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): March 31, 2016

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: LRB-2014-01350, GGC Engineers, Inc., Form 1 of 2, Stream 1/3/4, Wetlands A, B, C, D, Pond 1, Pond 2, Non-jurisdictional Drainageway 1

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: Ohio County/parish/borough: Lake City: Painesville
Center coordinates of site (lat/long in degree decimal format): Lat. 41.696100°, Long. -81.277141°
Universal Transverse Mercator: 17
Name of nearest waterbody: Heisley Creek
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Lake Erie
Name of watershed or Hydrologic Unit Code (HUC): 041100030501

- [x] 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):

- [x] Office (Desk) Determination. Date: March 1, 2016
- [x] Field Determination. Date(s): April 15, 2015*Click here to enter a date.*

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: *Click here to enter text.*

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
- [x] Relatively permanent waters[2] (RPWs) that flow directly or indirectly into TNWs
- [ ] Non-RPWs that flow directly or indirectly into TNWs
- [x] Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
- [x] 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 1/3/4- 3511 linear feet: 3-6 width (ft) and/or - acres.
   Wetlands: Wetland A (1.09 acres), Wetland B (0.15 acre), Wetland C (0.03 acre), Wetland D (0.09 acre)

   c. **Limits (boundaries) of jurisdiction** based on: 1987 Delineation Manual

   Elevation of established OHWM (if known): NA

2. **Non-regulated waters/wetlands (check if applicable):[3]**

- [x] Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.
  Explain: **Pond 1 (Cambridge Pond) and Pond 2 (Topps Pond)** are stormwater basins that were excavated/constructed for the purpose of waste treatment and are therefore not considered WOUS as these features meets the terms set forth in 33CFR328.3 for WTSE ((Waste

[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).
[3] Supporting documentation is presented in Section III.F.

treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR 123.11(m) which also meet the criteria of this definition) are not waters of the United States.)).

Non-jurisdictional Drainageway 1 is a constructed linear feature on the landscape which does not exhibit an ordinary high water mark or have defined bed and banks. This feature is best described as a constructed swale which does not meet the definition of WOUS set forth in 33CFR328.3 or the limits of jurisdictional set forth in 33CFR328.4.

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: *Click here to enter text.*

Summarize rationale supporting determination: *Click here to enter text.*

2. Wetland adjacent to TNW

Summarize rationale supporting conclusion that wetland is "adjacent": *Click here to enter text.*

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: ~28 square miles (12-digit HUC)
Drainage area: <5 square miles

Average annual rainfall: 37.78 inches
Average annual snowfall: 36.2 inches

(ii) Physical Characteristics:

(a) Relationship with TNW:

☐ Tributary flows directly into TNW.

☑ Tributary flows through 3 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: No

Identify flow route to TNW[5]: Stream 1/3/4 flows north then west through the site and continues off-site in a northwesterly direction where it flows into Heisley Creek. Heisley Creek flows in a northwesterly direction into Marsh Creek which then flows into Lake Erie, a Section 10 Navigable water of the United States.
Tributary stream order, if known: 2

[4] Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.
[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.

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

Tributary is:
- ☐ Natural
- ☐ Artificial (man-made). Explain: *Click here to enter text.*
- ☑ Manipulated (man-altered). Explain: Stream 1/3/4 has been highly manipulated, straightened, and culverted. Approximately 2628 linear feet of the on-site stream is culverted and the remaining portions have been historically altered and straightened.

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

Primary tributary substrate composition (check all that apply):

☑ Silts	☑ Sands	☑ Concrete
☐ Cobbles	☑ Gravel	☐ Muck
☐ Bedrock	☐ Vegetation. Type/% cover: *Click here to enter text.*	
☑ Other. Explain: Clay/hardpan		

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: Tributary has some areas of erosion.
Presence of run/riffle/pool complexes. Explain: None
Tributary geometry: Relatively Straight
Tributary gradient (approximate average slope): <2%

(c) Flow:

Tributary provides for: Perennial Flow
Estimate average number of flow events in review area/year: 1
Describe flow regime: Tributary flows perennially with no break in flow.
Other information on duration and volume:

Surface flow is: Confined Characteristics: Surface flow is confined to a defined bed and bank in the open portions and to the culvert limits in other portions.

