

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): August 31, 2016

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Louisville District, Severns Valley Baptist Church, LRL-2016-00908

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: Kentucky County/parish/borough: Hardin City: Elizabethtown
Center coordinates of site (lat/long in degree decimal format): Lat. 37.721049 N °, Long. -85.904431 W °
Universal Transverse Mercator: 16

Name of nearest waterbody: Unnamed tributary to Shaw Creek
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Nolin River
Name of watershed or Hydrologic Unit Code (HUC): Barren 051100011003 Upper Valley Creek

- 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: October 20, 2016
- Field Determination. Date(s): October 18, 2016, [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 no “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 waters² (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: linear feet: width (ft) and/or # acres.
Wetlands: # acres.

c. Limits (boundaries) of jurisdiction based on: [Choose an item.](#)

Elevation of established OHWM (if known): [Click here to enter text.](#)

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: **Wetland 1 (0.7 acre), Open water retention pond (1.0 acre) and Ephemeral Stream 1 (160 linear feet) are physically isolated on the landscape with no surface or defined subsurface hydrological connection to "waters of the United States (U.S.)." The review area is located in an urban institution maintenance/mowed field. The emergent wetland is located along the perimeter**

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.

of the constructed open-water retention pond. Ephemeral stream 1 flows into the wetland and open-water retention pond. The retention pond has an overflow pipe that flows under a road and exits at an outfall structure to dissipate into a field without a noticeable channel or connection to Shaw Creek. Available online mapping does not demonstrate a defined connection to navigable waters. In addition, these features are not used or susceptible to use in interstate or foreign commerce. As such these features are not "waters of the U.S."

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 waterbody⁴ 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: # [Choose an item.](#)

Drainage area: # [Choose an item.](#)

Average annual rainfall: # inches

Average annual snowfall: # inches

(ii) Physical Characteristics:

(a) Relationship with TNW:

Tributary flows directly into TNW.

Tributary flows through [Choose an item.](#) tributaries before entering TNW.

Project waters are [Choose an item.](#) river miles from TNW.

Project waters are [Choose an item.](#) river miles from RPW.

Project waters are [Choose an item.](#) aerial (straight) miles from TNW.

Project waters are [Choose an item.](#) aerial (straight) miles from RPW.

Project waters cross or serve as state boundaries. Explain: [Click here to enter text.](#)

Identify flow route to TNW⁵: [Click here to enter text.](#)

Tributary stream order, if known: [Click here to enter text.](#)

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

Tributary is: Natural

Artificial (man-made). Explain: [Click here to enter text.](#)

Manipulated (man-altered). Explain: [Click here to enter text.](#)

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: # feet

Average depth: # feet

Average side slopes: *Choose an item.*

Primary tributary substrate composition (check all that apply):

- | | | |
|---|---|-----------------------------------|
| <input type="checkbox"/> Silts | <input type="checkbox"/> Sands | <input type="checkbox"/> Concrete |
| <input type="checkbox"/> Cobbles | <input type="checkbox"/> Gravel | <input type="checkbox"/> Muck |
| <input type="checkbox"/> Bedrock | <input type="checkbox"/> Vegetation. Type/% cover: <i>Click here to enter text.</i> | |
| <input type="checkbox"/> Other. Explain: <i>Click here to enter text.</i> | | |

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: *Click here to enter text.*

Presence of run/riffle/pool complexes. Explain: *Click here to enter text.*

Tributary geometry: *Choose an item.*

Tributary gradient (approximate average slope): #%

(c) Flow:

Tributary provides for: *Choose an item.*

Estimate average number of flow events in review area/year: *Choose an item.*

Describe flow regime: *Click here to enter text.*

Other information on duration and volume: *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.*

Tributary has (check all that apply):

- Bed and banks
- OHWM⁶ (check all indicators that apply):
- | | |
|---|--|
| <input type="checkbox"/> clear, natural line impressed on the bank | <input type="checkbox"/> the presence of litter and debris |
| <input type="checkbox"/> changes in the character of soil | <input type="checkbox"/> destruction of terrestrial vegetation |
| <input type="checkbox"/> shelving | <input type="checkbox"/> the presence of wrack line |
| <input type="checkbox"/> vegetation matted down, bent, or absent | <input type="checkbox"/> sediment sorting |
| <input type="checkbox"/> leaf litter disturbed or washed away | <input type="checkbox"/> scour |
| <input type="checkbox"/> sediment deposition | <input type="checkbox"/> multiple observed or predicted flow events |
| <input type="checkbox"/> water staining | <input type="checkbox"/> abrupt change in plant community <i>Click here to enter text.</i> |
| <input type="checkbox"/> other (list): <i>Click here to enter text.</i> | |
- 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):

