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): November 30, 2017

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Buffalo District; Auburn Field Office; Nichols, Town of (Nichols Highway Garage site); File No. 2016-00809

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: New York County: Tioga City: Town of Nichols

Center coordinates of site: Lat: 42.06584 Long: -76.30968

Universal Transverse Mercator: X=391646.149318537 Y=4657916.1073885
Zone 18

Name of nearest waterbody: Smith Creek, Susquehanna River

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Susquehanna River

Name of watershed or Hydrologic Unit Code (HUC): 02050103

☒ 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: November 13, 2017
☒ Field Determination. Date(s): September 20, 2016 and September 27, 2017

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

[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).

b. Identify (estimate) size of waters of the U.S. in the review area:
Non-wetland waters:
Stream 1 - 842 linear feet.

Wetlands:
Wetland C/D Emergent/Wet Meadow 1.84 acres.

c. Limits (boundaries) of jurisdiction based on: **1987 Delineation Manual**
Elevation of established OHWM (if known):

2. Non-regulated waters/wetlands (check if applicable):[3]
☐ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional. Explain:

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. TNW
Identify TNW:
Summarize rationale supporting determination:

2. Wetland adjacent to TNW
Summarize rationale supporting conclusion that wetland is "adjacent":

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody[4] is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. Characteristics of non-TNWs that flow directly or indirectly into TNW

(i) General Area Conditions:
Watershed size: approximately 722 acres
Drainage area: approximately 722 acres
Average annual rainfall: approximately 37 inches
Average annual snowfall: approximately 45.8 inches

[3] Supporting documentation is presented in Section III.F.
[4] Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

(ii) Physical Characteristics:

(a) Relationship with TNW:

☐ Tributary flows directly into TNW.
☒ Stream 1 RPW flows through **2** tributaries before entering TNW

Project waters are 1-2 river miles from TNW
Project waters are 1 (or less) river miles from RPW
Project waters are 1 (or less) 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: N/A

Identify flow route to TNW[5]: Stream 1 is a first order unnamed headwater tributary that flows in a southwesterly direction to Smith Creek, a mapped perennial tributary, which continues in a westerly direction to Hunts Creek, which flows to the Susquehanna River, a TNW of the United States.

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

Tributary is: ☒ Natural
☐ Artificial (man-made). Explain:
☐ Manipulated (man-altered). Explain:

Tributary properties with respect to top of bank (estimate):
Average width: 5-10
Average depth: Banks were approximately 3-4 feet high from top of bank to channel bottom
Average side slopes: 2:1

Primary tributary substrate composition (check all that apply):

☒ Silts	☐ Sands	☐ Concrete
☒ Cobbles	☒ Gravel	☐ Muck
☐ Bedrock	☐ Vegetation. Type/% cover:	
☐ Other. Explain:		

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Banks are somewhat eroded but appear to be relatively stable
Presence of run/riffle/pool complexes. Explain: The channel was predominantly dry, but no areas suggesting run/riffle/pool complexes were evident
Tributary geometry: Relatively Straight
Tributary gradient (approximate average slope): 2%

(c) Flow:

Tributary provides for: Seasonal flow
Estimate average number of flow events in review area/year: Unknown
Describe flow regime: Seasonal, with flow more than three months/year

Other information on duration and volume: This is a tributary to Smith Creek which flows to the Susquehanna River several miles downstream. The tributary had flow during the March 15, 2016 delineation procedure, but was not flowing during site visits by the Corps on September 11, 2016 or September 27, 2017 although persistent pools were observed in 2017 in areas of the channel beyond the project limits. Note that 2016 experienced a prolonged drought throughout the summer months and after a rainy spring, the summer of 2017 experienced long periods without substantial rainfall. Bank scour, erosion, prominent ordinary high water mark, and debris rack lines were evident in the channel. The tributary was flowing during site visits made by Corps staff when investigating the adjacent parcel associated with Department of the Army Permit LRB-2015-00588 on May 6, 2015 and August 11, 2015. Further, the tributary is identified as an intermittent feature on the USGS topographic map as well as in the soil survey map, as noted in B. 1(b) above.

Surface flow is: Discrete and Confined. Characteristics: Flow is confined to a defined channel with bed and banks

Subsurface flow: Unknown Explain findings:
☐ Dye (or other) test performed:

[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.