Subsurface flow: Unknown Explain findings: *Click here to enter text.*
- ☐ Dye (or other) test performed: *Click here to enter text.*

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
☐ sediment deposition	☐ multiple observed or predicted flow events
☑ water staining	☐ abrupt change in plant community *Click here to enter text.*
☐ other (list): *Click here to enter text.*	

- ☐ Discontinuous OHWM.[7] Explain: *Click here to enter text.*

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

☐ High Tide Line indicated by:	☐ Mean High Water Mark indicated by:
☐ oil or scum line along shore objects	☐ survey to available datum;
☐ fine shell or debris deposits (foreshore)	☐ physical markings;
☐ physical markings/characteristics	☐ vegetation lines/changes in vegetation types.
☐ tidal gauges	
☐ other (list): *Click here to enter text.*	

(iii) Chemical Characteristics:

[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.

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).
Explain: Water in channel appears clear in photographs provided by agent. See Section III.B.C. for watershed discussion.
Identify specific pollutants, if known: The tributary receives road runoff, residential runoff, and commercial runoff which include road salt and sand, lawn chemicals, and sediment. The tributary has two in-line stormwater basins and receives water and any pollutants/sediments carried by the stormwater runoff.

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

- ☑ Riparian corridor. Characteristics (type, average width): Forested and maintained lawn corridor ranging from 0-100+ feet. The stream is largely nested within development.
- ☑ Wetland fringe. Characteristics: Wetlands A, B, C, and D are all within the riparian corridor of the tributary; Wetland C directly abuts the stream whereas the others are adjacent but not abutting the the tributary.
- ☑ Habitat for:
  - ☐ Federally Listed species. Explain findings: *Click here to enter text.*
  - ☐ Fish/spawn areas. Explain findings: *Click here to enter text.*
  - ☐ Other environmentally-sensitive species. Explain findings: *Click here to enter text.*
  - ☑ Aquatic/wildlife diversity. Explain findings: The perennial tributary provides habitat and a movement corridor for aquatic flora and fauna.

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: Wetland A (1.09 acres), Wetland B (0.15 acre), Wetland C (0.03 acre), Wetland D (0.09 acre)
Wetland type. Explain: Wetlands A, B, C, and D are forested wetlands.
Wetland quality. Explain: Wetlands A, B, C, and D are moderate quality wetlands as per the Ohio Rapid Assessment Method scoring.
Project wetlands cross or serve as state boundaries. Explain: No.

(b) General Flow Relationship with Non-TNW:
Flow is: Intermittent Flow Explain: Wetlands flow during and after rain and snowmelt, during wet seasons, and during periods of high water table.

Surface flow is: Confined and overland sheetflow
Characteristics: Wetland A directly abuts Pond 2 (a waste treatment system/stormwater basin) and is conveyed through Pond 2 into Stream 1/3/4. Wetland B abuts and flows through Non-jurisdictional drainageway 1 and is conveyed through Wetland C into Stream 1/3/4. Wetland C directly abuts Stream 1/3/4. Wetland D drains north via overland sheetflow into Stream 1/3/4.

Subsurface flow: Unknown Explain findings: *Click here to enter text.*
- ☐ Dye (or other) test performed: *Click here to enter text.*

(c) Wetland Adjacency Determination with Non-TNW:
- ☑ Directly abutting (Wetland C)
- ☑ Not directly abutting
  - ☑ Discrete wetland hydrologic connection. Explain: Wetland A directly abuts Pond 2 (a waste treatment system/stormwater basin) and is conveyed through Pond 2 into Stream 1/3/4. Wetland B abuts and flows through Non-jurisdictional drainageway 1, is conveyed through Wetland C into Stream 1/3/4. Wetland D drains north via overland sheetflow into Stream 1/3/4.
  - ☐ Ecological connection. Explain: *Click here to enter text.*
  - ☐ Separated by berm/barrier. Explain: *Click here to enter text.*

(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: See Section III.B.C. for watershed discussion.
Identify specific pollutants, if known: Wetlands receive runoff and/or stormwater input from commercial, residential, roadways, and unmaintained land. Pollutants in the stormwater/runoff include road sand/salt and lawn chemicals.

