5.10 WETLANDS AND STREAMS

5.10.1 METHODOLOGY

The U.S. Army Corps of Engineers (USACOE) and the U.S. Environmental Protection Agency (USEPA) define wetlands as:

> Those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. (USACOE Waterways Experiment Station, Environmental Laboratory, 1987).

Three criterion are required for an area to be considered a wetland: hydrophytic vegetation, hydric soils, and wetland hydrology. The hydrophytic vegetation criterion is satisfied when the dominant vegetation in an area is composed of 50 percent or more species that are specifically adapted to living under waterlogged conditions. Hydric soils are soils that exhibit characteristics indicative of long-term saturated or inundated conditions. Wetland hydrology is present if an area sustains a level of soil saturation or inundation sufficient in duration to result in the dominance of hydrophytic vegetation.

5.10.2 EXISTING CONDITIONS: 2006

Wetlands

Wetlands located on the entire Port Columbus International Airport (CMH or Airport) were delineated and classified in 2003. In 2006 the Detailed Study Area (DSA) (approximately 1,750 acres as shown in **Exhibit 5.10-1, *Existing Wetlands in the Detailed Study Area***) was re-delineated through field verification. Wetland communities in the DSA included palustrine broad-leaf deciduous forests and palustrine emergent wetlands. A report detailing the methodologies and findings of the delineation is provided in Appendix K, *Biological Resources*. Approximately 20 percent (1.95 acres) of the delineated wetlands are palustrine forests and 80 percent (8.00 acres) are palustrine emergent. **Table 5.10-1** summarizes these wetland classes and acreages. Descriptions of the plant communities are provided in Section 5.9, *Fish, Wildlife, and Plants,* and further detailed in Appendix K.

Forested wetlands typically occurred as isolated depressions within upland forest areas. Emergent wetlands occurred along stream and ditch margins or in isolated depressions. According to Ohio EPA's Rapid Assessment Method (Ohio Administrative Code Rule 3745-1-54), 8.00 acres (80 percent) were determined to be Category 1 wetlands and 1.95 acres (20 percent) were Category 2 wetlands.

Table 5.10-1
WETLAND VEGETATION TYPES AND OHIO EPA CLASSIFIED WETLANDS
Port Columbus International Airport

WETLAND TYPE	TOTAL ACREAGE	PERCENTAGE OF TOTAL AREA
Broad-leaved Deciduous Forest Wetlands	1.95	19.60
Palustrine Emergent Wetlands	8.00	80.40
TOTAL	**9.95**	**100.00**
OHIO EPA WETLAND CLASSIFICATION		
Category 3 Wetland (High Quality)	0.00	0.00
Category 2 Wetland (Good Quality)	8.00	80.40
Category 1 Wetland (Poor Quality)	1.95	19.60
TOTAL	**9.95**	**100.00**

Note: The acreage of wetlands was updated from the Draft EIS to reflect permitted impacts to wetlands that occurred during and after the wetland delineation. Appendix K includes the original wetland delineation, as well as correspondence with the USACOE rectifying the acreage of wetlands due to permitted impacts.

Source: ASC Group, 2007.

