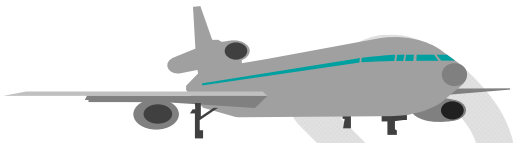
ENVIRONMENTAL EVALUATION (Short Environmental Assessment) for AIRPORT DEVELOPMENT PROJECTS



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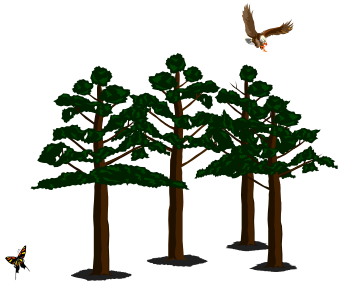


FEDERAL AVIATION ADMINISTRATION
MEMPHIS AIRPORTS DISTRICT OFFICE–SOUTHERN REGION
AIRPORTS DIVISION

AIRPORT: Cincinnati/Northern Kentucky International Airport
PROPOSED PROJECT: Proposed Lynxs Hangar Development Project
at the Cincinnati/Northern Kentucky International Airport
February 2018

This Environmental Assessment becomes a Federal document when evaluated and signed by the responsible FAA official.

Responsible FAA Official: _____ Date: _____

Revised 11/09

FAA MEM-ADO, SOUTHERN REGION AIRPORTS DIVISION
ENVIRONMENTAL EVALUATION FORM "C"
FOR SHORT ENVIRONMENTAL ASSESSMENTS

The Short Form Environmental Assessment (EA), is based upon the guidance in Federal Aviation Administration (FAA) Order 5050.4B, "National Environmental Policy Act, Implementing Instructions for Airport Projects" or subsequent revisions, which incorporates the Council on Environmental Quality's (CEQ) regulations for implementing the National Environmental Policy Act (NEPA), as well as the US Department of Transportation environmental regulations (including FAA Order 1050.1F or subsequent revisions), and many other federal statutes and regulations designed to protect the Nation's natural, historic, cultural, and archeological resources. It was modified from a document created in the Eastern Region Division and adopted by the Memphis Airports District Office (MEM-ADO) for use in appropriate situations. It is intended to be used for proposed airport projects in Kentucky and Tennessee.

The Short Form EA is intended to be used when a project cannot be categorically excluded (CATEX) from formal environmental assessment, but when the environmental impacts of the proposed project are expected to be insignificant and a detailed EA would not be appropriate. Accordingly, this form is intended to meet the intent of a short EA while satisfying the regulatory requirements of an EA.

Proper completion of the Short Form EA would allow the FAA to determine whether the proposed airport development project can be processed with a short EA, or whether a more detailed EA must be prepared. The MEM-ADO normally intends to use a properly completed Short Form EA to support a Finding of No Significant Impact (FONSI).

Applicability

The Short Form EA should be used if the sponsor's proposed project meets the following two (2) criteria:

1) The proposed project is a normally categorically excluded action that may include extraordinary circumstances Table 6-3; paragraph 702.a. or the airport action is one that normally requires an EA but involvement with, or impacts to, the extraordinary circumstances are not notable in number or degree of impact, and that any significant impacts can be mitigated below the level of significance, 5050.4B, Table 7.1.

2) The proposed project must fall under one of the following categories of Federal Airports Program actions noted with an asterisk (*):

(a) Approval of an airport location (new airport).
*(b) Approval of a project on an airport layout plan (ALP).
*(c) Approval of federal funding for airport development.
*(d) Requests for conveyance of government land.
*(e) Approval of release of airport land.
*(f) Approval of the use of passenger facility charges (PFC).
*(g) Approval of development or construction on a federally obligated airport.

Do any of these listed Federal Airports program action(s), 2(b) - (g), apply to your project? Yes __X__ No** _____ If "yes," list them here (there can be more than one). _

(b) Approval of a project on an airport layout plan (ALP).
(g) Approval of development or construction on a federally obligated airport

If "no," see (**) below.

**** If the proposed project does not meet 1) or 2) above, i.e., one or more answers to the questions resulted in a (**), do not complete this Form. Rather, contact the appropriate official (listed at the end of this form) for additional instructions.**

Directions

Prior to completing the Short Form EA, FAA recommends that you contact the program manager in the MEM-ADO to ensure that the Short Form EA is the proper Form for your proposed action. Once you have completed the Form in accordance with the following instructions, submit it to that office for review.

To complete the Form, the preparer should describe the proposed project and provide information on any potential impacts of the proposed project. Accordingly, it will be necessary for the preparer to have knowledge of the environmental features of the airport. Although some of this information may be obtained from the preparer's own observations, previous environmental studies and associated documents, or research, the best sources are the jurisdictional federal, state and local resource agencies responsible for protecting specially-protected resources, such as wetlands, coastal zones, floodplains, endangered or threatened species, properties in or eligible for National Register status, DOT Section 303/4(f) lands, etc.. As appropriate, these agencies should be consulted prior to submitting information to the FAA. It is important to note that in addition to fulfilling the requirements of NEPA through this evaluation process, the FAA is responsible for ensuring that airport development projects comply with the many laws and orders administered by the agencies protecting specially-protected resources. Moreover, the Form is not meant to be a stand-alone document. Rather, it is intended to be used in conjunction with applicable Orders, laws, and guidance documents, and in consultation with the appropriate resource agencies.

An electronic version of this Evaluation Form is available from the Program Manager or Environmental Specialist at the MEM ADO. In addition, some of the guidance and regulatory documents referenced in this Evaluation Form are available on-line at - **http://www.faa.gov/airports/environmental/environmental_desk_ref**/. We encourage the preparer to complete the Form electronically, rather than by hand. It may then be submitted via email, with a copy of the completed signature page sent by fax or mail; or, a hard copy of the completed Form may be submitted by fax or mail. The contact list should be removed from the completed Form prior to its submittal. Those responses requiring further explanation, or separate project plans or maps, should be attached at the end of the Form. In the attachment, identify the issue by its associated number/title (e.g., response to Item 13 , Coastal Zone Impacts).

Complete the following information:

1. Project Location: Boone County, Kentucky; Cincinnati/Northern Kentucky International Airport

Airport Name: Cincinnati/Northern Kentucky International Airport
Airport Address: 77 Comair Boulevard
City: Hebron County: Boone State: Kentucky

2. Airport Sponsor Information:

Point of Contact: Debbie Conrad
Address: Kenton County Airport Board – PO Box 752000 Cincinnati, OH 45275
Telephone: (859) 767-7021 FAX: (859) 767-7821
E-mail: dconrad@cvgairport.com

3. Evaluation Form Preparer Information:

Point of Contact: Chris Sandfoss
Address: Landrum & Brown – 11279 Cornell Park Drive – Cincinnati, OH 45242
Telephone: (513) 530-1256 FAX: (513) 530-2256
E-mail: csandfoss@landrum-brown.com

4. Proposed Development Action (describe **ALL** associated projects that are involved):

The Proposed Project includes the development of land at the Cincinnati/Northern Kentucky International Airport (CVG). The Kenton County Airport Board (KCAB), the owner and operator of CVG, is proposing to construct a new aircraft maintenance hangar and associated apron and surface vehicle parking lot on underutilized land at CVG (See **Attachment 1 - Exhibit 1, *Proposed Project***. The Proposed Project includes site grading and relocation of an existing stream that flows through the site within a concrete-lined drainage channel. The Proposed Project also includes the removal of fill from a borrow pit to use for grading the site of the proposed maintenance hangar. The site of the proposed maintenance hangar is referred to as the "Development Area" and the site of the borrow pit is referred to as the "Borrow Area". Both sites are shown on **Exhibit 2, *Proposed Project Location***. **Exhibit 3, *Proposed Borrow Area***, shows the site of the proposed borrow pit.

5. Describe the Purpose of and Need for the Project:

The purpose of the Proposed Action is to provide suitable aircraft hangar facilities to accommodate existing and forecasted demand for aircraft maintenance activities with airfield and roadway access.

6. Alternatives to the Project: Describe any other reasonable actions that may feasibly substitute for the proposed project, and include a description of the "No Action" alternative. If there are no feasible or reasonable alternatives to the proposed project, explain why:

Other potential underutilized sites on airport property were considered for the proposed Lynxs Hangar Development. However, no other sites are available that meet the requirements for size and convenient access to the existing airfield, that are not dedicated for other aeronautical uses, and that do not encroach upon any object free areas or other protected surfaces per FAA airport design standards.

7. Describe the affected environment of the project area (terrain features, level of urbanization, sensitive populations, etc). Attach a map or drawing of the area with the location(s) of the Proposed Project(s) identified. Attachment? Yes__X__ No_____

The Proposed Project site includes a Development Area and a Borrow Area as shown on **Exhibit 2, *Proposed Project Location***. The Development Area is located entirely on Airport property and is surrounded by Airport development and roadways.

The Development Area is underutilized land within the central area of the airfield at CVG. The site is between an existing regional aircraft hangar and an Airport Rescue and Fire Fighting (ARFF) training facility. The site includes mowed field and concrete-lined drainage channels.

The Borrow Area is entirely on airport property and is surrounded by commercial development. The Borrow Area consists of a relatively flat mowed field.

8. Are there attachments to this Form? Yes__X__ No_____ If "yes," identify them below.

Attachment 1 – Exhibits

Attachment 2 – Air Quality Technical Report

Attachment 3 - Wetland Delineation Report and Coordination with the U.S. Army Corps of Engineers

Attachment 4 - Coordination with the U.S. Fish and Wildlife Service (USFWS)

Attachment 5 – Archaeology Survey Report and Coordination with Kentucky State Historic Preservation Officer

Attachment 6 - Kentucky Division of Waste Management consultation

9. Environmental Consequences – Special Impact Categories (refer to corresponding sections in 5050.4B or 1050.1F , or subsequent revisions, for more information and direction to complete each category, including discussions of Thresholds of Significance Table 7-1).

(1) NOISE

1) Does the proposal require a noise analysis per Order 1050.1F, Appendix A? Explain. (Note: Noise sensitive land uses are defined in Table 1 of FAR Part 150). Yes ____ No __X__

The Proposed Action would accommodate existing and forecast aircraft operations. The Proposed Action would not increase operations, change fleet mix, or create new flight tracks. The proposed maintenance hangar facility would accommodate existing demand for maintenance operations at CVG. Currently, maintenance activities occur at other existing facilities at CVG. Construction of the proposed maintenance facility would consolidate aircraft maintenance in one efficient location. The Proposed Project would not change the number or location of aircraft engine run-ups, which are currently conducted at a central location at CVG. Therefore, the Proposed Project would not result in changes to the noise environment at the Airport and does not require a noise analysis per FAA Order 1050.1F Appendix A.

2) If "yes," determine whether the proposed project is likely to have a significant impact on noise levels over noise sensitive areas within the DNL 65 dBA noise contour.

Not applicable.

(2) COMPATIBLE LAND USE

(a) Would the proposed project result in other (besides noise) impacts exceeding thresholds of significance that have land use ramifications, such as disruption of communities, relocation of residences or businesses, or impact natural resource areas? Explain.

The Proposed Project site is located on Airport property. The site of the proposed maintenance hangar facility is surrounded by other Airport development and would not change the character of the surroundings or be inconsistent with local planning and zoning. The site of the proposed Borrow Area is also on airport property. Property acquisition is not required for the Proposed Project; therefore, it would not disrupt communities nor require the relocation of residences or businesses and no significant land use impacts would occur.

(b) Would the proposed project be located near or create a wildlife hazard as defined in FAA Advisory Circular 150/5200-33, "Wildlife Hazards on and Near Airports"? Explain.

The Proposed Project would not be located near or create a wildlife hazard as defined in FAA AC 150/5200-33B, "Hazardous Wildlife Attractants On or Near Airports." The Proposed Project would not create any open water, wetlands, vegetation or other wildlife attractants.

(3) SOCIAL IMPACTS

(a) Would the proposed project cause relocation of any homes or businesses? Yes____No __X_ Explain.

The Proposed Project would occur entirely on existing KCAB-owned property. No homes or businesses would be acquired; no homes or businesses would need to be relocated.

(b) If "yes," describe the availability of adequate relocation facilities

Not applicable.

(c) Would the proposed project cause an alteration in surface traffic patterns, or cause a noticeable increase in surface traffic congestion? Explain.

The Proposed Project would not cause a significant increase in surface vehicle traffic on local roadways. The proposed hangar facility would include a surface vehicle parking lot for employees. Plans for the site include parking spaces for approximately 90 employee vehicles. The additional traffic is minimal in comparison to other employee vehicle traffic at CVG and is not expected to cause traffic congestion or a decrease in level of service on local roadways.

During construction, traffic to and from the site would increase. However, the construction traffic would not result in a reduction in the level of service on the local roadways as traffic would be maintained at all times. Construction haul routes would be planned in order to reduce any potential congestion on the roads. Therefore, no significant traffic impacts would occur.

(4) INDUCED SOCIOECONOMIC IMPACTS

Would the proposed project cause induced, or secondary, socioeconomic impacts to surrounding communities, such as change business and economic activity in a community; impact public service demands; induce shifts in population movement and growth, etc.?
Yes____ No __X__Explain

The proposed hangar facility would accommodate existing demand for maintenance services at CVG. The additional employees at the site would not be expected to cause excessive demand for public services or significant shifts in regional population or traffic patterns. No businesses would be relocated as a result of the Proposed Project. Therefore, no adverse socioeconomic impacts are anticipated.

(5) AIR QUALITY

(a) Does the proposed project have the potential to increase airside or landside capacity, including an increase in capacity to handle surface vehicles? Explain

The Proposed Project would accommodate existing and forecast demand for aircraft maintenance activities. Therefore, no increase in aircraft operations or surface vehicle traffic would occur as a result of the Proposed Project. Therefore, implementation of the Proposed Project would not cause an increase in aircraft emissions. Any increase in emissions would be limited to construction equipment and employee vehicles. See **Attachment 2** for additional information.

(b) Identify whether the project area is in a non-attainment or maintenance area for any of the six (6) criteria air pollutants having National Ambient Air Quality Standards (NAAQS) established under the Clean Air Act Amendments (CAAA), and identify which pollutant(s) apply. If the proposed project is in an attainment area, no further air quality analysis is needed; skip to item (6). See EPA Green Book at www.epa.gov/oar/oaqps/greenbk for current attainment areas.

The Airport is located within Boone County, Kentucky, which is included in the Metropolitan Cincinnati Interstate Air Quality Region. The U.S. Environmental Protection Agency (USEPA) has determined that levels of the eight-hour concentration of ozone exceed the Federal standards defining healthful air quality within this area. In the past, Boone County was designated as nonattainment for 24-hour concentrations of fine particulate matter ($PM_{2.5}$); however, on December 15, 2011, the USEPA determined the area had attained the $PM_{2.5}$ standard and the region was re-designated to attainment for $PM_{2.5}$. The area now operates under a maintenance plan for $PM_{2.5}$.

Pollutants that apply are volatile organic compounds (VOC), nitrogen oxides (NO_x), sulfur oxides (SO_x), and $PM_{2.5}$. See **Attachment 2** for additional information.

(c) Is an air quality analysis needed with regard to indirect source review requirements or levels of aircraft activity (See Order 1050.1F and the 1997 FAA Handbook "Air Quality Procedures for Civilian Airports and Air Force Bases"). Explain. If "yes," comply with state requirements.

No, the Commonwealth of Kentucky is not listed in the FAA *Air Quality Procedures for Civilian Airports and Air Force Bases*, Appendix J, *State Indirect Source Review Regulations*.

(d)(1) Would the Proposed Project be an "exempted action," as defined in 40 C.F.R Part 51.853(c)(2) of the General Conformity Rule? If exempt, skip to item (6). List exemption claimed.

No, the Proposed Project is not an "exempted action" as defined in 40 C.F.R Part 51.853(c)(2) of the General Conformity Rule. See **Attachment 2** for additional information.

(d)(2) Would the increase in the emission level of the regulated air pollutants for which the project area is in non-attainment or maintenance exceed the de minimis standards?
Yes_____No__X__

(d)(3) If "no," would the proposed project cause a violation of any NAAQS, delay the attainment of any NAAQS, or worsen any existing NAAQS violation? Explain.

The construction emissions inventory demonstrates that the emissions from construction of the Proposed Project would be below applicable de minimis thresholds. Therefore, the Proposed Project would not cause a violation of any NAAQS, delay the attainment of any NAAQS, or worsen any existing NAAQS violation. See **Attachment 2** for additional information.

(d)(4) Would the proposed project conform to the State Implementation Plan (SIP) approved by the state air quality resource agency? Explain, and provide supporting documentation.

Yes, the Proposed Project would conform to the SIP. See **Attachment 2** for additional information.

(6) WATER QUALITY

Describe the potential of the proposed project to impact water quality, including ground water, surface water bodies, any public water supply systems, etc. Provide documentation of consultation with agencies having jurisdiction over such water bodies, as applicable.

The Proposed Project site includes a Development Area and a Borrow Area. Water features within the Development Area include two intermittent streams, identified Stream 1 and Stream 2; and six wetlands as shown **Exhibit 4, *Surface Water Resources – Development Area***. Stream 1 is an intermittent stream that is completely contained within a concrete channel. Stream 2 is an intermittent stream that is also contained within a concrete drainage channel. Stream 1 and Stream 2 converge within the project area and flow into a culverted channel that flows underground in a southwest direction from the project site. The Proposed Project would require the relocation of Stream 1 as discussed in Section 9 and Section 11. There are two wetlands and no streams within the Borrow Area as shown on **Exhibit 5, *Surface Water Resources – Borrow Area***.

The construction activity would require an amendment to the KCAB's Kentucky Pollutant Discharge Elimination System (KPDES) permit. To avoid and minimize risk of impact to any surface and ground water resources adjacent to the site during construction, best management practices (BMPs) would be implemented in accordance with FAA Advisory Circular (AC) 150/5370-10F, including item P-156, *Temporary Air and Water Pollution, Soil Erosion, and Siltation Control.* American Association of Public Works (APWA) Section 5100, *Site Work and Erosion and Sediment Control,* would also be followed where applicable for erosion and sediment control. Some of the BMPs to be considered for implementation include the following:

- The use of silt fences, silt containment barrier, filter sock, rock lined drainage channels, erosion control matting, and establishing vegetation;
- The storage of fuel, herbicides and other liquids in areas where spills would not enter a stream or watercourse. All containers would be closed when not in use; and
- Development of a re-vegetation plan for the areas to be cleared and graded to support construction efforts.

Much of the Proposed Project site is already developed. The Proposed Project would add approximately 106,000 square feet of new impervious surface. Stormwater from new areas of impervious surface would be collected and treated by the existing stormwater facilities in accordance with the KPDES permit. Therefore, it is not anticipated that water quality standards would be exceeded with implementation of the Proposed Project.

(7) DEPARTMENT OF TRANSPORTATION SECTION 303/4(f)

Does the proposed project require the use of any publicly owned land from a public park, recreation area, or wildlife or waterfowl refuge of national, state, or local significance, or land of an historic site of national, state, or local significance? Provide justification for your response. Include concurrence of appropriate officials having jurisdiction over such land regarding the use determination.

The Proposed Project would not require the use (actual taking or constructive use) of any land from a public park, recreation area, wildlife or waterfowl refuge of national, state, or local significance, or land of an historic site of national, state, or local significance. The location of the Proposed Action site is on KCAB owned property.

(8) HISTORIC, ARCHITECTURAL, ARCHEOLOGICAL, AND CULTURAL RESOURCES

(a) Describe any impact the proposed project might have on any properties in or eligible for inclusion in the National Register of Historic Places. Provide justification for your response, and include a record of your consultation with the State Historic Preservation Officer (SHPO), if applicable (attach correspondence with SHPO).

The Area of Potential Effects (APE) is limited to airport property immediately surrounding the Development Area and the Borrow Area as shown on **Exhibit 6, *Area of Potential Effects***. A Phase I Archaeological Resources Survey was conducted within the Borrow Area in 2014 which found no significant cultural resources. A Phase I Archaeological Resources Survey was conducted within the proposed Development Area in 1986. This survey identified an existing cemetery within the site known as the Christy and Tanner/Clutterbuck (aka Brown) cemeteries. Additional surveying of this cemetery was conducted in January 2018. No other archaeological resources have been identified within the Development Area or the Borrow Area.

Formal consultation is ongoing between the Kentucky Heritage Council and the FAA per Section 106 of the National Historic Preservation Act. The results of this coordination will be incorporated into the Final EA document.

The Development area also includes an archaeological site (labeled Site 15Be316) which was identified in the 1986 survey as a Late Archaic open habitation site without mounds located at the base of a ridge. Additional surveying determined that this site is not eligible for the NRHP.

A review of National Park Service listings of historic properties and other sources was conducted to identify potential historic structures within the APE. There are no structures within the APE that are listed or eligible for the NRPH. The closest above ground structures that are listed on the NRHP include the Hopeful Lutheran Church (located approximately 2.6 miles south of the site, the Henry and Agnes Rolsen House, (located approximately 2.7 miles northeast of the site), and the Hebron Deposit Bank (located approximately 2.7 miles northwest of the site.

(b) Describe whether there is reason to believe that significant scientific, prehistoric, historic, archeological, or paleontological resources would be lost or destroyed as a result of the proposed project. Include a record of consultation with persons or organizations with relevant expertise, including the SHPO, if applicable.

Based on archaeological resource surveys and a review of potential historic resources, there are no known historic or archaeological resources within the APE. Therefore, no prehistoric, historic, archeological, or paleontological resources would be impacted by the Proposed Project.

(9) BIOTIC COMMUNITIES

Describe the potential of the proposed project to directly or indirectly impact plant communities and/or the displacement of wildlife. This answer should also reference Section 6, Water Quality, if jurisdictional water bodies are present.

The Proposed Project includes two areas, a Development Area and a Borrow Area. A field survey of undeveloped areas within these areas was conducted on January 23, 2018 and February 6, 2018. Results of the field survey found the sites consisted primarily of urban/industrial turf, old field, and palustrine emergent (PEM) wetland. The field survey identified two intermittent, concrete-lined streams within the Development Area as shown on **Exhibit 4**. No trees are present within either the Development Area or the Borrow Area of the Proposed Project site.

The Development Area contains two intermittent streams (identified as Stream 1 and Stream 2). Stream 1 flows north to south through the site. Stream 1 begins north of the site where it exits an underground culvert and flows through an open concrete-lined channel for approximately 816 linear feet before entering another culvert south of the site. Stream 2 flows east to west through the site. Stream 2 begins east of the site where it exits an underground culvert and flows through an open concrete-lined channel for approximately 24 linear feet before joining Stream 1.

The Proposed Project requires relocation of Stream 1. Stream 1 would be relocated approximately 80 to 120 feet east and would reconnect at the existing confluence with Stream 2. Both streams have historically been channelized and portions of the streams are culverted and flow underground beneath existing roadways. These streams were not found to support aquatic life and therefore the Proposed Project would not be expected to impact any biotic communities. Refer to Section 6, Water Quality, for a discussion of potential water quality impacts.

(10) FEDERAL and STATE-LISTED ENDANGERED AND THREATENED SPECIES

Would the proposed project impact any federally- or state-listed or proposed endangered or threatened species of flora and fauna, or impact critical habitat? Explain, and discuss and attach records of consultation efforts with jurisdictional agencies, if applicable.

As previously discussed, a site assessment survey of the Proposed Project site, including both the Development Area and the Borrow Area, was conducted on January 23, 2018 and February 6, 2018. The following table summarizes the status of all federally threatened and endangered species in the USFWS database for Boone County, Kentucky.

Species	Common Name	Status	Habitat Present	Species Likely Impacted
Mammals				
Myotis sodalist	Indiana bat	E	No	No
Myotis septentrionalis	northern long-eared bat	E	No	No
Myotis grisescens	gray bat	E	No	No
Mussels				
Pleurobema clava	Clubshell	E	No	No
Cyprogenia stegaria	Fanshell	E	No	No
Epioblasma torulosa rangiana	Northern Riffleshell	E	No	No
Plethobasus cooperianus	Orangefoot pimpleback	E	No	No
Epioblasma obliquata obliquata	Purple Cat's Paw	E	No	No
Quadrula cylindrica cylindrica	Rabbitsfoot	T	No	No
Obovaria retusa	Ring pink	E	No	No
Pleurobema plenum	Rough pigtoe	E	No	No
Plethobasus cyphyus	Sheepnose	E	No	No
Cumberlandia monodonta	Spectaclecase Mussel	E	No	No
Plants				
Trifolium stoloniferum	running buffalo clover	E	No	No

E = Federally Endangered Species

The are no trees within the Proposed Project site that would be considered potential summer roosting habitat for the Indiana bat, gray bat, or northern long-eared bat. No individual bats were observed on the site during the field survey and no known hibernaculum is within a one-mile radius of the site. The Proposed Project would not directly impact any potential bat roost trees. Two concrete-lined, intermittent streams exist within the project site; however, the streams lack the morphology and flow regime necessary to support mussel species. No habitat for running buffalo clover exists within the Proposed Project site. No other Federally protected species or habitat exists within the Proposed Project site. Therefore, the Proposed Project would not cause any significant adverse impacts to federally protected species. A coordination letter was sent to the U.S. Fish and Wildlife Service (USFWS) to obtain concurrence with this determination. The USFWS concurred in a response dated March 7, 2018 that the Proposed Project is not likely to result in significant adverse impacts to any Federally protected species. A copy of the coordination with the USFWS is included in **Attachment 4.**

State protected species within range of the Proposed Project site include running buffalo clover, the Indiana bat, the Redback salamander, and the six-banded longhorn beetle. As previously mentioned, no impacts to the Indiana bat or running buffalo clover would occur. The redback salamander is found in damp microhabitats in wooded areas. The Proposed Project does not contain wooded habitat for this species. The six-banded longhorn beetle inhabits overmature trees and dead snags in floodplains and mesic forests. The Proposed Project site is not within any floodplain/mesic habitat. Therefore, no impacts to state-protected species would occur.

(11) WETLANDS

Does the proposed project involve the modification of delineated wetlands (Delineations must be performed by a person certified in wetlands delineation)? Provide justification for your response.

A wetland delineation field survey was conducted within the site of the Proposed Project on January 23, 2018 and February 6, 2018. The Proposed Project includes two areas, a Development Area and a Borrow Area. The field survey identified two intermittent streams (referred to as Stream 1 and Stream 2) contained within concrete-lined channels. There are six palustrine emergent wetlands within the Development Area as shown on **Exhibit 4**, and two palustrine emergent wetlands within the Borrow Area as shown on **Exhibit 5**. The Proposed Project would require the relocation of Stream 1. Stream 1 begins north of the Development Area where it exits an underground culvert and flows through an open concrete-lined channel for approximately 816 linear feet before joining with Stream 2 and entering another culvert south of the site.

Stream 1 would be relocated approximately 80 to 120 feet east and would reconnect at the existing confluence with Stream 2. Both streams have historically been channelized and portions of the streams are culverted and flow underground beneath existing roadways. The Proposed Project would require filling of the eight wetlands that total 0.23 acres in area.

Pre-construction notification to the U.S. Army Corps of Engineers (USACE) is required if the loss of waters of the US exceeds 0.1 acre, 300 linear feet of an intermittent or perennial stream, or if there is discharge in a special aquatic site, including wetlands.

The Proposed Project would impact 0.23 acres of wetlands and 816 linear feet of Stream 1, therefore, coordination was conducted with the USACE to determine permitting requirements. Preliminary coordination with the USACE Louisville District Engineer indicated that the Proposed Project would qualify for a Nationwide Permit (NWP#39) with a waiver for the intermittent stream impacts. See **Attachment 3** for the Wetland and Stream Delineation report and documentation of USACE coordination.

(12) FLOODPLAINS

(a) Would the proposed project be located in, or would it encroach upon, any 100-year floodplains, as designated by the Federal Emergency Management Agency (FEMA)?
Yes_____ No__X__

(b) Would the proposed project be located in a 500-year floodplain, as designated by FEMA?
Yes_____ No__X__

(c) If “yes,” is the proposed project considered a "critical action", as defined in the Water Resources Council Floodplain Management Guidelines? (see FR Vol. 43, No. 29, 2/10/78)
Yes____ No____

Not applicable.

(d) You must attach the corresponding FEMA Flood Insurance Rate Map (FIRM) or other documentation showing the project area. Map attached? Yes__X__ No_____ If "no," why not?

Federal Emergency Management Agency, National Flood Insurance Program, FIRM Flood Insurance Rate Map, Boone County Kentucky and Incorporated Areas, Panel 120 of 325, Map Number: 21015C0120C, Effective Date: June 4, 2007. (See **Attachment 1 - Exhibit 8, *Floodplain Map***.)

(e) If the proposed project would cause an encroachment of a base floodplain (the base floodplain is the 100-year floodplain for non-critical actions and the 500-year floodplain for critical actions), what measures would be taken to provide an opportunity for early public review, in accordance with Order 1050.1F, Appendix A, Section 9.2.c?

Not applicable.

(13) COASTAL ZONE MANAGEMENT PROGRAM

(a) Would the proposed project occur in, or affect, a coastal zone, as defined by a state's Coastal Zone Management Plan (CZMP)? Explain

The Cincinnati/Northern Kentucky International Airport is not located in a coastal zone management area nor is Boone County, Kentucky designated as a Coastal Zone Management county.

(b) If "yes," is the project consistent with the State's CZMP? Explain. If applicable, attach the sponsor's consistency certification and the state's concurrence of that certification. Early coordination is recommended.

Not Applicable.

(14) COASTAL BARRIERS

Is the location of the proposed project within the Coastal Barrier Resources System, as delineated by the US Fish and Wildlife Service (FWS) or FEMA coastal barrier maps? Explain.

There are no coastal barriers or any areas subject to the Coastal Barriers Resources Act of 1982 or the Coastal Barriers Improvement Act of 1990 in the vicinity of the Airport.

(15) WILD AND SCENIC RIVERS

Would the proposed project affect any portion of the free-flowing characteristics of a Wild and Scenic River or a Study River, or any adjacent areas that are part of such rivers, listed on the Wild and Scenic Rivers Inventory? Consult the (regional) National Parks Service (NPS), U.S. Forest Service (FS), or other appropriate federal authority for information. Early consultation is recommended.

No wild and scenic rivers, as designated by the U.S. Department of the Interior, National Park Service, are located in the vicinity of the Airport.

(16) FARMLAND

(a) Would the proposed project involve the use of federal financial assistance or conversion of federal government land? Explain

The Proposed Project site is on KCAB owned property, which is not zoned for agricultural use. The Proposed Project does not involve the conversion of Federal Government land.

(b) If "yes" would it convert farmland protected by the Farmland Protection Policy Act (FPPA) (prime or unique farmland) to non-agricultural uses? Yes_____ No__X__

(c) If "yes," determine the extent of project-related farmland impacts by completing (and submitting to the Natural Resources Conservation Service) the "Farmland Conversion Impact Rating Form" (NRCS Form AD 1006). Coordinate with the state or local agricultural authorities. Explain your response, and attach the Form AD 1006, if applicable.

Not Applicable.

(17) ENERGY SUPPLY AND NATURAL RESOURCES

What effect would the proposed project have on energy or other natural resource consumption? Would demand exceed supply? Explain. Letters from local public utilities and suppliers regarding their abilities to provide energy and resources needed for large projects may be necessary.

The Proposed Project would increase the demand for energy supply in the form of electricity and natural gas in order to power and regulate interior climate within the newly constructed hangar facility and to provide power for outdoor lighting. The Proposed Project would not cause an increase in aircraft operations; therefore, it would not cause an increase in aircraft fuel consumption. Fuel consumption by vehicles used during construction is expected to be minimal.

Construction of the Proposed Project would require the use of readily available construction materials. Neither the proposed physical structures nor the actual construction process would consume a notable quantity of natural resources that would exceed local supplies.

No unusual energy uses were identified that would indicate that the power company or fuel suppliers would have difficulty providing adequate supply to meet the demand of the Proposed Project. Furthermore, natural resources that would be used during construction, such as sand, gravel, asphalt, and steel, are not in short supply. Based on these findings, it is anticipated that construction and implementation of the Proposed Project would not result in demand for natural resources or energy supply in excess of the current supply.

(18) LIGHT EMISSIONS

Would the proposed project have the potential for airport-related lighting impacts on nearby residents? Explain, and, if necessary, provide a map depicting the location of residences in the airport vicinity in relation to the proposed lighting system.

There would be an increase in lighting due to the Proposed Project. However, the lighting would be surrounded by other airport features and lighting and would not be expected to cause impacts to off-airport land uses. The closest residential area in relation to the proposed hangar facility is located approximately 1.2 miles to the south of CVG on Jenny Court. Other residential areas are located east of the Airport near the intersection of Point Pleasant Road and Donaldson Road. It is not expected that additional light emissions would be noticeable within these residential areas. Light emissions during the construction of the Proposed Project are not anticipated to cause any impact to the surrounding areas as most of the construction would occur during daytime hours. Therefore, no light impacts would occur as a result of the Proposed Project.

(19) SOLID WASTE

Would the proposed project generate solid waste? Yes__X__ No_____

If "yes," are local disposal facilities capable of handling the additional volumes of waste resulting from the project? Explain.

The Proposed Project would generate solid waste during construction and operation. The amount of solid waste generated during construction activities would not be significant and would not require any special considerations for disposal options. The proposed facilities are not expected to generate a significantly greater amount of solid waste than is presently produced. All solid waste would be accommodated by the three solid waste facilities located within 25 miles of the Airport. No new sanitary landfills or bird attractants would be created and no significant changes in collection, control or disposal wastes are anticipated. All solid waste would be managed under the guidelines set for the by Federal, state, or local regulations for solid waste.

NOTE: A sanitary landfill is incompatible with airport operations if the landfill is located within 10,000 feet of a runway serving turbo-powered aircraft, or 5,000 feet of a runway serving piston-powered aircraft. Refer to FAA Advisory Circular 150/5200.33 " Hazardous Wildlife Attractants on or Near Airports," and FAA Order 5200.5B, "Guidance Concerning Sanitary Landfills on or Near Airports."

(20) CONSTRUCTION IMPACTS

Would construction of the proposed project: 1) increase ambient noise levels due to equipment operation; 2) degrade local air quality due to dust, equipment exhausts and burning debris; 3) deteriorate water quality when erosion and pollutant runoff occur; 4) or disrupt off-site and local traffic patterns? Explain.

1) AMBIENT NOISE LEVELS: Construction of the Proposed Project would require the temporary use of several types of gasoline and/or diesel-powered equipment. Anticipated construction tasks include site preparation, installation of utilities, concrete and asphalt paving, and building construction. These activities would occur during daytime and nighttime hours. Construction vehicles would also access the borrow site. The closest residential area to the proposed Development Site is located approximately 1.2 miles to the south of the site on Jenny Court. Other residential areas are located east of the Airport near the intersection of Point Pleasant Road and Donaldson Road. The closest residence to the Borrow Area is on Delta Road approximately 0.2 miles from the site. Due to the distances between the construction site and these residential areas and the level of ambient noise, the construction activities associated with the Proposed Project are not expected to cause a noticeable change in noise levels.

2) LOCAL AIR QUALITY: Through the use of best management practices (BMP), as outlined in FAA AC 150/5370-10F, *Standards for Specifying Construction of Airports*, dust emissions due to construction of the Proposed Project would be temporary and would not significantly impact local air quality. The discharge of fugitive dust at the construction site would be minimized by the use of BMPs such as ground sprinkling practices during high-dust generating activities or extended dry periods. Dust from construction and materials hauling vehicles would be minimized by the use of cargo-covering tarps and wet-downs, when possible. During construction and implementation of the Proposed Project, no open burning of vegetative material would occur.

Emissions from construction vehicles would impact local air quality, as described in Attachment 2. Those emissions would be kept to a minimum through the use of BMPs and adherence to local, state, and Federal air pollution regulations. As such, the emissions generated during construction would be considered *de minimis* and would comply with the CAA and NEPA.

3) WATER QUALITY: The Proposed Project would be constructed using BMP's to for minimizing impacts to the natural resources, including surface and groundwater impacts. Temporary erosion control measures would be implemented to ensure erosion and siltation are kept to a minimum.

4) LOCAL TRAFFIC PATTERNS: Temporary impacts to surface transportation could occur during construction. These impacts are expected to be minimal because traffic would be maintained at all times through the use of flaggers, arrow boards, and traffic control devices in order to reduce any potential congestion on the roads. There would be no impacts to local residential streets as there is access to the Proposed Project site via Mineola Pike and Donaldson Road and I-275. The route between the Borrow Area and the Development Area would follow Mineola Pike to Donaldson Road to South Airfield Drive. Level of service on this route is not expected to be decreased due to the minimal amount of construction traffic that would occur.

(21) OTHER CONSIDERATIONS

(a) Is the proposed project likely to be highly controversial on environmental grounds? Explain.