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

- ☑ Riparian buffer. Characteristics (type, average width): The wetlands serve as a riparian buffer from Stream 1/3/4 ranging from 0-100+feet.

☑ Vegetation type/percent cover. Explain: Forested, 100% with variable emergent understory.

☑ Habitat for:

☐ Federally Listed species. Explain findings: *Click here to enter text.*

☐ Fish/spawn areas. Explain findings: *Click here to enter text.*

☐ Other environmentally-sensitive species. Explain findings: *Click here to enter text.*

☑ Aquatic/wildlife diversity. Explain findings: Wetlands provide habitat for aquatic flora and fauna.

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

All wetland(s) being considered in the cumulative analysis: 4

Approximately (1.36) 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)
Wetland A N	1.09 acres		
Wetland B N	0.15 acre		
Wetland C Y	0.03 acre		
Wetland D N	0.09 acre		

Summarize overall biological, chemical and physical functions being performed: The wetlands provide 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: *Click here to enter text.*

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: *Click here to enter text.*

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:

A hydrologic connection is visible and traceable between Wetlands A, B, C, D, Stream 1/3/4, and Lake Erie, a Section 10 Traditional Navigable water of the U.S. Wetland A directly abuts Pond 2 (a waste treatment system/stormwater basin) and is conveyed through Pond 2 into Stream 1/3/4. Wetland B abuts and flows through Non-jurisdictional drainageway 1 and is conveyed through Wetland C into Stream 1/3/4. Wetland C directly abuts Stream 1/3/4. Wetland D drains north via overland sheetflow into Stream 1/3/4. Stream 1/3/4 flows north then west through the site and continues off-site in a northwesterly direction where it flows into Heisley Creek. Heisley Creek flows in a northwesterly direction into Marsh Creek which then flows into Lake Erie, a Section 10 Navigable water of the United States.

A review of multiple aerial photos and USFWS NWI maps indicates there are no other similarly situated wetlands adjacent t the tributary beyond Wetlands A, B, C, and D to the relevant reach of Stream 1/3/4. Stream 1/3/4 and its adjacent wetlands have hydrologic connectivity to Lake Erie, thereby providing a significant nexus between the stream and its adjacent wetlands and the downstream TNW.

Known sources of impairment within the Lake Erie Watershed include: habitat loss and degradation of habitat particularly in wetlands; destruction and draining of wetlands; nonindigenous species (exotics); loss of forage fish availability; overexploitation; loss of native stocks/species, particularly keystone predators; fire suppression; logging; high water levels, storm surges; dredging/channel modifications; water taking; streambank/shoreline filling and hardening; sediment/chemical/contaminant/nutrient loadings; and navigation/boating activities (USEPA, 2000).

According to a report issued by USEPA, "the scientific literature unequivocally demonstrates that streams, individually or cumulatively, exert a strong influence on the integrity of downstream waters. All tributary streams, including perennial, intermittent, and ephemeral streams, are physically, chemically, and biologically connected to downstream rivers via channels and associated alluvial deposits where water and other materials are concentrated, mixed, transformed, and transported" (USEPA, 2015). Stream 1/3/4 influences the chemistry and physical conditions of the downstream TNW through its hydrologic input and storage and transport of sediments, nutrients, chemicals, pollutants, and energy. Rainfall, snowmelt, stormwater runoff, and groundwater within the drainage area of the unnamed tributary provide hydrology to the downstream receiving waters. Stream 1/3/4 receives hydrologic input from adjacent roads and impervious surfaces carrying sediment and road sand/salt; several stormwater basins which carry road runoff containing sand/salt and sediment; residential and commercial properties which contribute sediment laden runoff and lawn chemicals; input from Wetlands A, B, C, and D; and input from the surrounding uplands.

