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): December 20, 2018

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Detroit District, Michiana Branch, Zimmer Biomet East Bell Drive JD, LRE-2018-01160-143-J18

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: Indiana County/parish/borough: Kosciusko City: Warsaw
Center coordinates of site (lat/long in degree decimal format): Lat. 41.267549° **N**, Long. -85.842284° **W**.
Universal Transverse Mercator: 16
Name of nearest waterbody: Hickman Ditch
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Wabash River
Name of watershed or Hydrologic Unit Code (HUC): Tippecanoe Watershed; HUC-8: 05120106

☒ 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 07, 2018
☒ Field Determination. Date(s): November 16, 2018

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 and are not** "*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: 2,958 linear feet: 10 +/- width (ft) and/or N/A acres.
Wetlands: 19.64 acres.

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

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: **Six potentially jurisdictional waters were assessed within the review area and two were determined to be**

[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.

isolated waters. The USFWS National Wetland Inventory (NWI) indicated the potential presence of a large freshwater emergent and scrub shrub/forested (PEM1 and PFO1/SS1) wetland complex extending along Hickman Ditch in the northern portion of the review area. Additionally, the NWI indicated the potential presence of another freshwater emergent wetland (PEM1) located in the southern end of the review area south of East Bell Drive and north of U.S. 30. The NRCS's Web Soil Survey for Kosciusko County mapped the review area as primarily Palms muck, Kosciusko sandy loam, and Houghton muck. Wetland A (0.206 ac) and Wetland B (0.207 ac), as described in the Wetland Delineation Report (Report) provided by nuInventa, are located in the field south of East Bell Drive and north of U.S. 30 in the southern end of the review area. Review of the applicable USGS Topographic maps, USGS NHD maps, aerial imagery, and Beacon GIS for Kosciusko County, did not indicate the presence of a potential flow path or other potential surface or subsurface hydrologic connection from these isolated wetlands to a downstream water of the United States; this was confirmed during the site inspection. Neither Wetland A or Wetland B, as described above and in the Report, are separated by a berm or other man-made structure from a surface water, provide for interstate or foreign commerce, are not subject to commercial use currently, and are not likely to be subject to commercial use in the future. In addition, there does not appear to be evidence that suggests that the wetlands support recreational use and no direct evidence was observed of known species that require the wetlands to fulfill their life cycle requirements.

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: **Pick List**
Drainage area: **Pick List**
Average annual rainfall: inches
Average annual snowfall: inches

(ii) Physical Characteristics:
(a) Relationship with TNW:
☐ Tributary flows directly into TNW.
☐ Tributary flows through **Pick List** tributaries before entering TNW.

Project waters are **Pick List** river miles from TNW.
Project waters are **Pick List** river miles from RPW.
Project waters are **Pick List** aerial (straight) miles from TNW.
Project waters are **Pick List** aerial (straight) miles from RPW.
Project waters cross or serve as state boundaries. Explain: .

Identify flow route to TNW[5]: .
Tributary stream order, if known: .

[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: .
☐ Manipulated (man-altered). Explain: .

Tributary properties with respect to top of bank (estimate):
Average width: feet
Average depth: feet
Average side slopes: **Pick List.**

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]. Explain: .
Presence of run/riffle/pool complexes. Explain: .
Tributary geometry: **Pick List**
Tributary gradient (approximate average slope): %

(c) Flow:
Tributary provides for: **Pick List**
Estimate average number of flow events in review area/year: **Pick List**
Describe flow regime: .
Other information on duration and volume: .

Surface flow is: **Pick List.** Characteristics: .

Subsurface flow: **Pick List**. 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
☐ sediment deposition	☐ multiple observed or predicted flow events
☐ water staining	☐ abrupt change in plant community
☐ other (list):	

☐ 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:	☐ 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):	

(iii) Chemical Characteristics:
Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).
Explain: .
Identify specific pollutants, if known: .

[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.

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

☐ Riparian corridor. Characteristics (type, average width): .
☐ Wetland fringe. Characteristics: .
☐ Habitat for:
☐ Federally Listed species. Explain findings: .
☐ Fish/spawn areas. Explain findings: .
☐ Other environmentally-sensitive species. Explain findings: .
☐ Aquatic/wildlife diversity. Explain findings: .

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

(i) Physical Characteristics:

(a) General Wetland Characteristics:

Properties:

Wetland size: 5.275 acres

Wetland type. Explain: Wetland C and Wetland D are both freshwater emergent wetlands.

