Attachment 4

Environmental Assessment and Line Route Siting Study

Duquesne Light Company

Mon-Fayette Tower Relocations Project
Project No. 106095

12/19/2019

Environmental Assessment and Line Route Siting Study

prepared for

Duquesne Light Company
Mon-Fayette Tower Relocations Project
Allegheny County, Pennsylvania

Project No. 106095

12/19/2019

prepared by

Burns & McDonnell Engineering Company, Inc.
Chicago, Illinois

TABLE OF CONTENTS

Page No.

EXECUTIVE SUMMARY 1

1.0 INTRODUCTION 1-1
1.1 Project Overview 1-1
1.2 Project Timeline 1-3
1.3 Goal of the Line Route Siting Study 1-4
1.4 Project Study Areas 1-4

2.0 PROJECT ROUTING PROCESS 2-1
2.1 Overview of Route Selection Process 2-1
2.2 Study Areas 2-2
2.3 Agency Consultation 2-2
2.4 General Description of Study Areas 2-3
2.4.1 Ecological Resources 2-3
2.4.2 Human and Social Resources 2-6
2.5 Public Outreach 2-9

3.0 ROUTE DEVELOPMENT 3-1
3.1 Windshield Survey of Routes 3-1
3.2 Evaluation of Route Options 3-1
3.3 Evaluation Criteria 3-1

4.0 ROUTE SELECTION 4-1
4.1 Study Area 1 4-1
4.1.1 Ecological Criteria 4-1
4.1.2 Land Use and Cultural Criteria 4-1
4.1.3 Technical Siting Criteria 4-3
4.1.4 Route Selection for Study Area 1 4-3
4.2 Study Area 2 4-3
4.2.1 Ecological Criteria 4-3
4.2.2 Land Use and Cultural Criteria 4-5
4.2.3 Technical Siting Criteria 4-5
4.2.4 Route Selection for Study Area 2 4-6
4.3 Study Area 3 4-6
4.3.1 Ecological Criteria 4-6
4.3.2 Land Use and Cultural Criteria 4-6
4.3.3 Technical Siting Criteria 4-7
4.3.4 Route Selection for Study Area 3 4-7
4.4 Study Area 4 4-9
4.4.1 Ecological Criteria 4-9
4.4.2 Land Use and Cultural Criteria 4-9

4.4.3 Technical Siting Criteria 4-9
4.4.4 Route Selection for Study Area 4 4-9
4.5 Study Area 5 4-11
4.5.1 Ecological Criteria 4-11
4.5.2 Land Use and Cultural Criteria 4-11
4.5.3 Technical Siting Criteria 4-11
4.5.4 Route Selection for Study Area 5 4-12
4.6 Route Comparison Summary 4-14

5.0 REFERENCES 5-1

APPENDIX A - FIGURES
APPENDIX B - IMPACTED FACILITY OWNERS
APPENDIX C - AGENCY CORRESPONDENCE

LIST OF TABLES

Page No.

Table 2-1: Summary of Water Resources within the Study Areas 2-4
Table 2-2: Summary of Wetland Delineation within the Study Areas 2-5
Table 2-3: Threatened and Endangered Species that Occur or are Likely to Occur in Allegheny County 2-6
Table 2-4: Summary of Land Use Types within the Route Study Areas 2-7
Table 3-1: Route Evaluation Criteria 3-2
Table 4-1: Study Area 1 Preferred and Alternate Routes Siting Criteria Comparison 4-2
Table 4-2: Study Area 2 Preferred and Alternate Routes Siting Criteria Comparison 4-4
Table 4-3: Study Area 3 Preferred and Alternate Routes Siting Criteria Comparison 4-8
Table 4-4: Study Area 4 Preferred Route Siting Criteria 4-10
Table 4-5: Study Area 5 Preferred and Alternate Routes Siting Criteria Comparison 4-13
Table 4-6: Combined Preferred and Alternate Routes Siting Criteria Comparison 4-16

LIST OF FIGURES

Page No.

Figure 1 Project Overview Map 1-2
Figure 2 Preferred and Alternate Routes 4-15

Appendix A Figures

Figure 1-1 Study Area 1 Route Options
Figure 1-2 Ecological Criteria - Waters: Study Area 1
Figure 1-3 Ecological Criteria - Habitat: Study Area 1
Figure 1-4 Land Use and Cultural Criteria: Study Area 1
Figure 1-5 Technical Criteria - Infrastructure: Study Area 1
Figure 1-6 Technical Criteria - Topography: Study Area 1

Figure 2-1 Study Area 2 Route Options
Figure 2-2 Ecological Criteria - Waters: Study Area 2
Figure 2-3 Ecological Criteria - Habitat: Study Area 2
Figure 2-4 Land Use and Cultural Criteria: Study Area 2
Figure 2-5 Technical Criteria - Infrastructure: Study Area 2
Figure 2-6 Technical Criteria - Topography: Study Area 2

Figure 3-1 Study Area 3 Route Options
Figure 3-2 Ecological Criteria - Waters: Study Area 3
Figure 3-3 Ecological Criteria - Habitat: Study Area 3
Figure 3-4 Land Use and Cultural Criteria: Study Area 3
Figure 3-5 Technical Criteria - Infrastructure: Study Area 3
Figure 3-6 Technical Criteria - Topography: Study Area 3

Figure 4-1 Study Area 4 Route Options
Figure 4-2 Ecological Criteria - Waters: Study Area 4
Figure 4-3 Ecological Criteria - Habitat: Study Area 4
Figure 4-4 Land Use and Cultural Criteria: Study Area 4
Figure 4-5 Technical Criteria - Infrastructure: Study Area 4
Figure 4-6 Technical Criteria - Topography: Study Area 4

Figure 5-1 Study Area 5 Route Options
Figure 5-2 Ecological Criteria - Waters: Study Area 5
Figure 5-3 Ecological Criteria - Habitat: Study Area 5
Figure 5-4 Land Use and Cultural Criteria: Study Area 5
Figure 5-5 Technical Criteria - Infrastructure: Study Area 5
Figure 5-6 Technical Criteria - Topography: Study Area 5

LIST OF ABBREVIATIONS

Abbreviation	Term/Phrase/Name
BLS	Bureau of Labor Statistics
Burns & McDonnell	Burns & McDonnell Engineering Company, Inc.
CPCN	Certificate of Public Convenience and Necessity
DLC	Duquesne Light Company
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
I-376	Interstate-376
IPaC	Information, Planning and Conservation
MFE	Mon-Fayette Expressway
NAIP	National Agriculture Imagery Program
NHD	National Hydrography Dataset
NLCD	National Land Cover Database
NRHP	National Register of Historic Places
NWI	National Wetland Inventory
PAPUC	Pennsylvania Public Utilities Commission
PNDI	Pennsylvania Natural Diversity Inventory
PNHP	Pennsylvania Natural Heritage Program
PTC	Pennsylvania Turnpike Commission
ROW	Right-of-Way, Rights-of-Way
SHPO	State Historic Preservation Office
USCB	U.S. Census Bureau
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service

EXECUTIVE SUMMARY

The Pennsylvania Turnpike Commission (PTC) is proposing to extend the Mon-Fayette Expressway (MFE), a tolled, limited access highway in Allegheny County. Construction of the MFE will necessitate a significant number of utility relocations, including Duquesne Light Company (DLC) transmission lines. DLC hired Burns & McDonnell Engineering Company, Inc. (Burns and McDonnell) to conduct routing and engineering studies to facilitate the required relocation of electric transmission lines. A total of five largely noncontiguous Study Areas were identified during the comparison of the proposed MFE and DLC infrastructure. These five areas each require a portion of DLC's electric transmission line to be relocated to avoid the MFE.

The Pennsylvania Public Utilities Commission (PAPUC) has jurisdiction to review and approve the siting of the proposed relocation of DLC's overhead high-voltage infrastructure (52 Pa. Code Chapter 57). This Environmental Assessment and Line Route Siting Study provides a brief overview of the Project, the processes used to analyze the preferred and alternate routes, discusses the reasonable alternatives that were investigated for the selection of the preferred routes required by the PAPUC regulations, and the methodology employed to select the preferred routes for the Project.

Based on the types of publicly available datasets obtained and the availability of collected field data, a list of evaluation criteria was developed to evaluate potential routes in each of the Study Areas. Evaluation criteria were categorized under three broad headings: ecological, land use/cultural, and technical. Multiple individual criteria were evaluated under these broad headings. The siting criteria were selected based on their relevance to the Project, the Study Area, and the availability and quality of the data sets. Technical criteria were evaluated to compare engineering design, constructability, and cost constraints so that any preliminary routes can be identified as technically feasible. Criteria identified as constraints should generally be avoided where possible and minimized where avoidance is not practical. Criteria identified as opportunities provide locations where placement of the new route would be beneficial or otherwise minimize impacts to protected resources.

The preferred and alternate routes have been evaluated independently for each Study Area as there are five distinct, largely noncontiguous areas requiring relocation. The available routes in each Study Area are independent of each other, and the choice of route option in a given Study Area does not impact the applicable siting criteria or availability of route options in any other Study Area. Study Area 4 is the only section with no alternate route included in the analysis due to the unavailability of another option for this single pole relocation. The same values for Study Area 4 were included in both the combined preferred

and combined alternate routes to keep the comparisons equal. All siting criteria were analyzed for each Study Area. The discussion below primarily focuses on those siting criteria that most differentiate between the preferred and alternate routes in each Study Area.

The most significant criteria for biological and natural resources included the total acreage of tree clearing, the number of high-quality stream crossings, and the acreage of floodplain crossed. Each of the factors has the potential to increase cost of construction and annual maintenance as well as the potential for impacts to sensitive species. Although the preferred routes have a higher acreage of required tree clearing (43 acres versus 32 acres), they have fewer high-quality stream crossings (8 streams versus 12 streams) and less acreage crossing floodplains (1.6 acres versus 4.2 acres).

The most significant criteria for land use and cultural criteria is the proximity to residences. There are far fewer residences within 100 feet of the preferred route (51 residences versus 142 residences). The combined preferred routes are also closer to fewer residences within 1,000 feet of the ROW than the combined alternate routes (1,037 residences versus 1,543 residences). Therefore, the combined preferred routes[1] are much less impactful than the combined alternate routes.

The most significant technical siting criteria include the overall length of the routes, the acreage of steep slope, the number of hazardous waste sites, the acreage of challenging geologic conditions, and, most importantly, the constructability of the routes. The overall length has a direct correlation to the overall project cost. Therefore, the combined preferred routes is much more advantageous as it is shorter in overall length (22,600 feet versus 26,250 feet). The acreage of ROW crossing steep slopes (greater than 15%) is nearly equal between the preferred and alternate routes. The combined preferred routes have fewer known hazardous waste sites within 1,000 feet of the ROW than the combined alternate routes (2 sites versus 5 sites). Additionally, the presence of challenging geologic conditions, such as previously mined lands or karst topography, can increase the risk of construction costs due to increased foundation complexity to account for potential voids underground. The preferred routes cross significantly less acreage of challenging geology (12 acres versus 22 acres), which makes them much more favorable than

[1] The combined preferred routes comprise the “Proposed Route,” as that term is used in the Siting Application.

the alternate routes. Overall constructability of the preferred routes is much less challenging than the alternate routes (aggregate construction difficulty score of 9 vs 19).

The evaluation of these siting criteria and the comparison of the preferred and alternate routes support the selection of the preferred routes as the least impactful and lowest cost alternative for the relocation of the DLC infrastructure.

1.0 INTRODUCTION

The Pennsylvania Turnpike Commission (PTC) is proposing to extend the Mon-Fayette Expressway (MFE), a tolled, limited access highway in Allegheny County. The MFE extends from Jefferson Hills Borough, at Pennsylvania Route 51, to Interstate 376 (I-376) in the municipality of Monroeville and is being designed and constructed in sections (Figure 1 on Page 1-2 and detailed in Appendix A Figures). Construction of the MFE will include substantial grading, construction of bridges, development of drainage & stormwater management features, and a significant number of utility relocations.[2] The complete list of affected facilities is included in Appendix B. A portion of those utility relocations includes Duquesne Light Company (DLC) transmission lines. DLC hired Burns & McDonnell Engineering Company, Inc. (Burns and McDonnell) to conduct routing and engineering studies to facilitate the required relocation of electric transmission lines.

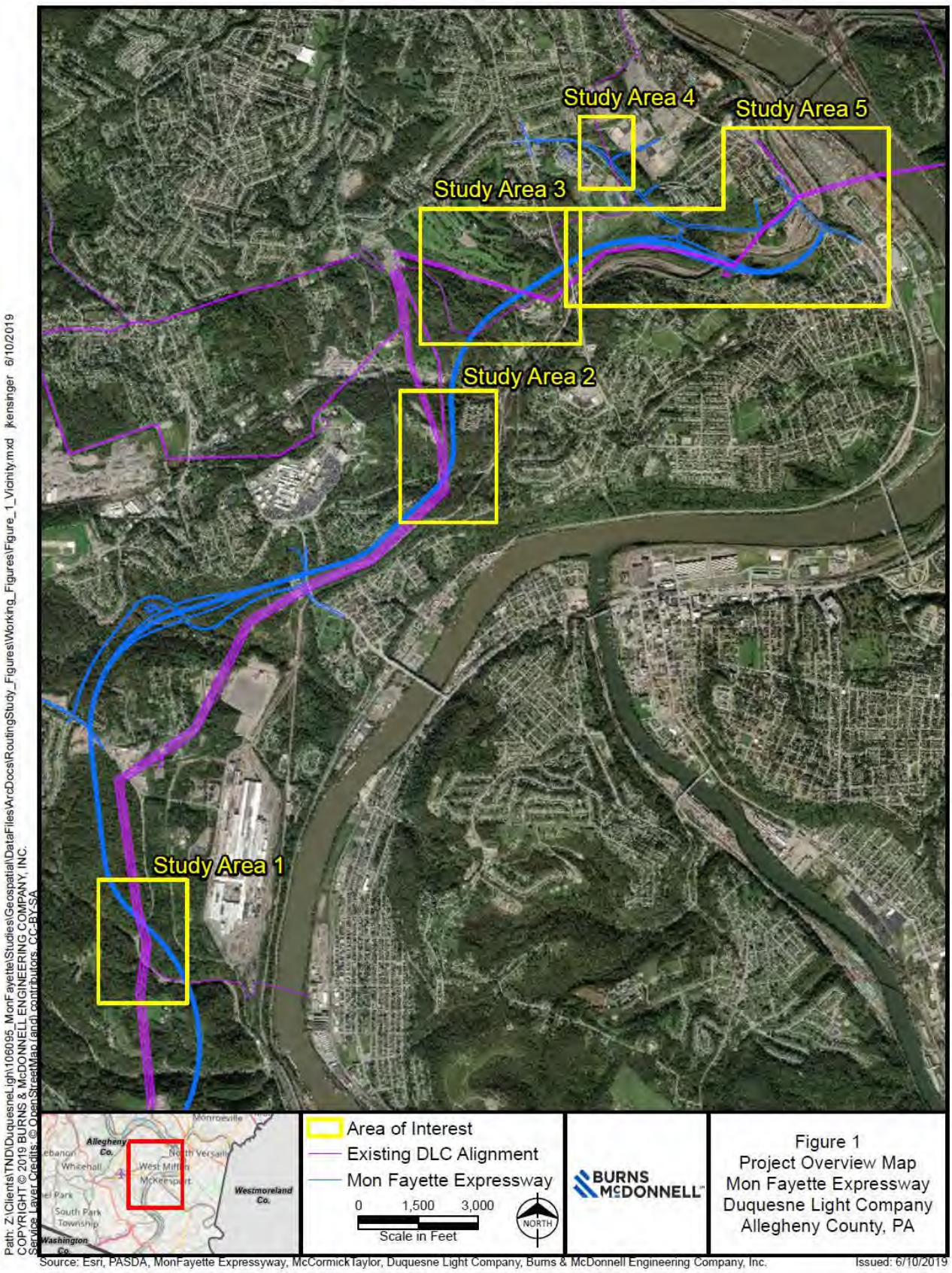
1.1 Project Overview

DLC is a regulated electric distribution company that serves approximately 600,000 customers in Allegheny and Beaver counties. As part of this service, DLC owns, operates, and maintains approximately 670 miles of electric transmission lines. Approximately 4.4 miles of these transmission lines are located within areas affected by the planned MFE and will need to be relocated to accommodate the construction of the expressway and the maintenance of the limited access area for the tollway. These Study Areas are depicted on Figure 1 (Project).

Where existing structures are inside the PTC's proposed limited access area, the structure will need to be relocated outside the proposed limited access area. Transmission structures in limited access creates additional challenges. First, the structures pose a hazard to vehicles in transit on the MFE and a design challenge for the MFE designers. Furthermore, the structures are often left in a location difficult to access for routine maintenance, inspection, and future replacement. For these reasons, leaving existing structures in a limited access area is not allowed by the PTC.

Where existing structures are inside the MFE's proposed grading area, the structure will need to be relocated outside the proposed grading area. Transmission structures in an area to be graded creates challenges. The strength of the transmission foundations can be negatively impacted if adjacent soil is removed/disturbed or if a new slope is created nearby. Also, by having structures in an area to be graded,

[2] This Route Siting Study pertains to the Southern Section portion of the MFE. In the future, to the extent the PTC constructs the Northern Section of the MFE, additional transmission facility relocations may be necessary.


Study Area 4
Study Area 5
Study Area 3
Study Area 2
Study Area 1
Area of Interest
Existing DLC Alignment
Mon Fayette Expressway
0 1,500 3,000
Scale in Feet
NORTH
BURNS McDONNELL
Figure 1
Project Overview Map
Mon Fayette Expressway
Duquesne Light Company
Allegheny County, PA
Source: Esri, PASDA, MonFayette Expressway, McCormick Taylor, Duquesne Light Company, Burns & McDonnell Engineering Company, Inc.
Issued: 6/10/2019
Path: Z:\Clients\TND\DuquesneLight\106095_MonFayette\Studies\Geospatial\DataFiles\ArcDocs\RoutingStudy_Figures\Working_Figures\Figure_1_Vicinity.mxd jkensinger 6/10/2019
COPYRIGHT © 2019 BURNS & McDONNELL ENGINEERING COMPANY, INC.
Service Layer Credits: © OpenStreetMap (and) contributors, CC-BY-SA

the structures are more likely to be damaged during grading activities (struck by scrapers, bulldozers, etc.). For these reasons, leaving existing structures in a grading area is not allowed by the PTC.

In some cases, the Turnpike either crosses an existing transmission span between two structures, or there is proposed grading underneath existing transmission wires. In such cases, the existing transmission lines will be evaluated using DLC's weather cases and clearance criteria, and the clearance will be checked to the proposed grade using the provided engineering models in PLS-CADD software. If the existing wires do not meet the required clearance, the proposed remediation is to either replace the existing structure with taller structures and/or provide a new transmission line route, depending on site topography.

Above ground obstacles are included in the MFE design. Above ground obstacles include proposed street lights, traffic signals, viaducts (bridge superstructures), retaining walls, sound walls, etc. In such cases, the existing transmission lines will be evaluated using DLC's weather cases and clearance criteria, and the clearance will be checked to the proposed obstacles using the PLS-CADD models. If the existing wires do not meet the required clearance, the proposed remediation is to either replace the existing structure with taller structures or provide a new transmission line route.

A total of five Study Areas were identified during the comparison of the proposed MFE and DLC infrastructure. These five areas each require a portion of DLC's electric transmission line to be relocated to avoid the MFE. The identification of relocation opportunities was very challenging due to the natural topography of the area, existing utilities and infrastructure in densely populated areas, and the restrictions of the MFE. The MFE has developed a proposed corridor adjacent to existing transmission facilities which takes advantage of the best linear routing opportunities. Therefore, the remaining alternative routes available for the relocated transmission facilities are limited. Every effort was made to identify two distinct alternative routes, however, that was not possible in all situations.

1.2 Project Timeline

The PTC intends to begin construction of the MFE in June of 2021, extending through 2027. The PTC has provided the below general construction-start dates for the MFE segments (identified by their PTC-issued Design Segment number) that correspond to DLC Study Areas:

- 2023: MFE Design Segment 53A → DLC Study Area 1
- 2023: MFE Design Segment 53B → DLC Study Areas 2 and 3
- 2022: MFE Design Segment 53C → DLC Study Areas 4 and 5

DLC plans to complete the relocation of its infrastructure that is in conflict with the MFE prior to the start of MFE construction in that Design Segment.

1.3 Goal of the Line Route Siting Study

Burns & McDonnell was retained by DLC to conduct a routing study to evaluate potentially feasible options for the relocation of DLC's infrastructure as required by the PTC. This Environmental Assessment and Line Route Siting Study (Study) was prepared to document this route evaluation process. The Study provides a brief overview of the Project, the data evaluated to analyze the preferred and alternate routes, and the methods employed to select the preferred routes for the Project. The PAPUC has jurisdiction over high voltage electric transmission lines and must approve the siting of the proposed relocation of DLC infrastructure. This Study will be provided to the PUC in support of the sitting application.

1.4 Project Study Areas

The Project is composed of five Study Areas within MFE Design Sections 53A, 53B, and 53C[3] where interference has been identified between the MFE and DLC infrastructure. These Study Areas are located along MFE design Sections 53A, 53B, and 53C and are depicted in Figure 1 on Page 1-2.

All Study Areas are located entirely within Allegheny County. Section 53A of the MFE begins west of Clairton, Pennsylvania, near Highway 51 and continues in a northerly direction, generally paralleling the Monongahela River, and ends southwest of Dravosburg, Pennsylvania near Camp Hollow Road. Much of the terrain is very hilly/steep with existing roadways typically occupying the valleys. This MFE section traverses a mixture of rural areas, industrial areas, and sparsely populated neighborhoods. Study Area 1 is located in Design Section 53A.

Section 53B of the MFE begins at Camp Hollow Road southwest of Dravosburg, Pennsylvania and extends for approximately 3.5 miles to Homeville Road within West Mifflin municipality limits. The typical terrain along Section 53B is a combination of wooded areas, existing roadways, and sparsely populated neighborhoods. Study Areas 2 and 3 are located in Design Section 53B.

Section 53C of the MFE begins east of Homeville Road and extends for approximately 1.5 miles until its conclusion at State Highway PA-837 within Duquesne city limits. This section crosses forested areas and is adjacent to neighborhoods. Study Areas 4 and 5 are located in Design Section 53C.

[3] MFE Section numbers were assigned by the PTC.

2.0 PROJECT ROUTING PROCESS

Burns & McDonnell identified five distinct Study Areas where DLC infrastructure must be relocated to allow for construction of the MFE. Each of these five areas includes a length of existing transmission line that must be moved. Because the rest of the transmission line will be able to remain in place, these small segments will simply shift to the right or left of the current alignment to minimize the environmental and land use impacts, cost of construction, and overall impact to DLC infrastructure.