Streamcourses

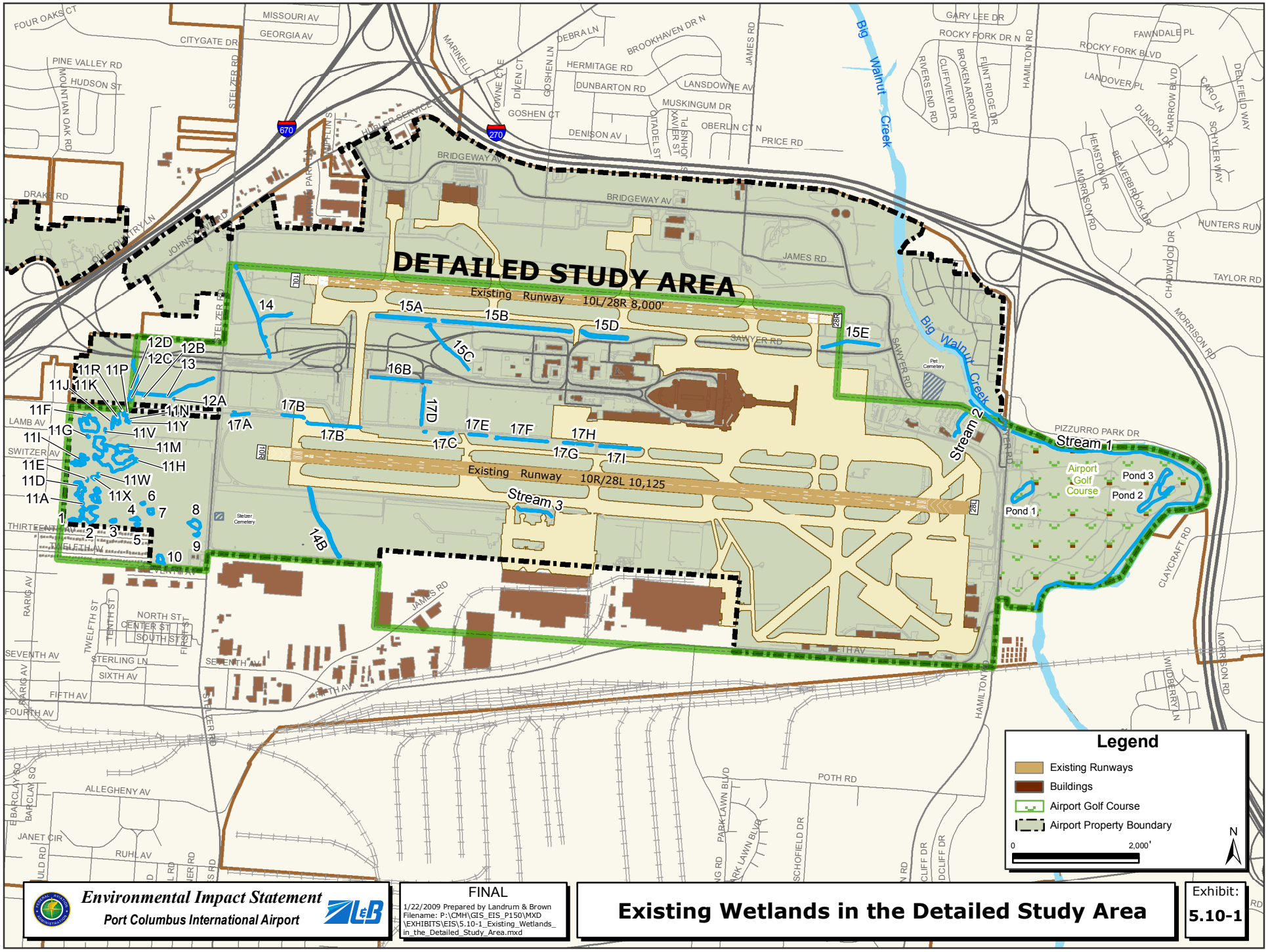
Three jurisdictional waterways, totaling approximately 8,292 linear feet, were identified in the DSA. Two streams are considered headwater streams, while the Big Walnut Creek is considered a non-headwater stream.

Big Walnut Creek had an average width of 75 feet within the DSA and approximately 7,287 linear feet of the Creek extends through the DSA. A second stream is a tributary to the Big Walnut Creek draining under Sawyer Road into Big Walnut Creek. The stream had an average width of 11 feet and a length of approximately 413 feet. The third stream is an unvegetated ditch located south of Runway 10R/28L and originates and discharges into an underground pipe. This stream had an average width of 8.5 feet and a length of approximately 592 feet in the DSA.

Areas of 100-year floodplain are located in the eastern portion of the Airport surrounding Big Walnut Creek. However, most of the DSA is outside of the 100-year floodplain (see Section 5.11, *Floodplains* for further discussion).

5.10.3 FUTURE CONDITIONS: 2012

Wetland and streamcourse impacts of the proposed alternatives in the DSA are listed in **Table 5.10-2**. **Exhibit 5.10-2**, ***Wetland and Stream Impacts*****,** identifies the wetland and stream impacts associated with the Sponsor's Proposed Project and its alternatives.



