

### **2.1.2 Pre-Construction Surveys**

The New Project Areas are completely contained within Cardno's 2013 Study Area; therefore, no new pre-construction avian or chiropteran surveys have been conducted since the 2013 assessment. A review of previous pre-construction surveys is provided in Cardno's 2013 *Ecological Assessment* report.

### **2.1.3 Consultation Letters**

The New Project Areas are completely contained within Cardno's 2013 Study Area; therefore, no new agency consultations have been conducted in regard to the amended Project Corridor.

## **2.2 Field Delineation Summaries**

### **2.2.1 Wetland Survey Methods**

Cardno conducted a wetland and waterbody delineation survey of the New Project Areas during July 2014 to determine the extent and jurisdiction of wetlands and waterbodies within the Amended Project Corridor. A ¼ mile visual investigation was also conducted on either side of the New Project Area for sensitive habitats. The delineation surveys were conducted in accordance with the 1987 USACE *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory, 1987), and the USACE *Midwest Regional Supplement to the Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory, 2010).

Appendix B includes the Wetland Report, summarizing the USACE *Midwest Regional Supplement to the Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory, 2010), the OEPA, ORAM, the OEPA HHEI and QHEI results for streams and wetlands identified in the New Project Area, as well as a brief description of each delineated wetland within the New Project Area, photographic documentation of the delineated wetlands and waterbodies.

### **2.2.2 Wetland Survey Results**

During July 2014, the Cardno team identified one field-delineated wetland area (WHO-AD01), totaling 0.50 acres. The wetland is located within the southeastern corner of a wood lot, and consisted of a mix of PEM/PFO wetland types with the open canopy emergent section being dominated by *Ambrosia trifida* in the herb stratum and *Cornus obliqua* in the sapling stratum. The forested portion contained Black walnut (*Juglans nigra*) and cherry species. Hydric silty clay loam soils were identified to a depth of 12 inches at the sampling point, with saturation at the surface. Geomorphic positioning in the landscape and evidence of overland flow from upland crop areas provided the wetland with adequate hydrology. The wetland was determined to be isolated. No impacts to this wetland are anticipated based on the modified infrastructure plans.

Refer to Table 2-2 for a summary of the Field-Delineated Wetlands for the New Project Area.

**Table 2-2 Wetlands Delineated in New Project Area**

Wetland ID	WOH-AD01
Latitude	-83.71417973
Longitude	40.5101966
County	Logan
Area (acres) within New Project Area	0.50
Wetland Type	PEM/PFO
Watershed/Drainage Basin	Great Miami River
Habitat Notes	Directly adjacent to active crop area with limited buffer to impacts from agriculture
ORAM Score	30
Jurisdictional or Isolated?	Isolated

### **2.2.3 Stream Delineation Criteria and Methods**

Jurisdictional streams were identified as those waters that had an Ordinary High Water Mark (OHWM), a defined channel, and an open water feature, such as surface water or at least a non-vegetated area through the channel that indicated periodic flowing water.

All streams delineated in the field were assessed using the OEPA HHEI as outlined in the *Field Evaluation Manual for Ohio's Primary Headwater Habitat Streams Review Version 2.3* (OEPA, 2009). The HHEI is used to determine the status of smaller streams as one of three classes of primary headwater habitats (PHWH). Field observations of the streams were only visual, and no water quality samples were collected for further analysis during Cardno's field surveys.

### **2.2.4 Stream Delineation Survey Results**

The New Project Area includes four new stretches of streams, two of which are proposed to be crossed by Project infrastructure (collection lines). Based on review of HHEI scores, three of the waterbodies were classified as Modified Class II PHWH (intermittent, warm water streams) with scores ranging from 53 to 57, while the last stream was categorized as Class III PHWH. Of the four stretches delineated, only one lacks a QHEI in addition to the required HHEI since its drainage area was less than one square mile.

Since three of the streams were identified as agricultural canals that can suffer from flash flows during rain events, the streams were ranked as poor mussel habitat. The remaining site was identified as having moderate potential for mussel populations. However, during the delineation efforts, no mussels were observed at any of the crossings or their immediate vicinity.

Refer to Table 2-3 for a summary of the Field-Delineated Streams for the New Project Area.

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