No. The Proposed Project is not likely to be highly controversial on environmental grounds. No significant impacts would occur as a result of the Proposed Project.

(b) Is the proposed project likely to be inconsistent with any federal, state or local law or administrative determination relating to the environment? Explain.

No. The Proposed Project is not inconsistent with any federal, state or local law or administrative determination.

(c) Is the proposed project reasonably consistent with plans, goals, policies, or controls that have been adopted for the area in which the airport is located? Explain.

Yes. The Proposed Project is reasonably consistent with plans, goals, policies, and controls that have been adopted in the area in which the Airport is located.

(22) HAZARDOUS SITES/MATERIALS

Would the proposed project require the use of land that may contain hazardous substances or may be contaminated? Explain your response and describe how such land was evaluated for hazardous substance contamination. Early consultation with appropriate expertise agencies (e.g., US Environmental Protection Agency (EPA), EPA-certified state and local governments) is recommended.

The Proposed Project site includes maintained fields within airport property. No demolition or property acquisition would occur as a result of the Proposed Project. Part of the Development Area includes the site of a Former Fire Training (FFT) Area. In this FFT Area, both waste fuels and solvents were used to start fires for training exercises. The FFT Area previously included an underground storage tank, overflow surface impoundments, a drum storage area, and burn pit. The FFT Area was closed through removal of soils and determination of no impact to groundwater quality as reported in a June 1999 Closure Report. A post-closure plan was developed for the FFT Area and post-closure activities were initiated in 2001. This post-closure plan includes an environmental covenant that requires consultation with the Kentucky Division of Waste Management prior to site disturbance.

To mitigate exposure potential, KCAB will hire a Contractor qualified to perform work under 29 Code of Federal Regulations (CFR) 1910.120 for planned activities where the significant potential to contact impacted soils exists. In those circumstances, the Contractor will be required to conduct appropriate air monitoring and cordon off the work area from non-trained personnel and the general public with appropriate barriers and signage. All site workers will be dressed in the appropriate level of personal protective equipment as determined by pre-work hazard analyses and subsequent monitoring activities. Removed soils will be segregated in the field. All removed or disturbed impacted soils will be staged in a manner that minimizes risk of runoff until sampled and appropriate disposal methods are implemented. Therefore, no significant hazardous material impacts would occur. A letter was sent to the Kentucky Division of Waste Management requesting concurrence with the mitigation measures and approval of the proposed site development per the environmental covenant. A copy of this coordination is included as Attachment 6.

Typical materials would be used during construction and operation of the proposed maintenance facility, including fuel, engine oil, degreasers, cleansing agents and other maintenance materials. All materials would be transported, handled, and disposed of per all applicable regulations. Similar materials are already in use at CVG and the implementation of the Proposed Project would not significantly increase the amount of hazardous waste or solid waste.

(23) PERMITS

List all required permits for the proposed project. Indicate whether any difficulties are anticipated in obtaining the required permits.

The construction activity would require an amendment to the KPDES permit and a USACE NWP#39.

NOTE: Even though the airport sponsor has/shall obtain one or more permits from the appropriate federal, state, and/or local agencies for the proposed project, initiation of such project shall NOT be approved until FAA has issued its environmental determination.

(24) ENVIRONMENTAL JUSTICE

Would the proposed project impact minority and/or low-income populations? Consider human health, social, economic, and environmental issues in your evaluation. Explain.

The Proposed Project would not adversely impact minority and/or low-income populations. No homes or businesses would be acquired, relocated, or otherwise adversely impacted by the Proposed Project. The Proposed Project would occur on KCAB-owned property. No property would be acquired for this project.

(25) CUMULATIVE IMPACTS

When considered together with other past, present, and reasonably foreseeable future development projects on or off the airport, federal or non-federal, would the proposed project produce a cumulative effect on any of the environmental impact categories above? You should consider projects that are connected, cumulative and similar (common timing and geography). Provide a list of such projects considered. For purposes of this Evaluation Form, generally use 3 years for past projects and 5 years for future foreseeable projects.

Recently completed projects at CVG include development on the south airfield of a commercial building, parking facilities, and surface roads; development of a shipping warehouse on a vacant parcel to the east of the airfield; expansion of DHL's facilities on the south airfield; demolition of the former Concourse C, and the demolition of Terminal One and Terminal Two. Future projects in the area include commercial development on vacant parcels to the south of CVG; a proposed air cargo hub on the south central portion of the airfield; construction of a new consolidated rental car facility (CONRAC) on underutilized land within the terminal area; a common use cargo facility on the northwest side of the airfield; and the possibility of development of other under-utilized land parcels north, east, south, and west of the airfield. These past, present, and reasonably foreseeable future development projects are not anticipated to result in significant cumulative impacts on any of the previously discussed environmental categories from the implementation of the Proposed Project.

10. MITIGATION

(a) Describe those mitigation measures to be taken to avoid creation of significant impacts to a particular resource as a result of the proposed project, and include a discussion of any impacts that cannot be mitigated, or that cannot be mitigated below the threshold of significance (See 5050.4B & 1050.1F, Appendix A).

As discussed in Section (11) Wetlands, Wetland/stream impacts would exceed 0.1 acre and 300 linear feet. Therefore, USACE permitting is required. It is expected that the Proposed Project would require mitigation of the loss of 0.23 acres of wetlands at a 2:1 ratio. To accomplish wetland mitigation, 0.46 credits would be obtained from the Northern Kentucky Mitigation Bank.

Stream impacts would occur to a concrete-lined stream that does not support aquatic life. Due to the current conditions of this stream and the fact that it will be relocated to maintain its current flow and function, no mitigation is expected to be required.

As discussed in Section (10) Federal and State-Listed Endangered and Threatened Species, no State or Federally-protected species would be impacted and no mitigation is required.

As discussed in Section (22), a qualified contractor will conduct all work associated with excavating soils within the Former Fire Training area that potentially contain waste solvents and fuel from training fire activities. All appropriate mitigation measures will be implemented per 29 CFR 1910.120, including construction site access limitations, use of personal protective gear for site workers, monitoring, and soil testing and proper disposal.

To avoid and minimize the risk of impacts to water resources and air quality, BMPs would be implemented in accordance with FAA Advisory Circular (AC) 150/5370-10G, *Standards for Specifying Construction of Airports*, Item P-156, Temporary Air and Water Pollution, Soil Erosion, and Siltation Control.

(b) Provide a description of the resources that are in or adjacent to the project area that must be avoided during construction. **Note:** The mitigation measures should be incorporated into the project's design documents.

No resources that are in or adjacent to the Proposed Project area were identified that would require avoidance during construction.

11. PUBLIC INVOLVEMENT

Describe what efforts would be made to involve the public with this proposed project. Discuss the appropriateness of holding public meetings and/or public hearings, making the draft document available for public comment, or the preparation of a public involvement plan, etc.

The KCAB has provided an opportunity for a public hearing as outlined in FAA Order 5050.4B, Section 404. NOTICE OF OPPORTUNITY FOR A PUBLIC HEARING. A notice, containing all required information, was published in *The Kentucky Enquirer*. A public hearing will be held only if requested by any member(s) of the public. The document is available at the KCAB offices for public review.

12. PREPARER CERTIFICATION

I certify that the information I have provided above is, to the best of my knowledge, correct.

_____ 06/22/2018

Signature Date

Chris Sandfoss, Managing Consultant

Name, Title

Landrum & Brown, Inc.

Affiliation

13. AIPORT SPONSOR CERTIFICATION

I certify that the information I have provided above is, to the best of my knowledge, correct. I also recognize and agree that no construction activity, including but not limited to site preparation, demolition, or land disturbance, shall proceed for the above proposed project(s) until FAA issues a final environmental decision for the proposed project(s), and until compliance with all other applicable FAA approval actions (e.g., ALP approval, airspace approval, grant approval) has occurred.

_____ _____

Signature Date

Debbie Conrad, Senior Project Manager

Name, Title

Kenton County Airport Board

Affiliation

Note: This page to be completed by FAA only

14. FAA DECISION:
Having reviewed the above information, certified by the responsible airport official, it is the FAA decision that the proposed project(s) of development warrants environmental processing as indicated below.

☐ The proposed development action has been found to qualify for a Short Environmental Assessment.

☐ The proposed development action exhibits conditions that require the preparation of a detailed Environmental Assessment (EA).

☐ The following additional documentation is necessary for FAA to perform a complete environmental evaluation of the proposed project:

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

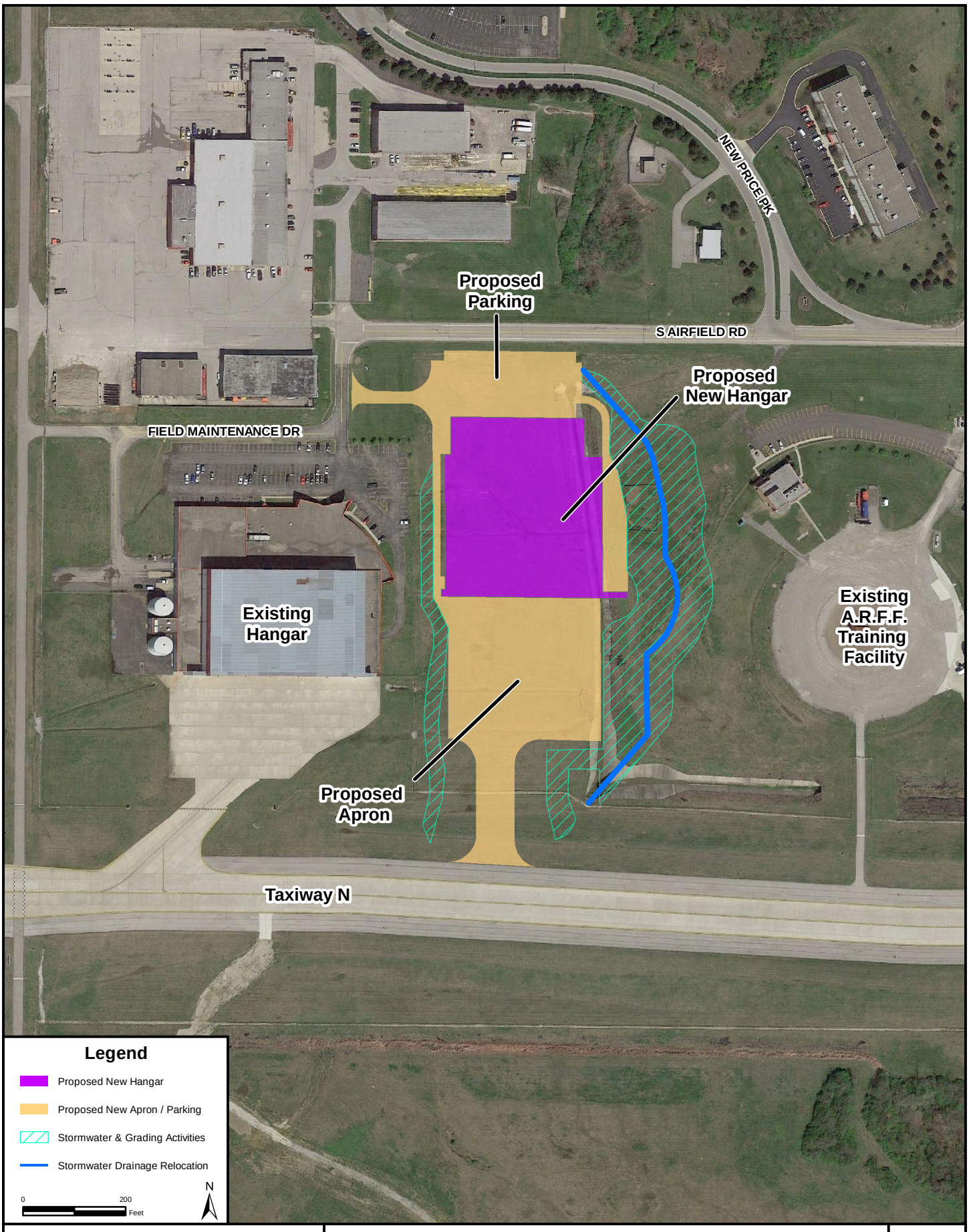
*Action Reviewed/Recommended by:

_____ _____
(FAA Environmental Specialist) Date

*Approved: _____ _____
(FAA Approving Official) Date

* The above FAA approval only signifies that the proposed development action(s), as described by the information provided in this Evaluation Form, initially appears to qualify for the indicated environmental processing action. This may be subject to change after more detailed information is made known to the FAA by further analysis, or though additional federal, state, local or public input, etc.

ATTACHMENT 1
EXHIBITS



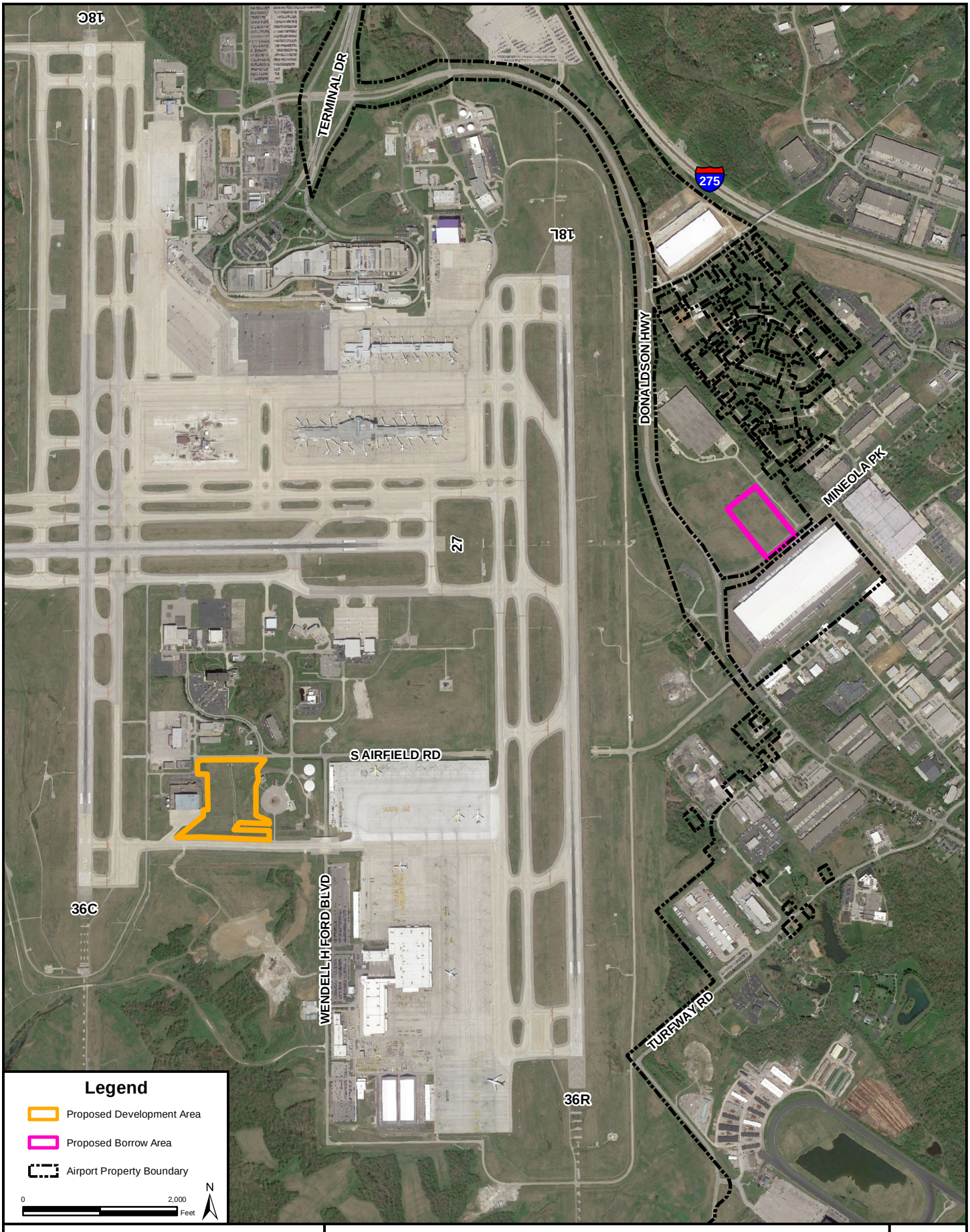
Environmental Assessment for Proposed Lynxs Hangar Development

Cincinnati/Northern Kentucky International Airport

Proposed Project

EXHIBIT: 1

3/7/2018 Y:\CVG\2018 Lynxs Hangar EA\E-LB Work\2-GIS\MXD\ 1_Proposed Project.MXD



Environmental Assessment for Proposed Lynxs Hangar Development

Cincinnati/Northern Kentucky International Airport

Proposed Project Location

EXHIBIT: 2

3/6/2018 Y:\CVG\2018 Lynxs Hangar EA\E-LB Work\2-GIS\MXD\ 2_Proposed Project Location.MXD

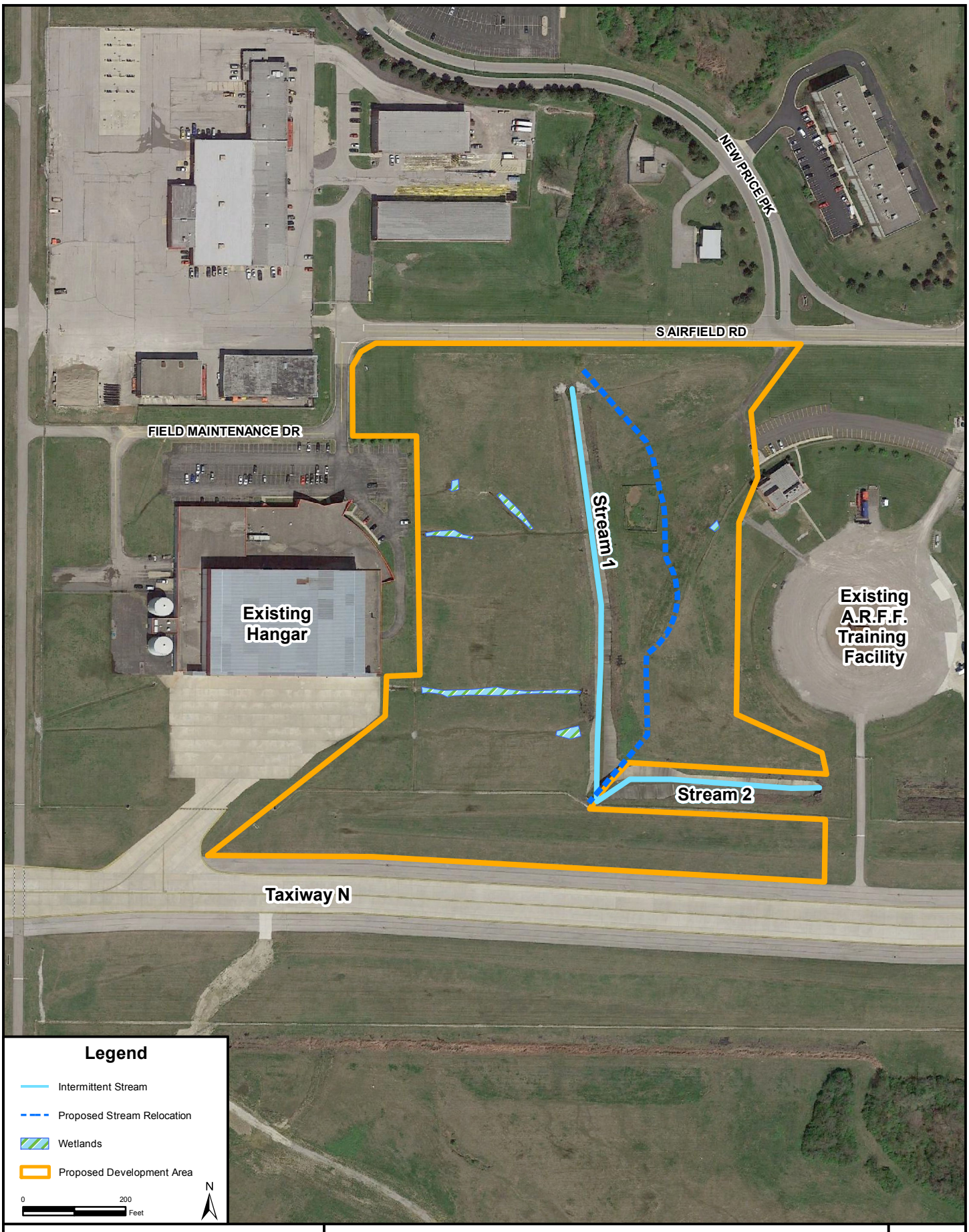
Environmental Assessment for Proposed Lynxs Hangar Development

Cincinnati/Northern Kentucky International Airport

Proposed Borrow Area

EXHIBIT: 3

3/7/2018 Y:\CVG\2018 Lynxs Hangar EA\E-LB Work\2-GIS\MXD\ 3_Proposed Borrow Site.MXD



Environmental Assessment for Proposed Lynxs Hangar Development
Cincinnati/Northern Kentucky International Airport

Surface Water Resources - Development Area

EXHIBIT: **4**

3/9/2018 Y:\CVG\2018 Lynxs Hangar EA\E-LB Work\2-GIS\MXD\ 4_Surface Water Resources Project Site.MXD

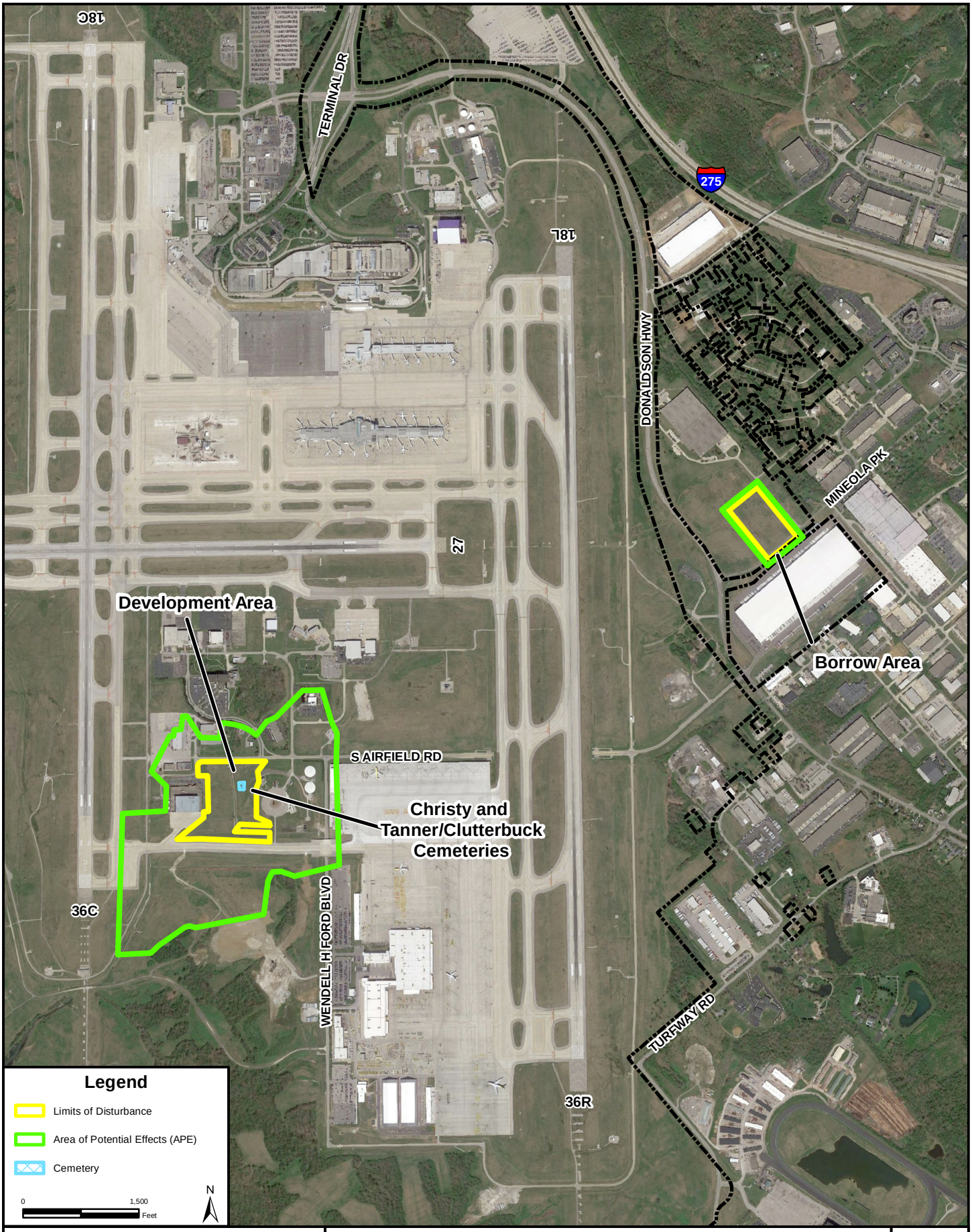
Environmental Assessment for Proposed Lynxs Hangar Development

Cincinnati/Northern Kentucky International Airport

Surface Water Resources - Borrow Area

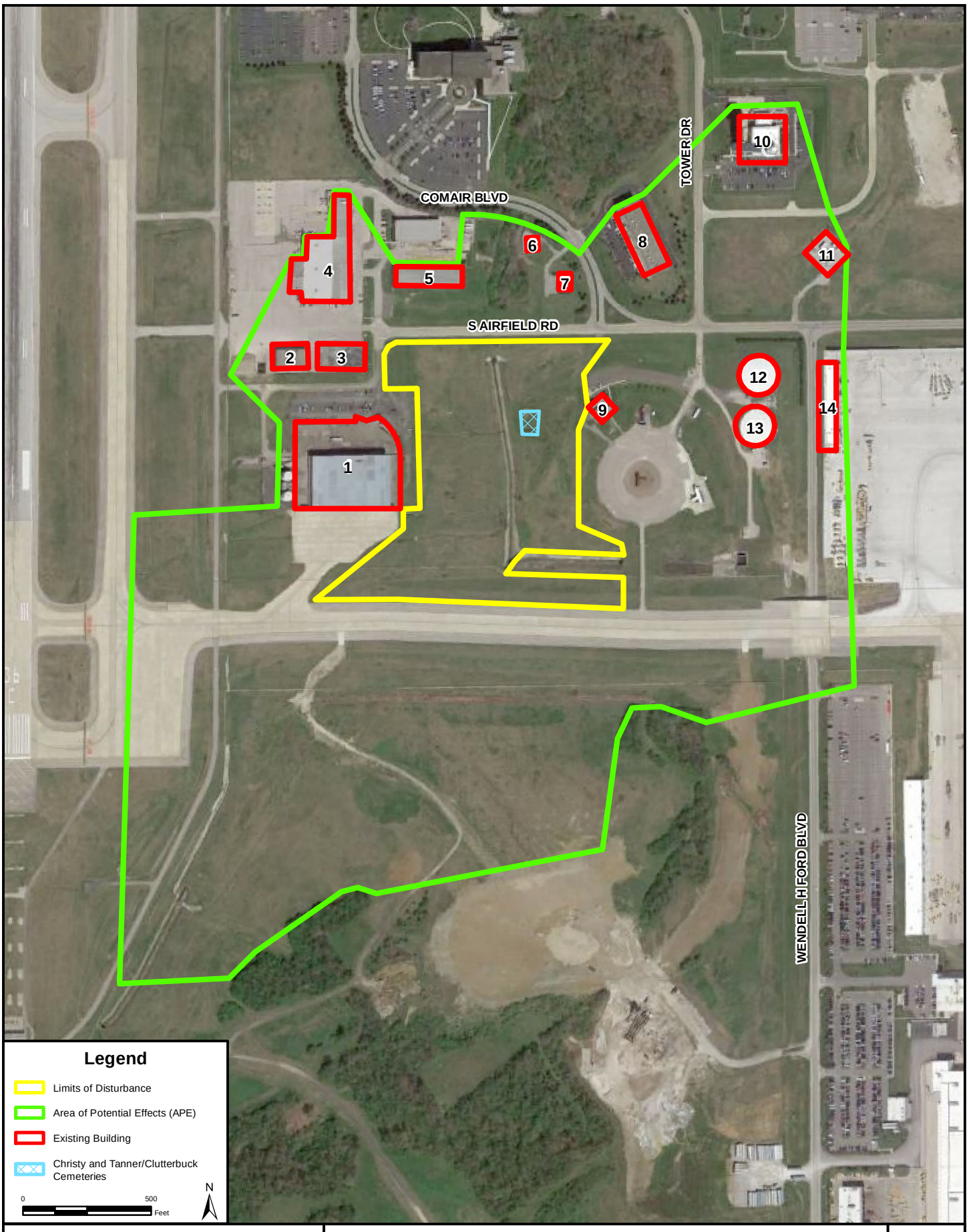
EXHIBIT: 5

3/7/2018 Y:\CVG\2018 Lynxs Hangar EA\E-LB Work\2-GIS\MXD\ 5_Surface Water Resources Borrow Site.MXD



Environmental Assessment for Proposed Lynxs Hangar Development *Cincinnati/Northern Kentucky International Airport*	Area of Potential Effects	EXHIBIT: 6

3/20/2018 Y:\CVG\2018 Lynxs Hangar EA\E-LB Work\2-GIS\MXD\ 6_Archeological Resource Surveys.MXD



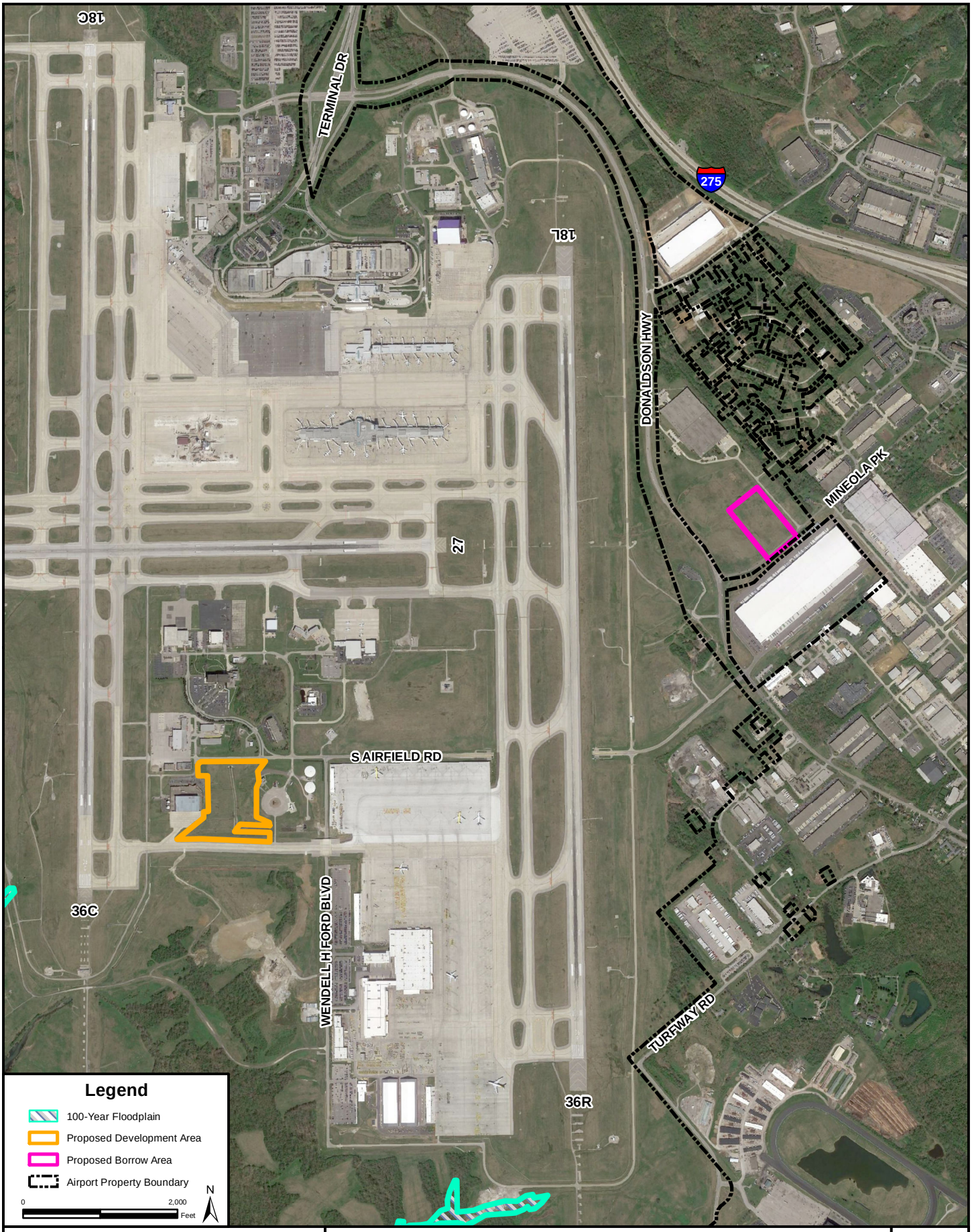
Environmental Assessment for Proposed Lynxs Hangar Development

Cincinnati/Northern Kentucky International Airport

Potential Cultural Resources

EXHIBIT: 7

3/20/2018 Y:\CVG\2018 Lynxs Hangar EA\E-LB Work\2-GIS\MXD\ 7_Potential_Cultural_Resources.MXD



Environmental Assessment for Proposed Lynxs Hangar Development

Cincinnati/Northern Kentucky International Airport

Floodplain Map

EXHIBIT: 8

3/7/2018 Y:\CVG\2018 Lynxs Hangar EA\E-LB Work\2-GIS\MXD\ 8_Floodplain Map.MXD

ATTACHMENT 2
AIR QUALITY TECHNICAL REPORT

AIR QUALITY TECHNICAL REPORT

I. INTRODUCTION

This report summarizes the air quality analysis that was conducted for the proposed Proposed Lynxs Hangar Development Project at the Cincinnati/Northern Kentucky International Airport (CVG or Airport). The Proposed Project would accommodate existing demand for aircraft maintenance activities. Therefore, no increase in aircraft operations or surface vehicle traffic would occur as a result of the Proposed Project. Therefore, implementation of the Proposed Project would not cause an increase in aircraft emissions. Any increase in emissions would be limited to construction equipment and employee vehicles.

II. BOONE COUNTY AIR QUALITY STATUS

The Airport is located within Boone County, Kentucky, which is included in the Metropolitan Cincinnati Interstate Air Quality Region.[1] The U.S. Environmental Protection Agency (USEPA) has determined that levels of the eight-hour concentration of ozone exceed the Federal standards defining healthful air quality within this area. In the past, Boone County was designated as nonattainment for 24-hour concentrations of fine particulate matter ($PM_{2.5}$); however, on December 15, 2011, the USEPA determined the area had attained the $PM_{2.5}$ standard and the region was redesignated to attainment for $PM_{2.5}$. The area now operates under a maintenance plan for $PM_{2.5}$.

The Federal *de minimis* thresholds established under the Clean Air Act (CAA) are given in **Table B-1**. Conformity to the *de minimis* thresholds is relevant only with regard to those pollutants and the precursor pollutants for which the area is nonattainment or maintenance. Notably, there are no *de minimis* thresholds to which a Federal agency would compare ozone emissions. This is because ozone is not directly emitted from a source. Rather, ozone is formed through photochemical reactions involving emissions of the precursor pollutants NO_x and volatile organic compounds (VOC) in the presence of abundant sunlight, and heat. Therefore, emissions of ozone on a project level are evaluated based on the rate of emissions of the ozone precursor pollutants, NO_x and VOC.

The net emissions of PM2.5 and the precursor pollutants SOx, NOx, and VOC would be evaluated and compared against the minimum threshold of 100 tons per year each for the Proposed Project. If the General Conformity evaluation for this air quality assessment were to show that any of these thresholds were equaled or exceeded due to the Proposed Project, more detailed analysis to demonstrate conformity would be required, which is referred to as a General Conformity Determination. Conversely, if the General Conformity evaluation were to show that none of the relevant thresholds were equaled or exceeded, the Proposed Project at CVG would be presumed to conform to the Kentucky SIP and no further analysis would be required under the CAA.

[1] USEPA, 40 CFR Part 81.20.