Environmental Impact Statement
Port Columbus International Airport

FINAL
1/22/2009 Prepared by Landrum & Brown
Filename: P:\CMH\GIS_EIS_P150\MXD\EXHIBITS\EIS\5.10-1_Existing_Wetlands_in_the_Detailed_Study_Area.mxd

Existing Wetlands in the Detailed Study Area

Exhibit: **5.10-1**

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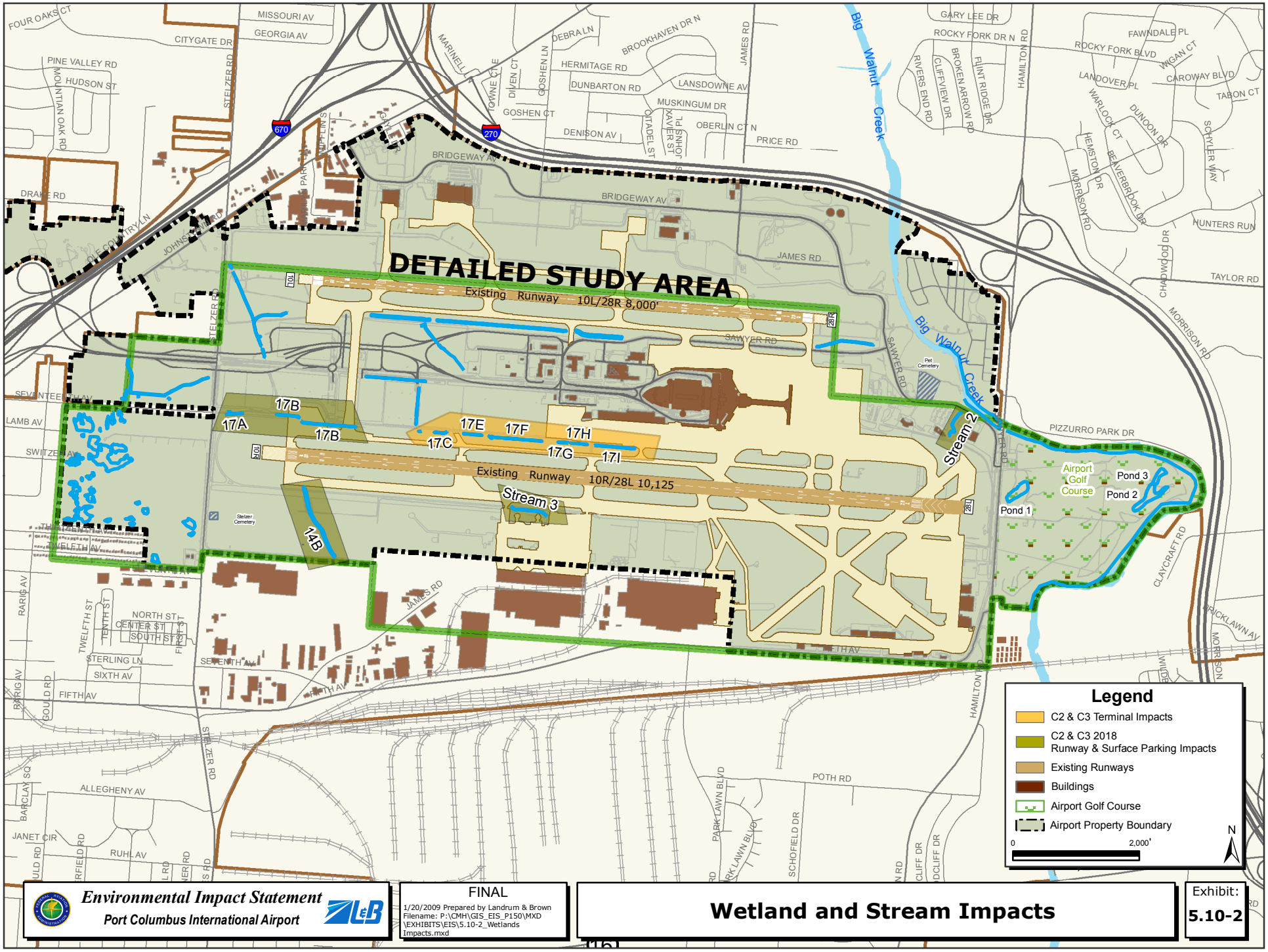
DETAILED STUDY AREA
Existing Runway 10L/28R 8,000'
Existing Runway 10R/28L 10,125
17A
17B
17B
17C
17E
17F
17H
17G
17I
14B
Stream 2
Stream 3
Big Walnut Creek
Airport Golf Course
Pond 1
Pond 2
Pond 3
Legend
C2 & C3 Terminal Impacts
C2 & C3 2018 Runway & Surface Parking Impacts
Existing Runways
Buildings
Airport Golf Course
Airport Property Boundary
0
2,000'
N
Environmental Impact Statement
Port Columbus International Airport
FINAL
1/20/2009 Prepared by Landrum & Brown
Filename: P:\CMH\GIS_EIS_P150\MXD\EXHIBITS\EIS\5.10-2_Wetlands Impacts.mxd
Wetland and Stream Impacts
Exhibit:
5.10-2