Wetland quality. Explain: Wetland C and Wetland D are low quality emergent wetlands dominated primarily by Phalaris arundinacea and do not support much species diversity. Populus deltoides and Salix interior were observed along the periphery of Wetland C. Adjacent commercial development allows for runoff to enter both Wetland C and Wetland D. This runoff would contain a variety of chemicals and other pollutants associated with urban runoff.

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

(b) General Flow Relationship with Non-TNW:

Flow is: **Intermittent flow**. Explain: Hydrology for the wetlands located within the review area is driven by precipitation and in response to specific precipitation events throughout the year, it is anticipated that flood waters would overtop the berm and settle in both Wetland C and Wetland D.

Surface flow is**: Discrete and confined**

Characteristics: A man-made berm/spoil pile was observed along the north bank of Hickman Ditch south of Wetland C and Wetland D. During flooding events, it is anticipated that flood waters would overtop the berm and settle in both Wetland C and Wetland D.

Subsurface flow: **Unknown**. Explain findings: The NRCS Web Soil Survey maps the area of Wetland C and Wetland D immediately north of Hickman Ditch as Houghton muck and Palms muck. The NRCS describes the Houghton soil series as having a moderately high or high saturated hydraulic conductivity and moderately slow to moderately rapid permeability. Additionally, the NRCS describes the Palms soil series as having a saturated hydraulic conductivity that ranges from moderately high or high in the organic material and moderately high to low in the loamy material. Permeability is moderately slow to moderately rapid in the organic material and moderate or moderately slow in the loamy material. The soils present along the north bank of Hickman Ditch may provide a conduit for water to move between the wetlands and Hickman Ditch however, this could not be confirmed during the site inspection.

☐ Dye (or other) test performed: N/A.

(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: Along the north bank of Hickman Ditch, a man-made berm/spoil pile (20181116_0009.jpg) was observed. 33 CFR 328.3(c) states, “wetlands separated from other waters of the United States by man-made dikes or barriers, natural river berms, beach dunes and the like are “adjacent wetlands””. Natural or man-made barriers do not reclassify adjacent wetlands as isolated if they would otherwise be determined adjacent but for the barrier.

(d) Proximity (Relationship) to TNW

Project wetlands are **30 (or more)** river miles from TNW.
Project waters are **30 (or more)** 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: At the time of the site inspection, Wetland C and Wetland D held no standing water and no water was being conveyed between either wetland or Hickman Ditch. Therefore, no characterization could be made of the water color or quality. Both wetlands appear to drain predominantly commercial/industrial areas. We would expect to find pollutants consistent with runoff from commercially developed areas in addition to pollutants consistent with runoff from surrounding roads. Wetland C and Wetland D provide a measure of water quality protection to Hickman Ditch, the Tippecanoe River, and the Wabash River (TNW) by filtering out pollutants from storm water runoff and by retaining flood waters.

Identify specific pollutants, if known: N/A.

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

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

☒ Vegetation type/percent cover. Explain: Wetland C and Wetland D are low quality emergent wetlands dominated primarily by Phalaris arundinacea and do not support much species diversity. Populus deltoides and Salix interior were observed along the periphery of Wetland C, but of insufficient cover for the wetland to be considered forested.

☒ Habitat for:

☐ Federally Listed species. Explain findings: .

☐ Fish/spawn areas. Explain findings: .

☐ Other environmentally-sensitive species. Explain findings: .

☒ Aquatic/wildlife diversity. Explain findings: The wetlands provide some measure of foraging habitat as well as cover for small mammals. Waterfowl and migratory birds may also use the wetlands for resting, feeding, or as breeding or nesting grounds for part of the year.

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

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

Approximately (66.78) 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)
Yes	30.24		
Yes	34.31		
Yes	2.23		

Summarize overall biological, chemical and physical functions being performed: These wetlands provide some ability to help trap sediment, nutrients, bacteria, toxins, and help to retain flood waters before reaching Hickman Ditch, the Tippecanoe River, and the Wabash River (TNW).