Table B-1
DE MINIMIS THRESHOLDS

CRITERIA AND PRECURSOR POLLUTANTS	TYPE AND SEVERITY OF NONATTAINMENT AREA	TONS PER YEAR THRESHOLD
Ozone (VOC or NO_x)[1]	Serious nonattainment	50
	Severe nonattainment	25
	Extreme nonattainment	10
	Other areas outside an ozone transport region	100
Ozone (NO_x)[1]	Marginal and moderate nonattainment inside an ozone transport regions[2]	100
	Maintenance	100
Ozone (VOC)[1]	Marginal and moderate nonattainment inside an ozone transport region[2]	50
	Maintenance within an ozone transport region[2]	50
	Maintenance outside an ozone transport region[2]	100
Carbon monoxide (CO)	All nonattainment & maintenance	100
Sulfur dioxide (SO_2)	All nonattainment & maintenance	100
Nitrogen dioxide (NO_2)	All nonattainment & maintenance	100
Coarse particulate matter (PM_{10})	Serious nonattainment	70
	Moderate nonattainment and maintenance	100
Fine particulate matter ($PM_{2.5}$) (VOC, NO_x, NH_3, and SO_x)[3]	All nonattainment and maintenance	100
Lead (Pb)	All nonattainment and maintenance	25

[1] The rate of increase of ozone emissions is not evaluated for a project-level environmental review because the formation of ozone occurs on a regional level and is the result of the photochemical reaction of NO_x and VOC in the presence of abundant sunlight and heat. Therefore, USEPA considers the increasing rates of NO_x and VOC emissions to reflect the likelihood of ozone formation on a project level.

[2] An OTR is a single transport region for ozone, comprised of the states of Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, and the Consolidated Metropolitan Statistical Area that includes the District of Columbia.

[3] For the purposes of General Conformity applicability, VOC's and NH_3 emissions are only considered $PM_{2.5}$ precursors in nonattainment areas where either a State or USEPA has made a finding that the pollutants significantly contribute to the $PM_{2.5}$ problem in the area. In addition, NO_X emissions are always considered a $PM_{2.5}$ precursor unless the State and USEPA make a finding that NO_X emissions from sources in the State do not significantly contribute to $PM_{2.5}$ in the area. Refer to 74 FR 17003, April 5, 2006.

Notes: Federal thresholds that are shaded are applicable to this project.

Code of Federal Regulations (CFR), Title 40, *Protection of the Environment*.

USEPA defines *de minimis* as emissions that are so low as to be considered insignificant and negligible.Volatile organic compounds (VOC); Nitrogen oxides (NO_x); Ammonia (NH_3);

Sulfur oxides (SO_x).

Sources: USEPA, 40 CFR Part 93.153(b)(1) & (2).

III. EMISSIONS INVENTORY

The potential impact to air quality due to the Proposed Project was determined in accordance with the guidelines provided in the FAA's *Aviation Emissions and Air Quality Handbook Version 3*,[2] and FAA Order 5050.4B[3], *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*, which together with the guidelines of FAA Order 1050.1F,[4] *Environmental Impacts: Policies and Procedures*, constitute compliance with all the relevant provisions of NEPA and the CAA.

Changes in emissions would be caused by construction of the Proposed Project as well as a potential increase in surface vehicles from employees driving to and from the facility once it is operational. In accordance with FAA Order 1050.1F, the impacts to the environment due to construction and operation must be assessed. An emissions inventory was calculated for the Proposed Project using U.S. Environmental Protection Agency (USEPA) Motor Vehicle Emission Simulator (MOVES), which calculates emissions from on-road surface vehicles; and the Airport Construction Emissions Inventory Tool (ACEIT), which incorporates NONROAD and MOVES emission factors to calculate emissions for construction equipment. For estimating purposes, construction emissions were averaged over a 12-month period. The total emissions estimated to occur during construction and implementation of the Proposed Project at CVG is given in **Table B-2**.

Table B-2
EMISSIONS INVENTORY SUMMARY
Cincinnati/Northern Kentucky International Airport

ANNUAL EMISSIONS SUMMARY						
EMISSIONS SOURCE	**CRITERIA AND PRECURSOR POLLUTANTS** (tons per year)					
	CO	**VOC**	**NO_X**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
	CAA *DE MINIMIS* THRESHOLDS					
	n/a	***100***	***100***	***100***	***n/a***	***100***
Construction Year	6.94	7.80	2.68	0.02	0.52	0.13
Opening Year	8.23	0.34	1.11	0.00	0.05	0.05

Note: Emissions of CO and PM10 were provided for disclosure purposes.
Source: Landrum & Brown analysis, 2018.

IV. SIGNIFICANCE DETERMINATION

The air quality assessment demonstrates that the Proposed Project would not cause an increase in air emissions above the applicable *de minimis* thresholds. Therefore, the Proposed Project conforms to the SIP and the CAA and would not create any

[2] FAA, *Aviation Emissions and Air Quality Handbook Version 3,* July 2014.
[3] FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*, April 28, 2006.
[4] FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures*, July 16, 2015.

new violation of the NAAQS, delay the attainment of any NAAQS, nor increase the frequency or severity of any existing violations of the NAAQS. As a result, no adverse impact on local or regional air quality is expected by construction of the Proposed Project. No further analysis or reporting is required under the CAA or NEPA.

Construction and operation of the Proposed Project would result in minor air quality impacts from exhaust emissions from employee vehicles, construction equipment, and from fugitive dust emissions from vehicle movement and soil excavation. As provided in Table B-2, emissions due to the Proposed Project equipment would not exceed applicable thresholds.

While the construction of the Proposed Project would be expected to contribute to fugitive dust in and around the construction site, KCAB as the Sponsor would ensure that all possible measures would be taken to reduce fugitive dust emissions by adhering to guidelines included in FAA Advisor Circular, *Standards for Specifying Construction of Airports*.[5]

Methods of controlling dust and other airborne particles will be implemented to the maximum possible extent and may include, but not limited to, the following:

- Exposing the minimum area of erodible earth.
- Applying temporary mulch with or without seeding.
- Using water sprinkler trucks.
- Using covered haul trucks.
- Using dust palliatives or penetration asphalt on haul roads.
- Using plastic sheet coverings.

V. CLIMATE

Affected Environment

Greenhouse gases (GHG) are gases that trap heat in the earth's atmosphere. Both naturally occurring and man-made GHGs primarily include water vapor (H_2O), carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF6). Sources that require fuel or power at an airport are the primary sources that would generate GHGs. Aircraft are probably the most often cited air pollutant source, but they produce the same types of emissions as ground access vehicles and construction equipment.

The following provides an estimate of GHG emissions from the Proposed Project. These estimates are provided for information only as no federal NEPA standard for the significance of GHG emissions from individual projects on the environment has been established. **Table B-3** provides the GHG emissions inventory for 2018, the year of highest emissions during the proposed construction schedule.

[5] FAA Advisory Circular, *Standards for Specifying Construction of Airports*, Item P-156, *Temporary Air and Water Pollution, Soil Erosion, and Siltation Control*, AC 150/5370-10G (July 21, 2014).

Table B-3
2018 GHG EMISSIONS INVENTORY
Cincinnati/Northern Kentucky International Airport

Metrics	Annual Metric Tons		
	CO_2	CH_4	N_2O
Construction and Operations	1,735.54	0.10	0.01
GWP_{100}	*1*	*16*	*196*
CO_{2e}	1,735.54	1.53	2.23
CO_{2e} Net Emissions	**1,739.31**		

CO_2: Carbon Dioxide
CO_{2e}: Carbon Dioxide equivalent
CH_4: Methane
N_2O: Nitrous oxide
GWP: Global Warming Potential
Total emissions may not sum exactly due to rounding.

Source: L&B Analysis, 2018.

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ATTACHMENT 3
WETLAND DELINEATION REPORT

February 26, 2018

Debbie Conrad
Kenton County Airport Board
Cincinnati/Northern Kentucky International Airport
P.O. Box 752000
Cincinnati, Ohio 45275-2000

RE: CVG Lynxs Hangar Development
Wetland and Stream Delineation Technical Letter

Dear Ms. Conrad:

Kenton County Airport Board (KCAB) has proposed development within properties of the Cincinnati/Northern Kentucky International Airport (CVG). KCAB requested a wetland and stream delineation for the proposed Lynxs Hangar Development Project area identified in Erlanger, Boone County, Kentucky. The proposed project area consists of two (2) sites; a Development Area (western), where a new maintenance hangar is proposed to be constructed, and an additional Borrow area (eastern). The proposed project site for the Development Area is centrally located within the CVG properties, adjacent to S. Airfield Road to the south, and is approximately 17.8 acres in size. The Borrow area is located along the eastern portion of the CVG properties, northwest of the intersection between Mineola Pike and Delta Road, and is approximately 10.6 acres

Delineation of the proposed Development and Borrow Areas occurred on January 23 and February 6, 2018. The parcels consisted primarily of urban/industrial turf, old field, and palustrine emergent (PEM) wetland. The field survey identified two (2) intermittent streams contained within concrete-lined channels, as well as eight (8) PEM wetlands (Table 2). Field conditions during the survey ranged from 38 degrees to 42 degrees Fahrenheit, under overcast skies with strong winds. There was approximately 0.35 inches of rain in the 24 hours prior to the Janary 23, 2018 field survey.

This technical letter provides a summary of the available map reviews and data collected during the survey. The attached photograph log illustrates the proposed site and documents the identified vegetational communities.

METHODOLOGY

Environment & Archaeology, LLC utilized the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and the *Eastern Mountains and Piedmont Region Regional Supplement* Version 2 (U.S. Army Corps of Engineers 2012). This methodology calls for a step-by-step approach to the delineation which identifies the presence or absence of three factors: hydrophytic vegetation, hydric soils, and wetland hydrology. Each factor must be present if a location is to be considered a wetland. Prior to visiting the site, relevant resource information on the proposed project area was reviewed to determine the potential presence of wetlands, including: U.S. Geological Survey 7.5' topographic quadrangle maps, U.S. Department of Agriculture,

Natural Resource Conservation Service (USDA, NRCS) soil surveys, Federal Emergency Management Agency (FEMA) maps, and National Wetlands Inventory maps.

The location of waterbodies within the survey area were flagged and global positioning system (GPS) data was collected along its centerline with a handheld GPS unit capable of sub-meter accuracy. GPS data points were downloaded into the ArcGIS for Desktop mapping program and then overlaid atop various resource maps - USGS topographic maps, FEMA maps, NWI maps, USDA soil surveys, and aerial maps. Field notes were collected on any observed runoff features, as well as conveyance channels that provided justification of 'connectivity' for a surface water. All identified streams were assessed using the Kentucky Division of Water Biological Assessment Method for High Gradient Streams Datasheets and photo-documented (Attachment 3).

All statements presented in this report concerning potentially jurisdictional or non-jurisdictional waters of the United States are considered preliminary until the U.S. Army Corps of Engineers provides written concurrence with the report's findings. Stream lengths were rounded to the nearest foot.

AGENCY RESOURCE INFORMATION

Prior to initiation of the field survey, *Environment & Archaeology, LLC* reviewed available agency resource information to determine the likelihood of wetlands and streams present on the site. National Wetlands Inventory (NWI) maps have been prepared for the site by the U.S. Fish and Wildlife Service. The USDA Soil Survey of Boone County, Kentucky, has also been published. Federal Emergency Management Agency (FEMA) flood maps are available online at https://msc.fema.gov/portal. All agency resource data has been digitized for use in ArcGIS for Desktop and has been incorporated into the project mapping.

U.S. Geological Survey (USGS) Map

The proposed Development and Borrow Areas occur within the Burlington, Kentucky, USGS 7.5' topographic quadrangle (Attachment 1: Figure 1). Topography within the study area was gently sloping with slopes ranging from 820 to 930 feet above mean sea level (AMSL). The study area for the Development Area and the western portion of the Borrow area were located within the Gunpowder Creek watershed (HUC 12: 050902030809). The remaining eastern portion of the Borrow Area was located within the Dry Creek - Ohio River watershed (HUC 12: 050902030202) in the Middle Ohio-Laughery watershed (HUC 8: 05090203).

Two (2) intermittent stream reaches were illustrated on the Burlington, KY USGS map within the proposed Development Area. The streams are mapped as unnamed tributaries to Gunpowder Creek.

National Wetland Inventory (NWI) Map

The study area was located on the Burlington, Kentucky, USGS 7.5' NWI quadrangle (Attachment 1: Figure 1). One freshwater, palustrine unconsolidated bottom, semi-permanently

flooded, farmed (PUBFf) waterbody was mapped within the Development Area. The field investigation confirmed this feature is no longer present.

Note that the NWI data does not preclude the possible existence of additional wetlands in the area. NWI mapping utilizes high altitude, stereoscopic, aerial photography, and is partially dependent on the conditions at the time of the photograph. NWI mapping limitations can occur in the following situations: accurately identifying locations and extents of small wetlands, wetlands within evergreen forests, some aquatic bed wetlands, and when mapping efforts were conducted during drier seasons or a period of drought conditions.

Natural Resources Conservation Service (NRCS) Soil Survey

The Soil Survey of Boone County, Kentucky (USDA 1973, 2015) identified five (5) soil types within the study area (Attachment 1: Figure 2). These soil types, as well as their hydric status, are presented in Table 1. One (1) soil type, Avonburg silt loam, was classified as hydric by the USDA. One (1) soil type, Newark silt loam, has hydric inclusions (Table 1). Hydric soils are soils which formed under saturated conditions. The presence of hydric soils on a site indicates the historical presence of conditions which would favor the development of wetlands. The presence of hydric soil types on a site does not, however, guarantee the presence of wetlands. Due to changes in vegetational patterns and drainage, areas of hydric soils may be sufficiently modified to prevent the presence of wetland hydrology and hydrophytic vegetation.

Table 1. Soil types located within the proposed CVG Lynxs Hangar Development Survey Area in Boone County, Kentucky.

Symbol	Soil Type	Hydric Status	Drainage Class
Development Area			
AV	Avonburg silt loam, 0-4% slopes	Hydric	Somewhat poorly drained
JsD3	Jessup silty clay loam, 12-20% slopes, severely eroded	Non-hydric	Well drained
Nk	Newark silt loam, 0-2 % slopes, occasionally flooded	Hydric inclusions	Somewhat poorly drained
RsB	Rossmoyne silt loam, 0 to 6% slopes	Non-hydric	Moderately well-drained
RsC	Rossmoyne silt loam, 6-12% slopes	Non-hydric	Moderately well drained
Borrow Area			
RsB	Rossmoyne silt loam, 0 to 6% slopes	Non-hydric	Moderately well-drained

RESULTS

Vegetation Communities

The proposed project site consisted of three (3) vegetation communities: urban/industrial turf, old field, and PEM wetland.

Urban/industrial turf: Urban/industrial turf was identified within areas consisting of mechanically graded/filled and compacted land, including paved surfaces.

Old Field: Old field vegetation was identified throughout the majority of both survey areas. Dominant vegetation included: fescue (*Fetusca* spp.), red fescue, (*F. rubra*), tall fescue (*Schedonorus arundinaceus*), narrowleaf plantain (*Plantago lanceolate*), Fuller's teasel (*Dipsacus fullonum*), red clover (*Trifolium pretense*), white clover (*Trifolium repens*), common selfheal (*Prunella vulgaris*), Queen Anne's lace (*Daucus carota*), chickory (*Cichorium intybus*), timothy (*Phleum pretense*), Japanese bristlegrass (*Setaria faberi*), yellow foxtail (*S. pumila*), annual bluegrass (*Poa annua*), Kentucky bluegrass (*P. pratensis*), orchardgrass (*Dactylis glomerata*), ground ivy (*Glechoma hederacea*), purple deadnettle (*Lamium purpureum*), broomsedge bluestem (*Andropogon virginicus*), smooth white oldfield aster (*Symphyotrichum racemosum*), and calico aster (*S. lateriflorum*).

Palustrine Emergent Wetland: A total of six (6) PEM wetlands were identified within the Development Area workspace and two (2) in the Borrow Area, for a total of eight (8) PEM wetlands throughout the entire survey area. Dominant vegetation present in these wetlands included: green bulrush (*Scirpus atrovirens*), narrowleaf cattail (*Typha angustifolia*), common rush (*Juncus effusus*), poverty rush (*J. tenuis*), water plantain (*Alisma* sp.), curly pondweed (*Potamogeton crispus*), yellow foxtail, smooth white oldfield aster, calico aster, and sedges (*Carex* spp.).

Waterbodies

The field survey identified two (2) intermittent streams and a total of eight (8) PEM wetlands within the survey areas. Waterbodies identified within the proposed Development Area and Borrow Area are described below and in Table 2. Formal determination of jurisdiction of the identified surface waters can only be concluded by the U.S. Army Corps of Engineers (USACE) through submittal of a Jurisdictional Determination request submitted by KCAB.

Development Area

Stream 1: Stream 1 was a USGS-mapped intermittent tributary to Gunpowder Creek, which flowed into the Development Area workspace through a culvert beneath S. Airfield Drive and continued south along the center of the survey area. Stream 1 was completely contained within a concrete channel approximately 33 feet wide and 6.5 feet deep. Approximately 1-3 feet of water was present during the January 23, 2018 field survey. Stream 1 scored 58 on the Kentucky

Division of Water (KDOW) Biological Assessment Method for High Gradient Streams (Bluegrass Bioregion), giving it a "poor" quality rating (Attachment 3).

Stream 2: Stream 2 was an USGS-mapped intermittent tributary to Gunpowder Creek, which joined with Stream 1 at a man-made confluence in the southeastern corner of the Development Area. The stream flowed into Stream 1 through a large stormwater inlet and continued southwest outside of the survey area. Stream 2 scored 58 on the KDOW Biological Assessment Method for High Gradient Streams (Bluegrass Bioregion), giving it a "poor" quality rating (Attachment 3).

Wetland 1: Wetland 1 was a PEM depressional feature located on an easterly slope face along a drainage runoff feature which appeared to be fed by surface runoff from the paved parking lot to the west. Wetland 1 was dominated by sedges, rushes, bulrushes, and cattail.

Wetland 2: Wetland 2 occupied a drainage channel immediately below a stormwater system culvert outlet which drained to the southeast and connected with another channel. Water was flowing through both channels at the time of the field survey. Wetland 2 was dominated by cattails, and appeared to be frequently mowed. Mowing equipment has left significant track channels within the area.

Wetland 3: Wetland 3 was also a PEM, cattail-dominated, wetland located along a stormwater drainage channel immediately below a culvert outlet. The channel drained eastward to Stream 1. Frequent mowing was apparent throughout the eastern portion of Wetland 3.

Wetland 4: Wetland 4 was a long, depressional wetland occupying a linear, manmade drainage swale, draining eastward to Stream 1. The herbaceous vegetation present is heavily mowed year-round. Wetland 4 was dominated by rushes, bulrushes, and cattail

Wetland 5: Wetland 5 was a depressional PEM wetland within an open, commercial land area which is frequently mowed. It was a broader, deeper area of a shallow swale that extended westward. The east end of the wetland contained rip-rap material on a slope above the concrete channeled Stream 1.

Wetland 6: Wetland 6 was a small, depressional PEM wetland located downslope of a stormwater system culvert outlet to the northeast. A slight swale drained into the area, which was frequently mowed.

Borrow Area

Wetland 1: Wetland 1 was a depressional feature located along the northern boundary of the Borrow area. Vegetation was herbaceous, consisting primarily of bulrushes, rushes, and sedges. Up to 10 inches of surface water was present at the time of the field survey.

Wetland 2: Wetland 2 was a depressional wetland located on a southwest facing slope in the southwestern portion of the workspace. Vegetation was similar to that present in Wetland 1.

Table 2: Waterbodies located within the proposed CVG Lynxs Hangar Development Survey Area.

Waterbody#	Waterbody Type	RBP Score[1]	Provisional Hydrologic Status	Width (ft)	Water Depth (in)	Linear Footage	Acreage
Development Area							
Stream 1 (DS-1)	USGS-mapped intermittent tributary to Gunpowder Creek	58	Connected	9-12	12-36	816	0.22
Stream 2 (DS-2)	USGS-mapped intermittent tributary to Gunpowder Creek	58	Connected	9-15	12-36	24	0.01
Wetland 1 (DW-1)	PEM	--	Connected	--	1-5	--	0.01
Wetland 2 (DW-2)	PEM	--	Connected	--	0-4	--	0.02
Wetland 3 (DW-3)	PEM	--	Connected	--	6	--	0.02
Wetland 4 (DW-4)	PEM	--	Connected	--	2-10	--	0.07
Wetland 5 (DW-5)	PEM	--	Connected	--	0-6	--	0.02
Wetland 6 (DW-6)	PEM	--	Connected	--	0-12	--	0.01
Borrow Area							
Wetland 1 (BW-1)	PEM	--	Connected	--	0-10	--	0.05
Wetland 2 (BW-2)	PEM	--	Connected	--	0-5	--	0.03
Totals		**Streams**		**Intermittent**			**0.23**
		Wetlands		**PEM**			**0.23**
		Waterbodies Total					**0.46**

1 RBP Habitat Scores for Kentucky as provided in *Methods for Assessing Biological Integrity of Surface Waters in Kentucky* (February 2008, Revision 3)
Poor = below 141, Average = 142-155, Excellent = above 156

SUMMARY

At the request of KCAB, *Environment & Archaeology, LLC* completed a formal wetland and stream delineation of the proposed CVG Lynx Hangar Development project areas on January 23 and February 6, 2018. The proposed project site area is located in Boone County, Kentucky within properties of the Cincinnati/Northern Kentucky International Airport. *Environment & Archaeology, LLC* completed a field survey of approximately 28.4 acres, comprised of a western Development Area and an eastern Borrow Area. A total of approximately 840 feet of intermittent stream was identified within the proposed Development Area. Eight (8) PEM wetlands were identified within the survey area, six (6) in the Development Area and two (2) in the Borrow Area.

Current proposed project plans include permanent impacts to Streams 1 (USGS-intermittent tributary to Gunpowder Creek) due to the relocation of approximately 816 feet of channelized stream 150 feet to the east. Permanent impacts to all six (6) Development Area wetlands are also anticipated. Impacts to surface waters of the U.S. are regulated by Section 401 and Section 404 of the Clean Water Act. The project will require an Individual Section 404 Permit from the U.S. Army Corps of Engineers (USACE) due to the permanent impacts to Stream 1. The Louisville District USACE will determine potential mitigation requirements associated with these impacts. An Individual Section 401 Permit from KDOW is also required for perennial and intermittent stream impacts that exceed 300 linear feet. Compliance with the Endangered Species Act and Section 106 of the Historic Preservation Act are components of the Section 401 and Section 404 permitting.

If you should require additional information or have any questions regarding this project, please contact me at (865) 560-1601.

Sincerely,

Jenny Sunday
Project Manager

Attachments:
Figures (Attachment 1)
Photolog (Attachment 2)
Wetland Determination Data Forms (Attachment 3)
KDOW Biological Assessment Method for High Gradient Streams Datasheets (Attachment 4)

Attachment 1
Figures

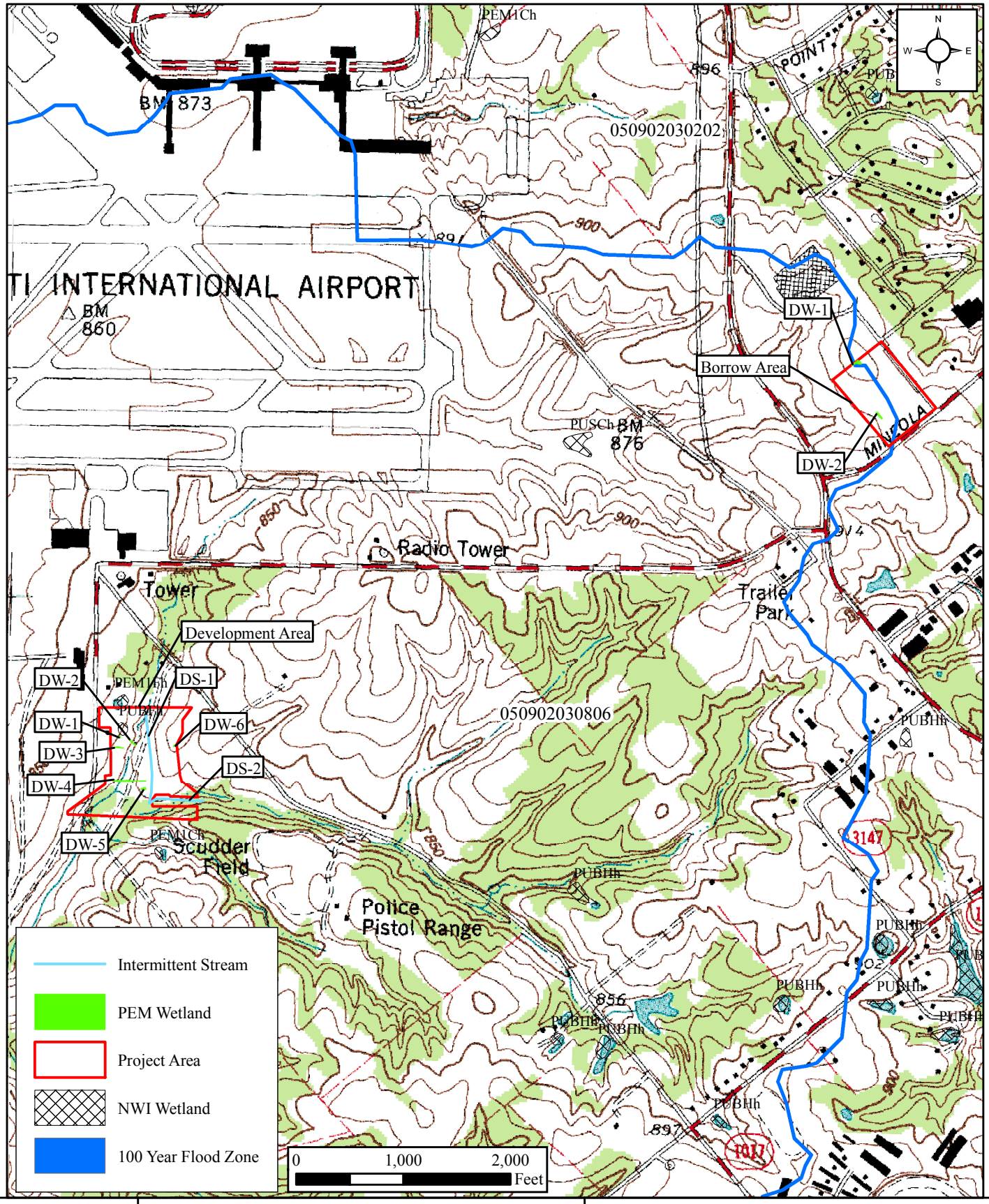


Figure 1	Kenton County Airport Board Cincinnati/Northern Kentucky International Airport Lynxs Hangar Development Boone County, Kentucky	USGS 7.5' Topographic Map with NWI and FEMA Overlay Burlington, KY Quadrangle Environment & Archaeology LLC

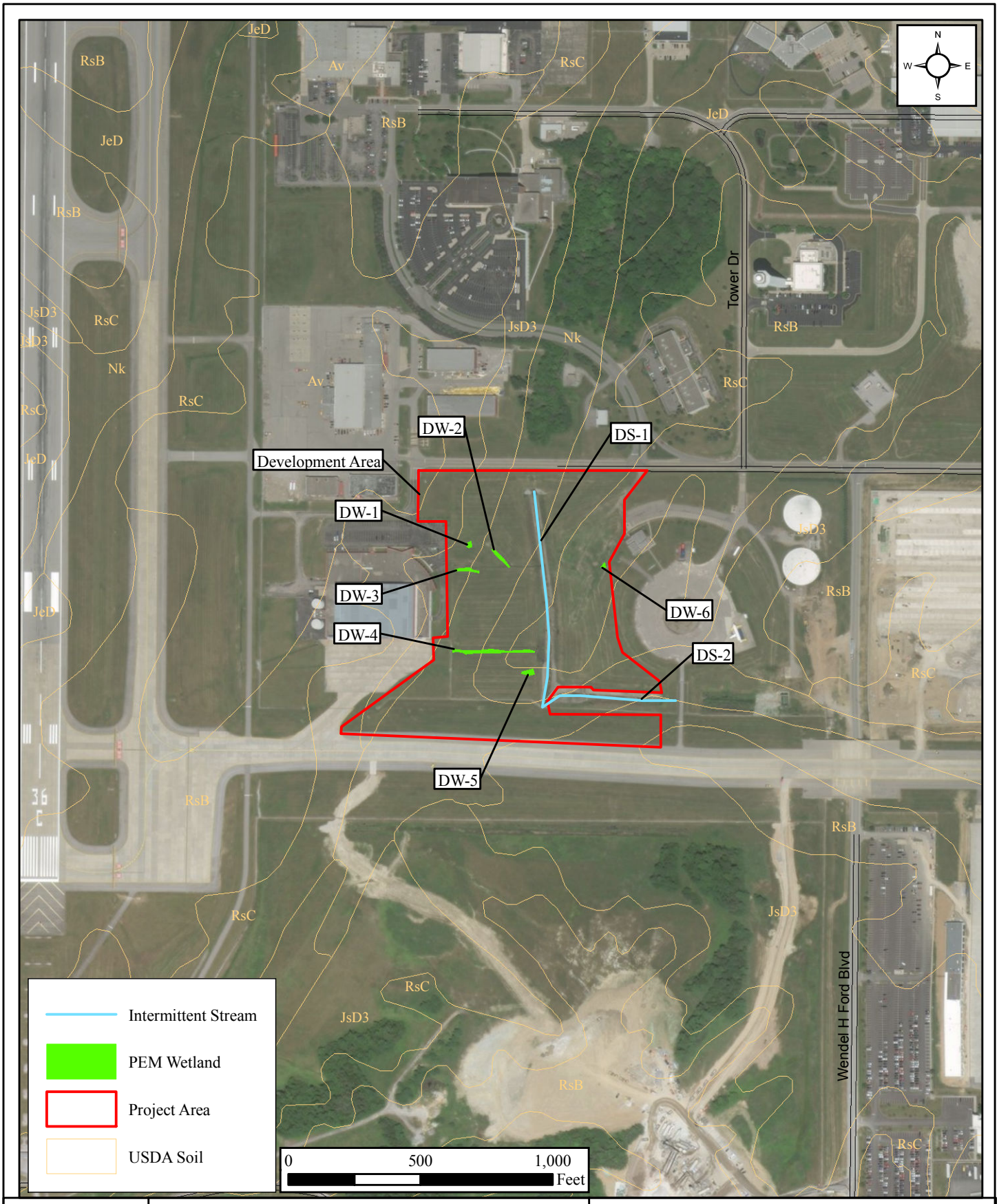


Figure 2a

Kenton County Airport Board
Cincinnati/Northern Kentucky International Airport
Lynxs Hangar Development
Boone County, Kentucky

Aerial Map with UDSA Soil Overlay
Aerial Provided by ESRI Map Services

Environment & Archaeology LLC

Figure 2b

Kenton County Airport Board
Cincinnati/Northern Kentucky International Airport
Lynxs Hangar Development
Boone County, Kentucky

Aerial Map with UDSA Soil Overlay
Aerial Provided by ESRI Map Services

Environment & Archaeology LLC

Figure 3a	Kenton County Airport Board Cincinnati/Northern Kentucky International Airport Lynxs Hangar Development Boone County, Kentucky	Aerial Map Aerial Provided by ESRI Map Services 1:3,600 Environment & Archaeology LLC

Figure 3b	Kenton County Airport Board Cincinnati/Northern Kentucky International Airport Lynxs Hangar Development Boone County, Kentucky	Aerial Map Aerial Provided by ESRI Map Services 1:3,600 Environment & Archaeology LLC

Attachment 2
Photolog

Photo:	1	Direction:	SW	Date:	1/23/2018

Comments: Overview of the interior of the Development Area, illustrating the old field vegetation present throughout the survey area, as seen from the northeast corner.

Photo:	2	Direction:	W	Date:	1/23/2018

Comments: Overview of urban/industrial turf present throughout the survey area, including concrete channelized Stream 2 and existing fence line, as seen from the southeast corner.

Photo:	3	Direction:	N	Date:	1/23/2018

Comments: Overview of the northeast corner of the survey area, facing north toward S. Airfield Drive, as seen near the Fire Training building.

Photo:	4	Direction:	S	Date:	2/6/2018

Comments: Overview of the eastern portion of the survey area, depicting the existing fence line running east to west from Fire Training facilities.

Photo:	5	Direction:	SW	Date:	2/6/2018

Comments: Overview of the urban/industrial turf present within the southeast portion of the workspace, as seen from the edge of the Fire Training facilities facing the Stream 1 and Stream 2 confluence.

Photo:	6	Direction:	N	Date:	1/23/2018

Comments: Upstream overview of Stream 1 (USGS-intermittent tributary to Gunpowder Creek), culverted under S. Airfield Drive.

Photo:	7	Direction:	S	Date:	1/23/2018

Comments: Overview of Stream 1, facing upstream from the culvert at the northern edge of the workspace.

Photo:	8	Direction:	NNE	Date:	1/23/2018

Comments: Overview of Stream 1 and Stream 2, facing upstream at their confluence.

Photo:	9	Direction:	E	Date:	1/23/2018

Comments: Overview of Stream 2 (USGS-intermittent tributary to Gunpowder Creek), facing upstream from the culvert outlet.

Photo:	10	Direction:	W	Date:	1/23/2018

Comments: Overview of PEM Wetland 1, located in the northwest portion of the workspace.

Photo:	11	Direction:	SE	Date:	1/23/2018

Comments: Downslope overview of PEM Wetland 2, including the drainage culvert at its head.

Photo:	12	Direction:	E	Date:	1/23/2018

Comments: Downslope overview of PEM wetland vegetation present throughout Wetland 3, as seen from the culvert at its head.

Photo:	13	Direction:	W	Date:	1/23/2018

Comments: General overview of PEM Wetland 4, extending past the fence line located along the western boundary of the survey area.

Photo:	14	Direction:	W	Date:	1/23/2018

Comments: General upslope overview of Wetland 4 and rip-rap drainage into Stream 1, as seen from the eastern limit of the wetland at Stream 1.

Photo:	15	Direction:	E	Date:	1/23/2018

Comments: General overview of PEM Wetland 5.

Photo:	16	Direction:	NE	Date:	1/23/2018

Comments: General overview of PEM Wetland 6 and existing Fire Training Building, located along the northeast boundary of the survey area.

Photo:	17	Direction:	S	Date:	1/23/2018

Comments: General overview of the interior of the Borrow Area, including the old field vegetation present throughout the survey area, as seen from the northeast corner.

Photo:	18	Direction:	NE	Date:	1/23/2018

Comments: Overview of the southeast boundary of the workspace, including Mineola Pike, as seen from the southwest corner.

Photo:	19	Direction:	SE	Date:	1/23/2018

Comments: Overview of the northeast boundary of the workspace, including Delta Road, as seen from the northeast corner.

Photo:	20	Direction:	NE	Date:	1/23/2018

Comments: Overview of PEM wetland vegetation presentt throughout Wetland 1, located along the northwest boundary of the survey area.

Photo:	21	Direction:	SE	Date:	1/23/2018

Comments: Overview of PEM Wetland 2, located in the southwestern portion of the survey area.

ATTACHMENT 4
COORDINATION WITH THE U.S. FISH AND WILDLIFE SERVICE (USFWS)

March 7, 2018

United States Fish and Wildlife Service
Attn: Lee Andrews, Field Supervisor
30 West Broadway, Suite 265
Frankfort, Kentucky 40601

Re: Section 7 Threatened and Endangered Species Consultation
CVG Lynxs Hangar Development Project
Cincinnati/Northern Kentucky International Airport in Boone County, Kentucky
IPaC Consultation Code: 04EK1000-2018-SLI-0285

Dear Mr. Andrews:

The Kenton County Airport Board (KCAB) is proposing new development activities at properties within the Cincinnati/Northern Kentucky International Airport (CVG) as part of the Lynxs Hanager Development Project. The Project will require the Federal Aviation Administration's approval. As such, Section 7 consultation is required. *Environment & Archaeology, LLC* submits this consultation on behalf of KCAB and we provide to you the project information below and attached so that you can provide a determination of effect/no effect.

1.0 PROJECT DESCRIPTION

The KCAB is proposing to construct a new maintenance hangar. The Project footprint includes a Development Area (17.8 acres) and a Borrow Area (10.6 acres). The total Project footprint measures approximately 28.4 acres. The site is shown on the Burlington USGS 7.5-minute topographic quadrangle map (Figure 1). The Project Area and surrounding land consists of urban/industrial turf, old field, and palustrine emergent (PEM) wetland. The study area for the Development Area and the western portion of the Borrow Area were located within the Gunpowder Creek watershed (HUC 12: 050902030809). The remaining eastern portion of the Borrow Area was located within the Dry Creek - Ohio River watershed (HUC 12: 050902030202) in the Middle Ohio-Laughery watershed (HUC 8: 05090203).

Environment & Archaeology, LLC conducted a formal wetland and stream delineation and threatened and endangered species habitat survey on January 23 and February 6, 2018. The field survey identified two (2) USGS-mapped intermittent tributaries to Gunpowder Creek contained in concrete-lined channels, as well as eight (8) palustrine emergent (PEM) wetlands (Table 2). A photolog providing representative photographs of the survey area is enclosed with this letter.

Table 1. Waterbodies Within the Proposed Lynxs Hangar Development Project Area.