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Table 5.10-2
2012 IMPACTS TO WETLANDS AND JURISDICTIONAL WATERS OF THE U.S. IN THE DSA
Port Columbus International Airport

Alternative	Wetlands	Streams
2006 Existing Conditions	8.00 acres forest 1.95 acres emergent	1,005 ft. intermittent 7,287 ft. permanent
Impacts		
Alternative A	No Change	No Change
Alternative C2a	0.00 acres forest 0.33 acres emergent	1,005 ft. intermittent 0 ft. permanent
Alternative C2b	0.00 acres forest 0.33 acres emergent	1,005 ft. intermittent 0 ft. permanent
Alternative C3a	0.00 acres forest 0.33 acres emergent	1,005 ft. intermittent 0 ft. permanent
Alternative C3b	0.00 acres forest 0.33 acres emergent	1,005 ft. intermittent 0 ft. permanent

Note: The acreage of wetlands was updated from the Draft EIS to reflect permitted impacts to wetlands that occurred during and after the wetland delineation. Appendix K includes the original wetland delineation, as well as correspondence with the USACOE rectifying the acreage of wetlands due to permitted impacts.

Source: ASC Group, 2007.

All impacts to streams or wetlands are associated with development in the southern portion of the Airport. The stream that is a tributary to the Big Walnut Creek, which drains under Sawyer Road into Big Walnut Creek, would be expanded into a stormwater detention basin. The basin would reroute stormwater drainage from the proposed development areas to Big Walnut Creek and reduce the tributary area draining to Mason Run. Impacts are realized through the physical location of the runways, taxiways, parking, and the maintenance requirements of the associated Federal Aviation Administration (FAA) airport design standards. During the Environmental Impact Statement (EIS) alternatives selection process, it was determined that no prudent, feasible, reasonable, or practicable alternatives were available that would both satisfy the project's purpose and need and simultaneously avoid, or substantially minimize, impacts to wetlands. Additional information detailing the alternatives selection process as related to wetlands and streams is located in Chapter Three, *Alternatives*.

Alternative A:
2012 No Action

Alternative A would not result in the loss or conversion of any wetlands, open waters, or streams. No new construction or changes in flight procedures would occur under this alternative. Existing conditions of wetlands and streams would be expected to continue.

Alternative C2a:
2012 Relocate Runway 10R/28L 800 Feet to the South – Noise Abatement Scenario A

Alternative C2a includes the relocation of Runway 10R/28L 800 feet to the south of its current location. The 800-foot relocation of Runway 10R/28L would result in the filling and culverting of 592 linear feet of an unvegetated ditch south of existing Runway 10R/28L (Stream 3). Further, the ravine south of Sawyer Road that is 413 linear feet in length will be modified to create a stormwater basin, for a total of 1,005 linear feet. In addition, approximately 0.33 acres of emergent wetlands (14B, 17A, and 17B) would be graded and filled as a result of implementation of this alternative.

Alternative C2b:
2012 Relocate Runway 10R/28L 800 Feet to the South – Noise Abatement Scenario B

Alternative C2b includes the relocation of Runway 10R/28L 800 feet to the south of its current location, along with the implementation of proposed operational procedures from the 2007 Part 150 Noise Compatibility Study Update (2007 Part 150 Study). The proposed operational procedures would not result in physical changes and therefore would not impact wetlands or streams. The impacts listed for Alternative C2a would remain the same for Alternative C2b.

