterbody: Unnamed Tributary of Pease Brook
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Yantic River
Name of watershed or Hydrologic Unit Code (HUC): Connecticut Coastal, Thames 1100003

☒ Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.
☐ Check if other sites (e.g., offsite mitigation sites, disposal sites, etc…) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

☒ Office (Desk) Determination. Date: August 6, 2014, September 4, 2015, December 22, 2015
☒ Field Determination. Date(s): September 10, 2014

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There **Are no** "*navigable waters of the U.S.*" within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [*Required*]

☐ Waters subject to the ebb and flow of the tide.
☐ Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.
Explain: .

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There **Are** "*waters of the U.S.*" within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [*Required*]

1. **Waters of the U.S.**
   a. **Indicate presence of waters of U.S. in review area (check all that apply):** [1]
      ☐ TNWs, including territorial seas
      ☐ Wetlands adjacent to TNWs
      ☐ Relatively permanent waters[2] (RPWs) that flow directly or indirectly into TNWs
      ☒ Non-RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
      ☒ Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
      ☐ Impoundments of jurisdictional waters
      ☐ Isolated (interstate or intrastate) waters, including isolated wetlands

   b. **Identify (estimate) size of waters of the U.S. in the review area:**

[1] Boxes checked below shall be supported by completing the appropriate sections in Section III below.
[2] For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

Average annual snowfall: 50.3 inches

(ii) Physical Characteristics:

(a) Relationship with TNW:

☐ Tributary flows directly into TNW.

☒ Tributary flows through **2** tributaries before entering TNW.

Project waters are **2-5** river miles from TNW.
Project waters are **1 (or less)** river miles from RPW.
Project waters are **2-5** aerial (straight) miles from TNW.
Project waters are **1 (or less)** aerial (straight) miles from RPW.
Project waters cross or serve as state boundaries. Explain: .

Identify flow route to TNW[5]: T-1 forms as the cumulative flow of two headwater seeps in shallow wetland soil where the combined feature meets a third larger watercourse to form the relative reach approximately 860 feet downslope of wetland 1. From here T-1 flows another 600 feet before a confluence with Pease Brook. Pease Brook is a perennial waterway of the third order (Strahler stream classification) with a drainage area of 7.52 square miles and its headwaters just southwest of Willimantic, CT. After entering Pease Brook, streamflow flow travels approximately 2.4 miles in a southeasterly direction to intersection with the Yantic River near Gilman, CT. From there the Yantic River flows another 9.8 miles before discharging into the Thames River (Navigable waterway subject to Section 10). The Yantic River itself is a Traditional Navigable Water for approximately 13 miles, or three-quarters of its length (areas downstream of Camp Moween Road, Lebanon, CT).
Tributary stream order, if known: 1st order

(b) General Tributary Characteristics (check all that apply):

Tributary is: ☒ Natural
☐ Artificial (man-made). Explain: .
☒ Manipulated (man-altered). Explain: Non-regulated conveyance in upland may be manmade or manipulated to facilitate flow out of the farm field in the review area. Aerial photos from 1965 clearly depict a manmade drainage ditch in this location leading away from W-1. However, approximately 450 feet downslope of W-1 the tributary takes on a more natural configuration with a more sinuous path at the toe of slope and in the low gradient plain.

Tributary properties with respect to top of bank (estimate):
Average width: 1.5 feet
Average depth: 1.0 feet
Average side slopes: **3:1**.

Primary tributary substrate composition (check all that apply):

☐ Silts	☒ Sands	☐ Concrete
☒ Cobbles	☒ Gravel	☐ Muck
☐ Bedrock	☒ Vegetation. Type/% cover: 10% at higher evelation >40% at plain where flow braids	
☐ Other. Explain: .		

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: Relatively stable where tributary forms with head-cut at the source of the seep (W-2) and some undercutting and flow through of banks and roots at the base of the ridgebury soil slope. Some erosion is evident.
Presence of run/riffle/pool complexes. Explain: .
Tributary geometry: **Relatively straight**
Tributary gradient (approximate average slope): 8-15 %

(c) Flow:

Tributary provides for: **Seasonal flow**
Estimate average number of flow events in review area/year: **2-5**
Describe flow regime: The flow regime is expected to consist of very low volume baseflow during the fall and winter with a much larger volume and duration of flow after snow melt and during the spring. Flows from elevated groundwater, snow melt storage in the pond above and higher frequency precipation is expected to produce reasonable significant flow events of some duration, as evidenced by a 2014 spring aerial photograph.
Other information on duration and volume: Estimate of flow based on area is less than 1 cubic foot per second for a 2-year recurrence interval storm event..