- | | |
|---|--|
| <input type="checkbox"/> High Tide Line indicated by: | <input type="checkbox"/> Mean High Water Mark indicated by: |
| <input type="checkbox"/> oil or scum line along shore objects | <input type="checkbox"/> survey to available datum; |
| <input type="checkbox"/> fine shell or debris deposits (foreshore) | <input type="checkbox"/> physical markings; |
| <input type="checkbox"/> physical markings/characteristics | <input type="checkbox"/> vegetation lines/changes in vegetation types. |
| <input type="checkbox"/> tidal gauges | |
| <input type="checkbox"/> other (list): <i>Click here to enter text.</i> | |

(iii) **Chemical Characteristics:**

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

Explain: *Click here to enter text.*

Identify specific pollutants, if known: *Click here to enter text.*

⁶A 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.

⁷Ibid.

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

- Riparian corridor. Characteristics (type, average width): [Click here to enter text.](#)
- Wetland fringe. Characteristics: [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.](#)

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:

<u>Directly abuts? (Y/N)</u>	<u>Size (in acres)</u>	<u>Directly abuts? (Y/N)</u>	<u>Size (in acres)</u>
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: [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.](#)

3. Non-RPWs⁸ 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 jurisdictional. 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.

⁸See 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.

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): [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): 160 linear feet 1 width (ft).
- Lakes/ponds: # acres.
- Other non-wetland waters: # acres. List type of aquatic resource: [Click here to enter text.](#)
- Wetlands

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):

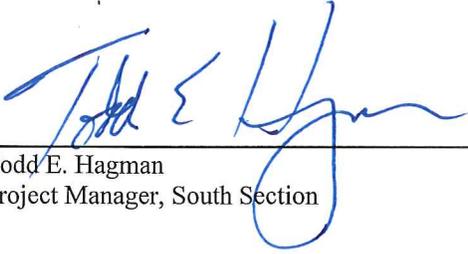
- Non-wetland waters (i.e., rivers, streams): # linear feet # width (ft).
- Lakes/ponds: 1.0 acres.
- Other non-wetland waters: # acres. List type of aquatic resource: [Click here to enter text.](#)
- Wetlands: 0.7 acres.

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):

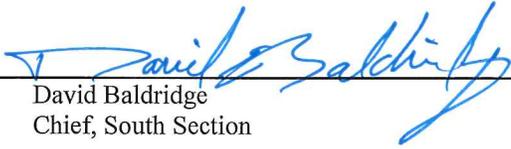
- Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: Request for an Approved Jurisdictional Determination dated August 31, 2016, submitted by Third Rock Consultants, on behalf of Severns Valley Baptist Church.
- Data sheets prepared/submitted by or on behalf of the applicant/consultant.
 - 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: [Click here to enter text.](#)
 - USGS NHD data.
 - USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name: 1:24K, KY-Celillia
- USDA Natural Resources Conservation Service Soil Survey.
- National wetlands inventory map(s). Cite name: [Click here to enter text.](#)
- State/Local wetland inventory map(s): [Click here to enter text.](#)
- FEMA/FIRM maps: FEMA DFIRM Flood Data, Kentucky Division of Water Risk Portal Map
- 100-year Floodplain Elevation is: [Click here to enter text.](#) (National Geodetic Vertical Datum of 1929)
- Photographs: Aerial (Name & Date): Google Earth, LOUIE, Kentucky Watershed Viewer, USGS National Viewer, KY Risk Map
 - or Other (Name & Date): Third Rock Consultants Assessment Photographs (August 2, 2016)
- Previous determination(s). File no. and date of response letter: [Click here to enter text.](#)
- Applicable/supporting case law: [Click here to enter text.](#)
- Applicable/supporting scientific literature: [Click here to enter text.](#)
- Other information (please specify): Corps staff site visit on October 18, 2016.