This report contains a description of the existing environment within the identified Study Areas, a description of the route evaluation and comparison process, and an evaluation of the preferred and alternate routes for each of the five segments. Appendix A includes an overview map of the entire Project and a separate set of figures for each Study Area.

2.1 Overview of Route Selection Process

Core siting principles and goals remain the same across many projects, but there are unique elements to each project related to geography, land use, environmental and socioeconomic setting, the project's construction requirements, the political climate, public involvement, regulatory requirements, and the schedule needs of the project. These unique elements influence the range of initial possibilities and the applicable siting criteria. Most projects must contend with a suite of competing commercial, technical, environmental, and land use criteria, requiring an effective siting study design. This Project has specific elements that limit the range of routes that are possible and practical. Four basic steps guide the siting processes:

1. **Project scoping and identification of a required relocations:** Scoping for this project involves identifying the areas of conflict where existing DLC transmission lines must be re-routed to accommodate the MFE. This includes the connection points; any interim connections; and engineering, time, and cost limitations. It is necessary to narrow the general study region to a focused Study Area, so data collection can be most efficient.
2. **Collection and mapping of "constraint" and "opportunity" data and identification of potential route candidates:** Constraint and opportunity data refers to the elements on the landscape that provide good opportunities for development of the project (e.g., an existing pipeline ROW) or constraints that should be avoided or minimized (e.g., bald eagle nests, residences). This data is typically collected under three broad headings: ecological, land use/cultural, and technical (engineering/constructability) criteria. Multiple individual criteria are collected under these broad headings and are mapped within the focused Study Area using

Geographic Information System mapping and database software. The mapping and data are used to help place and adjust routes, as needed, to maximize the effectiveness of the project while minimizing potential impacts.

3. **Stakeholder Input:** Public outreach efforts were conducted by PTC to educate and inform local landowners about the MFE project and the impacts that may occur as a result. PTC provided relevant information to inform the route development process. Duquesne Light also conducted separate outreach related to the Project.
4. **Comparison and evaluation of potential routes:** Once potential routes are identified for each relocation area, the siting team establishes a set of metrics through which to compare the routes.

Many criteria were used to analyze each route. With resource data calculated, all routes were evaluated across all criteria. This process resulted in the identification of preferred and alternate routes (where applicable) for each Study Area. These activities are described in greater detail in the following sections of this report.

2.2 Study Areas

This section describes the natural and man-made characteristics of the Study Areas that influence the development of route options for the Project. The process to develop route options included establishing the five Study Areas, reviewing information on the characteristics of each Study Area, and developing potential routes. A Study Area was developed for each area of intersection of the MFE and DLC transmission facilities (Figure 1).

2.3 Agency Consultation

Once a Study Area was defined, regulatory agency websites were reviewed for publicly available data including species information and construction standards (as applicable). This information was utilized when considering routes.

The type of information gathered and reviewed as part of the Project included:

- Land use
- Aesthetics
- Water quality and wetlands
- Soils and geology
- Wildlife, vegetation and fisheries, including threatened and endangered species
- Socioeconomics (population, employment, growth, development)

- Hazardous materials sites
- Cultural resources (historic and archaeological sites, cemeteries)
- Transportation and roads (airport and roadway expansions, construction, operations and maintenance)

A description of the data obtained and analyzed is provided in the sections below.

2.4 General Description of Study Areas

The following section provides a brief overview of the Study Areas and certain general characteristics of Allegheny County. This description is intended to provide a general overview of the nature and character of the area and to provide a background from which to identify and understand the potential issues and concerns regarding the development of route alternatives, identification of evaluation criteria, and the route evaluation at each area of conflict. The background data reviewed during this analysis is included in the figures in Appendix A.

2.4.1 Ecological Resources

2.4.1.1 Natural Resources

Allegheny County and the Study Areas lie within the Western Allegheny Plateau ecological region (U.S. Environmental Protection Agency [USEPA], 2013). This ecological region is characterized by mostly mixed mesophytic forest with a high density of perennial moderate streams with few lakes. The mixed mesophytic forest typically consists of chestnut oak (*Quercus montana*), beech (*Fagus spp.*), yellow-poplar (*Liriodendron tulipifera*), sugar maple (*Acer saccharum*), ash (*Fraxinus spp.*), basswood (*Tillia spp.*), and hemlock (*Tsuga spp.*) (USEPA, 2013).

The dominant land feature of Allegheny County is forest areas with residential and developed areas dispersed throughout. The Monongahela River is formed by the confluence of the West Fork River and Tygart Valley River in Marion County, West Virginia. From here, the Monongahela River flows in a northerly direction until its confluence with the Allegheny River on the western side of Pittsburgh in Allegheny County, Pennsylvania. The Allegheny River is a major headwater of the Ohio River. The areas surrounding the Ohio, Allegheny, and Monongahela Rivers within Allegheny County are well developed

and riparian areas associated with these major rivers are infrequent within the developed areas (National Agriculture Imagery Program [NAIP], 2015).

A majority of the wetlands identified by the National Wetland Inventory (NWI), lie within the valleys where tributaries to the major rivers flow (NWI, 2018). These areas are typically less developed in comparison to the development around the major rivers, allowing for riparian growth and natural spaces.

Due to the proximity of the Study Areas to the Monongahela River, various tributaries and their floodplains intersect the Study Areas (Table 2-1). Perennial streams with Federal Emergency Management Agency (FEMA) mapped floodplain are located within all Study Areas except Study Area 4. Thompson Run flows through Study Areas 2, 3, and 5. An unnamed tributary to the Monongahela River and its associated FEMA mapped Zone A 100-year floodplain flows through Study Area 1 (Figures 1-2 through 5-2). Additionally, Study Area 5 extends over a Section 10 Navigable Water, Monongahela River, and its associated Zone AE 100-year floodplain and floodway. Eight other unnamed tributaries are intersected by the Study Area.

Table 2-1: Summary of Water Resources within the Study Areas

Water Resource	Preferred Routes	Alternate Routes[a]
	NHD[b] (linear feet)	
Connector	224	858
Stream/River-Intermittent	1,577	1,749
Stream/River-Perennial	1,278	1,366
	Chapter 93 Stream[c] (linear feet)	
Thomson Run, WWF	758	1,043
	FEMA FIRM[d] (acre)	
Zone A	2.79	6.57

a. Data for the Study Area 4 route is included in the alternate and preferred route analysis
b. U.S. Geological Survey (USGS) National Hydrology Dataset (NHD)
c. Pennsylvania Code, Chapter 93 Water Quality Standards, 2018
d. FEMA Flood Insurance Rate Map (FIRM)

In 2016, McCormick Taylor was retained by PTC to delineate or verify previously delineated wetlands and streams within footprint of the MFE, which includes the five Study Areas. Palustrine emergent (PEM), palustrine forested (PFO), palustrine scrub-shrub (PSS), and palustrine unconsolidated bottom (PUB) open water wetlands are present within both the preferred and alternate routes; however, the majority of wetlands present within the Study Areas are PEM wetlands. Table 2-2 summarizes the

findings of the 2016 McCormick Taylor wetland verification and delineation for the preferred and alternate routes (McCormick Taylor, 2018).

Table 2-2: Summary of Wetland Delineation within the Study Areas

Delineated Resource	Preferred Routes	Alternate Routes[a]
Wetland (acre)		
PEM	1.39	1.35
PFO	0.21	0.27
PSS	0.25	0.27
PUB	0.21	0.14
Stream (acre)		
Ephemeral	0.05	0.05
Intermittent	0.00	0.00
Perennial	0.52	0.45
Stream (linear feet)		
Ephemeral	863.85	866.89
Intermittent	1,588.75	883.87
Perennial	932.63	1,351.96

Source: McCormick Taylor, 2018 and 2019
a. Data for the Study Area 4 route is included in the alternate and preferred route analysis

2.4.1.2 Protected Species

The U.S. Fish and Wildlife Service (USFWS) website was reviewed early in the Project planning process to evaluate the potential for threatened and endangered species in the Study Areas. USFWS Information, Planning and Conservation (IPaC) data was requested for the Study Areas and are included in the IPaC informational letter (Appendix B). According to this data, one threatened mammal, northern long-eared bat (*Myotis septentrionalis*), and one endangered mammal, Indiana bat (*Myotis sodalis*), potentially occur within the Study Areas (USFWS, 2019).

Both the northern long-eared bat and the Indiana bat's winter hibernacula include caves or abandoned mines and their summer roosting habitat consists of dead or dying trees or living trees with cracks, crevices, and/or exfoliating bark with a diameter-at-breast height of 3 to 5 inches or greater. The USFWS

informational letter stated that no critical habitat for Federal or State threatened or endangered species is currently mapped within the Study Areas.

A Potential Bat Hibernacula Survey was completed for the PTC (including the MFE project area) by EnviroScience. One potential bat hibernaculum is present within the preferred route in Study Area 1 and two potential bat hibernacula are present within the alternate route in Study Area 1. No other potential bat hibernacula are present within the Study Areas (EnviroScience, 2016). Due to the sensitivity of these hibernacula, USFWS requires that specific location data remain confidential, therefore, these are not illustrated on figures. Following the identification of potential bat habitat, a summer habitat presence/absence survey for bats was conducted. The results of the mist-netting and radio-tracking activities are summarized in the Listed Bat Study Report, prepared by EnviroScience (EnviroScience, 2019). No federally protected bats were encountered during the field surveys and the USFWS provided clearance for the project in a letter dated November 12, 2019 (Appendix C).

The Pennsylvania Natural Diversity Inventory (PNDI) tool maintained by the Pennsylvania Natural Heritage Program (PNHP) was used to evaluate the potential presence of state-listed threatened and endangered species within the Study Areas (Appendix C). No further review is required for Study Areas 1 through 4. Due to the presence of the Monongahela River within Study Area 5, DLC will coordinate with the Pennsylvania Fish and Boat Commission as needed (PNHP, 2019).

Table 2-3: Threatened and Endangered Species that Occur or are Likely to Occur in Allegheny County

Common Name	Latin Name	State Status	Federal Status
Northern long-eared bat	*Myotis septentrionalis*		Threatened
Indiana bat	*Myotis sodalis*	Endangered	Endangered
Warmouth	*Lepomis gulosis*	Endangered	
Ghost Shiner	*Notropis buchanani*	Endangered	
Lilliput	*Toxolasma parvum*	Special Concern Species	

Source: USFWS, 2019; PNHP, 2019

2.4.2 Human and Social Resources

2.4.2.1 Land Use and Topography

The Study Areas are located in Allegheny County, Pennsylvania. Based on data obtained in 2011 from the National Land Cover Database (NLCD), half of the Study Areas is composed of deciduous forest and approximately 46-percent of the Study Areas are developed (Figures 1-3, 2-3, 3-3, 4-3, and 5-3 in

Appendix A). The Study Areas NLCD data is comparable to Allegheny County's overall land cover – Allegheny County is mostly composed of deciduous forest and developed areas (Table 2-4). Based on a review of recent aerial photography, land use in the Study Areas ranges from primarily undeveloped in Study Area 1 to dense residential and light industrial properties in Study Area 5 (Figures 1-1 through 5-1 in Appendix A). West Mifflin Community Park and Riverview Community Park are located partially within Study Area 2. The Westwood Golf Club golf course, two parks, and Saint Agnes Church and School are located within Study Area 3. West Mifflin Area High School and Middle School are located within Study Area 4. One park is located within Study Area 5.

Table 2-4: Summary of Land Use Types within the Route Study Areas

Land Use Type[a]	Percentage of Land Use in Preferred Routes	Percentage of Land Use in Alternate Routes[b]
Developed, Open Space	23.85	13.47
Developed, Low Intensity	14.89	15.88
Developed, Medium Intensity	9.39	15.09
Developed, High Intensity	5.32	7.31
Deciduous Forest	46.24	47.71
Grassland/Herbaceous	0.31	0.52

Source: NLCD, 2011

a. Land Use Type Definitions:
   i. Developed, Open Space- areas with a mixture of some constructed materials, but mostly vegetation in the form of lawn grasses. Impervious surfaces account for less than 20% of total cover. These areas most commonly include large-lot single-family housing units, parks, golf courses, and vegetation planted in developed settings for recreation, erosion control, or aesthetic purposes
   ii. Developed, Low Intensity- areas with a mixture of constructed materials and vegetation. Impervious surfaces account for 20% to 49% percent of total cover. These areas most commonly include single-family housing units.
   iii. Developed, Medium Intensity -areas with a mixture of constructed materials and vegetation. Impervious surfaces account for 50% to 79% of the total cover. These areas most commonly include single-family housing units.
   iv. Developed High Intensity-highly developed areas where people reside or work in high numbers. Examples include apartment complexes, row houses and commercial/industrial. Impervious surfaces account for 80% to 100% of the total cover.
   v. Deciduous Forest- areas dominated by trees generally greater than 5 meters tall, and greater than 20% of total vegetation cover. More than 75% of the tree species shed foliage simultaneously in response to seasonal change.
   vi. Grassland/Herbaceous- areas dominated by gramanoid or herbaceous vegetation, generally greater than 80% of total vegetation. These areas are not subject to intensive management such as tilling, but can be utilized for grazing.

b. Data for Study Area 4 is included in the alternate and preferred route analysis

The Study Areas are located within the Alleghany Plateau which is characterized by steep hills. The terrain appears mountainous; however, the elevation differential between the top and bottom of the hills is typically only 100 to 200 feet. The plateau is underlain with mineral-rich sedimentary rocks of the Mississippian and Pennsylvanian age.

2.4.2.2 Infrastructure

A map of the local infrastructure within the Study Areas is included as Figures 1-5 through 5-5 in Appendix A. Various state highways and U.S. highways are located within the Study Areas. The Study Areas begin at Pennsylvania Route 51 in Jefferson Hills and end at PA Route 837 in City of Duquesne. While not currently present, after its completion the MFE will bisect the Study Areas. Numerous rail lines, other electric transmission and distribution lines, and gas transmission lines also intersect the Study Areas. Coal mined areas are located within all Study Areas, and a strip-mined area is present within Study Area 1 to the west of the preferred and alternate routes.

2.4.2.3 Cultural Resources

The presence of historic properties and districts within the Study Areas was evaluated using the U.S. National Park Service National Register of Historic Places (NRHP). There are up to eleven previously listed historic places or districts (NRHP sites) present within the Study Areas (NPS 2019). One NRHP listed district and National Historic Landmark, Kennywood Park, an historic amusement area, is located to the north of Study Area 5 and northeast of Study Area 4 (Figures 5-1 through 5-5). The Kennywood Park is located in West Mifflin, PA, and the NRHP-listed portion of the park includes six structures. A Historic Structures report was submitted to the Pennsylvania State Historic Preservation Office (SHPO) requesting concurrence with the finding and recommendation that no further investigations were needed (McCormick Taylor, 2019). The SHPO provided a concurrence letter on November 27, 2019 (Appendix C).

A Phase I Archeological Survey was completed for the PTC (including the MFE project area) by Rue Environmental (Rue Environmental 2019). The Phase I survey involved background research and field survey (surface examination and shovel test excavation). Archival research identified five previously recorded historic resources and three locations with potential historical resources (based on map research). No previously recorded prehistoric resources were located in or near the Project. No archaeological sites were identified during the Phase I survey. The survey resulted in a small aggregate of non-site historic artifacts. Rue Environmental submitted the survey report to the Pennsylvania State

Historic Preservation Office (SHPO) requesting concurrence with the finding and recommendation that no further investigations were needed. The SHPO agreed and provided a concurrence letter on September 4, 2019 (Appendix C).

2.5 Public Outreach

Public outreach is necessary to build public understanding and support of the Project through stakeholder education and engagement opportunities. Since this Project is required to accommodate the MFE, and is only one aspect of the MFE's impacts on stakeholders in the area, the PTC has taken the lead on public outreach. Communication was initiated to share details with the public; and to collect, document, and respond to public feedback. The PTC has a MFE website which includes information regarding the project, frequently asked questions, public involvement, news, and contact information.[4] The PTC held multiple public meetings for the MFE in 2016 and 2018. The public feedback generated through these meetings and through contact opportunities with the PTC helped shape the MFE route which has directly led to this DLC infrastructure relocation project.

[4] https://www.patpconstruction.com/monfaysb/Default.aspx.

3.0 ROUTE DEVELOPMENT

Following the identification of the areas of conflict and evaluation of available background data, potential reroutes were identified and evaluated in more detail.

3.1 Windshield Survey of Routes

Burns & McDonnell conducted a windshield survey of the potential route alternatives for each Study Area. This initial reconnaissance of the preliminary routes was conducted from publicly accessible locations to field-verify and update the mapping and aerial photography resources. Additionally, efforts were made to identify any additional constraints that may affect potential routes.

3.2 Evaluation of Route Options

Evaluation of the routes included a comparison based on ecological criteria, land use and cultural criteria, and technical siting criteria to characterize the potential effects on resources in the Study Areas. Digital data, such as roads, parcels, and land use information, were acquired from publicly available sources. The following section provides a detailed description of each of the criteria considered for the route analysis.

3.3 Evaluation Criteria

Based on the types of publicly available datasets obtained and the availability of collected field data, a list of evaluation criteria was developed to evaluate potential routes. Evaluation criteria were identified under three broad headings: ecological, land use/cultural, and technical. Multiple individual criteria were evaluated under these broad headings. The siting criteria were selected based on their relevance to the Project, the Study Area, and the availability and quality of the data sets. Technical criteria are evaluated to compare engineering design, constructability, and cost constraints so that any preliminary routes can be identified as technically feasible. Criteria identified as constraints should generally be avoided where possible and minimized where avoidance is not practical. Criteria identified as opportunities provide locations where placement of the new route would be beneficial or otherwise minimize impacts to protected resources. Table 3-1 provides the evaluation criteria and the relevance of the data for electric transmission line routing. These data were mapped and are included in the figures in Appendix A.

Table 3-1: Route Evaluation Criteria

Criteria	Rationale
Ecological Criteria	
Acreage of tree clearing required within ROW	Constraint: Clearing trees is an added cost and increases the potential for threatened and endangered species impacts. Often clearing is limited during breeding seasons unless detailed studies are conducted. Avoidance is preferred.
Acreage of delineated wooded wetlands within ROW	Constraint: Wooded wetlands, such as forested and scrub-shrub wetlands, are considered more sensitive than emergent wetlands and trigger a greater level of permitting and mitigation. Acreage values were calculated based on the wetland delineation data (McCormick Taylor, 2018,2019).
Acreage of delineated non-wooded wetlands within ROW	Constraint: Impacts to wetlands trigger additional permitting cost and schedule issues. Agencies seek to avoid, minimize, then mitigate for impacts to wetlands. Acreage values were calculated based on the wetland delineation data. Non-wooded includes emergent wetlands and open water areas (McCormick Taylor, 2018, 2019).
Number of delineated stream crossings	Constraint: Stream crossings are a sensitivity and may require riparian clearing or stream crossings increasing the permitting requirements for a project. Stream presence determined based on the wetland delineation data (McCormick Taylor, 2019).
Number of high-quality stream crossings	Constraint: Stream crossings cause potential habitat impact and can increase construction cost. Designation as a high-quality stream for the purposes of this Study includes Chapter 93 streams and designated trout streams
Acreage of protected species habitat within 1,000 feet	Constraint: Threatened and endangered species and habitat are reviewed by local agencies. Avoidance of known locations of habitat or occurrence is recommended.
Number of bat hibernacula within ROW	Constraint: known bat hibernacula, or roost trees, should be avoided, tree clearing near known hibernacula should also be avoided. Potential bat hibernacula locations are based on the potential bat hibernacula survey (EnviroScience, 2016).
Number of bat hibernacula within 1,000 feet of ROW	Constraint: known bat hibernacula, or roost trees, should be avoided, tree clearing near known hibernacula should also be avoided. Potential bat hibernacula locations are based on the potential bat hibernacula survey (EnviroScience, 2016).
Acreage of floodplain crossed by ROW	Constraint: Floodplain often has associated permits and, while not usually a critical path item, avoidance is prudent.
Acreage of floodway crossed by ROW	Constraint: Construction in designated floodways typically requires a permit and, if the construction is substantial enough, a demonstration that the resulting changes in topography will not impact the 100-year flood contour will be required.

Criteria	Rationale
Land Use and Cultural Criteria	
Number of NRHP locations within 100 feet of ROW	Constraint: Potential viewshed impacts. Avoid where practical.
Number of NRHP locations within 1,000 feet of ROW	Constraint: Potential viewshed impacts. Avoid where practical.
Number of cemeteries within 1,000 feet of ROW	Constraint: Potential viewshed impacts. Avoid where practical.
Number of residences within 100 feet of ROW	Constraint: Residences and residential areas are avoided where practical; being further away from residences is preferred.
Number of residences within 1,000 feet of ROW	Constraint: Residences and residential areas are avoided where practical; being further away from residences is preferred.
Number of institutional land uses within 1,000 feet of ROW (schools, hospitals, churches)	Constraint: Avoid/minimize where practical.
Number of sensitive land uses within 1,000 feet of ROW (airports, parks, golf courses)	Constraint: Avoid/minimize where practical.
Levee Crossings within 100 of ROW	Constraint: Crossing a levee requires additional studies and likely additional engineering and design.
Infrastructure Siting Criteria	
Length of route (in feet)	Opportunity: The shorter the length, the less the construction cost and less opportunity for impacts to resources.
Number of road crossings	Constraint: Road crossings require permits and either open cuts and repair, or bores, which increases construction cost.
Linear feet of route paralleling roads	Opportunity: Roads generally are positives for construction and maintenance access and present an existing, disturbed path through the area. Constraint: Larger roads such as multi-lane highways can provide additional challenges with required set-backs and higher clearances for crossings.
Number of railroad crossings	Constraint: Railroad crossings require a permit and often involve additional engineering requirements from the railroad operator.
Linear feet of route paralleling railroads	Opportunity: Limits property fragmentation, and better ecologically due to use of disturbed corridor.
Linear feet paralleling or within existing electric transmission ROW	Opportunity: Following existing disturbed corridors limits fragmentation of property and habitat.

Criteria	Rationale
Linear feet paralleling or within existing gas line ROW	Opportunity: Following existing disturbed corridors limits fragmentation of property and habitat Constraint: may cause Cathodic Protection/AC mitigation requirements with existing gas lines.
Acreage of slope >15% within ROW	Constraint: Steeper slopes increase construction costs for access and stormwater challenges and costs.
Number of parcels crossed by ROW	Constraint: A lower number of properties crossed is preferred for schedule, cost, and effects on the public.
Number of Hazardous Waste Sites within ROW	Constraint: Contaminated soils present additional cost and potential permitting requirements.
Acreage of challenging geologic conditions within 1,000 feet of ROW (mined lands/karst topography)	Constraint: Installation of towers in previously mined lands or karst topography can add significant cost for construction of tower foundations.
Construction, Access, and Maintenance Challenges (1 = few challenges, 5 = significant challenges)	Constraint: Challenging conditions for construction, access and maintenance can greatly increase the cost of the project and the length of time requires to complete construction

4.0 ROUTE SELECTION

Burns & McDonnell performed an evaluation to identify recommended preferred and alternate routes for each Study Area. This analysis involved quantifying characteristics of the routes based on the criteria developed for the Project to select the least impactful alternative as the preferred route and the other as the alternate route for each Study Area.

