APPENDIX D WETLAND DELINEATION, THREATENED AND ENDANGERED SPECIES SURVEY, AND HABITAT ASSESSMENT REPORT

Appendix D, contains the Wetland Delineation, Threatened and Endangered Species Survey, and Habitat Assessment Report. The preliminary jurisdictional status is currently under review by the U.S. Army Corp of Engineers (USACE).

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July 19, 2012

Ms. Melissa J. Tarasiewicz U.S. Army Corps of Engineers, Buffalo District 1776 Niagara Street Buffalo, NY 14207

Re: Wetland Delineation Report for the Proposed Safety Improvements to Runway 6L/24R At Burke Lakefront Airport

Dear Ms. Tarasiewicz:

Please find enclosed two copies of a wetland delineation, threatened and endangered species survey, and habitat assessment report for the proposed safety improvements to runway 6L/24R at Burke Lakefront Airport in Cleveland, Cuyahoga County, Ohio. We are requesting that your office make a Jurisdictional Determination on behalf of our client, for the wetland areas identified in the enclosed report.

The proposed project entails the construction of safety improvements to Runway 6L/24R, at Burke Lakefront Airport in the City of Cleveland, Cuyahoga County, Ohio. At present, the existing runway does not comply with Federal Aviation Administration (FAA) safety requirements for a minimum safety zone at both ends. The proposed project will add approximately 600 ft of pavement to the northeast end of the runway, will relocate the Runway 6L/24R landing threshold, and will construct a new Engineered Materials Arresting System on southwest end of the runway.

Four areas (Areas 1–4) of the airport were evaluated for potential Waters of the U.S. During the field survey, portions of Lake Erie were determined to border project Area 1 to the west and north, Area 3 to the east, and Area 4 to the north. A total of five wetlands (Wetlands 1–5), occupying 0.312 acre, were delineated in Area 2. All wetlands were determined to be disturbed, low quality Category 1 wetlands. Wetlands 1–5 appear to be hydrologically isolated from a Traditional Navigable Waterway.

Your review of the enclosed report would be appreciated to keep the project on schedule. Please contact me at 614.643.3208 if you have any questions or need any additional information. Thank you for your cooperation with this project.

Sincerely,

Len Mikles Principal Ecologist, PWS

Enclosure

Cc: Ms. Meenakshi Singh, Cleveland Airport System Ms. Katherine S. Delaney, Federal Aviation Administration Mr. Rob Adams, Landrum & Brown

> 800 Freeway Drive North, Suite 101, Columbus, Ohio 43229 614.268-2514 phone 614.268-7881 fax www.ascgroup.net

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Wetland Delineation, Threatened and Endangered Species Survey, and Habitat Assessment Report for Burke Lakefront Airport Cleveland, Cuyahoga County, Ohio

By

Len Mikles, Principal Ecologist, PWS

Wetland Delineation, Threatened and Endangered Species Survey, and Habitat Assessment Report for Burke Lakefront Airport Cleveland, Cuyahoga County, Ohio

By Len Mikles, Principal Ecologist, PWS

Submitted By: Andrew Campbell Project Manager ASC Group, Inc. 800 Freeway Drive North, Suite 101 Columbus, Ohio 43229 614.268.2514

> Submitted To: Chris Babb, PE Landrum & Brown, Inc. 11279 Cornell Park Drive Cincinnati, Ohio 45242 513.530.1201

> > July 19, 2012

EXECUTIVE SUMMARY

ASC Group, Inc., under contract with Landrum & Brown, Inc., conducted a wetland delineation within Burke Lakefront Airport, located in Cleveland, Cuyahoga County, Ohio. This survey also included a habitat assessment as well as a survey for threatened and endangered species. Four areas were evaluated for the wetland delineation portion of the survey. These areas included portions of the airport associated with possible runway expansion and access road improvements. The habitat assessment was conducted for the entire airport facility.

No streams were identified in Areas 1–4. Portions of Lake Erie border project Area 1 to the west and north, Area 3 to the east, and Area 4 to the north.

A total of five wetlands, occupying 0.312 acre, were delineated in Area 2. All wetlands were determined to be Category 1 wetlands. Wetlands 1–5 are provisionally considered non-jurisdictional.

The wetlands and Lake Erie would be considered jointly by regulatory agencies when considering wetland and water quality impacts. Pursuant to Section 404 of the Clean Water Act, the US Army Corps of Engineers has jurisdiction over the placement of fill or dredged material in all jurisdictional "Waters of the United States". A Section 404 permit must be obtained prior to placing any fill material within a jurisdictional area. Non-jurisdictional wetlands are typically isolated wetland areas. Under most circumstances these wetlands are regulated by the Ohio Environmental Protection Agency and require either a General or Individual Isolated Wetland Permit for dredge and fill activities.

The habitat assessment was conducted for the entire airport facility. The majority of the airport facility consisted of mowed lawn. The remaining portions consisted of disturbed wetlands and wasteground.

The Ohio Department of Natural Resources found no records for any federally listed species within a 1-mile radius of the current project area and no federally listed species were observed in the airport during the habitat assessment.

The Department of Natural Resources found three records for state listed species within a 1-mile radius of the current project area. A record for the state endangered upland sand piper is recorded within the airport facility. None of these species were observed during the habitat assessment. One state species of special interest, the ruddy duck (*Oxyura jamaicensis*), was observed at the airport. Two individuals were observed in a wetland located in the northeastern portion of the airport. The Department of Natural Resources found no records of existing or proposed state nature preserves, scenic rivers, unique ecological sites, geologic features, breeding or non-breeding animal concentrations, champion trees, or state parks, forests or wildlife areas within 1 mile of the airport.

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INTRODUCTION

The proposed project includes construction of safety improvements to Runway 6L/24R, at Burke Lakefront Airport in the City of Cleveland, Cuyahoga County, Ohio. At present, the existing runway does not comply with Federal Aviation Administration (FAA) safety requirements for a minimum safety zone at both ends. The proposed project will add approximately 600 ft. of pavement to the 24R, or northeast end of the runway, will relocate the Runway 6L landing threshold, and will construct a new Engineered Materials Arresting System on the 6L, or southwest end of the runway. Direct construction impacts include the extension of the runway and the construction of the arresting system. The project will not entail a capacity increase for the airport, and is solely related to the runway extension and the relocation of the landing threshold.

ASC Group, Inc., under contract with Landrum & Brown, Inc., conducted a wetland delineation and habitat assessment within the Burke Lakefront Airport (Figures 1–7). Four separate project areas were evaluated for the presence of streams and wetlands (Figure 6). Each area is summarized below.

Area 1 - 16.7 acres at the southwest end of the existing runway; Area 2 - 22.8 acres at the northeast end of the existing runway; Area 3 - 2.7 acres at the northeast end of the existing runway for relocated roads; Area 4 - 7.8 acres at the northwest end of the existing runway.

These areas included portions of the airport associated with possible runway expansion and access road improvements. The habitat assessment was conducted for the area shown on Figure 2, including Areas 1–4. The wetland delineation and habitat assessment field surveys were conducted on May 19 and 20, 2012 by ASC Group, Inc. ecologists. Representative photographs (1–44) documenting various habitats and wetland resources are included in Appendix A.

METHODS

WETLANDS

A routine on-site assessment of potential wetlands was conducted. The entire study area was surveyed on foot and major vegetative communities were noted. The *Corps of Engineers*

Wetland Delineation Manual (Environmental Laboratory 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region, Version 2.0 (United States Army Corps of Engineers [USACE] 2012) were used to determine whether wetlands were present within the study area. Wetlands were identified according to the routine determination method outlined in Section D of the manual (Environmental Laboratory 1987). Using this method, the three criteria—vegetation, soil, and hydrological features—were examined and evaluated to determine the presence of wetlands. Examination of the vegetation for the presence of obligate, facultative-wet, or facultative wetland species is based on the *Floristic Quality Assessment Index (FQAI) for Vascular Plants and Mosses for the State of Ohio* (Andreas et al. 2004).

When a wetland evaluation indicated that an area was not a wetland, the location was noted and no further action was taken. When the wetland evaluation indicated that an area was a wetland, a delineation was performed to identify the boundary between wetland and non-wetland areas. A wetland sampling point and non-wetland sampling point was completed for each wetland encountered. Wetland Determination data forms for each wetland can be found in Appendix B of this report.

The Ohio Rapid Assessment Method (ORAM) for Wetlands (ORAM) version 5.0 was used to assess the functional quality of each wetland encountered (Ohio Environmental Protection Agency [OEPA] 2001). The wetland was assigned a category according to the most recent ORAM score calibration (Mack 2000). ORAM data forms for each wetland can be found in Appendix C of this report.

The ORAM categorizes wetlands according to their functional quality into three categories. Category 1 wetlands "...support minimal wildlife habitat, and minimal hydrological and recreational functions" (Ohio Administrative Code Rule 3745-1-54(C) (1)). They are usually isolated hydrologically with limited function, low species diversity, and a dominance of invasive non-native species.

Category 2 wetlands "...support moderate wildlife habitat, or hydrological or recreational functions" and are "dominated by native species but generally without the presence of, or habitat for, rare, threatened or endangered species; and wetlands which are degraded but have a reasonable potential for reestablishing lost wetland functions" (Ohio Administrative Code Rule 3745-1-54(C)(2)).

Category 3 wetlands have "...superior habitat, or superior hydrological or recreational functions" (Ohio Administrative Code Rule 3745-1-54(C) (3)). High functionality, high diversity, and a high proportion of native species generally characterize them.

STREAMS

The *Soil Survey of Cuyahoga County* (United States Department of Agriculture, Soil Conservation Service [USDA, SCS] 1980) was also reviewed to identify potential jurisdictional waters. A provisional jurisdictional waters determination was performed in the field to determine if waterways that possessed a defined channel and streambed as defined by the ordinary high water mark were present in the study area.

Potential jurisdictional streams would be evaluated to determine whether the stream qualified as a primary headwater habitat (PHWH) stream as defined by the OEPA (2012) or a non-headwater stream as defined by the OEPA (2006). PHWH streams have a defined bed and bank, with either continuous or periodic flowing water, a watershed area of less than 1 mi², and maximum pool depth (excluding plunge pools) of 16 inches or less. A Headwater Habitat Evaluation Index (HHEI) data form would be completed for all streams meeting these criteria. This evaluation is based on three physical measurements that have been found to correlate well with biological measures of stream quality. Streams are assigned to a Class (I, II, or III) based on the score that is derived from the HHEI.

Class I streams typically are ephemeral with little or no aquatic life present. Class II streams are typically found to have a moderately diverse community of warm-water adapted native fauna either present seasonally or on an annual basis. Class III streams have native fauna adapted to cool-cold perennial flowing water characterized by a community of vertebrate and /or a diverse community of benthic macroinvertebrates.

The Qualitative Habitat Evaluation Index (QHEI), as described by the OEPA (2006), would be used to evaluate the habitat quality for all streams in the survey area with watersheds larger than 1 mi². The QHEI is based on a quality rating of the stream substrate, in-stream cover, channel morphology, riparian zone, stream bank erosion, pool/glide as well as riffle/run quality. QHEI scores can range from zero to 100, and are grouped into five narrative ranges: very poor (0–30), poor (31–45), fair (46–59), good (60–74), and excellent (\geq 75).

HABITAT ASSESSMENTS

All habitats were surveyed within the airport. All plant species encountered were identified, recorded and dominant species were noted. Plants were identified according to Gleason and Cronquist (1991). The habitats were identified and described based on the type of community and the dominant plant species in each. Terrestrial vertebrates were recorded during the survey based on actual observance, calls, tracks, scat, nests, burrows, and road kill.

THREATENED AND ENDANGERED SPECIES METHODS

The Ohio Department of Natural Resources (ODNR 2012) [Appendix D] and the United States Fish and Wildlife Service (USFWS) [2012a] were consulted on the presence of any federally or state-listed species known to occur within the current project area or within a 1-mile radius. The ODNR Biodiversity Database search included a 5-mile radius for the Indiana bat capture sites and a 10- mile radius for hibernacula. The current project area was surveyed on foot for the presence of listed species and suitable habitats. Additionally, the project area was surveyed for the presence of any state-listed species known to occur within a 1-mile radius of the project area.

RESULTS

LITERATURE REVIEW

WETLANDS

The *Soil Survey of Cuyahoga County* (United states Department of Agriculture, Natural Resource Conservation Service [USDA, NRCS] 2009a) was examined for the location of hydric soil map units, since these are likely locations for wetlands. The map shows only one soil map unit, Urban land (Ub), present in the four project areas (Figure 3). This soil is not considered hydric and is not known to contain hydric inclusions according to the hydric soils list for Cuyahoga County, Ohio (USDA, NRCS 2009b).

The Ohio Wetland Inventory (OWI) map was also reviewed and showed no wetlands in the project areas (ODNR 1991) [Figure 4]. The National Wetlands Inventory (NWI) map (USFWS 2012b) was also reviewed and shows one excavated pond located outside of the northeastern boundary of Area 4 (Figure 4).

STREAMS AND OPEN WATER HABITATS

The *Soil Survey of Cuyahoga County* (USDA, SCS 1980) was examined for the location of streams in the project area. The map shows no streams present in the four project areas. The project area is located in the Lake Erie watershed (HUC: 04110003-010-010) [USDA, NRCS 1999]. Portions of Lake Erie border project Area 1 to the west and north, Area 3 to the east, and Area 4 to the north

LAND USE/HABITATS

The National Landcover Data Set was reviewed for the project area (Figure 5). The project areas and the remaining portion of the airport are mapped as areas of Barren Land, Herbaceous, Developed Open Space, and Developed Land ranging from High Intensity to Low Intensity.

THREATENED AND ENDANGERED SPECIES

Federally Listed Species

The ranges of the federally endangered Indiana bat (*Myotis sodalis*), Kirkland's warbler (*Dendroica kirtlandii*), Piping plover (*Charadrius melodus*), and the federal species of concern, the bald eagle (*Haliaeetus leucocephalus*) include Cuyahoga County (USFWS 2012a). The ODNR found no records of any of these four federally listed species within a 1-mile radius of the current project areas (Appendix D: ODNR 2012). In addition, no capture sites for the Indiana bat were identified within a 5-mile radius or hibernacula within a 10-mile radius (Appendix D: ODNR 2012).

State Listed Species

The ODNR found three records of threatened or endangered species within a 1-mile radius of the current project area (Appendix D: ODNR 2012). These records include the following:

- Upland Sandpiper (Bartramia longicauda), State Threatened
- Peregrine Falcon (Falco peregrinus), State Threatened
- Richardson's Pondweed (Potomogeton richardsonii), State Potentially Threatened

The record for the upland sandpiper is located within the Burke Lakefront Airport property. Additionally, ODNR found no existing or proposed state nature preserves, scenic rivers, unique ecological sites, geologic features, breeding or nonbreeding animal concentrations, champion trees, or state parks, forests, or wildlife areas within 1 mile of the airport facility (Appendix D: ODNR 2012).

FIELD SURVEY RESULTS

WETLANDS

The wetland delineation portion of the survey was only conducted in project Areas 1–4. Areas 1–4 are summarized below and the location of each area is shown on Figure 6.

Area 1

Area 1 is located in the western portion of the airport and encompasses a portion of the existing runway (Figure 6). No wetlands were identified in Area 1. Area 1 consists of an area that is periodically mowed. Area 1 is primarily dominated by tall fescue (*Festuca elatior*), Kentucky blue grass (*Poa pratensis*), white clover (*Trifolium repens*), red clover (*Trifolium pratense*), common dandelion (*Taraxacum officinale*), and common chickweed (*Cerastium vulgatum*). These species are indicative of disturbed, non-wetland areas. Representative photographs (1–8) of Area 1 are presented in Appendix A. Portions of Lake Erie border project Area 1 to the west and north.

Area 2

Area 2 is located in the eastern portion of the airport and encompasses a portion of the existing runway (Figure 6). Area 2 is primarily dominated by tall fescue (*Festuca elatior*), Kentucky blue grass (*Poa pratensis*), white clover (*Trifolium repens*), red clover (*Trifolium pratense*), common dandelion (*Taraxacum officinale*), and common chickweed (*Cerastium vulgatum*). Representative photographs (26, 33 and 39–43) of Area 2 are presented in Appendix A.

A total of five wetlands (Wetlands 1–5) were identified in this area. The dominant vegetation observed in these wetland areas consisted primarily of spike rush (*Eleocharis erythropoda*) and/or creeping bent grass (*Agrostis stolonifera*). The vegetation observed in these locations satisfies the Rapid Test for Hydrophytic Vegetation. This observation satisfies the vegetation criterion.

Soil Saturation, Sediment Deposits, Algal Mat/Crust, and Oxidized Rhizospheres on Living Roots hydrology indicators were also observed at these locations, which satisfies the hydrology criterion. The soils in these areas exhibited either the Depleted Matrix or the Redox Dark Surface hydric soil indicator. This observation satisfies the soils criterion. These areas satisfied all three criteria and qualify as wetlands. Wetland determination forms are included in Appendix B.

These wetlands appeared to be hydrologically isolated from another surface water. The areas appear to be small, closed depressions (Figure 6; Appendix A: Photographs 34–37 and 44). As a result, Wetlands 1–5 are provisionally considered non-jurisdictional.

Collectively, Wetlands 1–5 occupied 0.312 acre. These wetlands were grouped for purposes of the ORAM calculations, as they were functionally identical. As a group, they scored 19 on the ORAM, classifying them as Category 1 wetlands (Appendix C). The acreage of each individual wetland is summarized in Table 1. below.

Wetland	Photograph Number	Total Acreage	Acreage within Project Area
1	34	0.180	0.180
2	35	0.066	0.066
3	36	0.005	0.005
4	37	0.029	0.029
5	44	0.032	0.032
	Fotal	0.312	0.312

Table 1. Summary of Wetlands Located in Area 2 at Burke Lakefront Airport.

In addition, another wetland was identified outside of Area 2, but within close proximity to the boundary (Appendix A: Photograph 38). Its location is noted on Figure 6 for planning purposes.

Area 3

Area 3 is located in the eastern portion of the airport and encompasses a portion of an existing access road (Figure 6). A portion of Area 3 also consists of an area that is periodically mowed. No wetlands were identified in Area 3. Area 3 is primarily dominated by tall fescue (*Festuca elatior*), Kentucky blue grass (*Poa pratensis*), white clover (*Trifolium repens*), red clover (*Trifolium pratense*), common dandelion (*Taraxacum officinale*), and common chickweed (*Cerastium vulgatum*). These species are indicative of disturbed, non-wetland areas. Portions of Lake Erie border project Area 3 to the east. Representative photographs (25 and 28–31) of Area 3 are presented in Appendix A.

Area 4

Area 4 is located in the northern portion of the airport and encompasses an existing access road (Figure 6; Appendix A: Photograph 13). No wetlands were identified in Area 4. Two wetlands were identified just south of Area 4 within close proximity to the boundary (Appendix A: Photographs 9–10). They are noted on Figure 6 for planning purposes. A portion of Lake Erie borders project Area 4 to the north.

STREAMS AND OPEN WATER HABITATS

No streams were identified in Areas 1–4. Portions of Lake Erie border project Area 1 to the north and west, Area 3 to the east, and Area 4 to the north (Figure 6; Appendix A: Photographs 1–3, 8, and 28).