Surface flow is: **Discrete and confined.** Characteristics: Discharges from the originating wetland travel overland to a confined conveyance in dry land and maintains in that form throughout the review area. Upon leaving the review area where slope decreases by over 50% the tributary flow begins to take on a braided condition with less incision and more sinuosity until it discharges into the perennial tributary a little further downstream.

[5] Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

Subsurface flow: **Unknown**. Explain findings: During the site visit interflow (flow through the soil at the level of groundwater) was visible at W-2. It was too dry at the time of our site visit to determine if this characteristic could be carried over to the T-1 at the base of slope with the ridgebury soil complex intercepts the stream.

☐ Dye (or other) test performed: .

Tributary has (check all that apply):

☒ Bed and banks

☒ OHWM[6] (check all indicators that apply):

- ☒ clear, natural line impressed on the bank
- ☒ changes in the character of soil
- ☐ shelving
- ☒ vegetation matted down, bent, or absent
- ☒ leaf litter disturbed or washed away
- ☒ sediment deposition
- ☒ water staining
- ☐ other (list):
- ☒ the presence of litter and debris
- ☒ destruction of terrestrial vegetation
- ☐ the presence of wrack line
- ☒ sediment sorting
- ☒ scour
- ☒ multiple observed or predicted flow events
- ☐ abrupt change in plant community

☐ Discontinuous OHWM.[7] Explain: .

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

☐ High Tide Line indicated by:

- ☐ oil or scum line along shore objects
- ☐ fine shell or debris deposits (foreshore)
- ☐ physical markings/characteristics
- ☐ tidal gauges
- ☐ other (list):

☐ Mean High Water Mark indicated by:

- ☐ survey to available datum;
- ☐ physical markings;
- ☐ vegetation lines/changes in vegetation types.

(iii) Chemical Characteristics:

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).

Explain: There was minimal flow (just a trickle) during our site visit conducted during a basin rating (U.S Drought Monitor) of "abnormally dry" and almost no precipation in recent past. Discharges were cool, suggesting groundwater source. The dominant agricultural use suggest that water quality could be compromised by the application of pesticides and herbicides for annual crop treatments.

Identify specific pollutants, if known: Sedimentation discharges consisting of native soil and road sand were observed in the dry stream bed at overland flow points from the Prides Corner Farms access road. Because one of the sources of this sediment-laden discharge was the adjacent potted plant nursery site at 197 Waterman Road, pollutant loads are expected to include fertilizers and possibly horticultural organic and/or synthetic herbicides and pesticides.

(iv) Biological Characteristics. Channel supports (check all that apply):

☒ Riparian corridor. Characteristics (type, average width): Variable width, but generally present at the lower perennial sections before discharge into Pease Brook.

☒ Wetland fringe. Characteristics: PEM shallow marsh with both native and introduced plant species coincident with the powerline right-of-way.

☐ Habitat for:

- ☐ Federally Listed species. Explain findings: .
- ☐ Fish/spawn areas. Explain findings: .
- ☐ Other environmentally-sensitive species. Explain findings: .
- ☐ Aquatic/wildlife diversity. Explain findings: .

2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW

(i) Physical Characteristics:

(a) General Wetland Characteristics:

Properties:

Wetland size: 1.55 acres

Wetland type. Explain: Two palustrine emergent depression wetlands (1.3 and 0.22 acre). The larger of the two (W-1) is a wet meadow, half of which is dominated by invasive Phragmites australis. The other half of W-1 possesses a more diverse community of herbaceous wetland vegetation. Its principal wetland function is for groundwater discharge, sediment/toxicant retention and nutrient removal. This function is intensified by the presence of a low berm that functions as a seasonal retention system until it overtops during storm events. The smaller wetland (W-2) is an area of slope breakout currently in farm production for corn. This wetland's principle function appears to be groundwater discharge.

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[6] A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

[7] Ibid.

Wetland quality. Explain: W-1 possesses two aggressive invasive plant species and it is neighboring, but not abutting or contiguous with, a waterway. Its function provides little contribution within a community setting for wildlife habitat or productivity. For this specific function its quality is poor to fair. However, vegetation density and landscape lend itself well to a much higher functioning system for sediment/toxicant and nutrient retention.