Waterbody#	Waterbody Type	RBP Score[1]	Provisional Hydrologic Status	Stream Width (ft)	Water Depth (in)	Linear Footage	Acreage
Development Area							
Stream 1 (DS-1)	USGS-intermittent tributary to Gunpowder Creek	58	Connected	9-12	12-36	816	0.22
Stream 2 (DS-2)	USGS-intermittent tributary to Gunpowder Creek	58	Connected	9-15	12-36	Avoided	Avoided
Wetland 1 (DW-1)	PEM	--	Connected	--	1-5	--	0.01
Wetland 2 (DW-2)	PEM	--	Connected	--	0-4	--	0.02
Wetland 3 (DW-3)	PEM	--	Connected	--	6	--	0.02
Wetland 4 (DW-4)	PEM	--	Connected	--	2-10	--	0.07
Wetland 5 (DW-5)	PEM	--	Connected	--	0-6	--	0.02
Wetland 6 (DW-6)	PEM	--	Connected	--	0-12	--	0.01
Borrow Area							
Wetland 1 (BW-1)	PEM	--	Connected	--	0-10	--	0.05
Wetland 2 (BW-2)	PEM	--	Connected	--	0-5	--	0.03
Totals		**Streams**		**Intermittent**		**816**	**0.22**
		Wetlands		**PEM**		**--**	**0.23**
		Waterbodies Total					**0.46**

1 RBP Habitat Scores for Kentucky as provided in *Methods for Assessing Biological Integrity of Surface Waters in Kentucky* (February 2008, Revision 3)
Poor = below 141 Average = 142-155 Excellent = above 156

2.0 THREATENED AND ENDANGERED SPECIES IN BOONE COUNTY, KENTUCKY

A review of the U.S. Fish and Wildlife Service's Information, Planning, and Conservation System (IPaC) and Boone county list determined that fourteen (14) threatened, endangered or proposed threatened/endangered species have ranges within the Project Area. The species have been identified below in Table 2. The IPaC Consultation Code is 04EK1000-2018-SLI-0285.

Table 2. Threatened/Endangered Species Known to Have Ranges in the Project Area.

Common Name	Scientific Name	Status
Mammals		
Gray bat	*Myotis grisescens*	Endangered
Indiana bat	*Myotis sodalis*	Endangered
Northern long-eared bat	*Myotis septentrionalis*	Threatened
Mussels		
Clubshell	*Pleurobema clava*	Endangered
Fanshell	*Cyprogenia stegaria*	Endangered
Northern Riffleshell	*Epioblasma torulosa rangiana*	Endangered
Orangefoot pimpleback	*Plethobasus cooperianus*	Endangered
Purple Cat's Paw	*Epioblasma obliquata obliquata*	Endangered
Rabbitsfoot	*Quadrula cylindrica cylindrica*	Threatened
Ring pink	*Obovaria retusa*	Endangered
Rough pigtoe	*Pleurobema plenum*	Endangered
Sheepnose Mussel	*Plethobascus cyphus*	Endangered
Spectaclecase Mussel	*Cumberlandia monodonta*	Endangered
Plants		
Running buffalo clover	*Trifolium stoloniferum*	Endangered

3.0 POTENTIAL THREATENED/ENDANGERED SPECIES HABITAT IN THE SURVEY AREA

Gray Bat

The Project Area was not found to contain the required habitat for the gray bat. Gray bats inhabit caves year-round. In the winter, the gray bat hibernates in deep vertical caves. In the summer, they roost in caves scattered along rivers. No karst topography occurs within the Project Area and no caves were identified within or adjacent to the Project Area during the January 23 and February 6, 2018 field investigations.

Indiana Bat/Northern Long-Eared Bat

No trees were present within the proposed Project Area, therefore no suitable habitat for Indiana or northern long-eared bat was found. Suitable habitat for the Indiana and northern long-eared bats includes roosting and foraging habitat, travel corridors, and hibernacula. The Myotids' winter habitat requirements consist of hibernacula including caves and, to a lesser extent, abandoned

mines where the ambient temperature remains below 50°F but rarely drops below freezing. There were no caves or abandoned mines identified within the Project Area.

Mussels

According to the USFWS IPaC and county list, there are ten (10) mussel species with the potential to be located within the proposed Project Area. A review of the required habitat for each of the mussel species and threat status via NatureServe was performed (http://explorer.natureserve.org/servlet/NatureServe?init=Species). The ten (10) mussel species require medium to large streams/rivers with, in general, gravel/sand/cobble substrates and fast-flowing water.

The Project Area contains two (2) intermittent streams (Streams 1 and 2), both of which are channelized into concrete channels and lack the morphology and flow regime necessary to support the listed mussel species. Stream 2 will be avoided by construction activites. Streams 1 and 2 were rated as "poor" habitat according to the *Methods for Assessing Biological Integrity of Surface Waters in Kentucky* (February 2008, Revision 3). Therefore, the Project Area does not contain the required habitat for any of the mussel species and the proposed Project will not affect the protected mussel species. Datasheets for the identified streams within the Project Area are attached.

Running Buffalo Clover

Suitable habitat for the running buffalo clover (RBC) is typified by mesic woodlands in partial to filtered sunlight, where there is a pattern of moderate periodic disturbance for a prolonged period, such as mowing, trampling, or grazing. It is most often found in regions underlain with limestone or other calcareous bedrock, but not exclusively. It has been reported from a variety of disturbed woodland habitats, including blue-ash savannahs, floodplains, streambanks, shoals (especially where old trails cross or parallel intermittent streams), grazed woodlots, mowed paths (e.g. cemeteries and lawns), old logging roads, jeep trails, skidder trails, mowed wildlife openings within mature forests, and steep, weedy ravines.

The Project Area consisted mainly of open, old field vegetation, including maintained lawn subject to full sun exposure, urban/industrial turf, and PEM wetland. All areas of old field growth are routinely mowed for maintenance purposes. The sites did not contain supportive areas of filtered sunlight or riparian corridors. No forest area was present within either survey site. Based on the lack of suitable habitat, the proposed Project is not anticipated to affect running buffalo clover.

4.0 MIGRATORY BIRDS OF CONSERVATION CONCERN

A review of the U.S. Fish and Wildlife Service's IPaC list determined that nine (9) bird species of conservation concern have ranges within the Survey Area. The species have been identified below in Table 3.

There are no trees present within the Project area. Based on the mobility of the avian species listed within Table 3, we conclude that development within the Project Area is not likely to have an adverse effect on the Migratory Birds of Conservation Concern Listed to Have Ranges in the Project area.

Table 3. Migratory Birds of Conservation Concern Listed to Have Ranges in Project Area.

Common Name	Scientific Name	Seasonal Occurrence in Survey Area	Potential for Future Development to Impact Species
Bald Eagle	*Haliaeetus leucocephalus*	Year-Round	No habitat found; nearest large body of water (Ohio River) is approx. 2 miles northeast of the Project Area.
Blue-winged Warbler	*Vermivora pinus*	Breeding	No anticipated impact due to mobility of species and available surrounding habitat
Cerulean Warbler	*Dendroica cerulean*	Breeding	
Kentucky Warbler	*Oporornis formosus*	Breeding	
Lesser Yellowlegs	*Tringa flavipes*	Migratory	
Prairie Warbler	*Dendroica discolor*	Breeding	
Red-headed Woodpecker	*Melanerpes erythrocephalus*	Breeding	
Rusty Blackbird	*Euphagus carolinus*	Migratory	
Wood Thrush	*Hylocichla mustelina*	Breeding	

5.0 SUMMARY

The proposed Project area encompassed a total of approximately 28.4 acres area of open, old field vegetation, urban/industrial turf, and PEM wetland. The Project will impact approximately 816 feet of concrete-channelized intermittent stream and 0.23 acres of PEM wetland. It is the professional opinion of *Environment & Archaeology, LLC*, that there will be no effect to the following federally listed species based on the summary below:

- Stream habitat is lacking for the listed mussel species;
- No suitable running buffalo clover habitat was identified during the field survey;
- Based on the mobility of the avian species listed within Table 3, we conclude that future development within the Project Area is not likely to have an adverse effect on the Migratory Birds of Conservation Concern Listed to Have Ranges in the Project Area; and
- No potential Myotid bat habitat occurs within the Project area.

On behalf of KCAB, we request USFWS concurrence that the proposed Lynxs Hangar Development Project will have no effect on federally listed species. We appreciate your assistance with the Project. Please contact me at (865) 560-1601 for any additional information.

Sincerely,

Jenny Sunday
Project Manager

Enclosures (3):
1- Location Maps – USGS Topographic Map, Aerial Imagery Maps
2- Photographs
3- KDOW Biological Assessment Methods for High Gradient Streams Datasheets

Enclosure 1

Location Maps –

USGS Topographic Map, Aerial Imagery Map

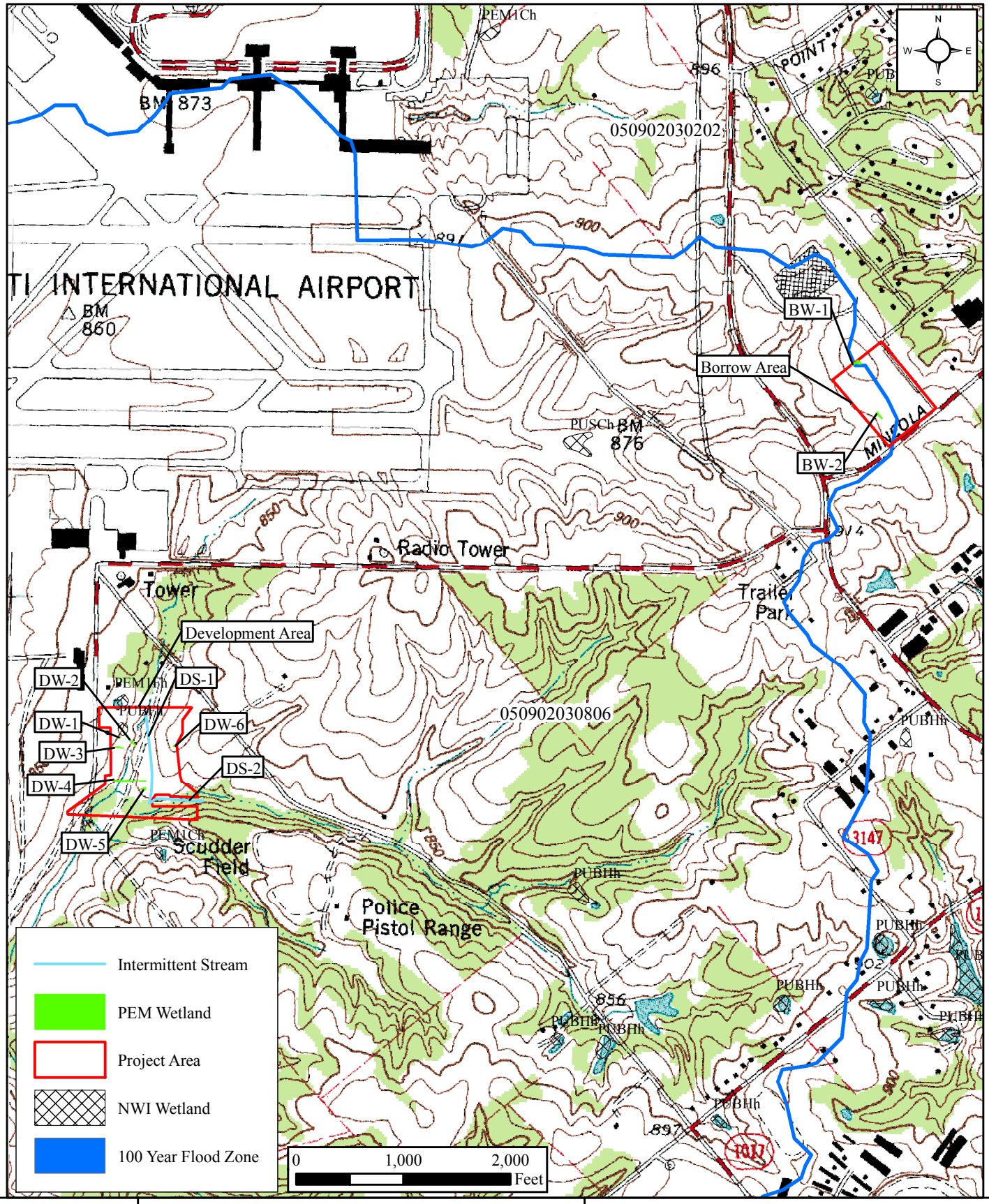


Figure 1	Kenton County Airport Board Cincinnati/Northern Kentucky International Airport Lynxs Hangar Development Boone County, Kentucky	USGS 7.5' Topographic Map with NWI and FEMA Overlay Burlington, KY Quadrangle Environment & Archaeology LLC

Figure 2a	Kenton County Airport Board Cincinnati/Northern Kentucky International Airport Lynxs Hangar Development Boone County, Kentucky	Aerial Map Aerial Provided by ESRI Map Services 1:3,600 Environment & Archaeology LLC

Figure 2b	Kenton County Airport Board Cincinnati/Northern Kentucky International Airport Lynxs Hangar Development Boone County, Kentucky	Aerial Map Aerial Provided by ESRI Map Services 1:3,600 Environment & Archaeology LLC

Enclosure 2

Photographs

Photo:	1	Direction:	SW	Date:	1/23/2018

Comments: Overview of the interior of the Development Area, illustrating the old field vegetation present throughout the survey area, as seen from the northeast corner.

Photo:	2	Direction:	W	Date:	1/23/2018

Comments: Overview of urban/industrial turf present throughout the survey area, including concrete channelized Stream 2 and existing fence line, as seen from the southeast corner.

Photo:	3	Direction:	N	Date:	1/23/2018

Comments: Overview of the northeast corner of the survey area, facing north toward S. Airfield Drive, as seen near the Fire Training building.

Photo:	4	Direction:	S	Date:	2/6/2018

Comments: Overview of the eastern portion of the survey area, depicting the existing fence line running east to west from Fire Training facilities.

Photo:	5	Direction:	SW	Date:	2/6/2018

Comments: Overview of the urban/industrial turf present within the southeast portion of the workspace, as seen from the edge of the Fire Training facilities facing the Stream 1 and Stream 2 confluence.

Photo:	6	Direction:	N	Date:	1/23/2018

Comments: Upstream overview of Stream 1 (USGS-intermittent tributary to Gunpowder Creek), culverted under S. Airfield Drive.

Photo:	7	Direction:	S	Date:	1/23/2018

Comments: Overview of Stream 1, facing upstream from the culvert at the northern edge of the workspace.

Photo:	8	Direction:	NNE	Date:	1/23/2018

Comments: Overview of Stream 1 and Stream 2, facing upstream at their confluence.

Photo:	9	Direction:	E	Date:	1/23/2018

Comments: Overview of Stream 2 (USGS-intermittent tributary to Gunpowder Creek), facing upstream from the culvert outlet.

Photo:	10	Direction:	W	Date:	1/23/2018

Comments: Overview of PEM Wetland 1, located in the northwest portion of the workspace.

Photo:	11	Direction:	SE	Date:	1/23/2018

Comments: Downslope overview of PEM Wetland 2, including the drainage culvert at its head.

Photo:	12	Direction:	E	Date:	1/23/2018

Comments: Downslope overview of PEM wetland vegetation present throughout Wetland 3, as seen from the culvert at its head.

Photo:	13	Direction:	W	Date:	1/23/2018

Comments: General overview of PEM Wetland 4, extending past the fence line located along the western boundary of the survey area.

Photo:	14	Direction:	W	Date:	1/23/2018

Comments: General upslope overview of Wetland 4 and rip-rap drainage into Stream 1, as seen from the eastern limit of the wetland at Stream 1.

Photo:	15	Direction:	E	Date:	1/23/2018

Comments: General overview of PEM Wetland 5.

Photo:	16	Direction:	NE	Date:	1/23/2018

Comments: General overview of PEM Wetland 6 and existing Fire Training Building, located along the northeast boundary of the survey area.

Photo:	17	Direction:	S	Date:	1/23/2018

Comments: General overview of the interior of the Borrow Area, including the old field vegetation present throughout the survey area, as seen from the northeast corner.

Photo:	18	Direction:	NE	Date:	1/23/2018

Comments: Overview of the southeast boundary of the workspace, including Mineola Pike, as seen from the southwest corner.

Photo:	19	Direction:	SE	Date:	1/23/2018

Comments: Overview of the northeast boundary of the workspace, including Delta Road, as seen from the northeast corner.

Photo:	20	Direction:	NE	Date:	1/23/2018

Comments: Overview of PEM wetland vegetation presentt throughout Wetland 1, located along the northwest boundary of the survey area.

Photo:	21	Direction:	SE	Date:	1/23/2018

Comments: Overview of PEM Wetland 2, located in the southwestern portion of the survey area.

Enclosure 3

KDOW Biological Habitat Assessment Methods for High Gradient Streams Datasheets

PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET (FRONT)

DS-1

STREAM NAME STREAM 1	LOCATION CVG - LYNXS HANGAR DEVELOPMENT	
STATION # _____ RIVERMILE _____	STREAM CLASS Intermittent	
LAT 39.03641 LONG -84.66206	RIVER BASIN Middle Ohio-Laughery (HUC8:05090203)	
STORET #	AGENCY	
INVESTIGATORS D. Whitlatch, K. Clemens		
FORM COMPLETED BY D. Whitlatch	DATE 1-23-2018 TIME 10:40 AM PM	REASON FOR SURVEY Commercial Development Survey

WEATHER CONDITIONS

Now		Past 24 hours
❑	storm (heavy rain)	❑
❑	rain (steady rain)	❑
❑	showers (intermittent)	■
100% ■	%cloud cover	■ 100%
❑	clear/sunny	❑

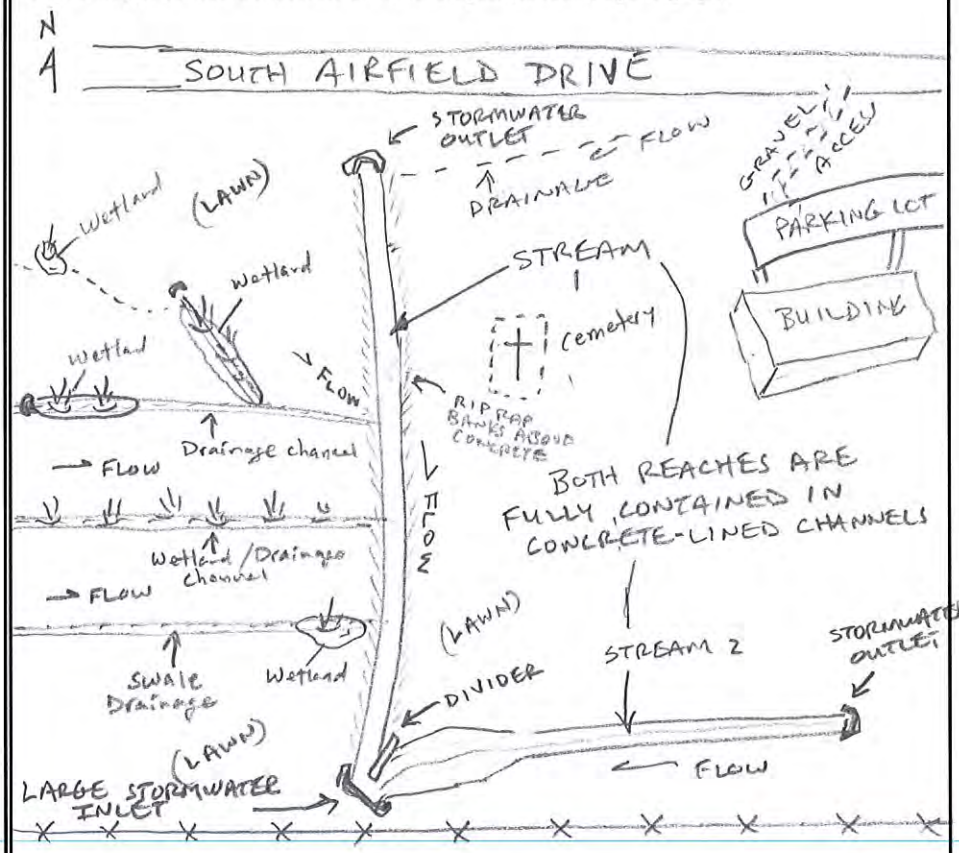
Has there been a heavy rain in the last 7 days? ❑ Yes ■ No

Air Temperature 3.8 °C

Other _____

SITE LOCATION/MAP

Draw a map of the site and indicate the areas sampled (or attach a photograph)



STREAM CHARACTERIZATION

Stream Subsystem
❑ Perennial ■ Intermittent ❑ Tidal

Stream Type
❑ Coldwater ❑ Warmwater

Stream Origin
❑ Glacial
❑ Non-glacial montane
❑ Swamp and bog
❑ Spring-fed
■ Mixture of origins
❑ Other _____

Catchment Area 0.62 km²

CVG-LYNXS HANGAR DEVELOPMENT
STREAM 1

PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET (BACK)

WATERSHED FEATURES

Predominant Surrounding Landuse
❑ Forest ■ Commercial
❑ Field/Pasture ❑ Industrial
❑ Agricultural ❑ Other _____
❑ Residential

Local Watershed NPS Pollution
❑ No evidence ❑ Some potential sources
■ Obvious sources

Local Watershed Erosion
❑ None ■ Moderate ❑ Heavy

RIPARIAN VEGETATION (18 meter buffer)

Indicate the dominant type and record the dominant species present
❑ Trees ❑ Shrubs ■ Grasses ■ Herbaceous

dominant species present Foxtails, Bluegrasses, Honeysuckles, Brambles

INSTREAM FEATURES

Estimated Reach Length 244 m
Estimated Stream Width 10 m
Sampling Reach Area 2440 m²
Area in km² (m²x1000) 0.002 km²
Estimated Stream Depth 2 m
Surface Velocity (at thalweg) 0.6 m/sec

Canopy Cover
❑ Partly open ❑ Partly shaded ❑ Shaded

High Water Mark 0.33 m

Proportion of Reach Represented by Stream Morphology Types
■ Riffle 5 % ■ Run 95 %
❑ Pool 0 %

Channelized ■ Yes ❑ No

Dam Present ❑ Yes ■ No

LARGE WOODY DEBRIS

LWD 0 m²
Density of LWD 0 m²/km² **(LWD/ reach area)**

NONE

AQUATIC VEGETATION

Indicate the dominant type and record the dominant species present
❑ Rooted emergent ❑ Rooted submergent ❑ Rooted floating ❑ Free floating
❑ Floating Algae ❑ Attached Algae

dominant species present NONE

Portion of the reach with aquatic vegetation 0 %

WATER QUALITY

Temperature N/A °C
Specific Conductance N/A
Dissolved Oxygen N/A
pH N/A
Turbidity N/A
WQ Instrument Used N/A

NOT TESTED

Water Odors
■ Normal/None ❑ Sewage
❑ Petroleum ❑ Chemical
❑ Fishy ❑ Other _____

Water Surface Oils
❑ Slick ❑ Sheen ❑ Globs ❑ Flecks
■ None ❑ Other _____

Turbidity (if not measured)
■ Clear ❑ Slightly turbid ❑ Turbid
❑ Opaque ❑ Stained ❑ Other _____

SEDIMENT/ SUBSTRATE

Odors
❑ Normal ❑ Sewage ❑ Petroleum
❑ Chemical ❑ Anaerobic ■ None
❑ Other _____

Oils
■ Absent ❑ Slight ❑ Moderate ❑ Profuse

Deposits
❑ Sludge ❑ Sawdust ❑ Paper fiber ■ Sand
❑ Relict shells ❑ Other _____

Looking at stones which are not deeply embedded, are the undersides black in color?
❑ Yes ■ No

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	**Diameter**	**% Composition in Sampling Reach**	**Substrate Type**	**Characteristic**	**% Composition in Sampling Area**
~~Bedrock~~	CONCRETE	95	Detritus	sticks, wood, coarse plant materials (CPOM)	1%
Boulder	> 256 mm (10")	0			
Cobble	64-256 mm (2.5"-10")	0	Muck-Mud	black, very fine organic (FPOM)	0%
Gravel	2-64 mm (0.1"-2.5")	2			
Sand	0.06-2mm (gritty)	3	Marl	grey, shell fragments	0%
Silt	0.004-0.06 mm	0			
Clay	< 0.004 mm (slick)	0			

Appendix A-1 High Gradient Stream Data Sheet

STREAM NAME: STREAM 1	LOCATION: CVG - LYNXS HANGAR DEVELOP.
STATION #: MILE:	BASIN/WATERSHED: Middle Ohio - Laughery (HUC8: 05090203)
LAT.: 39.03641 LONG.: -84.66206	COUNTY: BOONE USGS 7.5 TOPO: Burlington KY
DATE: 1-23-2018 TIME: 10:40 ☒AM ☐PM	INVESTIGATORS: D. Whitlatch, K. Clement

TYPE SAMPLE: ☐ P-CHEM ☐ Macroinvertebrate ☐ FISH ☐ BACT.

WEATHER: Now Past 24 hours — Has there been a heavy rain in the last 7 days?

- ☐ ☐ Heavy rain ☑ Yes ☐ No
- ☐ ☐ Steady rain — Air Temperature 3.9 °C. Inches rainfall in past 24 hours 0.12 in.
- ☐ ☑ Intermittent showers — 100 % Cloud Cover
- ☐ ☐ Clear/sunny

P-Chem: Temp(°C) N/A D.O. (mg/l) N/A %Saturation N/A pH(S.U.) N/A Cond. N/A ☐ Grab

INSTREAM WATERSHED FEATURES:

Stream Width 9-12 ft OHWM
Range of Depth 1-3 ft
Average Velocity 1.1 ft/s
Discharge 30 cfs
Est. Reach Length 800 feet

LOCAL WATERSHED FEATUREES:

Predominant Surrounding Land Use:

- ☐ Surface Mining
- ☐ Deep Mining
- ☐ Oil Wells
- ☐ Land Disposal
- ☐ Construction
- ☑ Commercial
- ☐ Industrial
- ☐ Row Crops
- ☐ Forest
- ☐ Pasture/Grazing
- ☐ Silviculture
- ☐ Urban Runoff/Storm Sewers

Hydraulic Structures:

- ☐ Dams ☐ Bridge Abutments
- ☐ Island ☐ Waterfalls
- ☑ Other DIVIDER / DIVERSION

Stream Flow: ☐ Dry ☐ Pooled ☐ Low ☑ Normal ☐ High ☐ Very Rapid or Torrential

Stream Type: ☐ Perennial ☑ Intermittent ☐ Ephemeral ☐ Seep

Riparian Vegetation: Dominate Type: ☐ Trees ☐ Shrubs ☑ Grasses ☑ Herbaceous
Number of strata 2
Dom. Tree/Shrub Taxa: Poa, Setaria, Rosa, Daucus, Plantago,

Canopy Cover:

- ☑ Fully Exposed (0-25%)
- ☐ Partially Exposed (25-50%)
- ☐ Partially Shaded (50-75%)
- ☐ Fully Shaded (75-100%)

Channel Alterations:

- ☐ Dredging
- ☑ Channelization (☑Full ☐Partial)

Substrate ☐Est. ☐P.C.	Riffle 1 %	Run 99 %	Pool 0 %
Silt/Clay (<0.06 mm)	0	0	
Sand (0.06 – 2 mm)	3	0	
Gravel (2-64 mm)	6	0	
Cobble (64 – 256 mm)	1	0	
Boulders (>256 mm)	0	0	
~~Bedrock~~ CONCRETE	90	100	

Habitat Parameter	Condition Category: Optimal	Suboptimal	Marginal	Poor
1. Epifaunal Substrate/ Available Cover	Greater than 70% of substrate favorable for epifaunal colonization and fish cover; mix of snags, submerged logs, undercut banks, cobble or other stable habitat and at stage to allow full colonization potential (i.e., logs/snags that are not new fall and not transient).	40-70% mix of stable habitat; well-suited for full colonization potential; adequate habitat for maintenance of populations; presence of additional substrate in the form of newfall, but not yet prepared for colonization (may rate at high end of scale).	20-40% mix of stable habitat; habitat availability less than desirable; substrate frequently disturbed or removed.	Less than 20% stable habitat; lack of habitat is obvious; substrate unstable or lacking.
SCORE 0	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 (0)
2. Embeddedness	Gravel, cobble, and boulder particles are 0-25% surrounded by fine sediment. Layering of cobble provides diversity of niche space.	Gravel, cobble, and boulder particles are 25-50% surrounded by fine sediment.	Gravel, cobble, and boulder particles are 50-75% surrounded by fine sediment.	Gravel, cobble, and boulder particles are more than 75% surrounded by fine sediment.
SCORE 0	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 (0)
3. Velocity/Depth Regime	All four velocity/depth regimes present (slow-deep, slow-shallow, fast-deep, fast-shallow). (Sow is < 0.3 m/s, deep is > 0.5 m.)	Only 3 of the 4 regimes present (if fast-shallow is missing, score lower than if missing other regimes).	Only 2 of the 4 habitat regimes present (if fast-shallow or slow-shallow are missing, score low).	Dominated by 1 velocity/ depth regime (usually slow-deep).
SCORE 0	20 19 18 17 16	15 14 13 12 11	10 9 8 (7) 6	5 4 3 2 1 (0)

CVG - LYNXS MANOAK DEVELOPMENT
STREAM 1

4. Sediment Deposition	Little or no enlargement of islands or point bars and less than 5% (<20% for low-gradient streams) of the bottom affected by sediment deposition.	Some new increase in bar formation, mostly from gravel, sand or fine sediment; 5-30% (20-50% for low-gradient) of the bottom affected; slight deposition in pools.	Moderate deposition of new gravel, sand or fine sediment on old and new bars; 30-50% (50-80% for low-gradient) of the bottom affected; sediment deposits at obstructions, constrictions, and bends; moderate deposition of pools prevalent.	Heavy deposits of fine material, increased bar development; more than 50% (80% for low-gradient) of the bottom changing frequently; pools almost absent due to substantial sediment deposition.
SCORE 19	20 (19) 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
5. Channel Flow Status	Water reaches base of both lower banks, and minimal amount of channel substrate is exposed.	Water fills >75% of the available channel; or <25% of channel substrate is exposed.	Water fills 25-75% of the available channel, and/or riffle substrates are mostly exposed.	Very little water in channel and mostly present as standing pools.
SCORE 19	20 (19) 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
6. Channel Alteration	Channelization or dredging absent or minimal; stream with normal pattern.	Some channelization present, usually in areas of bridge abutments; evidence of past channelization, i.e., dredging, (greater than past 20 yr.) may be present, but recent channelization is not present.	Channelization may be extensive; embankments or shoring structures present on both banks; and 40 to 80% of stream reach channelized and disrupted.	Banks shored with gabion or cement; over 80% of the stream reach channelized and disrupted. Instream habitat greatly altered or removed entirely.
SCORE 0	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 (0)
7. Frequency of Riffles (or bends)	Occurrence of riffles relatively frequent; ratio of distance between riffles divided by width of the stream <7:1 (generally 5 to 7); variety of habitat is key. In streams where riffles are continuous, placement of boulders or other large, natural obstruction is important.	Occurrence of riffles infrequent; distance between riffles divided by the width of the stream is between 7 to 15.	Occasional riffle or bend; bottom contours provide some habitat; distance between riffles divided by the width of the stream is between 15 to 25.	Generally all flat water or shallow riffles; poor habitat; distance between riffles divided by the width of the stream is a ratio of >25.
SCORE 0	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 (0)
8.Bank Stability (score each bank) Note: determine left or right side by facing downstream.	Banks stable; evidence of erosion or bank failure absent or minimal; little potential for future problems. <5% of bank affected.	Moderately stable; infrequent, small areas of erosion mostly healed over. 5-30% of bank in reach has areas of erosion.	Moderately unstable; 30-60% of bank in reach has areas of erosion; high erosion potential during floods.	Unstable; many eroded areas; "raw" areas frequent along straight sections and bends; obvious bank sloughing; 60-100% of bank has erosional scars.
SCORE (LB) 10	Left Bank (10) 9	8 7 6	5 4 3	2 1 0
SCORE (RB) 10	Right Bank (10) 9	8 7 6	5 4 3	2 1 0
9. Vegetative Protection (score each bank)	More than 90% of the streambank surfaces and immediate riparian zone covered by native vegetation, including trees, understory shrubs, or nonwoody macrophytes; vegetative disruption through grazing or mowing minimal or not evident; almost all plants allowed to grow naturally.	70-90% of the streambank surfaces covered by native vegetation, but one class of plants is not well-represented; disruption evident but not affecting full plant growth potential to any great extent; more than one-half of the potential plant stubble height remaining.	50-70% of the streambank surfaces covered by vegetation; disruption obvious; patches of bare soil or closely cropped vegetation common; less than one-half of the potential plant stubble height remaining.	Less than 50% of the streambank surfaces covered by vegetation; disruption of streambank vegetation is very high; vegetation has been removed to 5 centimeters or less in average stubble height.
SCORE (LB) 0	Left Bank 10 9	8 7 6	5 4 3	2 1 (0)
SCORE (RB) 0	Right Bank 10 9	8 7 6	5 4 3	2 1 (0)
10. Riparian Vegetative Zone Width (score each bank riparian zone)	Width of riparian zone >18 meters; human activities (i.e., parking lots, roadbeds, clear-cuts, lawns, or crops) have not impacted zone.	Width of riparian zone 12-18 meters; human activities have impacted zone only minimally.	Width of riparian zone 6-12 meters; human activities have impacted zone a great deal.	Width of riparian zone <6 meters: little or no riparian vegetation due to human activities.
SCORE (LB) 0	Left Bank 10 9	8 7 6	5 4 3	2 1 (0)
SCORE (RB) 0	Right Bank 10 9	8 7 6	5 4 3	2 1 (0)

Total Score 58 **NOTES/COMMENTS:**

PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET
(FRONT)

DS-2

STREAM NAME STREAM 2	LOCATION CVG - LYNX HANGAR DEVELOPMENT	
STATION #_____ RIVERMILE_____	STREAM CLASS Intermittent	
LAT 39.03641 LONG -84.66206	RIVER BASIN Middle Ohio - Laughery (HUC8: 05090203)	
STORET #	AGENCY	
INVESTIGATORS D. Whitlatch, K. Clemens		
FORM COMPLETED BY D. Whitlatch	DATE 1-23-2018 TIME 11:45 AM PM	REASON FOR SURVEY Commercial Development Survey

WEATHER CONDITIONS

Now		Past 24 hours
❑	storm (heavy rain)	❑
❑	rain (steady rain)	❑
❑	showers (intermittent)	■
100 %■	%cloud cover	■ 100%
❑	clear/sunny	❑

Has there been a heavy rain in the last 7 days? ❑ Yes ■ No

Air Temperature 3.8 ° C

Other_____

SITE LOCATION/MAP

Draw a map of the site and indicate the areas sampled (or attach a photograph)

(Please refer to Stream 1 Datasheets for sketch)

STREAM CHARACTERIZATION

Stream Subsystem
❑ Perennial ■ Intermittent ❑ Tidal

Stream Type
❑ Coldwater ❑ Warmwater

Stream Origin
❑ Glacial
❑ Non-glacial montane
❑ Swamp and bog
❑ Spring-fed
■ Mixture of origins
❑ Other_____

Catchment Area 2.35 km²

CVG · LYNXS HANGAR DEVELOPMENT
STREAM 2

PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET (BACK)

WATERSHED FEATURES

Predominant Surrounding Landuse
❑ Forest ■ Commercial
❑ Field/Pasture ❑ Industrial
❑ Agricultural ❑ Other _____
❑ Residential

Local Watershed NPS Pollution
❑ No evidence ❑ Some potential sources
■ Obvious sources

Local Watershed Erosion
❑ None ■ Moderate ❑ Heavy

RIPARIAN VEGETATION (18 meter buffer)

Indicate the dominant type and record the dominant species present
❑ Trees ❑ Shrubs ■ Grasses ■ Herbaceous
dominant species present Foxtails, Bluegrasses, Narrowleaf plantain, Honeysuckles

INSTREAM FEATURES

Estimated Reach Length 20 m
Estimated Stream Width 18 m
Sampling Reach Area 360 m²
Area in km² (m²x1000) 0.0003 km²
Estimated Stream Depth 2 m
Surface Velocity (at thalweg) 0.35 m/sec

Canopy Cover
■ Partly open ❑ Partly shaded ❑ Shaded
High Water Mark 0.33 m
Proportion of Reach Represented by Stream Morphology Types
■ Riffle 5 % ■ Run 95 %
❑ Pool _____ %
Channelized ■ Yes ❑ No
Dam Present ❑ Yes ■ No

LARGE WOODY DEBRIS

LWD 0 m²
Density of LWD 0 m²/km² **(LWD/ reach area)** NONE

AQUATIC VEGETATION

Indicate the dominant type and record the dominant species present
❑ Rooted emergent ❑ Rooted submergent ❑ Rooted floating ❑ Free floating
❑ Floating Algae ❑ Attached Algae
dominant species present NONE
Portion of the reach with aquatic vegetation 0 %

WATER QUALITY

Temperature N/A °C
Specific Conductance N/A
Dissolved Oxygen N/A
pH N/A
Turbidity N/A
WQ Instrument Used N/A

Water Odors
■ Normal/None ❑ Sewage
❑ Petroleum ❑ Chemical
❑ Fishy ❑ Other _____

Water Surface Oils
❑ Slick ❑ Sheen ❑ Globs ❑ Flecks
■ None ❑ Other _____

Turbidity (if not measured)
■ Clear ❑ Slightly turbid ❑ Turbid
❑ Opaque ❑ Stained ❑ Other _____

SEDIMENT/ SUBSTRATE

Odors
■ Normal ❑ Sewage ❑ Petroleum
❑ Chemical ❑ Anaerobic ❑ None
❑ Other _____

Oils
■ Absent ❑ Slight ❑ Moderate ❑ Profuse

Deposits
❑ Sludge ❑ Sawdust ❑ Paper fiber ■ Sand
❑ Relict shells ❑ Other _____

Looking at stones which are not deeply embedded, are the undersides black in color?
❑ Yes ■ No

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	**Diameter**	**% Composition in Sampling Reach**	**Substrate Type**	**Characteristic**	**% Composition in Sampling Area**
~~Bedrock~~	CONCRETE	97	Detritus	sticks, wood, coarse plant materials (CPOM)	1 %
Boulder	> 256 mm (10")	0			
Cobble	64-256 mm (2.5"-10")	0	Muck-Mud	black, very fine organic (FPOM)	0 %
Gravel	2-64 mm (0.1"-2.5")	1			
Sand	0.06-2mm (gritty)	2	Marl	grey, shell fragments	0%
Silt	0.004-0.06 mm	0			
Clay	< 0.004 mm (slick)	0			

Appendix A-1 High Gradient Stream Data Sheet

STREAM NAME: STREAM 2 | LOCATION: CVG-LYNXS HANGAR DEVELOP.

