ATTACHMENT 2

SECTION 401 WATER QUALITY CERTIFICATION CONSIDERATIONS

1.0 INTRODUCTION

The purpose of this attachment is to summarize the proposed construction activities at Kentucky Power's Big Sandy fly ash pond that are subject to a Section 401 Water Quality Certification. In order to close the Big Sandy fly ash pond near Louisa, Kentucky in Lawrence County, Kentucky Power (Figure 2-1) will need to undertake certain activities, including grading and the construction of a spillway in the floodplain of Blaine Creek, a navigable water of the United States (U.S.). In addition, the closure activities require discharge of fill materials into wetlands and streams determined to be jurisdictional by the United States Army Corps of Engineers (USACE). Accordingly, Kentucky Power has applied for a Clean Water Act (CWA) Section 404 Individual permit to undertake the aforementioned activities. URS submitted the Section 404 permit application (provided as Attachment 3 to this application) to the USACE Louisville District on February 25, 2015, and is currently under review.

The Section 401 Water Quality Certification Program implemented by the Kentucky Division of Water (KDOW) is the Commonwealth's review and authorization of selected federal licenses and permits, including Section 404 permits for discharge of dredged or fill material issued by the USACE. Considerations associated with the Section 401 Water Quality Certification for this Project are the subject of this attachment.

For additional details regarding the proposed construction and subsequent closure operations, please refer to the USACE Section 404 permit application provided as Attachment 3.

2.0 BACKGROUND

Prior to submission of the USACE Section 404 permit application, URS conducted a series of wetland delineation and stream assessment activities at the property dating back to 2012. In response to these studies, the USACE issued a Jurisdiction Determination (Appendix 2B), dated September 18, 2014, which states that 12 wetlands, 153 streams, and one pond are the regulated bodies of water located within the study area.

3.0 PHYSICAL SITE DESCRIPTION

The Project area is located in the Cumberland Plateau Region of Eastern Kentucky. The Cumberland Plateau is characterized by relatively steep mountain ravines eroded by water through flat-lying sequences of Pennsylvanian age sedimentary rocks (USGS, 2001). The Project site is comprised of valley and ridges along the flanks of Horseford Creek, a tributary of Blaine Creek. According to the Fallsburg, Kentucky 7.5-minute series topographic map, site elevations

range from approximately 900 feet above mean sea level (msl) near the southwest corner of the site to approximately 540 feet msl along the floodplain of Blaine Creek.

The Big Sandy fly ash pond is a reservoir that was created by damming the valley of Horseford Creek prior to 1970. The fly ash pond is impounded by the Horseford Creek Dam (main dam) and a saddle dam on the right upstream abutment. The main dam is identified as Kentucky Dam ID 0367 (National Inventory of Dams ID KY00367). According to Kentucky Revised Statute Chapter 151, KYDEP Engineering Memo No. 5 (adopted 02-01-1975), Section B and Kentucky Adminstrative Regulations 401:030 – Design Criteria for Dams Associated Structures, the KYDEP has classified the main dam as high hazard. The saddle dam has not been classified by the KYDEP as a separate structure. The saddle dam contains the existing emergency spillway to the main dam.

The Horseford Creek valley is relatively steeply incised and has three distinct segments trending in different directions. The pond is a U-shape configuration starting in the upstream portion, the valley trend is first to the southeast, then east, and finally north as it contributes to the larger Blaine Creek valley. The central, east-trending portion of the valley/pond receives sluiced coal combustion products (CCPs) and wastewater from the Plant, leaving open water in the main upstream and the downstream segments as well as in a small contributory branch to the east-southeast (saddle dam).

CCPs generated by the plant are transported by wet sluicing methods to the 130-acre pond, which is retained by the main dam (crest elevation approximately 711 feet msl). The pond began receiving CCPs and wastewater in 1970, and has been regulated under the CWA through the KPDES program.

The current length of the pond centerline from the crest of the earthen embankment to the upstream end of the upper pool is approximately 7,800 feet. The pond, as currently configured, covers approximately 140 acres consisting of approximately 40 acres of open water and 100 acres of exposed or vegetated ash (please note, only 130 acres is jurisdictional).

The upstream surface water pool elevation is roughly 685 feet msl, whereas the downstream pool elevation is roughly 670 feet msl. The depth of the water within the open water portions of the pond is reported up to 42 feet, with the thickness of the ash deposits documented up to approximately 130 feet. Vegetated ash in the central portion ranges in elevation from approximately 670 to 685 feet msl.

The final elevation of CCP material at closure is highly dependent on the amount of coal burned between now and the time of closure. This is directly related to electricity demand, balancing of

loads with other regional power plants, and the ash content of the coal burned. All of these factors will vary as the Big Sandy Plant continues to burn coal. CCP elevations for the closure design are conservative and based on the most recent surveys conducted to date.

4.0 WETLAND & STREAM IMPACTS

The following section provides a description of the wetland and stream evaluations and proposed mitigation plans.

4.1 SUMMARY OF WETLAND EVALUATIONS AND IMPACTS

URS conducted wetland delineations and stream assessments of the proposed Project area in May, June, and October 2012. A copy of the original delineation report (2013) and addendum that were submitted to the USACE are included in Attachment 3. AEP, URS, and the USACE Louisville District also conducted a jurisdictional determination site walk of the Project site in August 12, 2014.

Within the limits of disturbance of the Project site, seven wetlands will be impacted by the Project activities. A cumulative total of approximately **0.41 acre** of wetland will be impacted; the individual impact to each wetland is documented in Table 1 below. Wetland 8 is within the limit of disturbance; however, it is also located within the permitted limits of the maximum operating pool elevation for the Fly Ash Pond (i.e., non-jurisdictional). A summary of wetlands delineated on the Project site along with the impacted acreage is provided in Table 1 below. Detailed descriptions of the wetlands delineated onsite are included in the attached Wetland Delineation Report provided in Attachment 3 of this application. The locations of wetlands identified within the construction limits are shown on Figure 2-2.

TABLE 1
IMPACTED JURISDICTIONAL WETLANDS WITHIN THE PROJECT LIMIT OF DISTURBANCE

Wetland Name	Cowardin Wetland Type[a]	ORAM Score[b]	ORAM Category	Impacted Acreage within Limit of Disturbance
Wetland 10	PEM	23	1	0.02
Wetland 11	PEM	23	1	0.05
Wetland 12	PEM	22	1	0.02
Wetland 13	PEM	29	1	0.03
Wetland 14	PEM/PSS	47	2	0.21
Wetland 15	PEM	21.5	1	0.06
Wetland 16	PEM/PSS	32.5	2	0.02
Total: 7 Wetlands	**5 PEM; 2 PEM/PSS**			**0.41**

[a]: PEM = palustrine emergent, PSS = palustrine scrub/shrub

[b]: ORAM= Ohio Rapid Assessment Method

4.2 SUMMARY OF STREAM EVALUATIONS AND IMPACTS

Within the limits of disturbance, 43 streams will be impacted by the Project. A cumulative total of approximately **4,071 linear feet** of stream will be impacted. The 43 streams are comprised of 29 ephemeral stream (totaling approximately 1,848 feet), 12 intermittent streams (totaling 1,536 feet), and two perennial streams (totaling 687 feet).

Impacted streams are summarized in Table 2 below. Detailed descriptions of the streams delineated onsite are included in the attached Wetland Delineation Report provided in Attachment 3. The locations of streams identified within the construction limits are shown on Figure 2-2.

TABLE 2

IMPACTED JURISDICTIONAL STREAMS WITHIN THE PROJECT LIMITS OF DISTURBANCE

Stream Name	Flow Regime	RBP Score[a]	Stream Quality or Description	Linear Feet of Stream Impact within Limit of Disturbance
Stream 01	Ephemeral	NA	High Gradient Stream	43
Stream 02	Ephemeral	NA	High Gradient Stream	45
Stream 03	Ephemeral	NA	High Gradient Stream	43
Stream 04	Intermittent	103	Marginal	436
Stream 05	Ephemeral	NA	High Gradient Stream	70
Stream 06	Ephemeral	NA	High Gradient Stream	27
Stream 07	Ephemeral	NA	High Gradient Stream	23
Stream 08	Ephemeral	NA	High Gradient Stream	48
Stream 09	Ephemeral	NA	High Gradient Stream	57
Stream 10	Ephemeral	NA	High Gradient Stream	28
Stream 11	Intermittent	NA	High Gradient Stream	201
Stream 11a	Ephemeral	NA	High Gradient Stream	61
Stream 11c	Ephemeral	NA	High Gradient Stream	72
Stream 11e	Ephemeral	NA	High Gradient Stream	55
Stream 12	Ephemeral	NA	High Gradient Stream	49
Stream 13	Intermittent	96	Marginal	142
Stream 17	Intermittent	NA	High Gradient Stream	1
Stream 18	Intermittent	112	Sub-Optimal	191
Stream 18a	Ephemeral	NA	High Gradient Stream	59
Stream 18b	Ephemeral	NA	High Gradient Stream	56
Stream 19	Ephemeral	NA	High Gradient Stream	36
Stream 20	Ephemeral	NA	High Gradient Stream	273
Stream 20a	Ephemeral	NA	High Gradient Stream	40
Stream 22	Intermittent	NA	High Gradient Stream	38
Stream 23	Ephemeral	NA	High Gradient Stream	84
Stream 23a	Ephemeral	NA	High Gradient Stream	61
Stream 30	Perennial	89	Marginal	540
Stream 31	Intermittent	62	Marginal	364
Stream 32	Intermittent	80	Marginal	312
Stream 33	Ephemeral	NA	High Gradient Stream	1
Stream 34	Ephemeral	NA	High Gradient Stream	90
Stream 34a	Ephemeral	NA	High Gradient Stream	30
Stream 35	Intermittent	NA	High Gradient Stream	7
Stream 35b	Ephemeral	NA	High Gradient Stream	1

TABLE 2

IMPACTED JURISDICTIONAL STREAMS WITHIN THE PROJECT LIMITS OF DISTURBANCE

Stream Name	Flow Regime	RBP Score[a]	Stream Quality or Description	Linear Feet of Stream Impact within Limit of Disturbance
Stream 39	Intermittent	NA	High Gradient Stream	36
Stream 40	Ephemeral	NA	High Gradient Stream	16
Stream 41	Intermittent	NA	High Gradient Stream	103
Stream 43	Ephemeral	NA	High Gradient Stream	84
Stream 44	Perennial	142	Sub-Optimal	147
Stream 46	Intermittent	NA	High Gradient Stream	71
Stream 48	Ephemeral	NA	High Gradient Stream	9
Stream 55	Ephemeral	NA	High Gradient Stream	20
Stream 64	Ephemeral	NA	High Gradient Stream	<1
Total: 43 Streams	**29 Ephemeral; 12 Intermittent: 2 Perennial**			**4,071**

[a]: RBA = Rapid Bioassessment Protocol
NA = Not Applicable

4.3 SUMMARY OF POND EVALUATIONS AND IMPACTS

Within the limits of disturbance of the Project site, one pond will be impacted by the Fly Ash Pond closure activities. A total of approximately **0.01-acre** will be impacted by the Project. The location of the pond identified within the construction limits is shown on Figure 2-2.

4.4 MITIGATION

This section summarizes the proposed mitigation approach for the Project.

4.2.1 Avoidance and Minimization

Since the beginning of the Project, Kentucky Power has sought to avoid and minimize impacts to the onsite wetland and waterbody resources. Due to the nature of the Project and proximity of delineated ecological features, impacts to some of the wetlands and streams onsite are unavoidable. Where impacts were avoidable, Kentucky Power considered design alternatives that reduced the impacts to the extent possible. For example, Kentucky Power worked with contractors to minimize the extent of the overall closure cap size and amount of fill needed from borrow areas. The downsizing or relocation of borrow areas and closure cap size has allowed for

avoidance or significant minimization of the overall impacts to wetlands and streams throughout the Project boundary. Particularly, no jurisdictional wetlands will be filled as a result of grading/filling activities associated with the cap, and no wetlands or streams will be impacted as a result of the borrow area excavation. This avoidance and minimization is further depicted with the successively smaller boundaries of planned limits of disturbance that were conceptually designed in April 2013, July 2014, and December 2014, respectively, shown in Figure 2-3.

Ecological surveys identified 17 wetlands totaling approximately 1.64 acres, 154 streams totaling 42,421 linear feet, and one 0.24-acre pond within the Project survey boundary. It is anticipated that approximately 0.41 acre of wetland, approximately 4,071 linear feet of stream, and 0.01-acre of pond will be unavoidably impacted for construction of the Project.

4.2.2 Compensatory Mitigation

At this time, the in-lieu fee program offered through Kentucky Department of Fish and Wildlife Resources is not available in the Big Sandy Watershed. Additionally, there is a mitigation bank within the Big Sandy Watershed (Eastern Kentucky Stream Mitigation Bank), however credits are also not available at this time, but are planned to become available for use for mitigation in the near future.

Kentucky Power is currently evaluating several mitigation options after a meeting with the Louisville USACE District on March 27, 2015. All wetland, pond, and stream impacts will be mitigated through a wetland and stream mitigation program determined to be acceptable by both the USACE and KDOW. Details regarding the proposed wetland and stream mitigation plan will be provided to the USACE and KDOW at a later date as an Addendum.

5.0 PROTECTION OF BLAINE CREEK WATER QUALITY DURING CONSTRUCTION

Stormwater will continue to be directed to the main dam for discharge through the existing spillway under the current KPDES permit until the main spillway and the saddle dam spillway are reconstructed. During construction, stormwater collected in a low area near the saddle dam will be pumped to the main dam for discharge.

A stormwater pollution prevention plan (SWP3) will be developed for the Project prior to start of construction activities. The plan will include provisions for placement of sediment and erosion controls at all locations where soil disturbance activities will be conducted in and adjacent to waters of the U.S. These erosion controls will be designed to prevent sediment laden water from flowing offsite into adjacent waterways. Kentucky Power is committed to the use of Best

Management Practices (BMPs) to minimize surface pollution and any erosion/sedimentation related impacts at the site. As a result, there should be little to no adverse impact to the environment of adjacent properties related to development and operation of the proposed Project.

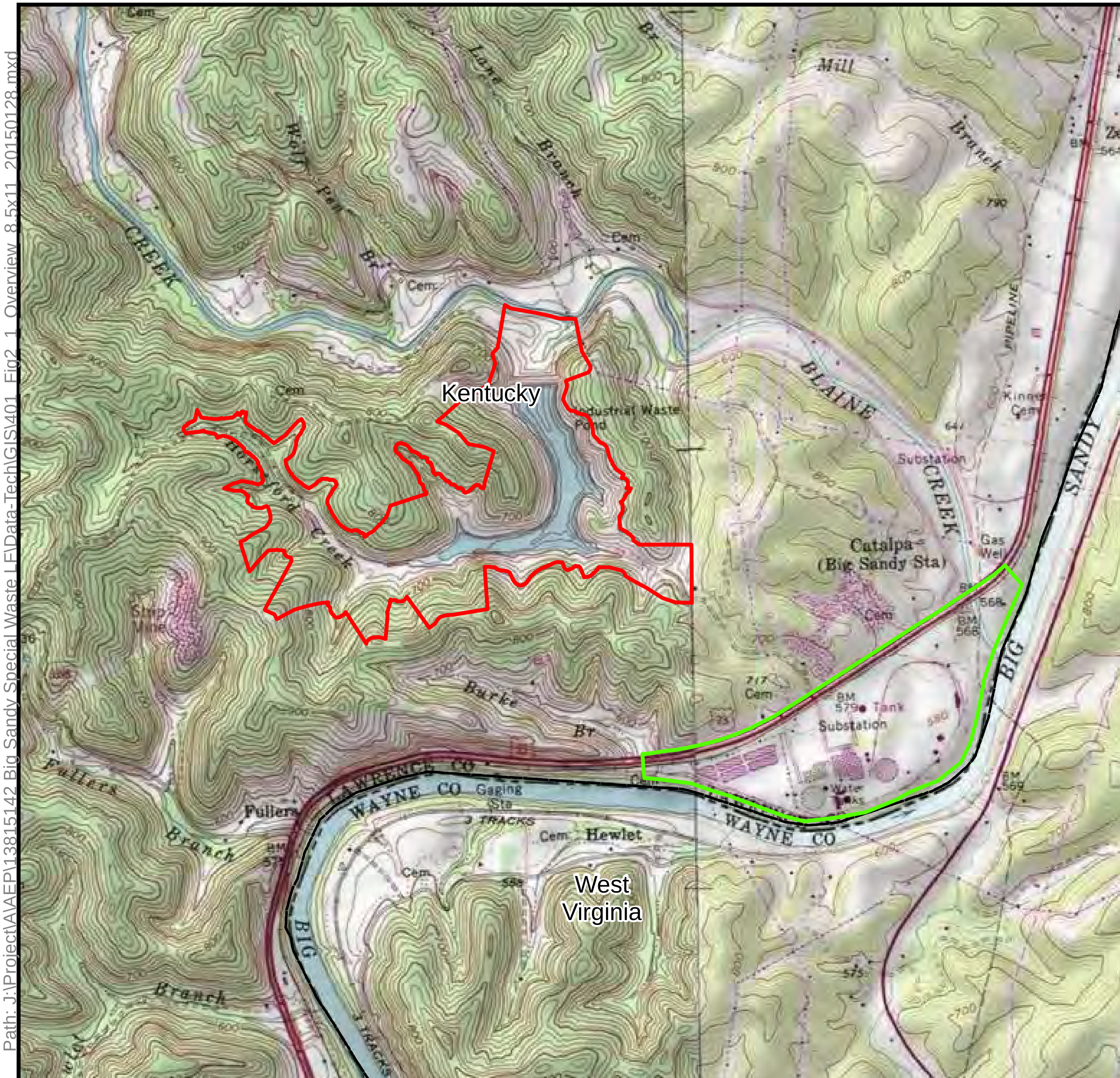
6.0 SUMMARY

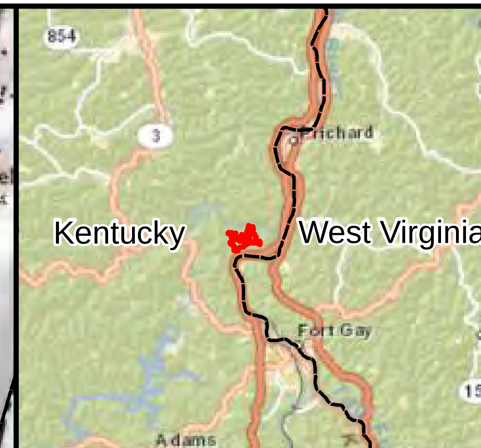
Kentucky Power is requesting the KDOW issue an Individual Section 401 Water Quality Certification to undertake activities associated with the closure of the approximately 130-acre wet Fly Ash Pond at the Big Sandy Plant near Louisa, Kentucky in Lawrence County. These activities will include the modifications of structures adjacent to Blaine Creek, a navigable water of the US, and discharging fill materials into wetlands and streams.

7.0 REFERENCES

United States Geological Survey, 2001. Geology of Kentucky. USGS Professional Paper 1151-H.