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
  - ☐ 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
- ☐ 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: Flow was not present in the channel during the 2016 and 2017 site visits so water quality could not be determined. However, during the 2015 site visit to the adjacent parcel prior to development, Corps personnel noted channel flow and reported that water color appeared clear, and the general impression of water quality was good. Stream 2 is located within the Susquehanna River watershed in the Southern Tier area of New York State. This area is primarily rural with large expanses of agricultural land and is not heavily populated. However, in the immediate region of the subject parcel, development opportunities promoted by local Industrial Development Agencies and municipalities is reflected by recent construction along the Stanton Hill Road corridor adjacent to the subject parcel.

Identify specific pollutants, if known: Tributary is located adjacent to agricultural fields. Further, adjacent parcels have been developed and there are large expanses of impervious areas for parking, roofs, etc. Stormwater discharge from these areas carrying petroleum products and other vehicle discharges are discharged to the stream.

(iv) Biological Characteristics. Channel supports (check all that apply):
- ☒ Riparian corridor. Characteristics (type, average width): The tributary has a riparian corridor consisting of trees, shrubs, herbaceous growth, and wetlands with varying widths up to over 100+ feet.
- ☐ Wetland fringe. Characteristics:
- ☒ Habitat for:
  - ☒ Federally Listed species. Explain findings: There are trees greater than 3-inches dbh along the stream corridor that could provide habitat for the federally listed (threatened) northern long-eared bat (*Myotis septentrionalis*).
  - ☐ Fish/spawn areas. Explain findings:
  - ☐ Other environmentally-sensitive species. Explain findings:
  - ☒ Aquatic/wildlife diversity. Explain findings: The tributary (Stream 1) would likely provide habitat associated with the life cycles of aquatic micro and macro invertebrates, as well as breeding habitat for various frogs, toads, and other herpetological species.

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

Wetland C/D Emergent/Wet Meadow 1.84 acres. Note that Wetlands C and D are actually the same wetland and continue off-site to the southeast; they were delineated separately by the consultant for ease of quantification and property boundary constraints.

(i) Physical Characteristics:

(a) General Wetland Characteristics:
Properties:

Wetland quality. Explain: The subject wetlands are located on the hill slope of a parcel historically utilized for agricultural activities, primarily haying and grazing. The geology of the area is attributed to glacial activity with geological features formed by glacial till deposits. Hillside seeps and perched water tables in these types of formations are common.

[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.

The entire parcel, including the wetland areas, had been mowed by the Town of Nichols between the time it was delineated in March 2016 and the Corps jurisdictional determination (JD) site visit in September 2016. The photos taken at the time of the delineation indicate the presence of an intact wet meadow/emergent wetland that would support obligate (OBL), facultative wet (FACW) and facultative (FAC) species such as silky dogwood (*Cornus amomum),* red osier (*Cornus stolonifera),* sensitive fern (*Onoclea sensibilis*), and common rush (*Juncus effusus*), which could still be identified within the mowed area.

Because the wetland had been mowed, we made vegetation observations using the contiguous portion of the intact wetland that extended southeast beyond the property boundary. These observations identified species such as cinnamon fern (*Osmunda cinnamomea*) iron weed (*Veronia fasciculata),* wrinkle-leaved goldenrod (*Solidago rugosa),* fox sedge (*Carex vulpinoidea),* blue vervain (*Verbana hastata),* giant goldenrod (*Solidago gigantea),* lurid sedge (*Carex lurida*), and arrowleaf tearthumb (*polygonum sagittatum*) that were also recorded on the delineation data sheets for the subject parcel. Although there were also upland species identified on the data sheets and observed beyond the property boundary, the named species above were recorded as dominant within the sampling area, according to the delineation protocol.

Further, the March 2016 delineation documented surface water, high water table, saturation, oxidized rhizospheres on living roots, and drainage patterns within the delineated wetlands. As stated previously, the summer of 2016 experienced a sustained drought. Many of the hydrology indicators were not present during the September 2016 Corps site visit, however, the F6 (redox dark surface) and F3 (depleted matrix) hydric soil indicators were still very apparent and confirmed in the field.

Project wetlands cross or serve as state boundaries. Explain: N/A

(b) General Flow Relationship with Non-TNW:
Flow is: Seasonal. Explain: During the September 27, 2017 visit we were able to access the adjacent property and confirmed that the wetland complex continued downslope and directly abuts the tributary to Smith Creek.

Surface flow is**:** Discrete and Confined
Characteristics: Wetland C/D directly abuts Stream 1. Investigation of the stream bank from the adjacent parcel revealed evidence of erosion suggesting that water from the wetland seeps or spills over the stream bank into the tributary when water accumulates from rain events and spring snow melt.