STATION #: | MILE: | BASIN/WATERSHED: Middle Ohio-Laughery (HUC8: 05090203)

LAT.: 39.03641 LONG.: -84.66206 | COUNTY: BOONE USGS 7.5 TOPO: Burlington, KY

DATE: 1-23-2018 TIME: 11:45 ☒AM ☐PM | INVESTIGATORS: D. Whitlatch, K. Clemens

TYPE SAMPLE: ☐ P-CHEM ☐ Macroinvertebrate ☐ FISH ☐ BACT.

WEATHER: Now Past 24 hours — Has there been a heavy rain in the last 7 days?

- ☐ ☐ Heavy rain — ☐ Yes ● No
- ☐ ☐ Steady rain — Air Temperature 3.8 °C. Inches rainfall in past 24 hours 0.16 in.
- ☐ ● Intermittent showers — 100 % Cloud Cover
- ☐ ☐ Clear/sunny

P-Chem: Temp(°C) N/A D.O. (mg/l) N/A %Saturation N/A pH(S.U.) N/A Cond. N/A ☐ Grab

INSTREAM WATERSHED FEATURES:

Stream Width 9-15 ft OHWM
Range of Depth 1-3 ft
Average Velocity 0.6 ft/s
Discharge 14.4 cfs
Est. Reach Length 60 feet

LOCAL WATERSHED FEATUREES:

Predominant Surrounding Land Use:

- ☐ Surface Mining
- ☐ Deep Mining
- ☐ Oil Wells
- ☐ Land Disposal
- ☐ Construction
- ● Commercial
- ☐ Industrial
- ☐ Row Crops
- ☐ Forest
- ☐ Pasture/Grazing
- ☐ Silviculture
- ☐ Urban Runoff/Storm Sewers

Hydraulic Structures:

- ☐ Dams ☐ Bridge Abutments
- ☐ Island ☐ Waterfalls
- ☒ Other DIVERSION WALL/DIVIDER

Stream Flow:

- ☐ Dry ☐ Pooled ☐ Low ● Normal
- ☐ High ☐ Very Rapid or Torrential

Stream Type:

- ☐ Perennial ● Intermittent
- ☐ Ephemeral ☐ Seep

Riparian Vegetation:

Dominate Type:
- ☐ Trees ☐ Shrubs
- ● Grasses ● Herbaceous

Number of strata 2

Dom. Tree/Shrub Taxa: Poa, Setaria, Lonicera, Plantago, Daucus

Canopy Cover:

- ● Fully Exposed (0-25%)
- ☐ Partially Exposed (25-50%)
- ☐ Partially Shaded (50-75%)
- ☐ Fully Shaded (75-100%)

Channel Alterations:

- ☐ Dredging
- ☐ Channelization
- (☐Full ☐Partial)

Substrate ☐Est. ☐P.C.	Riffle 1 %	Run 99 %	Pool 0 %
Silt/Clay (<0.06 mm)	0	0	0
Sand (0.06 – 2 mm)	1	0	0
Gravel (2-64 mm)	1	0	0
Cobble (64 – 256 mm)	0	0	0
Boulders (>256 mm)	0	0	0
~~Bedrock~~ CONCRETE	98 %	100 %	0

Habitat Parameter	Condition Category: Optimal	Suboptimal	Marginal	Poor
1. Epifaunal Substrate/ Available Cover	Greater than 70% of substrate favorable for epifaunal colonization and fish cover; mix of snags, submerged logs, undercut banks, cobble or other stable habitat and at stage to allow full colonization potential (i.e., logs/snags that are not new fall and not transient).	40-70% mix of stable habitat; well-suited for full colonization potential; adequate habitat for maintenance of populations; presence of additional substrate in the form of newfall, but not yet prepared for colonization (may rate at high end of scale).	20-40% mix of stable habitat; habitat availability less than desirable; substrate frequently disturbed or removed.	Less than 20% stable habitat; lack of habitat is obvious; substrate unstable or lacking.
SCORE 0	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 (0)
2. Embeddedness	Gravel, cobble, and boulder particles are 0-25% surrounded by fine sediment. Layering of cobble provides diversity of niche space.	Gravel, cobble, and boulder particles are 25-50% surrounded by fine sediment.	Gravel, cobble, and boulder particles are 50-75% surrounded by fine sediment.	Gravel, cobble, and boulder particles are more than 75% surrounded by fine sediment.
SCORE 0	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 (0)
3. Velocity/Depth Regime	All four velocity/depth regimes present (slow-deep, slow-shallow, fast-deep, fast-shallow). (Sow is < 0.3 m/s, deep is > 0.5 m.)	Only 3 of the 4 regimes present (if fast-shallow is missing, score lower than if missing other regimes).	Only 2 of the 4 habitat regimes present (if fast-shallow or slow-shallow are missing, score low).	Dominated by 1 velocity/ depth regime (usually slow-deep).
SCORE 0	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 (0)

STREAM 2

4. Sediment Deposition	Little or no enlargement of islands or point bars and less than 5% (<20% for low-gradient streams) of the bottom affected by sediment deposition.	Some new increase in bar formation, mostly from gravel, sand or fine sediment; 5-30% (20-50% for low-gradient) of the bottom affected; slight deposition in pools.	Moderate deposition of new gravel, sand or fine sediment on old and new bars; 30-50% (50-80% for low-gradient) of the bottom affected; sediment deposits at obstructions, constrictions, and bends; moderate deposition of pools prevalent.	Heavy deposits of fine material, increased bar development; more than 50% (80% for low-gradient) of the bottom changing frequently; pools almost absent due to substantial sediment deposition.
SCORE 19	20 (19) 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
5. Channel Flow Status	Water reaches base of both lower banks, and minimal amount of channel substrate is exposed.	Water fills >75% of the available channel; or <25% of channel substrate is exposed.	Water fills 25-75% of the available channel, and/or riffle substrates are mostly exposed.	Very little water in channel and mostly present as standing pools.
SCORE 19	20 (19) 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
6. Channel Alteration	Channelization or dredging absent or minimal; stream with normal pattern.	Some channelization present, usually in areas of bridge abutments; evidence of past channelization, i.e., dredging, (greater than past 20 yr.) may be present, but recent channelization is not present.	Channelization may be extensive; embankments or shoring structures present on both banks; and 40 to 80% of stream reach channelized and disrupted.	Banks shored with gabion or cement; over 80% of the stream reach channelized and disrupted. Instream habitat greatly altered or removed entirely.
SCORE 0	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 (0)
7. Frequency of Riffles (or bends)	Occurrence of riffles relatively frequent; ratio of distance between riffles divided by width of the stream <7:1 (generally 5 to 7); variety of habitat is key. In streams where riffles are continuous, placement of boulders or other large, natural obstruction is important.	Occurrence of riffles infrequent; distance between riffles divided by the width of the stream is between 7 to 15.	Occasional riffle or bend; bottom contours provide some habitat; distance between riffles divided by the width of the stream is between 15 to 25.	Generally all flat water or shallow riffles; poor habitat; distance between riffles divided by the width of the stream is a ratio of >25.
SCORE 0	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 (0)
8.Bank Stability (score each bank) Note: determine left or right side by facing downstream.	Banks stable; evidence of erosion or bank failure absent or minimal; little potential for future problems. <5% of bank affected.	Moderately stable; infrequent, small areas of erosion mostly healed over. 5-30% of bank in reach has areas of erosion.	Moderately unstable; 30-60% of bank in reach has areas of erosion; high erosion potential during floods.	Unstable; many eroded areas; "raw" areas frequent along straight sections and bends; obvious bank sloughing; 60-100% of bank has erosional scars.
SCORE (LB) 10	Left Bank (10) 9	8 7 6	5 4 3	2 1 0
SCORE (RB) 10	Right Bank (10) 9	8 7 6	5 4 3	2 1 0
9. Vegetative Protection (score each bank)	More than 90% of the streambank surfaces and immediate riparian zone covered by native vegetation, including trees, understory shrubs, or nonwoody macrophytes; vegetative disruption through grazing or mowing minimal or not evident; almost all plants allowed to grow naturally.	70-90% of the streambank surfaces covered by native vegetation, but one class of plants is not well-represented; disruption evident but not affecting full plant growth potential to any great extent; more than one-half of the potential plant stubble height remaining.	50-70% of the streambank surfaces covered by vegetation; disruption obvious; patches of bare soil or closely cropped vegetation common; less than one-half of the potential plant stubble height remaining.	Less than 50% of the streambank surfaces covered by vegetation; disruption of streambank vegetation is very high; vegetation has been removed to 5 centimeters or less in average stubble height.
SCORE (LB) 0	Left Bank 10 9	8 7 6	5 4 3	2 1 (0)
SCORE (RB) 0	Right Bank 10 9	8 7 6	5 4 3	2 1 (0)
10. Riparian Vegetative Zone Width (score each bank riparian zone)	Width of riparian zone >18 meters; human activities (i.e., parking lots, roadbeds, clear-cuts, lawns, or crops) have not impacted zone.	Width of riparian zone 12-18 meters; human activities have impacted zone only minimally.	Width of riparian zone 6-12 meters; human activities have impacted zone a great deal.	Width of riparian zone <6 meters: little or no riparian vegetation due to human activities.
SCORE (LB) 0	Left Bank 10 9	8 7 6	5 4 3	2 1 (0)
SCORE (RB) 0	Right Bank 10 9	8 7 6	5 4 3	2 1 (0)

Total Score 58 **NOTES/COMMENTS:**

2018-B-0278

Environment & Archaeology LLC

March 7, 2018

Significant impacts to federally-listed species are not likely to result from this project as currently proposed. Project re-coordination is needed if the project changes or if new species or critical habitats are listed that could be impacted by the project.

Kentucky Field Supervisor
U.S. Fish and Wildlife Service

3/7/18
Date

United States Fish and Wildlife Service
Attn: Lee Andrews, Field Supervisor
30 West Broadway, Suite 265
Frankfort, Kentucky 40601

Re: Section 7 Threatened and Endangered Species Consultation
CVG Lynxs Hangar Development Project
Cincinnati/Northern Kentucky International Airport in Boone County, Kentucky
IPaC Consultation Code: 04EK1000-2018-SLI-0285

Dear Mr. Andrews:

The Kenton County Airport Board (KCAB) is proposing new development activities at properties within the Cincinnati/Northern Kentucky International Airport (CVG) as part of the Lynxs Hanager Development Project. The Project will require the Federal Aviation Administration's approval. As such, Section 7 consultation is required. *Environment & Archaeology, LLC* submits this consultation on behalf of KCAB and we provide to you the project information below and attached so that you can provide a determination of effect/no effect.

1.0 PROJECT DESCRIPTION

The KCAB is proposing to construct a new maintenance hangar. The Project footprint includes a Development Area (17.8 acres) and a Borrow Area (10.6 acres). The total Project footprint measures approximately 28.4 acres. The site is shown on the Burlington USGS 7.5-minute topographic quadrangle map (Figure 1). The Project Area and surrounding land consists of urban/industrial turf, old field, and palustrine emergent (PEM) wetland. The study area for the Development Area and the western portion of the Borrow Area were located within the Gunpowder Creek watershed (HUC 12: 050902030809). The remaining eastern portion of the Borrow Area was located within the Dry Creek - Ohio River watershed (HUC 12: 050902030202) in the Middle Ohio-Laughery watershed (HUC 8: 05090203).

Environment & Archaeology, LLC conducted a formal wetland and stream delineation and threatened and endangered species habitat survey on January 23 and February 6, 2018. The field survey identified two (2) USGS-mapped intermittent tributaries to Gunpowder Creek contained in concrete-lined channels, as well as eight (8) palustrine emergent (PEM) wetlands (Table 2). A photolog providing representative photographs of the survey area is enclosed with this letter.

221 Main Street Florence, Kentucky 41042 • Phone: (859) 746-1778 • Fax (859) 746-1788

ATTACHMENT 5
ARCHAEOLOGY SURVEY REPORT AND COORDINATION WITH KENTUCKY STATE HISTORIC PRESERVATION OFFICE

March 7, 2018

Mr. Craig Potts
Kentucky Heritage Council
The Barstow House
410 High Street
Frankfort, Kentucky 40601

Re: Cultural Resources Consultation
CVG Lynxs Hanger Development Project
Boone County, Kentucky

Dear Mr. Potts:

Cincinnati-Northern Kentucky International Airport (CVG) is proposing the Lynxs Hanger Development Project located on the properties of CVG. The project encompasses 27 acres and is comprised of a proposed development area and a proposed borrow area (Figure 1). The proposed development area (16.5 acres) is located on South Airfield Drive between the existing hangar and the ARFF Training Center. The proposed borrow site (10.5 acres) is located at the northwest corner of Delta Road and Mineola Pike in the east side of CVG. The project is regulated by the Federal Aviation Administration (FAA).

Proposed Borrow Area

The entire proposed project area has been subject to previous archaeological survey (Figure 2). The proposed borrow area was part of the following 2014 cultural resources survey:

Leone, Karen and John W. Picklesimer
2014 *Phase I Cultural Resources Survey for Five Parcels (3-A, 3-B, 6-A, 6-B, and 6-C) at the Cincinnati/Northern Kentucky International Airport, Boone County, Kentucky*. SHPO ID #008-208.

This survey was conducted for the Kenton County Airport on five parcels of land to establish any potential impacts should the airport choose to expand within these areas. The total area surveyed was approximately 184.4 acres. This survey utilized systematic shovel testing in all areas where surface visibility was less than 20 percent at 15-meter intervals, and conducted surface survey on all other areas. The survey identified two new archaeological sites, neither of which were located in the proposed borrow area for the current project. No additional assessment under Section 106 was recommended for the five parcels.

Proposed Development Area

The proposed development area was part of the following cultural resources survey preformed in 1986:

Sussenbach, Tom
1986 *Cultural Resource Assessment of a 450 Acre Tract at the Greater Cincinnati International Airport, Boone County, Kentucky*. Prepared for Greater Cincinnati International Airport. Prepared by University of Kentucky, SHPO ID #008-052.

This survey consisted of approximately 450 acres at the Greater Cincinnati International Airport. Twenty-eight archaeological sites and two historic cemeteries were located. Only one of these identified sites, 15Be316, was within the current project area. It should be noted that site 15Be316 was labeled as "15Be317" within the text of Sussenbach (1986) and the Edging (1987) reports, but has since been named 15Be316 on the site form and on the KY OSA GIS data sets. Site 15Be316 was a Late Archaic open habitation site without mounds located at the base of a ridge. The site was recommended for further assessment in order to determine its eligibility for the National Register of Historic Places.

Sussenbach also reported the existence of two historic cemeteries within the survey. The cemeteries were not named but were recommended for removal. The cemeteries have been avoided by airport construction activities. The airport also erected a wood fence buffering both cemeteries circa 2015. The cemeteries, The Christy Family Cemetery and the Tanner/Clutterbuck (aka Brown) Cemetery, are located within the footprint of the proposed hanger development.

Site 15Be316

Site 15Be316 was a Late Archaic open habitation site without mounds. Originally recorded in 1986 it was recommended for further assessment. In 1987, Phase II Testing was performed on Site 15Be316, along with three other sites. The findings were discussed in the following report:

Edging, Richard
1987 *Archaeological Investigations in the Gunpowder Creek Uplands, Boone County, Kentucky*. Archaeological Report 168. Prepared for Kenton County Airport Board. Prepared by Program for Cultural Resource Assessment, University of Kentucky, SHPO ID #008-059.

This report was prepared for the Phase II investigations at Sites 15Be315, 15Be316 (originally 15Be317), 15Be324, and 15Be325. All sites were located along Gunpowder Creek, and were originally located during a survey for a proposed right-of way for the airport and recommended for further investigation. For the Phase II at Site 15Be316, controlled surface collection was conducted. It was proposed that this site was a seasonal base camps utilized by peoples in the Early through Late Archaic Periods. Trenches and stripping did not yield intact deposits. Agricultural plowing had greatly altered the site's integrity. Due to the shallow and disturbed nature of all four sites, none were recommended as eligible for the National Register of Historic Places, and no further work was recommended.

Christy Family Cemetery (15Be718)

Environment & Archaeology, LLC visited this cemetery to investigate the cemetery boundaries and condition and record details of gravestones. Historic research was conducted on those listed as interred within the cemetery in order to assess the cemeteries for the National Register of Historic Places. The site visit was conducted in January 2018 and site forms have been submitted to the Office of State Archaeology.

The Christy Family Cemetery consisted of two burials, that of Simeon Christy and his second wife, Olevia Souther Christy. The cemetery is currently located just northeast of the Tanner/Clutterbuck Cemetery within a wrought iron fence. It was reported that the burials were originally located on property belonging to Ben Otten (Boone County Family Cemetery Registry) and were relocated adjacent to the Tanner/Clutterbuck Cemetery. This seems to have occurred sometime between 1966 and 1986, when Sussenbach (1986) recorded its presence at the current location. The parcel belonging to Ben Otten, on which the burials were originally interred, is indicated in Figure 2. The cemetery consisted of one obelisk monument with the following inscriptions:

> "Simeon/Born May 19, 1794/ Died April 21, 1863/ aged 68 yrs 11 mo & 2 days
> Olevia/wife of S. Christy/ Died Jan. 24, 1878/ aged 75 years, 2 mo & 17 ds"

Simeon Christy was the son of George Christy and Mary Cave. The earliest records found concerning the Christy family indicated that George Christy, born in Culpepper County, Virginia, was living in Kentucky by 1800. Information from the Boone County Chronicles via Boone County Public Library (BCPL) online indicated that George Christy was named the second Boone County Coroner in 1801. The elder Christy died in 1804. Simeon was one of six surviving children at the time of his father death. Simeon Christy served under Major Uriel Sebree in the First Regiment (Scotts Regiment) of the Kentucky Volunteers as a drummer in 1812. Simeon would have been 18 years old. He was listed as having been present at the Frenchtown Battle/Battle of River Raisin fought during the War of 1812. He was listed as having served again under the 71st Regiment of the Kentucky Militia as a Sergeant in 1814.

Simeon married his first wife, Lucy Riddell on February 1, 1815. Records for one child, Paulena/Paulina Riddell Christy, were located. Paulina was born in 1818. Research found no documentation for other children from this union.

Simeon married his second wife, Olevia Souther in 1823. In his will, Simeon indicated that he and Olevia (Levy) had two daughters, Mary and Elizabeth. Census data indicated that Simeon was a farmer and held real estate most of his life. He was also a slave holder as documented in the 1830, 1840, and 1850 US Federal Census (Ancestry.com).

Recommendation: *Environment & Archaeology, LLC* recommends the Christy Family Cemetery as not eligible for the National Register of Historic Places. The cemetery consisted of two interments

and cannot be associated with an event or individual significant to local or national history and would not be considered eligible under Criterion A or B. The cemetery does not convey any distinctive characteristics as a cemetery and would not be considered eligible under Criterion C. All records indicate that this cemetery was already been relocated, destroying any integrity of setting and location. Any additional archaeological assessment of the cemetery would not likely yield any additional information concerning the history of the area and the cemetery would not be considered eligible under Criterion D. *Environment & Archaeology, LLC* recommends no further assessment of this cemetery under Section 106. Should the proposed project proceed, cemetery relocation will be pursued under local and state laws and regulations.

Tanner/Cuttterbuck Cemetery (15Be719)

The Tanner/Clutterbuck Family Cemetery appeared to consist of approximately 13 to 17 burials. This family cemetery contains the burials of James and Sarah Tanner, their children, and their grandchildren. The cemetery is located on the James Tanner Farm (1883 Boone County Atlas) which was later occupied by his daughter and her husband, Francis Tanner Clutterbuck and Rueben Clutterbuck. The cemetery was recorded in the Boone County Family Cemetery Registry (Registry) and its presence was noted by Sussenbach in his 1986 Phase I Survey. The cemetery consisted of ten formal headstone monuments. Three of the stones bore the inscriptions of married couples. The list of those interred, according to the Registry, was as follows:

James Tanner: Born 1802/Died March 4, 1883;
Sarah Rouse Tanner (wife of James Tanner): Born 1799/Died December 12, 1882;
Jemima Tanner Popham (daughter of James and Sarah Tanner, wife of Albert Popham): Born1822/ Died in 1913;
Albert Popham (son-in-law of James and Sarah Tanner): Born September 4, 1821/Died October 22, 1886;
Sarah Ann Tanner Brown (daughter of James and Sarah Tanner, wife of Joel Brown): Born October 16, 1838/Died October 20, 1933;
Joel Brown (son-in-law of James and Sarah Tanner): Born September 7, 1830/Died May 12, 1906;
Iva Mattie Brown (daughter of Joel and Sarah Brown): Born July 20, 1869/Died September 9, 1870;
Josie Brown (daughter of Joel and Sarah Brown): Born March 28, 1880/Died May 23, 1880.
Julia Francis Tanner Clutterbuck (daughter of James and Sarah Tanner): Born March 13, 1840/Died 1933;
Ruben "R.J" Clutterbuck (son-in-law to James and Tanner): Born March 12, 1830/Died March 9, 1893;
James Albert Clutterbuck (son of RJ and Francis Clutterbuck): Born May 30, 1868/Died December 14, 1907;
Ida B. Tanner (granddaughter of James and Sarah Tanner, daughter of Ephraim and Mary Tanner): Died August 3, 1880.
Josie Utz (relationship unknown): Born June 16, 1902/Died September 30, 1904.

James and Sarah Rouse Tanner were both born in Culpepper County, Virginia. Historical records suggest that they came to Boone County, Kentucky sometime after 1822. According to the 1883 Boone County Atlas, James Tanner was the owner of the farm on which the cemetery was located. James Tanner was the son of Michael Tanner and was the great-grand nephew of Frederick Tanner, who was part of the early Germana, Virginia families arriving into Boone County in the late eighteenth-early nineteenth century. James and Sarah had five children: Jemima, Ephraim, Elizabeth, Sarah Ann, and Julia Francis.

Three of the five children were interred at the Tanner/Clutterbuck Cemetery (Jemimia, Sarah Ann, and Francis). The remaining children (Ephraim and Elizabeth) and their spouses are interred within the Hopeful Lutheran Cemetery. The oldest daughter, Jemima, married Albert Popham, the son of Job and Ann Popham, in 1842. There were eight children born of this union. There is no record of any of their children being buried in the Tanner/Clutterbuck Cemetery. Sarah Ann Tanner, the fourth child of James and Sarah, married Joel Brown in 1857. Together they had 10 children, two of which (Iva Mattie and Josie Brown) are known to be buried within the Tanner/Clutterbuck Cemetery. The youngest child, Julia Francis was married to Ruben Clutterbuck in 1856. Together they had 11 children. One of these children, James Albert, is known to be buried at the Tanner/Clutterbuck cemetery. James Albert Clutterbuck was a Florence Town Marshall who was shot and killed in 1907.

The list of interments from the Registry matches the formal stones currently present within the cemetery. An additional burial for Charles W. Darby was once present but was relocated to the Hopeful Lutheran Cemetery. The site visit to the cemetery in January 2018 noted informal headstones/fieldstones in locations that suggested at least four additional burials are possible. It is possible that one of these is the former location of the Charles Darby burial. No additional grave depressions were observed and current vegetation was consistent with the current cemetery boundaries. However, recent tree removal and maintenance (mowing) has likely disrupted vegetative evidence associated with burials. An obituary for Francis Clutterbuck appeared in the April 18, 1933 edition of the Cincinnati Kentucky Times Star indicating that the Clutterbuck Cemetery (aka Tanner/Clutterbuck) was the resting place of “some thirty-five” members of the family. No other documentary evidence indicating this many burials has been located, nor was physical evidence of that many burials observed during the site visit.

Recommendation: *Environment & Archaeology, LLC* recommends the Tanner/Clutterbuck Cemetery as not eligible for the National Register of Historic Places. The change of landscape from its time as a rural farmstead to its current setting at the airport has damage its integrity of setting and association. The Tanner/Clutterbuck cemetery is a small family cemetery that cannot be associated with an event or individual significant to local or national history and would not be considered eligible under Criterion A or B. The cemetery does not convey any distinctive characteristics as a cemetery and gravestones have been subject to weathering which has destroyed any evidence of workmanship that may have existed. The cemetery would not be considered eligible under Criterion C. Based on historical research completed on those interred, additional archaeological assessment of the cemetery would not be likely to yield any additional information concerning the history of the

area and its rural farmsteads, thus the cemetery would not be considered eligible under Criterion D. *Environment & Archaeology, LLC* recommends no further assessment of this cemetery under Section 106. Should the proposed project proceed, cemetery relocation will be pursued under local and state laws and regulations.

It is the opinion of *Environment & Archaeology, LLC* that the proposed development will have no effect on cultural resources eligible for listing to the National Register of Historic Places and that no further assessment under Section 106 is warranted. Should the project proceed both cemeteries will be relocated according to local and state laws. We request your concurrence with this recommendation. If you should need any additional information or should have any questions concerning this project, please do not hesitate to contact me at 859-746-1778 or acrider@environment-archaeology.com.

Sincerely,

Andrea D. Crider, MA, RPA
Principal Investigator

cc Chris Sandfoss, Landrum & Brown
Debbie Conrad, CVG

Attachments: Figure 1. Topographic Map
Figure 2. Aerial Map and Previous Surveys
Figure 3. Map of Cemeteries
Photographs

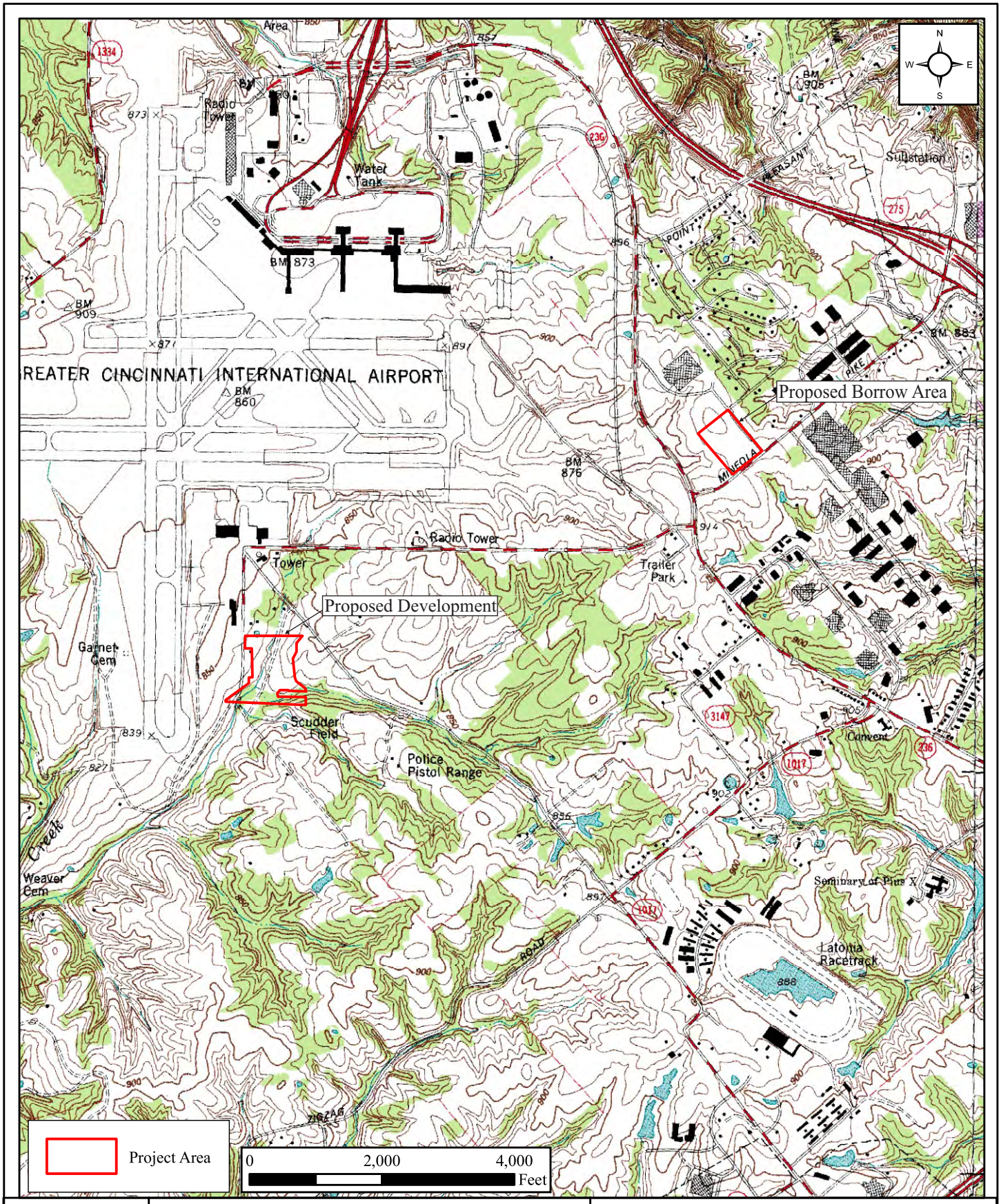


Figure 1	Kenton County Airport Board Cincinnati/Northern Kentucky International Airport Lynxs Hangar Development Boone County, Kentucky	USGS 7.5' Topographic Map Burlington, KY Quadrangle 1:24,000 Environment & Archaeology LLC

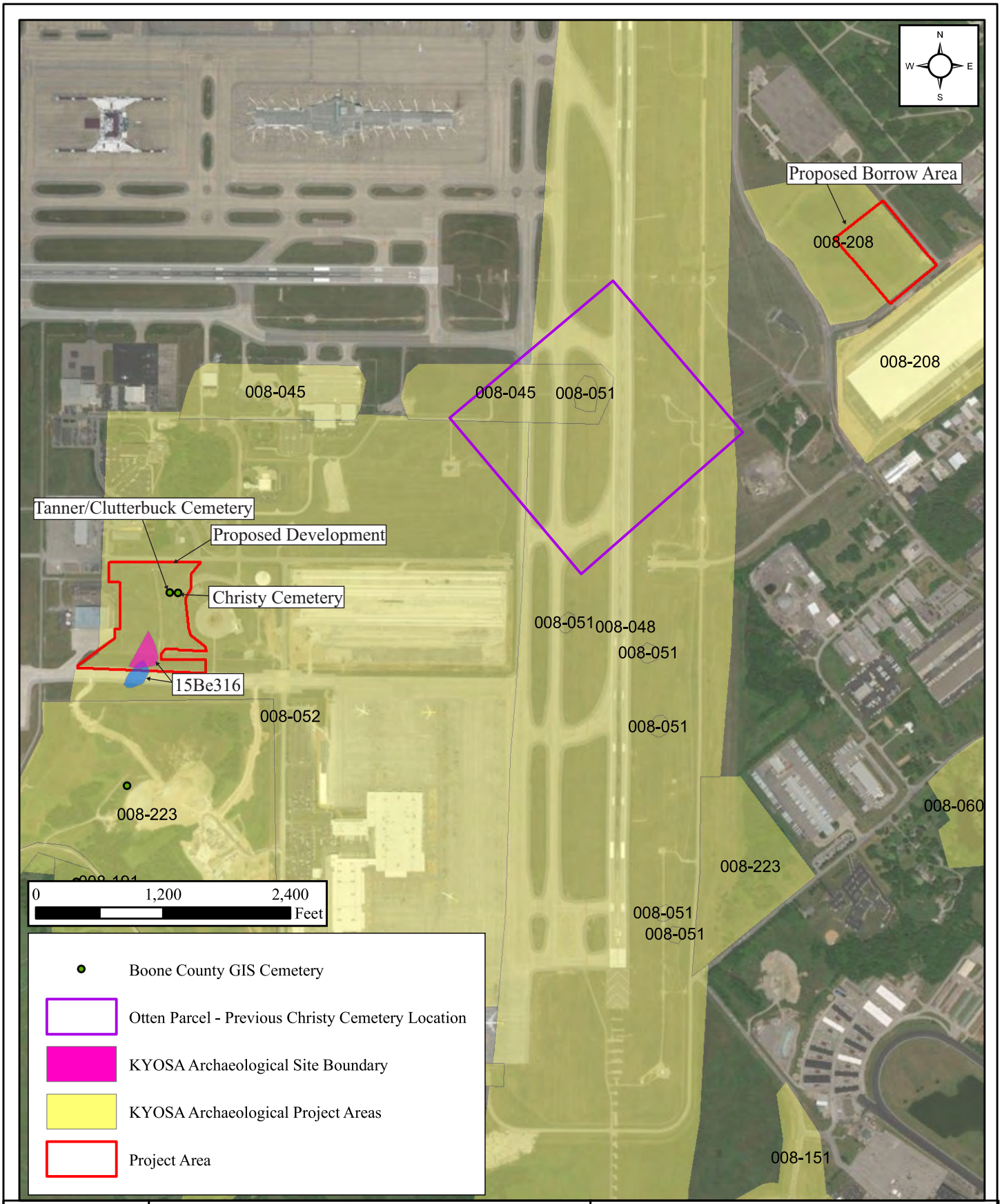


Figure 2	Kenton County Airport Board Cincinnati/Northern Kentucky International Airport Lynxs Hangar Development Boone County, Kentucky	Aerial Imagery Aerial Provided By ESRI Map Services Environment & Archaeology LLC

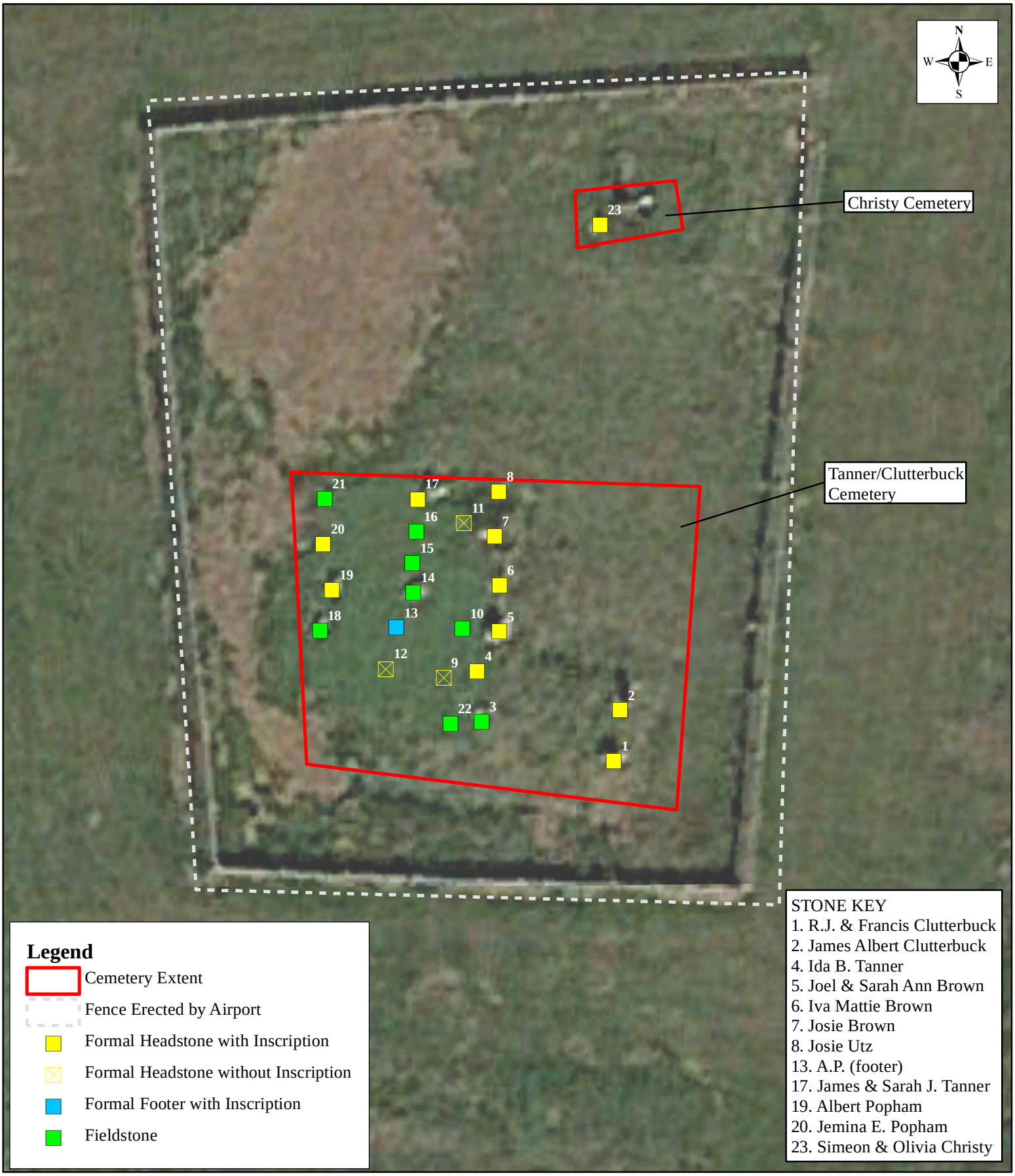


Figure 3	Kenton County Airport Board Cincinnati/Northern Kentucky International Airport Lynxs Hangar Development Boone County, Kentucky	Cemeteries Plan Aerial Provided by ESRI Map Services 0 5 10 20 Feet *Environment & Archaeology, LLC*

Christy Family Cemetery, Facing West.