HABITAT ASSESSMENTS

The habitat assessment was conducted for the entire airport facility. The majority of the airport facility consisted of disturbed mowed lawn areas. The remaining portions consisted of disturbed wetlands and wasteground. The approximate location of these habitats is shown on Figure 7.

Mowed Lawn

The majority of the airport facility consisted of mowed lawn area that was primarily dominated by tall fescue (*Festuca elatior*), Kentucky blue grass (*Poa pratensis*), white clover (*Trifolium repens*), red clover (*Trifolium pratense*), common dandelion (*Taraxacum officinale*), and common chickweed (*Cerastium vulgatum*). The mowed lawn areas are located primarily around the airport runways (Figures 6 and 7; Appendix A: Photographs 4, 6, 7, 32, 33, 39–43). A complete listing of vascular flora found throughout the mowed lawn areas are presented in Table 2.

Wasteground

The immediate areas surrounding many of the airport access roads, portions of armored shoreline, and areas where historic and recent grading, filling, and paving have occurred are collectively referred to as wasteground (Figures 6 and 7; Appendix A: Photographs 1–3, 5, 8, 13, 19, 20, 23–32).). These areas are developed and/or highly disturbed from recent and historic earth moving activities. Wasteground is dominated by a variety of weedy species including downy brome (*Bromus tectorum*), Common mugwort (*Artemisia vulgaris*), Common chickweed (*Stellaria media*), Crown vetch (*Coronilla varia*), and sweet clover species (*Melilotus*).

spp.). A complete listing of vascular flora found throughout the wasteground areas is presented in Table 2.

Wetlands

In addition to the wetlands previously discussed, two large wetlands were observed in the northeastern portion of the airport property (Figures 6 and 7; Appendix A: Photographs 14, 16-18, 21, and 22). These wetland areas appeared to be created from historic earth moving activities in the USACE's confined disposal facilities. The hydrology of both areas appears to be controlled by artificial water control structures. The wetland areas are surrounded and separated by earthen embankments or berm walls. At the time of evaluation, one of the wetland areas appeared to be artificially flooded and contained a large number of foraging birds and ducks. The other wetland consisted of a large marsh that was relatively dry and dominated by remnants of lasts year's vegetation, which included rough barnyard grass (Echinochloa muricata), common reed (Phragmites australis), long-root smartweed (Polygonum amphibium var. emersum), reed canary grass (Phalaris arundinacea), fall panic grass (Panicum dichotomiflorum), straw-colored umbrella-sedge (Cyperus strigosus), and cattail species (Typha *spp.*). Both wetlands are dominated by low quality plant species that are adapted to disturbance. However, the wetlands appeared to be providing important wildlife habitat for birds and ducks if the proper hydrology is maintained. A complete listing of vascular flora found throughout the wetland areas is presented in Table 2.

Scientific Name	Common Name	Wasteground	Wetlands	Mowed Lawn
Acalypha rhomboidea	Rhombic copperleaf	X		
Acer negundo	Box elder	X	Х	
Achillea millefolium	Yarrow	X		Х
Agrostis gigantea	Redtop		Х	Х
Agrostis stolonifera	Creeping bent grass		Х	Х
Alliaria petiolata	Garlic mustard	X		
Allium vineale	Field-garlic	X		Х
Alopecurus carolinianus	Carolina foxtail		Х	
Amaranthus sp.	Amaranth	X		
Ambrosia artemisiifolia	Common ragweed	X		
Andropogon virginicus	Broom sedge	X		Х
Arabidopsis thaliana	Mouse-ear cress	X		

Table 2. Summary of Vegetation Observed During the Habitat Assessment at Burke Lakefront Airport.

Scientific Name	Common Name	Wasteground	Wetlands	Mowed Lawn
Arctium minus	Common burdock	X		
Artemisia vulgaris	Common mugwort	X		
Asclepias syriaca	Common milkweed	X		Х
Aster pilosus	Awl aster	X		
Barbarea vulgaris	Spring cress			Х
Bromus tectorum	Downy brome	X		
Calystegia sepium	Hedge bindweed	X		
Capsella bursa-pastoris	Shepherd's purse	X		
Cardamine hirsuta	Hoary bitter-cress			Х
Carex praegracilis	Freeway sedge			Х
Cerastium vulgatum	Common chickweed	X		Х
Chenopodium album	Lambs-quarters	X		
Chrysanthemum leucanthemum	Oxeye daisy	X		Х
Cichorium intybus	Chicory	X		
Cirsium arvense	Canada thistle	X		Х
Cirsium vulgare	Bull thistle	X		Х
Conium maculatum	Poison hemlock	X		
Convolvulus arvensis	Field bindweed	X		
Conyza canadensis	Common horseweed	X		
Cornus amomum	Knob-styled dogwood	X	Х	
Coronilla varia	Crown vetch	X		
Cyperus strigosus	False nut sedge		Х	
Dactylis glomerata	Orchard grass			Х
Datura stamonium	Jimsonweed	X		
Daucus carota	Wild carrot	X		Х
Duchesnea indica	Indian strawberry			Х
Echinochloa muricata	Rough barnyard grass	X	Х	
Echinocloa crus-galli	Barnyard grass	X	Х	
Elaeagnus umbellata	Autumn olive	X		Х
Eleocharis erythropoda	Spike rush		Х	
Eleusine indica	Yard-grass	X		
Elytrigia repens	Quack grass			Х
Epilobium coloratum	Purple-leaved willow herb	X	Х	
Erigeron annuus	Annual fleabane	X		Х
Erophila verna	Early whitlow grass	X		
Erysimum cheiranthoides	Wormseed-mustard	X		
Euphorbia maculatum	Prostrate spurge	X		
Festuca elatior	Tall fescue	X		X
Galium aparine	Cleavers	X		Х

Table 2. Summary of Vegetation Observed During the Habitat Assessment at Burke Lakefront Airport.

Scientific Name	Common Name	Wasteground	Wetlands	Mowed Lawn
Geranium molle	Dove's-foot crane's-bill	Х		
Glechoma hederacea	Ground ivy	Х		
Hypericum perforatum	Common St. John's wort	X		
Juncus effuses	Soft rush		Х	
Lamium amplexicaule	Henbit	Х		Х
Lamium purpureum	Purple dead-nettle	Х		Х
Lepedium campestre	Fieldcress	Х		Х
Linaria vulgaris	Butter and eggs	Х		
Lonicera japonica	Japanese honeysuckle	Х		
Lonicera maackii	Bush honeysuckle	Х		
Malva neglecta	Cheese mallow	Х		
Melilotus alba	White sweet clover	Х		Х
Melilotus officinalis	Yellow sweet clover	Х		Х
Myosotis micrantha	Small flowered forget-me-not			Х
Oenothera biennis	Evening primrose	Х		
Oxalis stricta	Yellow wood sorrel	Х		Х
Panicum dichotomiflorum	Fall panic grass		Х	
Parthenocissus quinquefolia	Virginia creeper	Х		
Pastinaca sativa	Wild parsnip	Х		
Phalaris arundinacea	Reed canary grass		X	
Phragmites australis	Common reed	Х	Х	
Plantago lanceolata	English plantain			Х
Plantago rugelii	American plantain	Х		Х
Poa annua	Speargrass	Х		Х
Poa pratensis	Kentucky bluegrass	Х		Х
Polygonum aviculare	Common knotweed	Х		Х
Polygonum cuspidatum	Japanese knotweed	Х		
Polygonum amphibium var. emersum	Long-root smartweed		Х	
Polygonum hydropiper	Water pepper		Х	
Populus deltoides	Cottonwood	Х	Х	
Potentilla recta	Rough-fruited cinquefoil			Х
Prunella vulgaris	Self-heal	Х		Х
Ranunculus sceleratus	Cursed crow-foot		Х	
Rhamnus frangula	European buckthorn		Х	
Rhus typhina	Staghorn sumac	Х		
Robinia psuedoacacia	Black Locust	X		
Rosa multiflora	Multiflora rose	X		
Rumex altissimus	Pale dock	X		

Table 2. Summary of Vegetation Observed During the Habitat Assessment at Burke Lakefront Airport.

Scientific Name	Common Name	Wasteground	Wetlands	Mowed Lawn
Rumex crispus	Curly dock	X	Х	
Rumex obtusifolius	Bitter dock			Х
Salix interior	Sandbar willow	Х	Х	
Salix nigra	Black willow	X	Х	
Sambucus canadensis	Elderberry	Х		
Schoenoplectus tabernaemontani	Soft-stemmed bulrush		Х	
Scirpus atrovirens	Black bulrush		Х	
Senecio vulgaris	Common squaw-weed		Х	Х
Silene latifolia	White campion	Х		Х
Sisymbrium altissimum	Tall tumble mustard	Х		
Solanum dulcamara	Bittersweet nightshade	Х		
Solidago canadensis	Common goldenrod	Х		Х
Sonchus asper	Prickly sow thistle	Х		
Sonchus oleraceus	Common sow thistle	Х		
Stellaria media	Common chickweed	Х		Х
Taraxacum officinale	Dandelion	Х		Х
Thalaspi arvense	Field pennycress	X		
Toxicodendron radicans	Poison ivy	Х		
Tragopogon dubius	Field goat's-beard	X		
Trifolium pratensis	Red clover	X		Х
Trifolium repens	White clover	X		Х
Typha angustifolia	Narrow-leaved cattail		Х	
Typha latifolia	Common cattail		Х	
Urtica dioica	European stinging nettle	Х		
Verbascum thapsus	Common mullein	Х		
Veronica arvensis	Corn speedwell			Х
Veronica peregrina var. peregrina	Purslane speedwell	X	Х	
Veronica serpyllifolia	Thyme-leaved speedwell			Х
Viola sororia	Common blue violet			Х
Vitis riparia	Riverbank grape	Х		
Xanthium strumarium	Common cocklebur	Х	Х	

Table 2. Summary of Vegetation Observed During the Habitat Assessment at Burke Lakefront Airport.

Wildlife

During the habitat assessment, the presence of 26 bird species and two mammal species were observed directly, either alive or dead, or through evidence such as scat, tracks, or calls.

The species observed are summarized in Table 3 and 4 below. The species observed are typically found along the lakeshore and/or inhabiting open space.

Common Name	Scientific Name
American Coot	Fulica americana
Herring Gull	Larus argentatus
Ring-billed Gull	Larus delawarensis
Canada Goose	Branta canadensis
Red-winged Blackbird	Agelaius phoeniceus
Killdeer	Charadrius vociferus
Great Blue Heron	Ardea herodias
Double-crested Cormorant	Phalacrocorax auritus
Common Starling	Sturnus vulgaris
American Robin	Turdus migratorius
Ruddy Duck	Oxyura jamaicensis
Greater Scaup	Aythya marila
Mallard	Anas platyrhynchos
Red-shouldered Hawk	Buteo lineatus
Yellowlegs	Tringa sp.
Turkey Vulture	Cathartes aura
Blue-winged Teal	Anas discors
Northern Flicker	Colaptes auratus
Song Sparrow	Melospiza melodia
Caspian Tern	Sterna caspia
Savannah Sparrow	Passerculus sandwichensis
American Tree Sparrow	Spizella arborea
White-throated Sparrow	Zonotrichia albicollis
Chipping Sparrow	Spizella passerina
Pied-billed Grebe	Podilymbus podiceps
Short-billed Dowitcher	Limnodromus griseus

Table 3. Summary of Birds Observed During the Habitat Assessment at Burke Lakefront Airport.

Scientific Name	Common Name
Marmota monax	Groundhog
Ondatra zibethicus	Muskrat

Table 4. Summary of Mammals Observed During the Habitat Assessment at Burke Lakefront Airport.

THREATENED AND ENDANGERED SPECIES

FEDERALLY LISTED SPECIES

The ranges of the federally endangered Indiana bat (*Myotis sodalis*), Kirkland's warbler (*Dendroica kirtlandii*), Piping plover (*Charadrius melodus*), and the federal species of concern, the bald eagle (*Haliaeetus leucocephalus*) includes Cuyahoga County (USFWS 2012a). However, the ODNR found no records of any of these federally listed species within a 1-mile radius of the current project areas (Appendix D: ODNR 2012). Each species is addressed separately below.

Indiana Bat (Federally Endangered)

The range of the federally endangered Indiana bat (*Myotis sodalis*) includes Cuyahoga County. This species hibernates in caves and mines with swarming in surrounding wooded areas. Summer roosting and foraging habitat occurs in wooded stream corridors, bottomlands, upland forests, and woods. There are no records of capture sites within a 5-mile radius or hibernacula within 10 miles of the study area (Appendix A: ODNR 2012). No individuals or potential habitat was observed during the survey. No potential roosting trees or no maternity roost trees for the Indiana bat were observed in the study area.

Kirtland's Warbler (Federally Endangered)

Kirtland's warbler (*Dendroica kirtlandii*) nest only on the ground near the lower branches and in large stands of young jack pines (*Pinus banksiana*) that are 5 to 20 feet tall and 6 to 22 years old. The Kirtland's warbler is only a migrant species in Ohio. Approximately half of all observations for this species in Ohio have occurred within 3 miles of the shore of Lake Erie. During migration, individual birds usually forage in shrub/scrub or forested habitat and may stay in one area for a few days. No individuals or suitable habitat was observed in the study area.

Piping Plover (Federally Endangered)

The piping plover (*Charadrius melodus*) prefers sandy beaches, but migrants use large mudflats. Piping plovers used to nest on the larger Lake Erie beaches, but due to the disturbance

and destruction of their delicate habitat, this species has disappeared as an Ohio breeder. The last nesting record was in 1942; the piping plover is now only a migrant species in Ohio. There is no sandy beach habitat located in the study area.

Bald Eagle (Federal Species of Concern)

The range of the bald eagle (*Haliaeetus leucocephalus*) includes Cuyahoga County. There are no records of this species within a 1-mile radius of the study area (Appendix D: ODNR 2012) and no individuals or nests were observed during the survey.

STATE LISTED SPECIES

The ODNR found three records of threatened or endangered species within a 1-mile radius of the current project area (Appendix D: ODNR 2012). None of these species were observed at the airport during the field survey. However, one state species of Special Interest, the ruddy duck (*Oxyura jamaicensis*), was observed at the airport. Each state listed species is addressed below.

Upland Sandpiper (State Threatened)

Upland sandpipers in Ohio are associated with grasslands, pastures, and prairies where the vegetation reaches a maximum height of 30–60 cm. There is a record for the upland sandpiper within the Burke Lakefront Airport property. However, during the survey, no individuals were observed.

Peregrine Falcon (State Threatened)

The peregrine falcon lives mostly along mountain ranges, river valleys, coastlines, and increasingly in cities. Many falcons have settled in large cities, nesting in cathedrals, skyscraper window ledges, and the towers of suspension bridges. Potential nesting habitat was not observed in the airport.

Richardson's Pondweed (State Potentially Threatened)

Habitats vary widely and include the Great Lakes and connecting waterways, inland lakes, rivers, and creeks; in waters up to 5 m.; frequently in brackish or alkaline waters. Suitable habitat was observed along the portions of the project area that butted against Lake Erie and within one of the artificially flooded wetlands in the northeastern portion of the property. However, no individuals were observed during the survey.

Ruddy Duck (Species of Special Interest)

Ruddy ducks frequent large, deep lakes and rivers, as well as coastal bays and inlets. Their breeding habitat is marshy lakes and ponds. They nest in dense marsh vegetation near water. Suitable habitat and two individuals were observed in the northeastern portion of the airport where an artificially flooded wetland is located. The approximate location is noted on Figure 6.

SUMMARY

No streams were identified in Areas 1–4. Portions of Lake Erie border Area 1 to the west and north, Area 3 to the east, and Area 4 to the north.

A total of five wetlands, occupying 0.312 acre, were delineated in Area 2. All wetlands were determined to be Category 1 wetlands. Wetlands 1–5 are provisionally considered non-jurisdictional. The wetlands are summarized in Table 5 below.

Wetland ID	Vegetative Coverage	Photo No.	Isolated, Adjacent, Abutting	Receiving Waters	ORAM Score Category (1,2,3)	Wetland Type (Cowardin et al. 1979)	Est. Total Size (ac.)	Est. size in project area (ac.)
Wetland 1	Agrostis stolonifera, Eleocharis erythropoda, Phalaris arundinacea	34	Isolated	N/A	19 (Cat 1)	PEM	0.180	0.180
Wetland 2	Agrostis stolonifera, Eleocharis erythropoda	35	Isolated	N/A	19 (Cat 1)	PEM	0.066	0.066
Wetland 3	Agrostis stolonifera, Eleocharis erythropoda	36	Isolated	N/A	19 (Cat 1)	PEM	0.005	0.005
Wetland 4	Agrostis stolonifera, Eleocharis erythropoda	37	Isolated	N/A	19 (Cat 1)	PEM	0.029	0.029
Wetland 5	Agrostis stolonifera, Eleocharis erythropoda	44	Isolated	N/A	19 (Cat 1)	PEM	0.032	0.032

Table 5. Wetlands Summary Table for Project Areas 1–4 at Burke Lakefront Airport
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How the wetland(s) connects to Traditional Navigable Water (TNW): Wetlands 1–5 appear to be hydrologically isolated from a TNW.

Pursuant to Section 404 of the Clean Water Act, the USACE has jurisdiction over the placement of fill or dredged material in all jurisdictional "Waters of the United States". A Section 404 permit must be obtained prior to placing any fill material within a jurisdictional area. Non-jurisdictional wetlands are typically isolated wetland areas. Under most circumstances these wetlands are regulated by the Ohio Environmental Protection Agency (OEPA) and require either a General or Individual Isolated Wetland Permit for dredge and fill activities.

The habitat assessment was conducted for the area identified in Figure 2. The majority of the airport facility consisted of disturbed mowed lawn areas. The remaining portions consisted of USACE confined disposal facilties and wasteground.

The ODNR found no records for any federally listed species within a 1-mile radius of the current project area (Appendix D: ODNR 2012) and no federally listed species were observed in the airport during the habitat assessment.

The ODNR found three records for state listed species within a 1-mile radius of the current project area (Appendix D: ODNR 2012). None of these species were observed during the field survey. A record for the state endangered upland sand piper is recorded within the airport. Additionally, one state species of special interest, the ruddy duck (*Oxyura jamaicensis*), was observed in an artificially flooded wetland located in the northeaster portion of the airport during the field survey.