FIGURES





N

LEGEND

Project Boundary

Big Sandy Plant Boundary

State Boundary

0 2,000 4,000

Scale in Feet

BASE MAP SOURCE:
ArcGIS Online World Imagery
Fallsburg. KY; Prichard, KY
7.5' USGS Topographic Quadrangles

AEP

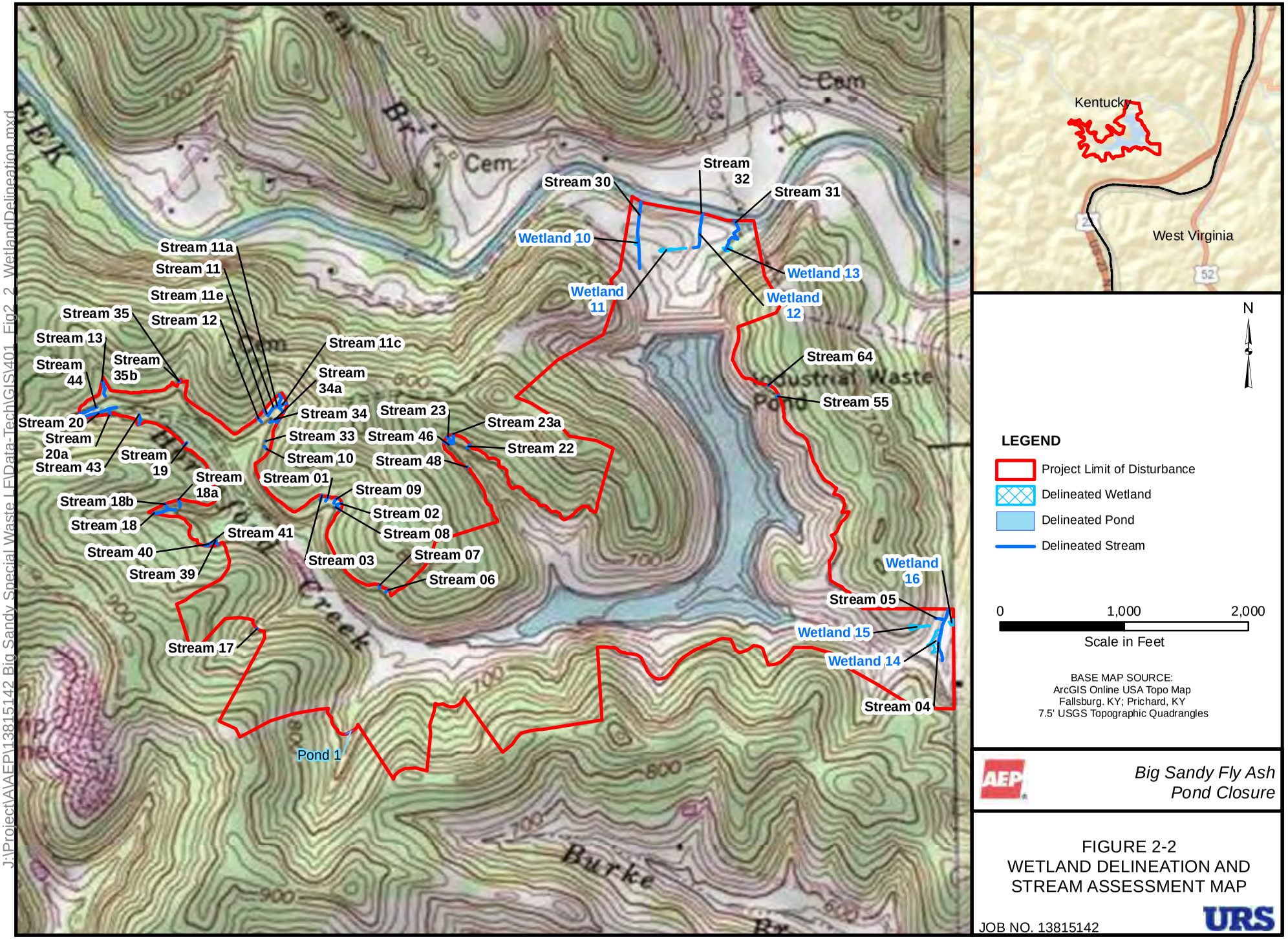
Big Sandy Fly Ash Pond Closure

FIGURE 2-1
OVERVIEW MAP

JOB NO. 13815142

URS

Path: J:\Project\A\AEP\13815142 Big Sandy Special Waste LF\Data-Tech\GIS\401_Fig2_1_Overview_8.5x11_20150128.mxd



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Big Sandy Fly Ash Pond Closure

FIGURE 2-2
WETLAND DELINEATION AND STREAM ASSESSMENT MAP

JOB NO. 13815142

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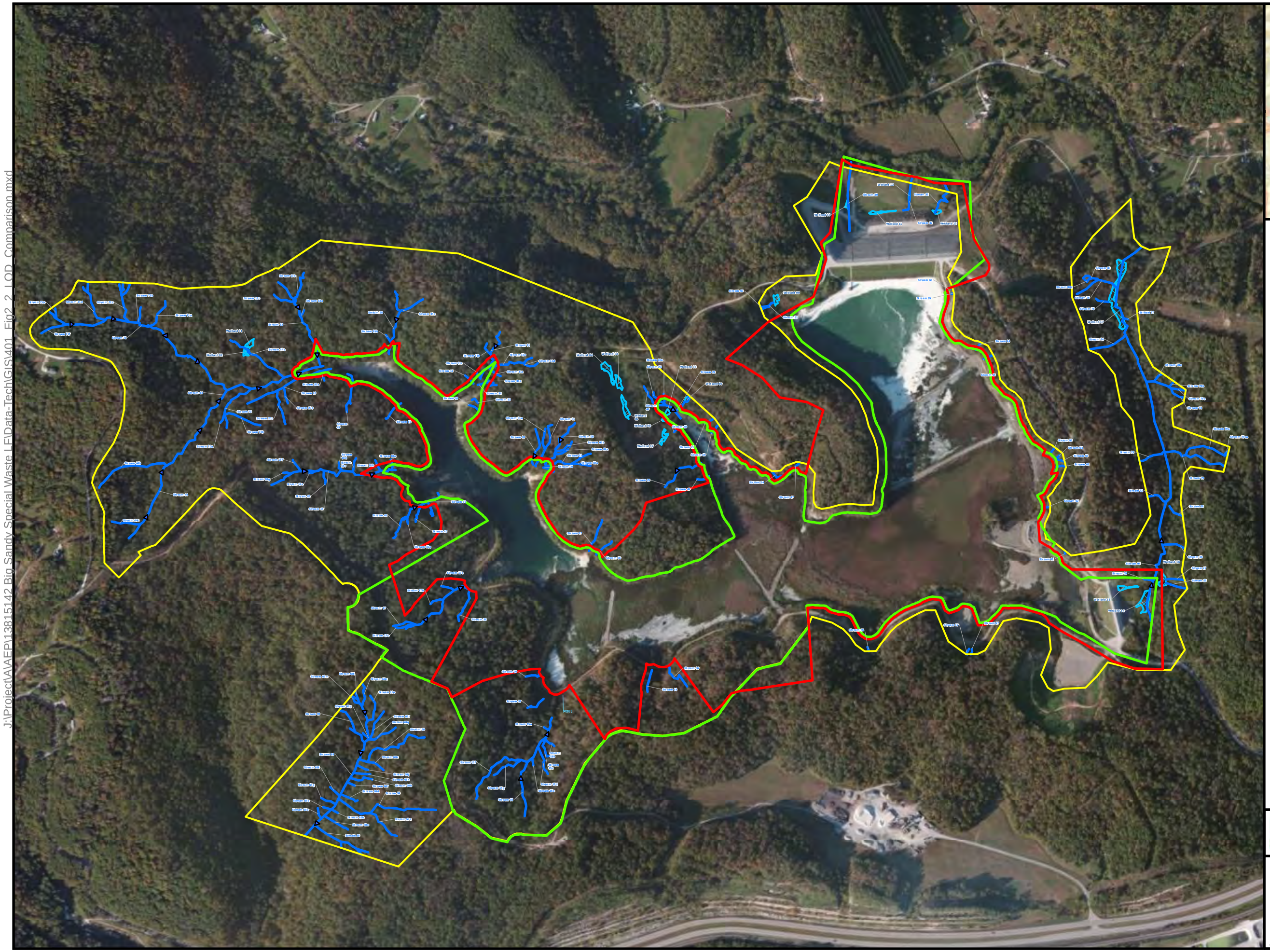

LEGEND

- Current Limit of Disturbance
- July 2014 Limit of Disturbance
- April 2013 Limit of Disturbance
- Delineated Wetland
- Delineated Pond
- Delineated Stream

0 750 1,500

Scale in Feet

Service Layer Credits: Sources: Esri, DeLorme, NAVTEQ, USGS, Intermap, iPC, NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom, 2013
Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX,

Big Sandy Fly Ash Pond Closure

FIGURE 2-3
LIMIT OF DISTURBANCE COMPARISON MAP

JOB NO. 13815142

URS

APPENDIX 2A

INDIVIDUAL KENTUCKY WATER QUALITY CERTIFICATION FEE FORM AND POWER OF ATTORNEY

COMMONWEALTH OF KENTUCKY
ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION
DIVISION OF WATER

INDIVIDUAL KENTUCKY WATER QUALITY CERTIFICATION FEE PAYMENT

401 KAR 9:020 Section 401 Water Quality Certification Fees and Certification Timetable

KRS 224.16-050 authorizes the cabinet to certify pursuant to 33 U.S.C. 1341 that applicants for a federal permit regarding the construction or operation of facilities, which may result in a discharge of dredged or fill material into the waters of the Commonwealth, as defined in KRS 224.01-010(33), shall comply with the applicable provisions of the Federal Water Pollution Control Act, 33 U.S.C. 1251 et seq. KRS 224.10-100 authorizes the cabinet to establish a fee for the cost of processing applications for permits authorized under KRS Chapter 224. The project may not start until all necessary fees are paid and approvals are received from KDOW. For questions concerning the WQC process, contact the WQC Section at 502-564-3410. For more information: http://www.water.ky.gov/permitting/wqcert/

1. **OWNER:** Kentucky Power dba American Electric Power – Big Sandy Plant
   Provide name of person(s), company, governmental unit or other owner of proposed project.
   MAILING ADDRESS: c/o Alan R. Wood, 1 Riverside Plaza, Columbus, Ohio 43215
   TELEPHONE #: (614) 716-1233 **E-MAIL:** arwood@aep.com
   AGENCY INTEREST (AI) # OF PROJECT: 2610 **(assigned by KDOW)**
2. **AGENT:** Matthew Thomayer
   Provide name of person(s) submitting application, if other than owner.
   ADDRESS: 525 Vine Street, Suite 1800, Cincinnati, Ohio
   TELEPHONE #: (513) 651-3440 **E-MAIL:** matt.thomayer@aecom.com
3. **BRIEF DESCRIPTION OF CONSTRUCTION:** Closure of Big Sandy Fly Ash Pond: Construction of Fly Ash Pond Cap System, Main Dam and Saddle Dam Spillways, and Lowering of Horseford Creek Dam. See additional attachments to this submittal for more detailed explanation.
   Describe the type and purpose of construction and describe stream and/or wetland impact.
4. **COUNTY:** Lawrence **NEAREST COMMUNITY:** Louisa, KY
5. **STREAM NAME(S):** Blaine Creek **LATITUDE/LONGITUDE:** 38.181623/-82.640234
   (Start and end points of each individual impact; add more sheets if necessary.)
7. **TOTAL LINEAR FEET OF STREAM IMPACTED:** 4,071 **WETLAND ACRES IMPACTED:** 0.42*
   *Wetland impacts listed above includes 0.01-acre of pond impact
8. **EXEMPTED FROM FEE BECAUSE:**
   (A) {Personal Residence: _____ **(B) Agricultural Operation:** _____
9. **FEES:**

Stream impact greater than 500 linear feet and less than 1,000 linear feet:	**Fee - $1,000.00** _____
Stream impact 1,000 linear feet to 5,000 linear feet:	**Fee - $2,500.00** x
Stream impact greater than 5,000 linear feet:	**Fee - $,5000.00** _____
Wetland impacts	**Fee $500.00 per acre not to exceed $5,000.00**
	Total Fee Paid: $2,710

To the best of my knowledge, all the information provided is true and correct.

SIGNATURE: _____ **DATE:** 4/13/2015
Owner or Agent sign here. (If signed by Agent, attach Power of Attorney.)

Make check to: KY STATE TREASURER

MAIL TO:

Kentucky Division of Water
Water Quality Certification Section
200 Fair Oaks Lane
Frankfort, KY 40601

LIMITED POWER OF ATTORNEY

Date: March 9, 2015

Re: Closure of Big Sandy Fly Ash Pond

TO WHOM IT MAY CONCERN:

Kentucky Power Company, d/b/a American Electric Power ("AEP"), owner and operator of the Big Sandy Power Plant, "Owner", hereby appoints AECOM, through its employees, as agents on behalf of the Owner to act in all matters pertaining to the following:

The preparation, execution, issuance and delivery of all applications, filings and permits required by the Commonwealth of Kentucky relative to the closure of the Big Sandy Fly Ash Pond;
The response to any inquiries regarding said applications, filings and permits.

IN WITNESS WHEREOF, the Owner has caused this Power of Attorney to be signed in its name by its duly authorized officer the day and year above written.

American Electric Power

By: Thomas E Welch

Its: DIRECTOR, L&R.S

Subscribed and sworn to before me
this 9th day of March, 15.

Lisa M Wade
Notary Public

Lisa M. Wade
Notary Public, State of Ohio
My Commission Expires 12-19-2017

AEP Legal 994155.1
03/06/2015 13:09:50

APPENDIX 2B

USACE SECTION 404 JURISDICTIONAL DETERMINATION AND ADDENDUM

DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, LOUISVILLE
CORPS OF ENGINEERS
P.O. BOX 59
LOUISVILLE KY 40201-0059
FAX: (502) 315-6677
http://www.lrl.usace.army.mil/

SEP 29 2014

September 18, 2014

Operations Division
Regulatory Branch (South)
ID No. LRL-2014-417-mdh

Ms. Jill Lukehart
American Electric Power
1 Riverside Plaza
Columbus, OH 43215

Dear Ms. Lukehart:

This is in response to your request for an approved jurisdictional determination. The request was made for a 602-acre parcel, including a fly ash disposal pond associated with the Big Sandy Power Plant and adjacent lands, located near the City of Louisa in Lawrence County, Kentucky.

The U.S. Army Corps of Engineers exercises regulatory authority under Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. § 403) and Section 404 of the Clean Water Act (33 U.S.C. § 1344) for certain activities in "waters of the United States (U.S.)." These waters include all waters that are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce.

Based on a review of the submitted information, we have verified that the one-hundred and fifty-three (153) identified tributaries (see *Table 1*), possess a significant nexus and as such are considered jurisdictional "waters of the U.S." In addition, the report identified twelve (12) wetlands and one (1) open water (see *Table 1*), which either abut or lie adjacent to one of the aforementioned tributaries. These stream channels, adjacent/abutting wetlands and open water perform numerous functions which have a substantial, or more than speculative, effect on the Big Sandy River (a traditional navigable waters).

Therefore, if construction activities would require discharges of dredged or fill material within the delineated boundaries of the twelve (12) wetlands and/or below the Ordinary High Water Mark (OHWM) of the one (1) open water or the one-hundred and fifty-three (153) stream channels (i.e., any of the *Table 1* waters), then a Department of the Army (DA) permit would be required.

In addition to these waters, the report identified four (4) isolated wetlands, which lack a significant nexus (see *Table 2*). These waters do not appear to be used or be susceptible to use in interstate or foreign commerce. As such, these waters are not considered to be "waters of the U.S."

Further, the 130-acre Fly Ash Pond was constructed as required by other sections of the Clean Water Act to treat coal ash waste water (KPDES Permit# KY0000221). Per 33 C.F.R. § 328.3(a)(8) of our regulations, such waters are not considered to be jurisdictional "waters of the U.S." Also, since Wetland 8 lies within the Fly Ash

Pond's maximum operating pool elevation, it is also not considered jurisdictional per 33 C.F.R. § 328.3(a)(8).

Therefore, a DA permit is not required for proposed impacts to these waters (see *Table 2*). However, this determination does not relieve you of the responsibility to comply with applicable State law. We urge you to contact the Kentucky Energy & Environment Cabinet Division of Water, 200 Fair Oaks, 4th Floor Frankfort, Kentucky 40601, to determine the applicability of State law to your project.

This letter contains an approved jurisdictional determination for the 602-acre subject parcel and is valid for a period of five (5) years from the date of this letter unless new information warrants revision of the determination before the expiration date. If you object to this determination, you may request an administrative appeal under Corps regulations at 33 C.F.R. § 331. Enclosed you will find a Notification of Appeal Process (NAP) fact sheet and Request for Appeal (RFA) form. If you request to appeal this determination, you must submit a completed RFA form to the Lakes and Rivers Division Office at the following address.

Appeals Review Officer
Great Lakes and Ohio River Division
CELRD-PD-REG
550 Main Street, Room 10032
Cincinnati, OH 45202-3222
(513) 684-6212

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete, that it meets the criteria for appeal under 33 C.F.R. § 331.5, and that it has been received by the Division Office within **60 days** of the date of the NAP. Should you decide to submit an RFA form, it must be received at the above address by **November 17, 2014.** It is not necessary to submit an RFA form to the Division office if you do not object to the determination in this letter.

If we can be of any further assistance, please contact us by writing to the above address, ATTN: CELRL-OP-FS, or call me at (502) 315-6676. Any correspondence on this matter should refer to our ID Number LRL-2014-417-mdh.

Sincerely,

Michael Hasty
Senior Project Manager, South Section
Regulatory Branch

Enclosures

Copy Furnished:

Mr. James Bicknell
Kentucky Energy & Environment Cabinet
Division of Water
200 Fair Oaks, 4th Floor
Frankfort, KY 40601

Mr. Matt Thomayer
URS Corporation
525 Vine Street, Suite 1800
Cincinnati, OH 45202

Table 1: (Jurisdictional Stream Channels, Wetlands & Open Water):				
ID #	**Description/Tribuary Name**	**Latitude**	**Longitude**	**Size (acres= ac) (lf =linear feet)**
Wetland 01	Emergent/Scrub-Shrub Wetland	38.185144	-82.65042	0.06 ac
Wetland 02	Emergent Wetland	38.184948	-82.650542	0.03 ac
Wetland 06	Emergent/Scrub-Shrub Wetland	38.185745	-82.637086	0.03 ac
Wetland 09	Emergent/Scrub-Shrub Wetland	38.185936	-82.635573	0.06 ac
Wetland 10	Emergent Wetland	38.187993	-82.633528	0.02 ac
Wetland 11	Emergent Wetland	38.187827	-82.632687	0.05 ac
Wetland 12	Emergent Wetland	38.188183	-82.631769	0.02 ac
Wetland 13	Emergent Wetland	38.187824	-82.631001	0.03 ac
Wetland 15	Emergent Wetland	38.179389	-82.625917	0.06 ac
Wetland 14	Emergent/Scrub-Shrub Wetland	38.179076	-82.625342	0.21 ac
Wetland 16	Emergent/Scrub-Shrub Wetland	38.179511	-82.624825	0.08 ac
Wetland 17	Forested Wetland	38.185963	-82.625944	0.55 ac
Pond 01	Pond	38.177116	-82.641885	0.24 ac
Stream 68	Unnamed Perennial (RPW) Tributary of Fuller's Branch	38.176515	-82.647681	1,381 lf
Stream 30	Unnamed Perennial (RPW) Tributary of Blaine Creek	38.188125	-82.633499	558 lf
Stream 44	Horseford Creek-Perennial (RPW) Tributray of Blaine Creek	38.18353	-82.65165	2,379 lf
Stream 58	Unamed Ephemeral (Non-RPW) Tributary of Fuller's Branch	38.174032	-82.647949	604 lf
Stream 59	Unamed Ephemeral (Non-RPW) Tributary of Fuller's Branch	38.174786	-82.646863	881 lf
Stream 59a	Unamed Ephemeral (Non-RPW) Tributary of Fuller's Branch	38.174412	-82.646894	304 lf
Stream 60	Unamed Ephemeral (Non-RPW) Tributary of Fuller's Branch	38.176137	-82.646625	692 lf
Stream 60a	Unamed Ephemeral (Non-RPW) Tributary of Fuller's Branch	38.175762	-82.647063	149 lf
Stream 68a	Unamed Ephemeral (Non-RPW) Tributary of Fuller's Branch	38.174678	-82.648721	92 lf
Stream 68b	Unamed Ephemeral (Non-RPW) Tributary of Fuller's Branch	38.17473	-82.648255	62 lf
Stream 68c	Unamed Ephemeral (Non-RPW) Tributary of Fuller's Branch	38.17447	-82.648223	224 lf
Stream 68d	Unamed Ephemeral (Non-RPW) Tributary of Fuller's Branch	38.175023	-82.647836	158 lf
Stream 68e	Unamed Ephemeral (Non-RPW) Tributary of Fuller's Branch	38.174797	-82.648466	69 lf
Stream 68f	Unamed Ephemeral (Non-RPW) Tributary of Fuller's Branch	38.175329	-82.647784	68 lf
Stream 68g	Unamed Ephemeral (Non-RPW) Tributary of Fuller's Branch	38.174959	-82.648427	130 lf
Stream 68h	Unamed Ephemeral (Non-RPW) Tributary of Fuller's Branch	38.17541	-82.647479	200 lf
Stream 68i	Unamed Ephemeral (Non-RPW) Tributary of Fuller's Branch	38.17517	-82.648242	104 lf
Stream 68j	Unamed Ephemeral (Non-RPW) Tributary of Fuller's Branch	38.175685	-82.647456	102 lf
Stream 68k	Unamed Ephemeral (Non-RPW) Tributary of Fuller's Branch	38.175554	-82.647476	139 lf
Stream 68l	Unamed Ephemeral (Non-RPW) Tributary of Fuller's Branch	38.177244	-82.647641	65 lf
Stream 68m	Unamed Ephemeral (Non-RPW) Tributary of Fuller's Branch	38.177145	-82.647626	85 lf
Stream 68n	Unamed Ephemeral (Non-RPW) Tributary of Fuller's Branch	38.177322	-82.647374	204 lf
Stream 68o	Unamed Ephemeral (Non-RPW) Tributary of Fuller's Branch	38.176957	-82.647088	256 lf
Stream 68p	Unamed Ephemeral (Non-RPW) Tributary of Fuller's Branch	38.1764	-82.647351	58 lf
Stream 68q	Unamed Ephemeral (Non-RPW) Tributary of Fuller's Branch	38.176428	-82.646887	251 lf
Stream 68r	Unamed Ephemeral (Non-RPW) Tributary of Fuller's Branch	38.176653	-82.647099	266 lf
Stream 05	Unamed Ephemeral (Non-RPW) Tributary of Blaine Creek	38.179566	-82.625246	70 lf
Stream 26	Unamed Ephemeral (Non-RPW) Tributary of Blaine Creek	38.179403	-82.624443	178 lf
Stream 27	Unamed Ephemeral (Non-RPW) Tributary of Blaine Creek	38.179562	-82.624478	154 lf
Stream 28	Unamed Ephemeral (Non-RPW) Tributary of Blaine Creek	38.18034	-82.624501	185 lf
Stream 29	Unamed Ephemeral (Non-RPW) Tributary of Blaine Creek	38.180985	-82.624289	138 lf
Stream 72	Unamed Ephemeral (Non-RPW) Tributary of Blaine Creek	38.181433	-82.624959	175 lf
Stream 73	Unamed Ephemeral (Non-RPW) Tributary of Blaine Creek	38.182305	-82.625104	210 lf
Stream 74	Unamed Ephemeral (Non-RPW) Tributary of Blaine Creek	38.184755	-82.626268	336 lf
Stream 75	Unamed Ephemeral (Non-RPW) Tributary of Blaine Creek	38.185768	-82.626399	108 lf
Stream 76	Unamed Ephemeral (Non-RPW) Tributary of Blaine Creek	38.186226	-82.626544	385 lf
Stream 77	Unamed Ephemeral (Non-RPW) Tributary of Blaine Creek	38.185364	-82.625733	36 lf
Stream 78	Unamed Ephemeral (Non-RPW) Tributary of Blaine Creek	38.183861	-82.624616	354 lf
Stream 78a	Unamed Ephemeral (Non-RPW) Tributary of Blaine Creek	38.183771	-82.624265	120 lf
Stream 78b	Unamed Ephemeral (Non-RPW) Tributary of Blaine Creek	38.183921	-82.62445	61 lf
Stream 78c	Unamed Ephemeral (Non-RPW) Tributary of Blaine Creek	38.184067	-82.624865	96 lf
Stream 79	Unamed Ephemeral (Non-RPW) Tributary of Blaine Creek	38.182304	-82.623863	542 lf
Stream 79a	Unamed Ephemeral (Non-RPW) Tributary of Blaine Creek	38.182473	-82.623487	391 lf
Stream 79aa	Unamed Ephemeral (Non-RPW) Tributary of Blaine Creek	38.182373	-82.622941	53 lf
Stream 80	Unamed Ephemeral (Non-RPW) Tributary of Blaine Creek	38.186308	-82.626727	132 lf