Simeon Christy Inscription, Facing East

Olevia Christy Inscription, Facing West.

Tanner/Clutterbuck Cemetery, facing Southwest.

Tanner/Clutterbuck Cemetery, facing West.

Tanner/Clutterbuck Cemetery, facing Northwest.

ATTACHMENT 6
KENTUCKY DIVISION OF WASTE MANAGEMENT CONSULTATION

AECOM
525 Vine Street, Suite 1800
Cincinnati, Ohio 45202

513 651 3440 tel
877 660 7727 fax

www.aecom.com

January 2, 2018

Mr. John Maybriar, Director
Kentucky Division of Waste Management
300 Sower Blvd
Frankfort, KY 40601

Subject: Notification of Disturbance
Cincinnati/ Northern Kentucky International Airport
Former Fire Training Area (SWMU 3)

Dear Mr. Maybriar:

On behalf of the Kenton County Airport Board (KCAB), AECOM Technical Services, Inc. (AECOM) has prepared this notification of disturbance for the Former Fire Training (FFT) Area at the Cincinnati/ Northern Kentucky International Airport in Hebron, Kentucky. The Former Fire Training Area achieved clean closure approved by the Kentucky Department for Environmental Protection (KDEP) in a letter dated May 5, 2001.

The post-closure plan requires that "…prior to any disturbance of any approved cap placed on the Impacted Area, the Owner shall submit to the Director, Kentucky Division of Waste Management (KDWM) a written rationale for the disturbance and detailed plans of the proposed construction for their review and written approval." This letter includes the written rationale for upcoming development planned for the FFT Area.

BACKGROUND SUMMARY

The FFT Area, located at the west end of South Airport Drive was a Resource Conservation and Recovery Act (RCRA) unit because waste solvents (acetone) were, on limited occasions, added to the mixture of water-contaminated aviation fuel to be burned. These activities resulted in the release of hazardous materials to the environment, which required subsequent closure activities. In this area, both waste fuels and solvents were used to start fires for training exercises. The FFT Area, which was identified as a Solid Waste Management Unit (SWMU 3) previously included an underground storage tank [UST] (closed and removed), overflow surface impoundments, a drum storage area, and burn pit (**Figure 1**).

The FFT Area was closed through removal of soils and determination of no impact to groundwater quality as reported in the June 1999 Closure Report prepared by Dames & Moore (subsequently URS Corporation and currently AECOM). A post-closure plan was developed for the area and post-closure activities were initiated in 2001. The post-closure plan includes an ongoing Environmental Restrictive Covenant (ERC) for the former FFT Area. The ERC was recorded with the KDWM on February 16, 2011. The ERC requires that when site development has the potential to disturb the affected area, a plan for the mitigation of any potential resultant exposure risks must be developed and approved by the KDWM. A Site Management Plan (SMP)* was developed for SWMU 3 in 2010 and an updated version with the final ERCs is included as **Attachment A**.

*The SMP included guidance for the Former Firing Range (SWMU 1C) also located at the Cincinnati Northern Kentucky Airport, as well. However, SWMU 1C is not impacted by the planned development at this time.

The FFT Area was closed by placement of varying thicknesses (estimated zero to 10 feet) of clean soil. Much of the area was covered with soils associated with the prior redirection of the nearby creek and associated fill material and pavement for South Airport Drive. The extent and thickness of the soil fill across the ERC restricted portions of SWMU 3 is depicted on **Figure 1**.

As described in the final ERC, the "approved cap" consists of soil and pavement above the impacted soils. The "soil at the Impacted Area" is a reference to the pre-closure soil ground surface within the restricted area surrounding the footprint of the clean-closed burn pit and north drum storage area. The soils under the burn pit and drum storage area were removed down to bedrock and backfilled with clean fill in 1993 and 1994. The impacted area also includes the former overflow surface impoundments, former UST, and soil surrounding the former burn pit.

RATIONALE

KCAB plans to develop the FFT Area with an airplane maintenance hangar required for a large commercial expansion of Airport operations. The development and future use of this area will provide an economic benefit via the creation of jobs (both during and post site-development) and by providing improved engineering controls for the closed area via storm water management and impervious pavements extending over and beyond the FFT area.

PLANNED IMPROVEMENTS AND ACTIVITIES

The planned development includes the following structures north to south: an asphalt parking lot just south of South Airfield Road, followed by a building (with an approximate area of 26,300 square feet) to serve as an airplane maintenance hangar, followed by a concrete pad approximately 140 feet by 150 feet with a minimum thickness of 24 inches. The concrete pad will have airplane access to the south from the existing taxiway. The proposed pavement grade is 835 feet, mean sea level (msl).

Prior to construction activities, a series of geotechnical borings will be advanced to determine the necessary amount of disturbance of the cap, including any excavation or regrading that may need to occur as part of site development.

Also as part of the new development, the current concrete-lined surface water channel along the eastern side of the FFT Area will be moved approximately 50 feet to the east. The planned activities will require some excavation, filling, and grading, with the potential to contact impacted soils. A series of cross sections depicting the existing and proposed grades including the areas where soils were placed during closure work is included in **Attachment B**.

To mitigate exposure potential, KCAB will hire a Contractor qualified to perform work under 29 Code of Federal Regulations (CFR) 1910.120 (i.e., HAZWOPER Rule) for planned activities where the significant potential to contact impacted soils exists (e.g. excavation/trenching/regrading). In those circumstances, the Contractor will be required to conduct appropriate air monitoring and cordon off the work area from non-trained personnel and the general public with appropriate barriers and signage. All site workers will be dressed in the appropriate level of personal protective equipment (PPE) as determined by pre-work hazard analyses and subsequent monitoring activities.

Removed soils will be segregated in the field based on visual and olfactory screening, as well as initial direct-read screening results. All removed or disturbed impacted soils will be staged away from the public in a manner that minimizes risk of runoff (e.g., placed on an appropriate liner with cover) until waste characterization samples can determine the appropriate disposal of said soils. If waste characterization sampling indicates that there are no impacts to the removed soils/fill, the soil may be reused on the site as appropriate.

REQUEST FOR APPROVAL

If the rationale and description of Planned Improvements and Activities is acceptable, please indicate KDEP's approval by return message to the KCAB and the undersigned. We greatly appreciate your timely attention to this matter.

Very truly yours,

AECOM Technical Services, Inc.

Wayne B. Lawrence
Project Manager

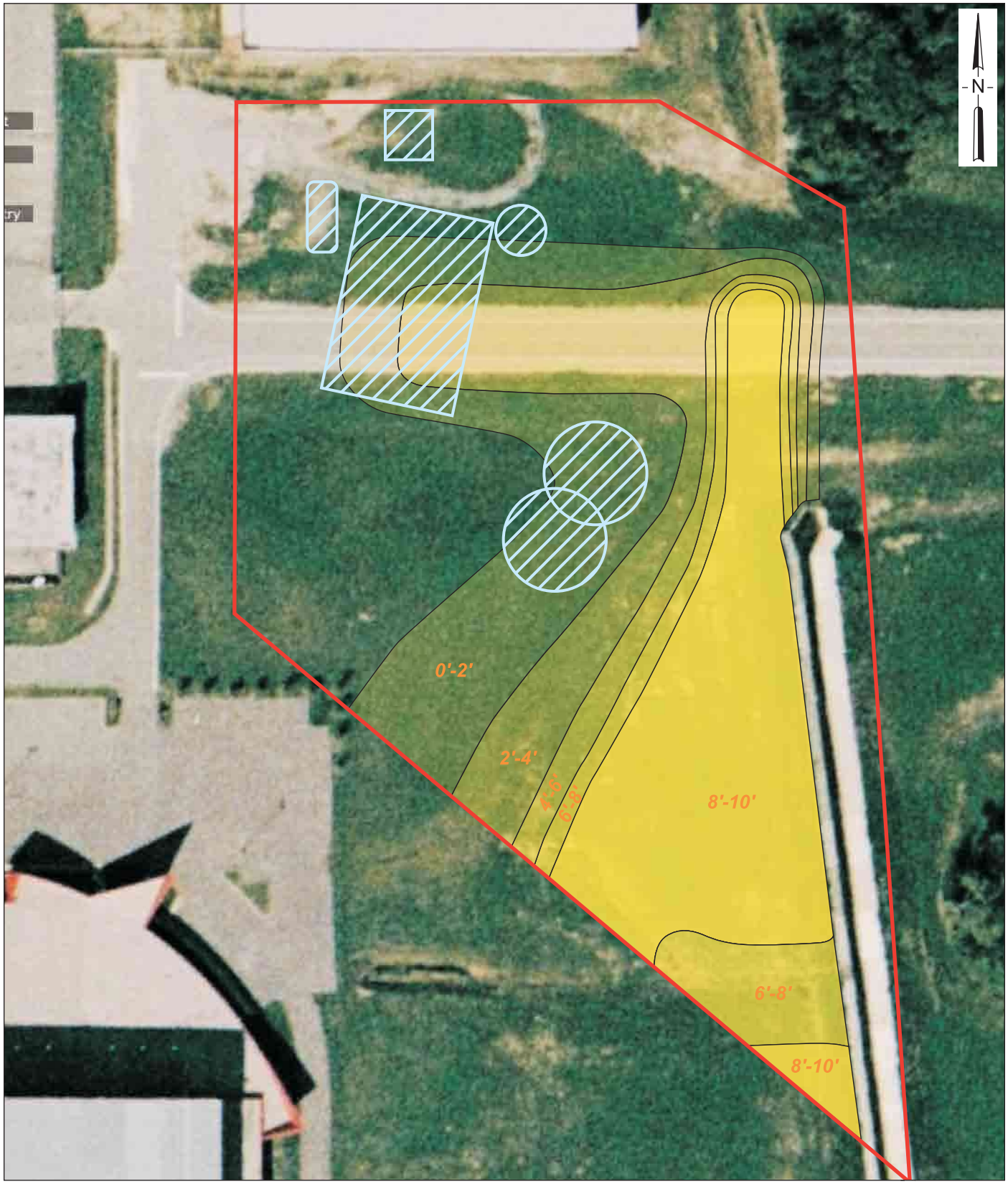
Dennis P. Connair, P.G. #0197
Principal Geologist, Vice President

Cc: Debbie Conrad, KCAB
Alison Chadwell, KCAB

60557115

Attachments:
Figure
Attachment A
Attachment B

Figure



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LEGEND:

- Restricted Area
- Former Fire Training Area Feature
- 2'-4' Cover Thickness

AERIAL SOURCE: Aerial Photograph, 2007.

0 90 180

APPROXIMATE SCALE IN FEET

CINCINNATI/NORTHERN KENTUCKY INTERNATIONAL AIRPORT
KENTON COUNTY AIRPORT BOARD

FIGURE 1
ESTIMATED THICKNESS OF SOIL FILL ACROSS RESTRICTED AREA
FORMER FIRE TRAINING AREA (SWMU 3)

JOB NO. 60557115

AECOM

Attachment A

SITE MANAGEMENT PLAN

FORMER FIRING RANGE AREA – SWMU 1C
FORMER FIRE TRAINING AREA – SWMU 3

CINCINNATI/NORTHERN KENTUCKY INTERNATIONAL AIRPORT
HEBRON, KENTUCKY

Prepared for: Kenton County Airport Board

525 Vine Street, Suite 1800
Cincinnati, Ohio
513.651.3440 tel
877.660.7727 fax

Job Number: 60557115

Original Date: September 17, 2010

Last Revised: December 14, 2017

TABLE OF CONTENTS

List of Figures

List of Attachments

1.0 INTRODUCTION

This Site Management Plan (SMP) has been prepared pursuant to the requirements of 401 Kentucky Administrative Regulations (KAR) 34:070 Section 1 (governed by 40 Code of Federal Regulations (CFR) 264.110, effective July 1, 2005) for the Former Firing Ranges Area (solid waste management unit (SWMU) 1C) and Former Fire Training (FFT) Area (SWMU 3) [see locations on **Figure 1**] at the Cincinnati/Northern Kentucky International Airport (Airport). The request for the SMP was issued by the Kentucky Department for Environmental Protection (KDEP) in a letter dated June 17, 2010 to the Kenton County Airport Board (KCAB).

Care and maintenance inspections of the engineering control methods following closure and/or corrective action activities will be conducted for a period of 5 years. At the end of this time, the SMP will be reevaluated and extended with concurrence from KDEP, if required.

A copy of the approved SMP and any revisions will be kept on site at the KCAB Main Office. Questions raised during the care and maintenance period should be directed to:

Kenton County Airport Board
Environmental Compliance & Health Safety Manager
P.O. Box 752000
Cincinnati, OH 45275-2000
(859) 767-7884
(859) 240-6708

This SMP contains the following elements: 1) background information for each SWMU; 2) current conditions and restrictions, 3) care and maintenance; and 4) inspection and recordkeeping requirements. These elements are described in the following sections.

2.0 BACKGROUND

2.1 Former Firing Range Area – SWMU 1C

Environmental concerns at the firing range stemmed from the use of lead slugs fired at the stationary ranges, and from lead shot and asphaltic clay targets used at the skeet range. At the stationary ranges, slugs were embedded in the earthen backstop berm and were concentrated in the eroded impact zones directly behind the targets. Based upon information gathered during the soil assessment, the upper 24 inches of soil located on the berm behind the targets of the larger stationary range and the upper 18 inches of soil located on the berm behind the targets of the smaller stationary range contained sufficient amounts of lead to exceed the Toxicity Characteristic Leaching Procedure (TCLP) lead concentration threshold for potential classification of a material as a hazardous waste.

The firing range corrective action activities were performed in accordance with the Corrective Action Plan dated February 4, 1999 as approved by the Kentucky Natural Resources and Environmental Protection Cabinet (KNREPC) in correspondence dated February 19, 1999. Following substantial completion, an inspection of the firing range corrective action was performed by representatives of KNREPC, URS (now AECOM), and R.B. Jergens (the remediation contractor) on April 12, 2000. Corrective action field activities were completed April 26, 2000. The area was subsequently developed with the addition of soil and pavement over the interred soil during construction of facilities for DHL operations at the Airport. Following completion of the DHL facility, a final observation of the site was made by URS personnel with representatives of KNREPC in April 2004.

2.1.1 Current Conditions and Restrictions – SWMU 1C

The Corrective Action Plan required that, following excavation, remaining berm soils be spread and placed in areas that will be paved as part of future site development activities. As the former firing range was already located in areas to be paved as part of the DHL expansion, the remaining berm soils were spread in place. Following these activities, a post-construction boundary survey was conducted to establish the final location of the remaining berm soils. A professional metes and bounds survey of the restricted area was conducted July 28, 2010 and filed with a draft environmental covenant to the deed prepared by KCAB. These documents were electronically issued by KCAB to the KDEP on August 9, 2010. A copy of the draft environmental covenant and survey for SWMU 1C are provided in **Attachment 1**.

Use restrictions related to the restricted area of SMWU 1C are listed in **Section 2 – User Restrictions** of the environmental covenant and are stated as follows:

A. Prohibited Uses. The Property shall not be used for any of the following purposes:

   i. No residential use of the Property shall be permitted.

B. Prohibited Activities.

   i. Groundwater at the Property shall not be used for drinking or other domestic purposes.

   ii. Except as necessary to protect human health, safety or the environment, no action shall be taken, allowed, suffered, or omitted on the Property if such action or omission is reasonably likely to:

      a. Create a risk of migration of hazardous substances, pollutants or contaminants or a potential hazard to human health or the environment; or

      b. Result in a disturbance of the structural integrity of any engineering controls designed or utilized at the Property to contain hazardous substances, pollutants or contaminants or limit human exposure to hazardous substances, pollutants or contaminants;

         iii. Disturbance of the cap. Prior to any disturbance of any approvedcap placed on the Impacted Area, the Owner shall submit to the Director, Kentucky Division of Waste Management a written rationale for the disturbance and detailed plans of the proposed construction for their review and written approval. No such disturbance is permitted without this prior written approval.

         iv. Soil Disturbances. Soil at the Impacted Area, shall not bedisturbed in any manner inconsistent with the approved Plan without the Owner obtaining prior approval of the Director, Kentucky Division of Waste Management.

         v. Construction. No building shall be constructed on the Impacted Area, without the Owner obtaining prior approval of the Director, Kentucky Division of Waste Management.

The SWMU 1C is covered by an estimated 1.5 feet of soil with 24 inches of pavement (concrete tarmac) at the surface. For purposes of the environmental covenant, the “approved cap” consists of the existing soil and pavement above the impacted soils and the “soil at the Impacted Area” is a reference to the remaining berm soils.

2.2 Former Fire Training Area – SWMU 3

The KDEP determined that the FFT Area constituted a Resource Conservation and Recovery Act (RCRA) treatment-storage-disposal (TSD) unit because waste solvents (acetone) were, on limited occasions,

added to the mixture of water-contaminated aviation fuel to be burned. Pursuant to the conditions of Agreed Order DWM 89107 filed September 20, 1990, KCAB submitted a Closure Plan to KDEP in November 1990. The plan was revised and resubmitted in February 1991. In addition to removal of the regulated units, the Closure Plan provided for the installation of a groundwater monitoring system. The system was installed between July and October 1991 and detection monitoring was conducted from June of 1992 through September of 1994.

A Major Modification was made to the Closure Plan in May 1992 to change closure performance standards for the overflow surface impoundments, former underground storage tank (UST), and soil surrounding the burn pit based on the interpretation that these areas should be treated as a SWMU as opposed to TSDs facilities. Burn Pit and former Drum Storage Area standards remained unchanged from the approved Closure Plan.

Soil was removed down to bedrock from the Burn Pit and Drum Storage Areas in 1993, and these areas were partially backfilled. The site was completely backfilled and graded in May 1994. Partial clean closure was granted in December of 1994; complete closure was denied by KDEP because of evidence of groundwater contamination during the detection monitoring period. Partial closure was documented in the report titled *Burn Pit and Drum Storage Area, Record of Construction Activities to Support Partial Closure Certification, February, 1995*.

A Closure Modification Request was submitted to KDEP in April of 1995, which set groundwater clean-closure standards for chlorobenzene and trichlorofluoromethane. The groundwater monitoring system was modified in August and October of 1996 to accommodate the extension of Tower Drive across Gunpowder Creek. In this modification, monitoring wells MW-1, -3, and -4 were decommissioned and replaced with monitoring wells MW-1R, -3R, and -4R. Two years of monitoring were conducted with the new wells to lead to petition for clean closure.

2.2.1 Current Conditions and Restrictions – SWMU 3

The regulated unit was certified as clean-closed through removal of the burn pit and drums storage area soils and through verification of no impact to groundwater quality as reported in the June 1999 Closure Report prepared by Dames & Moore (formerly URS and now AECOM). KDEP provided their approval of the closure in a letter dated May 5, 2000, which triggered the post-closure plan.

The post-closure plan required three actions:

- Decommissioning of the monitoring well system used to establish closure. This was accomplished July 16 to 20, 2001.
- Maintenance of signage delimiting the site and stipulating usage restrictions. Signage was installed and is maintained along South Tower Drive, which now covers much of the affected area with pavement and associated fill material. The remaining areas are maintained by a hardy vegetation growth.
- Recording of deed notification restricting usage of the site. A professional metes & bounds survey of the restricted area was conducted July 28, 2010 and filed with a draft environmental covenant to the deed prepared by KCAB. These documents were electronically issued by KCAB to the KDEP on August 9, 2010.

A copy of the draft environmental covenant and survey for SWMU 3 are provided in **Attachment 2**.

Use restrictions related to the restricted area of SMWU 3 are listed in **Section 2 – User Restrictions** of the environmental covenant and are stated as follows:

A. Prohibited Uses. The Property shall not be used for any of the following purposes:

i. No residential use of the Property shall be permitted.

B. Prohibited Activities.

i. Groundwater at the Property shall not be used for drinking or other domestic purposes.

ii. Except as necessary to protect human health, safety or the environment, no action shall be taken, allowed, suffered, or omitted on the Property if such action or omission is reasonably likely to:

a. Create a risk of migration of hazardous substances, pollutants or contaminants or a potential hazard to human health or the environment; or

b. Result in a disturbance of the structural integrity of any engineering controls designed or utilized at the Property to contain hazardous substances, pollutants or contaminants or limit human exposure to hazardous substances, pollutants or contaminants;

iii. Disturbance of the cap. Prior to any disturbance of any approved cap placed on the Impacted Area, the Owner shall submit to the Director, Kentucky Division of Waste Management a written rationale for the disturbance and detailed plans of the proposed construction for their review and written approval. No such disturbance is permitted without this prior written approval.

iv. Soil Disturbances. Soil at the Impacted Area, shall not bedisturbed in any manner inconsistent with the approved Plan without the Owner obtaining prior approval of the Director, Kentucky Division of Waste Management.

v. Construction. No building shall be constructed on the Impacted Area, without the Owner obtaining prior approval of the Director, Kentucky Division of Waste Management.

The FFT Area (SWMU 3) is covered by varying thicknesses (estimated zero to 10 feet) of soil with much of the restricted area covered with fill material associated with redirection of the creek and associated fill material and pavement for South Tower Drive. The estimated varying thicknesses of the soil fill across the restricted area of SWMU 3 are depicted on **Figure 2**. For purposes of the environmental covenant, the “approved cap” consists of soil and pavement above the impacted soils and the “soil at the Impacted Area” is a reference to the pre-closure soil surface within the restricted area surrounding the foot print of the clean-closed burn pit and north drum storage area. This restricted area includes the locations of the former overflow surface impoundments, former UST, and soil surrounding the burn pit.

3.0 CARE AND MAINTENANCE

The care and maintenance activities described in this SMP include inspection and maintenance of the following items during the post-closure/post-corrective action care period.

- Inspection and maintenance activities associated with security
- Inspection of engineering control methods (SWMU 1C and SWMU 3)
- Maintenance of the cover and drainage ways, including regular mowing and erosion prevention

3.1 Inspection Plan

Inspections during the care and maintenance period will include inspection of the security control devices and the integrity of the cover and drainage ways.

Forms have been developed for these inspections. **Attachment 3** contains a copy of each form.

3.1.1 Security

Normal security measures for the airport include security fencing around the Airport Operations Area (AOA) and a mobile security force on duty 24-hours per day on property. The mobile security conducts periodic patrols in the area of SWMU 3, while SWMU 1C is located within the AOA, which is actively controlled by security measures in addition to the fencing

No warning signs have been posted for SWMU 1C because the entire restricted area is covered by the concrete tarmac.

Appropriate warning signs have been posted around the location of SWMU 3. The warning signs read "NOTICE, Do Not Disturb Subsurface Soils Without Prior Authorization, KCAB (859) 767-7884." Signs are placed so that they are legible from 25 feet and can be seen from any approach along South Airfield Drive to the engineering control area.

Security inspection will include checking for the presence and condition of the warning signs.

3.1.2 Erosion Damage and/or Subsidence

The integrity of the cover for SWMU 1C will be evaluated annually through inspection of the concrete tarmac that covers the entire restricted area. The inspection will include checking for the presents of significant cracks and/or indications of subsidence.

The integrity of the cover for SWMU 3 will be evaluated annually through inspection of the following items:

- Evidence of erosion
- Evidence of burrowing animals
- Evidence of deep-rooted vegetation
- Evidence of hardy vegetation growth

Identified system dysfunctions or other developments that may promote future problems with the integrity of the covers will be noted and appropriate repairs made.

Bare spots and areas shown to have eroded will be revegetated as required. Should areas show significant washout, then seeding of the area and/or minor grading will be required. Should subsidence of specific areas of the cover be noted, clean fill will be placed and the area brought up to the surrounding ground elevations. The area will also be revegetated in the affected areas.

Inspection of the concrete-lined creek will be performed annually. The concrete-lined creek will be checked for any deformations that may allow the creek to be diverted around the concrete liner within the length of the restricted area of SWMU 3.

3.1.3 Mowing and Revegetation

This section does not pertain to SWMU 1C.

For the restricted area of SWMU 3, grass mowing will be performed at least once per year to provide for better inspection of the cover. As discussed under erosion damage above, revegetation of bare areas will be performed, if necessary, based on at least annual inspection. Erosion damage repair will be

consistent with the original application of seeding, fertilizer, and mulching. Also, the bare areas will be prepared by scarifying the surface and/or adding topsoil to enhance root penetration and growth.

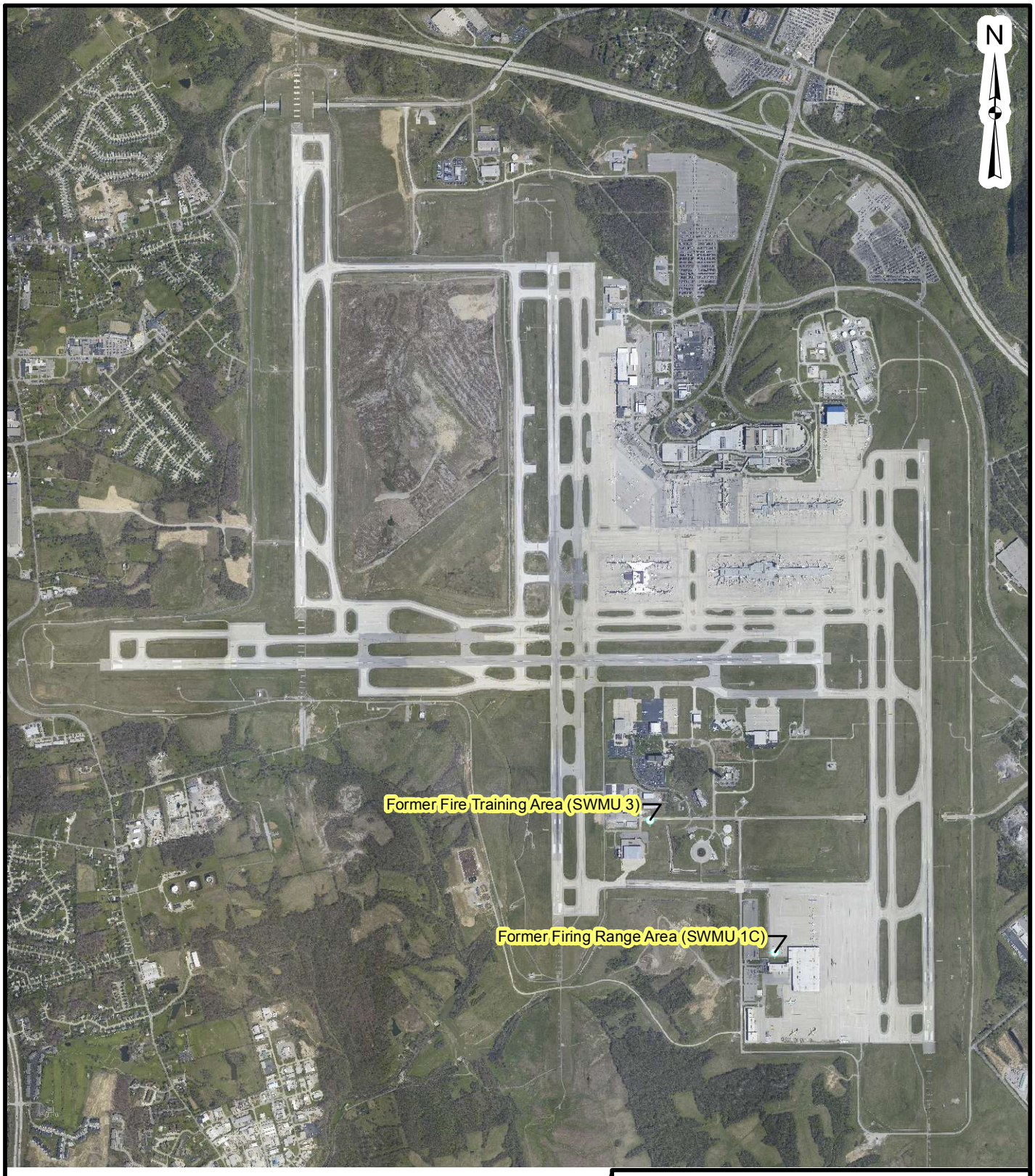
4.0 INSPECTIONS AND RECORDSKEEPING

KCAB's Environmental/Safety Manager will be responsible for the care and maintenance inspections and scheduling of any subsequent remedial work. The specific tasks for these inspections are shown on the forms themselves, which are presented in **Attachment 2**.

The Environmental/Safety Manager should either designate trained individuals or personally conduct the care and maintenance inspections. The Environmental/Safety Manager will provide inspectors with the appropriate inspection forms. At the conclusion of the inspection, completed forms will be returned to the Environmental/Safety Manager. The Environmental/Safety Manager will evaluate the forms and decide if any remedial work is required. The Environmental/Safety Manager will then assign a trained individual or contractor (if necessary) to perform the remedial work.

All completed inspection forms will be kept on file at the KCAB Main Office during the care and maintenance period.

Figures



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CINCINNATI/NORTHERN KENTUCKY INTERNATIONAL AIRPORT
KENTON COUNTY AIRPORT BOARD

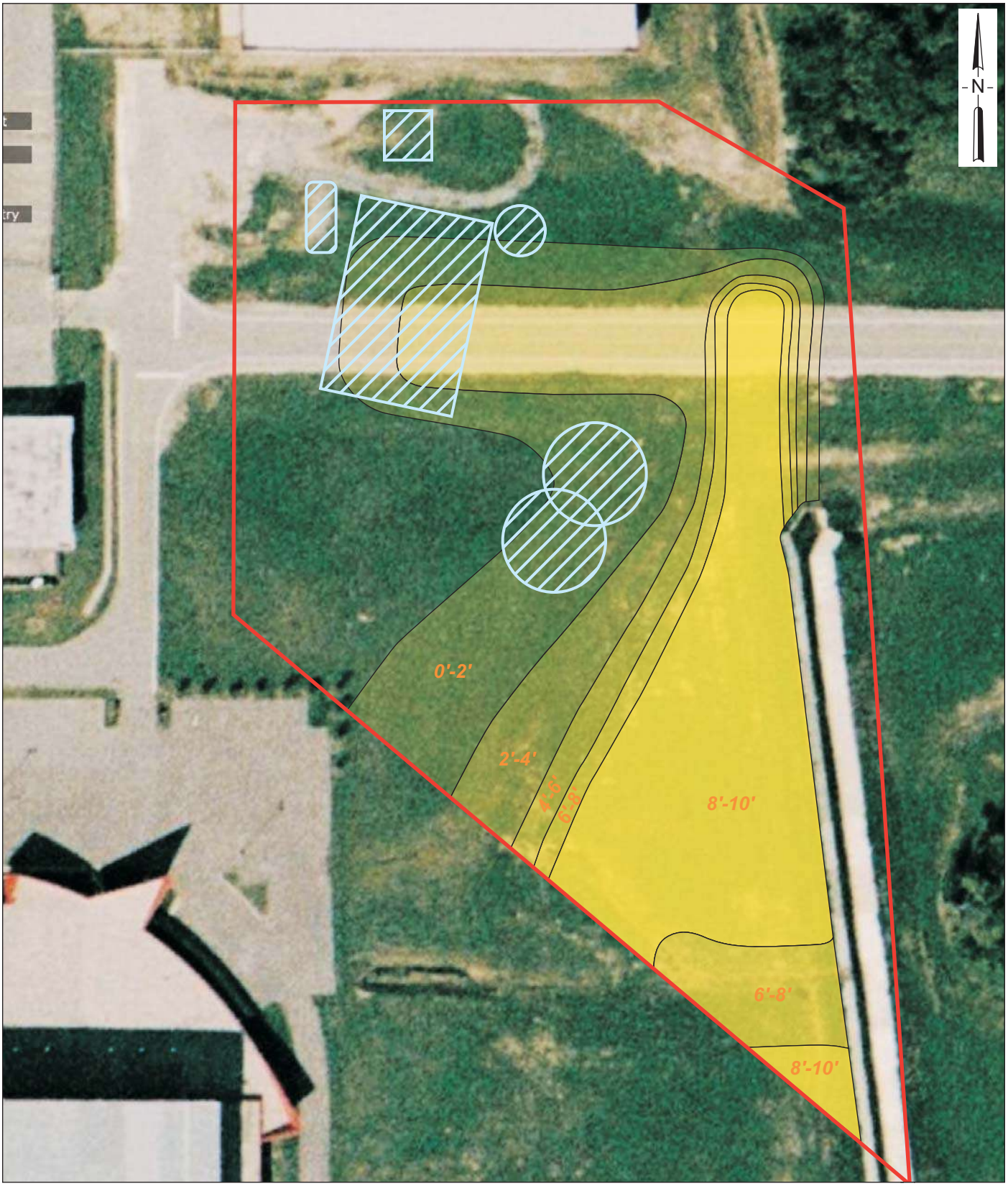
0 0.5 1
Scale in Miles

BASE MAP SOURCE:
Aerial Photograph, 2007

FIGURE 1
SITE LAYOUT

JOB NO. 60557115

AECOM



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LEGEND:

Restricted Area

Former Fire Training Area Feature

2'-4' Cover Thickness

AERIAL SOURCE: Aerial Photograph, 2007.

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APPROXIMATE SCALE IN FEET

CINCINNATI/NORTHERN KENTUCKY INTERNATIONAL AIRPORT
KENTON COUNTY AIRPORT BOARD

FIGURE 2
ESTIMATED THICKNESS OF SOIL FILL ACROSS RESTRICTED AREA
FORMER FIRE TRAINING AREA (SWMU 3)

JOB NO. 60557115

AECOM

Attachment 1

Environmental Protection Covenant and Survey for SWMU 1C

Group 2021
Kenton County
Airport Board
Special

ENVIRONMENTAL COVENANT

KENTON COUNTY AIRPORT BOARD, a public and governmental corporate and politic body created pursuant to Chapter 183 of the Kentucky Revised Statutes, (hereinafter "Grantor") grants an Environmental Covenant (hereinafter "Covenant") this 30th day of November 2010 to the following Holder pursuant to KRS Chapter 224 Subchapter 80: Kenton County Airport Board (hereinafter "Grantee")

WHEREAS, Grantor is the owner of certain real property, known as the Cincinnati/Northern Kentucky International Airport Fire Training Area, located at 2939 Terminal Drive, Hebron, Kentucky 41048, with a mailing address of PO Box 752000, Cincinnati, Ohio 45275 (hereinafter "the Property" more particularly described in Deed Book 165 Page 208 and Deed Book 185 Page 461 of the Boone County Clerk's office as follows:

SEE EXHIBIT "A" ATTACHED HERETO AND INCORPORATED HEREIN BY REFERENCE.