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:
☐ Ecological connection. Explain:
☐ Separated by berm/barrier. Explain:

(d) Proximity (Relationship) to TNW
Project wetlands are 1-2 river miles from TNW.
Project waters are 1 (or less) aerial (straight) miles from TNW.
Flow is from: Wetland to navigable waters
Estimate approximate location of wetland as within the 100-500+ year 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: No standing water within Wetland C/D at the time of the September 2016 or September 2017 site visit. Note that the delineator did not record any impairments or concerns pertaining to Wetland C/D.

Identify specific pollutants, if known: The site is adjacent to agricultureal fields used for haying and grazing upslope of the wetlands.

(iii) Biological Characteristics. Wetland supports (check all that apply):
☐ Riparian buffer. Characteristics (type, average width):
☒ Vegetation type/percent cover. Explain: early successional wet meadow
☒ Habitat for:
☐ Federally Listed species. Explain findings:
☐ Fish/spawn areas. Explain findings:
☐ Other environmentally-sensitive species. Explain findings:
☒ Aquatic/wildlife diversity. Explain findings: Wetland C/D likely provides life cycle habitat for various frogs, toads, snakes, turtles, and salamanders as well as refugia and food sources for typical mammal species including white tail deer, raccoon, skunk, opossum, rabbit, coyote, and other various rodent species.

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

All wetland(s) being considered in the cumulative analysis: 1
Approximately 1.84 acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)	Size (in acres)
Wetland C/D - Yes	1.84

Summarize overall biological, chemical and physical functions being performed:

The wetland provides the following functions and services: hydrologic flux and storage including floodwater and runoff attenuation and release; sediment and nutrient transport and retention; pollutant attenuation and release; biogeochemical cycling and storage; biological productivity of micro/macro flora and fauna, decomposition, and community structure; and wildlife support including providing habitat.

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:

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 tributary (Stream 1) had flow during the March 15, 2016 delineation procedure, but was not flowing during site visits by the Corps on September 11, 2016 or September 27, 2017. The tributary was flowing during site visits made by Corps staff when investigating the adjacent parcel associated with Department of the Army Permit LRB-2015-00588 on May 6, 2015 and August 11, 2015. Further, the tributary is identified as an intermittent feature on the USGS topographical map as well as in the soil survey map.

Provide estimates for jurisdictional waters in the review area (check all that apply):

☒ Tributary waters: **842** linear feet **ranging from 5-10 feet wide**

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 approximately 1-3 feet wide

☐ Other non-wetland waters: acres.

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: Wetland C/D During the September 27, 2017 Corps JD visit we were able to access the adjacent property where Wetland C/D extended off-site. The topography was lower in this area and resulted in a change of wetland characteristics from an emergent wet meadow (on-site) to an emergent saturated mucky wetland (off-site) with narrow braided channels and standing water throughout. We traversed the wetland through knee-high vegetation including woolgrass (*Scirpus cyperinus*), ironweed, spotted touch-me-not (*Impatiens capensis*), and reed canary grass (*Phalaris arundinacea*). The wetland terminated at the northwestern edge of Stream 1, confirming that the Wetland C/D complex physically abuts RPW Stream 1.

Provide acreage estimates for jurisdictional wetlands in the review area: **1.84** 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: acres.

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).

[8]See Footnote # 3.

[9] To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

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):

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.

[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.*

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: **Louis Berger, Consultant**
☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  ☒ Office concurs with data sheets/delineation report.
  ☐ Office does not concur with data sheets/delineation report.
☐ Data sheets prepared by the Corps:
☐ Corps navigable waters' study:
☐ 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: **Scale: 24000 Owego, New York Quad. The topographic map shows steep terrain in the southern portion of the review area. Stream 1 is shown on the northern parcel boundary and its pathway can be followed to its confluence to Smith Creek. Smith Creek is culverted under Route 17 Stanton Hill Road and Route 17 and flows to Hunts Creek which flows to the Susquehanna River.**
☒ USDA Natural Resources Conservation Service Soil Survey. Citation: **USGS on-line web soil survey. Note that the Area of Interest (AOI) included portions of the adjacent parcel to show contiguous wetland areas on-site and off-site supported by hydric soil continuity. Soils identified include:**

		Hydric Rating
Cc	**Chippewa channery silt loam, 0 to 8 percent slopes**	**92%**
Ta	**Tioga silt loam**	**0**
Wh	**Woostern gravelly silt loam, 16 to 25 percent slopes**	**0**
Wr	**Woostern gravelly silt loam, 6 to 15 percent slopes**	**0**