Wetlands A, B, C, and D and Stream 1/3/4 affect the nature of the water flowing to downstream receiving waters, both in quantity and chemical/physical attributes. Wetland A, B, C, and D's seasonal saturation and noted high water tables are indicative that the wetlands store and releases hydrology to downstream waters via intermittent drainage to Stream 1/3/4. Wetlands A, B, C, and D reduce the runoff rates of water received by Stream 1/3/4 resulting from attenuation and storage of floodwaters (saturation capacity, inundation capacity, and trees storing water); capture of water through evapotranspiration; storage of runoff; and filtering and/or storage of nutrients, chemicals, and sediments contained in rainfall, runoff, or other hydrologic inputs. Ultimately, this affects the downstream TNW, Lake Erie, as the wetlands alter the amount and velocity of flow reaching the TNW and furthermore, any additional matter such as nutrients, chemicals, sediments, and pollutants carried in that flow. As Wetlands A, B, C, and D capture, retain, and intermittently release these hydrologically-carried elements, the wetlands and Stream 1/3/4 which transport these elements reduce impairments to the Lake Erie watershed including siltation, sedimentation, and nutrient enrichment. The stream and wetlands significantly affect the chemical and physical make-up of Lake Erie through its ability to retain and convey water containing sediments, chemicals, nutrients, and contaminants downstream to Lake Erie and therefore have a significant nexus with Lake Erie.

During high water events, organic carbon leached from soil and organic material contained in the wetlands is transferred into Stream 1/3/4, a portion of which is subsequently transferred downstream to Lake Erie. Organic carbon is an important part of the carbon cycle and serves as a primary food source for aquatic system food webs (Bruckner, 2012). By contributing carbon to the immediate and downstream system, the wetlands and Stream 1/3/4 have more than a speculative or insubstantial effect on the chemical, physical, and biological integrity of Lake Erie.

The conservation of the wetlands and Stream 1/3/4 aids in reducing impairments including riparian loss, wetland destruction, stream straightening/hardening, and channel modifications within the Lake Erie watershed which result from land development. An OEPA recommended improvement for the watershed is to prevent riparian and forested habitat destruction (Lake County Soil and Water Conservation District, 2010.). Preservation and maintenance of the wetlands and Stream 1/3/4 help accomplish this goal to protect the overall health of the Lake Erie Watershed and Mentor Marsh sub-watershed.

Due to the physical, biological, and chemical connectivity of Wetlands A, B, C, and D and Stream 1/3/4 to the downstream TNW, it has been determined that they have a significant nexus with the downstream TNW, Lake Erie as the functions and services provided by the wetlands and Stream 1/3/4 provide more than a speculative effect on the physical integrity of Lake Erie.

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: Aerial photos during leaf-on and leaf-off conditions identify the stream with year-round perennial flow at the downstream portion of the relevant reach. No aerial photos show a dry channel indicating that the channel does not cease flowing. Photographs submitted by the applicant indicate flow in the channel.
   - ☐ 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: *Click here to enter text.*.

     Provide estimates for jurisdictional waters in the review area (check all that apply):
     - ☑ Tributary waters: **Stream 1/3/4 (3511 linear feet, 3-6 ft width**)
     - ☐ Other non-wetland waters: # acres.
       Identify type(s) of waters: *Click here to enter text.*

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: *Click here to enter text.*

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: Wetland C directly abuts and drains into Stream 1/3/4 with no man-made or natural barrier/separation/upland.
     - ☐ 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: *Click here to enter text.*

     Provide acreage estimates for jurisdictional wetlands in the review area: **Wetland C (0.03 acre)**

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: **Wetland A (1.09 acres), Wetland B (0.15 acre), Wetland D (0.09 acre)**

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).

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.

[8]See Footnote # 3.
[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.*

☐ which are or could be used for industrial purposes by industries in interstate commerce.