Project wetlands cross or serve as state boundaries. Explain: .

(b) General Flow Relationship with Non-TNW:

Flow is: **Ephemeral flow**. Explain: At full inundation (seasonally and after rainfall) surface drainage leaves W-1 in two locations by overtopping a berm before it consolidates approximately 60 feet down slope into a drainage feature in dry land. The wetland is only expected to contribute to base flow in the fall and winter. It will contribute higher flows after snow melt and rain events.

Surface flow is: **Discrete**

Characteristics: Topgraphically driven by a slight gradient before it is captured in a confined conveyance constructed in upland.

Subsurface flow: **Unknown**. Explain findings: .

☐ Dye (or other) test performed: .

(c) Wetland Adjacency Determination with Non-TNW:

☐ Directly abutting

☒ Not directly abutting

☒ Discrete wetland hydrologic connection. Explain: Lidar images and multiple aerial photos depict a discrete surface connection with the non-jurisdictional conveyance and dry land and the RPW tributary (T-1) and hydrological connectivity has been demonstrated in both winter (submittal documentation) and spring (aerial photographs).

☐ Ecological connection. Explain: .

☒ Separated by berm/barrier. Explain: Lidar maps clearly depict hummocky topography indicative of disturbed soil or stockpiles dividing the parcel's upper and lower agricultural fields. The area appears to be functioning from an agricultural perspective as an agricultural buffer/hedgerow but functioning as a low-head berm to retain ponded water in the wetland until full inundation capacity of the feature has been reached.

(d) Proximity (Relationship) to TNW

Project wetlands are **5-10** river miles from TNW.

Project waters are **2-5** aerial (straight) miles from TNW.

Flow is from: **Wetland to navigable waters.**

Estimate approximate location of wetland as within the **500-year or greater** floodplain.

(ii) Chemical Characteristics:

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: The wetland exists within a concave landscape position surrounded by active corn fields. The water table is present near the surface seasonally in both the wetland and the abutting field. Soils are loamy and mucky, evidence of significant ponding and/or longterm saturation. The wetland's landscape position in combination within the additional retention provided by the topographical "berm" serve to provide opportunity for removal and/or treatment of sediment and chemical contributed to the watershed from the abutting farm field. The feature also provides an opportunity to mitigate peak flow discharge after signficant frequency/duration rain events. This in turn provides a net benefit to downstream tributary.

Identify specific pollutants, if known: Agriculture pesticides and herbicides, lime, fertilizer (nitrogen/phosphorus), mobilized sediment.

(iii) Biological Characteristics. Wetland supports (check all that apply):

☐ Riparian buffer. Characteristics (type, average width): .

☒ Vegetation type/percent cover. Explain:95% coverage of dense herbaceous grasses and sedges with deep root systems.

☐ Habitat for:

☐ Federally Listed species. Explain findings: .

☐ Fish/spawn areas. Explain findings: .

☐ Other environmentally-sensitive species. Explain findings: .

☐ Aquatic/wildlife diversity. Explain findings: .

3. Characteristics of all wetlands adjacent to the tributary (if any)

All wetland(s) being considered in the cumulative analysis: **3**

Approximately (2.92) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)	Size (in acres)	Directly abuts? (Y/N)	Size (in acres)
W-1 (No)	1.3	PUB2 No	1.54
W-2 (Yes)	0.22	F-1	.05
PUB-1 (No)	0.21		
PEM/PSS-1 (No)	1.40		

Summarize overall biological, chemical and physical functions being performed: The PEM and PSS wetlands all persist at the top of slope or above slope break in depressional configuration upstream of contributing headwater drainages to Pease Brook. They function to seasonally discharge groundwater and export nutrients and organic material downstream. All of these wetlands and open water features possess restricted outlets that serve to slow and desyncronize peak discharges downstream and form retention mechanisms to settle/retain pollutants and provide opportunity for transformation of such introductions. The dense character of vegetation within the wetlands creates diffuse drainage that further enhances this function.

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D: .

2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .

3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: The role of keeping contributed agricultural pollutants out of the headwater system in the Yantic River watershed is particularly important within this local area and surrounding sub-watersheds. Previous site visits to the nursery document bare sediment condition, presumably to prevent weed competition or encroachment into the plant nursery. Coarse and fine sediment is exposed and available for mobilization from the nursery. The irrigated condition at the site creates conditions such that there is a high likelihood of potential for runoff containing fertilizers and pesticides during or after frequent storm events or extended rainfall condition. In the case of W-1 the ephemeral or episodic hydrologic connection is the major factor contributing to the individual and cumulative effect of these wetlands on the chemical, physical or biological integrity of the downstream TNW (Yantic River).

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:
   - ☐ TNWs: linear feet width (ft), Or, acres.
   - ☐ Wetlands adjacent to TNWs: acres.

2. **RPWs that flow directly or indirectly into TNWs.**
   - ☐ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: .
   - ☒ Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally: The subject tributary (T-1) possessed baseflow on September 9, 2014 during a timeframe of little precipitation or record and no evidence of overland flow into the conveyance channel in upland upstream. The seasonal presence of baseflow, in this instance, means that T-1 is an intermittent stream rather than an ephemeral one. During our site investigation seepage flow from a related wetland (W-2) was evident at a location where the water table intersected the head wall at the cut of bank. This observation is consistent witih other intemittent headwater streams in this regino where headcut stream formation occurs. Because there is no stream gage to estimate flow within smaller streams such as this one, we used USGS stream stats to estimate flow at the point of relevative reach and where the RPW enters the closest perennial stream. The result provided an estimate of a watershed area for the reach of 0.05 square miles/33 acres and a 2-year recurrance interval flow of 3.41 cfs. This seemed excessive for the tributary so using the Pease Brook watershed as a reference for acreage we found that the program computed the same flow/interval for the RPW (33 acres) and Pease Brook (173 acres). We resorted to the use of average rainfall curves for the region to calculate a derivative of runoff based upon drainage area. The result of 0.90 cfs was more realistic for a seasonal, relatively permanent flow and also consistent with the flow observed or documented during the winter of 2013 and spring of 2014.

   Provide estimates for jurisdictional waters in the review area (check all that apply):
   - ☒ Tributary waters: **1,132** linear feet**1.5 to 6**width (ft).
   - ☐ Other non-wetland waters: acres.
     Identify type(s) of waters: .

3. **Non-RPWs[8] that flow directly or indirectly into TNWs.**
   - ☐ Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

   Provide estimates for jurisdictional waters within the review area (check all that apply):
   - ☐ Tributary waters: linear feet width (ft).
   - ☐ Other non-wetland waters: acres.
     Identify type(s) of waters: .

4. **Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**
   - ☐ Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
   - ☐ Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .
   - ☐ Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

   Provide acreage estimates for jurisdictional wetlands in the review area: acres.

5. **Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**
   - ☐ Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisidictional. Data supporting this conclusion is provided at Section III.C.

   Provide acreage estimates for jurisdictional wetlands in the review area: acres.

6. **Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**
   - ☒ Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

   Provide estimates for jurisdictional wetlands in the review area: **2.92**acres.

[8]See Footnote # 3.

7. **Impoundments of jurisdictional waters.**[9]
As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.
☐ Demonstrate that impoundment was created from "waters of the U.S.," or
☐ Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
☐ Demonstrate that water is isolated with a nexus to commerce (see E below).

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):[10]
☐ which are or could be used by interstate or foreign travelers for recreational or other purposes.
☐ from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
☐ which are or could be used for industrial purposes by industries in interstate commerce.
☐ Interstate isolated waters. Explain: .
☐ Other factors. Explain: .

Identify water body and summarize rationale supporting determination: .

Provide estimates for jurisdictional waters in the review area (check all that apply):
☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .
☐ Wetlands: acres.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):
☐ If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
☐ Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
☐ Prior to the Jan 2001 Supreme Court decision in "*SWANCC*," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
☐ Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain: .
☒ Other: (explain, if not covered above): **330 foot long non-jurisdictional conveyance in upland did not demonstrate presence of an OHWM or bed and banks and was dominated by upland vegetation.**

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):
☐ Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☐ Wetlands: acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):
☐ Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☐ Wetlands: acres.

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):
☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: Proposed Irrigation Pond at 227 Waterman Road, Milone & Macbroom, 06/07/14..
☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
☐ Office concurs with data sheets/delineation report.