☒ National wetlands inventory map(s). Cite name: **Owego, New York. There are no mapped wetlands within the review area shown on the NWI. An emergent wetland is mapped to the southeast, upslope of the review area. Based on our on-site observations, it appears that this is the southward extent of the Wetland C/D complex identified within the project area and on the adjacent parcel to the northeast which are components of the headwater hydrology to the unnamed tributary at the bottom of the hill/slope.**
☒ State/Local wetland inventory map(s): **Owego, New York. The NYSDEC Freshwater Wetland Map does not show any State regulated wetlands within the review area – nor in the immediate surrounding area. Further, according to the on-line mapper, the tributary is classified as Class C by the New York State Department of Environmental Conservation.**
☐ FEMA/FIRM maps:
☐ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
☒ Photographs: Aerial (Name & Date): **bingmaps, google earth, U.S. Fish and Wildlife Service on-line NWI maps, NYSDEC Wetland Mapper. The aerial photos show the gravel mining area west of Stanton Hill Road, developed areas adjacent to the subject parcel, and adjacent farm land. The bingmap aerial photo clearly shows wetland vegetation on the adjacent parcel which is a continuation of the Wetland C/D identified on the subject parcel.**
and
  ☒ Other (Name & Date): **Submitted with application. These photographs depict flow in Stream 1 and wet meadow wetlands.**
☒ Previous determination(s). File no. and date of response letter: **A Preliminary Jurisdictional Determination (PJD) was issued on September 23, 2016 using the same File No. 2016-00809 for the current review area. The PJD was at the request of the NYS Governor's Office of Storm Recovery. The Town of Nichols, which owns the subject parcel, did not agree with the PJD and requested this Approved Jurisdictional Determination (AJD) in order to appeal the finding.**
☐ Applicable/supporting case law:
☐ Applicable/supporting scientific literature:
☒ Other information (please specify): (Citations)

1. Alexander, R.B., E.W. Boyer, R.A. Smith, G.E. Schwartz, and R.B. Moore, 2007. The Role of Headwater Streams in Downstream Water Quality. Journal of the American Water Resources Association 43.
2. Freeman, M.C., C.M. Pringle, and C.R. Jackson. 2007. Hydrologic Connectivity and the Contribution of Stream Headwaters to Ecological Integrity at Regional Scales. Journal of the American Water Resources Association. 43:5-14.
3. USEPA. 2013. Streams. http://water.epa.gov/type/rsl/streams.cfm. Accessed 6 February 2013.
4. USEPA. 2015. Connectivity of Streams and Wetlands to Downstream Waters: A Review and Synthesis of the Scientific Evidence (Final Report). U.S. Environmental Protection Agency, Washington, DC, EPA/600/R-14/475F.

B. ADDITIONAL COMMENTS TO SUPPORT JD:

A traceable hydrologic connection exists between Wetland C/D and Stream 1. The tributary and its similarly situated wetland ((identified in Section III (B)(3)) have hydrologic connectivity to the TNW, the Susquehanna River. Hydrologic connectivity refers to the flow that transports organic matter and nutrients, energy, and aquatic organisms throughout the system (Freeman et al., 2006). The tributary influences the chemistry and physical conditions of the downstream TNW through its hydrologic input, storage, and transport of sediments and energy.

The similarly situated wetland directly affects the nature of the water entering the tributary and its downstream receiving waters, both in quantity and chemical/physical attributes. Ultimately, this affects the downstream TNW, as the wetland alters the amount of flow reaching the TNW and furthermore, any additional matter such as nutrients, chemicals, sediments, and pollutants carried in that flow.

In its current state, the tributary relevant reach flows through agricultural land. The tributary is maintaining stream functions that affect the downstream TNW, including providing ephemeral flow in the headwaters and sediment transport. In its current state, the tributary aids in reducing known watershed impairments by providing a riparian corridor within an expanding developed setting, providing unaltered habitat and undeveloped land, not adding to increased impervious surfaces, maintaining a natural flow regime, and providing a tributary connected to its floodplain.

The abutting wetland which receives the majority of its hydrologic input via precipitation and seepage associated with a perched water table typical on hillsides formed by glacial till deposits, serves to retain and filter runoff containing sediment and pollutants such as fertilizers and agricultural chemicals that would ultimately reach the downstream TNW in its absence. Maintenance of the wetland in its undeveloped state prevents impairments from habitat loss; reducing runoff volume as well as sediment and nutrient loading via retention of water within the wetland; and by maintaining undeveloped land free of impervious surfaces.

According to the USEPA (2015), “scientific literature unequivocally demonstrates that streams, individually or cumulatively, exert a strong influence on the integrity of downstream waters” and that “all tributary streams, including perennial, intermittent, and ephemeral streams, are physically, chemically, and biologically connected to downstream” waters. Due to the physical, biological, and chemical connectivity of the tributary and its adjacent wetlands as described above, it has been determined that the tributary and its abutting wetland have a significant nexus with the downstream TNW, as the functions and services provided by the tributary and its adjacent wetland provide more than a speculative effect on the physical integrity of the TNW, the Susquehanna River.