The available routes in each Study Area are independent of each other, and the choice of a route option in a given Study Area does not impact the applicable siting criteria or availability of route options in any other Study Area. Thus, the terms "preferred route" and "alternate route" refer to routes within a single Study Area. The preferred routes for all Study Areas taken together are referred to collectively as the "combined preferred routes" or the "Proposed Route;" the alternate routes are collectively referred to as the "combined alternate routes."

4.1 Study Area 1

The preferred and alternate routes siting criteria comparison for Study Area 1 is provided in Table 4-1 and illustrated on Figures 1-1 through 1-6 in Appendix A.

4.1.1 Ecological Criteria

Biological and natural resource criteria were very similar between the preferred and alternate routes. The preferred route requires more tree clearing than the alternate, but has fewer high-quality stream crossings, and crosses less floodplain. Wetland occurrence is very low in this Study Area with the preferred route crossing less wetland acreage than the alternate. The preferred route has three stream crossings and the alternate has two stream crossings, which may require additional erosion control measures and restoration activities if equipment must cross the stream during construction. One potential bat hibernaculum is present within the preferred route and two potential bat hibernacula are present within the alternate route.

4.1.2 Land Use and Cultural Criteria

Land use, infrastructure, and cultural criteria that were used to compare the routes discussed below. The rural nature of this Study Area limits encounters with sensitive land uses. There are no NRHP sites, cemeteries, institutions, sensitive lands, or levees located within 1,000 feet of either the preferred or alternate routes.

There are no residences within 100 feet of either the preferred or alternate routes. The preferred route is closer to one more residence within 1,000 feet of the ROW than the alternate route (31 residences versus

Table 4-1: Study Area 1 Preferred and Alternate Routes Siting Criteria Comparison

Biological and Natural Resource Siting Criteria	Preferred Route	Alternate Route
Acreage of tree clearing required within ROW	14.11	12.16
Acreage of delineated wooded wetlands within ROW	0.06	0.13
Acreage of delineated non-wooded wetland within ROW	0.00	0.00
Number of delineated stream crossings	3	2
Number of high-quality stream crossings	1	2
Acreage of protected species habitat within 1,000 feet	TBD	TBD
Number of bat hibernacula within ROW	1	1
Number of bat hibernacula within 1,000 feet of ROW	1	2
Acreage of floodplain crossed by ROW	0.32	1.36
Acreage of floodway crossed by ROW	0	0
Land Use and Cultural Siting Criteria	**Preferred Route**	**Alternate Route**
Number of NRHP locations within 100 feet of the ROW	0	0
Number of NRHP locations within 1,000 feet of the ROW	0	0
Number of cemeteries within 100 feet of the ROW	0	0
Number of cemeteries within 1,000 feet of the ROW	0	0
Number of residences within 100 feet of the ROW	0	0
Number of residences within 1,000 feet of the ROW	31	30
Number of institutional land uses within 1,000 feet of the ROW (schools, hospitals, churches)	0	0
Number of sensitive land uses within 1,000 feet of the ROW (airports, parks, golf courses)	0	0
Number of levee crossings within 100 feet of ROW	0	0
Technical Siting Criteria	**Preferred Route**	**Alternate Route**
Length of route (in feet)	3,047	2,960
Number of road crossings	2	8
Linear feet paralleling roads	0	0
Number of railroad crossings	0	0
Linear feet paralleling railroads	0	0
Linear feet paralleling or within existing electric transmission ROW	1,336	1,336
Linear feet paralleling or within existing gas line ROW	0	0
Acres of slope >15% within ROW	12.94	12.53
Number of parcels crossed by ROW	6	8
Number of Hazardous Waste Sites within ROW	0	0
Acreage of challenging geologic conditions within 1,000 feet of the ROW (mined lands/karst topography)	11.91	21.62
Construction, Access, and Maintenance Challenges (1 = few, 5 = significant)	3	5

ROW = right-of-way, NRHP = National Register of Historic Places

30 residences). Since residential proximity is similar and land use criteria constraints are not present, land use and cultural criteria do not appear to be a significant differentiator between the two routes.

4.1.3 Technical Siting Criteria

The preferred route is slightly longer than the alternate route, however, it has many fewer road crossings than the alternate (2 crossings versus 8 crossings). Both routes have the same length of route paralleling existing electric transmission line infrastructure and very similar acreages crossing steep slopes.

No railroads are located within 1,000 feet of either route and neither route parallels road or railroad corridors or existing gas pipeline corridors. The number of parcels crossed by the preferred route is less than the alternate route (6 parcels versus 8 parcels). Challenging geologic conditions, such as previously mined lands and/or karst topography are present near both routes. The preferred route, however, has significantly less acreage of ROW within 1,000 feet of these features than the alternate route. These challenging geologic conditions can dramatically increase construction costs to install tower foundations over large open spaces underground.

4.1.4 Route Selection for Study Area 1

The preferred route requires more tree clearing than the alternate, but has fewer high-quality stream crossings, less wetland acreage, fewer bat hibernacula, and crosses less floodplain. Although the preferred route is closer to one more residence within 1,000 feet of the ROW than the alternate route (31 residences versus 30 residences), has one additional stream crossing, is slightly longer and crosses more acreage of steep slopes; the reduced number of road crossings, lesser impact to bat hibernacula, and the drastically smaller acreage of challenging geology nearby make the preferred route a better option for this Study Area.

4.2 Study Area 2

The preferred and alternate routes siting criteria comparison for Study Area 2 is provided in Table 4-2 and illustrated on the Figures 2-1 through 2-6 in Appendix A.

4.2.1 Ecological Criteria

Biological and natural resource criteria were similar between the two routes. The only difference between the preferred and alternate routes is the amount of potential tree clearing. The preferred route requires more tree clearing than the alternate (6.3 acres versus 2 acres). Wetland occurrence is very low in this Study Area with no wetlands delineated in either ROW. Both routes have a single high-quality stream

Table 4-2: Study Area 2 Preferred and Alternate Routes Siting Criteria Comparison

Biological and Natural Resource Siting Criteria	Preferred Route	Alternate Route
Acreage of tree clearing required within ROW	6.29	1.95
Acreage of delineated wooded wetlands within ROW	0.00	0.00
Acreage of delineated non-wooded wetlands within ROW	0.00	0.01
Number of delineated stream crossings	1	1
Number of high-quality stream crossings	1	1
Acreage of protected species habitat within 1,000 feet	TBD	TBD
Number of bat hibernacula within ROW	0	0
Number of bat hibernacula within 1,000 feet of ROW	0	0
Acreage of floodplain crossed by ROW	0	0
Acreage of floodway crossed by ROW	0	0
Land Use and Cultural Siting Criteria	**Preferred Route**	**Alternate Route**
Number of NRHP locations within 100 feet of the ROW	0	0
Number of NRHP locations within 1,000 feet of the ROW	3	3
Number of cemeteries within 100 feet of the ROW	0	0
Number of cemeteries within 1,000 feet of the ROW	0	0
Number of residences within 100 feet of the ROW	13	7
Number of residences within 1,000 feet of the ROW	281	234
Number of institutional land uses within 1,000 feet of the ROW (schools, hospitals, churches)	1	1
Number of sensitive land uses within 1,000 feet of the ROW (airports, parks, golf courses)	2	2
Number of levee crossings within 100 feet of ROW	0	0
Technical Siting Criteria	**Preferred Route**	**Alternate Route**
Length of route (in feet)	2,808	2,703
Number of road crossings	1	1
Linear feet paralleling roads	0	0
Number of railroad crossings	0	0
Linear feet paralleling railroads	0	0
Linear feet paralleling or within existing electric transmission ROW	1,319	2,140
Linear feet paralleling or within existing gas line ROW	0	0
Acres of slope >15% within ROW	2.52	1.95
Number of parcels crossed by ROW	21	11
Number of Hazardous Waste Sites within ROW	0	0
Acreage of challenging geologic conditions within 1,000 feet of the ROW (mined lands/karst topography)	0	0
Construction, Access, and Maintenance Challenges (1 = few, 5 = significant)	1	5

ROW = right-of-way, NRHP = National Register of Historic Places

crossing which may require additional erosion control measures and restoration activities, if equipment must cross the stream during construction.

4.2.2 Land Use and Cultural Criteria

This Study Area is transitioning from a rural setting to more urban, therefore, two sensitive land use areas and one institution are located within 1,000 feet of both the preferred and alternate routes. There are three NRHP sites indicated within 1,000 feet of both the preferred and alternate ROW, but none within 100 feet. There are no cemeteries and no levees located near either the preferred or alternate routes.

There are 13 residences within 100 feet of either the preferred route and 7 residences within 100 feet of the alternate route. The preferred route is also closer to more residences within 1,000 feet of the ROW than the alternate route (281 residences versus 234 residences). While the number of residences near the preferred route is higher than the alternate route, most of the residences in the preferred corridor will be purchased by the PTC and demolished for construction of the MFE; therefore, the owners of those residences will not be adversely affected by the DLC project. Because of this, residential proximity is not a differentiator. Other land use criteria constraints are equal for the preferred and alternate routes therefore, land use and cultural criteria do not appear to be a decisive differentiator between the two routes.

4.2.3 Technical Siting Criteria

A comparison of the technical evaluation criteria associated with the two routes is presented in Table 4-2. The preferred route is approximately 100 feet longer than the alternate route. Both routes have a single road crossing and no railroad crossings. Neither the preferred nor the alternate route parallels roads, railroads, or gas lines. The preferred route parallels less existing electric transmission line than the alternate route (1,319 feet or 47% versus 2,140 feet or 79% of route) and has a higher acreage of ROW crossing steep slopes (2.5 acres versus 2 acres).

The preferred route would face significantly fewer obstacles to construction, access, and maintenance. In particular, the alternate route would require poles to be installed on steep slopes. Placement of poles in that terrain would require increased construction costs through an extremely long, winding access road and additional related increased construction and foundation costs as well as higher cost for long term maintenance access. Thus, compared to the preferred route, the alternate route would be considerably more expensive, more difficult to construct, and more likely to become inaccessible for operation and maintenance purposes. These factors weigh heavily in favor of the preferred route. Additionally, the in order to meet PTC's roadbed clearance requirements where the alternate route spans the MFE, the

Company would need to install two significantly higher-than-average structures, of approximately 190 feet, on either side of the MFE roadway. This would further increase the alternate route's cost and visual impacts.

4.2.4 Route Selection for Study Area 2

The preferred and alternate routes are roughly equivalent for most land use and environmental criteria, so those criteria were not a decisive differentiator. The routes' primary difference with respect to land use and environmental criteria, is that the preferred route requires more tree clearing than the alternate (6.3 acres versus 2 acres). The preferred route has substantial constructability, access, and safety advantages that, on balance, significantly outweigh this factor. As discussed in Section 4.2.3 above, the alternate route would require placement of poles in the steep terrain, increased construction costs through an extremely long, winding access road, and additional related increased construction and foundation costs as well as higher cost for long term maintenance access. Additionally, the alternate route would require installation of higher-than-average structures to meet PTC's required clearance requirements. The preferred route takes a route that parallels less existing electric transmission line than the alternate route (47% versus 79%) and has a higher acreage of ROW crossing steep slopes (2.5 acres versus 2 acres), but in doing so, avoids those constraints of the alternate route. For these reasons, the preferred route was selected.

4.3 Study Area 3

The preferred and alternate routes siting criteria comparison for Study Area 3 is provided in Table 4-3 and illustrated on the Figures 3-1 through 3-6 in Appendix A.

4.3.1 Ecological Criteria

Biological and natural resource criteria for Study Area 3 demonstrated more variation between the two routes. The preferred route requires more tree clearing than the alternate (10.5 acres versus 7.5 acres) and has slightly more non-wooded wetlands (0.4 acre versus 0.3 acre) but has fewer high quality stream crossings (3 versus 5). Both routes have stream crossings which may require additional erosion control measures and restoration activities, if equipment must cross the stream during construction. Neither route crosses any floodplain or has bat hibernacula within 1,000 feet.

4.3.2 Land Use and Cultural Criteria

This Study Area is transitioning from a rural setting to more urban, therefore, two sensitive land use areas and one institution are located within 1,000 feet of both the preferred and alternate routes. There is one NRHP site indicated within 1,000 feet of the preferred ROW and two sites within 1,000 feet of the

alternate ROW. Neither ROW has an NRHP site within 100 feet of the ROW. Both of the routes have a single cemetery within 1,000 feet and no levees located near either the preferred or alternate routes.

There are 5 residences within 100 feet of the preferred route and 7 residences within 100 feet of the alternate route. The preferred route also has fewer residences within 1,000 feet of the ROW than the alternate route (108 residences versus 147 residences). The land use criteria constraints are favorable for the preferred route with fewer NRHP sites and residences in close proximity to the ROW.

4.3.3 Technical Siting Criteria

The preferred route is approximately 1,000 feet longer than the alternate route. Both routes have a single road crossing and no railroad crossings. Neither the preferred nor the alternate route parallels roads, railroads, or gas lines. The preferred route parallels less existing electric transmission line than the alternate route (1,767 feet or 28% versus 2,547 feet or 49%) and has a higher acreage of ROW crossing steep slopes (6.8 acres versus 5.8 acres).

The proposed route would use single right-of-way, whereas the alternate route includes several separate sections of alignment in separate rights-of-way. The proposed route's single corridor, as compared to the alternate route's multiple rights-of-way, would streamline the Company's access to its facilities, and would yield significant construction and maintenance advantages.

4.3.4 Route Selection for Study Area 3

The preferred route presents an opportunity to consolidate transmission facilities in the Study Area into a single right-of-way, thereby producing efficiencies in line access, construction, maintenance, and operation. The preferred and alternate routes each have advantages with respect to environmental criteria: the preferred route requires more tree clearing than the alternate (10.5 acres versus 7.5 acres) and has slightly more non-wooded wetlands (0.4 acre versus 0.3 acre), but has fewer high quality stream crossings (3 versus 5). Where the routes differ materially in land use and cultural criteria, the preferred route is superior, including with respect to NRHP sites within 1,000 feet of the ROW (one versus two) and residences within 1,000 feet of the ROW (108 versus 147). With respect to technical criteria, the preferred route is approximately 1,000 feet longer than the alternate route, parallels less existing electric transmission line (28% versus 49%), and has a higher acreage of ROW crossing steep slopes (6.8 acres versus 5.8 acres); but it also would require only a single corridor. This preferred route is therefore superior overall.

Table 4-3: Study Area 3 Preferred and Alternate Routes Siting Criteria Comparison

Biological and Natural Resource Siting Criteria	Preferred Route	Alternate Route
Acreage of tree clearing required within ROW	10.55	7.45
Acreage of delineated wooded wetlands within ROW	0.04	0.05
Acreage of delineated non-wooded wetlands within ROW	0.40	0.29
Number of delineated stream crossings	3	6
Number of high-quality stream crossings	3	5
Acreage of protected species habitat within 1,000 feet	TBD	TBD
Number of bat hibernacula within ROW	0	0
Number of bat hibernacula within 1,000 feet of ROW	0	0
Acreage of floodplain crossed by ROW	0	0
Acreage of floodway crossed by ROW	0	0
Land Use and Cultural Siting Criteria	**Preferred Route**	**Alternate Route**
Number of NRHP locations within 100 feet of the ROW	0	0
Number of NRHP locations within 1,000 feet of the ROW	1	2
Number of cemeteries within 100 feet of the ROW	0	0
Number of cemeteries within 1,000 feet of the ROW	1	1
Number of residences within 100 feet of the ROW	5	7
Number of residences within 1,000 feet of the ROW	108	147
Number of institutional land uses within 1,000 feet of the ROW (schools, hospitals, churches)	1	1
Number of sensitive land uses within 1,000 feet of the ROW (airports, parks, golf courses)	2	2
Number of levee crossings within 100 feet of ROW	0	0
Technical Siting Criteria	**Preferred Route**	**Alternate Route**
Length of route (in feet)	6,206	5,208
Number of road crossings	1	1
Linear feet paralleling roads	0	0
Number of railroad crossings	0	0
Linear feet paralleling railroads	0	0
Linear feet paralleling or within existing electric transmission ROW	1,767	2,547
Linear feet paralleling or within existing gas line ROW	0	0
Acres of slope >15% within ROW	6.76	5.83
Number of parcels crossed by ROW	6	14
Number of Hazardous Waste Sites within ROW	0	0
Acreage of challenging geologic conditions within 1,000 feet of the ROW (mined lands/karst topography)	0	0
Construction, Access, and Maintenance Challenges (1 = few, 5 = significant)	1	3

ROW = right-of-way, NRHP = National Register of Historic Places

4.4 Study Area 4

Study Area 4 is unique in that there was no feasible alternative to the preferred route through this area. The alteration to this portion of DLC's existing infrastructure is very minor and requires the shifting of a single pole to account for the alignment of access road to the MFE. The route siting criteria is provided in Table 4-4 and illustrated on the Figures 4-1 through 4-6 in Appendix A.

4.4.1 Ecological Criteria

A review of the biological and natural resource criteria associated with the preferred route for Study Area 4 is included below. The preferred route requires less than 2 acres of clearing of wood lots, only 2 non-high-quality stream crossings, and no floodplain crossing. Wetland occurrence is very low in this Study Area with no wetlands delineated in the ROW. The stream crossings may require additional erosion control measures and restoration activities, if equipment must cross the stream during construction.

4.4.2 Land Use and Cultural Criteria

Land use, infrastructure, and cultural criteria that were evaluated for Study Area 4 are described below. One sensitive land use area and one institution are located within 1,000 feet of the preferred route. There are no NRHP sites, cemeteries, or levees indicated within 1,000 feet of the ROW.

There are 55 residences within 1,000 feet of the ROW. None of these residences will be adversely affected by the minor route adjustment because of the very minor adjustment to the current alignment.

4.4.3 Technical Siting Criteria

The preferred route is less than 1,500 feet, has three road crossings, and no railroad crossings. This route does not parallel roads, railroads, or gas lines. The preferred route parallels an existing electric transmission line for its entire length and has a very small portion of ROW crossing steep slopes. A total of 10 parcels are crossed by this preferred route.

4.4.4 Route Selection for Study Area 4

Only one route option was available for Study Area 4 and is thus the preferred route.

Table 4-4: Study Area 4 Preferred Route Siting Criteria

Biological and Natural Resource Siting Criteria	Preferred Route
Acreage of tree clearing required within ROW	1.77
Acreage of delineated wooded wetlands within ROW	0.00
Acreage of delineated non-wooded wetlands within ROW	0.00
Number of delineated stream crossings	2
Number of high-quality stream crossings	0
Acreage of protected species habitat within 1,000 feet	TBD
Number of bat hibernacula within ROW	0
Number of bat hibernacula within 1,000 feet of ROW	0
Acreage of floodplain crossed by ROW	0
Acreage of floodway crossed by ROW	0
Land Use and Cultural Siting Criteria	**Preferred Route**
Number of NRHP locations within 100 feet of the ROW	0
Number of NRHP locations within 1,000 feet of the ROW	0
Number of cemeteries within 100 feet of the ROW	0
Number of cemeteries within 1,000 feet of the ROW	0
Number of residences within 100 feet of the ROW	0
Number of residences within 1,000 feet of the ROW	55
Number of institutional land uses within 1,000 feet of the ROW (schools, hospitals, churches)	1
Number of sensitive land uses within 1,000 feet of the ROW (airports, parks, golf courses)	1
Number of levee crossings within 100 feet of ROW	0
Technical Siting Criteria	**Preferred Route**
Length of route (in feet)	1,492
Number of road crossings	3
Linear feet paralleling roads	0
Number of railroad crossings	0
Linear feet paralleling railroads	0
Linear feet paralleling or within existing electric transmission ROW	1,492
Linear feet paralleling or within existing gas line ROW	0
Acres of slope >15% within ROW	0.69
Number of parcels crossed by ROW	10
Number of Hazardous Waste Sites within ROW	0
Acreage of challenging geologic conditions within 1,000 feet of the ROW (mined lands/karst topography)	0
Construction, Access, and Maintenance Challenges (1 = few, 5 = significant)	1

ROW = right-of-way, NRHP = National Register of Historic Places

4.5 Study Area 5

The preferred and alternate routes siting criteria comparison for Study Area 5 is provided in Table 4-5 and illustrated on the Figures 5-1 through 5-6 in Appendix A.

4.5.1 Ecological Criteria

Biological and natural resource criteria were similar between the two routes. The preferred route requires more tree clearing than the alternate (10.5 acres versus 9 acres). Both of the routes cross approximately 0.3 acre of forested wetland, 1.2 acres of non-wooded wetland, and over twenty streams within the ROW. However, the preferred route only crosses three high-quality streams, while the alternate route crosses four. Additionally, Study Area 5 includes the floodplain of Thompson Run and the Monongahela River. The preferred route crosses less floodplain than the alternate route (1.3 acres versus 2.8 acres).

4.5.2 Land Use and Cultural Criteria

Study Area 5 is the most urban area, therefore, increased presence of land use and cultural criteria would be expected. There are two NRHP sites within 100 feet of both the preferred and alternate ROW. There is one fewer NRHP site indicated within 1,000 feet of the preferred ROW (5 sites versus 6 sites). A single cemetery is located within 1,000 feet of both routes. There are no levees located near either the preferred or alternate routes. One sensitive land use area and no institutions are located within 1,000 feet of both the preferred and alternate routes.

There are fewer residences within 100 feet of the preferred route (33 residences versus 128 residences). The preferred route is also closer to fewer residences within 1,000 feet of the ROW than the alternate route (562 residences versus 1,077 residences). Study Area 5 is the most densely populated Study Area. Avoidance of impacting the residences in the area was a priority when siting this portion of the Project. As such, the preferred route is near far fewer residences than the alternate route.

4.5.3 Technical Siting Criteria

The preferred route is approximately 4,000 feet shorter than the alternate route (9,000 feet versus 13,900). The preferred route has fewer road crossings (3 roads versus 31 roads) but more railroad crossings (41 versus 17). The high number of railroad crossings in Study Area 5 is due to the need to cross the Union Railroad rail yard. Because the rail crossings are grouped together, the process of obtaining approval

from the railroad would more closely match the process for a single crossing, rather than requiring a separate approval for each crossing.