LITERATURE CITED

- Andreas, Barbara K., John J. Mack, and James S. McCormac. 2004. Floristic Quality Assessment Index (FQAI) for Vascular Plants and Mosses for the State of Ohio. Ohio EPA, Division of Surface Water, Wetland Ecology Group, Columbus, Ohio.
- Cowardin, Lewis M., Virginia Carter, Francis C. Golet, and Edward T. LaRoe. 1979. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Fish and Wildlife Service, FWS/OBS-79/31, December 1979.
- Environmental Laboratory. 1987. Corps of Engineers Wetland Delineation Manual. Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS.
- Gleason, H. A. and A. Cronquist. 1991. Manual of Vascular Plants of Northeastern United States and Adjacent Canada. The New York Botanical Garden, Bronx, New York.
- Mack, John J. 2000. State of Ohio Environmental Protection Agency, Division of Surface Water, Wetland Ecology Unit. ORAM v. 5.0 Quantitative Score Calibration. Last Revised: August 15, 2000.
- ODNR. 1991. ODNR, Geographic Information Management Systems website. Ohio Wetland Inventory Map for Cuyahoga County January 1, 1991. http://www.dnr.state.oh.us/gims/category.htm.
- ODNR. 2012. Letter from the Ohio Department of Natural Resources, Division of Wildlife April 17, 2012.
- OEPA. 2001. Ohio Rapid Assessment Method for Wetlands v. 5.0. User's Manual and Scoring Forms. Ohio Environmental Protection Agency, Division of Surface Water, 401/Wetland Ecology Unit. Ohio EPA Technical Report WET/2001-1.
- OEPA. 2006. Methods for Assessing Habitat in Flowing Waters: Using the Qualitative Habitat Evaluation Index (QHEI). Ohio EPA Division of Surface Water. Columbus, Ohio. June 2006.
- OEPA. 2012. Field Evaluation Manual for Ohio's Primary Headwater Habitat Streams (Version 3.0). Ohio EPA Division of Surface Water. Columbus, Ohio. January 2012.
- USACE. 2012. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region. U.S. Army Engineer Research and Development Center. Vicksburg, MS. January 2012.
- USDA, NRCS. 1999. Ohio 14-digit Subwatersheds web page. http://www.oh.nrcs.usda.gov/technical/14-digit/11narr0506.html

- USDA, NRCS. 2009a. Soil Survey Geographic Database for Cuyahoga County, Ohio. U.S. Department of Agriculture, Natural Resource Conservation Service. Fort Worth, Texas. http://SoilDataMart.nrcs.usda.gov/
- USDA, NRCS. 2009b. Hydric Soils List, Cuyahoga County, Ohio. U.S. Department of Agriculture, Natural Resources Conservation Service. November 9, 2009.
- USDA, SCS. 1980. *Soil Survey of Cuyahoga County, Ohio*. U.S. Department of Agriculture, Soil Conservation Service.
- USFWS. 2012a. Federally Listed Species by Ohio Counties, Reynoldsburg, Ohio. U.S. Fish and Wildlife Service. April 5, 2012.
- USFWS. 2012b. National Wetlands Inventory web page. U.S. Fish and Wildlife Service. http://www.fws.gov/wetlands/Data/mapper.html

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FIGURES

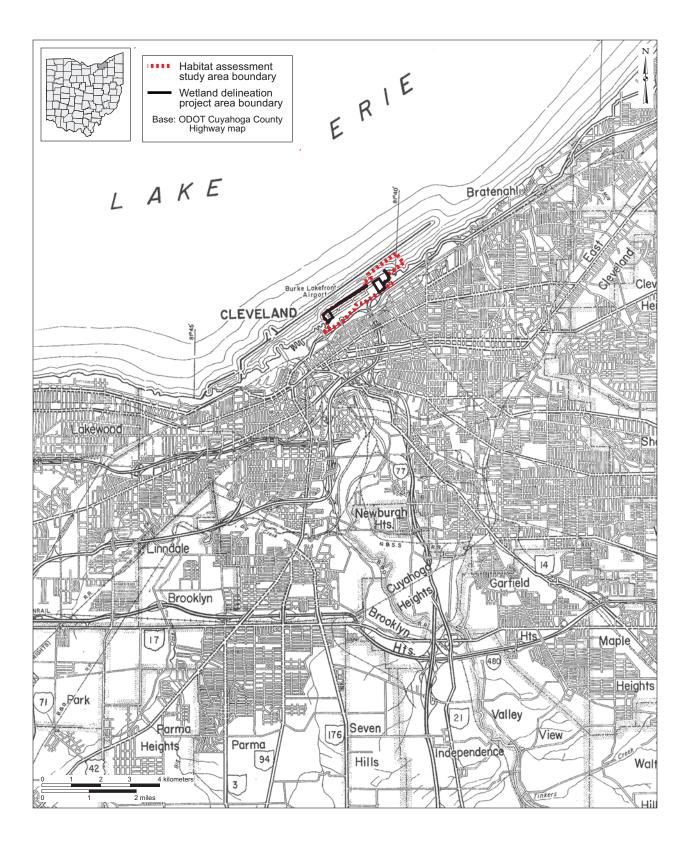


Figure 1. Ohio Department of Transportation (ODOT) map showing project vicinity for the Burke Lakefront Airport.

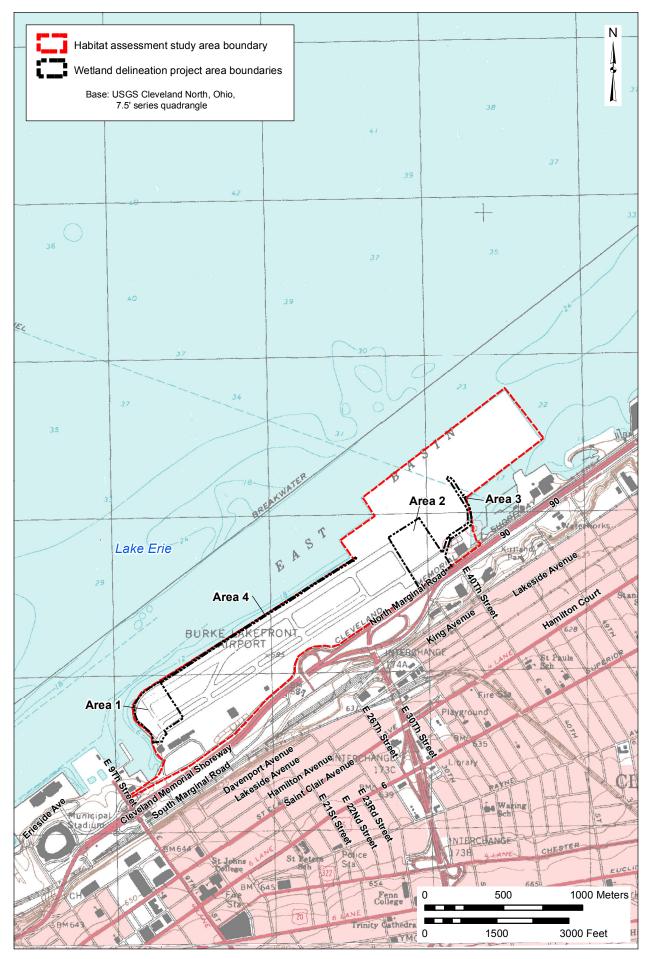


Figure 2. Portions of the 1994 Cleveland North quadrangle (USGS 7.5' topographic map) showing the Burke Lakefront Airport.

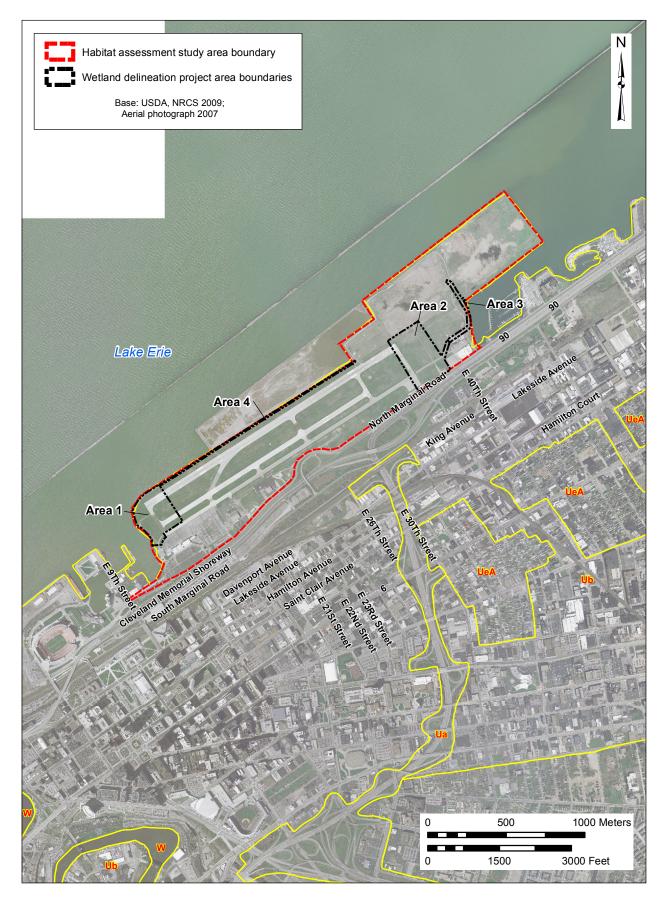


Figure 3. Soil Survey map (USDA, NRCS 2009a), showing the Burke Lakefront Airport.

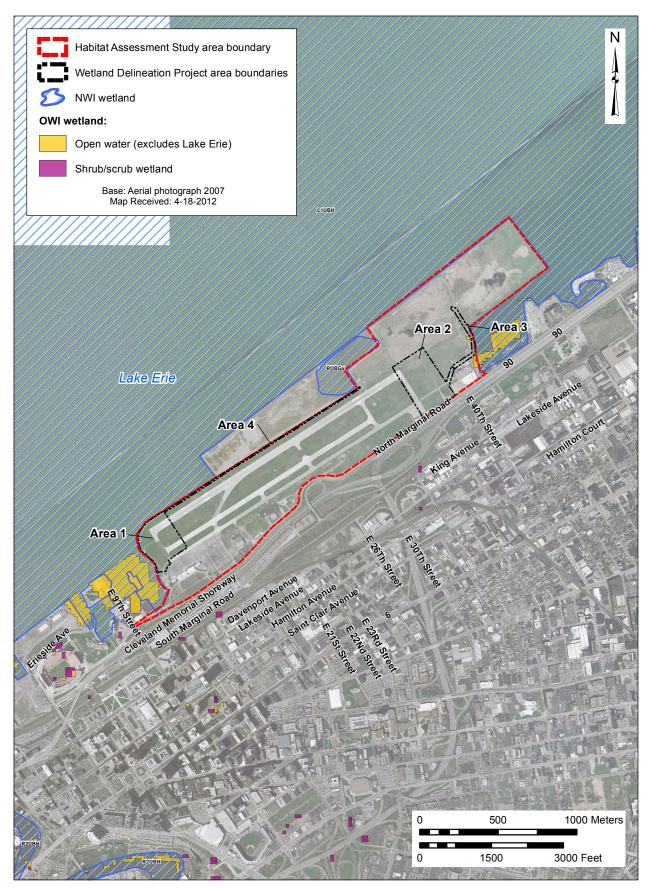


Figure 4. Ohio Wetland Inventory (ODNR 1991) and National Wetland Inventory maps (USFWS 2012b) showing the Burke Lakefront Airport.

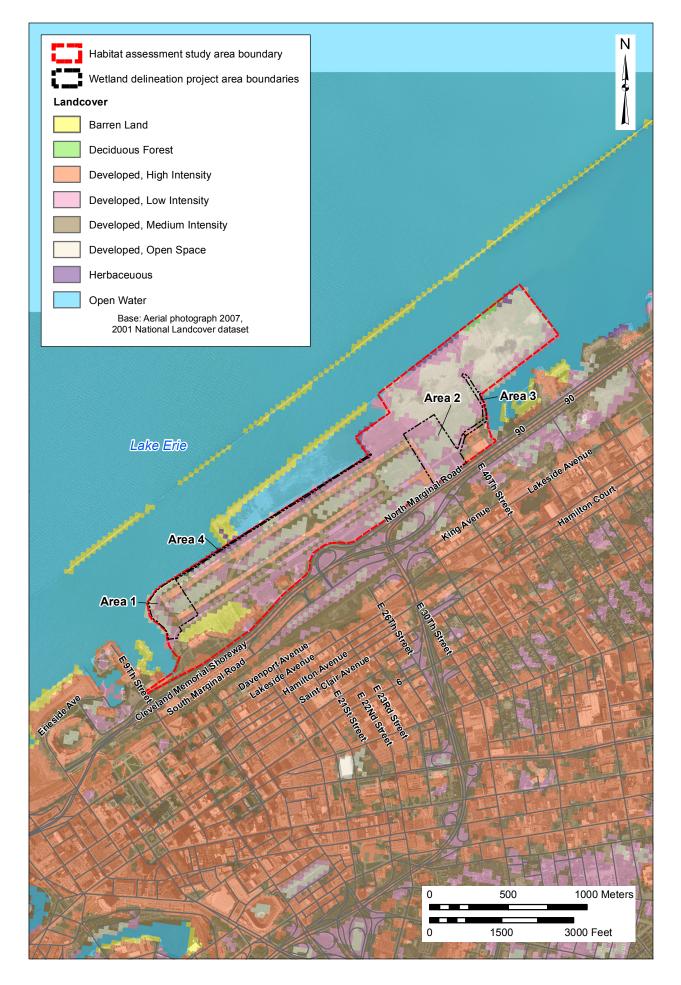


Figure 5. National Landcover map for Burke Lakefront Airport.

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Figure 6. Map of Burke Lakefront Airport showing Areas 1–4, wetlands and photograph locations. (2 Sheets)

Figure 6 Sheet 1 of 2 26

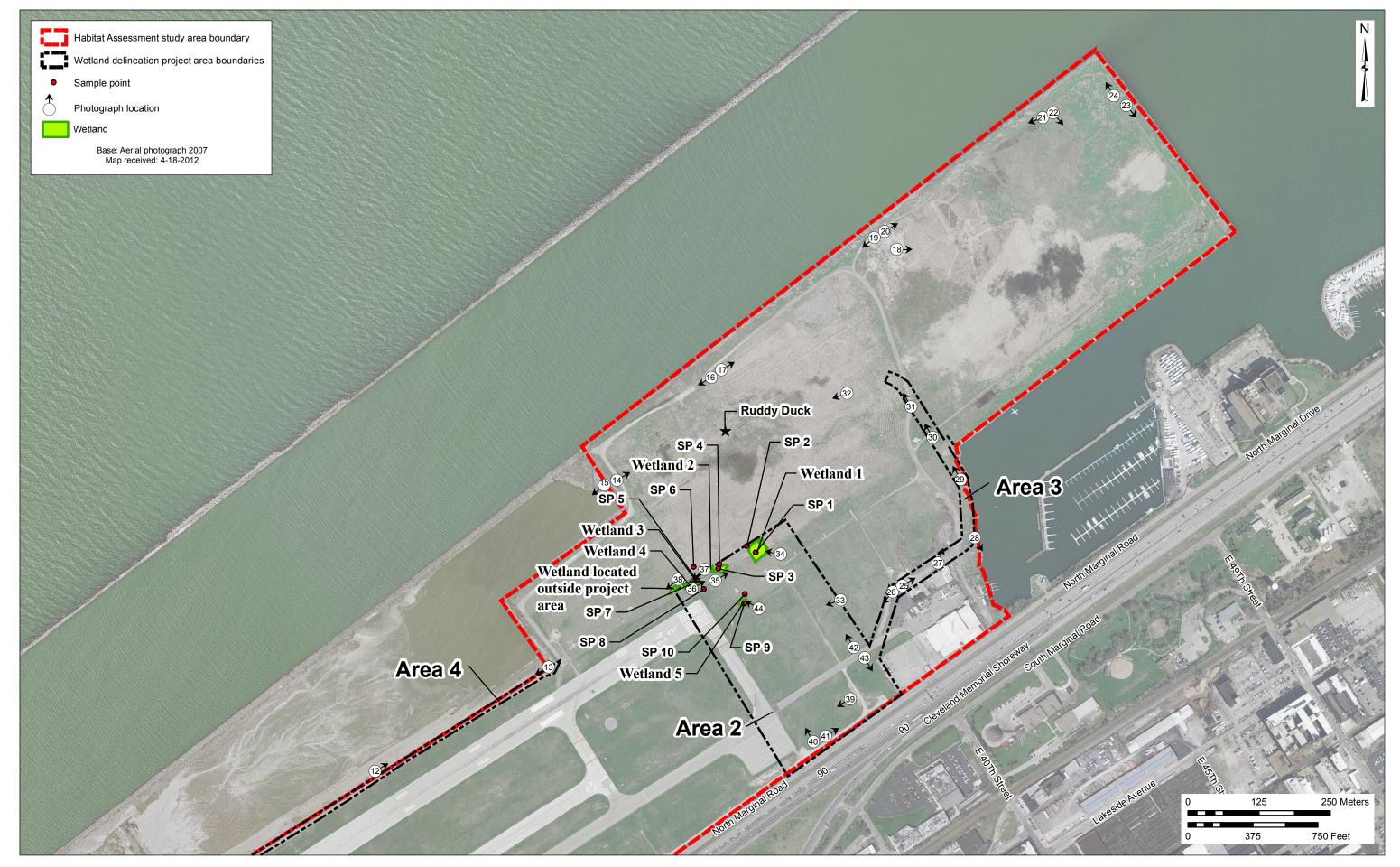


Figure 6. Map of Burke Lakefront Airport showing Areas 1–4, wetlands and photograph locations. (2 Sheets)

Figure 6 Sheet 2 of 2 27

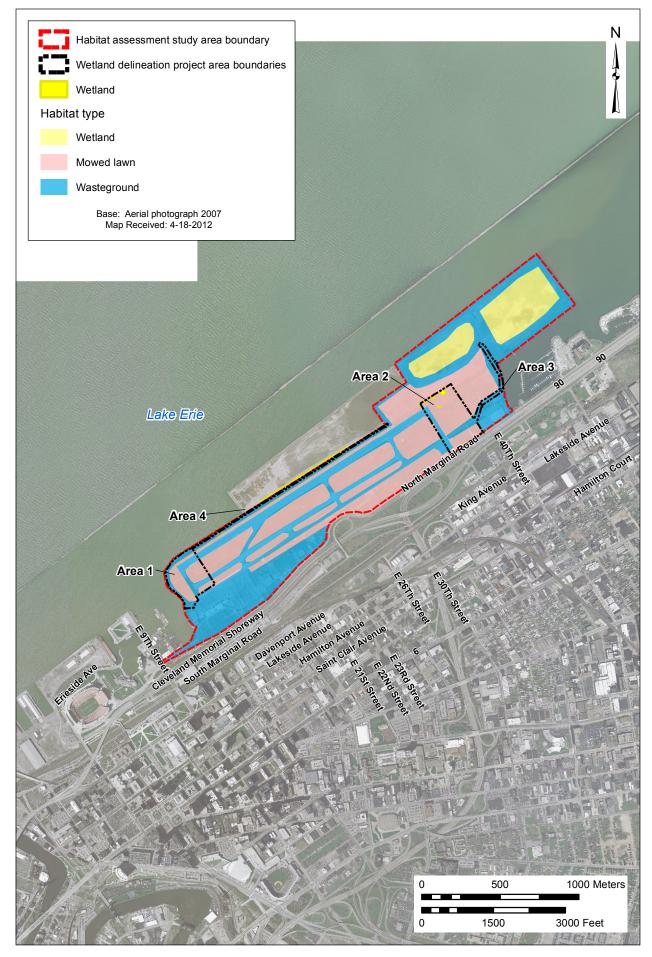


Figure 7. Habitat Map for Burke Lakefront Airport.

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APPENDIX A: PHOTOGRAPHS



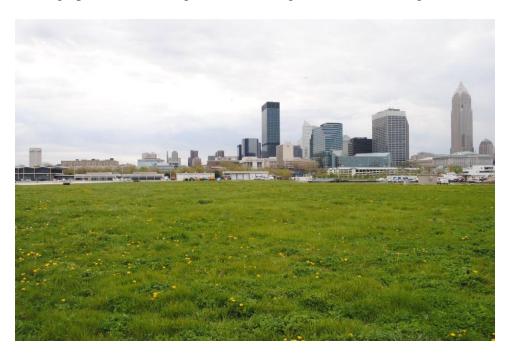
Photograph 1. View along the western edge of Area 1, looking northwest.