B. ADDITIONAL COMMENTS TO SUPPORT JD: An onsite inspection on October 18, 2016, confirmed that Wetland 1, Open Water Retention Pond and Stream 1 are isolated due to a lack of surface or subsurface connection to downstream features, nor are the waters susceptible to interstate or foreign commerce.



Todd E. Hagman
Project Manager, South Section

October 20, 2016
Date



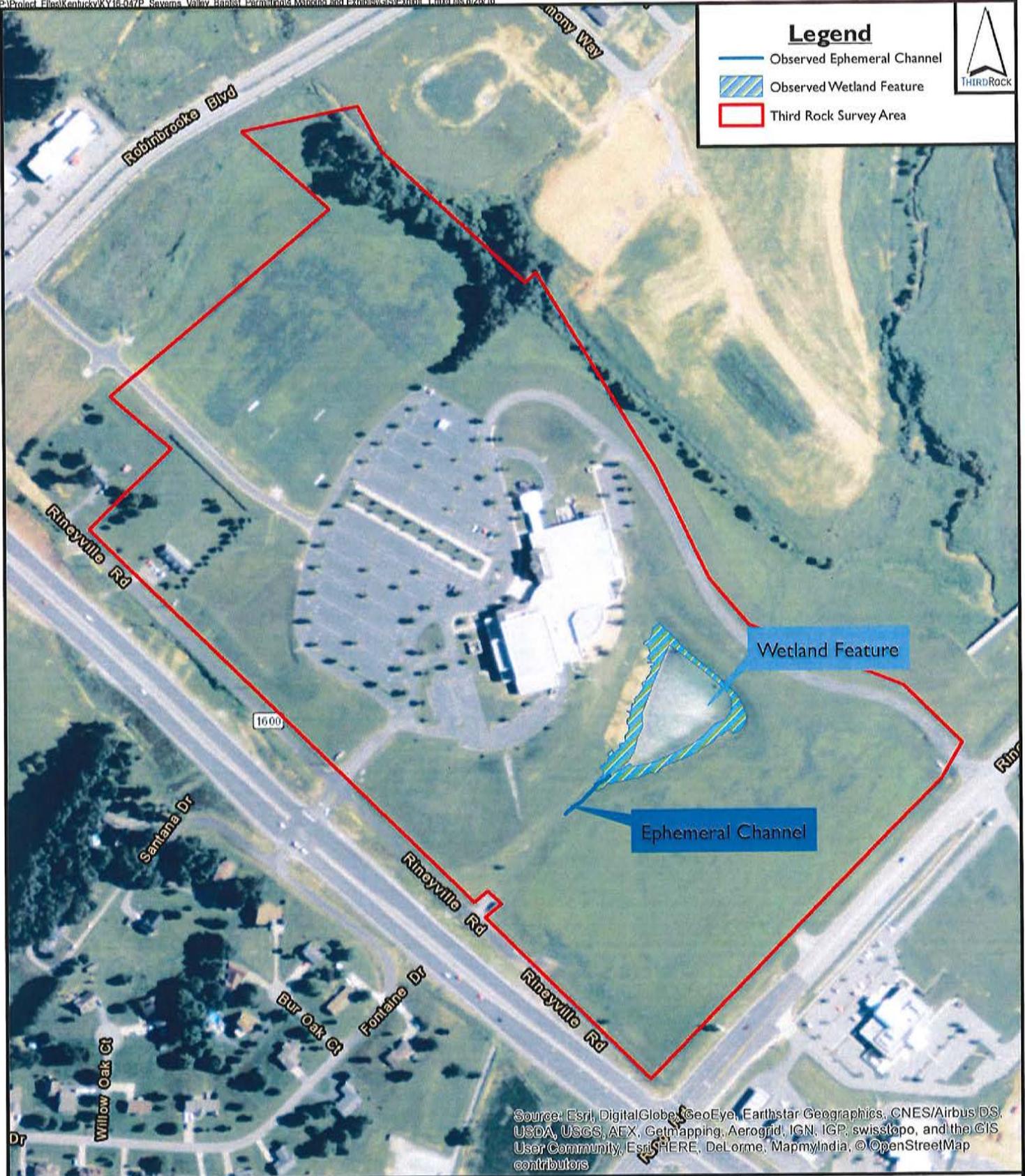
David Baldrige
Chief, South Section

10/29/16
[Click here to enter a date.](#)
Date

APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. ARMY CORPS OF ENGINEERS

SEVERNS VALLEY BAPTIST CHURCH