The preferred route parallels slightly less existing electric transmission line than the alternate route (6,412 feet versus 6,517 feet) but the same length of gas line (604 feet). The preferred route contains less ROW crossing steep slopes (18 acres versus 20 acres) and also crosses fewer parcels (20 parcels versus 62 parcels). Also unique to Study Area 5 is the presence of known hazardous waste sites. The preferred route has fewer sites within 1,000 feet of the ROW than the alternate route (2 sites versus 5 sites).

4.5.4 Route Selection for Study Area 5

The preferred route requires more tree clearing than the alternate (10.5 acres versus 9 acres), however, the preferred route crosses fewer high-quality streams (3 versus 4) and less floodplain than the alternate route (1.3 acres versus 2.8 acres). There is one fewer NRHP site indicated within 1,000 feet of the preferred ROW (5 sites versus 6 sites). There are fewer residences within 100 feet of the preferred route (33 residences versus 128 residences) and within 1,000 feet of the preferred route (562 residences versus 1,077 residences). The preferred route is approximately 4,000 feet shorter than the alternate route (9,000 feet versus 13,900) and has fewer road crossings (3 roads versus 31 roads), but has more railroad crossings (41 versus 17). The preferred route parallels slightly less existing electric transmission line than the alternate route (6,412 feet versus 6,517 feet) but has a higher percentage of its route paralleling existing electric lines (71% versus 47%) due to its shorter length. The preferred route contains less ROW crossing steep slopes (18 acres versus 20 acres), and crosses fewer parcels (20 parcels versus 62 parcels). The preferred route has fewer sites within 1,000 feet of the ROW than the alternate route (2 sites versus 5 sites).

Table 4-5: Study Area 5 Preferred and Alternate Routes Siting Criteria Comparison

Biological and Natural Resource Siting Criteria	Preferred Route	Alternate Route
Acreage of tree clearing required within ROW	10.55	9.01
Acreage of delineated wooded wetlands within ROW	0.37	0.37
Acreage of delineated non-wooded wetlands within ROW	1.20	1.20
Number of delineated stream crossings	22	21
Number of high-quality stream crossings	3	4
Acreage of protected species habitat within 1,000 feet	TBD	TBD
Number of bat hibernacula within ROW	0	0
Number of bat hibernacula within 1,000 feet of ROW	0	0
Acreage of floodplain crossed by ROW	1.30	2.84
Acreage of floodway crossed by ROW	0	0
Land Use and Cultural Siting Criteria	**Preferred Route**	**Alternate Route**
Number of NRHP locations within 100 feet of the ROW	2	2
Number of NRHP locations within 1,000 feet of the ROW	5	6
Number of cemeteries within 100 feet of the ROW	0	0
Number of cemeteries within 1,000 feet of the ROW	1	1
Number of residences within 100 feet of the ROW	33	128
Number of residences within 1,000 feet of the ROW	562	1,077
Number of institutional land uses within 1,000 feet of the ROW (schools, hospitals, churches)	0	0
Number of sensitive land uses within 1,000 feet of the ROW (airports, parks, golf courses)	1	1
Number of levee crossings within 100 feet of ROW	0	0
Technical Siting Criteria	**Preferred Route**	**Alternate Route**
Length of route (in feet)	9,066	13,891
Number of road crossings	3	31
Linear feet paralleling roads	1,583	1,583
Number of railroad crossings	41	17
Linear feet paralleling railroads	1,583	1,583
Linear feet paralleling or within existing electric transmission ROW	6,412	6,517
Linear feet paralleling or within existing gas line ROW	604	604
Acres of slope >15% within ROW	18.34	20.35
Number of parcels crossed by ROW	20	62
Number of Hazardous Waste Sites within ROW	2	5
Acreage of challenging geologic conditions within 1,000 feet of the ROW (mined lands/karst topography)	0	0
Construction, Access, and Maintenance Challenges (1 = few, 5 = significant)	3	5

ROW = right-of-way, NRHP = National Register of Historic Places

4.6 Route Comparison Summary

The preferred and alternate routes have been evaluated independently for each Study Area as there are five distinct areas requiring relocation (Figure 2 on page 4-15). The available routes in each Study Area are independent of each other and the choice of route option in a given Study Area does not impact the applicable siting criteria or availability of route options in any other Study Area. Study Area 4 is the only section with no alternate route included in the analysis due to the unavailability of another option for this single pole relocation. The combined preferred routes and alternate routes are discussed in this section for the project as a whole and criteria values are included in Table 4-6. The combined alternate routes share approximately 17% of the linear right-of-way for the combined proposed routes. The same values for Study Area 4 were included in both the preferred and alternate routes to keep the comparisons equal. All siting criteria were analyzed for each Study Area. The discussion below primarily focuses on those siting criteria that most differentiate between the combined preferred and combined alternate routes.

The most significant criteria for biological and natural resources included the total acreage of tree clearing, the number of high-quality stream crossings, and the acreage of floodplain crossed. Each of the factors has the potential to increase cost of construction and annual maintenance as well as the potential for impacts to sensitive species. Although the combined preferred routes have a higher acreage of required tree clearing (43 acres versus 32 acres), they have fewer high-quality stream crossings (8 streams versus 12 streams) and less acreage crossing floodplains (1.6 acres versus 4.2 acres).

The most significant criteria for land use and cultural criteria is the proximity to residences. There are far fewer residences within 100 feet of the combined preferred routes (51 residences versus 142 residences). The combined preferred routes are also closer to fewer residences within 1,000 feet of the ROW than the combined alternate routes (1,037 residences versus 1,543 residences). It is preferable to minimize the number of residential impacts or the proximity of the project to residences to reduce the impact to the local landowners. Therefore, the preferred routes are much less impactful than the alternate routes.

The most significant technical siting criteria include the overall length of the route, the acreage of steep slope, the number of hazardous waste sites, and the acreage of challenging geologic conditions. The overall length has a direct correlation to the overall project cost. Therefore, the preferred routes are much more advantageous as they are shorter in overall length (22,600 feet versus 26,250 feet). The acreage of ROW crossing steep slopes (greater than 15%) is nearly equal between the preferred and alternate routes.

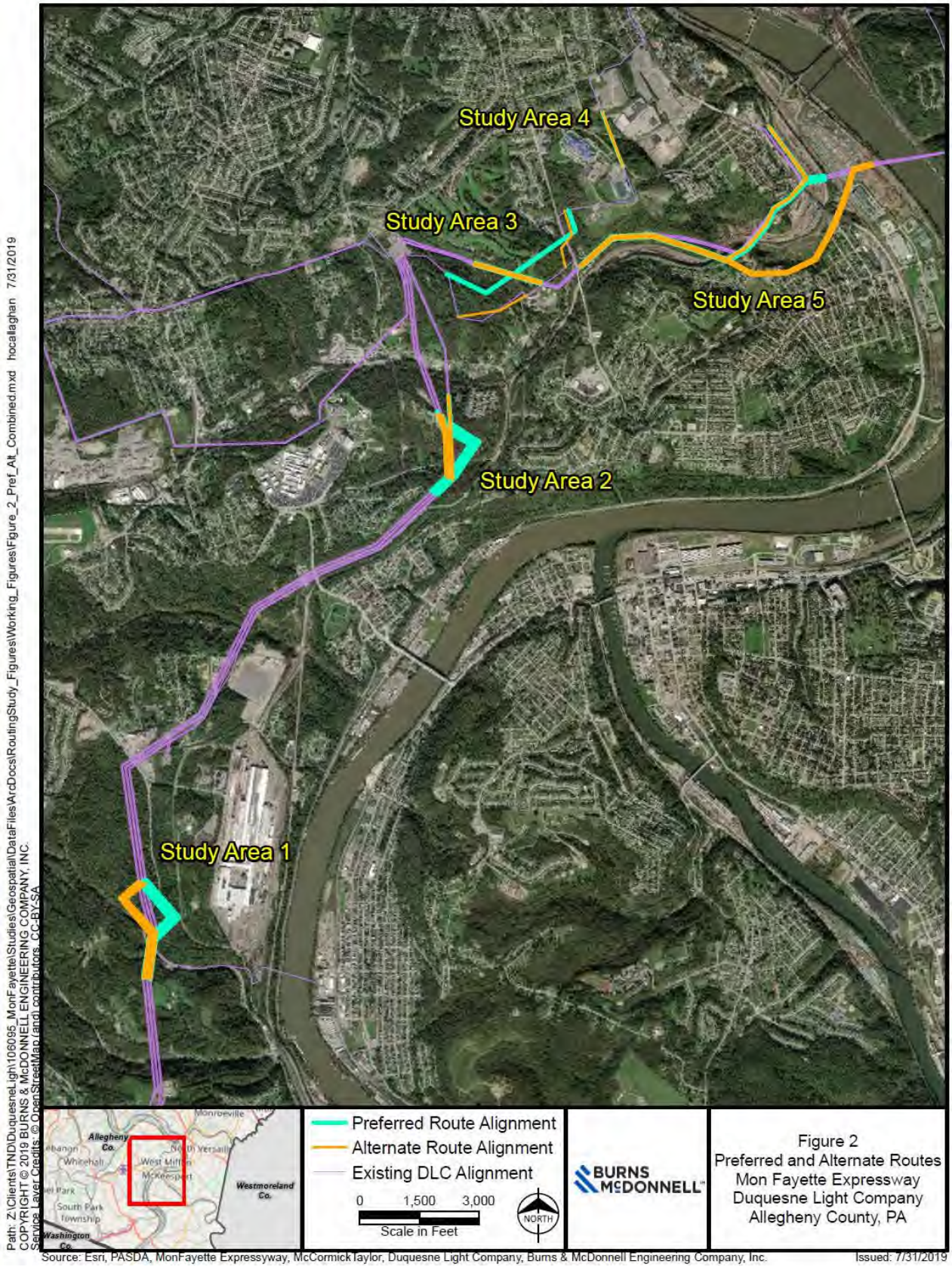

Study Area 4
Study Area 3
Study Area 5
Study Area 2
Study Area 1
Preferred Route Alignment
Alternate Route Alignment
Existing DLC Alignment
0 1,500 3,000
Scale in Feet
NORTH
BURNS McDONNELL
Figure 2
Preferred and Alternate Routes
Mon Fayette Expressway
Duquesne Light Company
Allegheny County, PA
Source: Esri, PASDA, MonFayette Expressway, McCormickTaylor, Duquesne Light Company, Burns & McDonnell Engineering Company, Inc.
Issued: 7/31/2019
Path: Z:\Clients\TND\DuquesneLigh\106095_MonFayette\Studies\Geospatial\DataFiles\ArcDocs\RoutingStudy_Figures\Working_Figures\Figure_2_Pref_Alt_Combined.mxd hocallaghan 7/31/2019
COPYRIGHT © 2019 BURNS & McDONNELL ENGINEERING COMPANY, INC.
Service Layer Credits: © OpenStreetMap (and) contributors, CC-BY-SA

Table 4-6: Combined Preferred and Alternate Routes Siting Criteria Comparison

Biological and Natural Resource Siting Criteria	Preferred Route	Alternate Route
Acreage of tree clearing required within ROW	43.27	32.35
Acreage of delineated wooded wetlands within ROW	0.46	0.54
Acreage of delineated non-wooded wetlands within ROW	1.61	1.51
Number of delineated stream crossings	31	32
Number of high-quality stream crossings	8	12
Acreage of protected species habitat within 1,000 feet	TBD	TBD
Number of bat hibernacula within ROW	1	1
Number of bat hibernacula within 1,000 feet of ROW	1	2
Acreage of floodplain crossed by ROW	1.62	4.19
Acreage of floodway crossed by ROW	0	0
Land Use and Cultural Siting Criteria	**Preferred Route**	**Alternate Route**
Number of NRHP locations within 100 feet of the ROW	2	2
Number of NRHP locations within 1,000 feet of the ROW	9	11
Number of cemeteries within 100 feet of the ROW	0	0
Number of cemeteries within 1,000 feet of the ROW	2	2
Number of residences within 100 feet of the ROW	51	142
Number of residences within 1,000 feet of the ROW	1037	1543
Number of institutional land uses within 1,000 feet of the ROW (schools, hospitals, churches)	3	3
Number of sensitive land uses within 1,000 feet of the ROW (airports, parks, golf courses)	6	6
Number of levee crossings within 100 feet of ROW	0	0
Technical Siting Criteria	**Preferred Route**	**Alternate Route**
Length of route (in feet)	22,619	26,254
Number of road crossings	10	44
Linear feet paralleling roads	1,583	1,583
Number of railroad crossings	41	17
Linear feet paralleling railroads	1,583	1,583
Linear feet paralleling or within existing electric transmission ROW	12,326	14,032
Linear feet paralleling or within existing gas line ROW	604	604
Acres of slope >15% within ROW	41.25	41.35
Number of parcels crossed by ROW	63	105
Number of Hazardous Waste Sites within ROW	2	5
Acreage of challenging geologic conditions within 1,000 feet of the ROW (mined lands/karst topography)	11.91	21.62
Construction, Access, and Maintenance Challenges (1 = few, 5 = significant)	3	5

ROW = right-of-way, NRHP = National Register of Historic Places

The preferred routes have fewer known hazardous waste sites within 1,000 feet of the ROW than the alternate route (2 sites versus 5 sites). Additionally, the presence of challenging geologic conditions, such as previously mined lands or karst topography, can increase the risk of construction costs due to increased foundation complexity to account for potential voids underground. The preferred routes collectively cross significantly less acreage of challenging geology (12 acres versus 22 acres), which makes them much more favorable than the alternate routes.

The evaluation of these siting criteria and the comparison of the preferred and alternate routes support the selection of the preferred routes as the least impactful and lowest cost alternative for the relocation of the DLC infrastructure. The preferred routes are depicted in detail in Figures 1-1, 2-1, 3-1, 4-1, and 5-1 in Appendix A.

5.0 REFERENCES

EnviroScience, 2016. Endangered Species Study Report: Potential Bat Hibernacula Survey. December 27 2016.

EnviroScience, 2019. Listed Bat Study Report for Mon-Fayette Expressway PA 51 to I376. October 11, 2019.

McCormick Taylor, 2018. Waters of the United States Identification and Delineation Report. February 2018. Additional digital updates to data layer provided 2019.

McCormick Taylor, 2019. Addendum Historic Structures Survey & Determination of Effects Report

McCormick Taylor, 2019. Waters of the United States Identification and Delineation Report: Section 1 - Addendum I. August 2019.

McCormick Taylor, 2019. Waters of the United States Identification and Delineation Report: Section 1 - Addendum II. September 2019.

McCormick Taylor, 2019. Waters of the United States Identification and Delineation Report: Section 1 - Addendum III. October 2019.

PA Department of Conservation and Natural Resources, 2019. Pennsylvania Natural Diversity Inventory (PNDI). Retrieved June 11, 2019 from http://www.naturalheritage.state.pa.us/Species.aspx

Rue Environmental, 2019. Phase I Archeology Survey Duquesne Light Corridor Mon/Fayette Transportation Project. S.R. 51 to Monroeville Section. Allegheny County, Pennsylvania. Approved by Pennsylvania State Historic Preservation Office September 4, 2019.

USCB, 2019. *2012-2016 American Community Survey 5-Year Estimates.* Retrieved May 2019 https://factfinder.census.gov/faces/nav/jsf/pages/community_facts.xhtml

USCB, 2018. *State and County Quick facts.* Retrieved May 2019 from https://www.census.gov/quickfacts/fact/table/US/PST045216?.

USDA, 2012. *2012 Census of Agriculture County Profile: Allegheny County, Pennsylvania.* Retrieved May 2019 from https://www.agcensus.usda.gov/Publications/2012/Online_Resources.

USEPA Office of Research and Development (ORD) – National Health and Environmental Effects Research Laboratory (NHEERL), 2013. Level III Ecoregions of the Conterminous United States. Retrieved March 2019 from ftp://ftp.epa.gov/wed/ecoregions/us/us_eco_l3.zip.

USFWS, 2018. National Wetlands Inventory: Wetlands Mapper. Retrieved March 2019 from https://www.fws.gov/wetlands/Data/Mapper.html.

USFWS, 2017. Information for Planning and Conservation (IPaC). Retrieved June 2019 from https://ecos.fws.gov/ipac/.

U.S. Geological Survey (USGS), 2019. *National Land Cover Data Set*.

APPENDIX A - FIGURES

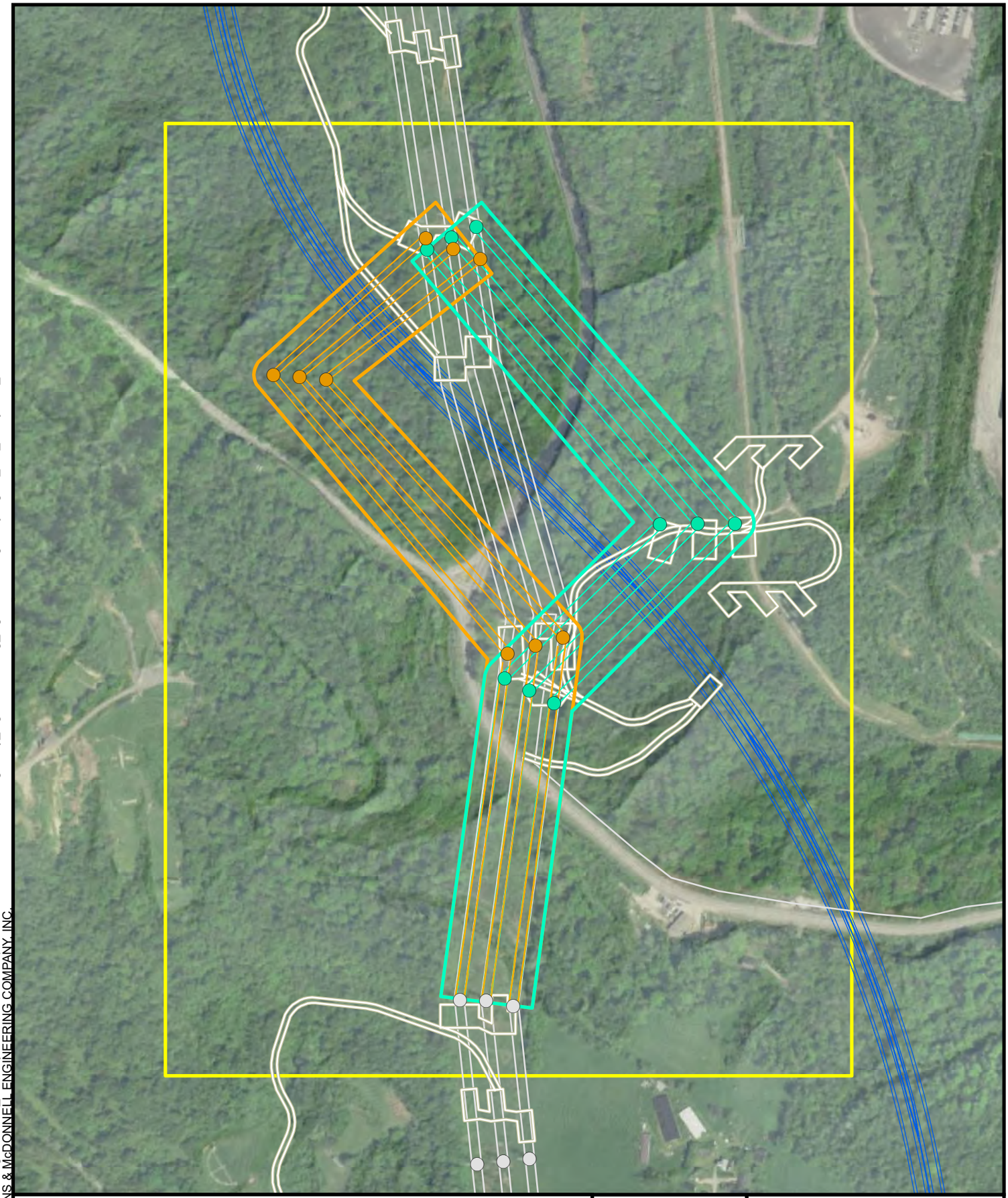
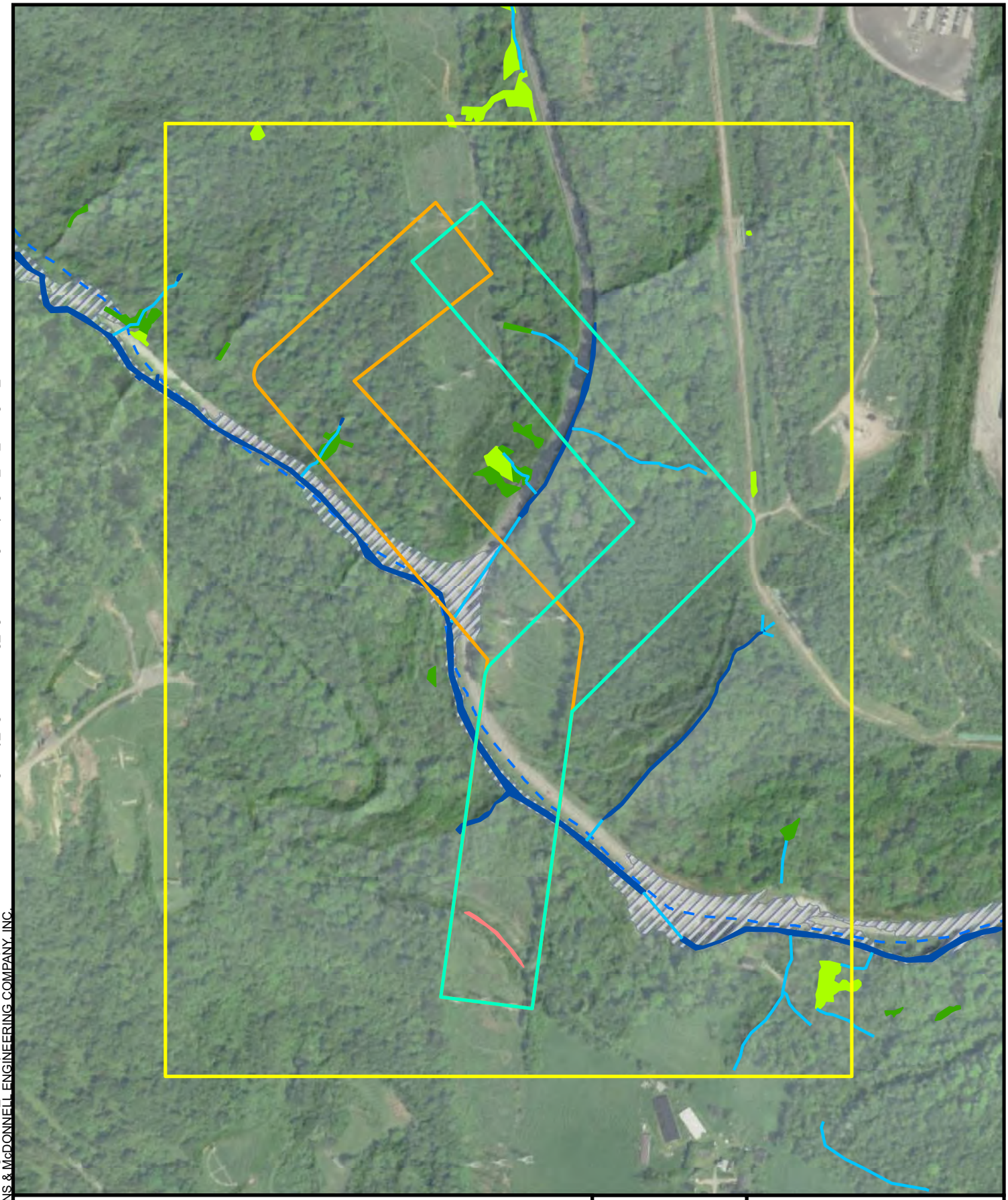


Figure 1-1
Study Area 1 Route Options
Mon-Fayette Expressway
Duquesne Light Company
Allegheny County, PA

Source: Esri, PASDA, Mon-Fayette Expressway, McCormick Taylor, Duquesne Light Company, Burns & McDonnell Engineering Company, Inc.