Table 1: (Jurisdictional Stream Channels, Wetlands & Open Water):				
ID #	**Description/Tribuary Name**	**Latitude**	**Longitude**	**Size (acres= ac) (lf =linear feet)**
Stream 80a	Unamed Ephemeral (Non-RPW) Tributary of Blaine Creek	38.18624	-82.62678	80 lf
Stream 01	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.18278	-82.642085	402 lf
Stream 01a	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.18292	-82.642209	176 lf
Stream 02	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.182358	-82.641507	411 lf
Stream 02a	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.182345	-82.641158	157 lf
Stream 03	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.182731	-82.642327	313 lf
Stream 06	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.180497	-82.640554	170 lf
Stream 07	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.18074	-82.64076	278 lf
Stream 08	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.182257	-82.642054	101 lf
Stream 09	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.182792	-82.64174	479 lf
Stream 09a	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.182594	-82.641687	119 lf
Stream 09b	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.182694	-82.64161	194 lf
Stream 10	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.183665	-82.644132	95 lf
Stream 11a	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.18441	-82.643544	117 lf
Stream 11b	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.184944	-82.643781	104 lf
Stream 11c	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.184638	-82.64308	381 lf
Stream 11d	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.184545	-82.64252	129 lf
Stream 11e	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.184364	-82.644005	62 lf
Stream 12	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.184279	-82.644254	95 lf
Stream 13a	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.185804	-82.648927	56 lf
Stream 13b	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.186405	-82.648953	306 lf
Stream 13c	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.186111	-82.649453	185 lf
Stream 14	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.177507	-82.639347	183 lf
Stream 15a	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.176481	-82.642261	47 lf
Stream 15b	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.176163	-82.642182	104 lf
Stream 15c	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.176046	-82.642318	173 lf
Stream 15d	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.175778	-82.642329	245 lf
Stream 15e	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.175752	-82.642651	61 lf
Stream 15f	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.175687	-82.643729	646 lf
Stream 15g	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.175682	-82.643372	275 lf
Stream 16	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.17767	-82.642599	132 lf
Stream 17a	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.179664	-82.644962	111 lf
Stream 17b	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.179373	-82.645296	112 lf
Stream 17c	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.178786	-82.646264	233 lf
Stream 18a	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.182426	-82.64647	93 lf
Stream 18b	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.182388	-82.646877	100 lf
Stream 18c	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.182425	-82.647548	113 lf
Stream 18d	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.182362	-82.647975	87 lf
Stream 18e	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.182258	-82.648736	43 lf
Stream 18f	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.182427	-82.64916	114 lf
Stream 18g	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.182275	-82.649426	69 lf
Stream 19	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.183625	-82.646425	182 lf
Stream 20	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.184248	-82.649346	740 lf
Stream 20a	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.184416	-82.648381	81 lf
Stream 20b	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.183988	-82.649448	138 lf
Stream 20c	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.183736	-82.64961	294 lf
Stream 21	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.183258	-82.637508	84 lf
Stream 23	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.183783	-82.638926	165 lf
Stream 23a	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.183776	-82.63877	77 lf
Stream 24	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.181997	-82.635548	177 lf
Stream 25	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.182203	-82.63839	415 lf
Stream 33	Unnamed Ephemeral (Non-RPW)Tributary to fly ash pond	38.183828	-82.6441	64 lf
Stream 34	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.184202	-82.643787	141 lf
Stream 34a	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.184134	-82.643645	100 lf

Table 1: (Jurisdictional Stream Channels, Wetlands & Open Water):				
ID #	**Description/Tribuary Name**	**Latitude**	**Longitude**	**Size (acres= ac) (lf =linear feet)**
Stream 35a	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.185921	-82.645834	211 lf
Stream 35b	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.185204	-82.6465	78 lf
Stream 36	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.177545	-82.638531	280 lf
Stream 37	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.176969	-82.642526	171 lf
Stream 38	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.17922	-82.644498	279 lf
Stream 40	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.1813	-82.645778	157 lf
Stream 41a	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.18117	-82.646067	56 lf
Stream 42	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.182146	-82.648394	114 lf
Stream 43	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.184011	-82.647594	368 lf
Stream 44a	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.18488	-82.650217	554 lf
Stream 44b	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.182484	-82.653843	633 lf
Stream 44c	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.181227	-82.653997	232 lf
Stream 45	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.183078	-82.637348	93 lf
Stream 47	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.182258	-82.635048	48 lf
Stream 48	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.183095	-82.638419	73 lf
Stream 49	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.181963	-82.637701	109 lf
Stream 50	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.185788	-82.635826	116 lf
Stream 51	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.185756	-82.635877	75 lf
Stream 52	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.181211	-82.628042	47 lf
Stream 53	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.182467	-82.627866	64 lf
Stream 54	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.182315	-82.627723	39 lf
Stream 55	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.184567	-82.629622	88 lf
Stream 56	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.178126	-82.633154	36 lf
Stream 57	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.178022	-82.630229	43 lf
Stream 61	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.180213	-82.627552	31 lf
Stream 62	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.182122	-82.627641	70 lf
Stream 63	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.182254	-82.627658	77 lf
Stream 64	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.184825	-82.629898	77 lf
Stream 65	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.185999	-82.630599	19 lf
Stream 66	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.186103	-82.630655	30 lf
Stream 67	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.178037	-82.63036	51 lf
Stream 70a	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.183487	-82.651216	75 lf
Stream 70b	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.183499	-82.650664	310 lf
Stream 71a	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.185856	-82.652998	262 lf
Stream 71b	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.18583	-82.653492	131 lf
Stream 71c	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.186375	-82.654015	548 lf
Stream 71d	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.1858	-82.654716	440 lf
Stream 71e	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.185899	-82.655866	81 lf
Stream 71f	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.185596	-82.655933	222 lf
Stream 04	Unnamed Intermittent (RPW) Tributary to Blaine Creek	38.179875	-82.625015	3,343 lf
Stream 11	Unnamed Intermittent (RPW)Tributary to fly ash pond	38.184825	-82.643639	491 lf
Stream 13	Unnamed Intermittent (RPW)Tributary to fly ash pond	38.185593	-82.648905	816 lf
Stream 15	Unnamed Intermittent (RPW)Tributary to fly ash pond	38.17573	-82.642819	895 lf
Stream 17	Unnamed Intermittent (RPW)Tributary to fly ash pond	38.179089	-82.645326	797 lf
Stream 18	Unnamed Intermittent (RPW)Tributary to fly ash pond	38.18225	-82.648104	1,120 lf
Stream 22	Unnamed Intermittent (RPW)Tributary to fly ash pond	38.183653	-82.63824	186 lf
Stream 35	Unnamed Intermittent (RPW)Tributary to fly ash pond	38.185591	-82.646285	561 lf
Stream 39	Unnamed Intermittent (RPW)Tributary to fly ash pond	38.181365	-82.645372	169 lf
Stream 41	Unnamed Intermittent (RPW)Tributary to fly ash pond	38.181378	-82.645992	652 lf
Stream 46	Unnamed Intermittent (RPW)Tributary to fly ash pond	38.18363	-82.638883	432 lf
Stream 70	Unnamed Intermittent (RPW)Tributary to fly ash pond	38.183888	-82.650984	442 lf
Stream 71	Unnamed Intermittent (RPW)Tributary to fly ash pond	38.185572	-82.653279	1,816 lf
Stream 31	Unnamed Intermittent (RPW) Tributary to Blaine Creek	38.188061	-82.630791	371 lf
Stream 32	Unnamed Intermittent (RPW) Tributary to Blaine Creek	38.188102	-82.631772	315 lf

Table 2 (Non-jurisdictional waters):				
ID #	**Description**	**Latitude**	**Longitude**	**Size (acres)**
Wetland 03	Isolated Emergent Wetland	38.184148	-82.64005	0.08
Wetland 04	Isolated Emergent Wetland	38.184414	-82.640347	0.14
Wetland 05	Isolated Emergent Wetland	38.18358	-82.639877	0.11
Wetland 07	Isolated Emergent Wetland	38.182916	-82.638806	0.07
Wetland 08	Emergent Wetland	38.18342	-82.638723	0.04
Fly Ash Pond	Fly Ash Pond	38.182151	-82.630658	130

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): 9/16/14

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Louisville District, LRL-2014-417-mdh, Isolated Wetlands W-3, W-4, W-5 and W-7

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: Kentucky County/parish/borough: Lawrence County City: Louisa
Center coordinates of site (lat/long in degree decimal format): Lat. 38°-10'-49.441"N, Long 82°-38'-16.344"W.
Universal Transverse Mercator:
Name of nearest waterbody: Blaine Creek
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Big Sandy River
Name of watershed or Hydrologic Unit Code (HUC): Big Sandy (05070204)

☑ 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:

☑ Field Determination. Date: August 12, 2014

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There **are no** "*navigable waters of the U.S.*" within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 C.F.R. 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 no** "*waters of the U.S.*" within Clean Water Act (CWA) jurisdiction (as defined by 33 C.F.R. 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: linear feet: width (ft) and/or acres.
   Wetlands: acres.

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

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

☑ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional. Explain: The four isolated wetlands, referred to as Wetlands 03, 04, 05, and 07, are physically isolated, do not lie within the 100-year floodplain, lack a hydrological connection and are not adjacent to other "waters of the U.S." and do not have any shallow subsurface flow to other waters. The wetlands are not used nor are they susceptible to use in interstate or foreign commerce. Thus, the wetlands are not considered to be "waters of the U.S."

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[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:

   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:
   Drainage area:

   Average annual rainfall:
   Average annual snowfall:

   (ii) **Physical Characteristics:**
   (a) Relationship with TNW:

   ☐ Tributary flows directly into TNW.

   ☐ Tributary flows through tributary before entering TNW.

   Project waters are river miles from TNW.
   Project waters are river miles from RPW.
   Project waters are aerial (straight) miles from TNW.
   Project waters are 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:

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

   Tributary is: ☐ Natural

   ☐ Artificial (man-made). Explain:

   ☐ Manipulated (man-altered). Explain:

[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:
Average depth:
Average side slopes:

Primary tributary substrate composition (check all that apply):

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

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain:
Presence of run/riffle/pool complexes. Explain:
Tributary geometry:
Tributary gradient (approximate average slope): %

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

Surface flow is: Characteristics:

Subsurface flow: 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: Provides terrestrial wildlife habitat.

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

(b) General Flow Relationship with Non-TNW:
Flow is: Explain:

Surface flow is:
Characteristics:

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

(c) Wetland Adjacency Determination with Non-TNW:
- ☐ Directly abutting
- ☐ Not directly abutting
  - ☐ Discrete wetland hydrologic connection. Explain:
  - ☐ Ecological connection. Explain:
  - ☐ Separated by berm/barrier. Explain:

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

(iii) **Biological Characteristics. Wetland supports (check all that apply):**
- ☐ Riparian buffer. Characteristics (type, average width):
- ☐ Vegetation type/percent cover. Explain:
- ☐ Habitat for:
  - ☐ Federally Listed species. Explain findings:
  - ☐ Fish/spawn areas. Explain findings:
  - ☐ Other environmentally-sensitive species. Explain findings:
  - ☐ Aquatic/wildlife diversity. Explain findings:

3. **Characteristics of all wetlands adjacent to the tributary (if any)**
All wetland(s) being considered in the cumulative analysis:
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)

Summarize overall biological, chemical and physical functions being performed:

C. SIGNIFICANT NEXUS DETERMINATION

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

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

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

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

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

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

3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

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

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

2. **RPWs that flow directly or indirectly into TNWs.**
   - ☐ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: .
   - ☐ Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally:

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

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

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

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

   Provide acreage estimates for jurisdictional wetlands in the review area:

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:

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

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

Identify water body and summarize rationale supporting determination:

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

[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.*

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: Four wetlands totaling 0.40 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:

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: American Electric Power (applicant), URS Corporation (consultant) May 2013 submittal
- ☑ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - ☑ Office concurs with data sheets/delineation report.
  - ☐ Office does not concur with data sheets/delineation report.
- ☐ Data sheets prepared by the Corps:
- ☐ Corps navigable waters' study:
- ☑ U.S. Geological Survey Hydrologic Atlas:
  - ☑ USGS NHD data.
  - ☑ USGS 8 and 12 digit HUC maps.
- ☑ U.S. Geological Survey map(s). Cite scale & quad name: Fallsburg, KY 1:24,000 USGS Quadrangle
- ☑ USDA Natural Resources Conservation Service Soil Survey. Citation: Lawrence County, KY soil survey
- ☑ National wetlands inventory map(s). Cite name: Fallsburg, KY 1:24,000 USGS Quadrangle
- ☐ State/Local wetland inventory map(s):
- ☑ FEMA/FIRM maps: 21127C0120D
- ☐ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
- ☑ Photographs: ☐ Aerial (Name & Date):
- ☐ or ☑ Other (Name & Date): Photos taken by URS Corporation during 2012 field inspections.
- ☐ Previous determination(s). File no. and date of response letter:
- ☐ Applicable/supporting case law:
- ☐ Applicable/supporting scientific literature:
- ☐ Other information (please specify):

B. ADDITIONAL COMMENTS TO SUPPORT JD: The four (4) wetlands have no substantial nexus to a water of the U.S as they are physically isolated, do not lie within the 100-year floodplain and lack a hydrological connection to other waters of the United States. The wetlands are also not used nor are they susceptible to use in interstate or foreign commerce. Therefore, the wetlands are not considered to be "waters of the U.S.".

POTENIAL ISOLATED WETLANDS WITHIN THE BIG SANDY POND CLOSURE PROJECT

ID #	Description	Latitude	Longitude	Size (acre)	HUC	Quad
Wetland 03	Isolated Emergent Wetland	38.184148	-82.64005	0.08	Big Sandy	Fallsburg
Wetland 04	Isolated Emergent Wetland	38.184414	-82.640347	0.14	Big Sandy	Fallsburg
Wetland 05	Isolated Emergent Wetland	38.18358	-82.639877	0.11	Big Sandy	Fallsburg
Wetland 07	Isolated Emergent Wetland	38.182916	-82.638806	0.07	Big Sandy	Fallsburg
Total: 4				**0.40**		

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): 9/16/14

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Louisville District, LRL-2014-417-mdh, RPW Intermittent Stream Channels and Adjacent Wetlands (draining to Blaine Creek)

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: Kentucky County/parish/borough: Lawrence County City: Louisa
Center coordinates of site (lat/long in degree decimal format): Lat. 38°-10'-49.441"N, Long 82°-38'-16.344"W.
Universal Transverse Mercator:
Name of nearest waterbody: Blaine Creek
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Big Sandy River
Name of watershed or Hydrologic Unit Code (HUC): Big Sandy (05070204)

☑ 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: July 24, 2014

☐ Field Determination. Date(s):

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 C.F.R. part 329) in the review area. [*Required*]

☐ Waters subject to the ebb and flow of the tide.

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

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There **are** "*waters of the U.S.*" within Clean Water Act (CWA) jurisdiction (as defined by 33 C.F.R. 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: Two (2) intermittent stream channels totaling 686 linear feet: 5 width (ft).
Wetlands: Three (3) emergent wetlands totaling 0.10 acres.

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

Elevation of established OHWM (if known):

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

☐ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional. Explain:

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[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:

   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: Big Sandy Watershed: 410.4 square miles.
   Drainage area:

   Average annual rainfall: 50 inches
   Average annual snowfall: 21 inches

   (ii) **Physical Characteristics:**
   (a) Relationship with TNW:

   ☐ Tributary flows directly into TNW.

   ☑ Tributary flows through 1 tributary before entering TNW.

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

   Identify flow route to TNW[5]: Streams 31 and 32 both flow into Blaine Creek (a perennial RPW). Blaine Creek flows into the Big Sandy River (a TNW).
   Tributary stream order, if known: Second & Third, respectively.

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

   Tributary is:

   ☐ Natural

   ☑ Artificial (man-made) Explain: Streams originate at dam outfall of fly ash wastewater treatment pond.

   ☑ Manipulated (man-altered). Explain: Streams contain culverts, riprap, level spreaders

[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: 5 feet
Average depth: 3-18 inches
Average side slopes: 3:1

Primary tributary substrate composition (check all that apply):

☑ Silts	☐ Sands	☐ Concrete
☑ Cobbles	☑ Gravel	☐ Muck
☐ Bedrock	☐ Vegetation. Type/% cover:	
☑ Other. Explain: detritus, boulder, riprap		

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: Fairly stable, vegetated.
Presence of run/riffle/pool complexes. Explain: Run/riffle/pool complexes were observed in both streams.
Tributary geometry: Relatively Straight
Tributary gradient (approximate average slope): %

(c) Flow:
Tributary provides for: Seasonal Flow
Estimate average number of flow events in review area/year: 20 (or greater)
Describe flow regime: Intermittent
Other information on duration and volume: Based upon climate data accessed from Kentucky Mesonet (2011-2013), there is an average of approximately 69 annual storm events exceeding 0.2 inch of precipitation in Lawrence County, Kentucky. Assuming that intermittent streams are flowing for 48 hours after each storm event, there are approximately 138 annual flow days for the intermittent streams in the study area.

Surface flow is: Discrete and Confined Characteristics:

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

Tributary has (check all that apply):
☑ Bed and banks
☑ OHWM[6] (check all indicators that apply):

☑ clear, natural line impressed on the bank	☐ the presence of litter and debris
☐ changes in the character of soil	☐ destruction of terrestrial vegetation
☐ shelving	☐ the presence of wrack line
☐ vegetation matted down, bent, or absent	☐ sediment sorting
☐ leaf litter disturbed or washed away	☐ scour
☐ 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: Water color in Stream 31 appeared to be clear and originates from the fly ash wastewater treatment pond. Water was not observed in Stream 32.
Identify specific pollutants, if known:

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

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

- ☑ Riparian corridor. Characteristics (type, average width): 6-12 meters
- ☑ Wetland fringe. Characteristics: Wetland 12 abuts Stream 32. Wetland 13 abuts Stream 31.
- ☑ Habitat for:
  - ☐ Federally Listed species. Explain findings:
  - ☐ Fish/spawn areas. Explain findings:
  - ☐ Other environmentally-sensitive species. Explain findings:
  - ☑ Aquatic/wildlife diversity. Explain findings: Provides terrestrial wildlife habitat.

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: 0.10 acres
Wetland type. Explain: Emergent
Wetland quality. Explain: Low, ORAM Category 1
Project wetlands cross or serve as state boundaries. Explain:

(b) General Flow Relationship with Non-TNW:
Flow is: Intermittent Flow Explain:

Surface flow is: Overland Sheetflow
Characteristics:

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

(c) Wetland Adjacency Determination with Non-TNW:
- ☑ Directly abutting
- ☑ Not directly abutting
  - ☑ Discrete wetland hydrologic connection. Explain: Wetland 11 is located in close proximity to Stream 32 (<60 ft.) and is within the 100-year floodplain.
  - ☑ Ecological connection. Explain: Wetland 11 is located in close proximity to Stream 32 (<60 ft.) and provides ecological functions such as stormwater attenuation, filtering and wildlife habitat.
  - ☐ Separated by berm/barrier. Explain:

(d) Proximity (Relationship) to TNW
Project wetlands are 1-2 river miles from TNW.
Project waters are 1-2 aerial (straight) miles from TNW.
Flow is from: Wetland to Navigable Waters
Estimate approximate location of wetland as within the within 100-year floodplain.

(ii) Chemical Characteristics:

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain:
Identify specific pollutants, if known:

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

- ☑ Riparian buffer. Characteristics (type, average width): The wetlands provide buffers <30'.
- ☑ Vegetation type/percent cover. Explain: herbaceous 100%
- ☑ Habitat for:
  - ☐ Federally Listed species. Explain findings:
  - ☐ Fish/spawn areas. Explain findings:
  - ☐ Other environmentally-sensitive species. Explain findings:
  - ☑ Aquatic/wildlife diversity. Explain findings: Provide habitat for terrestrial wildlife.

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

All wetland(s) being considered in the cumulative analysis: 3
Approximately (0.10) 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-11 N	0.05		
Wetland-12 Y	0.02		
Wetland-13 Y	0.03		

Summarize overall biological, chemical and physical functions being performed: Wetlands 11, 12, and 13 function as flood storage, erosion and sediment control, pollution control through filtering and providing wildlife habitat. The wetlands also have the capacity to transfer nutrients and organic carbon to support downstream food-webs.

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: Based on the aforementioned findings, the three (3) emergent wetlands, totaling 0.10 acres provide flood storage, erosion and sediment control, pollution control through filtering and wildlife habitat adjacent to the two (2) identified unnamed intermittent (RPW) tributaries (Streams 31 and 32). These intermittent tributaries function as headwater stream channels providing water, nitrogen and organic matter transport functions as well as providing vertebrate habitat for deer, birds, and other small wildlife in the area. These functions have a substantial, or more than speculative, effect on the Big Sandy River (a TNW) and thus establish a significant nexus to this TNW. *See supporting scientific literature under Section IV, A.

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

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

2. **RPWs that flow directly or indirectly into TNWs.**
   - ☐ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial:
   - ☑ Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally: Based upon climate data accessed from Kentucky Mesonet (2011-2013), there are approximately 69 annual storm events exceeding 0.2 inch of precipitation in Lawrence County, Kentucky. Assuming that intermittent streams are flowing for 48 hours after each storm event, there is an average of approximately 138 annual flow days for the intermittent streams in the study area. The estimated number of annual flow days exceeds three months.