ELIZABETHTOWN, HARDIN COUNTY, KENTUCKY

ATTACHMENT A
AERIAL AND TOPOGRAPHIC MAPS

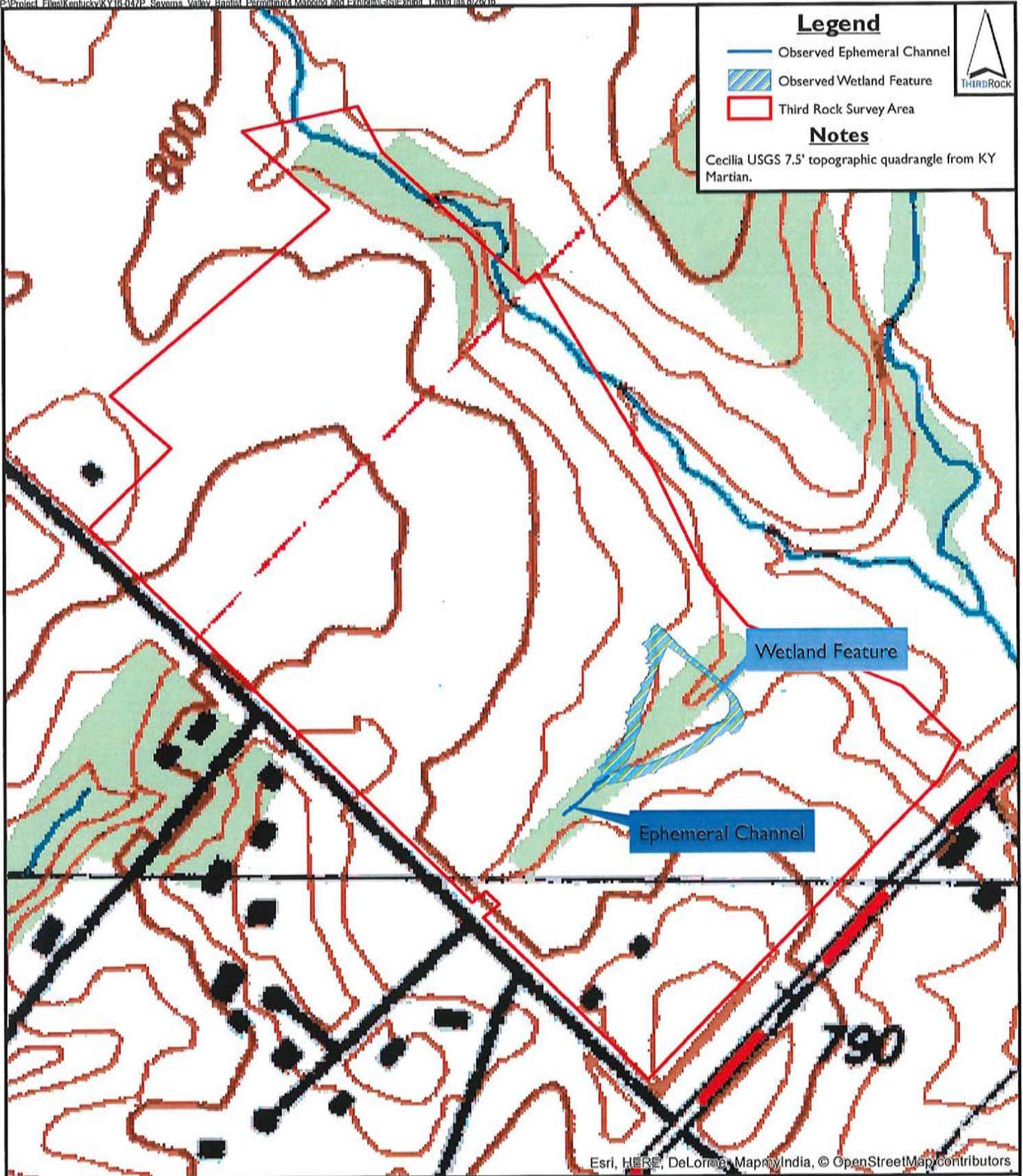


Prepared by:
 Third Rock Consultants, LLC
 2526 Regency Road, Suite 180
 Lexington, Kentucky 40503

Figure 1 - Water Resources
 Sevens Valley Baptist Church
 Master Site Plan - Phase I

0 175 350 700
 Feet

Prepared for:
 Sevens Valley Baptist Church
 1100 Ring Road
 Elizabethtown, Kentucky 42701



Legend

- Observed Ephemeral Channel
- Observed Wetland Feature
- Third Rock Survey Area

Notes

Cecilia USGS 7.5' topographic quadrangle from KY Martian.

Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors

Prepared by:
Third Rock Consultants, LLC
2526 Regency Road, Suite 180
Lexington, Kentucky 40503

Figure 2 - Water Resources
Sevrens Valley Baptist Church
Master Site Plan - Phase I

0 175 350 700
Feet

Prepared for:
Sevrens Valley Baptist Church
1100 Ring Road
Elizabethtown, Kentucky 42701

APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. ARMY CORPS OF ENGINEERS

SEVERNS VALLEY BAPTIST CHURCH
ELIZABETHTOWN, HARDIN COUNTY, KENTUCKY

ATTACHMENT B
DATA SHEETS AND FORMS

THIRD ROCK CONSULTANTS
RBP HABITAT ASSESSMENT (HIGH GRADIENT)

STREAM Ephemeral Channel DATE 8/2/2016 STATION ID N/A PROJECT NO. KY16-047

UPSTREAM LAT: 37.719564 LNG: -85.904201 INVESTIGATOR(S): James Storm

STREAM SIZE: Width (ft) 1 Depth (ft) 5 STREAM TYPE: Perennial Ephemeral Intermittent

WATERSHED (HUC) 051100011003 - Upper Valley Creek COWARDIN CLASS R5

HABITAT PARAMETERS	CONDITION CATEGORY																					
	OPTIMAL					SUBOPTIMAL					MARGINAL					POOR						
1. Epifaunal Substrate / Available Cover	Greater than 70% of substrate favorable for epifaunal colonization and fish cover; mix of snags, submerged logs, undercut banks, cobble or other stable habitat and at stage to allow full colonization potential (i.e., logs/snags that are <u>not</u> new fall and <u>not</u> transient.)					40-70% mix of stable habitat; well suited for full colonization potential; adequate habitat for maintenance of populations; presence of additional substrate in the form of new fall, but not yet prepared for colonization (may rate at high end of scale).					20-40% mix of stable habitat; habitat availability less than desirable; substrate frequently disturbed or removed.					Less than 20% stable habitat; lack of habitat is obvious; substrate unstable or lacking.						
Score	4	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
2. Embeddedness	Gravel, cobble, and boulder particles are 0-25% surrounded by fine sediment. Layering of cobble provides diversity of niche space.					Gravel, cobble, and boulder particles are 25-50% surrounded by fine sediment.					Gravel, cobble, and boulder particles are 50-75% surrounded by fine sediment.					Gravel, cobble, and boulder particles are more than 75% surrounded by fine sediment.						
Score	8	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
3. Velocity / Depth Regime	All four velocity/depth regimes present (slow-deep, slow-shallow, fast-deep, fast-shallow). (Slow is < 0.3 m/s, deep is > 0.5 m.)					Only 3 of the 4 regimes present (if fast-shallow is missing, score lower than if missing other regimes).					Only 2 of the 4 habitat regimes present (if fast-shallow or slow-shallow are missing, score low).					Dominated by 1 velocity/depth regime (usually slow-deep).						
Score	8	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
4. Sediment Deposition	Little or no enlargement of islands or point bars and less than 5% of the bottom affected by sediment deposition.					Some new increase in bar formation, mostly from gravel, sand or fine sediment; 5-30% of the bottom affected; slight deposition in pools.					Moderate deposition of new gravel, sand or fine sediment on old and new bars; 30-50% of the bottom affected; sediment deposits at obstructions, constrictions, and bends; moderate deposition of pools prevalent.					Heavy deposits of fine material, increased bar development; more than 50% of the bottom changing frequently; pools almost absent due to substantial sediment deposition.						
Score	8	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
5. Channel Flow Status	Water reaches base of both lower banks, and minimal amount of channel substrate is exposed.					Water fills > 75% of the available channel; or <25% of channel substrate is exposed.					Water fills 25-75% of the available channel, and/or riffle substrates are mostly exposed.					Very little water in channel and mostly present as standing pools.						
Score	3	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
6. Channel Alteration	Channelization or dredging absent or minimal; stream with normal pattern.					Some channelization present, usually in areas of bridge abutments; evidence of past channelization, i.e., dredging, (greater than past 20 yr) may be present, but recent channelization is not present.					Channelization may be extensive; embankments or shoring structures present on both banks; and 40 to 80% of stream reach channelized and disrupted.					Banks shored with gabion or cement; over 80% of the stream reach channelized and disrupted. Instream habitat greatly altered or removed entirely.						
Score	11	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0