Issued: 9/17/2019



BURNS McDONNELL

Figure 1-2
Ecological Criteria - Waters
Study Area 1 Route Options
Mon-Fayette Expressway
Duquesne Light Company
Allegheny County, PA

Source: Esri, PASDA, Mon-Fayette Expressway, McCormick Taylor, Duquesne Light Company, Burns & McDonnell Engineering Company, Inc.

Issued: 9/17/2019

Path: Z:\Clients\TND\DuquesneLigh\106095_MonFayette\Studies\Geospatial\DataFiles\ArcDocs\RoutingStudy_Figures\Working_Figures\RoutingStudy\Figure_X-2_Ecological_Waters.mxd rewilliams 9/17/2019

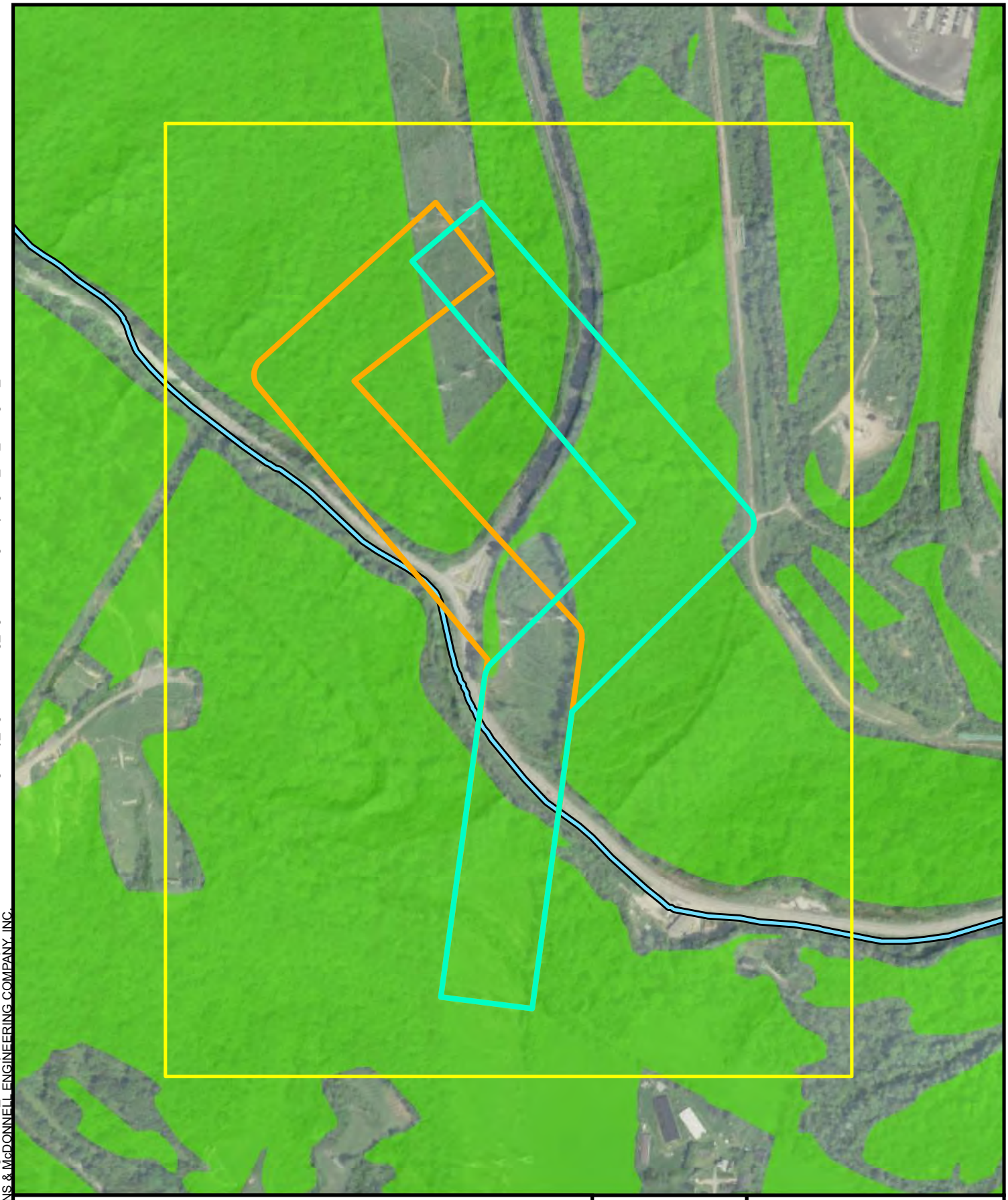
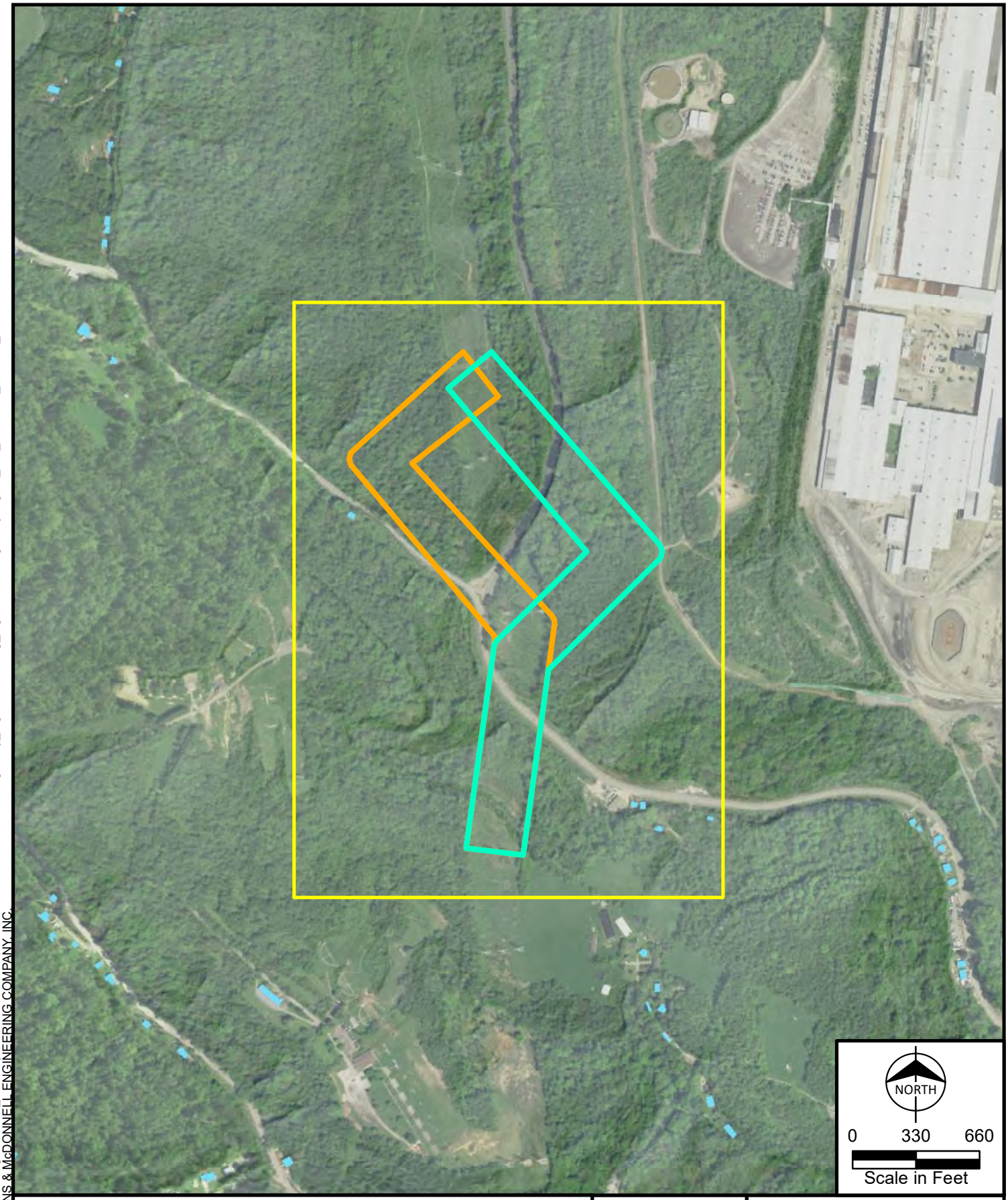


Figure 1-3
Ecological Criteria - Habitat
Study Area 1 Route Options
Mon-Fayette Expressway
Duquesne Light Company
Allegheny County, PA

Source: Esri, PASDA, Mon-Fayette Expressway, McCormick Taylor, Duquesne Light Company, Burns & McDonnell Engineering Company, Inc.

Issued: 9/17/2019



Preferred Route ROW
Alternate Route ROW
Study Area
School
Hospital
Golf Course
Airport
Cemetery
Cemetery Boundary
NRHP Feature
Residential Building
Section 4f Parks & Recreation
Allegheny County Park

BURNS McDONNELL

Figure 1-4
Land Use and Cultural Criteria
Study Area 1 Route Options
Mon-Fayette Expressway
Duquesne Light Company
Allegheny County, PA

Source: Esri, PASDA, Mon-Fayette Expressway, McCormick Taylor, Duquesne Light Company, Burns & McDonnell Engineering Company, Inc.

Issued: 9/17/2019

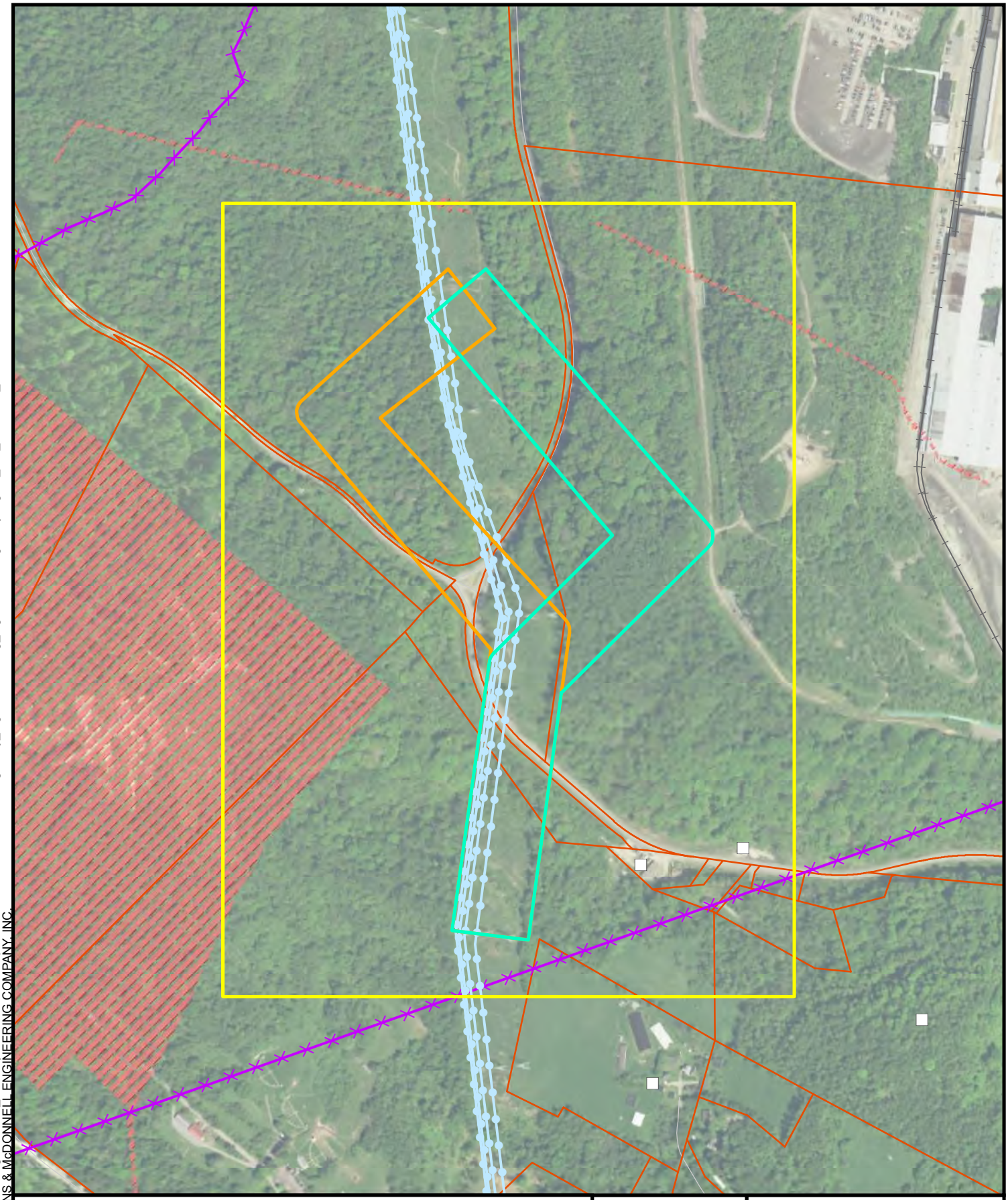


Figure 1-5
Technical - Infrastructure
Study Area 1 Route Options
Mon-Fayette Expressway
Duquesne Light Company
Allegheny County, PA

Source: Esri, PASDA, Mon-Fayette Expressway, McCormick Taylor, Duquesne Light Company, Burns & McDonnell Engineering Company, Inc.

Issued: 9/17/2019

Path: Z:\Clients\TND\DuquesneLigh\106095_MonFayette\Studies\Geospatial\DataFiles\ArcDocs\RoutingStudy_Figures\Working_Figures\RoutingStudy\Figure_X-5_Technical_Infrastructure.mxd rewilliams 9/17/2019

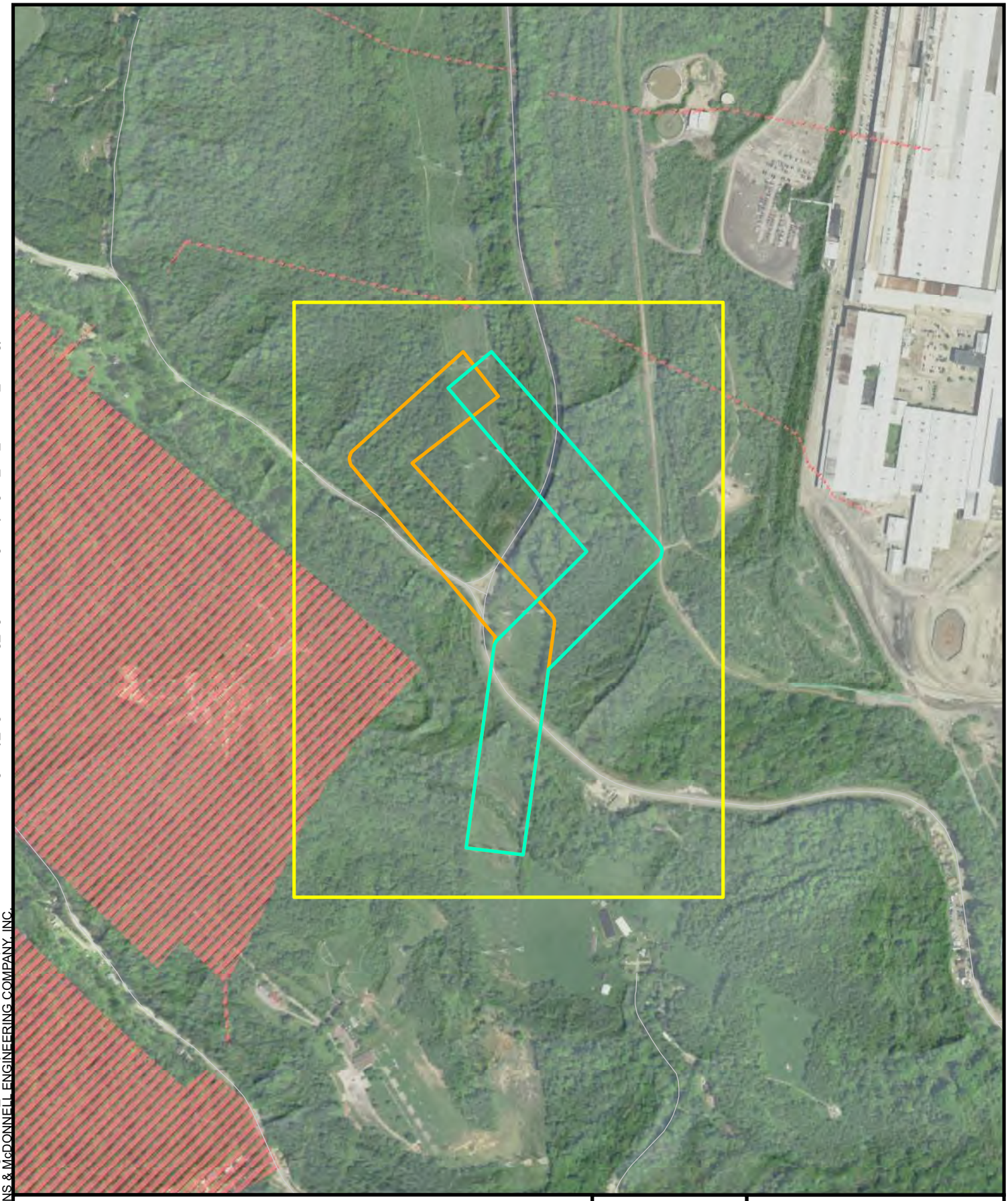
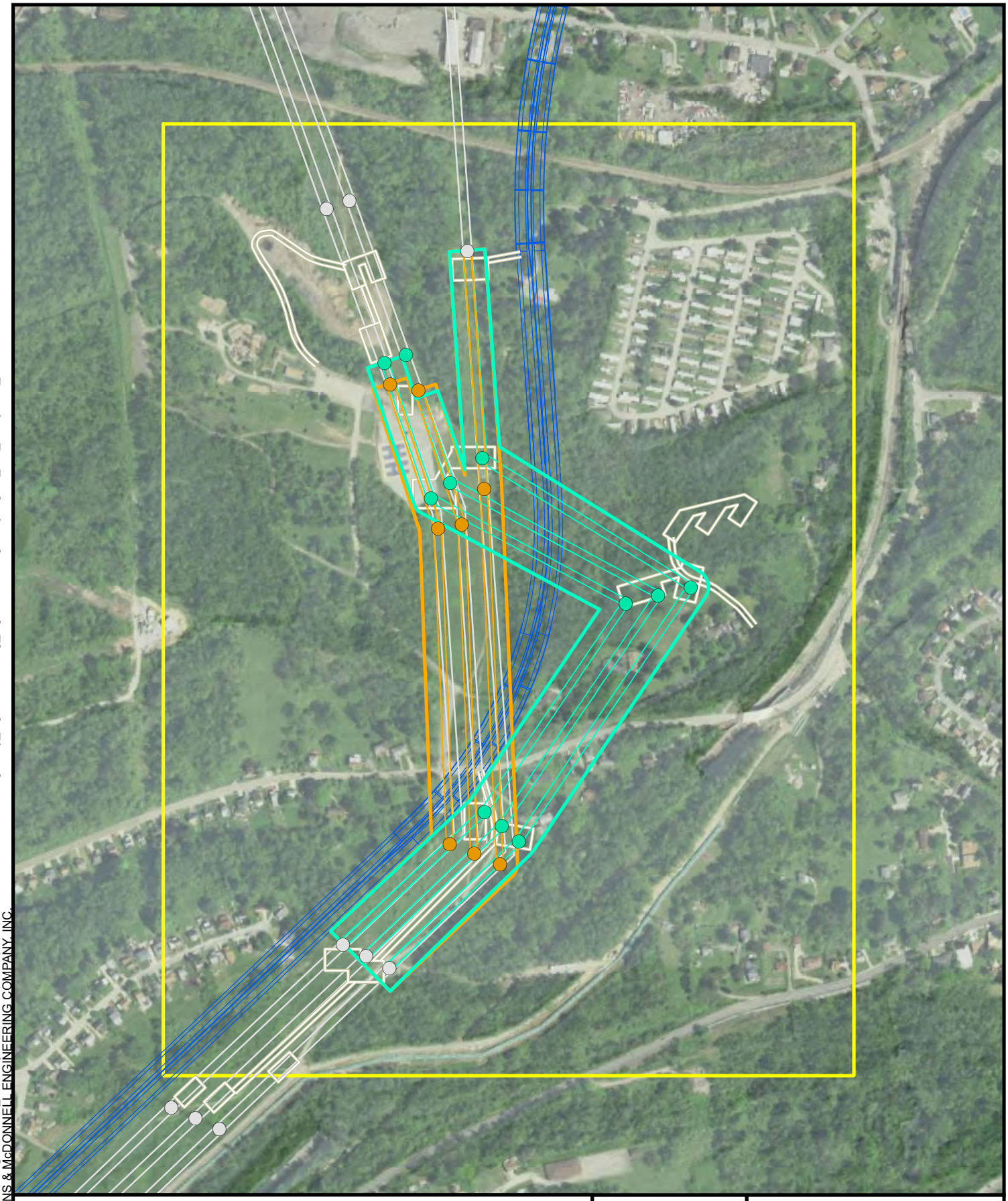


Figure 1-6
Technical - Topography
Study Area 1 Route Options
Mon-Fayette Expressway
Duquesne Light Company
Allegheny County, PA

Path: Z:\Clients\TND\DuquesneLigh\106095_MonFayette\Studies\Geospatial\DataFiles\ArcDocs\RoutingStudy_Figures\Working_Figures\RoutingStudy\Figure_X-6_Technical_Geology.mxd rewilliams 9/17/2019

Source: Esri, PASDA, Mon-Fayette Expressway, McCormick Taylor, Duquesne Light Company, Burns & McDonnell Engineering Company, Inc.