Photograph 2. View along the western edge of Area 1, looking southeast.



Photograph 3. View along the western edge of Area 1, looking northeast.



Photograph 4. View of mowed lawn area, looking southeast.



Photograph 5. View of runway, looking northeast.



Photograph 6. View of mowed lawn, looking northeast.



Photograph 7. View of mowed lawn looking southwest.



Photograph 8. View along the northern edge of Area 1, looking northeast.



Photograph 9. View of wetland located adjacent to Area 4, looking northeast.



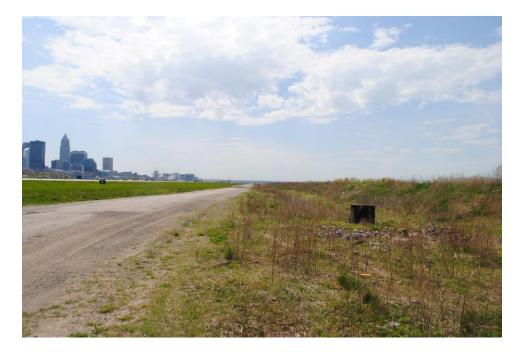
Photograph 10. View of wetland located adjacent to Area 4, looking southwest.



Photograph 11. View of a portion of the USACE confined disposal facility located adjacent to Area 4, looking southwest.



Photograph 12. View of a portion of the USACE confined disposal facility located adjacent to Area 4, looking northeast.



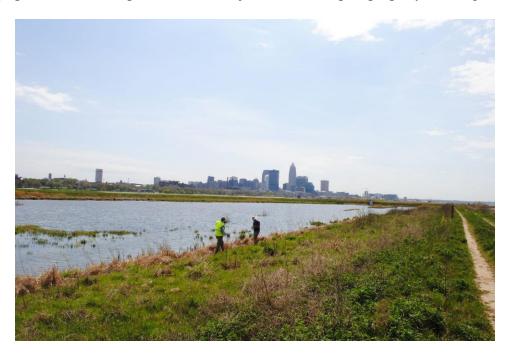
Photograph 13. View of access road and a portion of the USACE confined disposal facility in Area 4, looking southeast.



Photograph 14. View of an artificially flooded wetland, looking southwest.



Photograph 15. View of open water area adjacent to the airport property, looking southwest.



Photograph 16. View of an artificially flooded wetland, looking southwest.



Photograph 17. View of an artificially flooded wetland, looking east.



Photograph 18. View of a wetland, looking east.



Photograph 19. View of access road, looking southwest.



Photograph 20. View of access road, looking northeast.



Photograph 21. View of wetland, looking west.



Photograph 22. View of wetland, looking southeast.



Photograph 23. View of access road, looking southeast.



Photograph 24. View of access road, looking northwest.



Photograph 25. View of Area 3, looking northeast.



Photograph 26. View of Area 2, looking southwest.



Photograph 27. View of fill pile, looking northeast.



Photograph 28. View of marina along the eastern boundary of Area 3, looking southeast.



Photograph 29. View of Area 3, looking northwest.



Photograph 30. View of Area 3, looking northwest.



Photograph 31. View of Area 3, looking northwest.



Photograph 32. View of access road and adjacent mowed lawn, looking southeast.



Photograph 33. View of mowed lawn in Area 2, looking west.



Photograph 34. View of Wetland 1, looking northwest.



Photograph 35. View of Wetland 2, looking east.



Photograph 36. View of Wetland 3, looking east.



Photograph 37. View of Wetland 4, looking west.



Photograph 38. View of wetland adjacent to the Area 2 boundary, looking west.



Photograph 39. View of mowed lawn in Area 2, looking southeast.



Photograph 40. View of mowed lawn in Area 2, looking northwest.



Photograph 41. View of mowed lawn in Area 2, looking northeast.



Photograph 42. View of mowed lawn in Area 2, looking northwest.



Photograph 43. View of mowed lawn in Area 2, looking southeast.



Photograph 44. View of Wetland 5, looking northwest.

APPENDIX B: WETLAND DETERMINATION FORMS

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: I	Burke L	akefront	Airport			City/Co	ounty:	Cleveland/Cuyah	oga Sampling	Date:	3.14	.12
Applicant/Owne	r: Bu	ırke Lake	front A	irport				State: O	H Sampling	Point:	1	
Investigator(s):	Len M	Mikles, Jo	osh Kul	oitza, & Doug K	apusinski							
Landform (hillslo	ope, ter	race, etc	.): Urba	in Land		Local relief	(conc	ave, convex, none):	Concave	Slope (%):	1
Subregion (LRR MLRA):	lor	LF	RR R	Lat:	41.5237		Long	81.6726	Datum:	NAD [·]	1927	
Soil Map Unit N	ame:	Ub – Ui	rban La	ind					NWI Classification	: N/A		
Are climatic/hyd	rologic	conditior	ns on th	e site typical fo	r this time of year	? Yes	Х	No (If no, ex	kplain in Remarks.)			
Are vegetation	,	Soil	,	or Hydrology	significant	ly disturbed?		Are "Normal Circums	stances" present?	Yes 2	K N	0
Are vegetation	,	Soil	,	or Hydrology	naturally p	oroblematic?		(If needed, explain ar	ny answers in Rema	rks.)		

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	Х	No	Is the Sampled Area
Hydric Soils Present?	Yes	Х	No	Within a Wetland? Yes X No
Wetland Hydrology Present?	Yes	Х	No	If yes, optional Wetland Site ID: Wetland 1
Remarks:				

Nemarks.

This area is a small depression located in a mowed lawn area. This area satisfies the three criteria necessary for a positive wetland determination. This area is a wetland.

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply)								Secondary Indicators (minimum of two require				
Surface Water(A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aer Sparsely Vegetated Cond)	ĸ	Water Stained Leave Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Od Oxidized Rhizospher Presence of Reduced Recent Iron Reductic Thin Muck Surface (Other (Explain in Rer	lor (C1) es on Living d Iron (C4) on in Tilled S C7)		Surface Soil Crac Drainage Pattern Moss Trim Lines Dry-Season Wate Crayfish Burrows Saturation Visible Stunted or Stress Geomorphic Posi Shallow Aquitard Microtopographic X FAC-Neutral Test	s (B10) (B16) er Table (C (C8) e on Aerial eed Plants tion (D2) (D3) Relief (D	Image (D1)	ry (C9)	
Field Observations:												
Surface Water Present?	Yes		No	Х	Depth (inches):							
Vater Table Present?	Yes		No	х	Depth (inches):							
Saturation Present?	Yes	х	No		Depth (inches):	0.5	Wetland H	lydrology Present?	Yes	х	No	
includes capillary fringe)							tions), if availa	a la la s				

Wetland hydrology indicators were observed. This observation satisfies the hydrology criterion.

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

	`	Absolute	Dominant	Indicator	Dominance Test Worksheet:	
<u>Tree Stratum</u> (Plot size: 30 ft 1. 2.)	% Cover	Species?	Status	Number of Dominant Species That are OBL, FACW, or FAC:	(A)
3. 4.					Total Number of Dominant Species Across All Strata:	(B)
5. <u>Sapling/Shrub Stratum</u> (Plot	15 ft)		= Total Cover		Percent of Dominant Species That are OBL, FACW, or FAC:	(A/B)
size: 1. 2. 3. 4. 5.			= Total Cover		Prevalence Index Worksheet:Total % Cover of:Multiply by:OBL Species× 1 =FACW Species× 2 =FAC Species× 3 =FACU Species× 4 =	
Herb Stratum (Plot size: 5 ft)				UPL Species x 5 =	
 Agrostis stolonifera Eleocharis erythropoda Phalaris arundinacea Phalaris arundinacea 6. 7. 8. 9. 10. 11 		80 15 5	Yes No No	FACW OBL FACW	Column Totals: (A) Prevalence Index = B/A = Hydrophytic Vegetation Indicators: X 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is > 50% 3 - Prevalence Index is ≤3.0 ¹ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a sepa sheet) Problematic Hydrophytic Vegetation ¹ (Explanation (Expla	rate
Woody Vine Stratum (Plot size:	30 ft)	100	= Total Cover		¹ Indicators of hydric soil and wetland hydrolo must be present, unless disturbed or problem	
1. 2. 3. 4. 5. 6.					Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (or more in diameter at breast height (DBH), r of height	egardless
7. 8. 9. 10.			= Total Cover		 Sapling/Shrub – Woody plants, excluding vi less than 3 in. DBH and greater than 3.28 ft (Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less that tall. Woody vine – All woody vines greater than a height. Hydrophytic 	(1 m) tall. an 3.28 ft
					Vegetation Present? Yes X N	0

US Army Corps of Engineers

Northcentral and Northeast Region -Version 2.0

Depth	scription: (Describe to Matrix			ox Featu				<i>.</i>
nches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-4	2.5Y 3/1	90	7.5YR 3/4	10	С	PL	Loamy/Clayey	The soils observed are highly disturbed.
4-7	2.5Y 4/1	90	10YR 4/6	10	С	PL	Loamy/Clayey	
>7	IMPENETRABLE						Fill	
Histic E Histic E Black H Hydrog Stratifie Deplete Thick D Sandy Sandy Sandy	Epipedon (A2) Histic (A3) en Sulfide (A4) ed Layers (A5) ed Below Dark Surface Dark Surface (A12) Mucky Mineral (S1) Gleyed Matrix (S4) Redox (S5)		Polyvalue MLRA 149	Below Su B) Surface (cky Mine cky Mine ayed Matri Matrix (F3 k Surfact Dark Surf	urface (S8) (S9) (LRR I ral (F1) (LF rix (F2) 3) e (F6) ace (F7)	(LRR R, R, MLRA	Indicators for 2 cm Mu 5 cm Mu Dark Sun Polyvalu Thin Dar Iron-Mar Piedmor Mesic Sp Red Pare	=Pore Lining, M=Matrix. or Problematic Hydric Soils ³ : ck (A10) (LRR K, I, MLRA 149B) airie Redox (A16) (LRR K, L, R) cky Peat or Peat (S3) (LRR K, L, R) face (S7) (LRR K, L, M) e Below Surface (S8) (LRR K, L) k Surface (S9) (LRR K, L) iganese Masses (F12) (LRR K, L, R) it Floodplain Soils (F19) (MLRA 149B) podic (TA6) (MLRA 144A, 145, 149B) ent Material (F21)
Dark S	d Matrix (S6) urface (S7) (LRR R, M tors of Hydrophytic veg Layer (if observed): Fill		-	must be	present, ur	nless distu	Other (E	allow Dark Surface (TF12) xplain in Remarks) ic
	(inches): 7						Hydric Preser	TAS A NO
	of Hydric Soils in the U							dric soil indicator presented in the Fie

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Project/Site: Burke Lakefront Airport	City/County:	Cleveland/Cuyahoga	Sampling Date:	3.14.12
Applicant/Owner: Burke Lakefront Airport		State: OH	Sampling Point:	2
Investigator(s): Len Mikles, Josh Kubitza, & Doug Kapusinski				
Landform (hillslope, terrace, etc.): Urban Land, Road Embankment	Local relief (conca	ve, convex, none): None	Slope	(%): 1
Subregion (LRR or LRR R Lat: 41.5234	Long:	81.6734	Datum: NAD	1927
Soil Map Unit Name: Ub – Urban Land		NWI C	assification: N/A	
Are climatic/hydrologic conditions on the site typical for this time of year	r? Yes X I	No (If no, explain in I	Remarks.)	
Are vegetation , Soil , or Hydrology significant	tly disturbed? A	re "Normal Circumstances" p	present? Yes	X No
Are vegetation , Soil , or Hydrology naturally	problematic? (If	f needed, explain any answe	rs in Remarks.)	

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes		No	Х	Is the Sampled Area
Hydric Soils Present?	Yes	х	No		Within a Wetland? Yes No X
Wetland Hydrology Present?	Yes		No	Х	If yes, optional Wetland Site ID: Out Point for Wetland 1
Remarks:					

This area satisfies only one of the three criteria necessary for a positive wetland determination. This area is not a wetland.

HYDROLOGY

Primary Indicators (minimum	of one is re	auired: cl	neck a	ll that apply)		Secondary Indicator	s (minimum o	f two requi	red)
Surface Water(A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Ae Sparsely Vegetated Cor		· ·	A N F C F T	Vater Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1) Dxidized Rhizospheres on L Presence of Reduced Iron (Recent Iron Reduction in Till Thin Muck Surface (C7) Dther (Explain in Remarks)	C4)	Surface Soil Cra Drainage Patterr Moss Trim Lines Dry-Season Wat Crayfish Burrows Saturation Visibl Stunted or Stres Geomorphic Pos Shallow Aquitarc Microtopographi FAC-Neutral Tes	ns (B10) (B16) er Table (C2) s (C8) e on Aerial Im sed Plants (D sition (D2) d (D3) c Relief (D4)	nagery (C9))
Field Observations:									
Surface Water Present?	Yes	No	Х	Depth (inches):					
Water Table Present?	Yes	No	Х	Depth (inches):					
Waler Table Fresent?	Yes	No	х	Depth (inches):	Wetland H	ydrology Present?	Yes	No	Х

Remarks:

		Absolute	Dominant	Indicator	Dominance Test Worksheet:	
Tree Stratum (Plot size: 30 ft 1.)	% Cover	Species?	Status	Number of Dominant Species That are OBL, FACW, or FAC:	0 (A)
2. 3. 4. 5.					Total Number of Dominant Species Across All Strata:	2 (B)
S. <u>Sapling/Shrub Stratum</u> (Plot size:	15 ft)		= Total Cover		Percent of Dominant Species That are OBL, FACW, or FAC:	0 (A/B)
5126. 1. 2. 3. 4. 5.			= Total Cover		Prevalence Index Worksheet:Total % Cover of:MultiplyOBL Species× 1 =FACW Species× 2 =FAC Species× 3 =FACU Species× 4 =	by:
Herb Stratum (Plot size: 5 ft)				UPL Species x 5 =	
 Festuca elatior Plantago lanceolata Poa pratensis 4. 5. 6. 7. 8. 9. 10. 11 		70 20 10	Yes Yes No	FACU UPL FACU	Column Totals: (A) Prevalence Index = B/A = Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Veg. 2 - Dominance Test is > 50% 3 - Prevalence Index is ≤3.0 ¹ 4 - Morphological Adaptations ¹ (Prisupporting data in Remarks or on a sheet) Problematic Hydrophytic Vegetation	ovide a separate
Woody Vine Stratum (Plot size:	30 ft)	100	= Total Cover		¹ Indicators of hydric soil and wetland hy must be present, unless disturbed or pr	roblematic.
1. 2.					Definitions of Four Vegetation Strata	a:
3. 4. 5.					Tree – Woody plants, excluding vines, or more in diameter at breast height (D of height	
6. 7. 8.					Sapling/Shrub – Woody plants, exclude less than 3 in. DBH and greater than 3.	
9. 10.			= Total Cover		Herb – All herbaceous (non-woody) pla regardless of size, and woody plants le tall.	
					Woody vine – All woody vines greater height.	than 3.28 ft in
					Hydrophytic Vegetation Present? Yes	No X
					eater than 50 percent. The plant commur hydrophytic vegetation is absent. This of	

Dominance Test, and indicators of hydric soil and/or wetland hydrology are absent. As a result, hydrophytic vegetation is absent. This observation does not satisfy the vegetation criterion.

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epth	Matrix		Red	ox Featu	res]			
iches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remar	ks
0-4	2.5Y 3/1	90	7.5YR 3/4	10	<u>с</u>	PL	Loamy/Clayey	The soils obs		
-		00	1.011(0/4	10	Ũ			disturbed.		
>4	IMPENETRABLE						Fill			
	Concentration, D=Deple	etion, RM=	Reduced Matrix, MS	= Maske	d Sand Gra	ains.		=Pore Lining, N		
ydric Soi	I Indicators:				((0 -)		Indicators f	or Problemation	Hydric	Soils ':
Histosc	ol (A1)		Polyvalue I MLRA 149		urface (S8)	(LRR R,	2 cm Mu	ck (A10) (LRR	K, I, ML	RA 149B)
					(S9) (I RR					
Histic Epipedon (A2) Thin Dark Surface (S9) (LRR R, MLRA 149B)							Coast P	airie Redox (A	6) (LRR	K, L, R)
Black Histic (A3)Loamy Mucky Mineral (F1) (LRR K, L)Hydrogen Sulfide (A4)Loamy Gleyed Matrix (F2)							5 cm Mu	cky Peat or Pe	at (S3) (I	_RR K, L, R)
								face (S7) (LRF		
	ed Layers (A5) ed Below Dark Surface	N (A 1 1)	Depleted N X Redox Dar					e Below Surfac	· · ·	
	ark Surface (A12)	= (A I I)	Depleted D					k Surface (S9) Iganese Masse		
Sandy	Mucky Mineral (S1)		Redox Dep				Piedmor	t Floodplain So	ils (F19)	(MLRA 1498
	Gleyed Matrix (S4)							odic (TA6) (M		A, 145, 149B
	Redox (S5)							ent Material (F2		2)
	d Matrix (S6) urface (S7) (LRR R, M	II RA 149F	3)					allow Dark Surf xplain in Rema		∠)
Danto			-,					Apiani in Roma	110)	
³ Indicat	tors of Hydrophytic veg	getation an	d wetland hydrology	must be	present, u	nless distu	irbed or problemat	ic		
	tors of Hydrophytic veg Layer (if observed):	getation an	d wetland hydrology	must be	present, u	nless distu	irbed or problema	ic		
	Layer (if observed):	getation an	d wetland hydrology	must be	present, u	nless distu	Irbed or problemat	ic		
estrictive Type:	Layer (if observed): Fill	getation an	d wetland hydrology	must be	present, u	nless distu	Hydric	Soil Ye	s X	No
estrictive Type: Depth (Layer (if observed):	getation an	d wetland hydrology	must be	present, u	nless distu		Soil Ye	s X	No
estrictive Type: Depth (emarks:	Layer (if observed): Fill (inches): 4						Hydric Prese	Soil Ye ht?		
estrictive Type: Depth (emarks: ne soils o	Layer (if observed): Fill (inches): 4 bserved are highly dis	sturbed. T	he soils in this area	correspo	and to the I	Redox Da	Hydric Prese	Soil Ye ht?		
estrictive Type: Depth (emarks: ne soils o	Layer (if observed): Fill (inches): 4	sturbed. T	he soils in this area	correspo	and to the I	Redox Da	Hydric Prese	Soil Ye ht?		
estrictive Type: Depth (emarks: ne soils o	Layer (if observed): Fill (inches): 4 bserved are highly dis	sturbed. T	he soils in this area	correspo	and to the I	Redox Da	Hydric Prese	Soil Ye ht?		
estrictive Type: Depth (emarks: ne soils o	Layer (if observed): Fill (inches): 4 bserved are highly dis	sturbed. T	he soils in this area	correspo	and to the I	Redox Da	Hydric Prese	Soil Ye ht?		
estrictive Type: Depth (emarks: ne soils o	Layer (if observed): Fill (inches): 4 bserved are highly dis	sturbed. T	he soils in this area	correspo	and to the I	Redox Da	Hydric Prese	Soil Ye ht?		
estrictive Type: Depth (emarks: ne soils o	Layer (if observed): Fill (inches): 4 bserved are highly dis	sturbed. T	he soils in this area	correspo	and to the I	Redox Da	Hydric Prese	Soil Ye ht?		
estrictive Type: Depth (emarks: ne soils o	Layer (if observed): Fill (inches): 4 bserved are highly dis	sturbed. T	he soils in this area	correspo	and to the I	Redox Da	Hydric Prese	Soil Ye ht?		
estrictive Type: Depth (emarks: ne soils o	Layer (if observed): Fill (inches): 4 bserved are highly dis	sturbed. T	he soils in this area	correspo	and to the I	Redox Da	Hydric Prese	Soil Ye ht?		
estrictive Type: Depth (emarks: ne soils o	Layer (if observed): Fill (inches): 4 bserved are highly dis	sturbed. T	he soils in this area	correspo	and to the I	Redox Da	Hydric Prese	Soil Ye ht?		
estrictive Type: Depth (emarks: ne soils o	Layer (if observed): Fill (inches): 4 bserved are highly dis	sturbed. T	he soils in this area	correspo	and to the I	Redox Da	Hydric Prese	Soil Ye ht?		
estrictive Type: Depth (emarks: ne soils o	Layer (if observed): Fill (inches): 4 bserved are highly dis	sturbed. T	he soils in this area	correspo	and to the I	Redox Da	Hydric Prese	Soil Ye ht?		
estrictive Type: Depth (emarks: ne soils o	Layer (if observed): Fill (inches): 4 bserved are highly dis	sturbed. T	he soils in this area	correspo	and to the I	Redox Da	Hydric Prese	Soil Ye ht?		
estrictive Type: Depth (emarks: ne soils o	Layer (if observed): Fill (inches): 4 bserved are highly dis	sturbed. T	he soils in this area	correspo	and to the I	Redox Da	Hydric Prese	Soil Ye ht?		
estrictive Type: Depth (emarks: ne soils o	Layer (if observed): Fill (inches): 4 bserved are highly dis	sturbed. T	he soils in this area	correspo	and to the I	Redox Da	Hydric Prese	Soil Ye ht?		
estrictive Type: Depth (emarks: ne soils o	Layer (if observed): Fill (inches): 4 bserved are highly dis	sturbed. T	he soils in this area	correspo	and to the I	Redox Da	Hydric Prese	Soil Ye ht?		
estrictive Type: Depth (emarks: ne soils o	Layer (if observed): Fill (inches): 4 bserved are highly dis	sturbed. T	he soils in this area	correspo	and to the I	Redox Da	Hydric Prese	Soil Ye ht?		
estrictive Type: Depth (emarks: ne soils o	Layer (if observed): Fill (inches): 4 bserved are highly dis	sturbed. T	he soils in this area	correspo	and to the I	Redox Da	Hydric Prese	Soil Ye ht?		