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: Wetland C, Wetland D, and Wetland E, as described in the Report, were observed as adjacent wetlands to Hickman Ditch (Perennial RPW). Water flows within Hickman Ditch west through the project area and continues off site and flows north along North Rainbow Drive. Based on the review of Beacon GIS for Kosciusko County, Hickman Ditch enters a subsurface drain on property at 2466 North Rainbow Drive and flows west approximately 550', before returning to the surface west of the railroad tracks located immediately west of property at 2407 North Rainbow Drive. Hickman Ditch flows approximately 2,070' south along the east side of State Road 15/Detroit Street to its confluence with Lones Ditch (Deeds Creek) immediately south of Anchorage Road. Lones Ditch (Deeds Creek) flows west beneath State Road 15/Detroit Street and continues approximately 3,150' to its confluence with the Tippecanoe River. The Tippecanoe River is a part of the much larger Wabash River watershed basin and ultimately flows into a Traditionally Navigable Water (TNW), the Wabash River, east of Prophetstown State Park in West Lafayette, Indiana. Hickman Ditch and its adjacent wetlands are located in a highly developed industrial area predominantly zoned for commercial use. The wetlands adjacent to Hickman Ditch provide some ability to help trap sediment, bacteria, and toxins commonly associated with highly developed industrial areas as well as help to retain flood waters before reaching Hickman Ditch, the Tippecanoe River, and the Wabash River (TNW). The NRCS Rapid Watershed Assessment (2007) stated that approximately 24% of the 2,209 miles of streams in the Tippecanoe Watershed (HUC-8: 05120106) are impaired. Identified impairments include: sedimentation, pesticides and fertilizers, E. coli, dissolved oxygen, nutrients, and an impaired biotic community. According to the Tippecanoe Watershed Management Plan (2006), the impairments to water quality are the result of extensive changes to the landscape that have occurred over time. Before settlement began, the watershed was dominated by oak-hickory forests and

wetlands that existed as either pothole lakes, marshes, or large forested wetland and marsh complexes. Over time, the landscape was altered by channelizing ditches, streams, and lakes, along with the draining of wetlands to accommodate agricultural production and development. Approximately 75% of the Tippecanoe Watershed is in agricultural production. This makes waterways more susceptible to increased erosion, increases the pollutant load to downstream waters, negatively impacts aquatic life, and decreases the ability to retain flood waters. The State of Indiana has lost roughly 85% of its wetlands statewide, with some of the greatest losses occurring in Kosciusko, Noble, and Whitley Counties. Specific to the project area, the Indiana Department of Environmental Management E303d website (https://www.in.gov/idem/nps/pages/e303d/index.html) lists the section of the Tippecanoe River just downstream of the project site as being impaired with E.coli, mercury, and PCBs. The subject wetlands adjacent to Hickman Ditch retain storm water runoff which allows sediment to be trapped and filtered out along with any pollutants contained in the runoff before the water is slowly released to downstream waters. The subject wetlands, together with the remaining wetlands in the watershed, play a significant role in mitigating effects on the chemical and physical integrity of the Tippecanoe River and the Wabash River (TNW) by trapping and filtering sediment and pollutants. Within the Tippecanoe and Wabash River watersheds, major flooding events have occurred. In the U.S. Army Corps of Engineers' (USACE) Wabash River Study (2011), the report cited these flooding events to support the construction of USACE lakes located within the Wabash River Watershed. The hydrologic conditions of the Wabash River watershed (including the Tippecanoe River) have been modified to such an extent that water flows have increased. This increase in hydrologic flow is the major cause of flooding events that occur within the watershed. The USACE lakes were constructed in response to this hydrologic change as a way to reduce flow to control flooding. The subject wetlands adjacent to Hickman Ditch provide some measure of flood water retention and attenuation to help mitigate flooding to downstream areas. The Tippecanoe River Watershed Restoration Action Strategy (2001) referenced a publication titled, "Rivers of Life: Critical Watersheds for Protecting Freshwater Biodiversity". This publication ranked the Tippecanoe River has the 8th most important freshwater site in North America for protection of imperiled aquatic life. Six endangered species of mussels are present within the Tippecanoe River, along with one threatened species. The U.S. Fish and Wildlife Service (USFWS) lists the six endangered species as: Clubshell (Pleurobema clava), Fanshell (Cyprogenia stegaria), Northern riffleshell (Epioblasma torulosa rangiana), Rayed bean (Villosa fabalis), Sheepnose (Plethobasus cyphyus), and Snuffbox (Epioblasma triquetra). The USFWS chronicles many causes for the listing of these six species however, water quality issues is acknowledged as one common cause for all species referenced above. Identified water quality issues include increased sedimentation and chemical runoff from agricultural and industrial wastes. Increased sedimentation clogs the gills of mussels and/or buries them completely, ultimately killing them. Considering mussels are filter feeders, toxins found in chemical runoff can build up in the bodily tissues of the mussels, ultimately poisoning the organisms to death. Hickman Ditch and its adjacent wetlands located within the review area provide some measure of pollutant trapping, sediment retention, and nutrient recycling to help improve downstream water quality and increase the survivability of the Federally endangered mussels. The remaining waters and wetlands in the Tippecanoe Watershed, including Hickman Ditch and its adjacent wetlands, play a significant role in mitigating effects on the biological, chemical, and physical integrity of the Tippecanoe River as well as the Wabash River.