_____ _____

Project Manager **Date**

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): November 30, 2017

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Buffalo District; Auburn Field Office; Nichols, Town of (Nichols Highway Garage site); File No. 2016-00809

C. PROJECT LOCATION AND BACKGROUND INFORMATION: Adjacent to Stanton Hill Road
State: New York County: Tioga City: Town of Nichols

Center coordinates of site: Lat: 42.06584 Long: -76.30968

Universal Transverse Mercator: X=391646.149318537 Y=4657916.1073885
Zone 18

Name of nearest waterbody: Smith Creek, Susquehanna River

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Susquehanna River

Name of watershed or Hydrologic Unit Code (HUC): 02050103

☒ 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: November 13, 2017
☒ Field Determination. Date(s): September 20, 2016 and September 27, 2017

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:**

Non-wetland waters:
Stream 2 – 110 linear feet

[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).

Wetland C/D Emergent/Wet Meadow – **1.84 acres – PEM**. Note that Wetland C/D also abuts a seasonal RPW (Stream 1) which was addressed on Form 1 of 2 and did not require significant nexus analysis.

c. Limits (boundaries) of jurisdiction based on: **1987 Delineation Manual**
Elevation of established OHWM (if known):

2. Non-regulated waters/wetlands (check if applicable):[3]
☐ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional. Explain:

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. TNW
Identify TNW:
Summarize rationale supporting determination:

2. Wetland adjacent to TNW
Summarize rationale supporting conclusion that wetland is "adjacent":

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody[4] is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. Characteristics of non-TNWs that flow directly or indirectly into TNW

(i) General Area Conditions:

Watershed size:	approximately 20.65 acres
Drainage area:	approximately 20.65 acres
Average annual rainfall:	approximately 37 inches
Average annual snowfall:	approximately 45.8 inches

(ii) Physical Characteristics:
(a) Relationship with TNW:
☐ Tributary flows directly into TNW.

[3] Supporting documentation is presented in Section III.F.
[4] Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

☒ Stream 2 non-RPW flows through **3** tributaries before entering TNW

Project waters are 1-2 river miles from TNW
Project waters are 1 (or less) river miles from RPW
Project waters are 1 (or less) 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: N/A

Identify flow route to TNW[5]: Stream 2 is a first order stream that originates within the Wetland C/D complex. It flows downslope along the fence line to the unnamed tributary (Stream 1), that flows to Smith Creek, continuing in a westerly direction to Hunts Creek, which flows to the Susquehanna River, a TNW of the United States.

(b) General Tributary Characteristics (check all that apply):
Tributary is: ☒ Natural
☐ Artificial (man-made). Explain:
☐ Manipulated (man-altered). Explain:

Tributary properties with respect to top of bank (estimate):
Average width: 1-3 feet wide
Average depth: Relatively flat until approximately 15-feet from its confluence with Stream 1 where the depth from top of bank to the channel bottom ranged from 2-4 feet.

Average side slopes: relatively flat until approximately 15-feet from its confluence with Stream 1 where substantial erosion was evident resulting in 1:1 or 1:2 slopes.

Primary tributary substrate composition (check all that apply):
☐ Silts ☐ Sands ☐ Concrete
☐ Cobbles ☐ Gravel ☐ Muck
☐ Bedrock ☐ Vegetation. Type/% cover:
☒ Other. Explain: Predominately subsurface soil as the channel eroded downslope.

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Banks are somewhat eroded at the confluence with Stream 1, but ephemeral "pathway" in the upper reach
Presence of run/riffle/pool complexes. Explain: None
Tributary geometry: Relatively Straight
Tributary gradient (approximate average slope): 2%

(c) Flow:
Tributary provides for: Ephemeral flow

Estimate average number of flow events in review area/year: Unknown

Describe flow regime: Ephemeral, with flow typically evident after rain events and periods of snow melt.
Other information on duration and volume: Flow in Stream 2 was evident during the March 15, 2016 delineation procedure, but was not flowing during site visits by the Corps on September 11, 2016 or September 27, 2017. During the September 27, 2017 site visit, which included investigations on the adjacent parcel, bank scour and erosion were evident in the lower reach at its confluence with Stream 1.