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

☑ Tributary waters: Two (2) intermittent stream channels totaling 686 linear feet.

☐ Other non-wetland waters: acres.
Identify type(s) of waters:

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

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

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

☐ Tributary waters:

☐ Other non-wetland waters: acres.
Identify type(s) of waters:

4. **Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**

☑ Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.

☐ Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW:

☑ Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: Wetland 12 is physically proximate to Stream 32. Wetland 13 is physically proximate to Stream 31.

Provide acreage estimates for jurisdictional wetlands in the review area: Two wetlands (Wetland 12 and Wetland 13) totaling 0.05 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: One wetland (Wetland 11) totaling 0.05 acres is adjacent to Stream 32.

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:

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.

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[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.*

Identify type(s) of waters:

☐ Wetlands: acres.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):

☐ If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.

☐ Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.

☐ Prior to the Jan 2001 Supreme Court decision in "*SWANCC*," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).

☐ Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain:

☐ Other: (explain, if not covered above):

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

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

☐ Lakes/ponds: acres.

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

☐ Wetlands: acres.

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

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

☐ Lakes/ponds: acres.

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

☐ Wetlands: acres.

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: American Electric Power (applicant), URS Corporation (consultant) May 2013 submittal

☑ Data sheets prepared/submitted by or on behalf of the applicant/consultant.

☑ Office concurs with data sheets/delineation report.

☐ Office does not concur with data sheets/delineation report.

☐ Data sheets prepared by the Corps:

☐ Corps navigable waters' study:

☑ U.S. Geological Survey Hydrologic Atlas:

☑ USGS NHD data.

☑ USGS 8 and 12 digit HUC maps.

☑ U.S. Geological Survey map(s). Cite scale & quad name: Fallsburg, KY 1:24,000 USGS Quadrangle.

☑ USDA Natural Resources Conservation Service Soil Survey. Citation: Lawrence County, KY soil survey

☑ National wetlands inventory map(s). Cite name: Fallsburg, KY 1:24,000 USGS Quadrangle.

☐ State/Local wetland inventory map(s):

☑ FEMA/FIRM maps: 21127C0120D

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

☑ Photographs: ☐ Aerial (Name & Date):

☐ or ☑ Other (Name & Date): Photos taken by URS Corporation during 2012 field inspections.

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

☑ Applicable/supporting case law: *U.S. v. Cundiff*, 555 F.3d 200 (6th Cir. 2009).

☑ Applicable/supporting scientific literature:

National Research Council (1995). Wetlands: Characteristics and Boundaries, National Academy Press, Washington, D.C.

Mitsch, William J., and Gosselink, James G. (1993). Wetlands, Van Nosttrand Reinhold Company, New York, New York

Kusler, Jon, and Opheim, Teresa (1996). Our National Wetland Heritage, Environmental Law Institute, Washington, D.C.

Mary C. Freeman, Catherine M. Pringle, C Rhett Jackson (2007)

Hydrologic connectivity and the contribution of stream headwaters to ecological integrity at regional scales.
Journal of the American Water Resources Association 43 (1), 5-14.
doi:10.1111/j.1752-1688.2007.00002.x

Richard B. Alexander, Elizabeth W. Boyer, Richard A. Smith, Gregory E. Schwarz, Richard B. Moore (2007)
The role of headwater streams in downstream water quality.
Journal of the American Water Resources Association 43 (1), 41-59.
doi:10.1111/j.1752-1688.2007.00005.x

Mark S. Wipfli, John S. Richardson, Robert J. Naiman (2007)
Ecological linkages between headwaters and downstream ecosystems: transport of organic matter, invertebrates, and wood down headwater channels.
Journal of the American Water Resources Association 43 (1), 72-85.
doi:10.1111/j.1752-1688.2007.00007.x

Judy L. Meyer, David L. Strayer, J. Bruce Wallace, Sue L. Eggert, Gene S. Helfman, Norman E. Leonard (2007)
The contribution of headwater stream to biodiversity in river networks
Journal of the American Water Resources Association 43 (1), 86-103.
doi:10.1111/j.1752-1688.2007.00008.x

☑ Other information (please specify): Climate data accessed from Kentucky Mesonet (2011-2013)

B. ADDITIONAL COMMENTS TO SUPPORT JD: The three (3) wetlands, totaling 0.10 acres provide flood storage, erosion and sediment control, pollution control through filtering and wildlife habitat adjacent to two unnamed intermittent (RPW) tributaries of Blaine Creek (Streams 31 and 32). Blaine Creek flows into the Big Sandy River (a TNW). The two intermittent stream channels function as headwater tributaries.

INTERMITTENT STREAMS AND WETLANDS DRAINING TO BLAINE CREEK BELOW HORSEFORD CREEK DAM WITHIN THE BIG SANDY POND CLOSURE PROJECT

ID #	Description/Tributary Name	Latitude	Longitude	Size (linear feet or acres)	HUC	Quad
Stream 31	Unnamed Intermittent (RPW) Tributary to Blaine Creek	38.188061	-82.630791	371	Big Sandy	Fallsburg
Stream 32	Unnamed Intermittent (RPW) Tributary to Blaine Creek	38.188102	-82.631772	315	Big Sandy	Fallsburg
Wetland 11	PEM Wetland	38.187827	-82.632687	0.05	Big Sandy	Fallsburg
Wetland 12	PEM Wetland	38.188183	-82.631769	0.02	Big Sandy	Fallsburg
Wetland 13	PEM Wetland	38.187824	-82.631001	0.03	Big Sandy	Fallsburg
Total: 2 streams, 3 wetlands				**Streams: 686 linear feet; Wetlands: 0.10 acre**		

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): 9/16/14

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Louisville District, LRL-2014-417-mdh, Fly Ash Pond and Wetland 8

C. PROJECT LOCATION AND BACKGROUND INFORMATION:
State: Kentucky County/parish/borough: Lawrence County City: Louisa
Center coordinates of site (lat/long in degree decimal format): Lat. 38.182151 N, Long -82.630658 W.
Universal Transverse Mercator:
Name of nearest waterbody: Blaine Creek
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Big Sandy River
Name of watershed or Hydrologic Unit Code (HUC): Big Sandy (05070204)

☑ Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.

☑ Check if other sites (e.g., offsite mitigation sites, disposal sites, etc…) are associated with this action and are recorded on a different JD form

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

☑ Office (Desk) Determination. Date: August 1, 2014

☐ Field Determination. Date(s):

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 C.F.R. 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 no** "*waters of the U.S.*" within Clean Water Act (CWA) jurisdiction (as defined by 33 C.F.R. 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: linear feet: width (ft) and/or acres.
Wetlands: acres.

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

Elevation of established OHWM (if known):

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

☑ The 130-acre Fly Ash Pond was constructed as required by other sections of the Clean Water Act to treat coal ash waste water. Per 33 C.F.R. § 328.3(a)(8) of our regulations, such waters are not considered to be jurisdictional "waters of the United States." In addition, one (1) emergent wetland (Wetland 08) totaling 0.04 acre is located within the limits of the maximum operating pool elevation (e.g., 705 feet) for the fly ash waste water treatment pond. Since the wetland falls within the permitted limits of this water, it is also not considered to be a jurisdictional water of the United States per 33 C.F.R. § 328.3(a)(8).

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[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:

   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:
   Drainage area:

   Average annual rainfall:
   Average annual snowfall:

   (ii) Physical Characteristics:
   (a) Relationship with TNW:

   ☐ Tributary flows directly into TNW.

   ☐ Tributary flows through tributary before entering TNW.

   Project waters are river miles from TNW.
   Project waters are river miles from RPW.
   Project waters are aerial (straight) miles from TNW.
   Project waters are 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:

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

   Tributary is: ☐ Natural

   ☐ Artificial (man-made). Explain:

   ☐ Manipulated (man-altered). Explain:

[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:
Average depth:
Average side slopes:

Primary tributary substrate composition (check all that apply):

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

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain:
Presence of run/riffle/pool complexes. Explain:
Tributary geometry:
Tributary gradient (approximate average slope): %

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

Surface flow is: Characteristics:

Subsurface flow: 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: Provides terrestrial wildlife habitat.

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

(b) General Flow Relationship with Non-TNW:
Flow is: Explain:

Surface flow is:
Characteristics:

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

(c) Wetland Adjacency Determination with Non-TNW:
- ☐ Directly abutting
- ☐ Not directly abutting
  - ☐ Discrete wetland hydrologic connection. Explain:
  - ☐ Ecological connection. Explain:
  - ☐ Separated by berm/barrier. Explain:

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

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

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

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

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

Summarize overall biological, chemical and physical functions being performed:

C. SIGNIFICANT NEXUS DETERMINATION

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

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

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

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

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

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

3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

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

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

2. **RPWs that flow directly or indirectly into TNWs.**
   - ☐ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: .
   - ☐ Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally:

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

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

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

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

   Provide acreage estimates for jurisdictional wetlands in the review area:

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:

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

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):[10]

- ☐ which are or could be used by interstate or foreign travelers for recreational or other purposes.
- ☐ from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
- ☐ which are or could be used for industrial purposes by industries in interstate commerce.
- ☐ Interstate isolated waters. Explain:
- ☐ Other factors. Explain:

Identify water body and summarize rationale supporting determination:

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

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[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*

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): The 130-acre Fly Ash Pond was constructed as required by other sections of the Clean Water Act to treat coal ash waste water. Per 33 C.F.R. § 328.3(a)(8), such waters are not considered to be considered jurisdictional "waters of the United States." In addition, one (1) emergent wetland (Wetland 08) totaling 0.04 acre is located within the limits of the maximum operating pool elevation (e.g., 705 feet) for the fly ash waste water treatment pond. Since the wetland falls within the permitted limits of this water, it is also not considered to be a jurisdictional water of the United States per 33 C.F.R. § 328.3(a)(8).

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: Four wetlands totaling .

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:

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: American Electric Power (applicant), URS Corporation (consultant) May 2013 submittal
- ☐ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - ☐ Office concurs with data sheets/delineation report.
  - ☐ Office does not concur with data sheets/delineation report.
- ☐ Data sheets prepared by the Corps:
- ☐ Corps navigable waters' study:
- ☑ U.S. Geological Survey Hydrologic Atlas:
  - ☑ USGS NHD data.
  - ☑ USGS 8 and 12 digit HUC maps.
- ☑ U.S. Geological Survey map(s). Cite scale & quad name: Fallsburg, KY 1:24,000 USGS Quadrangle
- ☑ USDA Natural Resources Conservation Service Soil Survey. Citation: Lawrence County, KY soil survey
- ☑ National wetlands inventory map(s). Cite name: Fallsburg, KY 1:24,000 USGS Quadrangle
- ☐ State/Local wetland inventory map(s):
- ☑ FEMA/FIRM maps: 21127C0120D
- ☐ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
- ☑ Photographs: ☐ Aerial (Name & Date):
- ☐ or ☑ Other (Name & Date): Photos taken by URS Corporation during 2012 field inspections.
- ☐ Previous determination(s). File no. and date of response letter:
- ☐ Applicable/supporting case law:
- ☐ Applicable/supporting scientific literature:
- ☐ Other information (please specify):

B. ADDITIONAL COMMENTS TO SUPPORT JD: The 130-acre Fly Ash Pond was constructed as required by other sections of the Clean Water Act to treat coal ash waste water. Per 33 C.F.R. § 328.3(a)(8), such waters are not considered to be considered jurisdictional "waters of the United States." In addition, one (1) emergent wetland (Wetland 08) totaling 0.04 acre is located within the limits of the maximum operating pool

elevation (e.g., 705 feet) for the fly ash waste water treatment pond. Since the wetland falls within the permitted limits of this water, it is also not considered to be a jurisdictional water of the United States per 33 C.F.R. § 328.3(a)(8).

Fly Ash Pond, 130 acres, Lat. 38.182151 N, Long -82.630658 W
W8 (Emergent), 0.04 acres, Lat. 38.18342 N, Lon. -82.638723 W

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): 9/16/14

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Louisville District, LRL-2014-417-mdh, Perennial RPW Stream Channel S-68

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: Kentucky County/parish/borough: Lawrence County City: Louisa
Center coordinates of site (lat/long in degree decimal format): Lat. 38.175615 °, Long. -82.647681 °
Universal Transverse Mercator:
Name of nearest waterbody: Fuller's Branch
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Big Sandy River
Name of watershed or Hydrologic Unit Code (HUC): Big Sandy (05070204)

☑ 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: July 24, 2014

☐ Field Determination. Date(s):

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 C.F.R. part 329) in the review area. [*Required*]

☐ Waters subject to the ebb and flow of the tide.

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

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There **are** "*waters of the U.S.*" within Clean Water Act (CWA) jurisdiction (as defined by 33 C.F.R. 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: One (1) perennial stream channel totaling 1,381 linear feet: 14 width (ft).
   Wetlands: acres.

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

   Elevation of established OHWM (if known):

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

☐ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional. Explain:

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[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:

   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:
   Drainage area: Big Sandy River: 410.4 square miles

   Average annual rainfall: 50.0 inches
   Average annual snowfall: 21.0 inches

   (ii) Physical Characteristics:
   (a) Relationship with TNW:

   ☐ Tributary flows directly into TNW.

   ☑ Tributary flows through 1 tributaries before entering TNW.

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

   Identify flow route to TNW[5]: S-68 (Perennial RPW) flows into Fuller's Branch (RPW), which flows into the Big Sandy River (a TNW).
   Tributary stream order, if known:

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

   Tributary is: ☑ Natural

   ☐ Artificial (man-made). Explain:

   ☐ Manipulated (man-altered). Explain:

[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: 14 feet
Average depth: 6 inches
Average side slopes: 2:1

Primary tributary substrate composition (check all that apply):

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

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: Moderately stable, partially vegetated
Presence of run/riffle/pool complexes. Explain: Run/riffle/pool complexes present: Riffle 45%, Run: 30%, Pool: 25%
Tributary geometry: Relatively straight
Tributary gradient (approximate average slope): %

(c) Flow:
Tributary provides for: Perennial flow
Estimate average number of flow events in review area/year: 20 (or greater)
Describe flow regime: Perennial
Other information on duration and volume:

Surface flow is: Confined Characteristics:

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

Tributary has (check all that apply):
☑ Bed and banks
☑ OHWM[6] (check all indicators that apply):

☑ clear, natural line impressed on the bank	☑ the presence of litter and debris
☐ changes in the character of soil	☑ destruction of terrestrial vegetation
☐ shelving	☐ the presence of wrack line
☐ vegetation matted down, bent, or absent	☐ sediment sorting
☐ leaf litter disturbed or washed away	☐ scour
☐ 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: Water color is clear, no odors or oily film detected
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): Mixed mesic forest >50'
- ☐ 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: These waters and their buffers provide aquatic and terrestrial wildlife habitat.

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

(b) General Flow Relationship with Non-TNW:
Flow is: Explain:

Surface flow is:
Characteristics:

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

(c) Wetland Adjacency Determination with Non-TNW:
- ☐ Directly abutting
- ☐ Not directly abutting
  - ☐ Discrete wetland hydrologic connection. Explain:
  - ☐ Ecological connection. Explain:
  - ☐ Separated by berm/barrier. Explain:

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

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

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

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

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

Summarize overall biological, chemical and physical functions being performed:

C. SIGNIFICANT NEXUS DETERMINATION

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

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

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

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

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

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

3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

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

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

2. **RPWs that flow directly or indirectly into TNWs.**
   - ☑ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: Water fills >75% of available area, originates from steep slope.
   - ☐ 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: one perennial stream totaling 1,381 linear feet; 14 (ft) width.
   - ☐ Other non-wetland waters: acres.
     Identify type(s) of waters:

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

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

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

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

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

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

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

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

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

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

Identify water body and summarize rationale supporting determination:

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

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[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.*

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):

- ☐ If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
- ☐ Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
  - ☐ Prior to the Jan 2001 Supreme Court decision in "*SWANCC*," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
- ☐ Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain:
- ☐ Other: (explain, if not covered above):

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

- ☐ Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
- ☐ Lakes/ponds: acres.
- ☐ Other non-wetland waters: acres. List type of aquatic resource: .
- ☐ Wetlands: acres.

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

- ☐ Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
- ☐ Lakes/ponds: acres.
- ☐ Other non-wetland waters: acres. List type of aquatic resource: .
- ☐ Wetlands: acres.

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: American Electric Power (applicant), URS Corporation (consultant) May 2013 submittal
- ☑ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - ☐ Office concurs with data sheets/delineation report.
  - ☐ Office does not concur with data sheets/delineation report.
- ☐ Data sheets prepared by the Corps:
- ☐ Corps navigable waters' study:
- ☑ U.S. Geological Survey Hydrologic Atlas:
  - ☑ USGS NHD data.
  - ☑ USGS 8 and 12 digit HUC maps.
- ☑ U.S. Geological Survey map(s). Cite scale & quad name: Fallsburg, KY 1:24,000 USGS Quadrangle
- ☑ USDA Natural Resources Conservation Service Soil Survey. Citation: Lawrence County, KY soil survey
- ☑ National wetlands inventory map(s). Cite name: Fallsburg, KY 1:24,000 USGS Quadrangle
- ☐ State/Local wetland inventory map(s):
- ☑ FEMA/FIRM maps: 21127C0120D
- ☐ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
- ☑ Photographs: ☐ Aerial (Name & Date):
- ☐ or ☑ Other (Name & Date): Photos taken by URS Corporation during 2012 field inspections
- ☐ Previous determination(s). File no. and date of response letter:
- ☐ Applicable/supporting case law:
- ☐ Applicable/supporting scientific literature:
- ☐ Other information (please specify):

B. ADDITIONAL COMMENTS TO SUPPORT JD: One (1) perennial stream channel, totaling 1,381 feet, functions as a headwater tributary (RPW). Stream 68 flows to Fuller's Branch (RPW), which flows into the Big Sandy River (a TNW).

PERENNIAL STREAMS DRAINING TO FULLER'S BRANCH WITHIN THE BIG SANDY POND CLOSURE PROJECT

ID #	Description/Tribuary Name	Latitude	Longitude	Size (linear feet)	HUC	Quad
Stream 68	Unamed Perennial Tributary of Fuller's Branch	38.175615	-82.647681	1,381	Big Sandy	Fallsburg
Total: 1				**1,381 linear feet**		

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): 9/16/14

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Louisville District, LRL-2014-417-mdh, Perennial RPW Stream Channel (S-30) and Abutting Wetland (W-10)

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: Kentucky County/parish/borough: Lawrence County City: Louisa
Center coordinates of site (lat/long in degree decimal format): Lat. 38.188125 °, Long. -82.633499 °
Universal Transverse Mercator:
Name of nearest waterbody: Blaine Creek
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Big Sandy River
Name of watershed or Hydrologic Unit Code (HUC): Big Sandy (05070204)

☑ 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: June 9, 2014

☐ Field Determination. Date(s):

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 C.F.R. part 329) in the review area. [*Required*]

☐ Waters subject to the ebb and flow of the tide.

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

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There **are** "*waters of the U.S.*" within Clean Water Act (CWA) jurisdiction (as defined by 33 C.F.R. 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: One (1) perennial stream channel totaling 558 linear feet: 8 width (ft).
   Wetlands: One (1) PEM wetland totaling 0.02 acres.

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

   Elevation of established OHWM (if known):

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

☐ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional. Explain:

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[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:

   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:
   Drainage area: Big Sandy River: 410.4 square miles

   Average annual rainfall: 50.0 inches
   Average annual snowfall: 21.0 inches

   (ii) **Physical Characteristics:**
   (a) Relationship with TNW:

   ☐ Tributary flows directly into TNW.

   ☑ Tributary flows through 1 tributaries before entering TNW.

   Project waters are 2-3 river miles from TNW.
   Project waters are NA river miles from RPW.
   Project waters are 1-2 aerial (straight) miles from TNW.
   Project waters are NA aerial (straight) miles from RPW.
   Project waters cross or serve as state boundaries. Explain: NA

   Identify flow route to TNW[5]: Stream-30 flows into Blaine Creek (RPW), which flows into the Big Sandy River (a TNW).
   Tributary stream order, if known: 1st

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

   Tributary is:

   ☐ Natural

   ☐ Artificial (man-made). Explain:

   ☑ Manipulated (man-altered). Explain: Flows from dam outfall, rip rap on streambanks, multiple dams and a culvert on stream

[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: 6.5 feet
Average depth: 18 inches
Average side slopes:

Primary tributary substrate composition (check all that apply):

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

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: Banks shored by rip rap, some herbaceous vegetation

Presence of run/riffle/pool complexes. Explain: Run/riffle/pool complexes present: Riffle 40%, Run: 50%, Pool: 10%
Tributary geometry: Relatively straight
Tributary gradient (approximate average slope): %

(c) Flow:

Tributary provides for: Perennial flow
Estimate average number of flow events in review area/year: 20 (or greater)
Describe flow regime: Perennial
Other information on duration and volume:

Surface flow is: Confined Characteristics

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

Tributary has (check all that apply):
☑ Bed and banks
☑ OHWM[6] (check all indicators that apply):

☑ clear, natural line impressed on the bank	☑ the presence of litter and debris
☐ changes in the character of soil	☐ destruction of terrestrial vegetation
☐ shelving	☐ the presence of wrack line
☐ vegetation matted down, bent, or absent	☐ sediment sorting
☐ leaf litter disturbed or washed away	☐ scour
☑ 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: Water is opaque, sludge deposits present
Identify specific pollutants, if known: KPDES-permitted discharge location for fly ash wastewater treatment pond.