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	OPTIMAL	SUBOPTIMAL	MARGINAL	POOR	
7. Frequency of Riffles (or Bends)	Occurrence of riffles relatively frequent; ratio of distance between riffles divided by width of the stream < 7:1 (generally 5 to 7); variety of habitat is key. In streams where riffles are continuous, placement of boulders or other large, natural obstruction is important.	Occurrence of riffles infrequent; distance between riffles divided by the width of the stream is between 7 to 15.	Occasional riffle or bend; bottom contours provide some habitat; distance between riffles divided by the width of the stream is between 15 to 25.	Generally all flat water or shallow riffles; poor habitat; distance between riffles divided by the width of the stream is a ration of > 25.	
Score	7	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
8. Bank Stability	Banks stable; evidence of erosion or bank failure absent or minimal; little potential for future problems. < 5% of bank affected.	Moderately stable; infrequent, small areas of erosion mostly healed over. 5-30% of bank in reach has areas of erosion.	Moderately unstable; 30-60% of bank in reach has areas of erosion; high erosion potential during floods.	Unstable; many eroded areas; "raw" areas frequent along straight sections and bends; obvious bank sloughing; 60-100% of bank has erosional scars.	
LB Score	6	10 9	8 7 6	5 4 3	2 1 0
RB Score	4	10 9	8 7 6	5 4 3	2 1 0
9. Vegetative Protection	More than 90% of the streambank surfaces and immediate riparian zone covered by native vegetation, including trees, understory shrubs, or non-woody macrophytes; vegetative disruption through grazing or mowing minimal or not evident; almost all plants allowed to grow naturally.	70-90% of the streambank surfaces covered by native vegetation, but one class of plants is not well-represented; disruption evident but not affecting full plant growth potential to any great extent; more than one-half of the potential plant stubble height remaining.	50-70% of the streambank surfaces covered by vegetation; disruption obvious; patches of bare soil or closely cropped vegetation common; less than one-half of the potential plant stubble height remaining.	Less than 50% of the streambank surfaces covered by vegetation; disruption of streambank vegetation is very high; vegetation has been removed to 5 centimeters or less in average stubble height.	
LB Score	5	10 9	8 7 6	5 4 3	2 1 0
RB Score	4	10 9	8 7 6	5 4 3	2 1 0
10. Riparian Vegetative Zone Width	Width of riparian zone >18 meters; human activities (i.e., parking lots, roadbeds, clear-cuts, lawns, or crops) have not impacted zone.	Width of riparian zone 12-18 meters; human activities have impacted zone only minimally.	Width of riparian zone 6-12 meters; human activities have impacted zone a great deal.	Width of riparian zone <6 meters; little or no riparian vegetation due to human activities.	
LB Score	2	10 9	8 7 6	5 4 3	2 1 0
RB Score	1	10 9	8 7 6	5 4 3	2 1 0

Total Score: 71

REMARKS / NOTES:

THIRD ROCK CONSULTANTS, LLC
WETLAND DETERMINATION – EASTERN MOUNTAINS AND PIEDMONT REGION

Project Name: Severns Valley Baptist Church Expansion Project No: KY16-047 Date: 8-2-16
 Applicant/Owner: Severns Valley Baptist Church State: KY Site ID: Wetland I
 Investigator(s): James Storm City, County, Range: Elizabethtown
 Landform (hillslope, terrace, etc.): Slope of detention basin Local Relief (concave, convex, none): Concave Slope (%): 10
 Subregion (LRR or MLRA): N Lat: 37.719835 Long: -85.903659 Datum: NAD83
 Soil Map Unit Name: Crider Silt Loam, Nicholson Silt Loam NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in remarks.)
 Are vegetation soil or hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are vegetation soil or hydrology naturally problematic? (If needed, explain any answers in "Remarks.")