WHEREAS, this instrument is an Environmental Covenant developed and executed pursuant to KRS 224.80-100 to KRS 224.80-210;

WHEREAS, the Property is the subject of a remedial action pursuant to KRS 224.46-520;

WHEREAS, a release/disposal of off-specification water-contaminated aviation fuel has occurred on the Property. The release consisted of an unknown amount. More specifically, the release occurred on and impacted the area of the Property (hereinafter "Impacted Area") known as the Former Fire Training Area more particularly described as follows:

SEE EXHIBIT "B" ATTACHED HERETO AND INCORPORATED HEREIN BY REFERENCE.

WHEREAS, Grantor has proposed a Postclosure Plan (hereinafter "the Plan") to correct the effects of the release/disposal which includes controlling exposure to the hazardous waste, hazardous constituents, hazardous substances, pollutants, or contaminants by restricting the use of the Property and the activities on the Property;

WHEREAS, An estimated concentration of greater than 100 parts per million of Total Petroleum Hydrocarbons will remain on the Property after implementation of the Plan;

WHEREAS, the purpose of this Covenant is to ensure protection of human health and the environment by placing restrictions on the Property to reduce the risk to human health to below the target risk levels for those hazardous wastes, hazardous constituents, substances, pollutants, or contaminants that remain on the Property, in particular, the

DOCUMENT NO: 536632
RECORDED ON: FEBRUARY 25, 2011 02:25:09PM
TOTAL FEES: 450.00
GROUP : 2021
COUNTY CLERK: KENNY BROWN
COUNTY: BOONE COUNTY CLERK
DEPUTY CLERK: JULIE SPAULDING
BOOK NC1169 PAGES 898 - 913

soils affected by the released contaminants have been covered and access to said soils has been restricted so as to preclude the potential for exposure; and

WHEREAS, further information concerning the release and the activities to correct the effects of the release may be obtained by contacting the Custodian of Records of the Kentucky Division of Waste Management at 200 Fair Oaks Lane, Frankfort, Kentucky 40601. Records concerning this property may be found under Agency Interest #197.

NOW, THEREFORE, Grantor hereby grants this Environmental Covenant to the Holder, and declares that the Property shall hereinafter be bound by, held, sold, used, improved, occupied, leased, hypothecated, encumbered, and/or conveyed subject to the following requirements set forth in paragraphs 1 through 3 below:

1. DEFINITIONS

A. Owner. "Owner" means the Kenton County Airport Board its successors and assigns in interest.

B. Residential Use. "Residential Use" includes single family or multi family residences; child or adult care facilities; nursing home or assisted living facilities and any type of educational purpose for children/young adults in grades kindergarten through twelfth grade.

2. USE RESTRICTIONS

A. Prohibited Uses. The Impacted Area of the Property shall not be used for any of the following purposes:

i. No residential use of the Impacted Area of the Property shall be permitted.

B. Prohibited Activities.

i. Except as necessary to protect human health, safety or the environment, no action shall be taken, allowed, suffered, or omitted on the Impacted Area of the Property if such action or omission is reasonably likely to:

a. Create a risk of migration of hazardous substances, pollutants or contaminants or a potential hazard to human health or the environment; or

b. Result in a disturbance of the structural integrity of any engineering controls designed or utilized at the Property to contain hazardous substances, pollutants or contaminants or limit human exposure to hazardous substances, pollutants or contaminants;

ii. Disturbance of the cap. Prior to any disturbance of any approved cap placed on the or Impacted Area, the Owner shall submit to the Director, Kentucky Division of Waste Management a written rationale for the disturbance and detailed plans of the proposed construction for their review and written approval. No such disturbance is permitted without this prior written approval.

iii. Soil Disturbances. Soil at the Impacted Area, shall not be disturbed in any manner inconsistent with the approved Plan without the Owner obtaining prior written approval of the Director, Kentucky Division of Waste Management.

iv. Construction. No building shall be constructed on the Impacted Area, without the Owner obtaining prior written approval of the Director, Kentucky Division of Waste Management.

3. GENERAL PROVISIONS

A. Restrictions to Run with the Land. This Environmental Covenant runs with the land pursuant to KRS 224.80-140; is perpetual unless modified or terminated pursuant to the terms of this Covenant; is imposed upon the entire Property unless expressly stated as applicable only to a specific portion thereof; and inures to the benefit of and passes with each and every portion of the Property; and binds the Owner, the Holder, all persons using the land, all persons, their heirs, successors and assigns having any right, title or interest in the Property, or any part thereof who have subordinated those interests to this Environmental Covenant, and all persons, their heirs, successors and assigns who obtain any right, title or interest in the Property, or any part thereof after the recordation of this Environmental Covenant.

B. Conveyances of the Property. Owner shall notify the Director of the Kentucky Division of Waste Management in writing at least thirty (30) days in advance of any proposed grant, transfer, or conveyance of any interest in any or all of the Impacted Area of the Property. Notice shall include the name address and telephone number of the prospective transferee, a copy of the proposed deed or other documentation evidencing the conveyance, and a survey map that shows the boundaries of the Property being transferred.

C. Incorporation into Deeds and Leases. Each instrument hereafter conveying any interest in the Impacted Area of the Property or any portion of the Impacted Area of the Property shall contain a notice of the activity and use limitations set forth in this Environmental Covenant, and provide the recorded location of this Environmental Covenant. The notice shall be substantially in the following form:

> THE INTEREST CONVEYED HEREBY IS SUBJECT TO AN ENVIRONMENTAL COVENANT, DATED _____, 2010, RECORDED IN THE OFFICIAL RECORDS OF THE BOONE COUNTY CLERK'S OFFICE AT BURLINGTON KENTUCKY IN DEED BOOK _____, Page _____.

D. Zoning Changes. Owner shall notify the Director, Kentucky Division of Waste Management in writing simultaneously when any application is submitted to a local government for a building permit for the Impacted Area of Property. Owner shall notify the Kentucky Division of Waste Management in writing of any proposed change in the land use for the Impacted Area of the Property.

E. Compliance Certification. Owner shall submit an annual written report to the Director of the Kentucky Division of Waste Management, on the anniversary of the date this Covenant was signed by the Grantor detailing the Owner compliance, and any lack of compliance with the terms of the Covenant.

F. Right of Access. Owner hereby grants the Kentucky Energy and Environment Cabinet, its agents, contractors and employees the right of access to the Impacted Area of the Property for implementation or enforcement of this Environmental Covenant.

G. Representations and Warranties. Grantor hereby represents and warrants to the other signatories hereto:

i. that the Grantor has the power and authority to enter into this Environmental Covenant, to grant the rights and interests herein provided and to carry out all obligations hereunder;

ii. that the Grantor is the sole owner of the Property and holds fee simple title which is free, clear and unencumbered;

iii. that the Grantor has identified all other parties that hold any interest (e.g., encumbrance) in the Property and notified such parties of the Grantor's intention to enter into this Environmental Covenant;

iv. that the Grantor has complied with all public notice requirements in KRS 224.80-110.

v. that this Environmental Covenant will not materially violate or contravene or constitute a material default under any other agreement, document or instrument to which Grantor is a party, by which Grantor may be bound or affected.

vi. that this Environmental Covenant will not materially violate or contravene any zoning law or other law regulating use of the Property.

vii. that this Environmental Covenant does not authorize a use of the Property that is otherwise prohibited by a recorded instrument that has priority over the Environmental Covenant.

H. Compliance Enforcement. The terms of the Environmental Covenant may be enforced by the Kentucky Energy and Environment Cabinet or any person identified in KRS 224.80-200 in accordance with applicable law. Failure to timely enforce compliance with this Environmental Covenant or the use limitations contained herein by any person shall not bar subsequent enforcement by such person and shall not be deemed a waiver of the person's right to take action to enforce any non-compliance. Nothing in this Environmental Covenant shall restrict the Kentucky Energy and Environment Cabinet from exercising any authority under applicable law.

I. Modifications/Termination. This Environmental Covenant runs with the land and is perpetual, unless modified or terminated in accordance with KRS 224.80-180 or KRS 224.80-190. The term "Amendment" as used in this Environmental Covenant, shall mean any changes to the Environmental Covenant, including the activity and use limitations set forth herein, or the elimination of one or more activity and use limitations when there is at least one limitation remaining. The term "Termination" as used in this Environmental Covenant, shall mean the elimination of all activity and use limitations set forth herein and all other obligations under this Environmental Covenant.

J. Notices. Any document or communication required to be sent to Kentucky Energy and Environment Cabinet or the Director, Division of Waste Management under this Covenant shall be sent to:

Director, Division of Waste Management
Department for Environmental Protection
200 Fair Oaks Lane
Frankfort, KY 40601

Any document or communication required to be sent to Kenton County Airport Board under this Covenant shall be sent to:

Kenton County Airport Board
Att'n: Chief Executive Director
PO Box 752000
Cincinnati, Ohio 45275

K. Severability. If any provision of this Environmental Covenant is found to be unenforceable in any respect, the validity, legality, and enforceability of the remaining provisions shall not in any way be affected or impaired.

L. Governing Law. This Environmental Covenant shall be governed by and interpreted in accordance with the laws of the Commonwealth of Kentucky.

M. Recordation. Within ten (10) business days after the date of the final required signature upon this Environmental Covenant, Grantor shall file this Environmental Covenant in the county clerk's office in each county that contains any portion of the real property subject to this environmental covenant.

N. Effective Date. The effective date of this Environmental Covenant shall be the date upon which the fully executed Environmental Covenant has been recorded as a deed record for the Impacted Area of the Property with the Boone County Clerk's Office at Burlington, Kentucky.

O. Distribution of Environmental Covenant. The Grantor(s) shall within thirty (30) days of filing this Environmental Covenant in the Boone County Clerk's Office at Burlington, Kentucky, distribute a file and date stamped copy of the recorded Environmental Covenant to the following persons: Director, Kentucky Division of Waste Management, City Administrator or Manager of the City of Hebron, Judge Executive of Boone County, Kentucky, every Holder of this Environmental Covenant, each person who is in possession of the Impacted Area of the Property, and each person, if any, who holds a recorded interest in the Impacted Area of the Property.

P. Cabinet and Division References. All references to the Kentucky Energy and Environment Cabinet and the Kentucky Division of Waste Management shall include successor agencies/departments/divisions or other successor entities.

The Kenton County Airport Board has caused this Environmental Covenant to be executed pursuant to KRS Chapter 224.80-100 to KRS 224.80-210on this 30th day of November, 2010..

IN TESTIMONY WHEREOF, the parties have hereunto set their hands this the day and year first above written.

KENTON COUNTY AIRPORT BOARD (Grantor/Grantee/Holder)

By :_____
John C. Mok

Its: Chief Executive Officer

Attest:

_____
Sheila R. Hammons

Its: Secretary-Treasurer

STATE OF KENTUCKY)
)
COUNTY OF Boone)

The foregoing Environmental Covenant was acknowledged before me by John C. Mok, the Chief Executive Officer of the Kenton County Airport Board as Grantor/Grantee/Holder on behalf of the Board on this the 30th day of NOV, 2010.

_____
Notary Public
My Commission Expires: 11/12/2012
My jurisdiction is: State at Large

This instrument prepared by:

Karen Burris Baker
Ziegler & Schneider, P.S.C.
541 Buttermilk Pike Suite 500
Covington, Kentucky 41017

KENTUCKY ENERGY AND ENVIRONMENT CABINET

This Environmental Covenant is hereby approved by the Kentucky Energy and Environment Cabinet this 16th day of February, 2011.

By: _____ February 16, 2011
Anthony R. Hatton, Director, Division of Waste Management — Date

STATE OF KENTUCKY)
)
COUNTY OF Franklin)

The foregoing Environmental Covenant [and attached Subordination Agreement] was acknowledged before me by Anthony R. Hatton, [Anthony R. Hatton, Director, Division of Waste Management], this the 16th day of February, 2011.

_____
Notary Public

My Commission Expires: 8-5-14

COMMONWEALTH OF KENTUCKY)
)
COUNTY OF _____)

I, _____, Clerk of the _____ County Court, do certify that the foregoing Environmental Covenant was lodged in my office for record, and that I have recorded it, and the certificate thereon, this _____ day of _____, 200__.

_____
County Clerk

Public Notice

Kenton County Airport Board (KCAB) a public, governmental corporate and body politic created pursuant to Chapter 183 of the Kentucky Revised Statutes, operator of the Cincinnati/Northern Kentucky International Airport (Airport) located at 2939 Terminal Drive, Hebron, Kentucky 41048 with a mailing address of P.O. Box 752000, Cincinnati, Ohio 45275, plans to make a request to Kentucky Energy and Environment Cabinet's Division of Waste Management (Waste Management) for permission and authority to place an Environmental Covenant pursuant to KRS 224.80-100 on the real estate identified below (Property) in order to satisfy the requirements of Waste Management for remediation of certain real property consisting of approximately 0.622 Acres owned by KCAB and located on Airport premises. The Property is known as the former firing range. The Property is part of the real estate conveyed to KCAB by Deed from Robert Van Elliott et al by Deed dated March 29, 1968 and recorded at Deed Book 180 Page 92 of the Boone County Clerk's Records at Burlington, Kentucky. The purpose of the Environmental Covenant is to ensure the protection of human health and the environment by placing restrictions on the Property that reduce the risk to human health to below the target risk levels for those hazardous wastes, hazardous constituents, substances, pollutants, or contaminants that remain on the Property. There are no other interest holders of record who may claim an interest in the Property. The records regarding this matter can be found at the Division of Waste Management, Public Record Room located at 200 Fair Oaks Lane, Frankfort, Kentucky 40601.

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EXHIBIT A-1

DEED 41

KNOW ALL MEN BY THESE PRESENTS: That

NYDA CARRIGAN STAHL and WILLIAM STAHL, her husband

for and in consideration of One Dollar and other good and valuable considerations to them paid by KENTON COUNTY AIRPORT BOARD, INC.

the receipt whereof is hereby acknowledged, do es hereby bargain, sell and convey to the said

KENTON COUNTY AIRPORT BOARD, INC. its successors

and assigns forever, the following described real estate, lying and being in Boone County, Kentucky, to wit:

Lying and being in Boone County, Kentucky, and being Lots Nos. Eight (8), Nine (9), Ten (10), Eleven (11), Thirty-three (33), Thirty-four (34), Thirty-five (35), Thirty-six (36), Thirty-seven (37), Thirty-eight (38) and Thirty-nine (39) and also Tracts Nos. One (1), Two (2), Three (3), Four (4), Nine (9), Ten (10) and Elven (11) of the N. G. Herrington Subdivision as shown on plat recorded in Plat Book 1, page 105 of the Boone County records at Burlington, Kentucky.

The property hereby conveyed is a part of the real estate conveyed to R. (Rufus) F. Carrigan and Nyda Carrigan, his wife, [redacted] survivor of them by deed from G. W. Gillard dated July 7, 1949, and recorded in Deed Book 92 page 279 and deed from N. G. Herrington dated December 8, 1945, and recorded in Deed Book 84, page 319. Upon the death of R. F. Carrigan in 1955, the said Nyda Carrigan became the owner in fee of the property conveyed by said deeds. The property hereby conveyed also includes all of the real estate conveyed to Nyda Carrigan by P. J. Tobler and wife by deed dated January 9, 1956, and recorded in Deed Book 121, page 528. All references are to the Boone County records at Burlington, Kentucky. Since the death of R. F. Carrigan and since the dates of all the aforesaid deeds, the said Nyda Carrigan has married the grantor, William Stahl and her name is now Nyda Carrigan Stahl.

I hereby certify that this instrument was drafted by:
W. P. McEVOY, ATTORNEY
Burlington, Kentucky

Being the same property conveyed to the Grantor by
by deed dated day of 19 and recorded in deed book page in the

office of the Clerk of the Boone County Court, Burlington, Kentucky.

Together with all the privileges and appurtenances to the same belonging. To have and to hold the same to the said

KENTON COUNTY AIRPORT BOARD, INC, its successors

successors
heirs and assigns forever, with covenants of general warranty.

In witness whereof the said NYDA CARRIGAN STAHL and WILLIAM STAHL, her husband

hereunto set their hand s this 11th day of December, 1964.

Nyda Carrigan Stahl
William Stahl

STATE OF KENTUCKY,
SCT.
County of Boone.

I, William P. McEvoy a Notary Public in and for the county and state aforesaid, do certify that the foregoing instrument of writing from Nyda Carrigan Stahl and William Stahl, her husband,
to Kenton County Airport Board, Inc.
was this day presented to me in my county by the parties and then and there acknowledged by the said Nyda Carrigan Stahl and William Stahl, her husband to be their act and deed. Whereupon the same and this certificate are certified to the proper office for record.

Given under my hand and seal of office this 11th day of December, 1964.

My commission expires
3-19-66

William P. McEvoy
Notary Public.

WARRANTY DEED

NYDA CARRIGAN STAHL and husband, WILLIAM STAHL

TO

KENTON COUNTY AIRPORT BOARD, INC.

Acknowledged

RECEIVED
DEC 11 '64 PM
C. D. BENSON
BOONE CO. CLERK

Left for Record

at 3:21 M.

By Alberta O. Greene D.C.

Clerk

Recorded in Deed Book No. 165 Page 208

Recording $ 3.50 Pd

Stamps $ 44.00 Pd

STATE OF KENTUCKY,
SCT.
County of BOONE

I, C. D. BENSON, Clerk of the County Court in and for the County and State aforesaid, do certify that the foregoing instrument of writing from NYDA CARRIGAN STAHL, et vir
to KENTON COUNTY AIRPORT BOARD, INC.,
was this 11th day of December, 1964 produced to me, certified as above and lodged for record at 3:21 o'clock P. M.

Whereupon, the same with foregoing and this certificate have been duly recorded in my office.

Given under my hand, this 11th day of December, 1964.

C. D. Benson Clerk
By Alberta O. Greene D. C.

EXHIBIT 12

DEED

KNOW ALL MEN BY THESE PRESENTS: That

JOHN A. KEITH and wife, HAZEL F. KEITH,

for and in consideration of THIRTY-FIVE THOUSAND ($35,000.00) DOLLARS to them paid by KENTON COUNTY AIRPORT BOARD, INC.

Property Transfer Tax Paid $35.00
JERRY W. ROUSE, Clerk D. C.

the receipt whereof is hereby acknowledged, do hereby bargain, sell and convey to the said

KENTON COUNTY AIRPORT BOARD, INC., its successors ~~XXXX~~ and assigns forever, the following described real estate, lying and being in Boone County, Kentucky to-wit:

PARCEL NO. 1:

Being Lots Nos. TWELVE (12) and THIRTEEN (13) and Tract No. 8 of the N. G. Herrington Subdivision as shown by plat recorded in Plat Book No. 1, page 105, Boone County Records at Burlington, Kentucky.

Being the same property conveyed to the Grantors by Lute Bradford and wife, Carrie Bradford, by deed dated February 5, 1946, and recorded in Deed Book 84, page 482, in the Office of the Boone County Court Clerk, Burlington, Kentucky.

also the following:

PARCEL NO. 2:

Being Lots Nos. FOURTEEN (14) and FIFTEEN (15) and Tract No. 7 of the N. G. Herrington Subdivision, as shown by plat recorded in Plat Book No. 1, page 105, Boone County Records at Burlington, Kentucky.

Being the same property conveyed to the Grantors by T. W. Marshall and wife, Stella Marshall, by deed dated March 6, 1946, and recorded in Deed Book 90, page 160, in the Office of the Boone County Court Clerk, Burlington, Kentucky.

also the following:

PARCEL NO. 3:

Being Lots Nos. SIXTEEN (16), SEVENTEEN (17), and EIGHTEEN (18) and Tracts Nos. 5 and 6 of the N. G. Herrington Subdivision as shown by plat recorded in Plat Book 1, page 105, Boone County records at Burlington, Kentucky.

Being the same property conveyed to the Grantors by G. W. Gillard, single, by deed dated July 7, 1949 and recorded in Deed Book 92, page 317, in the Office of the Boone County Court Clerk, Burlington, Kentucky.

~~Being the same property conveyed to the Grantor by by deed dated day of 19 and recorded in deed book page in the office of the Clerk of the Boone County Court, Burlington, Kentucky.~~

Together with all the privileges and appurtenances to the same belonging. To have and to hold the same to the said KENTON COUNTY AIRPORT BOARD, INC., its

1/10

successors
~~heirs~~ and assigns forever, with convenants of general warranty.

In witness whereof the said JOHN A. KEITH and wife, HAZEL F. KEITH,

hereunto set their hand s this 11th day of April, 1969.

John A. Keith

Hazel F. Keith

STATE OF KENTUCKY, SCT.
County of Boone.

I, William P. McEvoy a Notary Public in and for the county and state aforesaid, do certify that the foregoing instrument of writing from John A. Keith and wife, Hazel F. Keith, to Kenton County Airport Board, Inc. was this day presented to me in my county by the parties and then and there acknowledged by the said John A. Keith and wife, Hazel F. Keith to be their act and deed. Whereupon the same and this certificate are certified to the proper office for record.

Given under my hand and seal of office this 11th day of April, 1969.

My commission expires May 31, 1970

William P. McEvoy
Notary Public.

WARRANTY DEED

JOHN A. KEITH and wife,
HAZEL F. KEITH

TO

KENTON COUNTY AIRPORT BOARD, INC.

Acknowledged

Left for Record 4-11-69
at 10:45 A. M.
Jerry W. Rouse Clerk
By [signature] D. C.
Recorded in Deed Book 185 Page 461
Recording $ 4.40 Stamps $ 35.00

STATE OF KENTUCKY, SCT.
County of BOONE,

I, JERRY W. ROUSE Clerk of the County Court in and for the County and State aforesaid, do certify that the foregoing instrument of writing from JOHN A. KEITH and HAZEL F. KEITH to KENTON COUNTY AIRPORT BOARD, INC. was this 11th day of April, 19 69 produced to me, certified as above and lodged for record at 10:45 o'clock A. M.

Whereupon, the same with foregoing and this certificate have been duly recorded in my office.

Given under my hand, this 11th day of April, 19 69.

JERRY W. ROUSE Clerk
By [signature] D.C.

I HEREBY CERTIFY THAT THIS INSTRUMENT HAS BEEN DRAFTED BY:
WM. P. McEVOY, Attorney
BURLINGTON, KENTUCKY

[signature]

URS

EXHIBIT B

July 28, 2010

Description of 4.271 acres of the Former Fire Training Area to obtain Environmental Restrictive Covenants for the Kenton County Airport Board (KCAB)

A certain tract of land being part of the lands of the Kenton County Airport Board situated on the grounds of the Cincinnati/Northern Kentucky International Airport, in Boone County, Commonwealth of Kentucky and being more particularly described as follows:

Beginning at a "URS" capped rebar having the Airport Grid Coordinate of North 97458.8251, East 96964.8121 said point of beginning being +/-76 feet east of the centerline of Field Maintenance Drive and +/-144 feet north of the centerline of South Airfield Drive;

Thence North 88 degrees 44 minutes 26 seconds East 260.13 feet to a "URS" capped rebar having the Airport Grid Coordinate of N 97464.5421, E 97224.8805;

Thence South 63 degrees 24 minutes 18 seconds East 139.79 feet to a "URS" capped rebar having the Airport Grid Coordinate of N97401.9612, E 97349.8783;

Thence South 04 degrees 34 minutes 50 seconds East 592.88 feet to a "URS" capped rebar having the Airport Grid Coordinate of N96810.9724, E 97397.2262;

Thence North 51 degrees 18 minutes 19 seconds West 553.45 feet to a "URS" capped rebar having the Airport Grid Coordinate of N 97156.9707, E 96965.2671;

Thence North 00 degrees 05 minutes 11 seconds West 301.86 feet to the point of beginning and containing (186,048.1205 square feet) 4.271 acres, more or less.

Subject to all right of ways and easements of record.

URS Corporation
One Indiana Square, Suite 2100
Indianapolis, IN 46204
Tel: 317.632.5400
Fax: 317.632.5499
www.urscorp.com

Attachment 2

Environmental Protection Covenant and Survey for SWMU 3

Group 2021
Kenton County
Airport Board
Special

ENVIRONMENTAL COVENANT

KENTON COUNTY AIRPORT BOARD, a public and governmental corporate and politic body created pursuant to Chapter 183 of the Kentucky Revised Statutes, (hereinafter "Grantor") grants an Environmental Covenant (hereinafter "Covenant") this 30th day of November 2010 to the following Holder pursuant to KRS Chapter 224 Subchapter 80: Kenton County Airport Board (hereinafter "Grantee")

WHEREAS, Grantor is the owner of certain real property, known as the Cincinnati/Northern Kentucky International Airport Fire Training Area, located at 2939 Terminal Drive, Hebron, Kentucky 41048, with a mailing address of PO Box 752000, Cincinnati, Ohio 45275 (hereinafter "the Property" more particularly described in Deed Book 165 Page 208 and Deed Book 185 Page 461 of the Boone County Clerk's office as follows:

SEE EXHIBIT "A" ATTACHED HERETO AND INCORPORATED HEREIN BY REFERENCE.

WHEREAS, this instrument is an Environmental Covenant developed and executed pursuant to KRS 224.80-100 to KRS 224.80-210;

WHEREAS, the Property is the subject of a remedial action pursuant to KRS 224.46-520;

WHEREAS, a release/disposal of off-specification water-contaminated aviation fuel has occurred on the Property. The release consisted of an unknown amount. More specifically, the release occurred on and impacted the area of the Property (hereinafter "Impacted Area") known as the Former Fire Training Area more particularly described as follows:

SEE EXHIBIT "B" ATTACHED HERETO AND INCORPORATED HEREIN BY REFERENCE.

WHEREAS, Grantor has proposed a Postclosure Plan (hereinafter "the Plan") to correct the effects of the release/disposal which includes controlling exposure to the hazardous waste, hazardous constituents, hazardous substances, pollutants, or contaminants by restricting the use of the Property and the activities on the Property;

WHEREAS, An estimated concentration of greater than 100 parts per million of Total Petroleum Hydrocarbons will remain on the Property after implementation of the Plan;

WHEREAS, the purpose of this Covenant is to ensure protection of human health and the environment by placing restrictions on the Property to reduce the risk to human health to below the target risk levels for those hazardous wastes, hazardous constituents, substances, pollutants, or contaminants that remain on the Property, in particular, the

DOCUMENT NO: 536632
RECORDED ON: FEBRUARY 25, 2011 02:25:09PM
TOTAL FEES: 450.00
GROUP : 2021
COUNTY CLERK: KENNY BROWN
COUNTY: BOONE COUNTY CLERK
DEPUTY CLERK: JULIE SPAULDING
BOOK NC1169 PAGES 898 - 913

soils affected by the released contaminants have been covered and access to said soils has been restricted so as to preclude the potential for exposure; and

WHEREAS, further information concerning the release and the activities to correct the effects of the release may be obtained by contacting the Custodian of Records of the Kentucky Division of Waste Management at 200 Fair Oaks Lane, Frankfort, Kentucky 40601. Records concerning this property may be found under Agency Interest #197.

NOW, THEREFORE, Grantor hereby grants this Environmental Covenant to the Holder, and declares that the Property shall hereinafter be bound by, held, sold, used, improved, occupied, leased, hypothecated, encumbered, and/or conveyed subject to the following requirements set forth in paragraphs 1 through 3 below:

1. DEFINITIONS

A. Owner. "Owner" means the Kenton County Airport Board its successors and assigns in interest.

B. Residential Use. "Residential Use" includes single family or multi family residences; child or adult care facilities; nursing home or assisted living facilities and any type of educational purpose for children/young adults in grades kindergarten through twelfth grade.

2. USE RESTRICTIONS

A. Prohibited Uses. The Impacted Area of the Property shall not be used for any of the following purposes:

i. No residential use of the Impacted Area of the Property shall be permitted.

B. Prohibited Activities.

i. Except as necessary to protect human health, safety or the environment, no action shall be taken, allowed, suffered, or omitted on the Impacted Area of the Property if such action or omission is reasonably likely to:

a. Create a risk of migration of hazardous substances, pollutants or contaminants or a potential hazard to human health or the environment; or

b. Result in a disturbance of the structural integrity of any engineering controls designed or utilized at the Property to contain hazardous substances, pollutants or contaminants or limit human exposure to hazardous substances, pollutants or contaminants;

ii. Disturbance of the cap. Prior to any disturbance of any approved cap placed on the or Impacted Area, the Owner shall submit to the Director, Kentucky Division of Waste Management a written rationale for the disturbance and detailed plans of the proposed construction for their review and written approval. No such disturbance is permitted without this prior written approval.

iii. Soil Disturbances. Soil at the Impacted Area, shall not be disturbed in any manner inconsistent with the approved Plan without the Owner obtaining prior written approval of the Director, Kentucky Division of Waste Management.

iv. Construction. No building shall be constructed on the Impacted Area, without the Owner obtaining prior written approval of the Director, Kentucky Division of Waste Management.

3. GENERAL PROVISIONS

A. Restrictions to Run with the Land. This Environmental Covenant runs with the land pursuant to KRS 224.80-140; is perpetual unless modified or terminated pursuant to the terms of this Covenant; is imposed upon the entire Property unless expressly stated as applicable only to a specific portion thereof; and inures to the benefit of and passes with each and every portion of the Property; and binds the Owner, the Holder, all persons using the land, all persons, their heirs, successors and assigns having any right, title or interest in the Property, or any part thereof who have subordinated those interests to this Environmental Covenant, and all persons, their heirs, successors and assigns who obtain any right, title or interest in the Property, or any part thereof after the recordation of this Environmental Covenant.

B. Conveyances of the Property. Owner shall notify the Director of the Kentucky Division of Waste Management in writing at least thirty (30) days in advance of any proposed grant, transfer, or conveyance of any interest in any or all of the Impacted Area of the Property. Notice shall include the name address and telephone number of the prospective transferee, a copy of the proposed deed or other documentation evidencing the conveyance, and a survey map that shows the boundaries of the Property being transferred.

C. Incorporation into Deeds and Leases. Each instrument hereafter conveying any interest in the Impacted Area of the Property or any portion of the Impacted Area of the Property shall contain a notice of the activity and use limitations set forth in this Environmental Covenant, and provide the recorded location of this Environmental Covenant. The notice shall be substantially in the following form:

> THE INTEREST CONVEYED HEREBY IS SUBJECT TO AN ENVIRONMENTAL COVENANT, DATED _____, 2010, RECORDED IN THE OFFICIAL RECORDS OF THE BOONE COUNTY CLERK'S OFFICE AT BURLINGTON KENTUCKY IN DEED BOOK _____, Page _____.

D. Zoning Changes. Owner shall notify the Director, Kentucky Division of Waste Management in writing simultaneously when any application is submitted to a local government for a building permit for the Impacted Area of Property. Owner shall notify the Kentucky Division of Waste Management in writing of any proposed change in the land use for the Impacted Area of the Property.

E. Compliance Certification. Owner shall submit an annual written report to the Director of the Kentucky Division of Waste Management, on the anniversary of the date this Covenant was signed by the Grantor detailing the Owner compliance, and any lack of compliance with the terms of the Covenant.

F. Right of Access. Owner hereby grants the Kentucky Energy and Environment Cabinet, its agents, contractors and employees the right of access to the Impacted Area of the Property for implementation or enforcement of this Environmental Covenant.

G. Representations and Warranties. Grantor hereby represents and warrants to the other signatories hereto:

i. that the Grantor has the power and authority to enter into this Environmental Covenant, to grant the rights and interests herein provided and to carry out all obligations hereunder;

ii. that the Grantor is the sole owner of the Property and holds fee simple title which is free, clear and unencumbered;

iii. that the Grantor has identified all other parties that hold any interest (e.g., encumbrance) in the Property and notified such parties of the Grantor's intention to enter into this Environmental Covenant;

iv. that the Grantor has complied with all public notice requirements in KRS 224.80-110.

v. that this Environmental Covenant will not materially violate or contravene or constitute a material default under any other agreement, document or instrument to which Grantor is a party, by which Grantor may be bound or affected.

vi. that this Environmental Covenant will not materially violate or contravene any zoning law or other law regulating use of the Property.

vii. that this Environmental Covenant does not authorize a use of the Property that is otherwise prohibited by a recorded instrument that has priority over the Environmental Covenant.

H. Compliance Enforcement. The terms of the Environmental Covenant may be enforced by the Kentucky Energy and Environment Cabinet or any person identified in KRS 224.80-200 in accordance with applicable law. Failure to timely enforce compliance with this Environmental Covenant or the use limitations contained herein by any person shall not bar subsequent enforcement by such person and shall not be deemed a waiver of the person's right to take action to enforce any non-compliance. Nothing in this Environmental Covenant shall restrict the Kentucky Energy and Environment Cabinet from exercising any authority under applicable law.

I. Modifications/Termination. This Environmental Covenant runs with the land and is perpetual, unless modified or terminated in accordance with KRS 224.80-180 or KRS 224.80-190. The term "Amendment" as used in this Environmental Covenant, shall mean any changes to the Environmental Covenant, including the activity and use limitations set forth herein, or the elimination of one or more activity and use limitations when there is at least one limitation remaining. The term "Termination" as used in this Environmental Covenant, shall mean the elimination of all activity and use limitations set forth herein and all other obligations under this Environmental Covenant.

J. Notices. Any document or communication required to be sent to Kentucky Energy and Environment Cabinet or the Director, Division of Waste Management under this Covenant shall be sent to:

Director, Division of Waste Management
Department for Environmental Protection
200 Fair Oaks Lane
Frankfort, KY 40601

Any document or communication required to be sent to Kenton County Airport Board under this Covenant shall be sent to:

Kenton County Airport Board
Att'n: Chief Executive Director
PO Box 752000
Cincinnati, Ohio 45275

K. Severability. If any provision of this Environmental Covenant is found to be unenforceable in any respect, the validity, legality, and enforceability of the remaining provisions shall not in any way be affected or impaired.

L. Governing Law. This Environmental Covenant shall be governed by and interpreted in accordance with the laws of the Commonwealth of Kentucky.

M. Recordation. Within ten (10) business days after the date of the final required signature upon this Environmental Covenant, Grantor shall file this Environmental Covenant in the county clerk's office in each county that contains any portion of the real property subject to this environmental covenant.

N. Effective Date. The effective date of this Environmental Covenant shall be the date upon which the fully executed Environmental Covenant has been recorded as a deed record for the Impacted Area of the Property with the Boone County Clerk's Office at Burlington, Kentucky.

O. Distribution of Environmental Covenant. The Grantor(s) shall within thirty (30) days of filing this Environmental Covenant in the Boone County Clerk's Office at Burlington, Kentucky, distribute a file and date stamped copy of the recorded Environmental Covenant to the following persons: Director, Kentucky Division of Waste Management, City Administrator or Manager of the City of Hebron, Judge Executive of Boone County, Kentucky, every Holder of this Environmental Covenant, each person who is in possession of the Impacted Area of the Property, and each person, if any, who holds a recorded interest in the Impacted Area of the Property.

P. Cabinet and Division References. All references to the Kentucky Energy and Environment Cabinet and the Kentucky Division of Waste Management shall include successor agencies/departments/divisions or other successor entities.

The Kenton County Airport Board has caused this Environmental Covenant to be executed pursuant to KRS Chapter 224.80-100 to KRS 224.80-210on this 30th day of November, 2010..

IN TESTIMONY WHEREOF, the parties have hereunto set their hands this the day and year first above written.

KENTON COUNTY AIRPORT BOARD (Grantor/Grantee/Holder)

By :_____
John C. Mok

Its: Chief Executive Officer

Attest:

_____
Sheila R. Hammons

Its: Secretary-Treasurer

STATE OF KENTUCKY)
)
COUNTY OF Boone)

The foregoing Environmental Covenant was acknowledged before me by John C. Mok, the Chief Executive Officer of the Kenton County Airport Board as Grantor/Grantee/Holder on behalf of the Board on this the 30th day of NOV, 2010.

_____
Notary Public
My Commission Expires: 11/12/2012
My jurisdiction is: State at Large

This instrument prepared by:

Karen Burris Baker
Ziegler & Schneider, P.S.C.
541 Buttermilk Pike Suite 500
Covington, Kentucky 41017

KENTUCKY ENERGY AND ENVIRONMENT CABINET

This Environmental Covenant is hereby approved by the Kentucky Energy and Environment Cabinet this 16th day of February, 2011.

By: _____ February 16, 2011
Anthony R. Hatton, Director, Division of Waste Management — Date

STATE OF KENTUCKY)
)
COUNTY OF Franklin)

The foregoing Environmental Covenant [and attached Subordination Agreement] was acknowledged before me by Anthony R. Hatton, [Anthony R. Hatton, Director, Division of Waste Management], this the 16th day of February, 2011.

_____
Notary Public

My Commission Expires: 8-5-14

COMMONWEALTH OF KENTUCKY)
)
COUNTY OF _____)

I, _____, Clerk of the _____ County Court, do certify that the foregoing Environmental Covenant was lodged in my office for record, and that I have recorded it, and the certificate thereon, this _____ day of _____, 200__.