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[9] To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.
[10] **Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA *Memorandum Regarding CWA Act Jurisdiction Following Rapanos.***

☒ Office does not concur with data sheets/delineation report.
☐ Data sheets prepared by the Corps: .
☒ Corps navigable waters' study:Yantic River.
☒ U.S. Geological Survey Hydrologic Atlas: .
☒ USGS NHD data.
☐ USGS 8 and 12 digit HUC maps.
☒ U.S. Geological Survey map(s). Cite scale & quad name:USGS Topo Scale 1 inch:2000 feet and 1 inch:398.51 feet.
☒ USDA Natural Resources Conservation Service Soil Survey. Citation:Web Soil Survey Accessed 9/24/14 and 10/24/2014 .
☒ National wetlands inventory map(s). Cite name:USDA NRCS Web Soil Survey Report Accessed 10/24/2014.
☒ State/Local wetland inventory map(s):Lebanon MainStreet GIS accessed 09/24/2014.
☐ FEMA/FIRM maps: .
☐ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
☒ Photographs: ☒ Aerial (Name & Date):Google Earth Online Images; Connecticut State Library 1934 Image 03667; USDA NAIP; Uuniversity of Connecticut Ecological Condtions OnLine Lidar & Elevation Imagery; Microsoft Online Bing Imagery; Terrain Navigation Pro Elevation Imagery; .
or ☒ Other (Name & Date):Photographs from Milone&MacBroom taken December 6, 2013 and Photographs by C. Rose taken September 10, 2014.
☐ Previous determination(s). File no. and date of response letter: .
☒ Applicable/supporting case law:Rapanos v U.S.; Carabell v. U.S.; U.S. v. Riverside Bayview Homes Inc.
☒ Applicable/supporting scientific literature:Appendix B as listed below.
☒ Other information (please specify):MFR to file dated revised January 29, 2016 documentation analysis of Approved Jurisdictional Determination; Appendix B, Significant Nexus Determinations: Documenting Stream and Wetland Function Reference Document; September 10, 2014 Highway Methodology Functional Assessment; US Drought Monitor; Measurements from Ombil Regulatory Module (ORM); Connecticut Explorers Guide; USFWS National Wetland Inventory Plus; USGS StreamStats, Connecticut last modified 11/24/2015; USGS Hydrologic Investigations Atlas HA-7 for Average Annual Runoff and Precipitations in the New England and New York Area used for estimate average annual streamflow (April 11, 1988 MFR NAE Operations Division); .

B. ADDITIONAL COMMENTS TO SUPPORT JD: After the flow leaves the confines of the subject wetland it consolidates into a conveyance in upland approximately 60 feet below and down slope. The feature flows in a relatively straight line in a southwest-south direction with a slope of 8 to 10 percent. The conveyance itself does not possess physical characteristics indicative of an ordinary high water mark and it is best described as an ephemeral non-jurisdictional conveyance feature in dry land. It is not until approximately 330 feet down slope that the feature begins to develop physical indicators of hydrology including an ordinary high water mark, development of bed and banks, destruction of terrestrial vegetation and litter/debris sorting.We completed a rapid wetland functional assessment of the wetland at the site using the New England Highway Methodology on September 9, 2014. Our analysis concluded that the wetland area identified as W-1 possesses characteristics to support the following principal functions and services.

- Groundwater Discharge
  - o The slope is gentle and discharge of groundwater occurs seasonally
- Sediment/Toxicant retention and nutrient removal
  - o Potential sources of excess sediment/toxicants/nutrient such as road sands (evidenced on site) or fertilizers associated with the agricultural use of the existing farm field (or establishment of a new potted plant nursery) are present in the watershed above the wetland
  - o The Phragmites wetland possesses dense vegetation to trap sediment and retain nutrients and toxicants, and water flow through the herbaceous wetland is diffuse
  - o Fine grained mineral or organic soils are present
  - o Wetland appears saturated for only part of the growing season

We found that the opportunity is significantly limited for the following wetland functions although there is some potential that they may be present:

- Production export
  - o There is a seasonal outlet that is capable of exporting nutrients and flushing organic material into the tributary downstream
  - o The wetland contains flowering plants which will be used by nectar-gathering insects
- Floodflow alteration
  - o The low berm serves to slow water before release through a restricted outlet and drainage is diffuse.