Project/Site: Burke Lakefront Airport	City/County:	Cleveland/Cuyahoga	Sampling Date:	3.14.12
Applicant/Owner: Burke Lakefront Airport		State: OH	Sampling Point:	3
Investigator(s): Len Mikles, Josh Kubitza, & Doug Kapusinski				
Landform (hillslope, terrace, etc.): Urban Land	Local relief (conca	ve, convex, none): Cor	ncave Slope	(%): 1
Subregion (LRR or LRR R Lat: 41.5234	Long:	81.6734	Datum: NAD	1927
Soil Map Unit Name: Ub – Urban Land		NWI	Classification: N/A	
Are climatic/hydrologic conditions on the site typical for this time of year	? Yes X N	No (If no, explain i	n Remarks.)	
Are vegetation , Soil , or Hydrology significant	ly disturbed? Ar	re "Normal Circumstances	" present? Yes	X No
Are vegetation , Soil , or Hydrology naturally p	problematic? (If	needed, explain any ans	wers in Remarks.)	

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	X	No	Is the Sampled Area
Hydric Soils Present?	Yes	Х	No	Within a Wetland? Yes X No
Wetland Hydrology Present?	Yes	Х	No	If yes, optional Wetland Site ID: Wetland 2
Remarks:				

This area is a small depression located in a mowed lawn area. This area satisfies the three criteria necessary for a positive wetland determination. This area is a wetland.

HYDROLOGY

Primary Indicators (minimum	n of one is i	equir	ed; ch	eck a	Il that apply)			Secondary Indicators	(minimur	n of two	o required
Surface Water(A1) High Water Table (A2) X Saturation (A3) Water Marks (B1) X Sediment Deposits (B2) Drift Deposits (B3) X Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Ae Sparsely Vegetated Com	•	•	·)	/ N F F T	Vater Stained Leave Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Od Dxidized Rhizospher Presence of Reduce Recent Iron Reductic Fhin Muck Surface (Dther (Explain in Rer	lor (C1) es on Livin d Iron (C4) on in Tilled C7)		Surface Soil Crac Drainage Pattern Moss Trim Lines Dry-Season Wate Crayfish Burrows Saturation Visible Stunted or Stress Geomorphic Posi Shallow Aquitard Microtopographic X FAC-Neutral Test	s (B10) (B16) er Table (0 (C8) e on Aerial ed Plants tion (D2) (D3) Relief (D	/ Image (D1)	ery (C9)
Field Observations:											
Surface Water Present?	Yes		No	Х	Depth (inches):						
Water Table Present?	Yes		No	Х	Depth (inches):						
Saturation Present?	Yes	х	No		Depth (inches):	0.5	lydrology Present?	Yes	Х	No	

Remarks:

		Absolute	Dominant	Indicator	Dominance Test Worksheet:	
<u>Tree Stratum</u> (Plot size: 30 ft 1. 2.)	% Cover	Species?	Status	Number of Dominant Species That are OBL, FACW, or FAC:	(A)
3. 4. 5.					Total Number of Dominant Species Across All Strata:	(B)
Sapling/Shrub Stratum (Plot size:	15 ft)		= Total Cover		Percent of Dominant Species That are OBL, FACW, or FAC:	(A/B)
1. 2. 3. 4. 5. <u>Herb Stratum</u> (Plot size: 5 ft)		= Total Cover		Prevalence Index Worksheet:Total % Cover of:Multiply by:OBL Species× 1 =FACW Species× 2 =FAC Species× 3 =FACU Species× 4 =UPL Species× 5 =	
 Agrostis stolonifera Eleocharis erythropoda 		80 15	Yes No	FACW OBL	Column Totals: (A)	(B)
 Phalaris arundinacea 4. 5. 6. 7. 8. 9. 10. 11 		5	No	FACW	Prevalence Index = B/A = Hydrophytic Vegetation Indicators: X 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is > 50% 3 - Prevalence Index is ≤3.0 ¹ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separa sheet) Problematic Hydrophytic Vegetation ¹ (Exp	
Woody Vine Stratum (Plot size:	30 ft)	100	= Total Cover		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problema	
1. 2. 3. 4. 5. 6. 7. 8. 9. 10.			= Total Cover		 Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7. or more in diameter at breast height (DBH), regord height Sapling/Shrub – Woody plants, excluding vine less than 3 in. DBH and greater than 3.28 ft (1 Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than tall. Woody vine – All woody vines greater than 3.2 	gardléss es, m) tall. 3.28 ft
					height. Hydrophytic Vegetation Present? Yes X No	
Remarks: (Include photo number observation satisfies the Rapid Te			The dominant spe	cies observe	ed has a wetland indicator status of FACW. This	

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epth	Matrix		Rec	lox Featu	res			
nches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-4	2.5Y 3/1	90	7.5YR 3/4	10	С	PL	Loamy/Clayey	The soils observed are highly disturbed.
4-7	2.5Y 4/1	90	10YR 4/6	10	С	PL	Loamy/Clayey	
>7	IMPENETRABLE						Fill	
Histosol Histic E Black H Hydroge Stratifie Deplete Thick D Sandy N Sandy F Stripped	I Indicators: I (A1) ipipedon (A2) listic (A3) en Sulfide (A4) ed Layers (A5) ed Below Dark Surface vark Surface (A12) Mucky Mineral (S1) Gleyed Matrix (S4) Redox (S5) d Matrix (S6) urface (S7) (LRR R. M		Polyvalue MLRA 149 Thin Dark 149B) Loamy Mu Loamy Glu Depleted I X Redox Da Depleted I Redox De	9B) Surface (ucky Mine eyed Matr Matrix (F3 rk Surface Dark Surfa	S9) (LRR ral (F1) (LI ix (F2) ;) e (F6) ace (F7)	R, MLRA	2 cm Mu Coast P 5 cm Mu Dark Su Polyvalu Thin Dar Iron-Mar Piedmor Mesic S Red Par Very Sh	tor Problematic Hydric Soils ³ : uck (A10) (LRR K, I, MLRA 149B) rairie Redox (A16) (LRR K, L, R) ucky Peat or Peat (S3) (LRR K, L, R) rface (S7) (LRR K, L, M) ue Below Surface (S8) (LRR K, L) rk Surface (S9) (LRR K, L) rk Surface (S9) (LRR K, L) nganese Masses (F12) (LRR K, L, R) th Floodplain Soils (F19) (MLRA 149B) podic (TA6) (MLRA 144A, 145, 149B) rent Material (F21) allow Dark Surface (TF12) Explain in Remarks)
°Indicate								
		getation ar	d wetland hydrology	/ must be	present, u	nless distu	Irbed or problema	tic
estrictive L	Layer (if observed):	getation ar	d wetland hydrology	/ must be	present, u	nless distu	Irbed or problema	tic
	Layer (if observed):	getation ar	d wetland hydrology	<u>v must be</u>	present, u	nless distu		
estrictive L Type: Depth (i	Layer (if observed):	getation ar	d wetland hydrology	v must be	present, u	nless distu	Irbed or problema Hydric Prese	Soil Yes X No
estrictive L Type: Depth (i emarks: he soils ot	Layer (if observed): Fill inches): 7 bserved are highly di	sturbed. T	he soils in this area	correspo	nd to the I	Redox Da	Hydric Prese	Soil Yes X No
estrictive L Type: Depth (i emarks: he soils of	Layer (if observed): Fill inches): 7	sturbed. T	he soils in this area	correspo	nd to the I	Redox Da	Hydric Prese	Soil Yes X No nt?

Project/Site: Burke Lakefront Airport	City/County:	Cleveland/Cuyahoga	Sampling Date:	3.14.12
Applicant/Owner: Burke Lakefront Airport		State: OH	Sampling Point:	4
Investigator(s): Len Mikles, Josh Kubitza, & Doug Kapusinski				
Landform (hillslope, terrace, etc.): Urban Land, Road Embankment	Local relief (conca	ve, convex, none): None	e Slope	(%): 1
Subregion (LRR or LRR R Lat: 41.5235	Long:	81.6733	Datum: NAD	1927
Soil Map Unit Name: Ub – Urban Land		NWI C	lassification: N/A	
Are climatic/hydrologic conditions on the site typical for this time of year	r? Yes X I	No (If no, explain in	Remarks.)	
Are vegetation , Soil , or Hydrology significant	tly disturbed? A	re "Normal Circumstances"	present? Yes	X No
Are vegetation , Soil , or Hydrology naturally	problematic? (If	f needed, explain any answe	ers in Remarks.)	

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes		No	Х	Is the Sampled Area
Hydric Soils Present?	Yes	Х	No		Within a Wetland? Yes No X
Wetland Hydrology Present?	Yes		No	х	If yes, optional Wetland Site ID: Out Point for Wetland 2
Remarks:					

This area satisfies only one of the three criteria necessary for a positive wetland determination. This area is not a wetland.

HYDROLOGY

Drimon Indiantora (minimum	of one is re	autrad: ak	ook o	Il that apply)		Secondary Indicator	o (minimum o	f two roquin	rad)		
Primary Indicators (minimum		quirea, ci		11 37		Secondary Indicators (minimum of two required)					
Surface Water(A1)				Vater Stained Leaves (B9)		Surface Soil Cracks (B6)					
High Water Table (A2)				Aquatic Fauna (B13)		Drainage Patterns (B10)					
Saturation (A3)				Aarl Deposits (B15)		Moss Trim Lines (B16)					
Water Marks (B1)				lydrogen Sulfide Odor (C1)		Dry-Season Water Table (C2)					
Sediment Deposits (B2)	ving Roots (C3)										
Drift Deposits (B3)	(4)	Saturation Visible on Aerial Imagery (C9))						
Algal Mat or Crust (B4)	ed Soils (C6)	Stunted or Stressed Plants (D1)									
Iron Deposits (B5)		Geomorphic Pos	()								
	Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks)						Shallow Aquitard (D3)				
Sparsely Vegetated Cor	Icave Surface	e (B8)				Microtopographic					
						FAC-Neutral Tes	st (D5)				
Field Observations:											
Surface Water Present?	Yes	No	Х	Depth (inches):							
	Yes	No	Х	Depth (inches):							
					Wetland Hydrology Present? Yes No				Х		
Water Table Present? Saturation Present?	Yes	No	Х	Depth (inches):	Wetland H	yarology Present?	res	NO			

Remarks:

		Absolute	Dominant	Indicator	Dominance Test Worksheet:	
<u>Tree Stratum</u> (Plot size: 30 ft 1.)	% Cover	Species?	Status	Number of Dominant Species That are OBL, FACW, or FAC:	0 (A)
2. 3. 4. 5.					Total Number of Dominant Species Across All Strata:	2 (B)
Sapling/Shrub Stratum (Plot size:	15 ft)		= Total Cover		Percent of Dominant Species That are OBL, FACW, or FAC:	0 (A/B)
1. 2. 3. 4. 5. <u>Herb Stratum</u> (Plot size: 5 ft)		= Total Cover		Prevalence Index Worksheet:Total % Cover of:MultipOBL Species× 1 =FACW Species× 2 =FAC Species× 3 =FACU Species× 4 =UPL Species× 5 =	y by:
 Festuca elatior Plantago lanceolata Poa pratensis 		70 20 10	Yes Yes No	FACU UPL FACU	Column Totals: (A) Prevalence Index = B/A =	(B)
4. 5. 6. 7. 8. 9. 10.					Hydrophytic Vegetation Indicators 1 - Rapid Test for Hydrophytic Ve 2 - Dominance Test is > 50% 3 - Prevalence Index is ≤3.0 ¹ 4 - Morphological Adaptations ¹ (I supporting data in Remarks or or sheet) Problematic Hydrophytic Vegetat	egetation Provide a separate
Woody Vine Stratum (Plot size:	30 ft)	100	= Total Cover		¹ Indicators of hydric soil and wetland must be present, unless disturbed or	
1.					Definitions of Four Vegetation Stra	ita:
2. 3. 4. 5.					Tree – Woody plants, excluding vine or more in diameter at breast height of height	
6. 7. 8.					Sapling/Shrub – Woody plants, excl less than 3 in. DBH and greater than	
9. 10.			= Total Cover		Herb – All herbaceous (non-woody) regardless of size, and woody plants tall.	
					Woody vine – All woody vines great height.	er than 3.28 ft in
					Hydrophytic Vegetation Present? Yes	No X

Dominance Test, and indicators of hydric soil and/or wetland hydrology are absent. As a result, hydrophytic vegetation is absent. This observation does not satisfy the vegetation criterion.

US Army Corps of Engineers

ches)	Matrix			Redox Feature	s					
,	Color (moist)	%	Color (mois		Type ¹	Loc ²	Texture		Remarks	
0-4	2.5Y 3/1	90	7.5YR 3/4	10	С	PL	Loamy/Clayey	The soils obser disturbed.	ved are h	nighly
>4	IMPENETRABLE						Fill			
	oncentration, D=Deple Indicators: I (A1)	etion, RM=	Polyva	, MS= Masked alue Below Surf \ 149B)			Indicators for	=Pore Lining, M= or Problematic I ck (A10) (LRR K	lydric So	
Histic E	pipedon (A2)		Thin E 149B)	oark Surface (S	9) (LRR F	R, MLRA	Coast Pr	airie Redox (A16) (LRR K	(, L, R)
Hydroge Stratifie Deplete Thick D Sandy I Sandy G Sandy F Stripped Dark Su ³ Indicat	istic (A3) en Sulfide (A4) d Layers (A5) d Below Dark Surface ark Surface (A12) Mucky Mineral (S1) Gleyed Matrix (S4) Redox (S5) d Matrix (S6) urface (S7) (LRR R, M ors of Hydrophytic veg	ILRA 149B	Loam Deple X Redox Deple Redox	y Mucky Minera y Gleyed Matrix ted Matrix (F3) (Dark Surface ted Dark Surface (Depression (F logy must be p	(F2) (F6) e (F7) 8)		Dark Sur Polyvalue Thin Darl Iron-Man Piedmon Mesic Sp Red Pare Very Sha Other (E:	cky Peat or Peat face (S7) (LRR H e Below Surface < Surface (S9) (L ganese Masses t Floodplain Soils oodic (TA6) (MLR ent Material (F21 illow Dark Surfac cplain in Remark	(, L, M) (S8) (LR RR K, L) (F12) (LF (F19) (N A 144A, (e (TF12)	R K, L)) RR K, L, R) /ILRA 149B 145, 149B)
strictive I	_ayer (if observed):									
Type:	Fill									
Depth (inches): 4						Hydric S Preser	165	Х	No
marks:	oserved are highly dis	turbod T	ha aaila in thia d		d ta tha E	Podov Do	de Surfaga (EG) by	dria acil indiacta	- propost	od in the Fi
iicators o	f Hydric Soils in the U	nited State	s, version 7.0 (2010). This obs	servation	satisfies t	ne soiis criterion.			

Project/Site: Burke Lakefront Airport	City/County:	Cleveland/Cuyahoga	Sampling Date:	3.14.12
Applicant/Owner: Burke Lakefront Airport		State: OH	Sampling Point:	5
Investigator(s): Len Mikles, Josh Kubitza, & Doug Kapusinski				
Landform (hillslope, terrace, etc.): Urban Land	Local relief (concav	ve, convex, none): Co	ncave Slope	(%): 1
Subregion (LRR or LRR R Lat: 41.5232	Long:	81.6738	Datum: NAD	1927
Soil Map Unit Name: Ub – Urban Land		NWI	Classification: N/A	
Are climatic/hydrologic conditions on the site typical for this time of year	? Yes X N	No (If no, explain i	n Remarks.)	
Are vegetation , Soil , or Hydrology significant	ly disturbed? Ar	re "Normal Circumstances	" present? Yes	X No
Are vegetation , Soil , or Hydrology naturally p	problematic? (If	needed, explain any ans	wers in Remarks.)	

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	X	No	Is the Sampled Area
Hydric Soils Present?	Yes	х	No	Within a Wetland? Yes X No
Wetland Hydrology Present?	Yes	Х	No	If yes, optional Wetland Site ID: Wetland 3
Remarks:				

This area is a small depression located in a mowed lawn area. This area satisfies the three criteria necessary for a positive wetland determination. This area is a wetland.