_____
County Clerk

Public Notice

Kenton County Airport Board (KCAB) a public, governmental corporate and body politic created pursuant to Chapter 183 of the Kentucky Revised Statutes, operator of the Cincinnati/Northern Kentucky International Airport (Airport) located at 2939 Terminal Drive, Hebron, Kentucky 41048 with a mailing address of P.O. Box 752000, Cincinnati, Ohio 45275, plans to make a request to Kentucky Energy and Environment Cabinet's Division of Waste Management (Waste Management) for permission and authority to place an Environmental Covenant pursuant to KRS 224.80-100 on the real estate identified below (Property) in order to satisfy the requirements of Waste Management for remediation of certain real property consisting of approximately 0.622 Acres owned by KCAB and located on Airport premises. The Property is known as the former firing range. The Property is part of the real estate conveyed to KCAB by Deed from Robert Van Elliott et al by Deed dated March 29, 1968 and recorded at Deed Book 180 Page 92 of the Boone County Clerk's Records at Burlington, Kentucky. The purpose of the Environmental Covenant is to ensure the protection of human health and the environment by placing restrictions on the Property that reduce the risk to human health to below the target risk levels for those hazardous wastes, hazardous constituents, substances, pollutants, or contaminants that remain on the Property. There are no other interest holders of record who may claim an interest in the Property. The records regarding this matter can be found at the Division of Waste Management, Public Record Room located at 200 Fair Oaks Lane, Frankfort, Kentucky 40601.

208

EXHIBIT A-1

DEED 41

KNOW ALL MEN BY THESE PRESENTS: That

NYDA CARRIGAN STAHL and WILLIAM STAHL, her husband

for and in consideration of One Dollar and other good and valuable considerations to them paid by KENTON COUNTY AIRPORT BOARD, INC.

the receipt whereof is hereby acknowledged, do es hereby bargain, sell and convey to the said

KENTON COUNTY AIRPORT BOARD, INC. its successors

and assigns forever, the following described real estate, lying and being in Boone County, Kentucky, to wit:

Lying and being in Boone County, Kentucky, and being Lots Nos. Eight (8), Nine (9), Ten (10), Eleven (11), Thirty-three (33), Thirty-four (34), Thirty-five (35), Thirty-six (36), Thirty-seven (37), Thirty-eight (38) and Thirty-nine (39) and also Tracts Nos. One (1), Two (2), Three (3), Four (4), Nine (9), Ten (10) and Elven (11) of the N. G. Herrington Subdivision as shown on plat recorded in Plat Book 1, page 105 of the Boone County records at Burlington, Kentucky.

The property hereby conveyed is a part of the real estate conveyed to R. (Rufus) F. Carrigan and Nyda Carrigan, his wife, [redacted] survivor of them by deed from G. W. Gillard dated July 7, 1949, and recorded in Deed Book 92 page 279 and deed from N. G. Herrington dated December 8, 1945, and recorded in Deed Book 84, page 319. Upon the death of R. F. Carrigan in 1955, the said Nyda Carrigan became the owner in fee of the property conveyed by said deeds. The property hereby conveyed also includes all of the real estate conveyed to Nyda Carrigan by P. J. Tobler and wife by deed dated January 9, 1956, and recorded in Deed Book 121, page 528. All references are to the Boone County records at Burlington, Kentucky. Since the death of R. F. Carrigan and since the dates of all the aforesaid deeds, the said Nyda Carrigan has married the grantor, William Stahl and her name is now Nyda Carrigan Stahl.

I hereby certify that this instrument was drafted by:
W. P. McEVOY, ATTORNEY
Burlington, Kentucky

Being the same property conveyed to the Grantor by
by deed dated day of 19 and recorded in deed book page in the

office of the Clerk of the Boone County Court, Burlington, Kentucky.

Together with all the privileges and appurtenances to the same belonging. To have and to hold the same to the said

KENTON COUNTY AIRPORT BOARD, INC, its successors

successors
heirs and assigns forever, with covenants of general warranty.

In witness whereof the said NYDA CARRIGAN STAHL and WILLIAM STAHL, her husband

hereunto set their hand s this 11th day of December, 1964.

Nyda Carrigan Stahl
William Stahl

STATE OF KENTUCKY,
SCT.
County of Boone.

I, William P. McEvoy a Notary Public in and for the county and state aforesaid, do certify that the foregoing instrument of writing from Nyda Carrigan Stahl and William Stahl, her husband,
to Kenton County Airport Board, Inc.
was this day presented to me in my county by the parties and then and there acknowledged by the said Nyda Carrigan Stahl and William Stahl, her husband to be their act and deed. Whereupon the same and this certificate are certified to the proper office for record.

Given under my hand and seal of office this 11th day of December, 1964.

My commission expires
3-19-66

William P. McEvoy
Notary Public.

WARRANTY DEED

NYDA CARRIGAN STAHL and husband, WILLIAM STAHL

TO

KENTON COUNTY AIRPORT BOARD, INC.

Acknowledged

RECEIVED
DEC 11 '64 PM
C. D. BENSON
BOONE CO. CLERK

Left for Record

at 3:21 M.

By Alberta O. Greene D.C.

Clerk

Recorded in Deed Book No. 165 Page 208

Recording $ 3.50 Pd

Stamps $ 44.00 Pd

STATE OF KENTUCKY,
SCT.
County of BOONE

I, C. D. BENSON, Clerk of the County Court in and for the County and State aforesaid, do certify that the foregoing instrument of writing from NYDA CARRIGAN STAHL, et vir
to KENTON COUNTY AIRPORT BOARD, INC.,
was this 11th day of December, 1964 produced to me, certified as above and lodged for record at 3:21 o'clock P. M.

Whereupon, the same with foregoing and this certificate have been duly recorded in my office.

Given under my hand, this 11th day of December, 1964.

C. D. Benson Clerk
By Alberta O. Greene D. C.

EXHIBIT 12

DEED

KNOW ALL MEN BY THESE PRESENTS: That

JOHN A. KEITH and wife, HAZEL F. KEITH,

for and in consideration of THIRTY-FIVE THOUSAND ($35,000.00) DOLLARS to them paid by KENTON COUNTY AIRPORT BOARD, INC.

Property Transfer Tax Paid $35.00
JERRY W. ROUSE, Clerk D. C.

the receipt whereof is hereby acknowledged, do hereby bargain, sell and convey to the said

KENTON COUNTY AIRPORT BOARD, INC., its successors ~~XXXX~~ and assigns forever, the following described real estate, lying and being in Boone County, Kentucky to-wit:

PARCEL NO. 1:

Being Lots Nos. TWELVE (12) and THIRTEEN (13) and Tract No. 8 of the N. G. Herrington Subdivision as shown by plat recorded in Plat Book No. 1, page 105, Boone County Records at Burlington, Kentucky.

Being the same property conveyed to the Grantors by Lute Bradford and wife, Carrie Bradford, by deed dated February 5, 1946, and recorded in Deed Book 84, page 482, in the Office of the Boone County Court Clerk, Burlington, Kentucky.

also the following:

PARCEL NO. 2:

Being Lots Nos. FOURTEEN (14) and FIFTEEN (15) and Tract No. 7 of the N. G. Herrington Subdivision, as shown by plat recorded in Plat Book No. 1, page 105, Boone County Records at Burlington, Kentucky.

Being the same property conveyed to the Grantors by T. W. Marshall and wife, Stella Marshall, by deed dated March 6, 1946, and recorded in Deed Book 90, page 160, in the Office of the Boone County Court Clerk, Burlington, Kentucky.

also the following:

PARCEL NO. 3:

Being Lots Nos. SIXTEEN (16), SEVENTEEN (17), and EIGHTEEN (18) and Tracts Nos. 5 and 6 of the N. G. Herrington Subdivision as shown by plat recorded in Plat Book 1, page 105, Boone County records at Burlington, Kentucky.

Being the same property conveyed to the Grantors by G. W. Gillard, single, by deed dated July 7, 1949 and recorded in Deed Book 92, page 317, in the Office of the Boone County Court Clerk, Burlington, Kentucky.

~~Being the same property conveyed to the Grantor by by deed dated day of 19 and recorded in deed book page in the office of the Clerk of the Boone County Court, Burlington, Kentucky.~~

Together with all the privileges and appurtenances to the same belonging. To have and to hold the same to the said KENTON COUNTY AIRPORT BOARD, INC., its

1/10

successors
~~heirs~~ and assigns forever, with convenants of general warranty.

In witness whereof the said JOHN A. KEITH and wife, HAZEL F. KEITH,

hereunto set their hand s this 11th day of April, 1969.

John A. Keith

Hazel F. Keith

STATE OF KENTUCKY, SCT.
County of Boone.

I, William P. McEvoy a Notary Public in and for the county and state aforesaid, do certify that the foregoing instrument of writing from John A. Keith and wife, Hazel F. Keith, to Kenton County Airport Board, Inc. was this day presented to me in my county by the parties and then and there acknowledged by the said John A. Keith and wife, Hazel F. Keith to be their act and deed. Whereupon the same and this certificate are certified to the proper office for record.

Given under my hand and seal of office this 11th day of April, 1969.

My commission expires
May 31, 1970

William P. McEvoy
Notary Public.

WARRANTY DEED

JOHN A. KEITH and wife,
HAZEL F. KEITH

TO

KENTON COUNTY AIRPORT BOARD, INC.

Acknowledged ____

Left for Record 4-11-69
at 10:45 A M.
Jerry W. Rouse Clerk
By Barbara ... D. C.
Recorded in Deed Book 185 Page 461
No. ____
Recording $ 4.40 Stamps $ 33.00

STATE OF KENTUCKY, SCT.
County of BOONE,

I, JERRY W. ROUSE Clerk of the County Court in and for the County and State aforesaid, do certify that the foregoing instrument of writing from JOHN A. KEITH and HAZEL F. KEITH to KENTON COUNTY AIRPORT BOARD, INC. was this 11th day of April, 19 69 produced to me, certified as above and lodged for record at 10:45 o'clock A. M.

Whereupon, the same with foregoing and this certificate have been duly recorded in my office.

Given under my hand, this 11th day of April, 19 69.

JERRY W. ROUSE Clerk

By Barbara ...

I HEREBY CERTIFY THAT THIS INSTRUMENT HAS BEEN DRAFTED BY:
WM. P. McEVOY Attorney
BURLINGTON, KENTUCKY
W. P. McEvoy

URS

EXHIBIT B

July 28, 2010

Description of 4.271 acres of the Former Fire Training Area to obtain Environmental Restrictive Covenants for the Kenton County Airport Board (KCAB)

A certain tract of land being part of the lands of the Kenton County Airport Board situated on the grounds of the Cincinnati/Northern Kentucky International Airport, in Boone County, Commonwealth of Kentucky and being more particularly described as follows:

Beginning at a "URS" capped rebar having the Airport Grid Coordinate of North 97458.8251, East 96964.8121 said point of beginning being +/-76 feet east of the centerline of Field Maintenance Drive and +/-144 feet north of the centerline of South Airfield Drive;

Thence North 88 degrees 44 minutes 26 seconds East 260.13 feet to a "URS" capped rebar having the Airport Grid Coordinate of N 97464.5421, E 97224.8805;

Thence South 63 degrees 24 minutes 18 seconds East 139.79 feet to a "URS" capped rebar having the Airport Grid Coordinate of N97401.9612, E 97349.8783;

Thence South 04 degrees 34 minutes 50 seconds East 592.88 feet to a "URS" capped rebar having the Airport Grid Coordinate of N96810.9724, E 97397.2262;

Thence North 51 degrees 18 minutes 19 seconds West 553.45 feet to a "URS" capped rebar having the Airport Grid Coordinate of N 97156.9707, E 96965.2671;

Thence North 00 degrees 05 minutes 11 seconds West 301.86 feet to the point of beginning and containing (186,048.1205 square feet) 4.271 acres, more or less.

Subject to all right of ways and easements of record.

URS Corporation
One Indiana Square, Suite 2100
Indianapolis, IN 46204
Tel: 317.632.5400
Fax: 317.632.5499
www.urscorp.com

Attachment 3

Inspection Forms

ANNUAL INSPECTION FORM
FORMER FIRING RANGES AREA – SWMU 1C

Inspector's Name _____

Date of Inspection _____

Time of Inspection _____

INSPECTION CHECKLIST

Cover

Walk the total circumference of the cover.

Is there any evidence of damage or structural cracks in the concrete? Yes No

Comments: _____

_____

Remedial Action Required: _____

_____

_____

Inspector's Signature _____ Date: _____

RETURN COMPLETED FORM TO THE KCAB MAIN OFFICE

ANNUAL INSPECTION FORM
FORMER FIRE TRAINING AREA – SWMU 3

Inspector's Name _____

Date of Inspection _____

Time of Inspection _____

INSPECTION CHECKLIST

Cover

Walk the total circumference of the cover (perimeter of survey area).

Are there any bare spots in the vegetation cover?	Yes	No
Are there any signs of damage or diseased vegetation?	Yes	No
Are there any areas of washout?	Yes	No
Is there any evidence of burrowing animals?	Yes	No
Is there any evidence of settlement and/or subsidence	Yes	No

Concrete-Lined Creek

Walk the length of the concrete-lined Creek (within survey area).

Is there any evidence of damage or structural cracks in the concrete?	Yes	No
Is there any evidence of visually impacted weeping onto concrete?	Yes	No

Warning Signs

Walk the length of the South Airfield Road (within survey area).

Are signs present from all approaches?	Yes	No
Are present signs in good condition?	Yes	No

Comments: _____

_____

_____

Remedial Action Required: _____

_____

Inspector's Signature _____ Date: _____

RETURN COMPLETED FORM TO THE KCAB MAIN OFFICE

Attachment B

NOTE: Public Services is not part of the Underground Utilities Protection Agency and therefore must be notified separately.

The utility information shown on this plat, prepared by Thomas Graham Associates, Inc. , was obtained from existing records. It is the contractor's responsibility to verify their existence and location, and to contact the appropriate utility company for field locations.

2 Business Days Before You Dig
Kentucky 811
Always Call 811
or 1-800-752-6007
Before you Dig
www.kentucky811.org

GRAPHIC SCALE

50 0 25 50 100

1" = 50'

PRELIMINARY
SECTION PLAN

SCALE: 1" = 50'-0"

NORTH

ACAD FILENAME: 8053_BASCON_CVG_BASE.DWG

ISSUE		
1	XXX	XX-XX-XX

THOMAS GRAHAM ASSOCIATES, INC.
tga
• Engineers • Surveyors
803 Compton Road
Cincinnati, Ohio 45231
513-521-4760
Fax # 521-2439

bascon
architects–engineers–developers
constructors–construction managers
BASCON, INC.
607-500 Redna Terrace
Cincinnati, Oh. 45215-1171
513/772-1674 FAX: 772-1684
Website: www.basconinc.com

CIVIL
SECTION_PLAN

LYNXS Group Maintenance Hangar
CVG Airport
Boone County, Kentucky

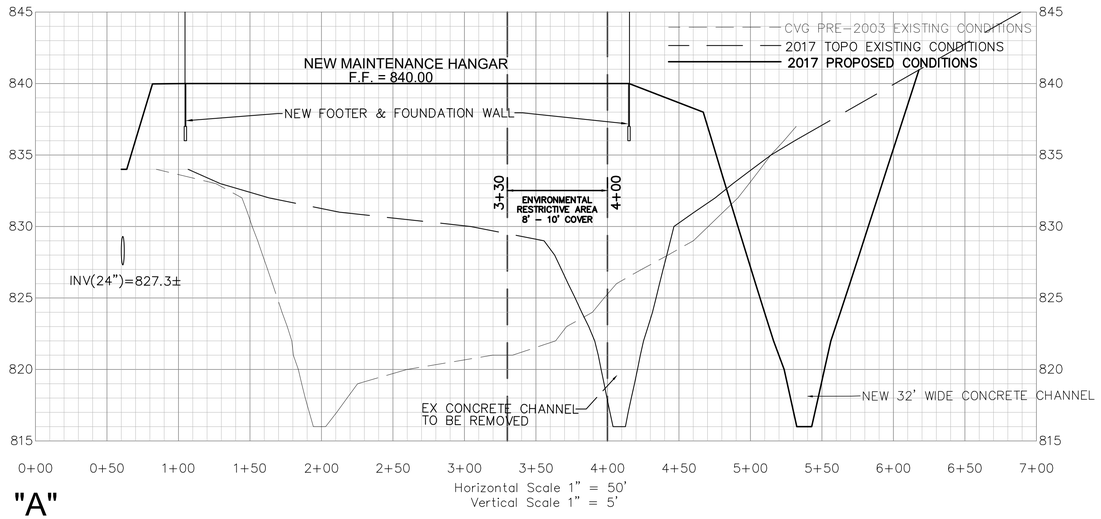
DATE 12/06/17

CHECKED TGG

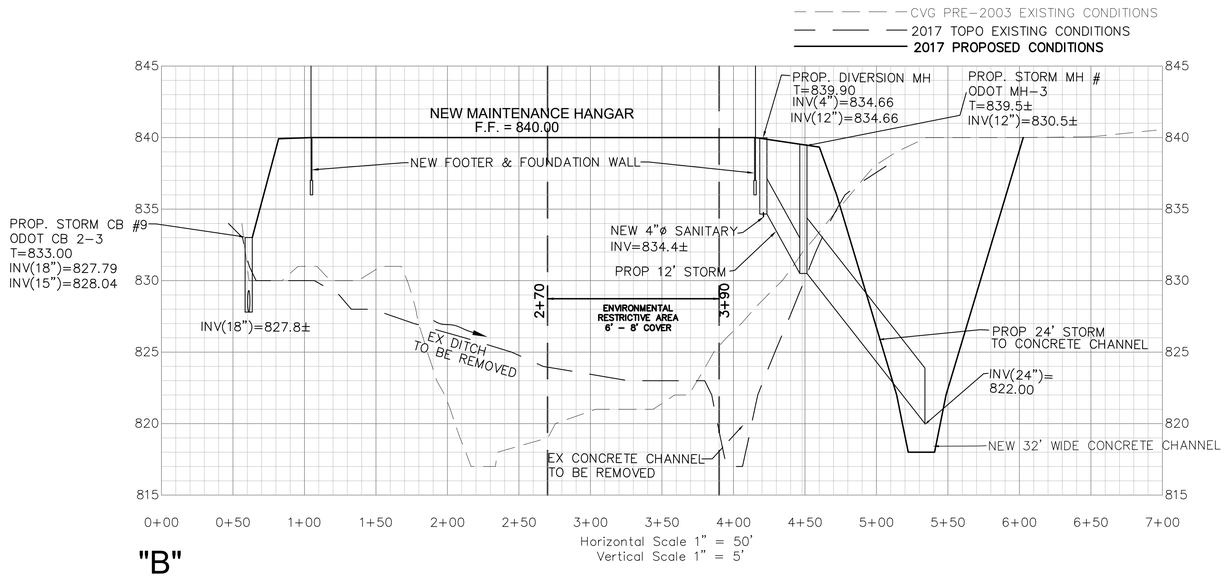
PROJECT NO. TGA#8053

SHEET NO.
SEC4.0

Scale For Reproduction
Millimeters
Inches



"A"



"B"

NOTE: Public Services
is not part of the Underground Utilities
Protection Agency and therefore must
be notified separately.

The utility information shown on this plat, prepared by Thomas Graham Associates, Inc. , was obtained from existing records. It is the contractor's responsibility to verify their existence and location, and to contact the appropriate utility company for field locations.

PRELIMINARY
SECTION PLAN

HOR. SCALE: 1" = 50'-0"
VERT. SCALE 1" = 5'

ACAD FILENAME: *8053_BASCON_CVG_BASE.DWG*

Scale For Reproduction
Inches
Millimeters

ISSUE

1	XXX	XXXX-XX

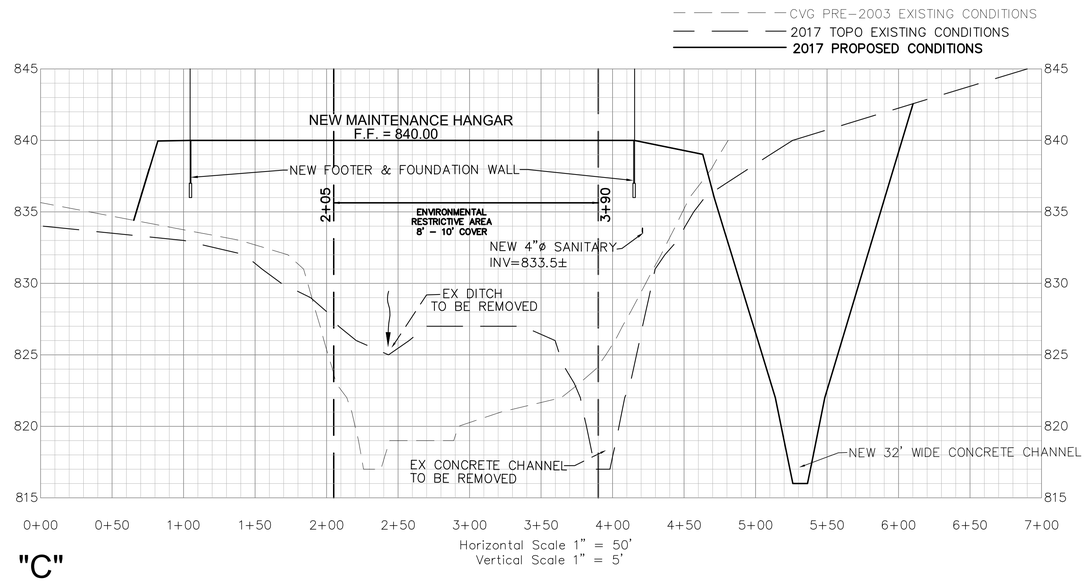
THOMAS GRAHAM ASSOCIATES, INC.
• Engineers • Surveyors
803 Compton Road
Cincinnati, Ohio 45231
513-521-4760
Fax # 521-2439

bascon
architects-engineers-developers
contractors-construction managers
BASCON, INC.
607-500 Redna Terrace
Cincinnati, Oh. 45215-1171
513/772-1674 FAX: 772-1684
Website: www.basconinc.com

CIVIL
SECTION_PLAN

LYNXS Group Maintenance Hangar
CVG Airport
Boone County, Kentucky

DATE 12/06/17
CHECKED TGG
PROJECT NO. TGA#8053
SHEET NO. **SEC4.1**



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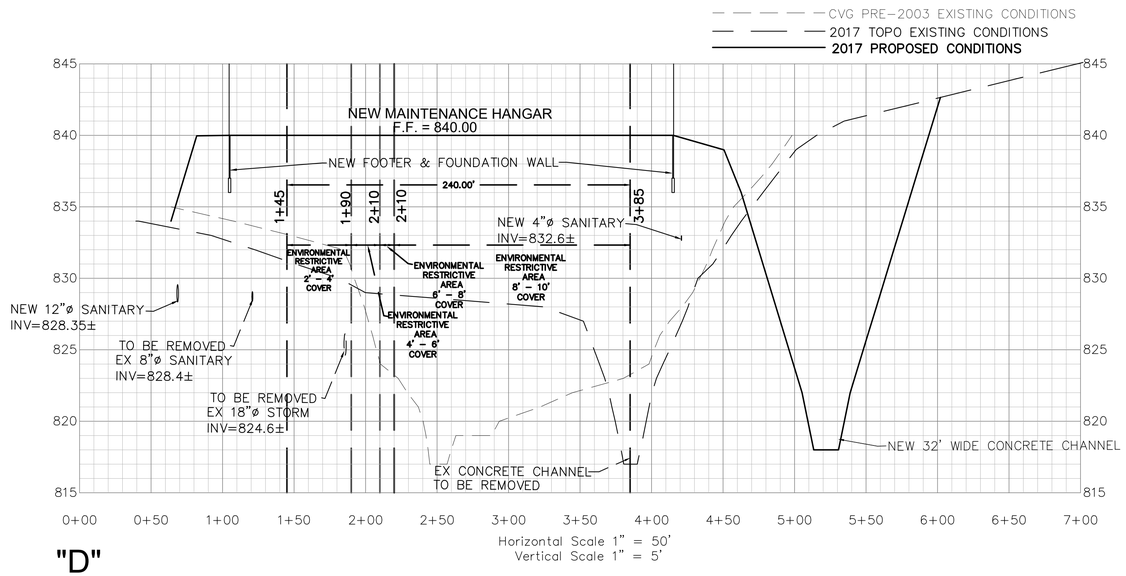

"D"

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2 Business Days Before You Dig
Kentucky 811
Always Call 811 or 1-800-752-6007 Before you dig
www.Kentucky811.org

PRELIMINARY
SECTION PLAN

HOR. SCALE: 1" = 50'-0"
VERT. SCALE 1" = 5'

ACAD FILENAME: *8053_BASCON_CVG_BASE.DWG*

ISSUE		
1	XXX	XX/XX/XX

THOMAS GRAHAM ASSOCIATES, INC.
tga
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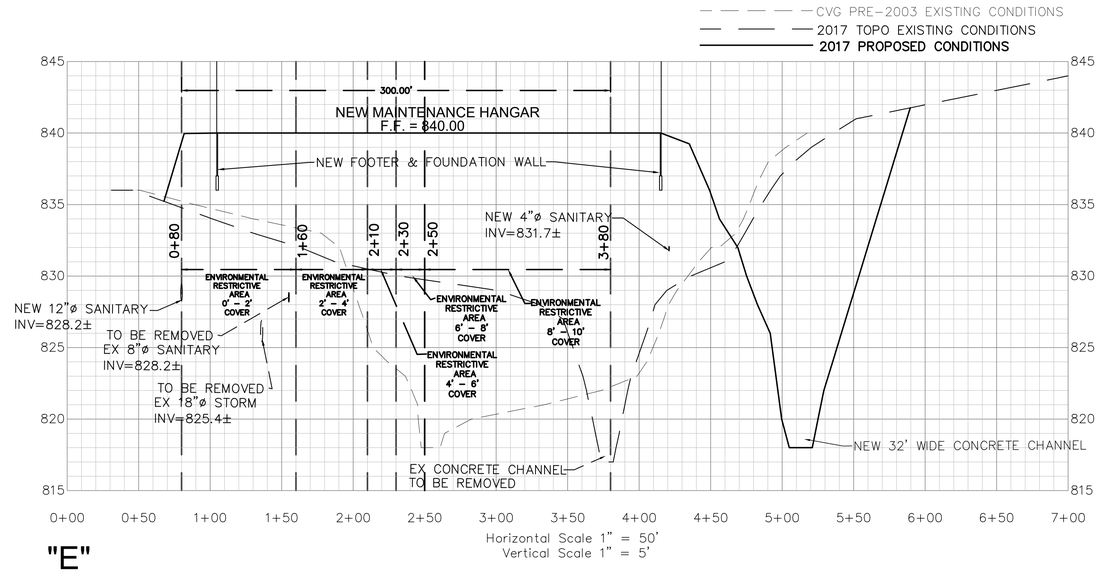
Website: www.basconinc.com

CIVIL
SECTION_PLAN

LYNXS Group Maintenance Hangar
CVG Airport
Boone County, Kentucky

DATE 12/06/17
CHECKED TGG
PROJECT NO. TGA#8053
SHEET NO. **SEC4.2**



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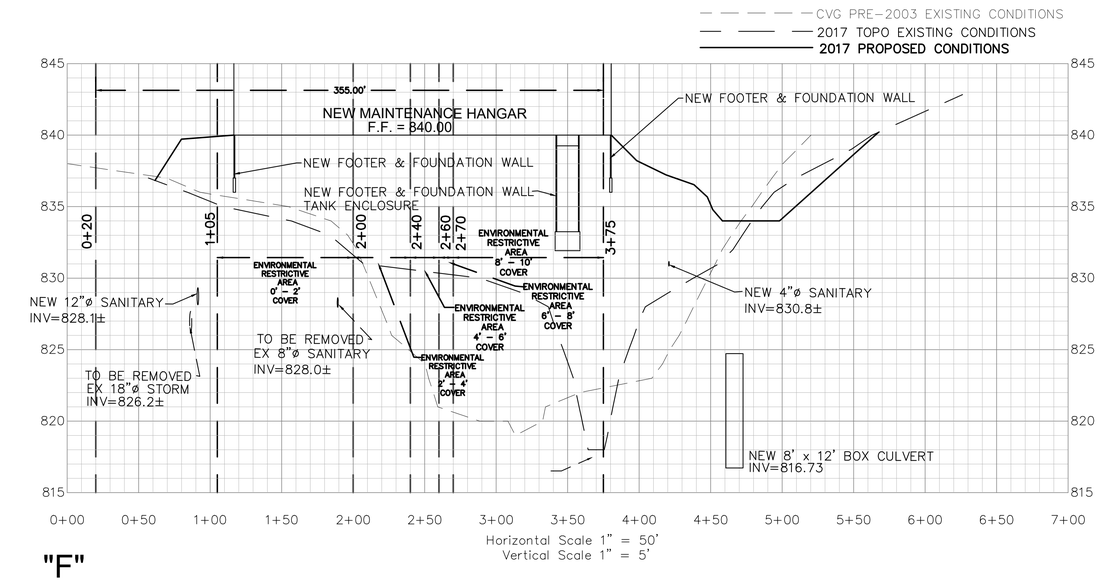

"F"

NOTE: Public Services is not part of the Underground Utilities Protection Agency and therefore must be notified separately.

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2 Business Days Before You Dig
Kentucky 811
Always Call 811
or 1-800-752-6007
Before you Dig
www.kentucky811.org

PRELIMINARY
SECTION PLAN

HOR. SCALE: 1" = 50'-0"
VERT. SCALE 1" = 5'

ACAD FILENAME: 8053_BASCON_CVG_BASE.DWG

ISSUE

1	XXX
	XXXX-XX

THOMAS GRAHAM ASSOCIATES, INC.
tga
• Engineers • Surveyors
803 Compton Road
Cincinnati, Ohio 45231
513-521-4760
Fax # 521-2439

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513/772-1674 FAX: 772-1684
Website: www.basconinc.com

CIVIL
SECTION_PLAN

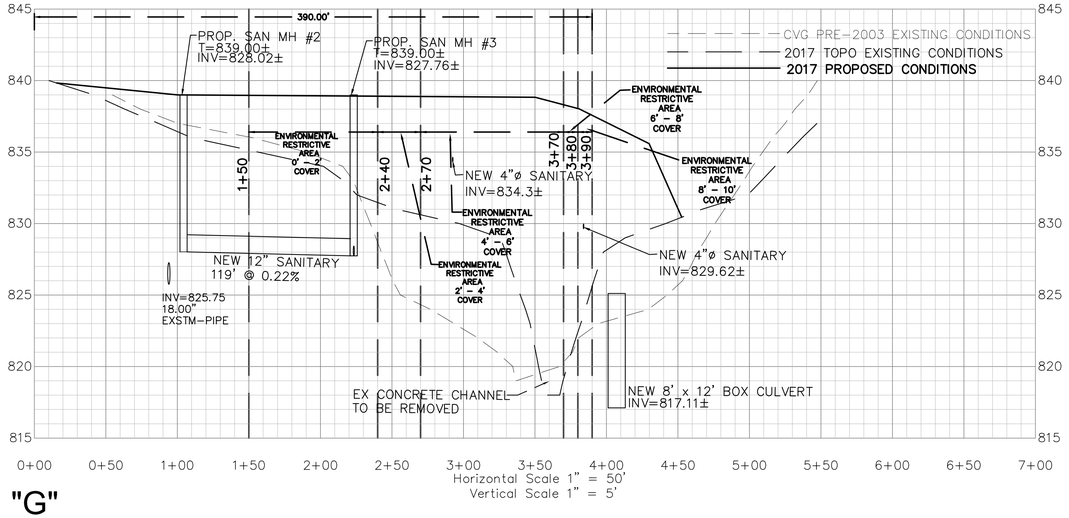
LYNXS Group Maintenance Hangar
CVG Airport
Boone County, Kentucky

DATE
12/06/17

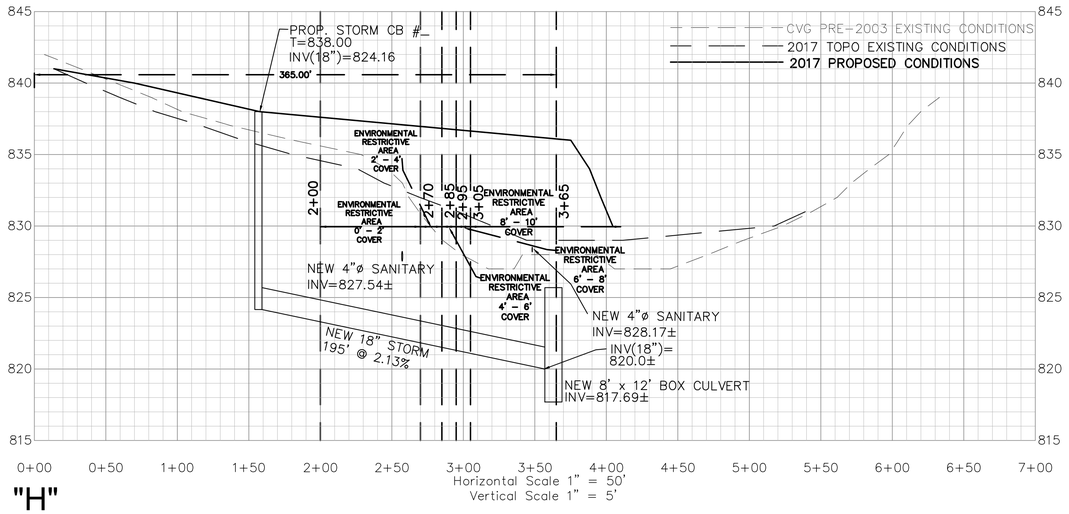
CHECKED
TGG

PROJECT NO.
TGA#8053

SHEET NO.
SEC4.3



"G"



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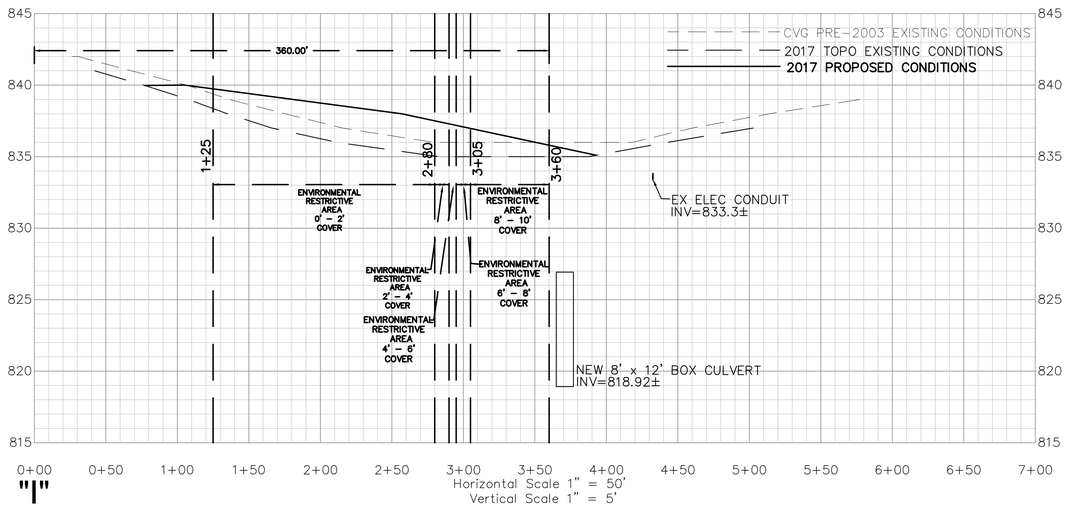

"I"

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PRELIMINARY
SECTION PLAN

HOR. SCALE: 1" = 50'-0"
VERT. SCALE 1" = 5'

ACAD FILENAME: 8053_BASCON_CVG_BASE.DWG

ISSUE

1	XXX	XXXX-XX

THOMAS GRAHAM ASSOCIATES, INC.
• Engineers • Surveyors
803 Compton Road
Cincinnati, Ohio 45231
513-521-4760
Fax # 521-2439

bascon
architects-engineers-developers
contractors-construction managers
BASCON, INC.
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Cincinnati, Oh. 45215-1171
513/772-1674 FAX: 772-1684
Website: www.basconinc.com

CIVIL
SECTION_PLAN

LYNXS Group Maintenance Hangar
CVG Airport
Boone County, Kentucky

DATE 12/06/17
CHECKED TGG
PROJECT NO. TGA#8053
SHEET NO. **SEC4.4**

Scale For Reproduction
Millimeters
Inches

ATTACHMENT 7
COORDINATION AND COMMENTS

The Draft EA was made available online and at KCAB offices for public review from DATES. A notice of availability was published in the Kentucky Enquirer on DATE. No public comments were received on the Draft EA and no request for a public hearing was made. The Draft EA was also sent to various State and Federal agencies for review and comment. Copies of the newspaper notice and agency comments are included in this attachment.