Surface flow is: Discrete and Confined. Characteristics: Flow is confined to a defined channel with bed and banks
Subsurface flow: Unknown Explain findings:
☐ 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 ☐ the presence of litter and debris
☒ changes in the character of soil ☐ destruction of terrestrial vegetation
☐ shelving ☐ the presence of wrack line
☐ vegetation matted down, bent, or absent ☐ sediment sorting
☐ leaf litter disturbed or washed away ☒ scour

[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.
[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.

☐ sediment deposition
☐ water staining
☐ 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: Flow was evident during the March 2016 delineation procedure but was not observed during the Corps site visits on September 11, 2016 and September 27, 2017. Therefore, the various conditions mentioned above could not be evaluated. Stream 2 is located within the Susquehanna River watershed in the Southern Tier area of New York State. This area is primarily rural with large expanses of agricultural land and is not heavily populated. However, in the immediate region of the subject parcel, development opportunities promoted by local Industrial Development Agencies and municipalities is reflected by recent construction along the Stanton Hill Road corridor adjacent to the subject parcel.

Identify specific pollutants, if known: Stream 2 originates within Wetland C/D within an historic agricultural field.

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

☒ Riparian corridor. Characteristics (type, average width): The tributary has a riparian corridor consisting of trees, shrubs, herbaceous growth, agricultural land, and wetlands with varying widths up to over 100+ feet.
☐ Wetland fringe. Characteristics:
☒ Habitat for:
☒ Federally Listed species. Explain findings: There are trees greater than 3-inches dbh along the stream corridor that could provide habitat for the federally listed (threatened) northern long-eared bat (*Myotis septentrionalis*).
☐ Fish/spawn areas. Explain findings:
☐ Other environmentally-sensitive species. Explain findings:
☒ Aquatic/wildlife diversity. Explain findings: The tributary (Stream 2) would likely provide limited habitat associated with the life cycles for various frogs, toads, and other herpetological species.

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

Wetland C/D Emergent/Wet Meadow 1.84 acres

(i) Physical Characteristics:

(a) General Wetland Characteristics:
Properties:

Wetland quality. Explain: The subject wetlands are located on the hill slope of a parcel historically utilized for agricultural activities, primarily haying and grazing. The geology of the area is attributed to glacial activity with geological features formed by glacial till deposits. Hillside seeps and perched water tables in these types of formations are common.

The entire parcel, including the wetland areas, had been mowed by the Town of Nichols between the time it was delineated in March 2016 and the Corps jurisdictional determination (JD) site visit in September 2016. The photos taken at the time of the delineation indicate the presence of an intact wet meadow/emergent wetland that would support obligate (OBL), facultative wet (FACW) and facultative (FAC) species such as silky dogwood (*Cornus amomum),* red osier (*Cornus stolonifera),* sensitive fern (*Onoclea sensibilis*), and common rush (*Juncus effusus*), which could still be identified within the mowed area.

Because the wetland had been mowed, we made vegetation observations using the contiguous portion of the intact wetland that extended southeast beyond the property boundary. These observations identified species such as cinnamon fern (*Osmunda cinnamomea*) iron weed (*Veronia fasciculata),* wrinkle-leaved goldenrod (*Solidago rugosa),* fox sedge (*Carex vulpinoidea),* blue vervain (*Verbana hastata),* giant goldenrod (*Solidago gigantea),* lurid sedge (*Carex lurida*), and arrowleaf tearthumb (*polygonum sagittatum*) that were also recorded on the delineation data sheets for the subject parcel. Although there were also upland species identified on the data sheets and observed beyond the property boundary, the named species above were recorded as dominant within the sampling area, according to the delineation protocol.

[7]Ibid.

Further, the March 2016 delineation documented surface water, high water table, saturation, oxidized rhizospheres on living roots, and drainage patterns within the delineated wetlands. As stated previously, the summer of 2016 experienced a sustained drought. Many of the hydrology indicators were not present during the September 2016 Corps site visit, however, the F6 (redox dark surface) and F3 (depleted matrix) hydric soil indicators were still very apparent and confirmed in the field.

Project wetlands cross or serve as state boundaries. Explain: N/A

(b) General Flow Relationship with Non-TNW:
Flow is: Ephemeral. Explain: During the September 27, 2017 visit we were able to access the adjacent property and confirmed that the wetland complex continued downslope and directly abuts Stream 2.

Surface flow is**:** Discrete and Confined
Characteristics: Wetland C/D directly abuts both Stream 1 and Stream 2. Stream 2 originates within Wetland C/D. Investigation of the stream bank of Stream 1 (described on Form 1 of 2) from the adjacent parcel revealed evidence of erosion suggesting that water from the wetland seeps or spills over the stream bank into the tributary when water flows from rain events and spring snow melt.