☐ Interstate isolated waters. Explain: *Click here to enter text.*

☐ Other factors. Explain: *Click here to enter text.*

Identify water body and summarize rationale supporting determination: *Click here to enter text.*

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: *Click here to enter text.*

☐ 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: *Click here to enter text.*

☑ Other: (explain, if not covered above): Pond 1 (Cambridge Pond, 1.2 acres) and Pond 2 (Topps Pond, 0.73 acre) are stormwater basins that were excavated/constructed for the purpose of waste treatment and are therefore not considered WOUS as these features meets the terms set forth in 33CFR328.3 for WTSE ((Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR 123.11(m) which also meet the criteria of this definition) are not waters of the United States.)).

Non-jurisdictional Drainageway 1 is a constructed linear feature on the landscape which does not exhibit an ordinary high water mark or have defined bed and banks. This feature is best described as a constructed swale which does not meet the definition of WOUS set forth in 33CFR328.3 or the limits of jurisdictional set forth in 33CFR328.4.

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: *Click here to enter text.*.

☐ 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: *Click here to enter text.*.

☐ 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: Location Map and Delineation Map

☑ 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: *Click here to enter text.*

☐ Corps navigable waters' study: *Click here to enter text.*

☑ U.S. Geological Survey Hydrologic Atlas: USACE ORM NHD Datasets

☑ USGS NHD data.

☑ USGS 8 and 12 digit HUC maps.

☑ U.S. Geological Survey map(s). Cite scale & quad name: 7.5 Minute, Mentor OH

☑ USDA Natural Resources Conservation Service Soil Survey. Citation: NRCS Web Soil Survey

☑ National wetlands inventory map(s). Cite name: USACE ORM USFWS NWI Dataset

☐ State/Local wetland inventory map(s): *Click here to enter text.*

☑ FEMA/FIRM maps: USACE ORM FEMA Dataset

☐ 100-year Floodplain Elevation is: *Click here to enter text.* (National Geodectic Vertical Datum of 1929)

☑ Photographs: ☑ Aerial (Name & Date): Google Earth (4/1994, 9/2000, 12/2002, 8/2004, 7/2006, 4/2012, 9/2015), HistoricAerials.com (1952, 1962, 1970, 1994, 2000, 2002, 2006, 2009, 2011), Lake County GIS (1951, 1973), Bing Maps Bird's Eye View (date unknown)

☑ or ☑ Other (Name & Date): Photos submitted by agent via email on 1/11/2015

☑ Previous determination(s). File no. and date of response letter: LRB-2014-01350 PJD Dated 5/28/2015

☐ Applicable/supporting case law: *Click here to enter text.*

☐ Applicable/supporting scientific literature:

-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.

-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.

-Meyer, J.L., D.L. Strayer, J.B. Wallace, S.L. Eggert, G.S. Helfman, and N.E. Leonard. 2007. The Contribution of Headwater Streams to Biodiversity in River Networks. Journal of the American Water Resources Association. 43: 86-103.

-USEPA. 2013. Streams. http://water.epa.gov/type/rsl/streams.cfm. Accessed 8 March 2016.

-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.

-Bruckner, Monica Z. 2012. Measuring Dissolved and Particulate Organic Carbon (DOC and POC). Montana State University Bozeman. http://serc.carleton.edu/microbelife/research_methods/biogeochemical/organic_carbon.html. Accessed 8 March 2016.

-OEPA. 2012. 2012 Integrated Report. http://www.epa.state.oh.us/portals/35/tmdl/2012IntReport/IR12SectionAfinal.pdf. Accessed 8 March 2016.

- Binational. 2014. Lake Erie Lakewide Action and Management Plan- Annual Report 2014. http://www.epa.gov/glnpo/lakeerie/status/lampstat99.pdf. Accessed 8 December 2015.

-USEPA. 2000. Summary of Beneficial Use Impairment Conclusions, Lake Erie LaMP, April 2000. http://www.epa.gov/sites/production/files/2015-11/documents/lake-erie-summary-bui-conclusions-200004-4pp.pdf. Accessed 8 March 2016.