Alternative C3a:
2012 Relocate Runway 10R/28L 702 Feet to the South – Noise Abatement Scenario A

Alternative C3a includes the relocation of Runway 10R/28L 702 feet to the south of its current location. The 702-foot relocation of Runway 10R/28L would result in the filling and culverting of 592 linear feet of an unvegetated ditch south of existing Runway 10R/28L (Stream 3). Further, the ravine south of Sawyer Road that is 413 linear feet in length will be modified to create a stormwater basin, for a total of 1,005 linear feet. In addition, approximately 0.33 acres of emergent wetlands (14B, 17A, and 17B) would be graded and filled as a result of implementation of this alternative.

Alternative C3b:
2012 Relocate Runway 10R/28L 702 Feet to the South – Noise Abatement Scenario B (Sponsor's Proposed Project)

Alternative C3b includes the relocation of Runway 10R/28L 702 feet to the south of its current location, along with the implementation of proposed operational procedures from the 2007 Part 150 Study. The proposed operational procedures would not result in physical changes and therefore would not impact wetlands or streams. The impacts listed for Alternative C3a would remain the same for Alternative C3b.

5.10.4 FUTURE CONDITIONS: 2018

In addition to 2012, the environmental consequences for 2018 are provided because that is the anticipated year of opening the proposed terminal. Wetland and streamcourse impacts of the proposed alternatives are listed in **Table 5.10-3**.

All impacts to streams or wetlands are associated with development in the central and southern portion of the Airport. The stream that is a tributary to the Big Walnut Creek, which drains under Bridgeway Avenue into Big Walnut Creek, would be expanded into a stormwater detention basin. The basin would reroute stormwater drainage from the proposed development areas to Big Walnut Creek and reduce the tributary area draining to Mason Run. Impacts are realized through the physical location of the runways, taxiways, surface parking, development of a new midfield terminal, and the maintenance requirements of the associated FAA airport design standards. During the EIS alternatives selection process, it was determined that no prudent, feasible, reasonable, or practicable alternatives were available that would both satisfy the project's purpose and need and simultaneously avoid, or substantially minimize, impacts to wetlands. Additional information detailing the alternatives selection process, as related to wetlands and streams, is located in Chapter Three, *Alternatives*.

Table 5.10-3
2018 IMPACTS TO WETLANDS AND JURISDICTIONAL WATERS OF THE U.S. IN THE DSA
Port Columbus International Airport

Alternative	Wetlands	Streams
2006 Existing Conditions	10.57 acres	1,005 ft. int. 7,287 ft. perm.
Impacts		
2012 Alternative A	No Change	No Change
2012 Alternative C2a	0.00 acres forest 0.33 acres emergent	1,005 ft. intermittent 0 ft. permanent
2012 Alternative C2b	0.00 acres forest 0.33 acres emergent	1,005 ft. intermittent 0 ft. permanent
2012 Alternative C3a	0.00 acres forest 0.33 acres emergent	1,005 ft. intermittent 0 ft. permanent
2012 Alternative C3b	0.00 acres forest 0.33 acres emergent	1,005 ft. intermittent 0 ft. permanent
2018 Alternative A	No Change	No Change
2018 Alternative C2a	0.00 acres forest 0.65 acres emergent	1,005 ft. intermittent 0 ft. permanent
2018 Alternative C2b	0.00 acres forest 0.65 acres emergent	1,005 ft. intermittent 0 ft. permanent
2018 Alternative C3a	0.00 acres forest 0.65 acres emergent	1,005 ft. intermittent 0 ft. permanent
2018 Alternative C3b	0.00 acres forest 0.65 acres emergent	1,005 ft. intermittent 0 ft. permanent

Source: ASC Group, 2007.

Alternative A:
2018 No Action

Alternative A would not result in the loss or conversion of any wetlands, open waters, or streams. No new construction or changes in flight procedures would occur under this alternative. Existing conditions of wetlands and streams would be expected to continue.

Alternative C2a:
2018 Relocate Runway 10R/28L 800 Feet to the South and Construct Midfield Terminal (T2) – Noise Abatement Scenario A

Alternative C2a includes the relocation of Runway 10R/28L 800 feet to the south of its current location and the construction of a new midfield terminal. The 800-foot relocation of Runway 10R/28L would result in the filling and culverting of 592 linear feet of an unvegetated ditch south of existing Runway 10R/28L (Stream 3). Further, the ravine south of Sawyer Road that is 413 linear feet in length will be modified to create a stormwater basin, for a total of 1,005 linear feet. The relocated runway would result in 0.33 acres of wetlands (14A, 17A, and 17B) being graded and filled and the construction of the midfield terminal would result in an additional 0.32 acres of wetlands (17C, 17E, 17F, 17G, 17H, and 17I) being graded and filled. Therefore, approximately 0.65 acres of wetlands would be graded and filled as a result of implementation of this alternative.