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

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

- ☑ Riparian corridor. Characteristics (type, average width): Herbaceous <20 ft.
- ☐ Wetland fringe. Characteristics: Wetland-10 Emergent wetland abutting stream.
- ☑ Habitat for:
  - ☐ Federally Listed species. Explain findings:
  - ☐ Fish/spawn areas. Explain findings:
  - ☐ Other environmentally-sensitive species. Explain findings:
  - ☑ Aquatic/wildlife diversity. Explain findings: These waters and their buffers provide aquatic and terrestrial wildlife habitat.

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: 0.02 acres
Wetland type. Explain: Emergent vegetation
Wetland quality. Explain: Low-quality, ORAM Category 1 wetland
Project wetlands cross or serve as state boundaries. Explain:

(b) General Flow Relationship with Non-TNW:
Flow is: Perennial Flow Explain:

Surface flow is: Confined
Characteristics:

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

(c) Wetland Adjacency Determination with Non-TNW:
- ☑ Directly abutting
- ☐ Not directly abutting
  - ☐ Discrete wetland hydrologic connection. Explain:
  - ☐ Ecological connection. Explain:
  - ☐ Separated by berm/barrier. Explain:

(d) Proximity (Relationship) to TNW
Project wetlands are 2-5 river miles from TNW.
Project waters are 1-2 aerial (straight) miles from TNW.
Flow is from: Wetland to Navigable Waters
Estimate approximate location of wetland is within the 50 - 100-year floodplain.

(ii) Chemical Characteristics:

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: Surface water not observed in wetland.
Identify specific pollutants, if known:

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

- ☑ Riparian buffer. Characteristics (type, average width): Emergent, <20 ft width
- ☑ Vegetation type/percent cover. Explain: Herbaceous/pem type >100% cover.
- ☑ 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 and adjacent stream provide terrestrial and aquatic wildlife habitat.

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

All wetland(s) being considered in the cumulative analysis: 1
Approximately (0.02) 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-10 Y	0.02		

Summarize overall biological, chemical and physical functions being performed: This wetland performs multiple functions including streambank stability, pollution control through filtering, and a source of wildlife habitat. The wetland has the capacity to transfer nutrients and organic carbon to support downstream foodwebs.

C. SIGNIFICANT NEXUS DETERMINATION

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

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

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

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

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

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

3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

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

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

2. **RPWs that flow directly or indirectly into TNWs.**
   - ☑ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: Water fills >75% of available area, originates from fly ash wastewater treatment pond discharge.
   - ☐ 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: One (1) perennial stream totaling 558 linear feet; 6.5 width (ft).
   - ☐ Other non-wetland waters: acres.
     Identify type(s) of waters:

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

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

4. **Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**
   ☑ Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
   - ☑ Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: Boundaries of Wetland-10 include streambank of Stream-30.
   - ☐ 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: 0.02 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:
- ☐ Other factors. Explain:

Identify water body and summarize rationale supporting determination:

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

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[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.*

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):

- ☐ If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
- ☐ Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
  - ☐ Prior to the Jan 2001 Supreme Court decision in "*SWANCC*," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
- ☐ Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain:
- ☐ Other: (explain, if not covered above):

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

- ☐ Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
- ☐ Lakes/ponds: acres.
- ☐ Other non-wetland waters: acres. List type of aquatic resource: .
- ☐ Wetlands: acres.

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

- ☐ Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
- ☐ Lakes/ponds: acres.
- ☐ Other non-wetland waters: acres. List type of aquatic resource: .
- ☐ Wetlands: acres.

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: American Electric Power (applicant), URS Corporation (consultant) May 2013 submittal
- ☑ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - ☑ Office concurs with data sheets/delineation report.
  - ☐ Office does not concur with data sheets/delineation report.
- ☐ Data sheets prepared by the Corps:
- ☐ Corps navigable waters' study:
- ☑ U.S. Geological Survey Hydrologic Atlas:
  - ☑ USGS NHD data.
  - ☑ USGS 8 and 12 digit HUC maps.
- ☑ U.S. Geological Survey map(s). Cite scale & quad name: Fallsburg, KY 1:24,000 USGS Quadrangle
- ☑ USDA Natural Resources Conservation Service Soil Survey. Citation: Lawrence County, KY soil survey
- ☑ National wetlands inventory map(s). Cite name: Fallsburg, KY 1:24,000 USGS Quadrangle
- ☐ State/Local wetland inventory map(s):
- ☑ FEMA/FIRM maps: 21127C0110D
- ☐ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
- ☑ Photographs: ☐ Aerial (Name & Date):
- ☐ or ☑ Other (Name & Date): Photos taken by URS Corporation during 2012 field inspections
- ☐ Previous determination(s). File no. and date of response letter:
- ☐ Applicable/supporting case law:
- ☐ Applicable/supporting scientific literature:
- ☐ Other information (please specify):

B. ADDITIONAL COMMENTS TO SUPPORT JD: The one (1) emergent wetland, totaling 0.02 acres, provides flood storage, erosion and sediment control, pollution control through filtering and wildlife habitat adjacent to an unnamed perennial (RPW) tributary of Blaine Creek. Blaine Creek flows into the Big Sandy River (a TNW). Stream 30 (RPW) is a perennial stream channel, totaling 558 linear feet, that functions as a headwater tributary to Blaine Creek.

PERENNIAL STREAMS AND WETLANDS DRAINING TO BLAINE CREEK WITHIN THE BIG SANDY POND CLOSURE PROJECT

ID #	Description/Tribuary Name	Latitude	Longitude	Size (linear feet - stream, acres - wetland)	HUC	Quad
Stream 30	Unamed tributary to Blaine Creek	38.188125	-82.633499	558	Big Sandy	Fallsburg
Wetland 10	PEM wetland	38.187993	-82.633528	0.02	Big Sandy	Fallsburg
Total: 1 Stream 1 Wetland				**Stream: 558 linear feet Wetland: 0.02 acre**		

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): 9/16/14

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Louisville District, LRL-2014-417-mdh, Perennial RPW Stream Channel S-44

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: Kentucky County/parish/borough: Lawrence County City: Louisa
Center coordinates of site (lat/long in degree decimal format): Lat. 38.18355 °, Long. -82.65165 °
Universal Transverse Mercator:
Name of nearest waterbody: Fly Ash wastewater treatment pond
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Big Sandy River via fly ash wastewater treatment pond
Name of watershed or Hydrologic Unit Code (HUC): Big Sandy (05070204)

☑ 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: July 24, 2014

☐ Field Determination. Date(s):

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 C.F.R. part 329) in the review area. [*Required*]

☐ Waters subject to the ebb and flow of the tide.

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

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There **are** "*waters of the U.S.*" within Clean Water Act (CWA) jurisdiction (as defined by 33 C.F.R. 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: One (1) perennial stream channel totaling 2,379 linear feet: 12 width (ft).
   Wetlands: acres.

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

   Elevation of established OHWM (if known):

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

☐ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional. Explain:

---

[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:

   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:
   Drainage area: Big Sandy River: 410.4 square miles

   Average annual rainfall: 50.0 inches
   Average annual snowfall: 21.0 inches

   (ii) Physical Characteristics:
   (a) Relationship with TNW:

   ☐ Tributary flows directly into TNW.

   ☑ Tributary flows through 1 tributaries before entering TNW.

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

   Identify flow route to TNW[5]: Stream-44 (Horseford Creek) flows into the fly ash wastewater treatment pond, which flows into Blaine Creek (RPW), which flows into the Big Sandy River (a TNW).
   Tributary stream order, if known:

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

   Tributary is: ☐ Natural

   ☐ Artificial (man-made). Explain:

   ☑ Manipulated (man-altered). Explain: Stream-44 drains into fly ash wastewater treatment pond.

[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: 6 feet
Average depth: 6 inches
Average side slopes:

Primary tributary substrate composition (check all that apply):

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

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: Moderately stable, partially vegetated
Presence of run/riffle/pool complexes. Explain: Run/riffle/pool complexes present: Riffle 60%, Run: 30%, Pool: 10%
Tributary geometry: Relatively straight
Tributary gradient (approximate average slope): %

(c) Flow:
Tributary provides for: Perennial flow
Estimate average number of flow events in review area/year: 20 (or greater)
Describe flow regime: Perennial
Other information on duration and volume:

Surface flow is: Confined Characteristics:

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

Tributary has (check all that apply):
☑ Bed and banks
☑ OHWM[6] (check all indicators that apply):

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

☑ Discontinuous OHWM.[7] Explain: Stream 44 flows directly into fly ash wastewater treatment pond.

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: Water color is slightly turbid with sand deposits.
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): Mixed mesic forest >50'
- ☐ 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: These waters and their buffers provide aquatic and terrestrial wildlife habitat.

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

(b) General Flow Relationship with Non-TNW:
Flow is: Explain:

Surface flow is:
Characteristics:

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

(c) Wetland Adjacency Determination with Non-TNW:
- ☐ Directly abutting
- ☐ Not directly abutting
  - ☐ Discrete wetland hydrologic connection. Explain:
  - ☐ Ecological connection. Explain:
  - ☐ Separated by berm/barrier. Explain:

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

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

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

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

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

Summarize overall biological, chemical and physical functions being performed:

C. SIGNIFICANT NEXUS DETERMINATION

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

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

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

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

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

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

3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

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

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

2. **RPWs that flow directly or indirectly into TNWs.**
   - ☑ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: Water fills >75% of available area, originates from steep slope.
   - ☐ 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: 2,379 linear feet; 6 (ft) width.
   - ☐ Other non-wetland waters: acres.
     Identify type(s) of waters:

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

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

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

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

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

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

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

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

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

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):[10]

☐ which are or could be used by interstate or foreign travelers for recreational or other purposes.
☐ from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
☐ which are or could be used for industrial purposes by industries in interstate commerce.
☐ Interstate isolated waters. Explain:
☐ Other factors. Explain:

Identify water body and summarize rationale supporting determination:

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

[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*.

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: Stream 44 drains directly into manmade fly ash wastewater treatment pond that does not drain into TNWs.
- ☐ 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):
- ☐ Lakes/ponds:
- ☐ Other non-wetland waters: acres. List type of aquatic resource: .
- ☐ Wetlands: acres.

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

- ☐ Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
- ☐ Lakes/ponds: acres.
- ☐ Other non-wetland waters: acres. List type of aquatic resource:
- ☐ Wetlands: acres.

SECTION IV: DATA SOURCES.

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

- ☑ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: American Electric Power (applicant), URS Corporation (consultant) May 2013 submittal
- ☑ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - ☐ Office concurs with data sheets/delineation report.
  - ☐ Office does not concur with data sheets/delineation report.
- ☐ Data sheets prepared by the Corps:
- ☐ Corps navigable waters' study:
- ☑ U.S. Geological Survey Hydrologic Atlas:
  - ☑ USGS NHD data.
  - ☑ USGS 8 and 12 digit HUC maps.
- ☑ U.S. Geological Survey map(s). Cite scale & quad name: Fallsburg, KY 1:24,000 USGS Quadrangle.
- ☑ USDA Natural Resources Conservation Service Soil Survey. Citation: Lawrence County, KY soil survey.
- ☑ National wetlands inventory map(s). Cite name: Fallsburg, KY 1:24,000 USGS Quadrangle.
- ☐ State/Local wetland inventory map(s):
- ☑ FEMA/FIRM maps: 21127C0120D
- ☐ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
- ☑ Photographs: ☐ Aerial (Name & Date):
- ☐ or ☑ Other (Name & Date): Photos taken by URS Corporation during 2012 field inspections.
- ☐ Previous determination(s). File no. and date of response letter:
- ☐ Applicable/supporting case law:
- ☐ Applicable/supporting scientific literature:
- ☐ Other information (please specify):

B. ADDITIONAL COMMENTS TO SUPPORT JD: One (1) perennial stream channel, totaling 2,379 feet, functions as a headwater tributary (RPW). Stream 44 flows into Fly Ash Wastewater Treatment Pond, which flows into Blaine Creek (RPW), which flows into the Big Sandy River (a TNW).

PERENNIAL STREAMS DRAINING TO FLY ASH WASTEWATER TREATMENT POND WITHIN THE BIG SANDY POND CLOSURE PROJECT

ID #	Description/Tributary Name	Latitude	Longitude	Size (linear feet)	HUC	Quad
Stream 44	Horseford Creek	38.18353	-82.65165	2,379	Big Sandy	Fallsburg
Total: 1				**2,379 linear feet**		

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): 9/16/14

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Louisville District, LRL-2014-417-mdh, 23 Non-RPW Ephemeral Stream Channels (draining to Fuller's Branch)

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: Kentucky County/parish/borough: Lawrence County City: Louisa
Center coordinates of site (lat/long in degree decimal format): Lat. 38.174032°, Long. -82.647949 °
Universal Transverse Mercator:
Name of nearest waterbody: Fuller's Branch
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Big Sandy River
Name of watershed or Hydrologic Unit Code (HUC): Big Sandy (05070204)

☑ 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: June 9, 2014

☐ Field Determination. Date(s):

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 C.F.R. part 329) in the review area. [*Required*]

☐ Waters subject to the ebb and flow of the tide.

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

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There **are** "*waters of the U.S.*" within Clean Water Act (CWA) jurisdiction (as defined by 33 C.F.R. 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: Twenty-three (23) ephemeral stream channels totaling 5,163 linear feet.
   Wetlands: acres.

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

   Elevation of established OHWM (if known):

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

☐ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional. Explain:

---

[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:

   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: Big Sandy River: 410.4 square miles
   Drainage area:

   Average annual rainfall: 50.0 inches
   Average annual snowfall: 21.0 inches

   (ii) **Physical Characteristics:**
   (a) Relationship with TNW:

   ☐ Tributary flows directly into TNW.

   ☑ Tributary flows through 2-3 tributaries before entering TNW.

   Project waters are 1-2 river miles from TNW.
   Project waters are 1 (or less) river miles from RPW.
   Project waters are 1 (or less) aerial (straight) miles from TNW.
   Project waters are 1 (or less) aerial (straight) miles from RPW.
   Project waters cross or serve as state boundaries. Explain:
   Identify flow route to TNW[5]: Stream 59a flows to Stream 59 (unnamed ephemeral tribs), which flows to Stream 68 (perennial RPW). Stream 60a flows to Stream 60 (unnamed ephemeral tribs), which flows to Stream 68. Stream 58, Stream 69, and Streams 68a flow through Stream 68r which flows into Stream 68. Stream-68 (RPW) flows into Fuller's Branch (RPW), which flows into the Big Sandy River (a TNW).
   Tributary stream order, if known:

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

   Tributary is: ☑ Natural

   ☐ Artificial (man-made). Explain:

   ☐ Manipulated (man-altered). Explain:

[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: 1 foot
Average depth: <1 foot
Average side slopes: 2:1

Primary tributary substrate composition (check all that apply):

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

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: High gradient, highly eroding, partially veg
Presence of run/riffle/pool complexes. Explain: High gradient streams, no run/riffle/pool complex
Tributary geometry: Relatively Straight
Tributary gradient (approximate average slope): 45%

(c) Flow:
Tributary provides for: Ephemeral Flow
Estimate average number of flow events in review area/year: 20 (or greater)
Describe flow regime: Ephemeral
Other information on duration and volume:

Surface flow is: Discrete and Confined Characteristics:

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

Tributary has (check all that apply):
☑ Bed and banks
☑ OHWM[6] (check all indicators that apply):

☑ clear, natural line impressed on the bank	☐ the presence of litter and debris
☐ changes in the character of soil	☐ destruction of terrestrial vegetation
☐ shelving	☐ the presence of wrack line
☐ vegetation matted down, bent, or absent	☐ sediment sorting
☑ leaf litter disturbed or washed away	☑ scour
☐ 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: Less than 1 foot of water was observed.
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): Mixed mesic forest, >50'
- ☐ 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: Provides terrestrial wildlife habitat.

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

(b) General Flow Relationship with Non-TNW:
Flow is: Explain:

Surface flow is:
Characteristics:

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

(c) Wetland Adjacency Determination with Non-TNW:
- ☐ Directly abutting
- ☐ Not directly abutting
  - ☐ Discrete wetland hydrologic connection. Explain:
  - ☐ Ecological connection. Explain:
  - ☐ Separated by berm/barrier. Explain:

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

(iii) **Biological Characteristics. Wetland supports (check all that apply):**
- ☐ Riparian buffer. Characteristics (type, average width):
- ☐ Vegetation type/percent cover. Explain:
- ☐ Habitat for:
  - ☐ Federally Listed species. Explain findings:
  - ☐ Fish/spawn areas. Explain findings:
  - ☐ Other environmentally-sensitive species. Explain findings:
  - ☐ Aquatic/wildlife diversity. Explain findings:

3. **Characteristics of all wetlands adjacent to the tributary (if any)**
All wetland(s) being considered in the cumulative analysis:
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)

Summarize overall biological, chemical and physical functions being performed:

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: Based on the aforementioned findings, the twenty-three (23) ephemeral tributaries function as headwater stream channels providing water, nitrogen, and organic matter transport functions as well as providing vertebrate habitat for deer, birds, and other small wildlife in the area. These functions have a substantial effect on the Big Sandy River (TNW) and thus establish a significant nexus to this TNW. *See supporting scientific literature under Section IV, A.

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

3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

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

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

2. **RPWs that flow directly or indirectly into TNWs.**
   - ☐ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: .
   - ☐ Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally: .

   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:

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: Twenty-three (23) ephemeral stream channels totaling 5,163 linear feet.
   - ☐ Other non-wetland waters: acres.
     Identify type(s) of waters:

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

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

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

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

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

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

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

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):[10]

- ☐ which are or could be used by interstate or foreign travelers for recreational or other purposes.
- ☐ from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
- ☐ which are or could be used for industrial purposes by industries in interstate commerce.
- ☐ Interstate isolated waters. Explain:
- ☐ Other factors. Explain:

Identify water body and summarize rationale supporting determination:

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

[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*

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):

- ☐ If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
- ☐ Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
  - ☐ Prior to the Jan 2001 Supreme Court decision in "*SWANCC*," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
- ☐ Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain:
- ☐ Other: (explain, if not covered above):

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

- ☐ Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
- ☐ Lakes/ponds: acres.
- ☐ Other non-wetland waters: acres. List type of aquatic resource:
- ☐ Wetlands: acres.

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

- ☐ Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
- ☐ Lakes/ponds: acres.
- ☐ Other non-wetland waters: acres. List type of aquatic resource:
- ☐ Wetlands: acres.

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: American Electric Power (applicant), URS Corporation (consultant) May 2013 submittal.
- ☑ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - ☐ Office concurs with data sheets/delineation report.
  - ☐ Office does not concur with data sheets/delineation report.
- ☐ Data sheets prepared by the Corps:
- ☐ Corps navigable waters' study:
- ☑ U.S. Geological Survey Hydrologic Atlas:
  - ☑ USGS NHD data.
  - ☑ USGS 8 and 12 digit HUC maps.
- ☑ U.S. Geological Survey map(s). Cite scale & quad name: Fallsburg, KY 1:24,000 USGS Quadrangle.
- ☑ USDA Natural Resources Conservation Service Soil Survey. Citation: Lawrence County, KY soil survey.
- ☑ National wetlands inventory map(s). Cite name: Fallsburg, KY 1:24,000 USGS Quadrangle.
- ☐ State/Local wetland inventory map(s):
- ☑ FEMA/FIRM maps: 21127C0120D
- ☐ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
- ☑ Photographs: ☐ Aerial (Name & Date):
  - ☐ or ☑ Other (Name & Date): Photos taken by URS Corporation during 2012 field inspections
- ☐ Previous determination(s). File no. and date of response letter:
- ☑ Applicable/supporting case law: *U.S. v. Cundiff*, 555 F.3d 200 (6th Cir. 2009).
- ☑ Applicable/supporting scientific literature:

  Mary C. Freeman, Catherine M. Pringle, C Rhett Jackson (2007)
  Hydrologic connectivity and the contribution of stream headwaters to ecological integrity at regional scales.
  Journal of the American Water Resources Association 43 (1), 5-14.
  doi:10.1111/j.1752-1688.2007.00002.x

  Richard B. Alexander, Elizabeth W. Boyer, Richard A. Smith, Gregory E. Schwarz, Richard B. Moore (2007)
  The role of headwater streams in downstream water quality.
  Journal of the American Water Resources Association 43 (1), 41-59.
  doi:10.1111/j.1752-1688.2007.00005.x

Mark S. Wipfli, John S. Richardson, Robert J. Naiman (2007)
Ecological linkages between headwaters and downstream ecosystems: transport of organic matter, invertebrates, and wood down headwater channels.

Journal of the American Water Resources Association 43 (1), 72-85.
doi:10.1111/j.1752-1688.2007.00007.x

Judy L. Meyer, David L. Strayer, J. Bruce Wallace, Sue L. Eggert, Gene S. Helfman, Norman E. Leonard (2007)
The contribution of headwater stream to biodiversity in river networks
Journal of the American Water Resources Association 43 (1), 86-103.
doi:10.1111/j.1752-1688.2007.00008.x

☐ Other information (please specify):

B. ADDITIONAL COMMENTS TO SUPPORT JD: The twenty (23) ephemeral stream channels, totaling 5,163 feet, function as headwater tributaries (Non-RPW) which flow into a perennial stream (Stream 68), which flow into Fuller's Branch (RPW), which flow into the Big Sandy River (TNW).