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:
☐ Ecological connection. Explain:
☐ Separated by berm/barrier. Explain:

(d) Proximity (Relationship) to TNW
Project wetlands are 1-2 river miles from TNW.
Project waters are 1 (or less) aerial (straight) miles from TNW.
Flow is from: Wetland to navigable waters
Estimate approximate location of wetland as within the 100-500+ year 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: No standing water within Wetland C/D at the time of the September 2016 or September 2017 site visit. Note that the delineator did not record any impairments or concerns pertaining to Wetland C/D.

Identify specific pollutants, if known: The site is adjacent to agricultureal fields used for haying and grazing upslope of the Wetlands. Therefore, the possibility of nitrogen infiltration exists, but there are no indications that this is the case.

(iii) Biological Characteristics. Wetland supports (check all that apply):
☐ Riparian buffer. Characteristics (type, average width):
☒ Vegetation type/percent cover. Explain: 100% early successional wet meadow
☒ Habitat for:
☐ Federally Listed species. Explain findings:
☐ Fish/spawn areas. Explain findings:
☐ Other environmentally-sensitive species. Explain findings:
☒ Aquatic/wildlife diversity. Explain findings: Wetland C/D likely provides life cycle habitat for various frogs, toads, snakes, turtles, and salamanders as well as refugia and food sources for typical mammal species including white tail deer, raccoon, skunk, opossum, rabbit, coyote, and other various rodent species.

3. Characteristics of all wetlands adjacent to the tributary (if any)
All wetland(s) being considered in the cumulative analysis: 1
The approximately 1.838 acres of wetlands identified on-site are part of a larger wetland that continues beyond the review area. Based on measurements approximated using Google Earth aerial photos, an additional 4.16 ± acres are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)	Size (in acres)
Wetland C/D - Yes	1.84 on-site
Similarly Situated Wetland - Yes	4.16

Summarize overall biological, chemical and physical functions being performed:

The wetland provides the following functions and services: hydrologic flux and storage including floodwater and runoff attenuation and release; sediment and nutrient transport and retention; pollutant attenuation and release; biogeochemical cycling and storage; biological productivity of micro/macro flora and fauna, decomposition, and community structure; and wildlife support including providing habitat.

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:

   Stream 2 has a hydrologic connection to a downstream TNW, the Susquehanna River. Stream 2 flows directly to Stream 1 which flows to Smith Creek which is culverted under Stanton Hill Road and Route 17 to Hunts Creek to the TNW, Susquehanna River.

   A traceable hydrologic connection exists between Wetland C/D and Stream 2. The tributary and its similarly situated wetland ((identified in Section III (B)(3)) have hydrologic connectivity to the TNW, the Susquehanna River. Hydrologic connectivity refers to the flow that transports organic matter and nutrients, energy, and aquatic organisms throughout the system (Freeman et al., 2006). The tributary influences the chemistry and physical conditions of the downstream TNW through its hydrologic input, storage, and transport of sediments and energy.

   The similarly situated wetland directly affects the nature of the water entering the tributary and its downstream receiving waters, both in quantity and chemical/physical attributes. Ultimately, this affects the downstream TNW, as the wetland alters the amount of flow reaching the TNW and furthermore, any additional matter such as nutrients, chemicals, sediments, and pollutants carried in that flow.

   In its current state, the tributary relevant reach flows through agricultural land. The tributary is maintaining stream functions that affect the downstream TNW, including providing ephemeral flow in the headwaters and sediment transport. In its current state, the tributary aids in reducing known watershed impairments by providing a riparian corridor within an expanding developed setting, providing unaltered habitat and undeveloped land, not adding to increased impervious surfaces, maintaining a natural flow regime, and providing a tributary connected to its floodplain.

The abutting wetland which receives the majority of its hydrologic input via precipitation and seepage associated with a perched water table typical on hillsides formed by glacial till deposits, serves to retain and filter runoff containing sediment and pollutants such as fertilizers and agricultural chemicals that would ultimately reach the downstream TNW in its absence. Maintenance of the wetland in its undeveloped state prevents impairments from habitat loss; reducing runoff volume as well as sediment and nutrient loading via retention of water within the wetland; and by maintaining undeveloped land free of impervious surfaces.

According to the USEPA (2015), "scientific literature unequivocally demonstrates that streams, individually or cumulatively, exert a strong influence on the integrity of downstream waters" and that "all tributary streams, including perennial, intermittent, and ephemeral streams, are physically, chemically, and biologically connected to downstream" waters. Due to the physical, biological, and chemical connectivity of the tributary and its adjacent wetlands as described above, it has been determined that the tributary and its abutting wetland have a significant nexus with the downstream TNW, as the functions and services provided by the tributary and its adjacent wetland provide more than a speculative effect on the physical integrity of the TNW, the Susquehanna River.