Issued: 9/17/2019

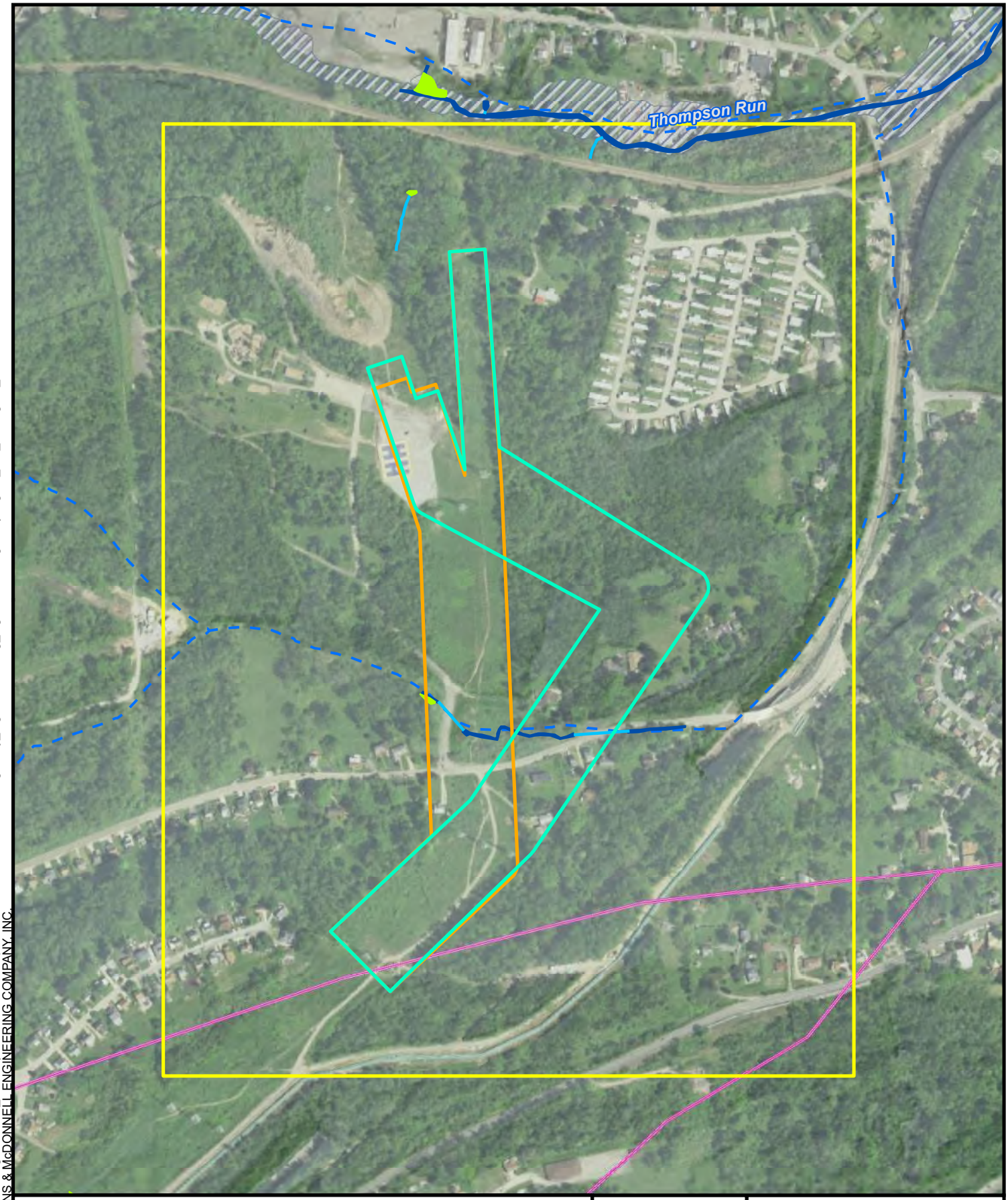


BURNS McDONNELL

Figure 2-1
Study Area 2 Route Options
Mon-Fayette Expressway
Duquesne Light Company
Allegheny County, PA

Source: Esri, PASDA, Mon-Fayette Expressway, McCormick Taylor, Duquesne Light Company, Burns & McDonnell Engineering Company, Inc.

Issued: 9/17/2019



Preferred Route ROW
Alternate Route ROW
Study Area
Watershed Boundary
Delineated Stream
Delineated Stream Area

NHD Stream

Delineated Wetland
PEM
PSS
PFO
PUB

NWI Wetland
PEM
PSS
PFO
PUB
Lake
Riverine

100-Year Floodway (Zone AE)
100-Year Floodplain (Zone A & AE)

0 230 460
Scale in Feet

NORTH

BURNS McDONNELL

Figure 2-2
Ecological Criteria - Waters
Study Area 2 Route Options
Mon-Fayette Expressway
Duquesne Light Company
Allegheny County, PA

Source: Esri, PASDA, Mon-Fayette Expressway, McCormick Taylor, Duquesne Light Company, Burns & McDonnell Engineering Company, Inc.

Issued: 9/17/2019

Path: Z:\Clients\TND\DuquesneLigh\106095_MonFayetteStudies\Geospatial\DataFilesArcDocs\RoutingStudy_Figures\Working_Figures\RoutingStudy\Figure_X-2_Ecological_Waters.mxd rewilliams 9/17/2019

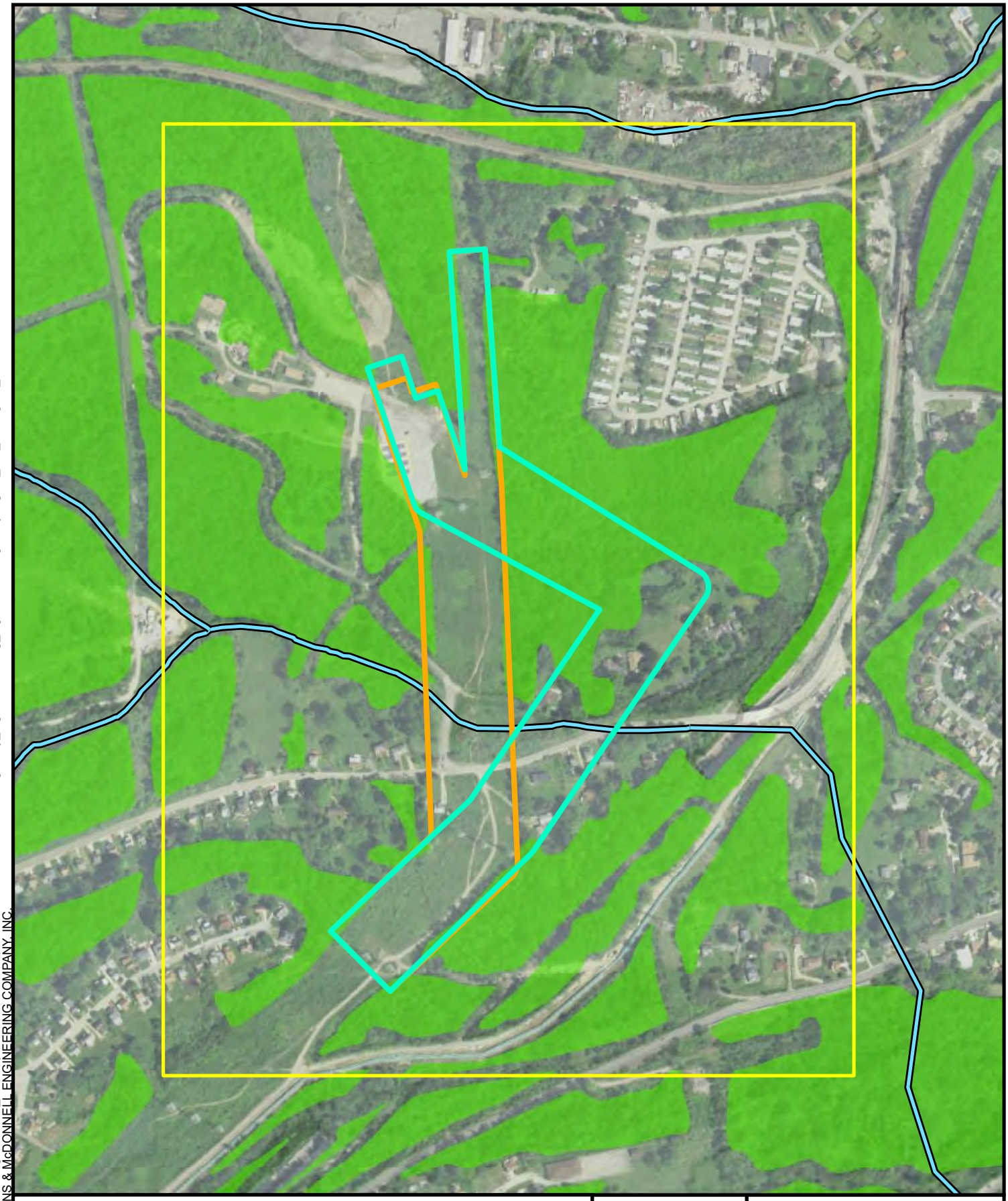
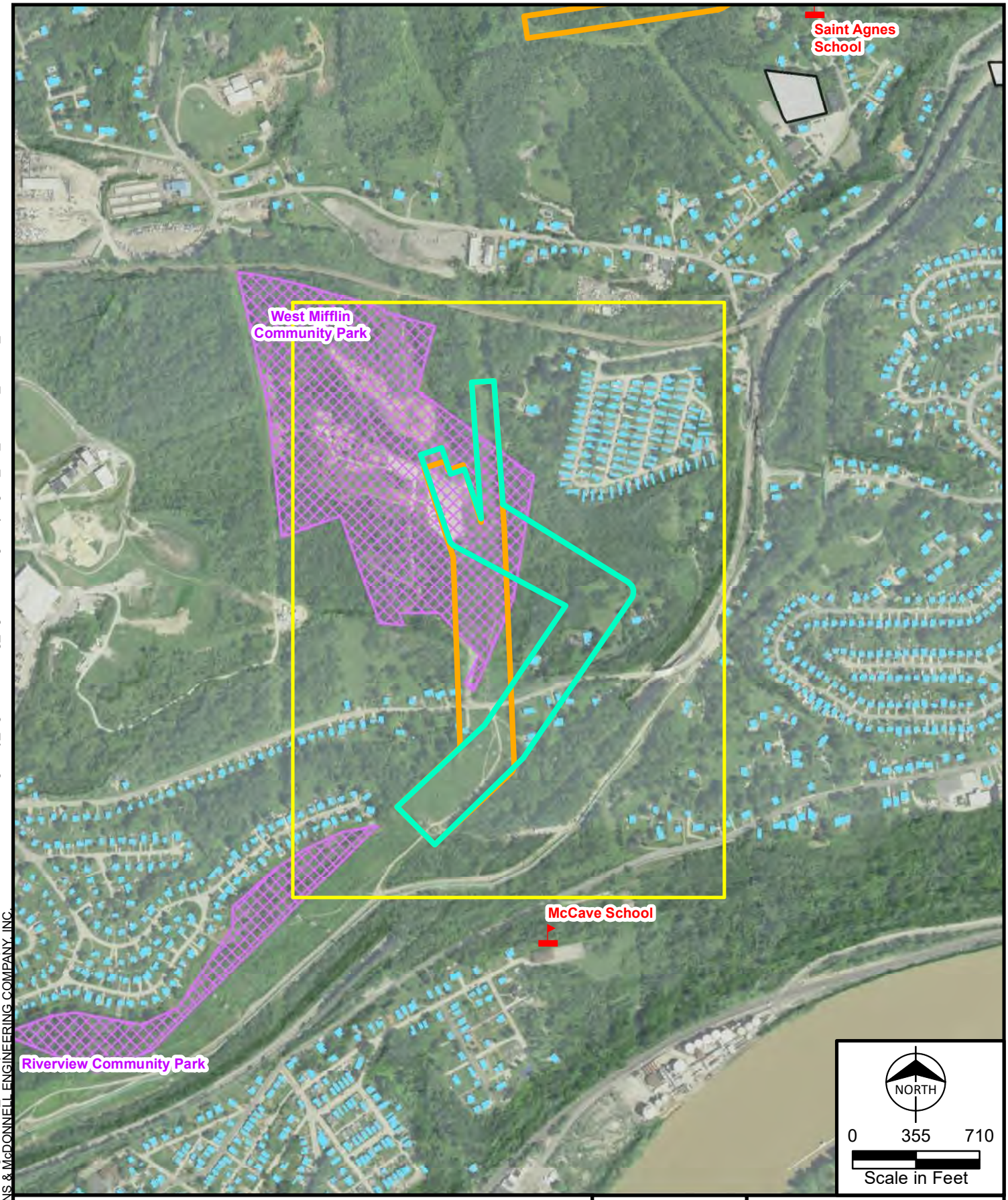


Figure 2-3
Ecological Criteria - Habitat
Study Area 2 Route Options
Mon-Fayette Expressway
Duquesne Light Company
Allegheny County, PA

Path: Z:\Clients\TND\DuquesneLigh\106095_MonFayette\Studies\Geospatial\DataFiles\ArcDocs\RoutingStudy_Figures\Working_Figures\RoutingStudy\Figure_X-3_Ecological_Habitat.mxd rewilliams 9/17/2019

Source: Esri, PASDA, Mon-Fayette Expressway, McCormick Taylor, Duquesne Light Company, Burns & McDonnell Engineering Company, Inc.

Issued: 9/17/2019



Preferred Route ROW
Alternate Route ROW
Study Area
School
Hospital
Golf Course
Airport
Cemetery
Cemetery Boundary
NRHP Feature
Residential Building
Section 4f Parks & Recreation
Allegheny County Park

BURNS McDONNELL

Figure 2-4
Land Use and Cultural Criteria
Study Area 2 Route Options
Mon-Fayette Expressway
Duquesne Light Company
Allegheny County, PA

Source: Esri, PASDA, Mon-Fayette Expressway, McCormick Taylor, Duquesne Light Company, Burns & McDonnell Engineering Company, Inc.

Issued: 9/17/2019

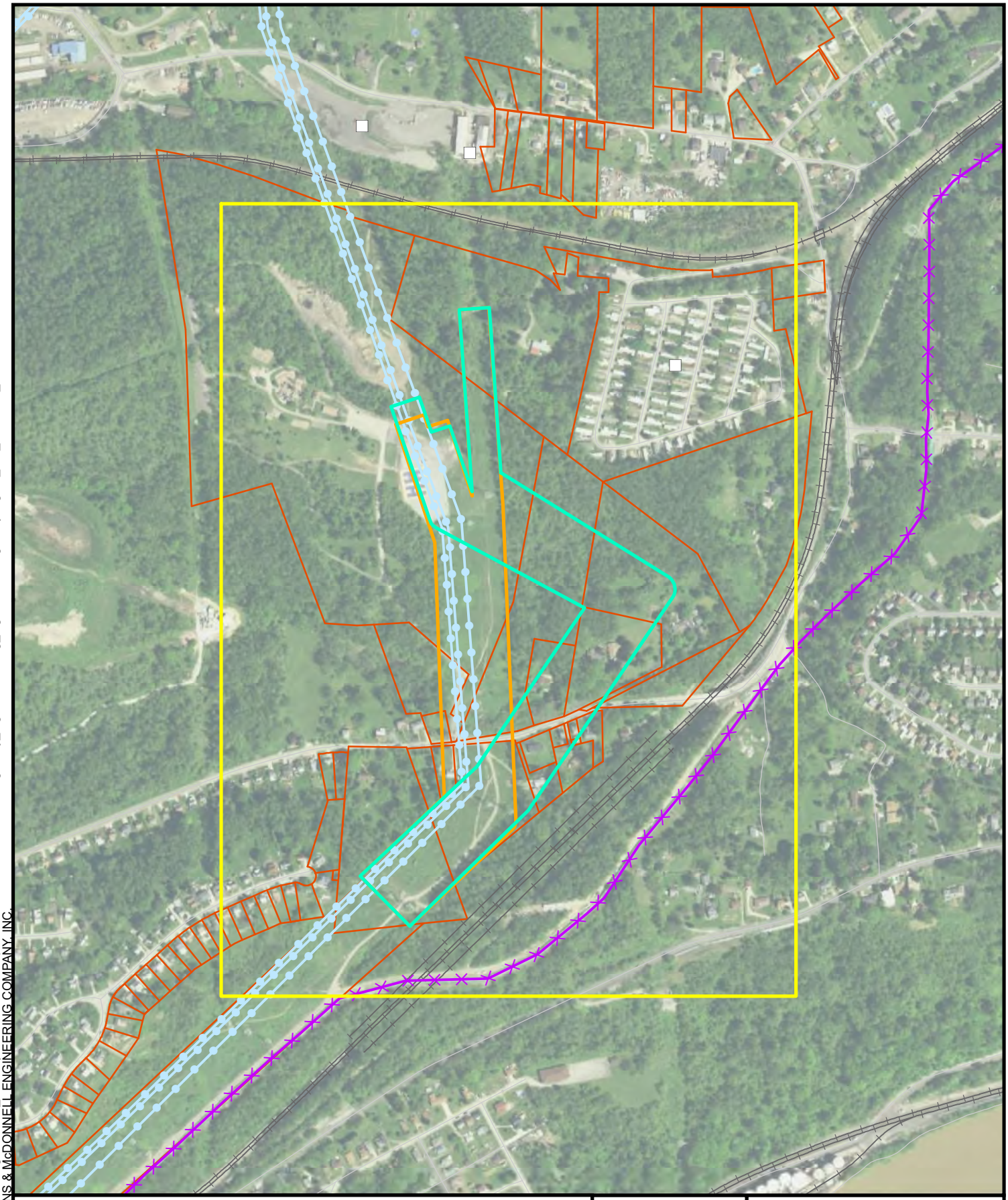


Figure 2-5
Technical - Infrastructure
Study Area 2 Route Options
Mon-Fayette Expressway
Duquesne Light Company
Allegheny County, PA

Source: Esri, PASDA, Mon-Fayette Expressway, McCormick Taylor, Duquesne Light Company, Burns & McDonnell Engineering Company, Inc.

Issued: 9/17/2019

Path: Z:\Clients\TND\DuquesneLigh\106095_MonFayette\Studies\Geospatial\DataFiles\ArcDocs\RoutingStudy_Figures\Working_Figures\RoutingStudy\Figure_X-5_Technical_Infrastructure.mxd rewilliams 9/17/2019

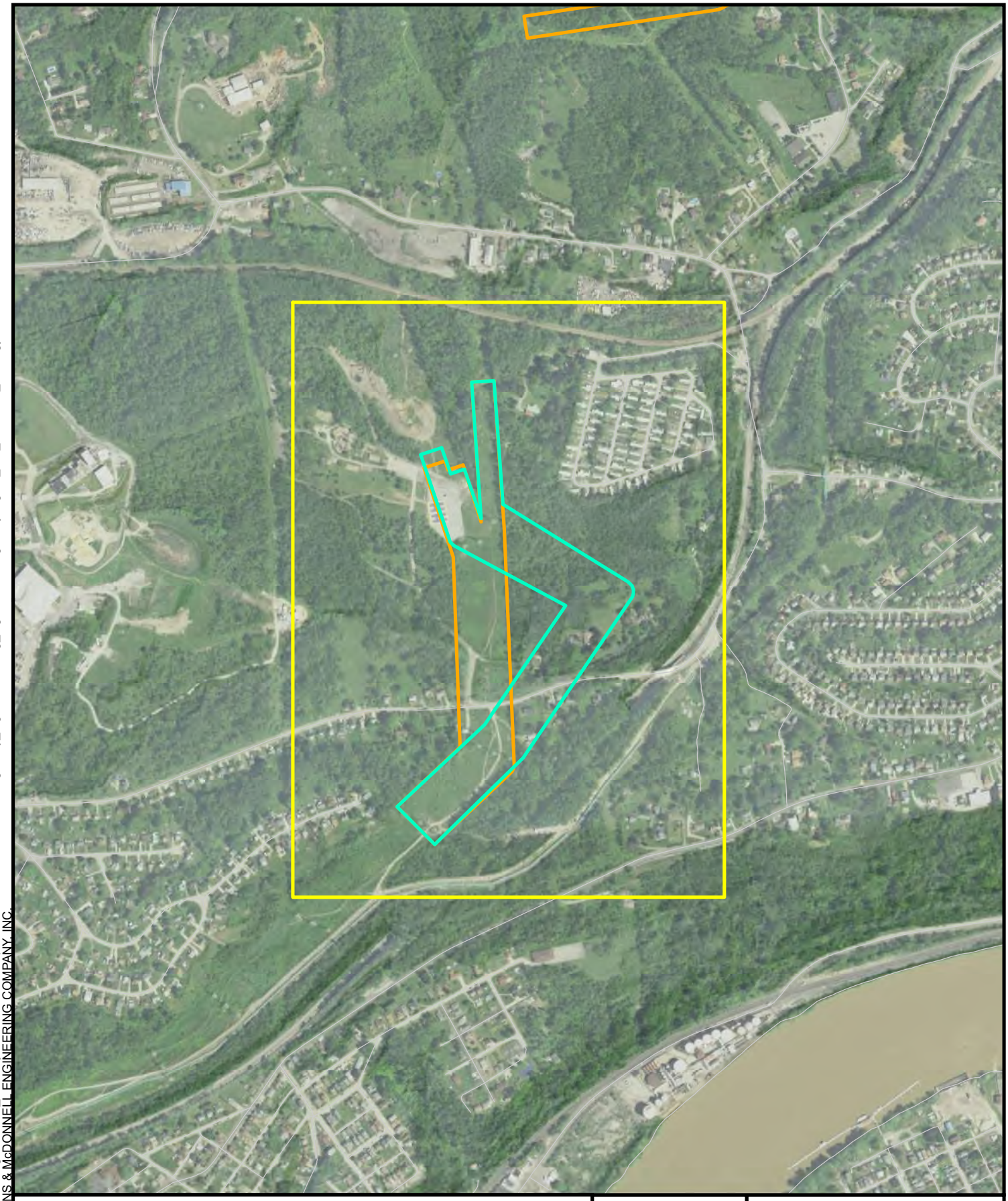


Figure 2-6
Technical - Topography
Study Area 2 Route Options
Mon-Fayette Expressway
Duquesne Light Company
Allegheny County, PA

Source: Esri, PASDA, Mon-Fayette Expressway, McCormick Taylor, Duquesne Light Company, Burns & McDonnell Engineering Company, Inc.