EPHEMERAL STREAMS DRAINING TO FULLER'S BRANCH WITHIN THE BIG SANDY POND CLOSURE PROJECT

ID #	Description/Tribuary Name	Latitude	Longitude	Size (linear feet)	HUC	Quad
Stream 58	Unamed Ephemeral (Non-RPW) Tributary of Fuller's Branch	38.174032	-82.647949	604	Big Sandy	Fallsburg
Stream 59	Unamed Ephemeral (Non-RPW) Tributary of Fuller's Branch	38.174786	-82.646863	881	Big Sandy	Fallsburg
Stream 59a	Unamed Ephemeral (Non-RPW) Tributary of Fuller's Branch	38.174412	-82.646894	304	Big Sandy	Fallsburg
Stream 60	Unamed Ephemeral (Non-RPW) Tributary of Fuller's Branch	38.176137	-82.646625	692	Big Sandy	Fallsburg
Stream 60a	Unamed Ephemeral (Non-RPW) Tributary of Fuller's Branch	38.175762	-82.647063	149	Big Sandy	Fallsburg
Stream 68a	Unamed Ephemeral (Non-RPW) Tributary of Fuller's Branch	38.174678	-82.648721	92	Big Sandy	Fallsburg
Stream 68b	Unamed Ephemeral (Non-RPW) Tributary of Fuller's Branch	38.17473	-82.648255	62	Big Sandy	Fallsburg
Stream 68c	Unamed Ephemeral (Non-RPW) Tributary of Fuller's Branch	38.17447	-82.648223	224	Big Sandy	Fallsburg
Stream 68d	Unamed Ephemeral (Non-RPW) Tributary of Fuller's Branch	38.175023	-82.647836	158	Big Sandy	Fallsburg
Stream 68e	Unamed Ephemeral (Non-RPW) Tributary of Fuller's Branch	38.174797	-82.648466	69	Big Sandy	Fallsburg
Stream 68f	Unamed Ephemeral (Non-RPW) Tributary of Fuller's Branch	38.175329	-82.647784	68	Big Sandy	Fallsburg
Stream 68g	Unamed Ephemeral (Non-RPW) Tributary of Fuller's Branch	38.174959	-82.648427	130	Big Sandy	Fallsburg
Stream 68h	Unamed Ephemeral (Non-RPW) Tributary of Fuller's Branch	38.17541	-82.647479	200	Big Sandy	Fallsburg
Stream 68i	Unamed Ephemeral (Non-RPW) Tributary of Fuller's Branch	38.17517	-82.648242	104	Big Sandy	Fallsburg
Stream 68j	Unamed Ephemeral (Non-RPW) Tributary of Fuller's	38.175685	-82.647456	102	Big Sandy	Fallsburg

EPHEMERAL STREAMS DRAINING TO FULLER'S BRANCH WITHIN THE BIG SANDY POND CLOSURE PROJECT

ID #	Description/Tribuary Name	Latitude	Longitude	Size (linear feet)	HUC	Quad
	Branch					
Stream 68k	Unamed Ephemeral (Non-RPW) Tributary of Fuller's Branch	38.175554	-82.647476	139	Big Sandy	Fallsburg
Stream 68l	Unamed Ephemeral (Non-RPW) Tributary of Fuller's Branch	38.177244	-82.647641	65	Big Sandy	Fallsburg
Stream 68m	Unamed Ephemeral (Non-RPW) Tributary of Fuller's Branch	38.177145	-82.647626	85	Big Sandy	Fallsburg
Stream 68n	Unamed Ephemeral (Non-RPW) Tributary of Fuller's Branch	38.177322	-82.647374	204	Big Sandy	Fallsburg
Stream 68o	Unamed Ephemeral (Non-RPW) Tributary of Fuller's Branch	38.176957	-82.647088	256	Big Sandy	Fallsburg
Stream 68p	Unamed Ephemeral (Non-RPW) Tributary of Fuller's Branch	38.1764	-82.647351	58	Big Sandy	Fallsburg
Stream 68q	Unamed Ephemeral (Non-RPW) Tributary of Fuller's Branch	38.176428	-82.646887	251	Big Sandy	Fallsburg
Stream 68r	Unamed Ephemeral (Non-RPW) Tributary of Fuller's Branch	38.176653	-82.647099	266	Big Sandy	Fallsburg
Total: 23 Streams				**5,163**	**Linear Feet**	

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): 9/16/14

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Louisville District, LRL-2014-417-mdh, 20 Non-RPW Ephemeral Stream Channels and 2 Adjacent Wetlands (draining to Blaine Creek)

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: Kentucky County/parish/borough: Lawrence County City: Louisa
Center coordinates of site (lat/long in degree decimal format): Lat. 38.179566°, Long -82.625246°
Universal Transverse Mercator:
Name of nearest waterbody: Blaine Creek
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Big Sandy River
Name of watershed or Hydrologic Unit Code (HUC): Big Sandy (05070204)

☑ 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: June 9, 2014

☐ Field Determination. Date(s):

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 C.F.R. part 329) in the review area. [*Required*]

☐ Waters subject to the ebb and flow of the tide.

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

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There **are** "*waters of the U.S.*" within Clean Water Act (CWA) jurisdiction (as defined by 33 C.F.R. 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: Twenty (20) ephemeral stream channels totaling 3,804 linear feet.
   Wetlands: Two (2) (one emergent and one emergent/scrub-shrub) wetlands totaling 0.14 acres.

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

   Elevation of established OHWM (if known):

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

☐ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional. Explain:

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[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:

   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: Big Sandy Watershed: 410.4 square miles.
   Drainage area:

   Average annual rainfall: 50 inches
   Average annual snowfall: 21 inches

   (ii) Physical Characteristics:
   (a) Relationship with TNW:

   ☐ Tributary flows directly into TNW.

   ☑ Tributary flows through 2-3 tributary before entering TNW.

   Project waters are 1-2 river miles from TNW.
   Project waters are 1 (or less) river miles from RPW.
   Project waters are 1-2 aerial (straight) miles from TNW.
   Project waters are 1 (or less) aerial (straight) miles from RPW.
   Project waters cross or serve as state boundaries. Explain:
   Identify flow route to TNW[5]: Streams 78a, 78b, 78c flow into Stream 78 (an ephemeral trib, which flows into Stream 4). Streams 79a and 79aa flow into Stream 79 (an ephemeral trib), which flows into Stream 4. Stream 80a flows into Stream 80 (an ephemeral trib), which flows into Stream 4. Streams 5, 26, 27, 28, 29, 72, 73, 74, 75, 76 & 77 flow into Stream 4. Stream 4 (a perennial RPW) flows into Blaine Creek (RPW), which flows into the Big Sandy River (a TNW). (see sheet 7 for information on Stream 4).
   Tributary stream order, if known:

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

   Tributary is: ☑ Natural

   ☑ Artificial (man-made). Explain: Stream originates at dam outfall.

   ☐ Manipulated (man-altered). Explain:

[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: <1 foot
Average depth: < 1 foot
Average side slopes: 2:1

Primary tributary substrate composition (check all that apply):

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

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: High gradient, highly eroding.
Presence of run/riffle/pool complexes. Explain: High gradient streams. No run/riffle/pool complexes.
Tributary geometry: Relatively Straight
Tributary gradient (approximate average slope): 45%

(c) Flow:
Tributary provides for: Ephemeral Flow
Estimate average number of flow events in review area/year: 20 (or greater)
Describe flow regime: Ephemeral
Other information on duration and volume:

Surface flow is: Discrete and Confined Characteristics:

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

Tributary has (check all that apply):
☑ Bed and banks
☑ OHWM[6] (check all indicators that apply):

☑ clear, natural line impressed on the bank	☐ the presence of litter and debris
☐ changes in the character of soil	☑ destruction of terrestrial vegetation
☐ shelving	☐ the presence of wrack line
☐ vegetation matted down, bent, or absent	☐ sediment sorting
☑ leaf litter disturbed or washed away	☐ scour
☐ 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: Acid Mine Drainage (AMD) appeared to be present (orange coloration in water).
Identify specific pollutants, if known: AMD appeared to be present

[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): Mixed Mesic forest, 6-20 meters
- ☑ Wetland fringe. Characteristics: Wetland 15 is adjacent to Str. 5; and Wetland 16 abutting Str. 26 and 27.
- ☑ Habitat for:
  - ☐ Federally Listed species. Explain findings:
  - ☐ Fish/spawn areas. Explain findings:
  - ☐ Other environmentally-sensitive species. Explain findings:
  - ☑ Aquatic/wildlife diversity. Explain findings: Provides terrestrial wildlife habitat.

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: 0.14 acres
Wetland type. Explain: Emergent and Emergent/Scrub-Shrub
Wetland quality. Explain: low to medium (ORAM Cat. 1 and 2)
Project wetlands cross or serve as state boundaries. Explain:

(b) General Flow Relationship with Non-TNW:
Flow is: Ephemeral Flow Explain:

Surface flow is: Overland Sheetflow
Characteristics:

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

(c) Wetland Adjacency Determination with Non-TNW:
- ☑ Directly abutting
- ☑ Not directly abutting
  - ☑ Discrete wetland hydrologic connection. Explain: Wetland 15 was created from hydrology from dam outfall.
  - ☐ Ecological connection. Explain:
  - ☐ Separated by berm/barrier. Explain:

(d) Proximity (Relationship) to TNW
Project wetlands are 1-2 river miles from TNW.
Project waters are 1-2 aerial (straight) miles from TNW.
Flow is from: Wetland to Navigable Waters
Estimate approximate location of wetland as within the 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: Wetland appeared to be impacted by AMD.
Identify specific pollutants, if known: AMD appeared to be present

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

- ☑ Riparian buffer. Characteristics (type, average width): The wetlands provide buffers <30'.
- ☑ Vegetation type/percent cover. Explain: herbaceous 80-100%; scrub-shrub 20-30%.
- ☑ Habitat for:
  - ☐ Federally Listed species. Explain findings:
  - ☐ Fish/spawn areas. Explain findings:
  - ☐ Other environmentally-sensitive species. Explain findings:
  - ☑ Aquatic/wildlife diversity. Explain findings: Provide habitat for terrestrial wildlife.

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

All wetland(s) being considered in the cumulative analysis: 2
Approximately (0.14) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)	Size (in acres)	Directly abuts? (Y/N)	Size (in acres)
W-15 N	0.06		
W-16 Y	0.08		

Summarize overall biological, chemical and physical functions being performed: These wetlands perform numerous functions such as flood storage, erosion and sediment control, pollution control through filtering and providing wildlife habitat. The wetlands have the capacity to transfer nutrients and organic carbon to support downstream food-webs. The wetlands have a direct relationship on the physical, chemical and biological integrity of the Big Sandy River.

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: Based on the aforementioned findings, the two (2) emergent and emergent/scrub shrub wetlands, totaling 0.14 acres provide flood storage, erosion and sediment control, pollution control through filtering and wildlife habitat adjacent to Streams 5, 26, and 27. The twenty (20) ephemeral tributaries function as headwater stream channels providing water, nitrogen, and organic matter transport functions as well as providing vertebrate habitat for deer, birds, and other small wildlife in the area. These functions have a substantial effect on the Big Sandy River (a TNW) and thus establish a significant nexus to this TNW. *See supporting scientific literature under Section IV, A.

3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

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

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

2. **RPWs that flow directly or indirectly into TNWs.**
   - ☐ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial:
   - ☐ Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally:

   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:

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: Twenty (20) ephemeral stream channels totaling 3,804 linear feet.
   - ☐ Other non-wetland waters: acres.
     Identify type(s) of waters:

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

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

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

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

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

   Provide estimates for jurisdictional wetlands in the review area: Two (2) wetlands totaling 0.14 acres.

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

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):[10]

☐ which are or could be used by interstate or foreign travelers for recreational or other purposes.

☐ from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.

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

☐ Interstate isolated waters. Explain:

☐ Other factors. Explain:

Identify water body and summarize rationale supporting determination:

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

☐ Tributary waters: linear feet width (ft).

☐ Other non-wetland waters: acres.
   Identify type(s) of waters:

☐ Wetlands: acres.

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[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*

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):

- ☐ If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
- ☐ Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
  - ☐ Prior to the Jan 2001 Supreme Court decision in "*SWANCC*," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
- ☐ Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain:
- ☐ Other: (explain, if not covered above):

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

- ☐ Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
- ☐ Lakes/ponds: acres.
- ☐ Other non-wetland waters: acres. List type of aquatic resource:
- ☐ Wetlands: acres.

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

- ☐ Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
- ☐ Lakes/ponds: acres.
- ☐ Other non-wetland waters: acres. List type of aquatic resource:
- ☐ Wetlands: acres.

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: American Electric Power (applicant), URS Corporation (consultant) May 2013 submittal.
- ☑ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - ☑ Office concurs with data sheets/delineation report.
  - ☐ Office does not concur with data sheets/delineation report.
- ☐ Data sheets prepared by the Corps:
- ☐ Corps navigable waters' study:
- ☑ U.S. Geological Survey Hydrologic Atlas:
  - ☑ USGS NHD data.
  - ☑ USGS 8 and 12 digit HUC maps.
- ☑ U.S. Geological Survey map(s). Cite scale & quad name: Fallsburg and Pritchard, KY 1:24,000 USGS Quadrangles.
- ☑ USDA Natural Resources Conservation Service Soil Survey. Citation: Lawrence County, KY soil survey.
- ☑ National wetlands inventory map(s). Cite name: Fallsburg and Pritchard, KY 1:24,000 USGS Quadrangles.
- ☐ State/Local wetland inventory map(s):
- ☑ FEMA/FIRM maps: 21127C0120D
- ☐ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
- ☑ Photographs: ☐ Aerial (Name & Date):
- ☐ or ☑ Other (Name & Date): Photos taken by URS Corporation during 2012 field inspections.
- ☐ Previous determination(s). File no. and date of response letter:
- ☑ Applicable/supporting case law: *U.S. v. Cundiff*, 555 F.3d 200 (6th Cir. 2009).
- ☑ Applicable/supporting scientific literature:

National Research Council (1995). Wetlands: Characteristics and Boundaries, National Academy Press, Washington, D.C.

Mitsch, William J., and Gosselink, James G. (1993). Wetlands, Van Nosttrand Reinhold Company, New York, New York

Kusler, Jon, and Opheim, Teresa (1996). Our National Wetland Heritage, Environmental Law Institute, Washington, D.C.

Mary C. Freeman, Catherine M. Pringle, C Rhett Jackson (2007)
Hydrologic connectivity and the contribution of stream headwaters to ecological integrity at regional scales.
Journal of the American Water Resources Association 43 (1), 5-14.

doi:10.1111/j.1752-1688.2007.00002.x

Richard B. Alexander, Elizabeth W. Boyer, Richard A. Smith, Gregory E. Schwarz, Richard B. Moore (2007)
The role of headwater streams in downstream water quality.
Journal of the American Water Resources Association 43 (1), 41-59.
doi:10.1111/j.1752-1688.2007.00005.x

Mark S. Wipfli, John S. Richardson, Robert J. Naiman (2007)
Ecological linkages between headwaters and downstream ecosystems: transport of organic matter, invertebrates, and wood down headwater channels.
Journal of the American Water Resources Association 43 (1), 72-85.
doi:10.1111/j.1752-1688.2007.00007.x

Judy L. Meyer, David L. Strayer, J. Bruce Wallace, Sue L. Eggert, Gene S. Helfman, Norman E. Leonard (2007)
The contribution of headwater stream to biodiversity in river networks
Journal of the American Water Resources Association 43 (1), 86-103.
doi:10.1111/j.1752-1688.2007.00008.x

☐ Other information (please specify):

B. ADDITIONAL COMMENTS TO SUPPORT JD: The two (2) wetlands, totaling 0.14 acres provide flood storage, erosion and sediment control, pollution control through filtering and wildlife habitat adjacent to an unnamed ephemeral (Non-RPW) tributaries of Blaine Creek. Twenty (20) ephemeral stream channels, totaling 3,084 feet, function as headwater tributaries (Non-RPW), which flow into a perennial stream (Stream 4), which flow into Blaine Creek (RPW), which flow into the Big Sandy River (TNW).

EPHEMERAL STREAMS AND WETLANDS DRAINING TO BLAINE CREEK WITHIN THE BIG SANDY POND CLOSURE PROJECT

ID #	Description/Tribuary Name	Latitude	Longitude	Size (linear feet or acres)	HUC	Quad
Stream 05	Unamed Ephemeral (Non-RPW) Tributary of Blaine Creek	38.179566	-82.625246	70	Big Sandy	Fallsburg
Stream 26	Unamed Ephemeral (Non-RPW) Tributary of Blaine Creek	38.179403	-82.624443	178	Big Sandy	Pritchard
Stream 27	Unamed Ephemeral (Non-RPW) Tributary of Blaine Creek	38.179562	-82.624478	154	Big Sandy	Pritchard
Stream 28	Unamed Ephemeral (Non-RPW) Tributary of Blaine Creek	38.18034	-82.624501	185	Big Sandy	Pritchard
Stream 29	Unamed Ephemeral (Non-RPW) Tributary of Blaine Creek	38.180985	-82.624289	138	Big Sandy	Pritchard
Stream 72	Unamed Ephemeral (Non-RPW) Tributary of Blaine Creek	38.181433	-82.624959	175	Big Sandy	Fallsburg/Prichard
Stream 73	Unamed Ephemeral (Non-RPW) Tributary of Blaine Creek	38.182305	-82.625104	210	Big Sandy	Fallsburg/Prichard
Stream 74	Unamed Ephemeral (Non-RPW) Tributary of Blaine Creek	38.184755	-82.626268	336	Big Sandy	Fallsburg
Stream 75	Unamed Ephemeral (Non-RPW) Tributary of Blaine Creek	38.185768	-82.626399	108	Big Sandy	Fallsburg
Stream 76	Unamed Ephemeral (Non-RPW) Tributary of Blaine Creek	38.186226	-82.626544	385	Big Sandy	Fallsburg
Stream 77	Unamed Ephemeral (Non-RPW) Tributary of Blaine Creek	38.185364	-82.625733	36	Big Sandy	Fallsburg
Stream 78	Unamed Ephemeral (Non-RPW) Tributary of Blaine Creek	38.183861	-82.624616	354	Big Sandy	Pritchard
Stream 78a	Unamed Ephemeral (Non-RPW) Tributary of Blaine Creek	38.183771	-82.624265	120	Big Sandy	Pritchard
Stream 78b	Unamed Ephemeral (Non-RPW) Tributary of Blaine Creek	38.183921	-82.62445	61	Big Sandy	Pritchard
Stream 78c	Unamed Ephemeral (Non-RPW) Tributary of Blaine Creek	38.184067	-82.624865	96	Big Sandy	Pritchard

Stream 79	Unamed Ephemeral (Non-RPW) Tributary of Blaine Creek	38.182304	-82.623863	542	Big Sandy	Pritchard
Stream 79a	Unamed Ephemeral (Non-RPW) Tributary of Blaine Creek	38.182473	-82.623487	391	Big Sandy	Pritchard
Stream 79aa	Unamed Ephemeral (Non-RPW) Tributary of Blaine Creek	38.182373	-82.622941	53	Big Sandy	Pritchard
Stream 80	Unamed Ephemeral (Non-RPW) Tributary of Blaine Creek	38.186308	-82.626727	132	Big Sandy	Fallsburg
Stream 80a	Unamed Ephemeral (Non-RPW) Tributary of Blaine Creek	38.18624	-82.62678	80	Big Sandy	Fallsburg
Wetland 15	PEM Wetland	38.179389	-82.625917	0.06	Big Sandy	Fallsburg
Wetland 16	PEM/PSS Wetland	38.179511	-82.624825	0.08	Big Sandy	Pritchard
Total: 20 streams, 2 wetlands				**Stream: 3,804 linear feet ; Wetlands: 0.14 acre**		

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): 9/16/14

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Louisville District, LRL-2014-417-mdh, 92 Non-RPW Ephemeral Stream Channels and 3 Adjacent Wetlands (draining to Fly Ash Pond)

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: Kentucky County/parish/borough: Lawrence County City: Louisa
Center coordinates of site (lat/long in degree decimal format): Lat. 38.18278°, Long. -82.642085°
Universal Transverse Mercator:
Name of nearest waterbody: Blaine Creek
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Big Sandy River
Name of watershed or Hydrologic Unit Code (HUC): Big Sandy (05070204)

☑ 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: July 24, 2014

☐ Field Determination. Date(s):

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 C.F.R. part 329) in the review area. [*Required*]

☐ Waters subject to the ebb and flow of the tide.

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

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There **are** "*waters of the U.S.*" within Clean Water Act (CWA) jurisdiction (as defined by 33 C.F.R. 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: Ninety-two (92) ephemeral stream channels, totaling 16,319 feet linear feet.
   Wetlands: Three (3) wetlands totaling 0.15 acres.

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

   Elevation of established OHWM (if known):

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

☐ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional. Explain:

---

[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:

   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: Big Sandy Watershed: 410.4 square miles
   Drainage area:

   Average annual rainfall: 50 inches
   Average annual snowfall: 21 inches

   (ii) **Physical Characteristics:**
   (a) Relationship with TNW:

   ☐ Tributary flows directly into TNW.

   ☑ Tributary flows through 3-4 tributary before entering TNW.