HYDROLOGY

Primary Indicators (minimun	n of one is	requir	ed; ch	eck a	II that apply)			Secondary Indicators (minimum of two require				
Surface Water(A1) High Water Table (A2) X Saturation (A3) Water Marks (B1) X Sediment Deposits (B2) Drift Deposits (B3) X Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Ae Sparsely Vegetated Cor	erial Imager	•	·)	/ N F F F	Vater Stained Leave Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Oc Dxidized Rhizospher Presence of Reduce Recent Iron Reductio Fhin Muck Surface (Dther (Explain in Ref	lor (C1) es on Livin d Iron (C4) on in Tilled C7)	0 ()	Surface Soil Crac Drainage Patterns Moss Trim Lines Dry-Season Wate Crayfish Burrows Saturation Visible Stunted or Stress Geomorphic Posi Shallow Aquitard Microtopographic X FAC-Neutral Test	s (B10) (B16) r Table (((C8) on Aeria ed Plants tion (D2) (D3) Relief (D	/ Image (D1)	ery (C9)	
Field Observations:												
Surface Water Present?	Yes		No	Х	Depth (inches):							
	Yes		No	Х	Depth (inches):							
Water Table Present?					Depth (inches):	0.5		lydrology Present?	Yes	х	No	

Remarks:

		Absolute	Dominant	Indicator	Dominance Test Worksheet:	
Tree Stratum (Plot size: 30 ft 1. 2.)	% Cover	Species?	Status	Number of Dominant Species That are OBL, FACW, or FAC:	(A)
2. 3. 4. 5.					Total Number of Dominant Species Across All Strata:	(B)
S. Sapling/Shrub Stratum (Plot size:	15 ft)		= Total Cover		Percent of Dominant Species That are OBL, FACW, or FAC:	(A/B)
1. 2. 3. 4. 5. <u>Herb Stratum</u> (Plot size: 5 ft)		= Total Cover		Prevalence Index Worksheet:Total % Cover of:Multiply by:OBL Species× 1 =FACW Species× 2 =FAC Species× 3 =FACU Species× 4 =UPL Species× 5 =	
 Eleocharis erythropoda Agrostis stolonifera 		60 40	Yes Yes	OBL FACW	Column Totals: (A)	(B)
3.					Prevalence Index = B/A =	
4. 5. 6. 7. 8. 9. 10.					 Hydrophytic Vegetation Indicators: X 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is > 50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separ sheet) Problematic Hydrophytic Vegetation¹ (Ex 	rate
11 <u>Woody Vine Stratum</u> (Plot size:	30 ft)	100	= Total Cover		¹ Indicators of hydric soil and wetland hydrolog must be present, unless disturbed or problem	
1.					Definitions of Four Vegetation Strata:	
2. 3. 4. 5.					Tree – Woody plants, excluding vines, 3 in. (7 or more in diameter at breast height (DBH), re of height	
6. 7. 8.					Sapling/Shrub – Woody plants, excluding vir less than 3 in. DBH and greater than 3.28 ft (*	
9. 10.			= Total Cover		Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less that tall.	n 3.28 ft
					Woody vine – All woody vines greater than 3 height.	.28 ft in
					Hydrophytic Vegetation Present? Yes X No)
Remarks: (Include photo numbers This observation satisfies the Rap				cies observe	ed have a wetland indicator status of FACW and	OBL.

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Depth	Matrix		Redo	x Featu	res					
inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remark	S
0-4	2.5Y 4/1	90	10YR 5/6	. 10	C	PL	Loamy/Clayey	The soils ob	served are	highly
-		00	10111070	10	Ũ			disturbed.		
>4	IMPENETRABLE						Fill			
vpe: C=C	oncentration, D=Deple	etion, RM=F	Reduced Matrix, MS:	= Maske	d Sand G	rains.	² Location: PL	=Pore Lining,	M=Matrix.	
	Indicators:	,	,					or Problemat		Soils ³ :
-			Polyvalue E	Below Su	urface (S8) (LRR R,			-	
Histoso	I (A1)		MLRA 149				2 cm Mu	ck (A10) (LRI	KK, I, WILR	A 149B)
Histic E	ninedon (A2)		Thin Dark S	Surface ((S9) (LRR	R, MLRA	Coast B	airie Redox (/		KID)
TIISUC E	pipedon (A2)		149B)				Coast Pl	anie redux (/		r, ⊾, r <i>j</i>
	listic (A3)		Loamy Muc			.RR K, L)		cky Peat or P		
	en Sulfide (A4)		Loamy Gle				Dark Su	face (S7) (LR	R K, L, M)	
	d Layers (A5)	(X Depleted N					e Below Surfa		
	d Below Dark Surface ark Surface (A12)	(ATT)	Redox Darl Depleted D					k Surface (S9 Iganese Mass		
	Mucky Mineral (S1)		Redox Dep					t Floodplain S		
	Gleyed Matrix (S4)				()		Mesic S	podic (TA6) (N	ILRA 144	, 145, 149B)
	Redox (S5)						Red Par	ent Material (F	21)	
	d Matrix (S6)							allow Dark Su		2)
Dark Si	urface (S7) (LRR R, M	LRA 149B)					Other (E	xplain in Rem	arks)	
³ Indicat	ors of Hydrophytic veg	etation and	wetland bydrology	must ha	nresent i	Inlace distu	rhed or problemat	ic		
	Layer (if observed):		wettand hydrology		present, e					
Type:										
Type.	FIII						Hydric	Soil		
Depth (inches): 4						Prese		'es X	Νο
emarks:										
na soils o	bserved are highly di	sturbod T	he soils in this are	a corres	nond to t	ha Danlata	d Matrix (F3) byc	tric soil indica	tor presen	tad in tha Fi
	f Hydric Soils in the U									
			,							

Project/Site: Burke Lakefront Airport	City/County:	Cleveland/Cuyahoga	Sampling Date:	3.14.12
Applicant/Owner: Burke Lakefront Airport		State: OH	Sampling Point:	6
Investigator(s): Len Mikles, Josh Kubitza, & Doug Kapusinski				
Landform (hillslope, terrace, etc.): Urban Land, Road Embankment	Local relief (conca	ve, convex, none): None	Slope	(%): 1
Subregion (LRR or LRR R Lat: 41.5232	Long:	81.6738	Datum: NAD	1927
Soil Map Unit Name: Ub – Urban Land		NWI C	lassification: N/A	
Are climatic/hydrologic conditions on the site typical for this time of year	r? Yes X I	No (If no, explain in	Remarks.)	
Are vegetation , Soil , or Hydrology significant	tly disturbed? A	re "Normal Circumstances"	present? Yes	X No
Are vegetation , Soil , or Hydrology naturally	problematic? (If	f needed, explain any answe	rs in Remarks.)	

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes		No	Х	Is the Sampled Area
Hydric Soils Present?	Yes	х	No		Within a Wetland? Yes No X
Wetland Hydrology Present?	Yes		No	Х	If yes, optional Wetland Site ID: Out Point for Wetland 3
Remarks:					

This area satisfies only one of the three criteria necessary for a positive wetland determination. This area is not a wetland.

HYDROLOGY

Primary Indicators (minimum) of one is rea	auired: cl	neck a	ll that apply)		Secondary Indicator	s (minimum o	f two requi	red)
Surface Water(A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Ae Sparsely Vegetated Cor	erial Imagery	· ·	A N F C F T	Water Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1) Dxidized Rhizospheres on L Presence of Reduced Iron (Recent Iron Reduction in Till Thin Muck Surface (C7) Dther (Explain in Remarks)	iving Roots (C3) C4)	Surface Soil Cra Drainage Patterr Moss Trim Lines Dry-Season Wat Crayfish Burrows Saturation Visibl Stunted or Stres Geomorphic Pos Shallow Aquitarc Microtopographi FAC-Neutral Tes	ns (B10) (B16) er Table (C2) s (C8) e on Aerial Im sed Plants (D sition (D2) d (D3) c Relief (D4)	agery (C9)	
Field Observations:									
Surface Water Present?	Yes	No	Х	Depth (inches):					
Water Table Present?	Yes	No	Х	Depth (inches):					
	Yes	No	х	Depth (inches):	Wetland H	ydrology Present?	Yes	No	х

Remarks:

Tree Stratum (Plot size: 30 ft) % Cover Species? Status 1. . Total Number of Dominant Species Total are OBL, FACW, or FAC: 0 3. . . Total Number of Dominant Species 3. . . . 3. . . . 3. . . . 4. . . . 5. . . . 1. . . . 2. . . . 3. . . . 4. . . . 5. . . . 1. . . . 2. 3. 9. 1. 1. 2. 3.	(A)
3. Total Number of Dominant 4. Species Across All Strata: 2 5. = Total Cover Percent of Dominant Species That are OBL, FACW, or FAC: 0 1. Total Number of Dominant Species That are OBL, FACW, or FAC: 0 7. Total Number of Dominant Species That are OBL, FACW, or FAC: 0 7. Total Number of Dominant Species X = FAC Species	
 = Total Cover = Total Cover = Total Cover Percent of Dominant Species That are OBL, FACW, or FAC: 0 Pervalence Index Worksheet: Total % Cover of: Multiply by: OBL Species × 1 = FAC W Species × 2 = FAC W Species × 3 = FAC W Species × 4 = UPL Species × 4 = UPL Species × 5 = Column Totals: (A) Prevalence Index Worksheet: Total % Cover of: Multiply by: OBL Species × 1 = FAC W Species × 2 = FAC Species × 3 = FACU Species × 4 = UPL Species × 5 = Column Totals: (A) Prevalence Index = B/A = Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is > 50% 3 - Prevalence Index is ≤3.0° 4 - Morphological Adaptations1 (Provide supporting data in Remarks or on a separ sheet) Problematic Hydrophytic Vegetation¹ (Exponent of the prevalence Index is data in Remarks or on a separ sheet) Problematic Hydrophytic Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7 or more in diameter at breast height (DBH), re of height Sapling/Shrub – Woody plants, excluding vines, 3 in. (7 or more in diameter at breast height (DBH), re of height 	(B)
1.Prevalence Index Worksheet: Total % Cover of:Multiply by: Multiply by: OBL Species2.4. $=$ Total CoverFACU FACU Species $=$ FAC Species \times 4 = PACW Species4.1.Festuca elatior70YesFACU UPL Species \times 4 = UPL Species \times 4 = UPL Species1.Festuca elatior70YesUPL UPL Species \times 4 = UPL Species \times 4 = UPL Species2.Poa pratensis10NoFACU UPLPrevalence Index = B/A = Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is > 50% 3 - Prevalence Index is \leq 3.0 ° 4 - Morphological Adaptations1 (Provide supporting data in Remarks or on a separ sheet)9.100= Total Cover110100= Total Cover111100= Total Cover112.100= Total Cover113.100= Total Cover114.100= Total Cover115.100= Total Cover116.11117.100= Total Cover118.100= Total Cover119.100= Total Cover1100= Total Cover1100= Total Cover111.100= Total Cover12.1113.1114.1115.1116.11<	(A/B)
2.Plantago lanceolata20YesUPL3.Poa pratensis10NoFACU4.10NoFACU5.1Rapid Test for Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is > 50% 3 - Prevalence Index is $\leq 3.0^1$ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separ sheet)9.100= Total CoverWoody Vine Stratum 4.100= Total CoverWoody Vine Stratum 5.(Plot size: 30 ft)1001.2.Indicators of hydric soil and wetland hydrolog must be present, unless disturbed or problem.5.5.5.6.5.5.7.5.5.6.5.5.7.5.5.	
 4. 5. 6. 7. 8. 9. 9. 100 = Total Cover ¹Indicators of hydric soil and wetland hydrolog must be present, unless disturbed or problem. 9. 10. 11 100 = Total Cover ¹Indicators of hydric soil and wetland hydrolog must be present, unless disturbed or problem. 1. 2. 3. 4. 5. 6. 7. 7. 8. 9. 9. 100 = Total Cover ¹Indicators of hydric soil and wetland hydrolog must be present, unless disturbed or problem. 10. 11. 12. 3. 4. 5. 6. 7. 7. 8. 9. 100 = Total Cover ¹Indicators of hydric soil and wetland hydrolog must be present, unless disturbed or problem. 11. 12. 13. 14. 15. 16. 17. 18. 19. 19. 10. 1	(B)
100 = Total Cover ¹ Indicators of hydric soil and wetland hydrolog must be present, unless disturbed or problem. 1. 2. 3. Definitions of Four Vegetation Strata: 3. 4. 5. 6. 7 Sapling/Shrub – Woody plants, excluding vines, excludin	
 2. 3. 4. 5. 6. 7 7 Tree – Woody plants, excluding vines, 3 in. (7 or more in diameter at breast height (DBH), resolution of height Sapling/Shrub – Woody plants, excluding vines, 2 in. (7 or more in diameter at breast height (DBH), resolution of height 	
Z Sapling/Shrub – Woody plants, excluding vin	
8. less than 3 in. DBH and greater than 3.28 ft (1	
9. 10. = Total Cover = Total C	ı 3.28 ft
Woody vine – All woody vines greater than 3 height.	.28 ft in
Hydrophytic Vegetation Present? Yes No	x

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	Matrix		Redo	x Features					
nches)	Color (moist)	%	Color (moist)	% Type ¹	Loc ²	Texture	F	Remarks	
0-4	2.5Y 4/1	90	10YR 5/6	10 C	PL	Loamy/Clayey	The soils observ	/ed are h	nighly
>4	IMPENETRABLE	-		-		Fill	disturbed.		
24						T III			
						3			
<i>.</i>	Concentration, D=Deple	etion, RM=	Reduced Matrix, MS=	= Masked Sand Gr	ains.		=Pore Lining, M=I or Problematic F		
yaric Soi	I Indicators:		Polyvalue P	Below Surface (S8)					
Histoso	ol (A1)		MLRA 149			2 cm Mu	ck (A10) (LRR K,	I, MLRA	A 149B)
				Surface (S9) (LRR	R, MLRA	Caset D	airia Daday (A4C)		
HISTIC E	Epipedon (A2)		149B)		*	Coast Pi	airie Redox (A16)		., L, K)
	Histic (A3)			ky Mineral (F1) (L	RR K, L)		cky Peat or Peat		R K, L, R)
	en Sulfide (A4) ed Layers (A5)		Loamy Gley X Depleted M	yed Matrix (F2)			face (S7) (LRR K e Below Surface		RKI)
Deplete	ed Below Dark Surface	(A11)		K Surface (F6)			k Surface (S9) (L		
Thick D	Dark Surface (A12)	()		ark Surface (F7)		Iron-Mar	iganese Masses ((F12) (LF	RR K, L, R)
	Mucky Mineral (S1)		Redox Dep	ression (F8)			t Floodplain Soils		
	Gleyed Matrix (S4) Redox (S5)						oodic (TA6) (MLR ent Material (F21)		145, 1496)
	d Matrix (S6)						allow Dark Surfac		
Dark S	urface (S7) (LRR R, M	LRA 149E	3)			Other (E	xplain in Remarks	5)	
³ Indica	tors of Hydrophytic veg	notation an	d wetland bydrology r	must be present u	nloce distu	urbed or problemat	ic		
	Layer (if observed):	jotation an	a wettand nyarology i	indst be present, d					
	,								
Type:						Hydric	Soil Yes	х	No
Type:									No
Depth ((inches): 4					Prese	nt? Tes	~	
Depth (nt? Tes	Λ	
Depth (emarks:	(inches): 4	sturbed	The soils in this area	a correspond to th	ne Deplete	Prese	11?		ed in the Fi
Depth (emarks:						ed Matrix (F3) hyd	11?		ed in the Fi
Depth (emarks:	(inches): 4					ed Matrix (F3) hyd	11?		ed in the Fi
Depth (emarks:	(inches): 4					ed Matrix (F3) hyd	11?		ed in the Fi
Depth (emarks:	(inches): 4					ed Matrix (F3) hyd	11?		ed in the Fi
Depth (emarks:	(inches): 4					ed Matrix (F3) hyd	11?		ed in the Fi
Depth (emarks:	(inches): 4					ed Matrix (F3) hyd	11?		ed in the Fi
Depth (emarks:	(inches): 4					ed Matrix (F3) hyd	11?		ed in the Fi
Depth (emarks:	(inches): 4					ed Matrix (F3) hyd	11?		ed in the Fi
Depth (emarks:	(inches): 4					ed Matrix (F3) hyd	11?		ed in the Fi
Depth (emarks:	(inches): 4					ed Matrix (F3) hyd	11?		ed in the Fi
Depth (emarks:	(inches): 4					ed Matrix (F3) hyd	11?		ed in the Fi
Depth (emarks: he soils c	(inches): 4					ed Matrix (F3) hyd	11?		ed in the Fi
Depth (emarks: he soils c	(inches): 4					ed Matrix (F3) hyd	11?		ed in the Fi
Depth (emarks: he soils c	(inches): 4					ed Matrix (F3) hyd	11?		ed in the Fi
Depth (emarks: he soils c	(inches): 4					ed Matrix (F3) hyd	11?		ed in the Fi
Depth (emarks: ne soils c	(inches): 4					ed Matrix (F3) hyd	11?		ed in the Fi

Project/Site: Burke Lakefront Airport	City/County:	Cleveland/Cuyahoga	Sampling Date	: 3.14.12
Applicant/Owner: Burke Lakefront Airport		State: OH	Sampling Poin	t: 7
Investigator(s): Len Mikles, Josh Kubitza, & Doug Kapusinski				
Landform (hillslope, terrace, etc.): Urban Land	Local relief (concav	ve, convex, none): C	Concave Slo	pe (%): 1
Subregion (LRR or LRR R Lat: 41.5232	Long:	81.6740	Datum: N/	AD 1927
Soil Map Unit Name: Ub – Urban Land		N	VI Classification: N	I/A
Are climatic/hydrologic conditions on the site typical for this time of year	r? Yes X N	No (If no, explai	n in Remarks.)	
Are vegetation , Soil , or Hydrology significant	tly disturbed? Ar	re "Normal Circumstand	es" present? Yes	X No
Are vegetation , Soil , or Hydrology naturally	problematic? (If	f needed, explain any ar	nswers in Remarks.)	

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	Х	No	Is the Sampled Area
Hydric Soils Present?	Yes	Х	No	Within a Wetland? Yes X No
Wetland Hydrology Present?	Yes	х	No	If yes, optional Wetland Site ID: Wetland 4
Remarks:				

This area is a small depression located in a mowed lawn area. This area satisfies the three criteria necessary for a positive wetland determination. This area is a wetland.