The lateral extent of Corps jurisdiction over a non-tidal waterbody was obtained by visual identification of indicators of stream hydrology including the presence/absence of an OHWM within a tributary in accordance with Corps Regulation at 33 .C.F.R., Regulatory Guidance Letter (RGL) 05-5 on OHWM identification (Appendix H of June 5, 2007 Guidance), the May 30, 2007 JD Form Instructional Guidebook and revised guidance following Rapanos v. U.S. and Carabell V. U.S. dated December 2, 2008 (Regulatory Guidance). We sought factual documentation of an OHWM and other hydrology indicators upstream and downstream at each feature within the review area and along the tributary during our site visit on September 9, 2014. No OHWM was present until approximately 330 feet down slope from the wetland (tributary from this point defined as T-1). From this point forward an OHWM was discernible and continuous to a confluence with the next stream of like or higher order. Our review of extent of OHWM is also corroborated by December 6, 2013 photographs submitted by MMI in support of the request.Our site visit documented little more than a trickle of flow on September 9, 2014 along the lower third of the tributary and no flow in the upper third of the watershed. However, review of the U.S. Drought Monitor and Cornell Regional Climate Center data revealed that at the time of our site visit precipitation levels ranged between 25 and 50 percent below normal and the area was categorized as

"abnormally dry". Without any recent precipitation the presence of any flow at this time of year in this instance supports the conclusion that T-1 is fed, at least in part, by a seasonally high groundwater table in the lower reach where it traverses the Ridgebury soil complex. Therefore it is not solely driven by storm events. Aerial photographic documentation depicts bankfull flow through T-1 during the spring as well as flow during both the winter and fall. Photographs from December 2013 submitted by MMI also depict relatively permanent flow along the lower third of T-1 during an abnormally dry winter.

Guidance states flow characteristics of a tributary will be evaluated at the farthest downstream limit of such tributary where it meets another stream of the same or higher order. In situations where flow regime of the feature is not representative of the entire tributary the regime that best characterizes the entire feature should be used. A primary factor in making this determination is the relative lengths of segments with differing flow regimes. Also, relatively permanent waters do not include ephemeral tributaries which flow only in response to precipitation and intermittent streams which do not typically flow year round or have continuous flow at least seasonally. The presence of flow during the condition of our site visit is evidence that at least the lower portion of T-1, approximately two-thirds of the feature, has continuous flow, at least seasonally (e.g., typically three months) and that flow is in response, at least partially, from groundwater. Consequently, T-1 can reasonably be considered a seasonal, relatively permanent waterway.Wetland 1 has significant potential to trap and filter pollutants that runoff from the abutting agricultural lands and to carry pollutants downstream from such as discussed below (Appendix B).

Depressional wetlands that receive runoff have the ability to trap sediment because they slow water velocity down via distribution of flow, grade reduction and vegetative buffering. As water passes through vegetated wetland sediment particles fall out or are physically captured. Thus this is a very important physical function of a wetland. The ability to trap and retain sediment plays an important role in benefiting the water quality of downstream waters where connectivity occurs. In determining a feature's capacity to trap sediment, it is important to consider the source of surface water inputs. For example, waters that exhibit high sedimentation rates would include those receiving surface runoff from cultivated fields or urban parking lots. Studies have shown that wetlands in agricultural settings receive significantly more surface runoff containing sediment than occurred prior to the agricultural conversion. That is because agricultural fields are subject to both wind and water erosion and they also serve as a primary source of pollutants.