-Lake County Soil and Water Conservation District. 2010. Mentor Marsh Watershed Action Plan. http://www.lakecountyohio.gov/Portals/20/Mentor%20Marsh%20Watershed%20Plan%20part%203.pdf. Accessed 8 March 2016.

☑ Other information (please specify): USGS Ohio StreamStats (water.usgs.gov/osw/streamstats/ohio.html), USGS National Hydrography Viewer (http://viewer.nationalmap.gov/viewer/nhd.html?p=nhd)

B. ADDITIONAL COMMENTS TO SUPPORT JD: *Click here to enter text.*

March 31, 2016

Susan Baker
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): March 31, 2016

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: LRB-2014-01350, GGC Engineers, Inc., Form 2 of 2, Stream 2

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: Ohio County/parish/borough: Lake City: Painesville
Center coordinates of site (lat/long in degree decimal format): Lat. 41.696100°, Long. -81.277141°
Universal Transverse Mercator: 17
Name of nearest waterbody: Heisley Creek
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Lake Erie
Name of watershed or Hydrologic Unit Code (HUC): 041100030501

☑ 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: March 1, 2016

☑ Field Determination. Date(s): April 15, 2015

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: *Click here to enter text.*

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- 150 linear feet: 2-4 width (ft) and/or # acres.
Wetlands: # acres.

c. Limits (boundaries) of jurisdiction based on: Established by OHWM

Elevation of established OHWM (if known): Unknown

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: *Click here to enter text.*

[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).
[3] Supporting documentation is presented in Section III.F.

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: *Click here to enter text.*

Summarize rationale supporting determination: *Click here to enter text.*

2. Wetland adjacent to TNW

Summarize rationale supporting conclusion that wetland is "adjacent": *Click here to enter text.*

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: ~28 square miles (12 digit HUC)
Drainage area: # <1 square mile

Average annual rainfall: 37.78 inches
Average annual snowfall: 36.2 inches

(ii) Physical Characteristics:

(a) Relationship with TNW:

- ☐ Tributary flows directly into TNW.
- ☑ Tributary flows through 4 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: No

Identify flow route to TNW[5]: Stream 2 flows north into Stream 1/3/4 via Pond 1 (Form 1 of 1). Stream 1/3/4 flows north then west through the site and continues off-site in a northwesterly direction where it flows into Heisley Creek. Heisley Creek flows in a northwesterly direction into Marsh Creek which then flows into Lake Erie, a Section 10 Navigable water of the United States.
Tributary stream order, if known: 1

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

Tributary is:

- ☑ Natural
- ☐ Artificial (man-made). Explain: *Click here to enter text.*
- ☑ Manipulated (man-altered). Explain: 19 linear feet of the tributary is culverted.

[4] Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.
[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 properties with respect to top of bank (estimate):
Average width: 2-4 feet
Average depth: 1-2 feet
Average side slopes: 2:1

Primary tributary substrate composition (check all that apply):

- [x] Silts
- [ ] Sands
- [x] Concrete
- [ ] Cobbles
- [ ] Gravel
- [x] Muck
- [ ] Bedrock
- [ ] Vegetation. Type/% cover: *Click here to enter text.*
- [x] Other. Explain: Leaves/detritus

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: Tributary has bank erosion.
Presence of run/riffle/pool complexes. Explain: None observed.
Tributary geometry: Relatively Straight
Tributary gradient (approximate average slope): Less than 2%

(c) Flow:

Tributary provides for: Seasonal Flow
Estimate average number of flow events in review area/year: 6-10
Describe flow regime: Tributary flows intermittently during wet seasons, during and after rainfall/snowmelt, and during periods of high water table. Tributary ceases flowing during dry periods and flows for greater than 3 months of the year.
Other information on duration and volume: *Click here to enter text.*

Surface flow is: Confined Characteristics: Flow in confined to defined bed and banks and/or the culvert limits.