HYDROLOGY

i minary mulcators (minimun	1 of one is 1	equir	ed; ch	eck a	all that apply)			Secondary Indicators	(minimur	n of two	o required
Surface Water(A1) High Water Table (A2) X Saturation (A3) Water Marks (B1) X Sediment Deposits (B2) Drift Deposits (B3) X Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Ae Sparsely Vegetated Cor	erial Imager)	((Water Stained Leave Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Od Dxidized Rhizospher Presence of Reducer Recent Iron Reductic Thin Muck Surface (C Dther (Explain in Rer	or (C1) es on Livin d Iron (C4) n in Tilled C7)		Surface Soil Crac Drainage Patterns Moss Trim Lines Dry-Season Wate Crayfish Burrows Saturation Visible Stunted or Stress Geomorphic Posi Shallow Aquitard Microtopographic X FAC-Neutral Test	s (B10) (B16) er Table (((C8) e on Aerial ed Plants tion (D2) (D3) Relief (D	/ Image (D1)	ery (C9)
Field Observations:											
Surface Water Present?	Yes		No	Х	Depth (inches):						
	Yes		No	Х	Depth (inches):						
Water Table Present?			No		Depth (inches):	0.5	Watland H	lydrology Present?	Yes	х	No

Remarks:

		Absolute	Dominant	Indicator	Dominance Test Worksheet:	
Tree Stratum (Plot size: 30 ft 1. 2.)	% Cover	Species?	Status	Number of Dominant Species That are OBL, FACW, or FAC:	(A)
2. 3. 4. 5.					Total Number of Dominant Species Across All Strata:	(B)
S. Sapling/Shrub Stratum (Plot size:	15 ft)		= Total Cover		Percent of Dominant Species That are OBL, FACW, or FAC:	(A/B)
1. 2. 3. 4. 5. <u>Herb Stratum</u> (Plot size: 5 ft)		= Total Cover		Prevalence Index Worksheet:Total % Cover of:Multiply by:OBL Species× 1 =FACW Species× 2 =FAC Species× 3 =FACU Species× 4 =UPL Species× 5 =	
 Eleocharis erythropoda Agrostis stolonifera 		60 40	Yes Yes	OBL FACW	Column Totals: (A)	(B)
3.					Prevalence Index = B/A =	
4. 5. 6. 7. 8. 9. 10.					 Hydrophytic Vegetation Indicators: X 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is > 50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separ sheet) Problematic Hydrophytic Vegetation¹ (Ex 	ate
11 <u>Woody Vine Stratum</u> (Plot size:	30 ft)	100	= Total Cover		¹ Indicators of hydric soil and wetland hydrolog must be present, unless disturbed or problem	
1.					Definitions of Four Vegetation Strata:	
2. 3. 4. 5.					Tree – Woody plants, excluding vines, 3 in. (7 or more in diameter at breast height (DBH), re of height	
6. 7. 8.					Sapling/Shrub – Woody plants, excluding vir less than 3 in. DBH and greater than 3.28 ft (*	
9. 10.			= Total Cover		Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less that tall.	n 3.28 ft
					Woody vine – All woody vines greater than 3 height.	3.28 ft in
					Hydrophytic Vegetation Present? Yes X No	
Remarks: (Include photo number This observation satisfies the Rap				cies observe	ed have a wetland indicator status of FACW and	I OBL.

US Army Corps of Engineers

əpth	Matrix		Redo	ox Feature	es					
iches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	I	Remarks	
0-4	2.5Y 4/1	90	10YR 5/6	10	С	PL	Loamy/Clayey	The soils obser	ved are h	nighly
>4	IMPENETRABLE						Fill	disturbed.		
24							T III			
	Concentration, D=Deple	etion, RM=	Reduced Matrix, MS	= Masked	Sand Gr	ains.		=Pore Lining, M=		
/dric Soi	il Indicators:						Indicators f	or Problematic H	lydric So	oils °:
Histoso	ol (A1)		Polyvalue E MLRA 149		face (S8)	(LRR R,	2 cm Mu	ick (A10) (LRR K	I, MLRA	A 149B)
			Thin Dark S		() /I PP					
Histic E	Epipedon (A2)		149B)	Surface (S	9) (LKK	R, WILKA	Coast P	rairie Redox (A16) (LRR K	(, L, R)
Black F	Histic (A3)		Loamy Muc	ckv Minera	al (F1) (L	RR K. L)	5 cm Mu	icky Peat or Peat	(S3) (LR	R K. L. R)
	gen Sulfide (A4)		Loamy Gle			, _ /	Dark Su	rface (S7) (LRR k	(, L, M)	
	ed Layers (A5)		X Depleted M				Polyvalu	e Below Surface	(S8) (LR	
	ed Below Dark Surface	e (A11)	Redox Darl					rk Surface (S9) (L		
	Dark Surface (A12) Mucky Mineral (S1)		Depleted D Redox Dep					nganese Masses nt Floodplain Soils		
	Gleyed Matrix (S4)		Redux Dop		0)		Mesic S	podic (TA6) (MLR	A 144A,	145, 149B)
Sandy	Redox (S5)						Red Par	ent Material (F21)		
	ed Matrix (S6)							allow Dark Surfac		
Dark S	urface (S7) (LRR R, M	ILRA 149E	5)				Other (E	xplain in Remark	5)	
³ Indica	tors of Hydrophytic veg	petation an	d wetland hydrology	must be p	resent, u	nless distu	rbed or problemat	tic		
	Layer (if observed):									
	,									
estrictive Type:	Fill						Hydric	Soil Ves	Y	No
estrictive Type: Depth (,						Hydric Prese	105	x	Νο
estrictive Type:	Fill							105	x	Νο
estrictive Type: Depth (emarks:	Fill (inches): 4	sturbed.	The soils in this are	a corresp	ond to th	ne Deplete	Prese	nt? Tes		
estrictive Type: Depth (emarks: ne soils c	Fill						d Matrix (F3) hyd	nt? Tes		
estrictive Type: Depth (emarks: ne soils c	Fill (inches): 4						d Matrix (F3) hyd	nt? Tes		
estrictive Type: Depth (emarks: ne soils c	Fill (inches): 4						d Matrix (F3) hyd	nt? Tes		
estrictive Type: Depth (emarks: ne soils c	Fill (inches): 4						d Matrix (F3) hyd	nt? Tes		
estrictive Type: Depth (emarks: ne soils c	Fill (inches): 4						d Matrix (F3) hyd	nt? Tes		
estrictive Type: Depth (emarks: ne soils c	Fill (inches): 4						d Matrix (F3) hyd	nt? Tes		
estrictive Type: Depth (emarks: ne soils c	Fill (inches): 4						d Matrix (F3) hyd	nt? Tes		
estrictive Type: Depth (emarks: ne soils c	Fill (inches): 4						d Matrix (F3) hyd	nt? Tes		
estrictive Type: Depth (emarks: ne soils c	Fill (inches): 4						d Matrix (F3) hyd	nt? Tes		
estrictive Type: Depth (emarks: ne soils c	Fill (inches): 4						d Matrix (F3) hyd	nt? Tes		
estrictive Type: Depth (emarks: ne soils c	Fill (inches): 4						d Matrix (F3) hyd	nt? Tes		
estrictive Type: Depth (emarks: ne soils c	Fill (inches): 4						d Matrix (F3) hyd	nt? Tes		
estrictive Type: Depth (emarks: ne soils c	Fill (inches): 4						d Matrix (F3) hyd	nt? Tes		
estrictive Type: Depth (emarks: ne soils c	Fill (inches): 4						d Matrix (F3) hyd	nt? Tes		
estrictive Type: Depth (emarks: ne soils c	Fill (inches): 4						d Matrix (F3) hyd	nt? Tes		
estrictive Type: Depth (emarks: ne soils c	Fill (inches): 4						d Matrix (F3) hyd	nt? Tes		
estrictive Type: Depth (emarks: ne soils c	Fill (inches): 4						d Matrix (F3) hyd	nt? Tes		

Project/Site: Burke Lakefront Airport	City/County:	Cleveland/Cuyahoga	Sampling Date:	3.14.12
Applicant/Owner: Burke Lakefront Airport		State: OH	Sampling Point:	8
Investigator(s): Len Mikles, Josh Kubitza, & Doug Kapusinski				
Landform (hillslope, terrace, etc.): Urban Land, Road Embankment	Local relief (conca	ve, convex, none): None	Slope	(%): 1
Subregion (LRR or LRR R Lat: 41.5232	Long:	81.6740	Datum: NAD	1927
Soil Map Unit Name: Ub – Urban Land		NWI C	lassification: N/A	
Are climatic/hydrologic conditions on the site typical for this time of year	r? Yes X I	No (If no, explain in	Remarks.)	
Are vegetation , Soil , or Hydrology significant	tly disturbed? A	re "Normal Circumstances"	present? Yes	X No
Are vegetation , Soil , or Hydrology naturally	problematic? (If	f needed, explain any answe	ers in Remarks.)	

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes		No	Х	Is the Sampled Area
Hydric Soils Present?	Yes	Х	No		Within a Wetland? Yes No X
Wetland Hydrology Present?	Yes		No	х	If yes, optional Wetland Site ID: Out Point for Wetland 4
Remarks:					

This area satisfies only one of the three criteria necessary for a positive wetland determination. This area is not a wetland.

HYDROLOGY

Primary Indicators (minimum	of one is re	auired: cł	neck a	ll that apply)		Secondary Indicator	s (minimum o	f two requi	red)
Surface Water(A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Ae Sparsely Vegetated Com	rial Imagery	(B7)	V A H C F T	Vater Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1) Dxidized Rhizospheres on L Presence of Reduced Iron (Recent Iron Reduction in Til Thin Muck Surface (C7) Dther (Explain in Remarks)	iving Roots (C3) C4)	Surface Soil Cra Drainage Patterr Moss Trim Lines Dry-Season Wat Crayfish Burrows Saturation Visibl Stunted or Stres Geomorphic Pos Shallow Aquitarc Microtopographi FAC-Neutral Tes	cks (B6) is (B10) (B16) er Table (C2) s (C8) e on Aerial In sed Plants (D sition (D2) d (D3) c Relief (D4)	nagery (C9)	
Field Observations:									
Surface Water Present?	Yes	No	Х	Depth (inches):					
Water Table Present?	Yes	No	Х	Depth (inches):					
Saturation Present?	Yes	No	Х	Depth (inches):	Wetland H	ydrology Present?	Yes	No	Х

Remarks:

Trace Otractions (Distriction 00.4)	\ \	Absolute	Dominant	Indicator	Dominance Test Worksheet:	
<u>Tree Stratum</u> (Plot size: 30 ft 1. 2.)	% Cover	Species?	Status	Number of Dominant SpeciesThat are OBL, FACW, or FAC:0(A))
3. 4. 5.					Total Number of DominantSpecies Across All Strata:2(B))
Sapling/Shrub Stratum (Plot	15 ft)		= Total Cover		Percent of Dominant Species That are OBL, FACW, or FAC: 0 (A/	/B)
size: 1. 2. 3. 4. 5. <u>Herb Stratum</u> (Plot size: 5 ft)		= Total Cover		Prevalence Index Worksheet:Total % Cover of:Multiply by:OBL Species× 1 =FACW Species× 2 =FAC Species× 3 =FACU Species× 4 =UPL Species× 5 =	
 Festuca elatior Plantago lanceolata 		70 20	Yes Yes	FACU UPL	Column Totals: (A) (B)	
 3. Poa pratensis 4. 5. 6. 7. 8. 9. 10. 		10	No	FACU	Prevalence Index = B/A = Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is > 50% 3 - Prevalence Index is ≤3.0 ¹ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation ¹ (Explain)	
11 <u>Woody Vine Stratum</u> (Plot size:	30 ft)	100	= Total Cover		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
1. 2.					Definitions of Four Vegetation Strata:	
2. 3. 4. 5.					Tree – Woody plants, excluding vines, 3 in. (7.6 cm or more in diameter at breast height (DBH), regardle of height	
6. 7. 8.					Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) ta	all.
9. 10.			= Total Cover		Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 tall.	; ft
					Woody vine – All woody vines greater than 3.28 ft i height.	in
					Hydrophytic Vegetation Present? Yes No	x
	hydric soil and				Vegetation Present? Yes No eater than 50 percent. The plant community fails the hydrophytic vegetation is absent. This observation do	

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epth	Matrix		Redo	x Features				
nches)	Color (moist)	%	Color (moist)	% Type ¹	Loc ²	Texture	Re	marks
0-4	2.5Y 4/1	90	10YR 5/6	10 C	PL	Loamy/Clayey	The soils observe	
		50	1011(3/0	10 0			disturbed.	
>4	IMPENETRABLE					Fill		
71	Concentration, D=Deple	etion, RM=					=Pore Lining, M=Ma or Problematic Hyd	
Histoso	ol (A1)		MLRA 149			2 cm Mu	ck (A10) (LRR K, I,	MLRA 149B)
Histic I	Epipedon (A2)		149B)	Surface (S9) (LRR			airie Redox (A16) (-
Hydrog Stratifie Deplete Thick I Sandy Sandy Sandy Strippe	Histic (A3) gen Sulfide (A4) ed Layers (A5) ed Below Dark Surface Dark Surface (A12) Mucky Mineral (S1) Gleyed Matrix (S4) Redox (S5) ed Matrix (S6) Jurface (S7) (LRR R, M		Loamy Gle X Depleted M Redox Dark Depleted D Redox Dep	ky Mineral (F1) (L1 yed Matrix (F2) atrix (F3) & Surface (F6) ark Surface (F7) ression (F8)	τκ κ, L)	Dark Sun Polyvalu Thin Dar Iron-Mar Piedmon Mesic Sp Red Paro Very Sha	cky Peat or Peat (S face (S7) (LRR K , I e Below Surface (S k Surface (S9) (LRI oganese Masses (F t Floodplain Soils (I Floodplain Soils (I codic (TA6) (MLRA ent Material (F21) allow Dark Surface (xplain in Remarks)	L, M) 8) (LRR K, L) R K, L) 12) (LRR K, L, R) 719) (MLRA 149B) 144A, 145, 149B)
³ Indica	tors of Hydrophytic veg	etation ar	nd wetland hydrology	must be present, u	nless distur	bed or problemat	ic	
estrictive	Layer (if observed):							
Type:	Fill							
Depth	(inches): 4					Hydric	165	X No
emarks:	(Preser	nt?	
dicators o	of Hydric Soils in the Ur	hited State	es, Version 7.0 (2010)	. This observation	satisfies th	e soils criterion.		

Project/Site: Burke Lakefront Airport	City/County: Cleveland/C	Cuyahoga Sampling Date: 3.14.12
Applicant/Owner: Burke Lakefront Airport	State:	OH Sampling Point: 9
Investigator(s): Len Mikles, Josh Kubitza, & Doug Kapusinski		
Landform (hillslope, terrace, etc.): Urban Land	Local relief (concave, convex, no	one): Concave Slope (%): 1
Subregion (LRR or LRR R Lat: 41.5229	Long: 81.6729	Datum: NAD 1927
Soil Map Unit Name: Ub – Urban Land		NWI Classification: N/A
Are climatic/hydrologic conditions on the site typical for this time of year	? Yes X No (Ifr	no, explain in Remarks.)
Are vegetation , Soil , or Hydrology significant	ly disturbed? Are "Normal Cir	cumstances" present? Yes X No
Are vegetation , Soil , or Hydrology naturally p	problematic? (If needed, expla	ain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	Х	No	Is the Sampled Area			
Hydric Soils Present?	Yes	х	No	Within a Wetland? Yes X No			
Wetland Hydrology Present?	Yes	х	No	If yes, optional Wetland Site ID: Wetland 5			

Remarks:

This area is a small depression located in a mowed lawn area. This area satisfies the three criteria necessary for a positive wetland determination. This area is a wetland.

HYDROLOGY

Primary Indicators (minimum	of one is i	equir	ed; che	eck	all that apply)			Secondary Indicators (minimum of two required			
Surface Water(A1) High Water Table (A2) X Saturation (A3) Water Marks (B1) X Sediment Deposits (B2) Drift Deposits (B3) X Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Ae Sparsely Vegetated Con)	¢	Water Stained Leave Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Od Oxidized Rhizosphere Presence of Reduced Recent Iron Reductio Thin Muck Surface (C Other (Explain in Ren	or (C1) es on Living I Iron (C4) n in Tilled S C7)		Surface Soil Cracks (E Drainage Patterns (B1 Moss Trim Lines (B16 Dry-Season Water Tal Crayfish Burrows (C8) Saturation Visible on A Stunted or Stressed P Geomorphic Position (Shallow Aquitard (D3) Microtopographic Reli X FAC-Neutral Test (D5)	0) ble (C2) Aerial Image lants (D1) (D2) ef (D4)	ery (C9)	
Field Observations:											
Surface Water Present?	Yes		No	х	Depth (inches):						
Water Table Present?	Yes		No	х	Depth (inches):						
Saturation Present?	Yes	Х	No		Depth (inches):	0.5	Wetland H	ydrology Present? Yo	es X	No	
(includes capillary fringe)											

		Absolute	Dominant	Indicator	Dominance Test Worksheet:	
Tree Stratum (Plot size: 30 ft 1. 2.)	% Cover	Species?	Status	Number of Dominant Species That are OBL, FACW, or FAC:	(A)
2. 3. 4. 5.					Total Number of Dominant Species Across All Strata:	(B)
Sapling/Shrub Stratum (Plot size:	15 ft)		= Total Cover		Percent of Dominant Species That are OBL, FACW, or FAC:	(A/B)
1. 2. 3. 4. 5. <u>Herb Stratum</u> (Plot size: 5 ft)		= Total Cover		Prevalence Index Worksheet:Total % Cover of:Multiply by:OBL Species× 1 =FACW Species× 2 =FAC Species× 3 =FACU Species× 4 =UPL Species× 5 =	
 Eleocharis erythropoda Agrostis stolonifera 		60 40	Yes Yes	OBL FACW	Column Totals: (A)	(B)
3.		-			Prevalence Index = B/A =	
4. 5. 6. 7. 8. 9. 10.					 Hydrophytic Vegetation Indicators: X 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is > 50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separ sheet) Problematic Hydrophytic Vegetation¹ (Explanation) 	ate
11 <u>Woody Vine Stratum</u> (Plot size:	30 ft)	100	= Total Cover		¹ Indicators of hydric soil and wetland hydrolog must be present, unless disturbed or problem	
1.					Definitions of Four Vegetation Strata:	
2. 3. 4. 5.					Tree – Woody plants, excluding vines, 3 in. (7 or more in diameter at breast height (DBH), re of height	
6. 7. 8.					Sapling/Shrub – Woody plants, excluding vir less than 3 in. DBH and greater than 3.28 ft (*	
9. 10.			= Total Cover		Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less that tall.	n 3.28 ft
					Woody vine – All woody vines greater than 3 height.	.28 ft in
					Hydrophytic Vegetation Present? Yes X No)
Remarks: (Include photo numbers This observation satisfies the Rapic				cies observe	ed have a wetland indicator status of FACW and	I OBL.

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Depth	Matrix		Redo	x Features					
nches)	Color (moist)	%	Color (moist)	% Type	¹ Loc ²	Texture	F	Remarks	
0-4	2.5Y 4/1	90	10YR 5/6	10 C	PL	Loamy/Clayey	The soils observ		ghly
>4	IMPENETRABLE				• =	Fill	disturbed.		
>4	INPENEIRADLE					FIII			
						0			
<i>.</i>	Concentration, D=Deple	etion, RM=	Reduced Matrix, MS=	= Masked Sand	Grains.		=Pore Lining, M=N		. 3
ydric Soi	I Indicators:		Dohavoluo P	Below Surface (S		Indicators f	or Problematic H	ydric So	IS :
Histosc	ol (A1)		MLRA 149		DO) (LKK K,	2 cm Mu	ıck (A10) (LRR K,	I, MLRA	149B)
				- <i>,</i> Surface (S9) (LR	R R, MLRA				
Histic E	Epipedon (A2)		149B)	(,(,	Coast P	rairie Redox (A16)	(LRR K,	L, R)
	Histic (A3)			ky Mineral (F1)	(LRR K, L)		icky Peat or Peat		K, L, R)
Hydrogen Sulfide (A4)Loamy Gleyed Matrix (F2)Stratified Layers (A5)XDepleted Matrix (F3)							rface (S7) (LRR K ie Below Surface (
Deplete	ed Layers (A5) ed Below Dark Surface	(A11)	 Depleted M Redox Dark 	atrix (F3) Surface (F6)			ie Below Sufface (rk Surface (S9) (L l		κ, L)
	Dark Surface (A12)	(((())))		ark Surface (F7)			nganese Masses (R K, L, R)
	Mucky Mineral (S1)		Redox Dep	ression (F8)			nt Floodplain Soils		
	Gleyed Matrix (S4) Redox (S5)						podic (TA6) (MLR. ent Material (F21)		45, 149B)
	d Matrix (S6)						allow Dark Surface		
	urface (S7) (LRR R, M	LRA 149E	3)				xplain in Remarks		
31	terre of the described for the						et -		
	tors of Hydrophytic veg Layer (if observed):	jetation ar	ia wetiana nyarology r	nust be present	, uniess distu	Irbed or problemat	tic		
Type:	,								
						Hydric	Soil		
Depth ((inches): 4					Prese	105	Х	No
emarks:						•			
na soils c	bserved are highly di	sturbod	The soils in this are	a correspond to	the Deplete	d Matrix (F3) by	dric soil indicator	nresenter	t in the Fi
	of Hydric Soils in the U							presented	

Project/Site: Burke Lakefront Airport	City/County:	Cleveland/Cuyahoga	Sampling Date:	3.14.12
Applicant/Owner: Burke Lakefront Airport		State: OH	Sampling Point:	10
Investigator(s): Len Mikles, Josh Kubitza, & Doug Kapusinski				
Landform (hillslope, terrace, etc.): Urban Land, Road Embankment	Local relief (conca	ve, convex, none): None	Slope	(%): 1
Subregion (LRR or LRR R Lat: 41.5229	Long:	81.6727	Datum: NAD	1927
Soil Map Unit Name: Ub – Urban Land		NWI C	assification: N/A	
Are climatic/hydrologic conditions on the site typical for this time of year	r? Yes X N	No (If no, explain in I	Remarks.)	
Are vegetation , Soil , or Hydrology significant	tly disturbed? Ar	re "Normal Circumstances" p	present? Yes	X No
Are vegetation , Soil , or Hydrology naturally	problematic? (If	f needed, explain any answe	rs in Remarks.)	