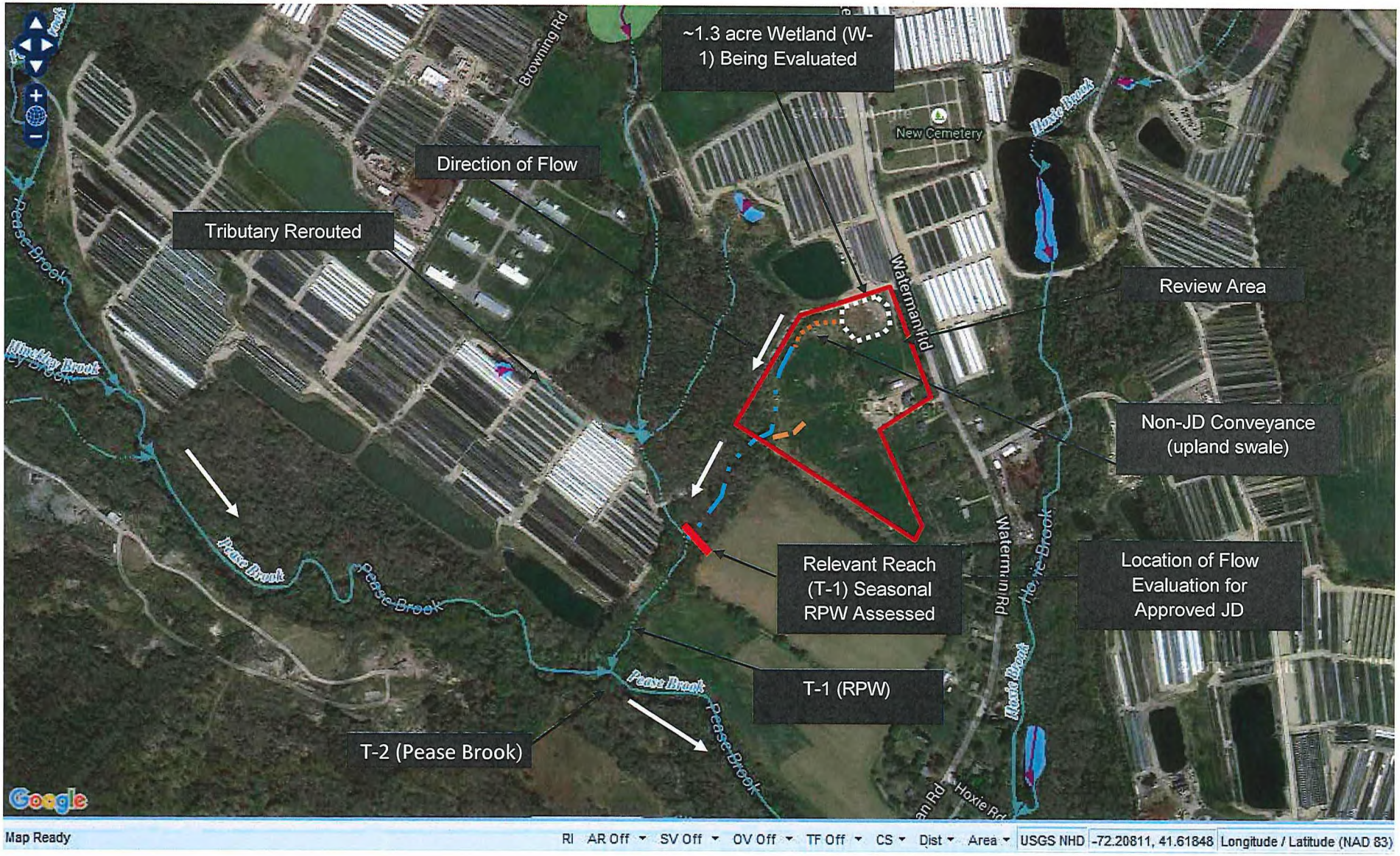
Those areas that are subject to sedimentation are also highly susceptible to pollutant inputs. As such, sediment trapping is a primary mechanism for pollutant removal. Sediment is both a physical and chemical pollutant capable of transporting agricultural source materials such as chemicals, nutrients, metals and other pollutants. Agricultural runoff is a common source of nutrients (fertilizers), chemicals (organic and synthesized herbicides and pesticides) and other pollutants. Thus sediment trapping is important to protect environmental water quality by controlling offsite impacts from runoff to streams, rivers, lakes and reservoirs.

Based upon its headwater location and landscape setting, trapping sediment is a very common function of depression wetlands like W-1, if sources of sediment are available. Our desktop analysis identified a reasonable likelihood that such sources existed at, or adjacent to, the site (Exhibit 33). One such observation from our site visit confirmed the potential and probability of physical and chemical impact of runoff where surface discharges from the northern hoop farm roadways bypassed designed onsite treatment features and carried sediment and pollutants down the side of the access road directly into the tributary (Exhibit 34).

Finally, although Wetland 1 does possess an outlet, it is restricted. The episodic connectivity of Wetland 1 plays a larger part in the role that this wetland has in trapping sediment and filtering pollutants before they enter the tributary system, and ultimately the TNWs downstream. Consequently W-1 has significant potential that is more than speculative or insubstantial to trap and filter pollutants that runoff from the abutting agricultural lands and to carry pollutants downstream from such, especially in combination with other similarly situated wetlands in the regional watershed. .

Prides Corner Farms –Relevant Reach and Review Area

Exhibit 17



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