Subsurface flow: Unknown Explain findings: *Click here to enter text.*

- [ ] Dye (or other) test performed: *Click here to enter text.*

Tributary has (check all that apply):

- [x] Bed and banks
- [x] OHWM[6] (check all indicators that apply):
  - [ ] clear, natural line impressed on the bank
  - [x] changes in the character of soil
  - [x] shelving
  - [ ] vegetation matted down, bent, or absent
  - [x] leaf litter disturbed or washed away
  - [ ] sediment deposition
  - [ ] water staining
  - [ ] other (list): *Click here to enter text.*
  - [ ] the presence of litter and debris
  - [x] destruction of terrestrial vegetation
  - [ ] the presence of wrack line
  - [ ] sediment sorting
  - [ ] scour
  - [ ] multiple observed or predicted flow events
  - [ ] abrupt change in plant community *Click here to enter text.*
- [ ] Discontinuous OHWM.[7] Explain: *Click here to enter text.*

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): *Click here to enter text.*
- [ ] 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: Water color in the tributary was clear. Known sources of impairment within the Lake Erie Watershed include: habitat loss and degradation of habitat particularly in wetlands; destruction and draining of wetlands; nonindigenous species (exotics); loss of forage fish availability; overexploitation; loss of native stocks/species, particularly keystone predators; fire suppression; logging; high water levels, storm surges; dredging/channel modifications; water taking; streambank/shoreline filling and hardening; sediment/chemical/contaminant/nutrient loadings; and navigation/boating activities (USEPA, 2000).

[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.

Identify specific pollutants, if known: Unknown.

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

- [x] Riparian corridor. Characteristics (type, average width): Tributary has a forested riparian corridor ranging up to 50 feet in width.
- [ ] Wetland fringe. Characteristics: *Click here to enter text.*
- [x] Habitat for:
  - [ ] Federally Listed species. Explain findings: *Click here to enter text.*
  - [ ] Fish/spawn areas. Explain findings: *Click here to enter text.*
  - [ ] Other environmentally-sensitive species. Explain findings: *Click here to enter text.*
  - [x] Aquatic/wildlife diversity. Explain findings: Tributary provides habitat for aquatic flora and fauna.

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: # acres
Wetland type. Explain: *Click here to enter text.*
Wetland quality. Explain: *Click here to enter text.*
Project wetlands cross or serve as state boundaries. Explain: *Click here to enter text.*

(b) General Flow Relationship with Non-TNW:
Flow is: *Choose an item.* Explain: *Click here to enter text.*

Surface flow is: *Choose an item.*
Characteristics: *Click here to enter text.*

Subsurface flow: *Choose an item.* Explain findings: *Click here to enter text.*
- [ ] Dye (or other) test performed: *Click here to enter text.*

(c) Wetland Adjacency Determination with Non-TNW:
- [ ] Directly abutting
- [ ] Not directly abutting
  - [ ] Discrete wetland hydrologic connection. Explain: *Click here to enter text.*
  - [ ] Ecological connection. Explain: *Click here to enter text.*
  - [ ] Separated by berm/barrier. Explain: *Click here to enter text.*

(d) Proximity (Relationship) to TNW
Project wetlands are *Choose an item.* river miles from TNW.
Project waters are *Choose an item.* aerial (straight) miles from TNW.
Flow is from: *Choose an item.*
Estimate approximate location of wetland as within the *Choose an item.* 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: *Click here to enter text.*
Identify specific pollutants, if known: *Click here to enter text.*

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

- [ ] Riparian buffer. Characteristics (type, average width): *Click here to enter text.*
- [ ] Vegetation type/percent cover. Explain: *Click here to enter text.*
- [ ] Habitat for:
  - [ ] Federally Listed species. Explain findings: *Click here to enter text.*
  - [ ] Fish/spawn areas. Explain findings: *Click here to enter text.*
  - [ ] Other environmentally-sensitive species. Explain findings: *Click here to enter text.*
  - [ ] Aquatic/wildlife diversity. Explain findings: *Click here to enter text.*