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

   Identify flow route to TNW[5]: All of the 92 ephemeral streams listed either directly flow into the fly ash wastewater treatment pond or are a tributary to a stream that flows into the wastewater treatment pond. The fly ash pond flows into Stream 30 (a perennial RPW), which flows into Blaine Creek (a perennial RPW), which flows into the Big Sandy River (a TNW).
   Tributary stream order, if known:

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

   Tributary is: ☑ Natural

   ☐ Artificial (man-made). Explain:

   ☐ Manipulated (man-altered). Explain:

[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 feet
Average depth: 2 inches
Average side slopes: 3:1

Primary tributary substrate composition (check all that apply):

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

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: variable, see forms
Presence of run/riffle/pool complexes. Explain: High gradient streams, no run/riffle/pool complex
Tributary geometry: variable, see forms
Tributary gradient (approximate average slope): 45 %

(c) Flow:
Tributary provides for: Ephemeral Flow
Estimate average number of flow events in review area/year: 20 (or greater)
Describe flow regime: Ephemeral
Other information on duration and volume:

Surface flow is: Characteristics:

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

Tributary has (check all that apply):
☑ Bed and banks
☑ OHWM[6] (check all indicators that apply):

☑ clear, natural line impressed on the bank	☐ the presence of litter and debris
☐ changes in the character of soil	☐ destruction of terrestrial vegetation
☐ shelving	☐ the presence of wrack line
☐ vegetation matted down, bent, or absent	☐ sediment sorting
☐ leaf litter disturbed or washed away	☑ scour
☐ 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: Water color observed was generally clear.
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): Mixed mesic forest >50'
- ☑ Wetland fringe. Characteristics: Stream 44a has two (2) abutting wetlands (Wetland 01 and 02). Stream 50 has one (1) abutting wetland (Wetland 09).
- ☑ Habitat for:
  - ☐ Federally Listed species. Explain findings:
  - ☐ Fish/spawn areas. Explain findings:
  - ☐ Other environmentally-sensitive species. Explain findings:
  - ☑ Aquatic/wildlife diversity. Explain findings: Provides terrestrial wildlife habitat

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: 0.15 acres
Wetland type. Explain: Emergent/Scrub-Shrub
Wetland quality. Explain: Low
Project wetlands cross or serve as state boundaries. Explain:

(b) General Flow Relationship with Non-TNW:
Flow is: No Flow Explain:

Surface flow is:
Characteristics:

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

(c) Wetland Adjacency Determination with Non-TNW:
- ☑ Directly abutting
- ☐ Not directly abutting
  - ☐ Discrete wetland hydrologic connection. Explain:
  - ☐ Ecological connection. Explain:
  - ☐ Separated by berm/barrier. Explain:

(d) Proximity (Relationship) to TNW
Project wetlands are 2-5 river miles from TNW.
Project waters are 1-2 aerial (straight) miles from TNW.
Flow is from: No Flow
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: Water was not noted on wetland forms.
Identify specific pollutants, if known:

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

- ☑ Riparian buffer. Characteristics (type, average width): The wetlands provide narrow buffers < 50'.
- ☑ Vegetation type/percent cover. Explain: herbaceous: 50%, sapling/shrub: 50%.
- ☑ Habitat for:
  - ☐ Federally Listed species. Explain findings:
  - ☐ Fish/spawn areas. Explain findings:
  - ☐ Other environmentally-sensitive species. Explain findings:
  - ☑ Aquatic/wildlife diversity. Explain findings: Provide habitat for terrestrial wildlife.

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

All wetland(s) being considered in the cumulative analysis: 3
Approximately (0.15) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)	Size (in acres)	Directly abuts? (Y/N)	Size (in acres)
W-01 Y	0.06		
W-02 Y	0.03		
W-09 Y	0.06		

Summarize overall biological, chemical and physical functions being performed: These wetlands perform limited functions including erosion and sediment control, pollution control through filtering and providing wildlife habitat.

C. SIGNIFICANT NEXUS DETERMINATION

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

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

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

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

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

2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: Based on the aforementioned findings, the three (3) emergent and emergent/scrub shrub wetlands (W1, W2 & W9), totaling 0.15 acres, provide flood storage, erosion and sediment control, pollution control through filtering and wildlife habitat adjacent to Streams 44a and Stream 50. The ninety-two (92) ephemeral tributaries (see Table 1 under Section IV, B for list) function as headwater stream channels providing water, nitrogen, and organic matter transport functions as well as providing vertebrate habitat for deer, birds, and other small wildlife in the area. These functions have a substantial effect on the Big Sandy River (a TNW) and thus establish a significant nexus to this TNW. *See supporting scientific literature under Section IV, A.

3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

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

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

2. **RPWs that flow directly or indirectly into TNWs.**
   - ☐ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: .
   - ☐ Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally:

   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:

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: Ninety-two (92) ephemeral stream channels, totaling 16,319 feet linear feet.
   - ☐ Other non-wetland waters: acres.
     Identify type(s) of waters:

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

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

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

   Provide acreage estimates for jurisdictional wetlands in the review area: 3 wetlands totaling 0.15 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.
  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.

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[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*

☐ Prior to the Jan 2001 Supreme Court decision in "*SWANCC*," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).

☐ Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain:

☐ Other: (explain, if not covered above):

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

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

☐ Lakes/ponds: acres.

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

☐ Wetlands: acres.

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

☐ Non-wetland waters (i.e., rivers, streams):

☐ Lakes/ponds: acres.

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

☐ Wetlands:

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: American Electric Power (applicant), URS Corporation (consultant) May 2013 submittal.

☑ Data sheets prepared/submitted by or on behalf of the applicant/consultant.

☑ Office concurs with data sheets/delineation report.

☐ Office does not concur with data sheets/delineation report.

☐ Data sheets prepared by the Corps:

☐ Corps navigable waters' study:

☑ U.S. Geological Survey Hydrologic Atlas:

☑ USGS NHD data.

☑ USGS 8 and 12 digit HUC maps.

☑ U.S. Geological Survey map(s). Cite scale & quad name: Fallsburg, KY 1:24,000 USGS Quadrangle.

☑ USDA Natural Resources Conservation Service Soil Survey. Citation: Lawrence County, KY soil survey

☑ National wetlands inventory map(s). Cite name: Fallsburg, KY 1:24,000 USGS Quadrangle.

☐ State/Local wetland inventory map(s):

☑ FEMA/FIRM maps: 21127C0120D

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

☑ Photographs: ☐ Aerial (Name & Date):

☐ or ☑ Other (Name & Date): Photos taken by URS Corporation during 2012 field inspections.

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

☑ Applicable/supporting case law: *U.S. v. Cundiff*, 555 F.3d 200 (6th Cir. 2009).

☑ Applicable/supporting scientific literature:

National Research Council (1995). Wetlands: Characteristics and Boundaries, National Academy Press, Washington, D.C.

Mitsch, William J., and Gosselink, James G. (1993). Wetlands, Van Nosttrand Reinhold Company, New York, New York

Kusler, Jon, and Opheim, Teresa (1996). Our National Wetland Heritage, Environmental Law Institute, Washington, D.C.

Mary C. Freeman, Catherine M. Pringle, C Rhett Jackson (2007)
Hydrologic connectivity and the contribution of stream headwaters to ecological integrity at regional scales.
Journal of the American Water Resources Association 43 (1), 5-14.
doi:10.1111/j.1752-1688.2007.00002.x

Richard B. Alexander, Elizabeth W. Boyer, Richard A. Smith, Gregory E. Schwarz, Richard B. Moore (2007)
The role of headwater streams in downstream water quality.
Journal of the American Water Resources Association 43 (1), 41-59.

doi:10.1111/j.1752-1688.2007.00005.x

Mark S. Wipfli, John S. Richardson, Robert J. Naiman (2007)
Ecological linkages between headwaters and downstream ecosystems: transport of organic matter, invertebrates, and wood down headwater channels.
Journal of the American Water Resources Association 43 (1), 72-85.
doi:10.1111/j.1752-1688.2007.00007.x

Judy L. Meyer, David L. Strayer, J. Bruce Wallace, Sue L. Eggert, Gene S. Helfman, Norman E. Leonard (2007)
The contribution of headwater stream to biodiversity in river networks
Journal of the American Water Resources Association 43 (1), 86-103.
doi:10.1111/j.1752-1688.2007.00008.x

☑ Other information (please specify): Climate data accessed from Kentucky Mesonet (2011-2013).

B. ADDITIONAL COMMENTS TO SUPPORT JD: The three (3) emergent and emergent/scrub shrub wetlands (W1, W2 & W9), totaling 0.15 acres, provide flood storage, erosion and sediment control, pollution control through filtering and wildlife habitat adjacent to Streams 44a and Stream 50. The ninety-two (92) ephemeral tributaries (see Table 1 under Section IV, B for list) function as headwater stream channels providing water, nitrogen, and organic matter transport functions as well as providing vertebrate habitat for deer, birds, and other small wildlife in the area. These functions have a substantial effect on the Big Sandy River (a TNW) and thus establish a significant nexus to this TNW.

TABLE 1
EPHEMERAL STREAMS AND WETLANDS DRAINING TO FLY ASH WASTEWATER TREATMENT POND WITHIN THE BIG SANDY POND CLOSURE PROJECT

ID #	Description/Tributary Name	Latitude	Longitude	Size (linear feet - stream, acres - wetland)	HUC	Quad
Stream 01	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.18278	-82.642085	402	Big Sandy	Fallsburg
Stream 01a	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.18292	-82.642209	176	Big Sandy	Fallsburg
Stream 02	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.182358	-82.641507	411	Big Sandy	Fallsburg
Stream 02a	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.182345	-82.641158	157	Big Sandy	Fallsburg
Stream 03	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.182731	-82.642327	313	Big Sandy	Fallsburg
Stream 06	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.180497	-82.640554	170	Big Sandy	Fallsburg
Stream 07	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.18074	-82.64076	278	Big Sandy	Fallsburg
Stream 08	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.182257	-82.642054	101	Big Sandy	Fallsburg
Stream 09	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.182792	-82.64174	479	Big Sandy	Fallsburg
Stream 09a	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.182594	-82.641687	119	Big Sandy	Fallsburg
Stream 09b	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.182694	-82.64161	194	Big Sandy	Fallsburg
Stream 10	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.183665	-82.644132	95	Big Sandy	Fallsburg
Stream 11a	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.18441	-82.643544	117	Big Sandy	Fallsburg
Stream 11b	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.184944	-82.643781	104	Big Sandy	Fallsburg
Stream 11c	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.184638	-82.64308	381	Big Sandy	Fallsburg
Stream 11d	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.184545	-82.64252	129	Big Sandy	Fallsburg
Stream 11e	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.184364	-82.644005	62	Big Sandy	Fallsburg
Stream 12	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.184279	-82.644254	95	Big Sandy	Fallsburg

TABLE 1
EPHEMERAL STREAMS AND WETLANDS DRAINING TO FLY ASH WASTEWATER TREATMENT POND WITHIN THE BIG SANDY POND CLOSURE PROJECT

ID #	Description/Tributary Name	Latitude	Longitude	Size (linear feet - stream, acres - wetland)	HUC	Quad
Stream 13a	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.185804	-82.648927	56	Big Sandy	Fallsburg
Stream 13b	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.186405	-82.648953	306	Big Sandy	Fallsburg
Stream 13c	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.186111	-82.649453	185	Big Sandy	Fallsburg
Stream 14	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.177507	-82.639347	183	Big Sandy	Fallsburg
Stream 15a	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.176481	-82.642261	47	Big Sandy	Fallsburg
Stream 15b	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.176163	-82.642182	104	Big Sandy	Fallsburg
Stream 15c	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.176046	-82.642318	173	Big Sandy	Fallsburg
Stream 15d	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.175778	-82.642329	245	Big Sandy	Fallsburg
Stream 15e	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.175752	-82.642651	61	Big Sandy	Fallsburg
Stream 15f	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.175687	-82.643729	646	Big Sandy	Fallsburg
Stream 15g	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.175682	-82.643372	275	Big Sandy	Fallsburg
Stream 16	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.17767	-82.642599	132	Big Sandy	Fallsburg
Stream 17a	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.179664	-82.644962	111	Big Sandy	Fallsburg
Stream 17b	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.179373	-82.645296	112	Big Sandy	Fallsburg
Stream 17c	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.178786	-82.646264	233	Big Sandy	Fallsburg
Stream 18a	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.182426	-82.64647	93	Big Sandy	Fallsburg
Stream 18b	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.182388	-82.646877	100	Big Sandy	Fallsburg
Stream 18c	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.182425	-82.647548	113	Big Sandy	Fallsburg
Stream 18d	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.182362	-82.647975	87	Big Sandy	Fallsburg
Stream 18e	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.182258	-82.648736	43	Big Sandy	Fallsburg
Stream 18f	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.182427	-82.64916	114	Big Sandy	Fallsburg
Stream 18g	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.182275	-82.649426	69	Big Sandy	Fallsburg
Stream 19	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.183625	-82.646425	182	Big Sandy	Fallsburg
Stream 20	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.184248	-82.649346	740	Big Sandy	Fallsburg
Stream 20a	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.184416	-82.648381	81	Big Sandy	Fallsburg
Stream 20b	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.183988	-82.649448	138	Big Sandy	Fallsburg
Stream 20c	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.183736	-82.64961	294	Big Sandy	Fallsburg

TABLE 1
EPHEMERAL STREAMS AND WETLANDS DRAINING TO FLY ASH WASTEWATER TREATMENT POND WITHIN THE BIG SANDY POND CLOSURE PROJECT

ID #	Description/Tributary Name	Latitude	Longitude	Size (linear feet - stream, acres - wetland)	HUC	Quad
Stream 21	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.183258	-82.637508	84	Big Sandy	Fallsburg
Stream 23	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.183783	-82.638926	165	Big Sandy	Fallsburg
Stream 23a	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.183776	-82.63877	77	Big Sandy	Fallsburg
Stream 24	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.181997	-82.635548	177	Big Sandy	Fallsburg
Stream 25	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.182203	-82.63839	415	Big Sandy	Fallsburg
Stream 33	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.183828	-82.6441	64	Big Sandy	Fallsburg
Stream 34	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.184202	-82.643787	141	Big Sandy	Fallsburg
Stream 34a	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.184134	-82.643645	100	Big Sandy	Fallsburg
Stream 35a	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.185921	-82.645834	211	Big Sandy	Fallsburg
Stream 35b	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.185204	-82.6465	78	Big Sandy	Fallsburg
Stream 36	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.177545	-82.638531	280	Big Sandy	Fallsburg
Stream 37	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.176969	-82.642526	171	Big Sandy	Fallsburg
Stream 38	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.17922	-82.644498	279	Big Sandy	Fallsburg
Stream 40	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.1813	-82.645778	157	Big Sandy	Fallsburg
Stream 41a	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.18117	-82.646067	56	Big Sandy	Fallsburg
Stream 42	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.182146	-82.648394	114	Big Sandy	Fallsburg
Stream 43	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.184011	-82.647594	368	Big Sandy	Fallsburg
Stream 44a	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.18488	-82.650217	554	Big Sandy	Fallsburg
Stream 44b	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.182484	-82.653843	633	Big Sandy	Fallsburg
Stream 44c	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.181227	-82.653997	232	Big Sandy	Fallsburg
Stream 45	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.183078	-82.637348	93	Big Sandy	Fallsburg
Stream 47	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.182258	-82.635048	48	Big Sandy	Fallsburg
Stream 48	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.183095	-82.638419	73	Big Sandy	Fallsburg
Stream 49	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.181963	-82.637701	109	Big Sandy	Fallsburg
Stream 50	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.185788	-82.635826	116	Big Sandy	Fallsburg
Stream 51	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.185756	-82.635877	75	Big Sandy	Fallsburg
Stream 52	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.181211	-82.628042	47	Big Sandy	Fallsburg

TABLE 1
EPHEMERAL STREAMS AND WETLANDS DRAINING TO FLY ASH WASTEWATER TREATMENT POND WITHIN THE BIG SANDY POND CLOSURE PROJECT

ID #	Description/Tributary Name	Latitude	Longitude	Size (linear feet - stream, acres - wetland)	HUC	Quad
Stream 53	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.182467	-82.627866	64	Big Sandy	Fallsburg
Stream 54	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.182315	-82.627723	39	Big Sandy	Fallsburg
Stream 55	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.184567	-82.629622	88	Big Sandy	Fallsburg
Stream 56	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.178126	-82.633154	36	Big Sandy	Fallsburg
Stream 57	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.178022	-82.630229	43	Big Sandy	Fallsburg
Stream 61	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.180213	-82.627552	31	Big Sandy	Fallsburg
Stream 62	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.182122	-82.627641	70	Big Sandy	Fallsburg
Stream 63	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.182254	-82.627658	77	Big Sandy	Fallsburg
Stream 64	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.184825	-82.629898	77	Big Sandy	Fallsburg
Stream 65	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.185999	-82.630599	19	Big Sandy	Fallsburg
Stream 66	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.186103	-82.630655	30	Big Sandy	Fallsburg
Stream 67	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.178037	-82.63036	51	Big Sandy	Fallsburg
Stream 70a	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.183487	-82.651216	75	Big Sandy	Fallsburg
Stream 70b	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.183499	-82.650664	310	Big Sandy	Fallsburg
Stream 71a	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.185856	-82.652998	262	Big Sandy	Fallsburg
Stream 71b	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.18583	-82.653492	131	Big Sandy	Fallsburg
Stream 71c	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.186375	-82.654015	548	Big Sandy	Fallsburg
Stream 71d	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.1858	-82.654716	440	Big Sandy	Fallsburg
Stream 71e	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.185899	-82.655866	81	Big Sandy	Fallsburg
Stream 71f	Unnamed Ephemeral (Non-RPW) Tributary to fly ash pond	38.185596	-82.655933	222	Big Sandy	Fallsburg
Wetland 01	PEM/PSS Wetland	38.185144	-82.65042	0.06	Big Sandy	Fallsburg
Wetland 02	PEM Wetland	38.184948	-82.650542	0.03	Big Sandy	Fallsburg
Wetland 09	PEM/PSS Wetland	38.185936	-82.635573	0.06	Big Sandy	Fallsburg
Total: 92 Streams, 3 Wetlands		**TOTAL: Streams: 16,319 linear feet, Wetlands: 0.15 acre**				

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): 9/16/14

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Louisville District, LRL-2014-417-mdh, RPW Intermittent Stream Channel and Abutting Wetlands (draining to Blaine Creek)

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: Kentucky County/parish/borough: Lawrence County City: Louisa
Center coordinates of site (lat/long in degree decimal format): Lat. 38.179875°, Long -82.625015°
Universal Transverse Mercator:
Name of nearest waterbody: Blaine Creek
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Big Sandy River
Name of watershed or Hydrologic Unit Code (HUC): Big Sandy (05070204)

☑ 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: July 24, 2014

☐ Field Determination. Date(s):

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 C.F.R. part 329) in the review area. [*Required*]

☐ Waters subject to the ebb and flow of the tide.

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

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There **are** "*waters of the U.S.*" within Clean Water Act (CWA) jurisdiction (as defined by 33 C.F.R. 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: One (1) intermittent stream channel totaling 3,343 linear feet: 1' width (ft).
   Wetlands: Two (2) emergent/scrub-shrub and forested wetlands totaling 0.76 acres.

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

   Elevation of established OHWM (if known):

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

☐ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional. Explain:

---

[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:

   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: Big Sandy Watershed: 410.4 square miles.
   Drainage area:

   Average annual rainfall: 50 inches
   Average annual snowfall: 21 inches

   (ii) Physical Characteristics:
   (a) Relationship with TNW:

   ☐ Tributary flows directly into TNW.

   ☑ Tributary flows through 1 tributary before entering TNW.

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

   Identify flow route to TNW[5]: Stream 4 (an intermittent RPW) flows into Blaine Creek (a perennial RPW), which flows into the Big Sandy River (a TNW).
   Tributary stream order, if known: Second

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

   Tributary is:

   ☐ Natural

   ☐ Artificial (man-made). Explain:

   ☑ Manipulated (man-altered). Explain: Culvert and access road over Stream 4 near Blaine Creek. Stream 4 begins from a wetland that was created from a dam outfall.

[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: 1 foot
Average depth: 3 inches
Average side slopes: 2:1

Primary tributary substrate composition (check all that apply):

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

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: Fairly stable, vegetated.
Presence of run/riffle/pool complexes. Explain: No run/riffle/pool complexes.
Tributary geometry: Relatively Straight
Tributary gradient (approximate average slope): %

(c) Flow:
Tributary provides for: Seasonal Flow
Estimate average number of flow events in review area/year: 20 (or greater)
Describe flow regime: Intermittent
Other information on duration and volume: Based upon climate data accessed from Kentucky Mesonet (2011-2013), there are approximately 69 annual storm events exceeding 0.2 inches of precipitation in Lawrence County, Kentucky. Assuming that intermittent streams are flowing for 48 hours after each storm event, there are approximately 138 annual flow days for the intermittent streams in the study area. The estimated number of annual flow days exceed three months.

Surface flow is: Discrete and Confined Characteristics:

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

Tributary has (check all that apply):
☑ Bed and banks
☑ OHWM[6] (check all indicators that apply):

☑ clear, natural line impressed on the bank	☐ the presence of litter and debris
☐ changes in the character of soil	☑ destruction of terrestrial vegetation
☐ shelving	☐ the presence of wrack line
☐ vegetation matted down, bent, or absent	☐ sediment sorting
☑ leaf litter disturbed or washed away	☐ scour
☐ 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: Acid Mine Drainage (AMD) appeared to be present (orange coloration in water).
Identify specific pollutants, if known: AMD appeared to be present

[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): >18 meters
- ☑ Wetland fringe. Characteristics: Wetlands 14 and 17 abut Stream 4.
- ☑ Habitat for:
  - ☐ Federally Listed species. Explain findings:
  - ☐ Fish/spawn areas. Explain findings:
  - ☐ Other environmentally-sensitive species. Explain findings:
  - ☑ Aquatic/wildlife diversity. Explain findings: Provides terrestrial wildlife habitat.

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: 0.76 acres
Wetland type. Explain: Emergent/Scrub-Shrub and Forested
Wetland quality. Explain: Low to Medium, ORAM Category 1 and 2
Project wetlands cross or serve as state boundaries. Explain:

(b) General Flow Relationship with Non-TNW:
Flow is: Intermittent Flow Explain:

Surface flow is: Overland Sheetflow
Characteristics:

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

(c) Wetland Adjacency Determination with Non-TNW:
- ☑ Directly abutting
- ☐ Not directly abutting
  - ☐ Discrete wetland hydrologic connection. Explain:
  - ☐ Ecological connection. Explain:
  - ☐ Separated by berm/barrier. Explain:

(d) Proximity (Relationship) to TNW
Project wetlands are 1-2 river miles from TNW.
Project waters are 1-2 aerial (straight) miles from TNW.
Flow is from: Wetland to Navigable Waters
Estimate approximate location of wetland as within the 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: Wetland appeared to be impacted by AMD.
Identify specific pollutants, if known: AMD appeared to be present

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

- ☑ Riparian buffer. Characteristics (type, average width): The wetlands provide buffers <30'.
- ☑ Vegetation type/percent cover. Explain: herbaceous 80-100%; scrub-shrub 20-30% and forested 80-100%.
- ☑ Habitat for:
  - ☐ Federally Listed species. Explain findings:
  - ☐ Fish/spawn areas. Explain findings:
  - ☐ Other environmentally-sensitive species. Explain findings:
  - ☑ Aquatic/wildlife diversity. Explain findings: Provide habitat for terrestrial wildlife.