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:

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 estimates for jurisdictional waters in the review area (check all that apply):
   - ☐ Tributary waters: linear feet
   - ☐ Other non-wetland waters: acres.

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: **110** linear feet approximately 1-3 feet wide
   - ☐ Other non-wetland waters: acres.

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 acreage estimates for jurisdictional wetlands in the review area:

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.

[8]See Footnote # 3.

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: **Approximately 1.84 acres**

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):

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.

[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.*

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: **Louis Berger, Consultant**
- ☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - ☐ Office concurs with data sheets/delineation report.
  - ☐ Office does not concur with data sheets/delineation report.
- ☐ Data sheets prepared by the Corps:
- ☐ Corps navigable waters' study:
- ☐ 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: **Scale: 24000 Owego, New York Quad. The topographic map shows steep terrain in the southern portion of the review area. Stream 2 is not evident on the topographic map. As discussed, on-site observations show its confluence with Stream 1 and flow can be traced to Smith Creek on the map to where it is culverted under Route 17 Stanton Hill Road and Route 17 and flows to Hunts Creek which flows to the Susquehanna River.**
- ☒ USDA Natural Resources Conservation Service Soil Survey. Citation: **USGS on-line web soil survey. Note that the Area of Interest (AOI) included portions of the adjacent parcel to show contiguous wetland areas on-site and off-site supported by hydric soil continuity. Soils identified include:**

		Hydric Rating
Cc	**Chippewa channery silt loam, 0 to 8 percent slopes**	**92%**
Ta	**Tioga silt loam**	**0**
Wh	**Woostern gravelly silt loam, 16 to 25 percent slopes**	**0**
Wr	**Woostern gravelly silt loam, 6 to 15 percent slopes**	**0**

- ☒ National wetlands inventory map(s). Cite name: **Owego, New York. There are no mapped wetlands within the review area shown on the NWI. An emergent wetland is mapped to the southeast, upslope of the review area. Based on our on-site observations, it appears that this is the southward extent of the Wetland C/D complex identified within the project area and on the adjacent parcel to the northeast which are components of the headwater hydrology to the unnamed tributary at the bottom of the hill/slope.**
- ☒ State/Local wetland inventory map(s): **Owego, New York. The NYSDEC Freshwater Wetland Map does not show any State regulated wetlands within the review area – nor in the immediate surrounding area.**
- ☐ FEMA/FIRM maps:
- ☐ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
- ☒ Photographs: Aerial (Name & Date): **bingmaps, google earth, U.S. Fish and Wildlife Service on-line NWI maps, NYSDEC Wetland Mapper. The aerial photos show the gravel mining area west of Stanton Hill Road, developed areas adjacent to the subject parcel, and adjacent farm land. The bingmap aerial photo clearly shows wetland vegetation on the adjacent parcel which is a continuation of the Wetland C/D identified on the subject parcel.**
- ☒ Other (Name & Date): **Submitted with application. These photographs depict flow in Stream 1, ephemeral nature of Stream 2 and wet meadow wetlands.**
- ☒ Previous determination(s). File no. and date of response letter: **A Preliminary Jurisdictional Determination (PJD) was issued on September 23, 2016 using the same File No. 2016-00809. The PJD was at the request of the NYS Governor's Office of Storm Recovery. The Town of Nichols, which owns the subject parcel, did not agree with the PJD and requested this Approved Jurisdictional Determination (AJD) in order to appeal the finding.**
- ☐ Applicable/supporting case law:
- ☐ Applicable/supporting scientific literature:
- ☒ Other information (please specify): (Citations)

1. Alexander, R.B., E.W. Boyer, R.A. Smith, G.E. Schwartz, and R.B. Moore, 2007. The Role of Headwater Streams in Downstream Water Quality. Journal of the American Water Resources Association 43.
2. Freeman, M.C., C.M. Pringle, and C.R. Jackson. 2007. Hydrologic Connectivity and the Contribution of Stream Headwaters to Ecological Integrity at Regional Scales. Journal of the American Water Resources Association. 43:5-14.
3. USEPA. 2013. Streams. http://water.epa.gov/type/rsl/streams.cfm. Accessed 6 February 2013.
4. USEPA. 2015. Connectivity of Streams and Wetlands to Downstream Waters: A Review and Synthesis of the Scientific Evidence (Final Report). U.S. Environmental Protection Agency, Washington, DC, EPA/600/R-14/475F.

B. ADDITIONAL COMMENTS TO SUPPORT JD:

_____ _____

Project Manager **Date**