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes		No	Х	Is the Sampled Area
Hydric Soils Present?	Yes	Х	No		Within a Wetland? Yes No X
Wetland Hydrology Present?	Yes		No	х	If yes, optional Wetland Site ID: Out Point for Wetland 5
Remarks:					

This area satisfies only one of the three criteria necessary for a positive wetland determination. This area is not a wetland.

HYDROLOGY

	tors:									
Primary Indicators (minimun	n of one is rea	quired; cr	песк а	ll that apply)		Secondary Indicators (minimum of two required)				
Surface Water(A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Ae Sparsely Vegetated Cor	erial Imagery		A N F C F T	Vater Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1) Dxidized Rhizospheres on Liv Presence of Reduced Iron (C4 Recent Iron Reduction in Tiller Thin Muck Surface (C7) Dther (Explain in Remarks)	4)	Saturation Visible on Aerial Imagery ()	
Field Observations:										
Surface Water Present?	Yes	No	Х	Depth (inches):						
	Yes	No	Х	Depth (inches):						
Water Table Present?		No	х	Depth (inches):	Wetland Hydrology Present? Yes No			х		

Remarks:

	Absolute	Dominant	Indicator	Dominance Test Worksheet:		
)	% Cover	Species?	Status	Number of Dominant Species That are OBL, FACW, or FAC:	0	(A)
				Total Number of Dominant Species Across All Strata:	2	(B)
15 ft)		= Total Cover		Percent of Dominant Species That are OBL, FACW, or FAC:	0	(A/B)
)	70 20 10	= Total Cover Yes Yes No	FACU UPL FACU	OBL Species x 1 = FACW Species x 2 = FAC Species x 3 = FACU Species x 4 = UPL Species x 5 = Column Totals: (A) Prevalence Index = B/A = Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Ve	y by:	(B)
20.4	100	= Total Cover		 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (F supporting data in Remarks or on sheet) Problematic Hydrophytic Vegetati ¹Indicators of hydric soil and wetland 	a separat on ¹ (Expla hydrology	ain)
50 K)				Definitions of Four Vegetation Stra Tree – Woody plants, excluding vines	. ta: s, 3 in. (7.6	6 cm)
		= Total Cover		less than 3 in. DBH and greater than Herb – All herbaceous (non-woody) p	3.28 ft (1 r blants,	m) tall.
				Woody vine – All woody vines greate height. Hydrophytic Vegetation Present? Yes	er than 3.2	28 ft in
	,	, 15 ft)) 70 20 10	= Total Cover $= Total Cover$	= Total Cover 15 ft) = Total Cover) 70 Yes FACU 20 Yes UPL 10 No FACU 100 = Total Cover 30 ft)	Number of Dominant Species That are OBL, FACW, or FAC: 15 ft) = Total Cover 15 ft) = Total Cover 0 Yes 20 Yes 10 No 10 No FACU Species 20 Yes 10 No FACU Species 20 Yes 10 No FACU Species 10 No FACU Species 100 = Total Cover 100 = Total Cover 100 = Total Cover 100 = Total Cover 101 = Total Cover 102 = Total Cover 103 = Total Cover = Total Cover Indicators of hyd	Number of Dominant Species Total Number of Dominant Species Across All Strata: 2 15 ft = Total Cover = Total Cover Percent of Dominant Species That are OBL, FACW, or FAC: 0 Percent of Dominant Species 1= That are OBL, FACW, or FAC: 0 Prevalence Index Worksheet: 0 Total % Cover Size X = Prevalence Index Worksheet: 0 Total % Cover Size X = FACU Species X = Prevalence Index = B/A = UPL Species Total No FACU Prevalence Index = B/A = Hydrophytic Vegetation Indicators: 10 No FACU Prevalence Index = B/A = Hydrophytic Vegetations: 10 No FACU 10 No FACU 10 Total Cover 1 - Norphytic Vegetation Indicators: 100 = Total Cover 1 - Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problemat Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3.in (7.4 or more in diameter at breast height (DBH), reg of height

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epth	Matrix		Red	ox Features					
nches)	Color (moist)	%	Color (moist)	% Type ¹	Loc ²	Texture		lemarks	
0-4	2.5Y 4/1	90	10YR 5/6	10 C	PL	Loamy/Clayey	The soils observ disturbed.	ed are h	ighly
>4	IMPENETRABLE					Fill			
	oncentration, D=Depl Indicators:	etion, RM=	Polyvalue	Below Surface (S8)		Indicators for	=Pore Lining, M= ! or Problematic H ck (A10) (LRR K,	ydric Sc	
	pipedon (A2)		MLRA 149 Thin Dark 149B)	9 B) Surface (S9) (LRR	R, MLRA		airie Redox (A16)		
Hydroge Stratifie Deplete Thick D Sandy N Sandy G Sandy F Stripped Dark Su ³ Indicate	istic (A3) en Sulfide (A4) d Layers (A5) d Below Dark Surface ark Surface (A12) Mucky Mineral (S1) Gleyed Matrix (S4) Redox (S5) d Matrix (S6) Inface (S7) (LRR R, M ors of Hydrophytic veg	ILRA 149E	Loamy Mu Loamy Gle X Depleted M Redox Dan Depleted I Redox Dep	rk Surface (F6) Dark Surface (F7) pression (F8)		Dark Sur Polyvalue Thin Dar Iron-Man Piedmon Mesic Sp Red Pare Very Sha Other (E:	cky Peat or Peat face (S7) (LRR K e Below Surface (k k Surface (S9) (L ganese Masses (t Floodplain Soils bodic (TA6) (MLR ent Material (F21) illow Dark Surface xplain in Remarks	, L, M) S8) (LRI RR K, L) F12) (L R (F19) (N A 144A, ∋ (TF12)	R K, L) R K, L, R) ILRA 149B)
	_ayer (if observed):								
Type: Depth (i	Fill inches): 4					Hydric S Preser	105	х	No
emarks:						Fleser	11 f		
	bserved are highly d f Hydric Soils in the U						ne son mulcator	presente	

APPENDIX C: ORAM V.5.0 FORMS

Site Burke Lake Airpor	t, Wetlands 1-5	Rater(s)	Len Mikles			Date	Apr 19, 2012					
2 2	Aetric 1. Wetlan	d Area (size)									
S	elect one size class	and assi	gn score.									
max 6 pts. subtotal	>50 acres (20.2ha	a) (6 pts.)										
	25 to <50 acres (1	10.1 to <20).2ha) (5 pts.)									
Γ] 10 to <25 acres (4	4 to <10.1	na) (4 pts.)									
ſ] 3 to <10 acres (1.	2 to <4ha)	(3pts.)									
2 🛛	🔀 0.3 to <3 acres (0	.04 to <0.1	2 to <1.2ha (2 pts.)									
	0.1 to <0.3 acres (0.04 to <0.12ha (1 pt.)											
Γ	< 0.1 acres (0.04ha	a) (0 pts.)										
6 8	Metric 2. Uplar	nd buffe	rs and surroundir	ng la	nd use							
max 14 pts. subtotal	2a. Calculate aver	age buffe	r width. Select only c	one a	nd assign score. Do not	double	check.					
	🔲 WIDE. Buffers a	verage 50	m (164ft) or more arou	und w	vetland perimeter (7)							
4	🔀 MEDIUM. Buffe	rs average	25m to <50m (82 to <	<164f	t) around wetland perime	ter (4)						
,	NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)											
	VERY NARROW	. Buffers a	verage <10m (<32ft) a	roun	d wetland perimeter (0)							
	2b. Intensity of su	ırroundin	g land use. Select one	e or c	louble check and averag	le.						
	VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)											
	LOW. Old field (>10 years), shrubland, young second growth forest (5)											
2	MODERATELY I	HIGH. Resi	dential, fenced pasture	e, par	k, conservation, tillage, ne	w fallo	w field (3)					
æ	🔀 HIGH. Urban, ir	ndustrial, c	pen pasture, row crop	ping,	, mining, construction (1)							
6 14	Metric 3. Hydro	ology										
max 30 pts. subtotal	3a. Sources of Wa	ter. Score	all that apply.		3b. Connectivity. Score	all that	apply.					
max 50 pts. subtotal	🗌 High pH groun	dwater (5)			100 year floodplain (1)						
	🗌 Other groundw	vater (3)		1	🔀 Between stream/lake	and ot	ner human use (1)					
1	Precipitation (1)			Part of upland/wetlar	nd (e.g.	forest) complex (1)					
,	Seasonal/interr	nittent su	face water (3)		Part of riparian or upl	and co	ridor (1)					
	🗌 Perennial surfa	ce water (ake or stream) (5)		3d. Duration inundation							
		er depth.	Select only one and		double check and a	-						
	assign score.	\			Regularly inundated/							
	\bigcirc >0.7 (27.6in) (3)		N (2)	1	Seasonally inundated		eu (5)					
	□ 0.4 to 0.7m (15. □ <0.4m (<15.7in		1) (2)	~	Seasonally saturated		r^{20} cm (12in) (1)					
/	<u>H</u>		l hydrologic regime.	Che	ck all disturbances observe							
			ck and average.				ce (nonstormwater)					
	None or none a	apparent (12)	\boxtimes	tile 🛛 🕅 fil	ling/gra	ding					
	Recovered (7)				dike 🛛 🕅 ro	ad bed/	RR track					
	Recovering (3)				weir 🗌 dı	edging						
/	🔀 Recent or no re	covery (1)			stormwater input 🛛 🗍 of	her						
				1263685	NAMES OF A STREET OF A STRE							

ORAM v.5.0 Field Form Quantitative Rating

3 17	Metric 4. Habitat Alteration and Dev	velopment							
max 20 pts. subtotal	4a. Substrate disturbance. Score one or dou	uble check and average.							
max 20 pts. subtotal	None or none apparent (4)								
	Recovered (3)	<							
	Recovering (2)								
1	🔀 Recent or no recovery (1)								
/	4b. Habitat development. Select only one a	nd assign score.							
	Excellent (7)	Check all disturbances obse	rved.						
	Very good (6)	🔀 mowing	shrub/sapling removal						
	Good (5)	grazing	Arrbaceous/aquatic bed removal						
	Moderately good (4)	clearcutting	sedimentation						
	🗍 Fair (3)	selective cutting	dredging						
	Poor to fair (2)	woody debris removal	🔲 farming						
1	🔀 Poor (1)	X toxic pollutants	nutrient enrichment						
	4c. Habitat alternation. Score one or doubl	e check and average.							
	None or none apparent (9)								
	Recovered (6)								
	Recovering (3)								
/	🔀 Recent or no recovery (1)								
0 17	Metric 5. Special Wetlands								
max 10 pts. subto	Check all that apply and score as indicate tal	ed.							
max to pts. subto	🗍 Bog (10)								
	🔲 Fen (10)								
C	Old growth forest (10)								
	Mature forested wetland (5)								
	Lake Erie coastal/tributary wetland-unre	estricted hydrology (10)							
	Lake Erie coastal/tributary wetland-rest	ricted hydrology (5)							
	🔲 Lake Plain Sand Prairies (Oak Openings)	(10)							
	Relict Wet Prairies (10)								
	Known occurrence state/federal threate	ened or endangered specie	s (10)						
	Significant migratory songbird/water fo	wl habitat or usage (10)							
	Category 1 Wetland. See Question 1 Qu	alitative Rating (-10)							

	10	Metric 6. Plant communities, inters	persion	, microtopography				
2	19	6a. Wetland Vegetation Communities	Vegeta	ation Community Cover Scale				
max 20 pts	. subtotal	Score all present using 0 to 3 scale.	0	Absent or comprises <0.1ha (0.2471 acres) contiguous area				
	į	☐ Aquatic bed ⊠ Emergent	1	Present and either comprises small part of wetland's vegetation and is of moderate quality or comprises a significant part but is of low quality				
	/	Shrub Forest	2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality				
		 Mudflats Open Water 	3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality				
		Other	Narrat	ive Description of Vegetation Quality				
		6b. Horizontal (plan view) Interspersion						
		Select only one.	low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species				
		🗍 High (5)		Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can				
		Moderately high (4)	mod	also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or				
		🗌 Moderate (3)		endangered spp				
		Moderately low (2)	high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and				
		🗌 Low (1)		high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp				
	0	🔀 None (0)						
		6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or	Mudflat and Open Water Class Quality					
		deduct points for coverage.	0	Absent <0.1ha (0.247 acres)				
		Extensive >75% cover (-5)	1	Low 0.1 to <1ha (0.247 to 2.47 acres)				
		Moderate 25 to 75% cover (-3)	2	Moderate 1 to <4h (2.47 to 9.88 acres)				
		Sparse 5 to 25% cover (-1)	3	High 4ha (9.88 acres) or more				
		🔲 Nearly absent <5% cover (0)						
	1	🔀 Absent (1)	Micro	topography Cover Scale				
	,	6d. Microtopography	0	Absent				
		Score all present using 0 to 3 scale.	1	Present very small amounts or if more common of marginal quality				
		Vegetated hummucks/tussucks	2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality				
	0	Coarse woody debris >15cm (6in)		Present in moderate or greater amounts and of highest quality				
	U	🔲 Standing dead >25cm (10in) dbh	3	Flesen in moderate of greater amounts and of highest quarty				
		Amphibian breeding pools						
	19							

Grant Total

Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories at the following address: <u>http://www.epa.state.oh.us/dsw/401/401.html</u>

Reset Form

Print Form

APPENDIX D: AGENCY CORRESPONDENCE



Ohio Department of Natural Resources

JOHN R. KASICH, GOVERNOR

JAMES ZEHRINGER, DIRECTOR

Ohio Division of Wildlife Scott Zody, Chief 2045 Morse Rd., Bldg. G Columbus, OH 43229-6693 Phone: (614) 265-6300

April 17, 2012

Jason Early ASC Group 800 Freeway Drive North, Suite 101 Columbus, OH 43229

Dear Mr. Early

Per your request, I have e-mailed you a set of ArcView shape files for the Burke Lakefront Airport 6L Safety Improvements project area, including a one mile radius, in the City of Cleveland, Cuyahoga County, Ohio. This data may not be published or distributed beyond the scope of the project description on the data request form without prior written permission of the Biodiversity Database Program.

I am attaching a shape file for the rare and endangered plants and animals, geologic features, high quality plant communities and animal assemblages. Fields included are scientific and common names, state and federal statuses, as well as date of the most recent observation. State and federal statuses are defined as: E = endangered, T = threatened, P = potentially threatened, SC = species of concern, SI = special interest, A = recently added to inventory, status not yet determined, FE = federal endangered, FT = federal threatened, FPE = federal potentially endangered, FC = federal candidate and FSC = federal species of concern.

I have performed a search for Indiana Bat (*Myotis sodalis*, state endangered, federal endangered) capture sites within a five mile radius and hibernacula within a ten mile radius. There were no records found in your project area.

Our inventory program has not completely surveyed Ohio and relies on information supplied by many individuals and organizations. Therefore, a lack of records for any particular area is not a statement that rare species or unique features are absent from that area. Please note that although we inventory all types of plant communities, we only maintain records on the highest quality areas.

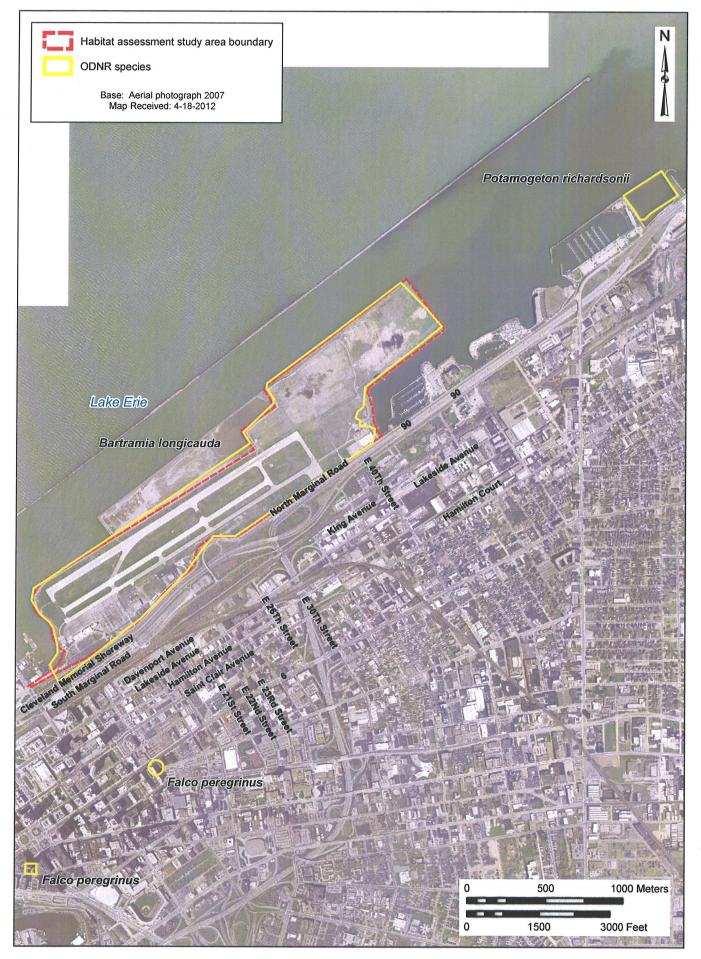
This letter only represents a review of rare species and natural features data within the Ohio Biodiversity Database. It does not fulfill coordination under the National Environmental Policy Act (NEPA) or the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S. C. 661 et seq).and does not supersede or replace the regulatory authority of any local, state or federal agency nor relieve the applicant of the obligation to comply with any local, state or federal laws or regulations.

Please contact me at 614-265-6452 if I can be of further assistance.

Sincerely,

Greg Schneiden

Greg Schneider, Administrator Ohio Biodiversity Database Program



Appendix D: ODNR biodiversity database serach records within a mile radius.