Issued: 9/17/2019

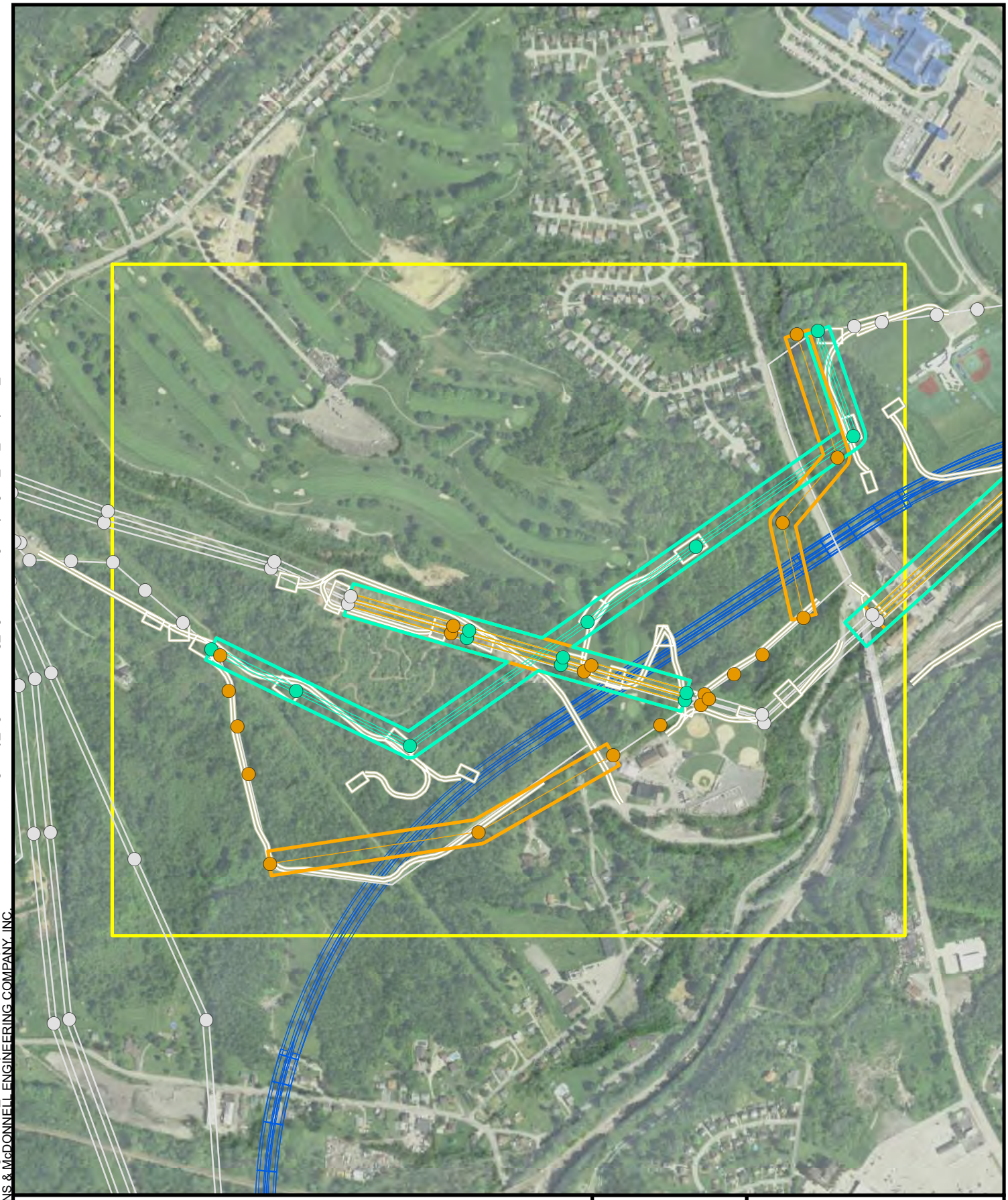


Figure 3-1
Study Area 3 Route Options
Mon-Fayette Expressway
Duquesne Light Company
Allegheny County, PA

Source: Esri, PASDA, Mon-Fayette Expressway, McCormick Taylor, Duquesne Light Company, Burns & McDonnell Engineering Company, Inc.

Issued: 9/17/2019

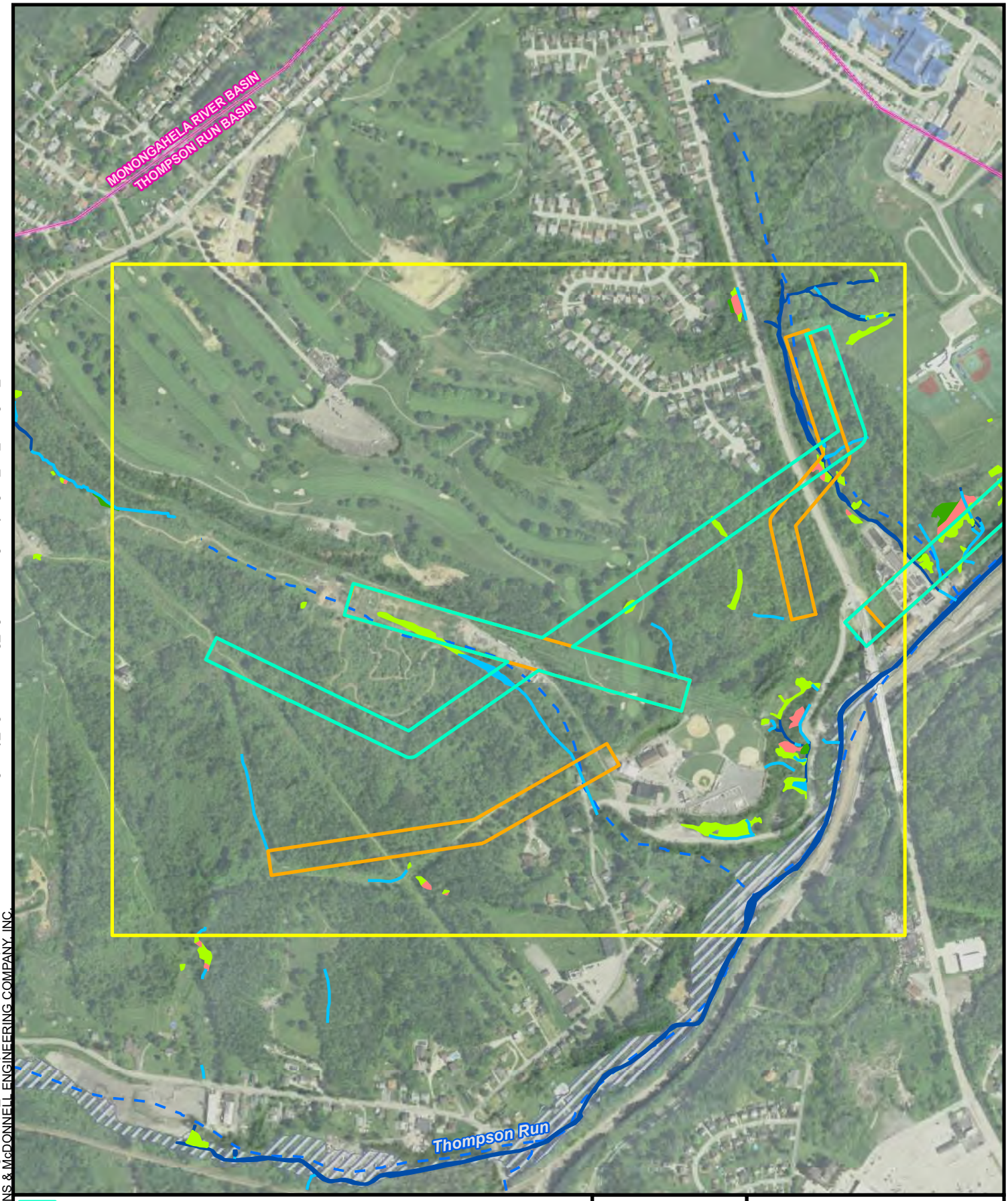


Figure 3-2
Ecological Criteria - Waters
Study Area 3 Route Options
Mon-Fayette Expressway
Duquesne Light Company
Allegheny County, PA

Source: Esri, PASDA, Mon-Fayette Expressway, McCormick Taylor, Duquesne Light Company, Burns & McDonnell Engineering Company, Inc.

Issued: 9/17/2019

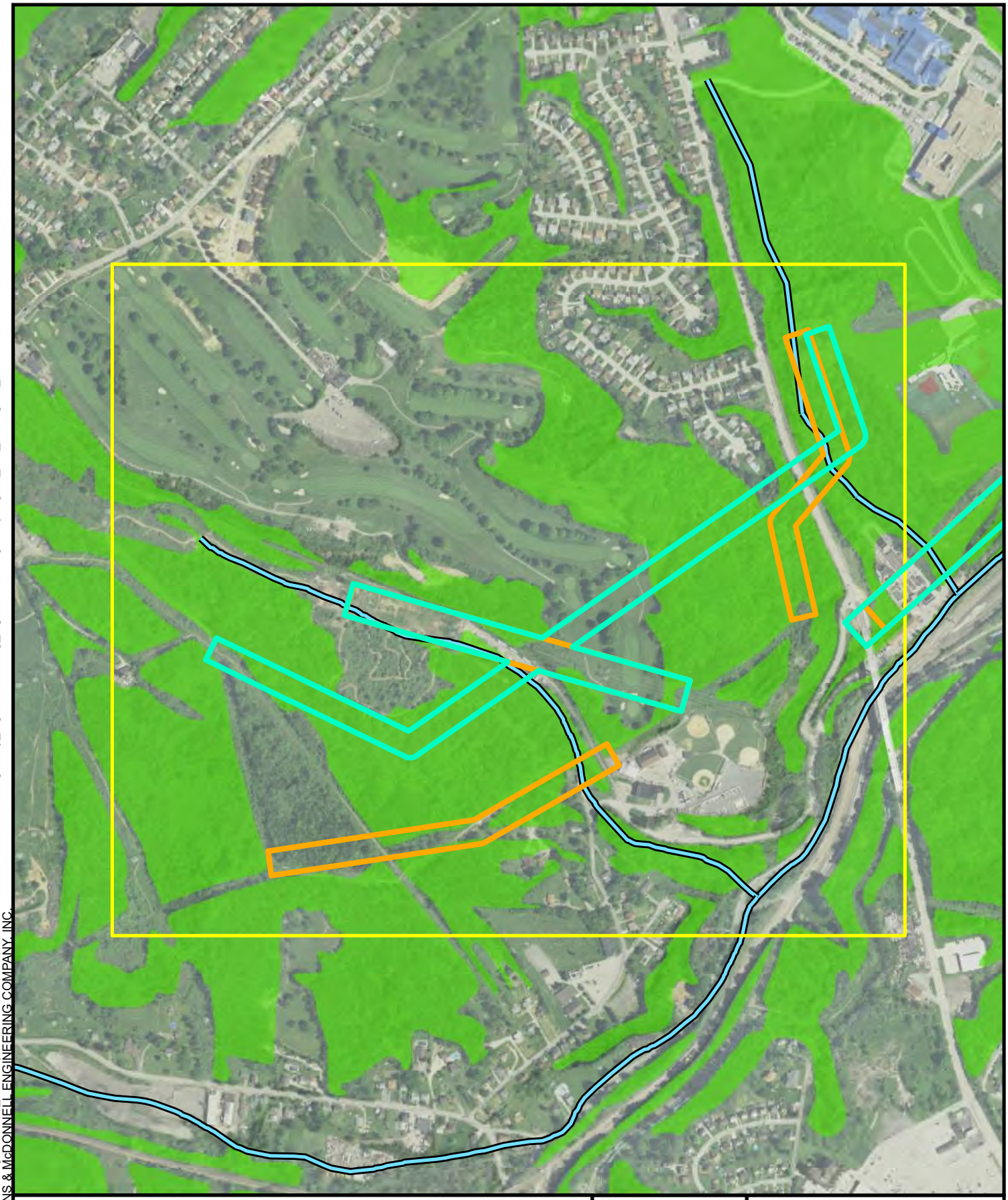
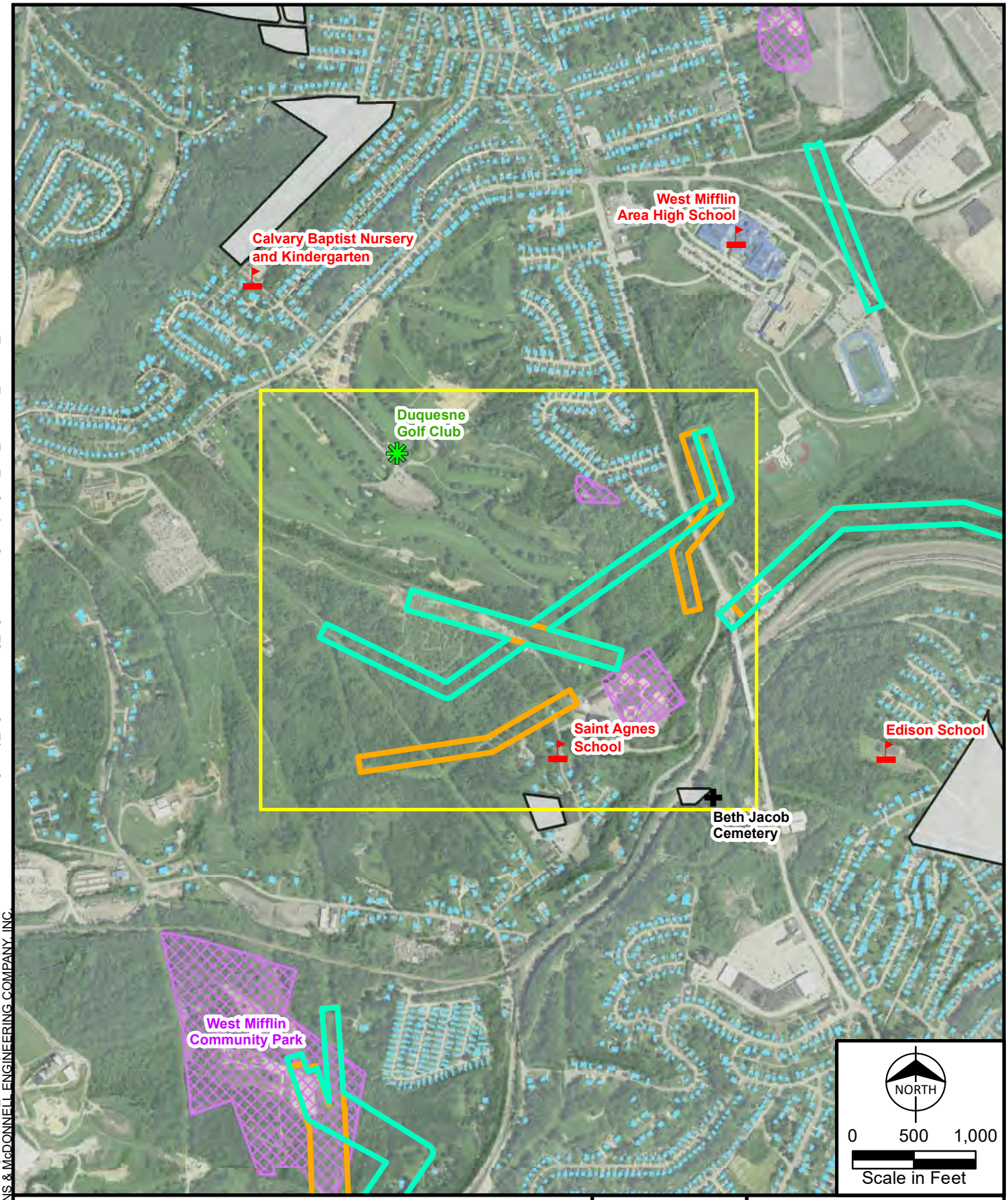


Figure 3-3
Ecological Criteria - Habitat
Study Area 3 Route Options
Mon-Fayette Expressway
Duquesne Light Company
Allegheny County, PA

Source: Esri, PASDA, Mon-Fayette Expressway, McCormick Taylor, Duquesne Light Company, Burns & McDonnell Engineering Company, Inc.

Issued: 9/17/2019



Preferred Route ROW
Alternate Route ROW
Study Area
School
Hospital
Golf Course
Airport
Cemetery
Cemetery Boundary
NRHP Feature
Residential Building
Section 4f Parks & Recreation
Allegheny County Park

BURNS McDONNELL

Figure 3-4
Land Use and Cultural Criteria
Study Area 3 Route Options
Mon-Fayette Expressway
Duquesne Light Company
Allegheny County, PA

Source: Esri, PASDA, Mon-Fayette Expressway, McCormick Taylor, Duquesne Light Company, Burns & McDonnell Engineering Company, Inc.

Issued: 9/17/2019

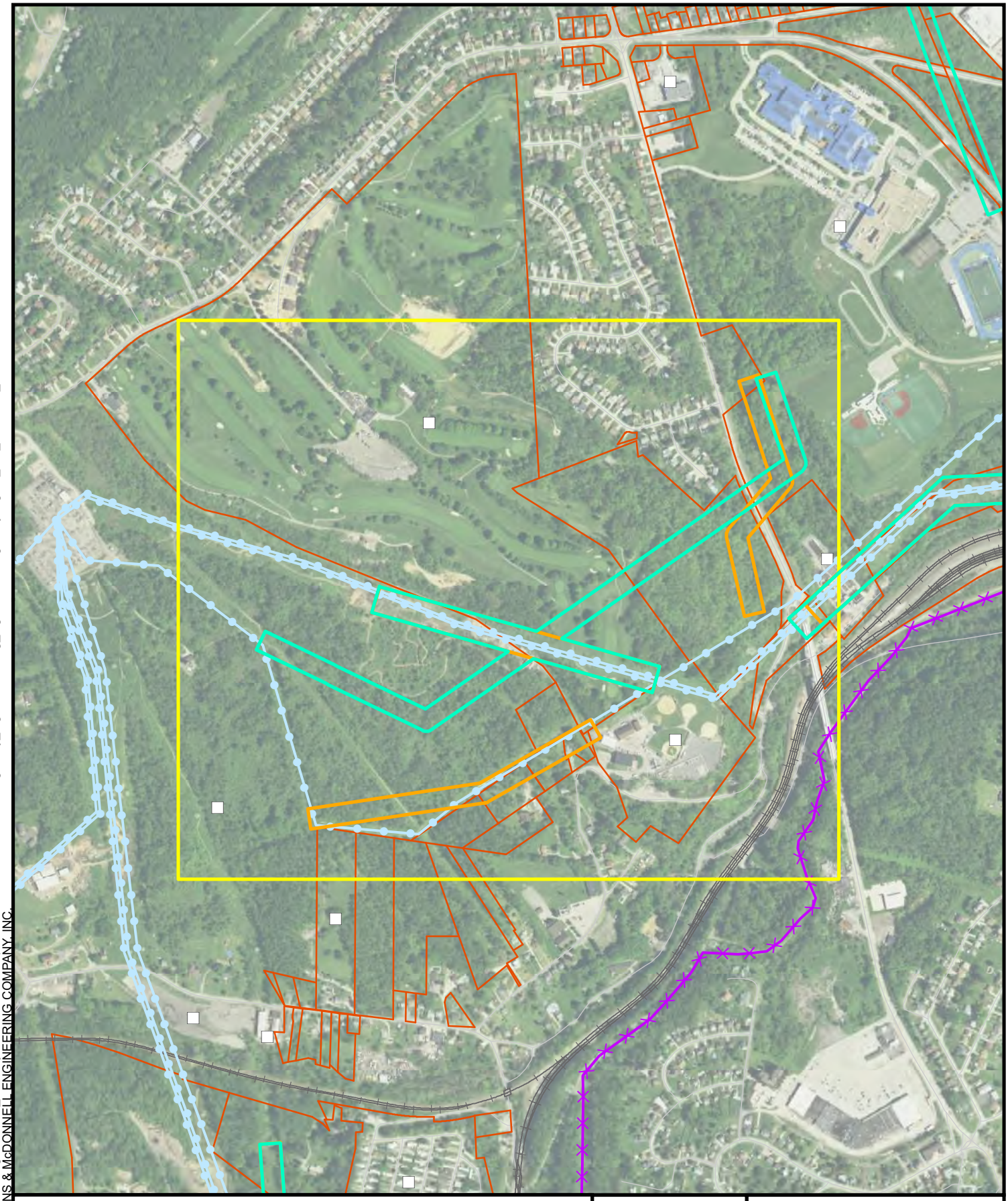


Figure 3-5
Technical - Infrastructure
Study Area 3 Route Options
Mon-Fayette Expressway
Duquesne Light Company
Allegheny County, PA

Source: Esri, PASDA, Mon-Fayette Expressway, McCormick Taylor, Duquesne Light Company, Burns & McDonnell Engineering Company, Inc.

Issued: 9/17/2019

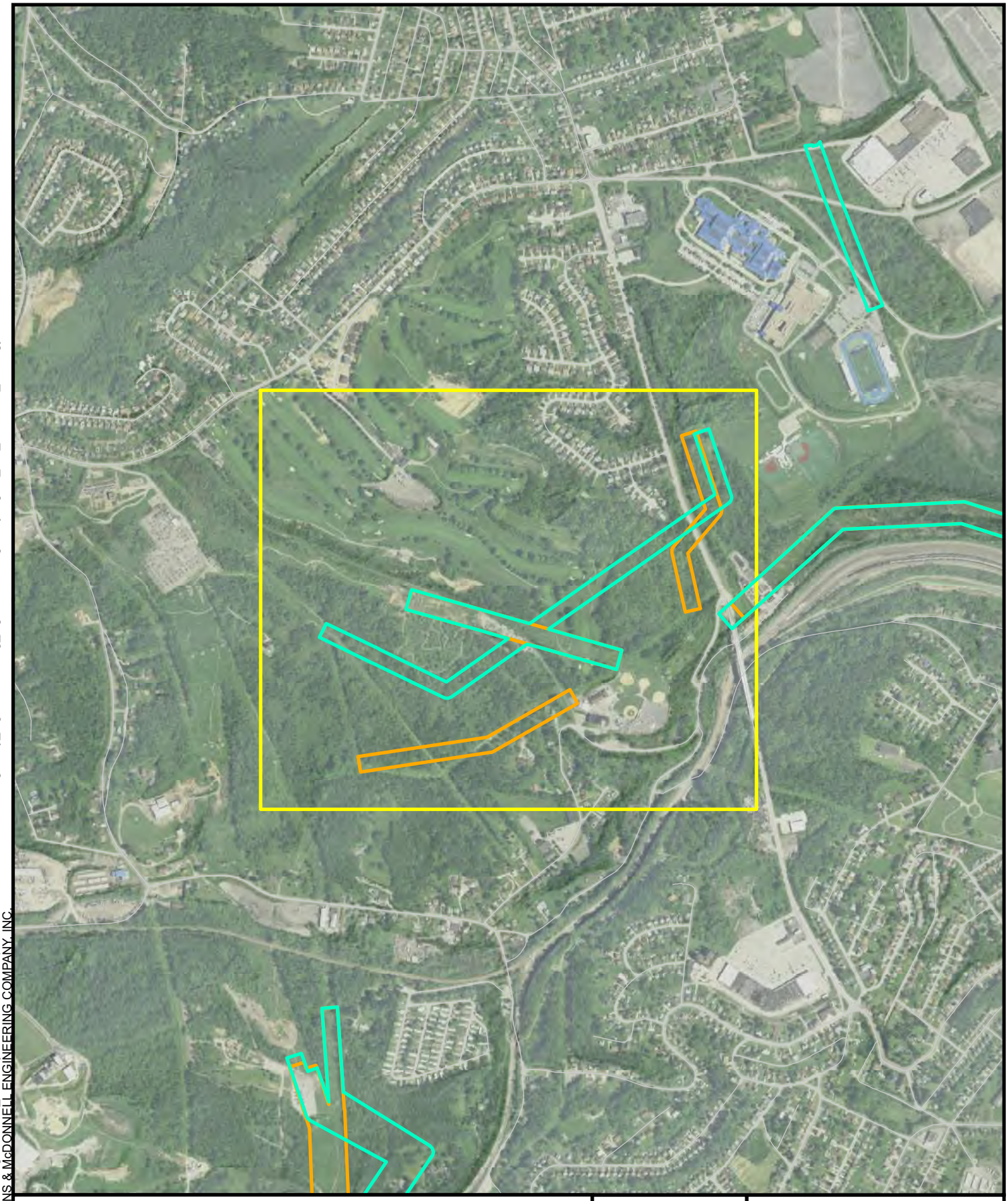


Figure 3-6
Technical - Topography
Study Area 3 Route Options
Mon-Fayette Expressway
Duquesne Light Company
Allegheny County, PA

Source: Esri, PASDA, Mon-Fayette Expressway, McCormick Taylor, Duquesne Light Company, Burns & McDonnell Engineering Company, Inc.