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

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

2. RPWs that flow directly or indirectly into TNWs.
- ☒ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: Hickman Ditch, which flows west through the center of the review area, is mapped on the United States Geological Survey's National Hydrography Dataset (NHD) as a perennial stream and is defined as having "water throughout the year, except for infrequent periods of severe drought". Hickman Ditch is also mapped as a stream feature on the NRCS's Web Soil Survey for Kosciusko County and as an R5UBH Unknown Perennial stream on the USFWS National Wetland Inventory. Aerial imagery taken in 1997, 2005, and 2016, site photographs included in the Delineation Report taken October 17, 2018, and site photographs taken November 16, 2018 suggest that Hickman Ditch conveys water throughout the year. The site inspection confirmed the presence of an Ordinary High Water Mark (OHWM) and a defined bed and bank.
- ☐ 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: .

Provide estimates for jurisdictional waters in the review area (check all that apply):
- ☒ Tributary waters: **2,958** linear feet **10** +/- width (ft).
- ☐ Other non-wetland waters: acres.
  Identify type(s) of waters: .

3. Non-RPWs[8] that flow directly or indirectly into TNWs.

[8]See Footnote # 3.

☐ Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

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

4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.
☒ Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
☒ Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: **Wetland E, as described in the Wetland Delineation Report prepared by nuInventa, directly abuts Hickman Ditch along its northern bank.**

☐ Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

Provide acreage estimates for jurisdictional wetlands in the review area: **14.365** 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: **5.275** 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: .
☐ 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.

[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.*

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: 0.413 acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):

☐ Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).

☐ Lakes/ponds: acres.

☐ Other non-wetland waters: acres. List type of aquatic resource: .

☐ Wetlands: acres.

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):

☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: "Wetland Delineation Report: Project Number 181002" prepared by nuInventa, on behalf of Zimmer Biomet, dated October 29, 2018.

☒ 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 National Hydrography Dataset.

☒ USGS NHD data.

☒ USGS 8 and 12 digit HUC maps.

☒ U.S. Geological Survey map(s). Cite scale & quad name: 1:24,000, IN-Leesburg.

☒ USDA Natural Resources Conservation Service Soil Survey. Citation: Web Soil Survey, Kosciusko County.

☒ National wetlands inventory map(s). Cite name: USFWS Online Wetland Mapper (NWI).

☐ State/Local wetland inventory map(s): .

☐ FEMA/FIRM maps: .

☐ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)

☒ Photographs: ☒ Aerial (Name & Date): Google Earth 1997, 2005, and 2016.
or ☒ Other (Name & Date): Site Photographs, Appendix B "Photographic Log" of the Wetland Delineation Report, 2018; Site Inspection Photographs, 2018.

☐ Previous determination(s). File no. and date of response letter: .

☐ Applicable/supporting case law: .

☒ Applicable/supporting scientific literature: Tippecanoe River Watershed Restoration Action Strategy (2001), Tippecanoe Watershed Management Plan (2006), NRCS Rapid Watershed Assessment (2007), U.S. Army Corps of Engineers' Wabash River Study (2011).

☒ Other information (please specify): Site Inspection Report in Case File, November 16, 2018. Beacon GIS Kosciusko County used to identify county regulated drains and ditches. United States Geological Survey (USGS) StreamStats data used to determine stream characteristics and the area of the drainage basin of Hickman Ditch. The Indiana Department of Environmental Management Online E303(d) Tool used to identify impairments within the Tippecanoe River.

B. ADDITIONAL COMMENTS TO SUPPORT JD: Hickman Ditch is a perennial RPW that exhibits an Ordinary High Water Mark (OHWM) and a defined bed and bank. The RPW is depicted by a solid blue line (perennial stream) on the United States Geological Survey's Topographic map (1:24,000, IN-Leesburg). Therefore, Hickman Ditch is an RPW within the tributary system of the Wabash River (TNW)

and is a water of the United States. Based upon our review, Wetland C, Wetland D, and Wetland E, are wetlands adjacent to a perennial RPW (Hickman Ditch) within the tributary system of the Wabash River (TNW) and are waters of the United States.