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

All wetland(s) being considered in the cumulative analysis: *Choose an item.*
Approximately (#) 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)
Y/N	*#*	*Y/N*	*#*
Y/N	*#*	*Y/N*	*#*
Y/N	*#*	*Y/N*	*#*
Y/N	*#*	*Y/N*	*#*

Summarize overall biological, chemical and physical functions being performed: *Click here to enter text.*

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: *Click here to enter text.*

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: *Click here to enter text.*

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: *Click here to enter text.*

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: *Click here to enter text.*.
   - ☑ 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: Tributary flows intermittently during wet seasons, during and after rainfall/snowmelt, and during periods of high water table. Tributary ceases flowing during dry periods and flows for greater than 3 months of the year. Photographs taken by the agent in October 2014 indicate flow in the channel. Photographs taken by USACE during a site visit in April 2015 indicate flow in the channel.

   Provide estimates for jurisdictional waters in the review area (check all that apply):
   - ☑ Tributary waters: **Stream 2- 150 linear feet: 2-4 width (ft)**
   - ☐ Other non-wetland waters: # acres.
     Identify type(s) of waters: *Click here to enter text.*

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: *Click here to enter text.*

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: *Click here to enter text.*
     - ☐ 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: *Click here to enter text.*

     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: # 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: *Click here to enter text.*
- ☐ Other factors. Explain: *Click here to enter text.*

Identify water body and summarize rationale supporting determination: *Click here to enter text.*

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: *Click here to enter text.*
- ☐ 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.

[8]See Footnote # 3.
[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.*

☐ 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: *Click here to enter text.*

☐ Other: (explain, if not covered above): *Click here to enter text.*

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: *Click here to enter text.*.

☐ 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: *Click here to enter text.*.

☐ 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: Location Map and Delineation Map

☑ 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: *Click here to enter text.*

☐ Corps navigable waters' study: *Click here to enter text.*

☑ U.S. Geological Survey Hydrologic Atlas: USACE ORM NHD Datasets

☑ USGS NHD data.

☑ USGS 8 and 12 digit HUC maps.

☑ U.S. Geological Survey map(s). Cite scale & quad name: 7.5 Minute, Mentor OH

☑ USDA Natural Resources Conservation Service Soil Survey. Citation: NRCS Web Soil Survey

☑ National wetlands inventory map(s). Cite name: USACE ORM USFWS NWI Dataset

☐ State/Local wetland inventory map(s): *Click here to enter text.*

☑ FEMA/FIRM maps: USACE ORM FEMA Dataset

☐ 100-year Floodplain Elevation is: *Click here to enter text.* (National Geodectic Vertical Datum of 1929)

☑ Photographs: ☑ Aerial (Name & Date): Google Earth (4/1994, 9/2000, 12/2002, 8/2004, 7/2006, 4/2012, 9/2015), HistoricAerials.com (1952, 1962, 1970, 1994, 2000, 2002, 2006, 2009, 2011), Lake County GIS (1951, 1973), Bing Maps Bird's Eye View (date unknown)

☑ or ☑ Other (Name & Date): Photos submitted by agent via email on 1/11/2015

☑ Previous determination(s). File no. and date of response letter: LRB-2014-01350 PJD Dated 5/28/2015

☐ Applicable/supporting case law: *Click here to enter text.*

☑ Applicable/supporting scientific literature: USEPA. 2000. Summary of Beneficial Use Impairment Conclusions, Lake Erie LaMP, April 2000. http://www.epa.gov/sites/production/files/2015-11/documents/lake-erie-summary-bui-conclusions-200004-4pp.pdf. Accessed 8 March 2016.

☑ Other information (please specify): USGS Ohio StreamStats (water.usgs.gov/osw/streamstats/ohio.html), USGS National Hydrography Viewer (http://viewer.nationalmap.gov/viewer/nhd.html?p=nhd)

B. ADDITIONAL COMMENTS TO SUPPORT JD: *Click here to enter text.*

March 31, 2016

Susan Baker
Project Manager

Date