Alternative C2b:
2018 Relocate Runway 10R/28L 800 Feet to the South and Construct Midfield Terminal (T2) – Noise Abatement Scenario B

Alternative C2b includes the relocation of Runway 10R/28L 800 feet to the south of its current location, construction of a new midfield terminal, and the implementation of proposed operational procedures from the 2007 Part 150 Study. The proposed operational procedures would not result in additional physical changes and therefore would not impact wetlands or streams. The impacts listed for Alternative C2a would remain the same for Alternative C2b.

Alternative C3a:
2018 Relocate Runway 10R/28L 702 Feet to the South and Construct Midfield Terminal (T2) – Noise Abatement Scenario A

Alternative C3a includes the relocation of Runway 10R/28L 702 feet to the south of its current location and the construction of a new midfield terminal. The 702-foot relocation of Runway 10R/28L would result in the filling and culverting of 592 linear feet of an unvegetated ditch south of existing Runway 10R/28L (Stream 3). Further, the ravine south of Sawyer Road that is 413 linear feet in length will be modified to create a stormwater basin, for a total of 1,005 linear feet. The relocated runway would result in 0.33 acres of wetlands (14B, 17A, and 17B) being graded and filled and the construction of the midfield terminal would result in 0.32 acres of wetlands (17C, 17E, 17F, 17G, 17H, and 17I) being graded and filled. Therefore, approximately 0.65 acres of wetlands would be graded and filled as a result of implementation of this alternative.

Alternative C3b:

2018 Relocate Runway 10R/28L 702 Feet to the South and Construct Midfield Terminal (T2) – Noise Abatement Scenario B (Sponsor's Proposed Project)

Alternative C3b includes the relocation of Runway 10R/28L 702 feet to the south of its current location, construction of a new midfield terminal, and the implementation of proposed operational procedures from the 2007 Part 150 Study. The proposed operational procedures would not result in additional physical changes and therefore would not impact wetlands or streams. The impacts listed for Alternative C3a would remain the same for Alternative C3b.

5.10.5 PERMITTING AND MITIGATION ACTIVITIES

Coordination with the USACOE has determined that an Individual Permit under Section 404 of the Clean Water Act (CWA) would be required for construction of any build alternatives. Permitting under Section 401 of the CWA, including compliance with the Ohio EPA's Anti-Degradation Rules, would also be required for the build alternatives. Both agencies require, in general, that if a practicable alternative does not exist that meets the purpose and need of the project and avoids or minimizes impacts to wetlands and/or streams, compensatory mitigation in the form of preservation and/or restoration may be required.

Regarding wetland and stream compensatory mitigation requirements, the USACOE relies on district offices to review proposed compensatory mitigation plans on a case-by-case basis with consideration given to "guidelines" developed and utilized for permit applications within the district. In summary, the USACOE has not set a policy for acceptable wetland or stream mitigation plans.

The Ohio EPA Anti Degradation Rules[1] require different replacement ratios for the different wetland categories impacted (1, 2, or 3 and forested versus non-forested), and for the location of mitigation areas (on-site or off-site mitigation). The Ohio EPA requires replacement wetlands to generally be of a higher category than the affected wetlands. Additional coordination with the USACE and Ohio EPA will be conducted to determine the ratios and acreages by wetland type for off-site mitigation of each of the alternatives. FAA AC 150/5200-33A, *Hazardous Wildlife Attractants on or Near Airports,* recommends off-site mitigation for impacts to wetlands, since flooded areas are known to attract waterfowl and other animals considered incompatible with and hazardous to aviation.

In addition, the Ohio Department of Natural Resources has recommended that if stream impacts are proposed, that no in-water work be conducted between April 15th and June 30th to reduce the impacts to aquatic species and habitats.[2]

[1] http://www.epa.state.oh.us/dsw/rules/antidegguide_2003.html, accessed on line February 7, 2008.
[2] *Comment Letter from Ohio Department of Natural Resources to Katherine Jones*, July 1, 2008.

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