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Hydric Soil Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Is the sampled area within a wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Remarks:			
Vegetative fringe around open water of retention pond.			

WETLAND HYDROLOGY INDICATORS

Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Microtopographic Relief (D4)
<input type="checkbox"/> True Aquatic Plants (B14)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	
<input type="checkbox"/> Thin Muck Surface (C7)	
<input type="checkbox"/> Other (Explain in Remarks)	
Field Observations:	
Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <input type="text"/>	
Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <input type="text"/>	
Saturation Present: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Describe Recorded Data (Stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION (Five Strata) – Use scientific names of plants.

Tree Stratum (Plot Size: 30)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:	
1.					
2.				Total No. of dominant species across all strata:	3 (B)
3.				% of dominant species that Are OBL, FACW, or FAC	100 (A/B)
4.					
5.					
_____ = Total Cover					
50 % of Total Cover: : _____ 20% of Total Cover: _____					
Sapling Stratum (Plot size: 15)				Prevalence Index Worksheet	
1.				Total % Cover of:	Multiply By:
2.				OBL Species _____ 35	X 1 = _____ 35
3.				FACW Species _____ 30	X 2 = _____ 60
4.				FAC Species _____ 35	X 3 = _____ 105
5.				FACU Species _____	X 4 = _____
6.				UPL Species _____	X 5 = _____
_____ = Total Cover				Totals (A) _____ 100	(B) _____ 200
50 % of Total Cover: _____ 20% of Total Cover: _____				Prevalence Index = B/A or 2	
Shrub Stratum (Plot size: 5)				Hydrophytic Vegetation Indicators:	
1.				_____ 1 Rapid Test for Hydrophytic Vegetation	
2.				<input checked="" type="checkbox"/> 2 Dominance Test is > 50%	
3.				<input checked="" type="checkbox"/> 3 Prevalence Index is ≤ 3.0 ¹	
4.				_____ 4 Morphological Adaptations ¹ (Provide Support)	
5.				_____ Problematic Hydrophytic Vegetation ¹ (Explain)	
6.				¹ Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.	
_____ = Total Cover				Definitions of Five Vegetation Strata:	
50 % of Total Cover: _____ 20% of Total Cover: _____				Tree – Woody plants, excluding woody vines, approximately 20 ft. (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).	
Herb Stratum (Plot size: 5)				Sapling – Woody plants, excluding woody vines, approximately 20 ft. (6 m) or more in height and less than 3 in. (7.6 cm) DBH.	
1. Lycopodium americanus	20	X	OBL	Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft. (1-6 m) in height.	
2. Xanthium strumarium	35	X	FAC	Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft. (1 m) in height.	
3. Eleocharis tenuis	30	X	FACW	Woody Vine – All woody vines, regardless of height.	
4. Leersia oryzoides	15		OBL		
5.					
6.					
7.					
8.					
9.					
10.					
11.					
_____ 100 = Total Cover				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	
50 % of Total Cover: _____ 20% of Total Cover: _____					
Woody Vine Stratum (Plot size: 5)					
1.					
2.					
3.					
4.					
5.					
_____ = Total Cover					
50 % of Total Cover: _____ 20% of Total Cover: _____					
Remarks: (Include photo numbers here or on a separate sheet.)					

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	2.5 Y 4/2	70	10 YR 5/6	30				
8-10	2.5 Y 4/2	70	10 YR 5/6	10			Clay loam	Black gravel layer
10-16	2.5 Y 4/3	80	7.5 YR 5/6	20			Clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains

²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A11)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (TF2)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA, 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. ARMY CORPS OF ENGINEERS

SEVERNS VALLEY BAPTIST CHURCH
ELIZABETHTOWN, HARDIN COUNTY, KENTUCKY

ATTACHMENT C
PHOTOLOG

Attachment C - Photo Log
Severns Valley Baptist Church Master Site Plan - Phase I
Elizabethtown, Hardin County, Kentucky



Retention Basin with Wetland Fringe



Retention Basin's Wetland Fringe near Confluence with Ephemeral Channel



Retention Basin's Outfall



Upland Swale at Outfall of Retention Basin



Ephemeral Channel - Upstream View from Downstream End



Ephemeral Channel - Downstream View from Upstream End