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

All wetland(s) being considered in the cumulative analysis: 2
Approximately (0.76) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)	Size (in acres)	Directly abuts? (Y/N)	Size (in acres)
W-14 Y	0.21		
W-17 Y	0.55		

Summarize overall biological, chemical and physical functions being performed: These wetlands perform numerous functions such as flood storage, erosion and sediment control, pollution control through filtering and providing wildlife habitat. The wetlands have the capacity to transfer nutrients and organic carbon to support downstream food-webs. The wetlands have a direct relationship on the physical, chemical and biological integrity of the Big Sandy River.

C. SIGNIFICANT NEXUS DETERMINATION

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

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

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

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

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

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

3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

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

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

2. **RPWs that flow directly or indirectly into TNWs.**
   - ☐ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial:
   - ☑ Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally: Based upon climate data accessed from Kentucky Mesonet (2011-2013), there are approximately 69 annual storm events exceeding 0.2 inches of precipitation in Lawrence County, Kentucky. Assuming that intermittent streams are flowing for 48 hours after each storm event, there are approximately 138 annual flow days for the intermittent streams in the study area. The estimated number of annual flow days exceed three months.

   Provide estimates for jurisdictional waters in the review area (check all that apply):
   - ☑ Tributary waters: One (1) intermittent stream channel totaling 3,343 linear feet.
   - ☐ Other non-wetland waters: acres.
     Identify type(s) of waters:

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

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

4. **Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**
   ☑ Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
   ☐ Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW:
   ☑ Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: Wetlands 14 and 17 are physically proximate to Stream 04.

   Provide acreage estimates for jurisdictional wetlands in the review area: Two (2) wetlands totaling 0.76 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:

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

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

Identify water body and summarize rationale supporting determination:

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

[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*

F. **NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):**

- ☐ If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
- ☐ Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
  - ☐ Prior to the Jan 2001 Supreme Court decision in "*SWANCC*," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
- ☐ Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain:
- ☐ Other: (explain, if not covered above):

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

- ☐ Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
- ☐ Lakes/ponds: acres.
- ☐ Other non-wetland waters: acres. List type of aquatic resource:
- ☐ Wetlands: acres.

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

- ☐ Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
- ☐ Lakes/ponds: acres.
- ☐ Other non-wetland waters: acres. List type of aquatic resource:
- ☐ Wetlands: acres.

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: American Electric Power (applicant), URS Corporation (consultant) May 2013 submittal
- ☑ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - ☑ Office concurs with data sheets/delineation report.
  - ☐ Office does not concur with data sheets/delineation report.
- ☐ Data sheets prepared by the Corps:
- ☐ Corps navigable waters' study:
- ☑ U.S. Geological Survey Hydrologic Atlas:
  - ☑ USGS NHD data.
  - ☑ USGS 8 and 12 digit HUC maps.
- ☑ U.S. Geological Survey map(s). Cite scale & quad name: Fallsburg and Pritchard, KY 1:24,000 USGS Quadrangles.
- ☑ USDA Natural Resources Conservation Service Soil Survey. Citation: Lawrence County, KY soil survey
- ☑ National wetlands inventory map(s). Cite name: Fallsburg and Pritchard, KY 1:24,000 USGS Quadrangles.
- ☐ State/Local wetland inventory map(s):
- ☑ FEMA/FIRM maps: 21127C120D
- ☐ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
- ☑ Photographs: ☐ Aerial (Name & Date):
  - ☐ or ☑ Other (Name & Date): Photos taken by URS Corporation during 2012 field inspections.
- ☐ Previous determination(s). File no. and date of response letter:
- ☑ Applicable/supporting case law: *U.S. v. Cundiff*, 555 F.3d 200 (6th Cir. 2009).
- ☑ Applicable/supporting scientific literature:

National Research Council (1995). Wetlands: Characteristics and Boundaries, National Academy Press, Washington, D.C.

Mitsch, William J., and Gosselink, James G. (1993). Wetlands, Van Nosttrand Reinhold Company, New York, New York

Kusler, Jon, and Opheim, Teresa (1996). Our National Wetland Heritage, Environmental Law Institute, Washington, D.C.

Mary C. Freeman, Catherine M. Pringle, C Rhett Jackson (2007)
Hydrologic connectivity and the contribution of stream headwaters to ecological integrity at regional scales.
Journal of the American Water Resources Association 43 (1), 5-14.

doi:10.1111/j.1752-1688.2007.00002.x

Richard B. Alexander, Elizabeth W. Boyer, Richard A. Smith, Gregory E. Schwarz, Richard B. Moore (2007)
The role of headwater streams in downstream water quality.
Journal of the American Water Resources Association 43 (1), 41-59.
doi:10.1111/j.1752-1688.2007.00005.x

Mark S. Wipfli, John S. Richardson, Robert J. Naiman (2007)
Ecological linkages between headwaters and downstream ecosystems: transport of organic matter, invertebrates, and wood down headwater channels.
Journal of the American Water Resources Association 43 (1), 72-85.
doi:10.1111/j.1752-1688.2007.00007.x

Judy L. Meyer, David L. Strayer, J. Bruce Wallace, Sue L. Eggert, Gene S. Helfman, Norman E. Leonard (2007)
The contribution of headwater stream to biodiversity in river networks
Journal of the American Water Resources Association 43 (1), 86-103.
doi:10.1111/j.1752-1688.2007.00008.x

☑ Other information (please specify): Climate data accessed from Kentucky Mesonet (2011-2013).

B. ADDITIONAL COMMENTS TO SUPPORT JD: Based on the aforementioned findings, the two (2) emergent/scrub shrub and forested wetlands, totaling 0.76 acres provide flood storage, erosion and sediment control, pollution control through filtering and wildlife habitat adjacent to the one (1) identified unnamed intermittent (RPW) tributary (Stream 4). This intermittent tributary functions as a headwater stream channel providing water, nitrogen and organic matter transport functions as well as providing vertebrate habitat for deer, birds, and other small wildlife in the area. These functions have a substantial effect on the Big Sandy River (TNW) and thus establish a significant nexus to this TNW. *See supporting scientific literature under Section IV, A.

INTERMITTENT STREAMS AND WETLANDS DRAINING TO BLAINE CREEK WITHIN THE BIG SANDY POND CLOSURE PROJECT

ID #	Description/Tributary Name	Latitude	Longitude	Size (linear feet - streams, or acres - wetlands)	HUC	Quad
Stream 04	Unnamed Intermittent (RPW) Tributary to Blaine Creek	38.179875	-82.625015	3,343	Big Sandy	Fallsburg and Pritchard
Wetland 14	PEM/PSS Wetland	38.179076	-82.625342	0.21	Big Sandy	Fallsburg
Wetland 17	PFO Wetland	38.185963	-82.625944	0.55	Big Sandy	Fallsburg
Total: 1 stream, 2 wetlands				**Stream: 3,343 linear feet; Wetlands: 0.76 acre**		

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): 9/16/14

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Louisville District, LRL-2014-417-mdh, RPW Intermittent Stream Channels Open Water and Abutting Wetland (draining to fly ash pond)

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: Kentucky County/parish/borough: Lawrence County City: Louisa
Center coordinates of site (lat/long in degree decimal format): Lat. 38.184825°, Long -82.643639°
Universal Transverse Mercator:
Name of nearest waterbody: Blaine Creek
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Big Sandy River
Name of watershed or Hydrologic Unit Code (HUC): Big Sandy (05070204)

☑ Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.

☑ Check if other sites (e.g., offsite mitigation sites, disposal sites, etc…) are associated with this action and are recorded on a different JD form

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

☑ Office (Desk) Determination. Date: August 1, 2014

☐ Field Determination. Date(s):

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 C.F.R. part 329) in the review area. [*Required*]

☐ Waters subject to the ebb and flow of the tide.

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

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There are "*waters of the U.S.*" within Clean Water Act (CWA) jurisdiction (as defined by 33 C.F.R. 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: Twelve (12) intermittent stream channels totaling 8,377 linear feet.
Wetlands: One (1) emergent/scrub-shrub wetland totaling 0.03 acres (Wetland 06).
Ponds: One (1) pond totaling 0.24 acres.

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

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

☐ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional. Explain:

[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:

   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: Big Sandy Watershed: 410.4 square miles.
   Drainage area:

   Average annual rainfall: 50 inches
   Average annual snowfall: 21 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 NA river miles from RPW.
   Project waters are 2-5 aerial (straight) miles from TNW.
   Project waters are NA aerial (straight) miles from RPW.
   Project waters cross or serve as state boundaries. Explain: NA

   Identify flow route to TNW[5]: Streams 11, 13, 15, 17, 18, 22, 35, 39, 41, 46, 70, and 71 all flow into the fly ash waste water treatment pond. The fly ash pond flows into Stream 30 (a perennial RPW), which flows into Blaine Creek (a perennial RPW). Blaine Creek flows into the Big Sandy River (a TNW).
   Tributary stream order, if known:

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

   Tributary is: ☑ Natural

   ☐ Artificial (man-made). Explain:

   ☐ Manipulated (man-altered). Explain:

[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 feet
Average depth: 4 inches
Average side slopes: 2:1

Primary tributary substrate composition (check all that apply):

☑ Silts	☑ Sands	☐ Concrete
☑ Cobbles	☑ Gravel	☐ Muck
☐ Bedrock	☐ Vegetation. Type/% cover:	
☑ Other. Explain: boulder, clay		

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: Fairly stable, vegetated.
Presence of run/riffle/pool complexes. Explain: Run/riffle/pool complexes observed in Streams 15 and 71.
Tributary geometry: Relatively Straight
Tributary gradient (approximate average slope): 15%

(c) Flow:
Tributary provides for: Seasonal Flow
Estimate average number of flow events in review area/year: 20 (or greater)
Describe flow regime: Seasonal intermittent
Other information on duration and volume: Based upon climate data accessed from Kentucky Mesonet (2011-2013), there is an average of approximately 69 annual storm events exceeding 0.2 inch of precipitation in Lawrence County, Kentucky. Assuming that intermittent streams are flowing for 48 hours after each storm event, there are approximately 138 annual flow days for the intermittent streams in the study area.

Surface flow is: Discrete and Confined Characteristics:

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

Tributary has (check all that apply):
☑ Bed and banks
☑ OHWM[6] (check all indicators that apply):

☑ clear, natural line impressed on the bank	☐ the presence of litter and debris
☐ changes in the character of soil	☐ destruction of terrestrial vegetation
☐ shelving	☐ the presence of wrack line
☐ vegetation matted down, bent, or absent	☐ sediment sorting
☐ leaf litter disturbed or washed away	☐ scour
☐ 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: Water color in some streams appeared to be clear and were observed as turbid in other streams.
Identify specific pollutants, if known:

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

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

- ☑ Riparian corridor. Characteristics (type, average width): Wooded >30'
- ☑ Wetland fringe. Characteristics: Wetland 06 abuts Stream 22. Wetland 08 is located 25 feet to the southwest of Stream 46, Pond 01 abuts Stream 15.
- ☑ Habitat for:
  - ☐ Federally Listed species. Explain findings:
  - ☐ Fish/spawn areas. Explain findings:
  - ☐ Other environmentally-sensitive species. Explain findings:
  - ☑ Aquatic/wildlife diversity. Explain findings: Provides terrestrial wildlife habitat.

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: 0.03 acres
Wetland type. Explain: Emergent/Scrub-Shrub
Wetland quality. Explain: Medium, ORAM Category 2 (Wetland 06)
Project wetlands cross or serve as state boundaries. Explain:

(b) General Flow Relationship with Non-TNW:
Flow is: Ephemeral Flow Explain:

Surface flow is: Overland Sheetflow
Characteristics:

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

(c) Wetland Adjacency Determination with Non-TNW:
- ☑ Directly abutting: Wetland 06 directly abuts Stream 22
- ☑ Not directly abutting
  - ☑ Discrete wetland hydrologic connection. Explain: Wetland 06 is located in close proximity to Stream 22.
  - ☑ Ecological connection. Explain: Wetland 06 is located in close proximity to Stream 22 and provides stormwater attenuation, filtering and wildlife habitat.
  - ☐ Separated by berm/barrier. Explain:

(d) Proximity (Relationship) to TNW
Project wetlands are 2-5 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:
Identify specific pollutants, if known:

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

- ☑ Riparian buffer. Characteristics (type, average width): Buffers >30'.
- ☑ Vegetation type/percent cover. Explain: herbaceous 75%, sapling/shrub: 25% (Wetland 06)
- ☑ Habitat for:
  - ☐ Federally Listed species. Explain findings:
  - ☐ Fish/spawn areas. Explain findings:
  - ☐ Other environmentally-sensitive species. Explain findings:
  - ☑ Aquatic/wildlife diversity. Explain findings: Provide habitat for terrestrial wildlife.

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

All wetland(s) being considered in the cumulative analysis: 1
Approximately (0.03) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)	Size (in acres)	Directly abuts? (Y/N)	Size (in acres)
W-06 Y	0.03		

Summarize overall biological, chemical and physical functions being performed: Wetland 06 performs numerous functions such as flood storage, erosion and sediment control, pollution control through filtering and providing wildlife habitat. Wetland 06 has the capacity to transfer nutrients and organic carbon to support downstream food-webs, and it has a direct relationship on the physical, chemical and biological integrity of the Big Sandy River.

C. SIGNIFICANT NEXUS DETERMINATION

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

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

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

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

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

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

3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

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

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

2. **RPWs that flow directly or indirectly into TNWs.**
   - ☐ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial:
   - ☑ Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally: Based upon climate data accessed from Kentucky Mesonet (2011-2013), there are approximately 69 annual storm events exceeding 0.2 inch of precipitation in Lawrence County, Kentucky. Assuming that intermittent streams are flowing for 48 hours after each storm event, there are approximately 138 annual flow days for the intermittent streams in the study area. The estimated number of annual flow days exceeds three months.

   Provide estimates for jurisdictional waters in the review area (check all that apply):
   - ☑ Tributary waters: Twelve (12) intermittent stream channels totaling 8,377 linear feet.
   - ☑ Other non-wetland waters: 0.24 acres.
     Identify type(s) of waters: Pond 1

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:
   - ☐ Other non-wetland waters: acres.
     Identify type(s) of waters:

4. **Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**
   ☑ Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
   - ☐ Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW:
   - ☑ Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: Wetland 06 (0.03 acres) is physically proximate to Stream 22.

   Provide acreage estimates for jurisdictional wetlands in the review area: One wetland (Wetland 06) totaling 0.03 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:

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:

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

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

Identify water body and summarize rationale supporting determination:

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

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):

- ☐ If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.

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[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:

☐ 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:

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:

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: American Electric Power (applicant), URS Corporation (consultant) May 2013 submittal

☑ Data sheets prepared/submitted by or on behalf of the applicant/consultant.

☑ Office concurs with data sheets/delineation report.

☐ Office does not concur with data sheets/delineation report.

☐ Data sheets prepared by the Corps:

☐ Corps navigable waters' study:

☑ U.S. Geological Survey Hydrologic Atlas:

☑ USGS NHD data.

☑ USGS 8 and 12 digit HUC maps.

☑ U.S. Geological Survey map(s). Cite scale & quad name: Fallsburg, KY 1:24,000 USGS Quadrangle.

☑ USDA Natural Resources Conservation Service Soil Survey. Citation: Lawrence County, KY soil survey

☑ National wetlands inventory map(s). Cite name: Fallsburg, KY 1:24,000 USGS Quadrangle.

☐ State/Local wetland inventory map(s):

☑ FEMA/FIRM maps: 21127C0120D

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

☑ Photographs: ☐ Aerial (Name & Date):

☐ or ☑ Other (Name & Date): Photos taken by URS Corporation during 2012 field inspections.

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

☑ Applicable/supporting case law: *U.S. v. Cundiff*, 555 F.3d 200 (6th Cir. 2009).

☑ Applicable/supporting scientific literature:

National Research Council (1995). Wetlands: Characteristics and Boundaries, National Academy Press, Washington, D.C.

Mitsch, William J., and Gosselink, James G. (1993). Wetlands, Van Nosttrand Reinhold Company, New York, New York

Kusler, Jon, and Opheim, Teresa (1996). Our National Wetland Heritage, Environmental Law Institute, Washington, D.C.

Mary C. Freeman, Catherine M. Pringle, C Rhett Jackson (2007)
Hydrologic connectivity and the contribution of stream headwaters to ecological integrity at regional scales.
Journal of the American Water Resources Association 43 (1), 5-14.
doi:10.1111/j.1752-1688.2007.00002.x

Richard B. Alexander, Elizabeth W. Boyer, Richard A. Smith, Gregory E. Schwarz, Richard B. Moore (2007)
The role of headwater streams in downstream water quality.
Journal of the American Water Resources Association 43 (1), 41-59.

doi:10.1111/j.1752-1688.2007.00005.x

Mark S. Wipfli, John S. Richardson, Robert J. Naiman (2007)
Ecological linkages between headwaters and downstream ecosystems: transport of organic matter, invertebrates, and wood down headwater channels.
Journal of the American Water Resources Association 43 (1), 72-85.
doi:10.1111/j.1752-1688.2007.00007.x

Judy L. Meyer, David L. Strayer, J. Bruce Wallace, Sue L. Eggert, Gene S. Helfman, Norman E. Leonard (2007)
The contribution of headwater stream to biodiversity in river networks
Journal of the American Water Resources Association 43 (1), 86-103.
doi:10.1111/j.1752-1688.2007.00008.x

☑ Other information (please specify): Climate data accessed from Kentucky Mesonet (2011-2013)

B. ADDITIONAL COMMENTS TO SUPPORT JD: Based on the aforementioned findings, the one (1) wetland (Wetland 06), totaling 0.03 acres provides flood storage, erosion and sediment control, pollution control through filtering and wildlife habitat and is proximate to one (1) unnamed intermittent (RPW) stream (Stream 22) that flows into the fly ash waste water treatment pond. The remaining eleven (11) intermittent streams and Pond 1 also flow into the fly ash waste water treatment pond (which is not considered a "water of the U.S." per 33 C.F.R. § 328.3(a)(8). The fly ash pond discharges into Stream 30 (a perennial RPW), which discharges into Blaine Creek (a perennial RPW). Blaine Creek flows into the Big Sandy River (a TNW). These intermittent tributaries function as a headwater stream channels providing water, nitrogen and organic matter transport functions as well as providing vertebrate habitat for deer, birds, and other small wildlife in the area. These functions have a substantial effect on the Big Sandy River (TNW) and thus establish a significant nexus to this TNW. *See supporting scientific literature under Section IV, A.

INTERMITTENT STREAMS, WETLANDS, AND PONDS DRAINING TO FLY ASH WASTEWATER TREATMENT POND WITHIN THE BIG SANDY POND CLOSURE PROJECT

ID #	Description/Tributary Name	Latitude	Longitude	Size	HUC	Quad
Stream 11	Tributary to fly ash pond	38.184825	-82.643639	491	Big Sandy	Fallsburg
Stream 13	Tributary to fly ash pond	38.185593	-82.648905	816	Big Sandy	Fallsburg
Stream 15	Tributary to fly ash pond	38.17573	-82.642819	895	Big Sandy	Fallsburg
Stream 17	Tributary to fly ash pond	38.179089	-82.645326	797	Big Sandy	Fallsburg
Stream 18	Tributary to fly ash pond	38.18225	-82.648104	1,120	Big Sandy	Fallsburg
Stream 22	Tributary to fly ash pond	38.183653	-82.63824	186	Big Sandy	Fallsburg
Stream 35	Tributary to fly ash pond	38.185591	-82.646285	561	Big Sandy	Fallsburg
Stream 39	Tributary to fly ash pond	38.181365	-82.645372	169	Big Sandy	Fallsburg
Stream 41	Tributary to fly ash pond	38.181378	-82.645992	652	Big Sandy	Fallsburg
Stream 46	Tributary to fly ash pond	38.18363	-82.638883	432	Big Sandy	Fallsburg
Stream 70	Tributary to fly ash pond	38.183888	-82.650984	442	Big Sandy	Fallsburg
Stream 71	Tributary to fly ash pond	38.185572	-82.653279	1,816	Big Sandy	Fallsburg
Wetland 06	PEM/PSS Wetland	38.185745	-82.637086	0.03	Big Sandy	Fallsburg
Pond 01	Pond	38.177116	-82.641885	0.24	Big Sandy	Fallsburg
Total: 12 streams, 1 wetland, 1 pond				**Stream: 8,377 linear feet Wetland: 0.03 acre Pond: 0.24 acre**		

NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Applicant: American Electirc Power	File Number: LRL-2014-417-mdh	Date: 9/18/2014
Attached is:		See Section below
	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A
	PROFFERED PERMIT (Standard Permit or Letter of permission)	B
	PERMIT DENIAL	C
X	APPROVED JURISDICTIONAL DETERMINATION	D
	PRELIMINARY JURISDICTIONAL DETERMINATION	E

SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at http://www.usace.army.mil/CECW/Pages/reg_materials.aspx or Corps regulations at 33 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- OBJECT: If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- APPEAL: If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

- ACCEPT: You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- APPEAL: If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

If you have questions regarding this decision and/or the appeal process you may contact:	If you only have questions regarding the appeal process you may also contact:
Mr. Michael Hasty, Senior Project Manager US Army Engineer District Louisville Attn: CELRL-OP-FS PO Box 59 Louisville, KY 40201-0059 TEL (502) 315-6676; FAX (502) 315-6677 michael.d.hasty@usace.army.mil	US Army Corps of Engineers ATTN: Appeal Review Officer CELRD-PD-REG 550 Main Street RM 10524 Cincinnati, OH 45202-3222 TEL (513) 684-6212; FAX (513) 684-2460

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

	Date:	Telephone number:
_____ Signature of appellant or agent.		