Issued: 9/17/2019

Figure 4-1
Study Area 4 Route Options
Mon-Fayette Expressway
Duquesne Light Company
Allegheny County, PA

Source: Esri, PASDA, Mon-Fayette Expressway, McCormick Taylor, Duquesne Light Company, Burns & McDonnell Engineering Company, Inc.

Issued: 9/17/2019

Preferred Route ROW
Alternate Route ROW
Study Area
Watershed Boundary
Delineated Stream
Delineated Stream Area

NHD Stream

Delineated Wetland
PEM
PSS
PFO
PUB

NWI Wetland
PEM
PSS
PFO
PUB
Lake
Riverine

100-Year Floodway (Zone AE)
100-Year Floodplain (Zone A & AE)

0 125 250
Scale in Feet
NORTH

BURNS McDONNELL

Figure 4-2
Ecological Criteria - Waters
Study Area 4 Route Options
Mon-Fayette Expressway
Duquesne Light Company
Allegheny County, PA

Source: Esri, PASDA, Mon-Fayette Expressway, McCormick Taylor, Duquesne Light Company, Burns & McDonnell Engineering Company, Inc.

Issued: 9/17/2019

Path: Z:\Clients\TND\DuquesneLigh\106095_MonFayetteStudies\Geospatial\DataFilesArcDocs\RoutingStudy_Figures\Working_Figures\RoutingStudy\Figure_X-2_Ecological_Waters.mxd rewilliams 9/17/2019

Figure 4-3
Ecological Criteria - Habitat
Study Area 4 Route Options
Mon-Fayette Expressway
Duquesne Light Company
Allegheny County, PA

Source: Esri, PASDA, Mon-Fayette Expressway, McCormick Taylor, Duquesne Light Company, Burns & McDonnell Engineering Company, Inc.

Issued: 9/17/2019

Preferred Route ROW
Alternate Route ROW
Study Area
School
Hospital
Golf Course
Airport
Cemetery
Cemetery Boundary
NRHP Feature
Residential Building
Section 4f Parks & Recreation
Allegheny County Park

NORTH
0 195 390
Scale in Feet

BURNS McDONNELL

Figure 4-4
Land Use and Cultural Criteria
Study Area 4 Route Options
Mon-Fayette Expressway
Duquesne Light Company
Allegheny County, PA

Source: Esri, PASDA, Mon-Fayette Expressway, McCormick Taylor, Duquesne Light Company, Burns & McDonnell Engineering Company, Inc.

Issued: 9/17/2019

Path: Z:\Clients\TND\DuquesneLigh\106095_MonFayette\Studies\Geospatial\DataFiles\ArcDocs\RoutingStudy_Figures\Working_Figures\RoutingStudy\Figure_X-4_LandUse_Cultural_OLH.mxd rewilliams 9/17/2019

Figure 4-5
Technical - Infrastructure
Study Area 4 Route Options
Mon-Fayette Expressway
Duquesne Light Company
Allegheny County, PA

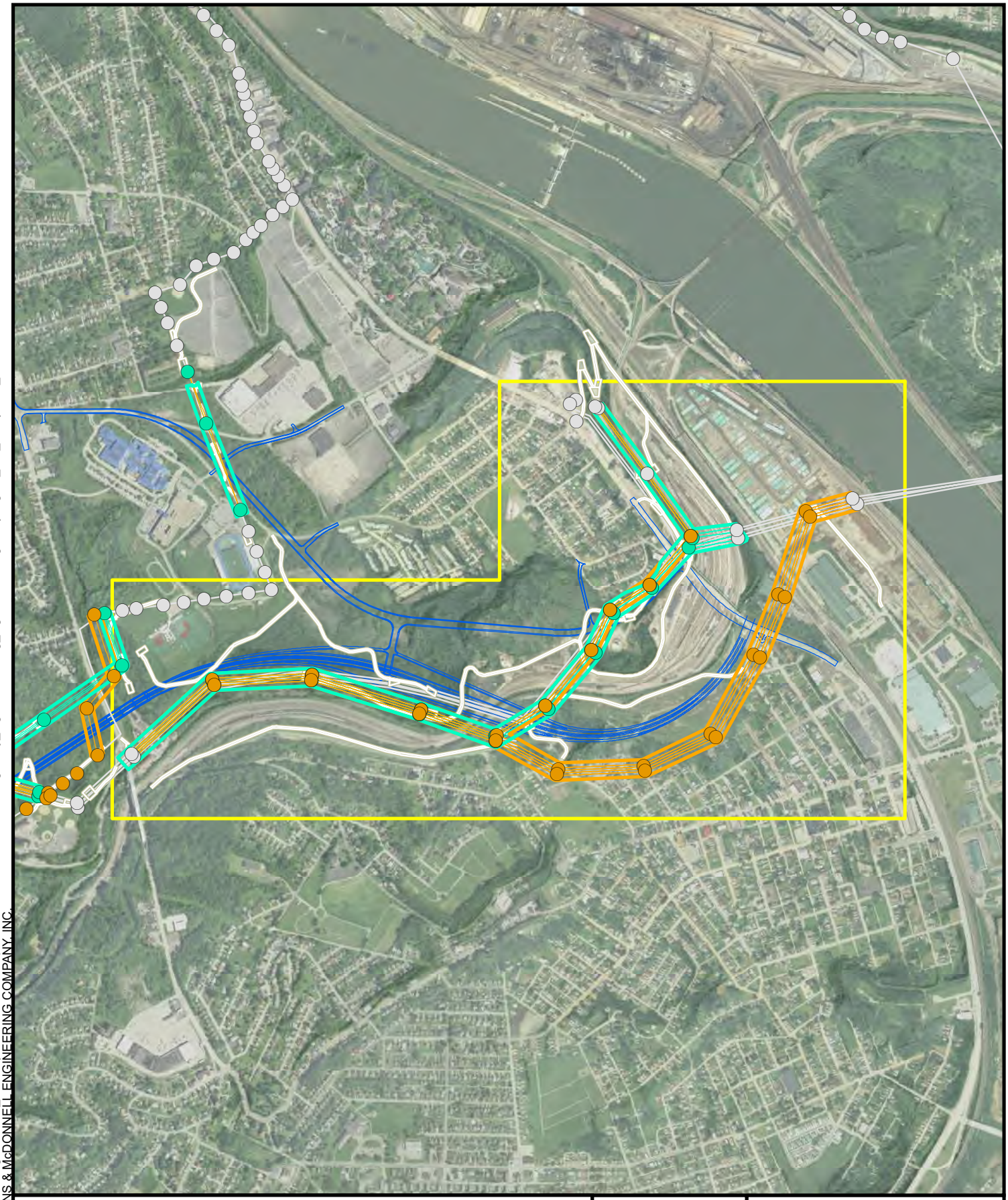
Source: Esri, PASDA, Mon-Fayette Expressway, McCormick Taylor, Duquesne Light Company, Burns & McDonnell Engineering Company, Inc.

Issued: 9/17/2019

Figure 4-6
Technical - Topography
Study Area 4 Route Options
Mon-Fayette Expressway
Duquesne Light Company
Allegheny County, PA

Source: Esri, PASDA, Mon-Fayette Expressway, McCormick Taylor, Duquesne Light Company, Burns & McDonnell Engineering Company, Inc.

Issued: 9/17/2019



Study Area
Preferred Route ROW
Alternate Route ROW
Preferred Route Alignment
Alternate Route Alignment
Access Roads and Work Pads
Existing DLC Alignment
Mon-Fayette Expressway
0 625 1,250
Scale in Feet
NORTH

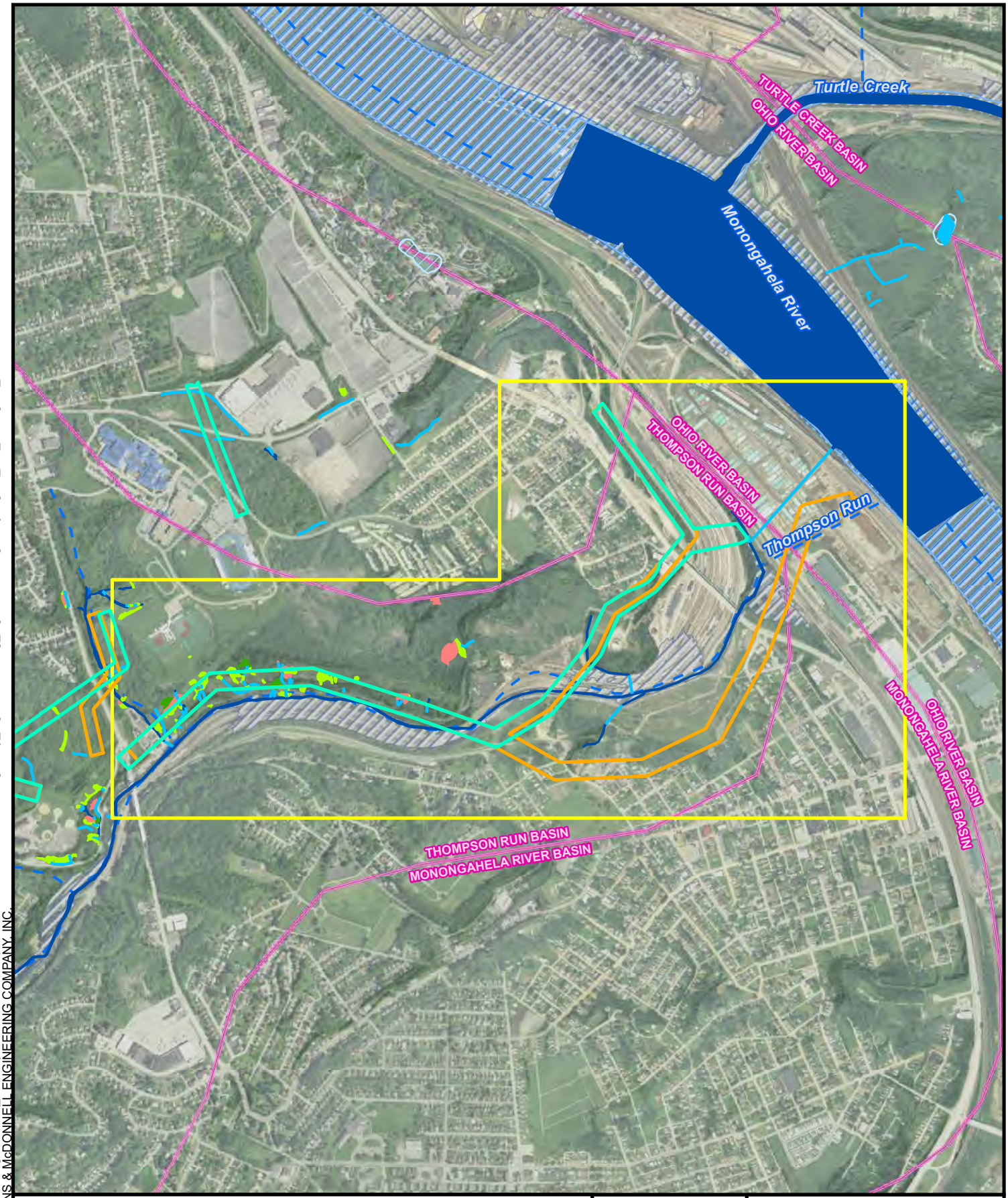
BURNS McDONNELL

Figure 5-1
Study Area 5 Route Options
Mon-Fayette Expressway
Duquesne Light Company
Allegheny County, PA

Source: Esri, PASDA, Mon-Fayette Expressway, McCormick Taylor, Duquesne Light Company, Burns & McDonnell Engineering Company, Inc.

Issued: 9/17/2019

Path: Z:\Clients\TND\DuquesneLigh\106095_MonFayette\Studies\Geospatial\DataFiles\ArcDocs\RoutingStudy_Figures\Working_Figures\RoutingStudy\Figure_X-1_StudyArea_Overview.mxd rewilliams 9/17/2019



Preferred Route ROW
Alternate Route ROW
Study Area
Watershed Boundary
Delineated Stream
Delineated Stream Area

NHD Stream

Delineated Wetland
PEM
PSS
PFO
PUB

NWI Wetland
PEM
PSS
PFO
PUB
Lake
Riverine

100-Year Floodway (Zone AE)
100-Year Floodplain (Zone A & AE)

0 625 1,250
Scale in Feet

NORTH

BURNS McDONNELL

Figure 5-2
Ecological Criteria - Waters
Study Area 5 Route Options
Mon-Fayette Expressway
Duquesne Light Company
Allegheny County, PA

Source: Esri, PASDA, Mon-Fayette Expressway, McCormick Taylor, Duquesne Light Company, Burns & McDonnell Engineering Company, Inc.

Issued: 9/17/2019

Path: Z:\Clients\TND\DuquesneLigh\106095_MonFayetteStudies\Geospatial\DataFiles\ArcDocs\RoutingStudy_Figures\Working_Figures\RoutingStudy\Figure_X-2_Ecological_Waters.mxd rewilliams 9/17/2019

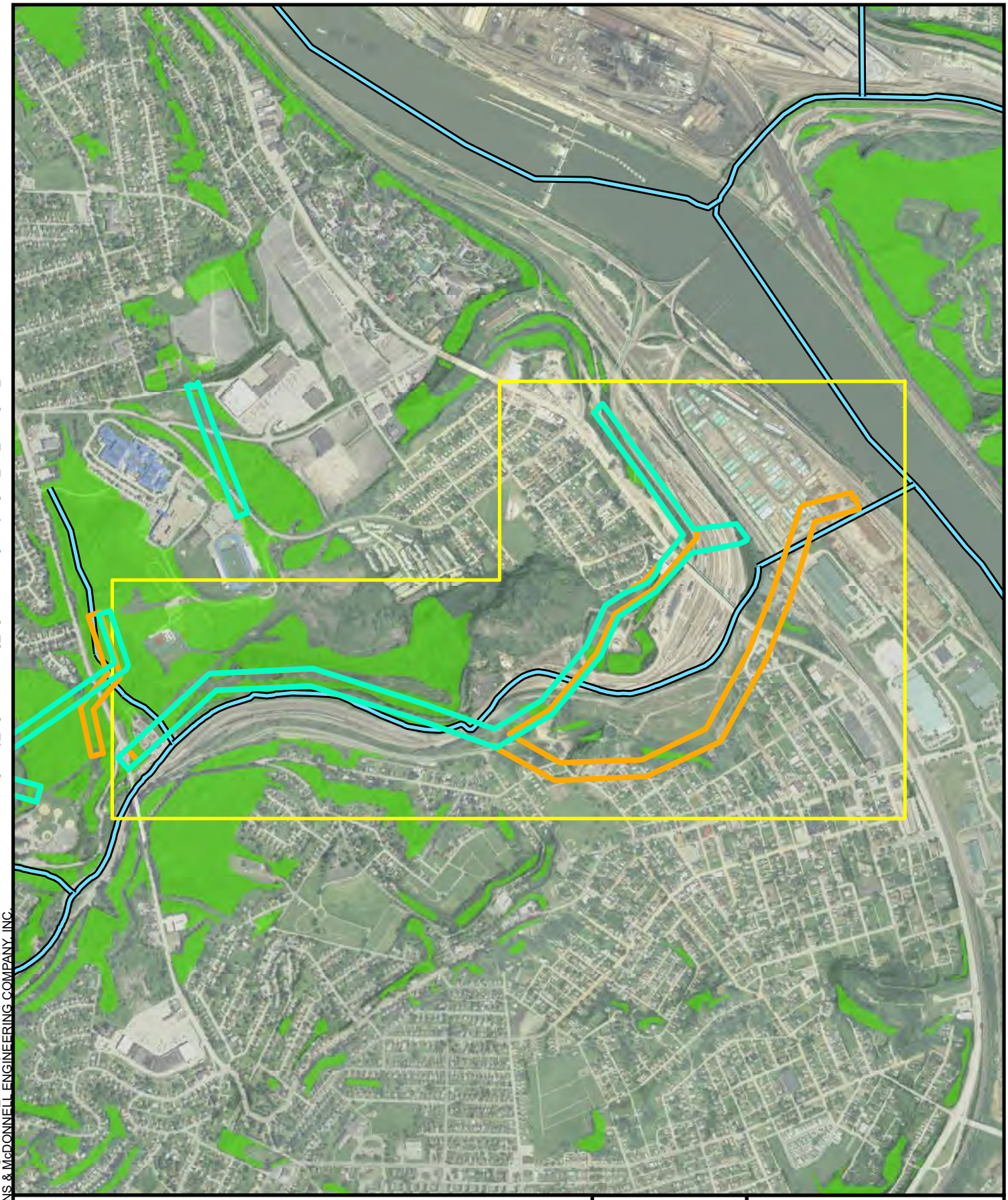


Figure 5-3
Ecological Criteria - Habitat
Study Area 5 Route Options
Mon-Fayette Expressway
Duquesne Light Company
Allegheny County, PA

Source: Esri, PASDA, Mon-Fayette Expressway, McCormick Taylor, Duquesne Light Company, Burns & McDonnell Engineering Company, Inc.

Issued: 9/17/2019

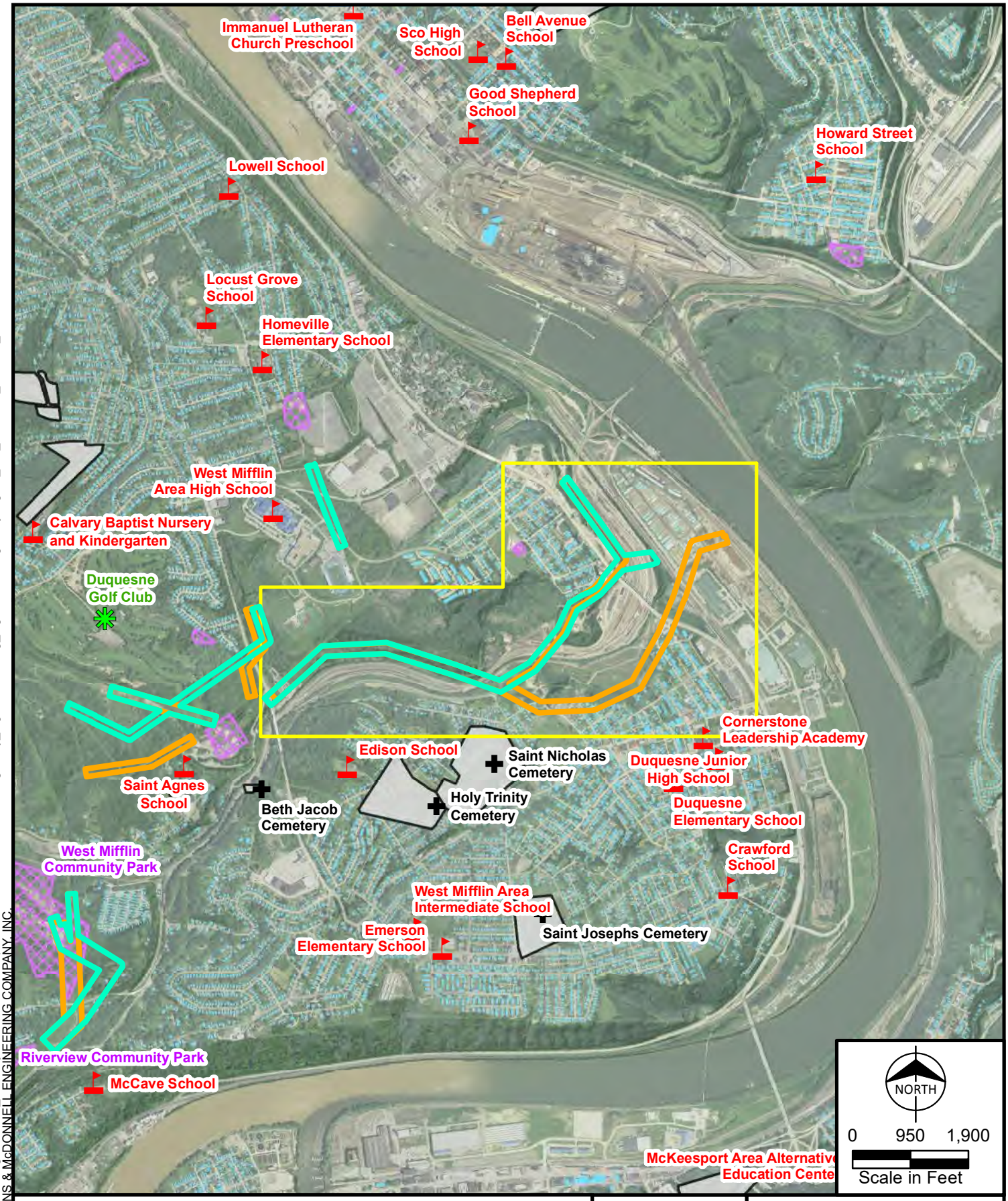


Figure 5-4
Land Use and Cultural Criteria
Study Area 5 Route Options
Mon-Fayette Expressway
Duquesne Light Company
Allegheny County, PA

Source: Esri, PASDA, Mon-Fayette Expressway, McCormick Taylor, Duquesne Light Company, Burns & McDonnell Engineering Company, Inc.

Issued: 9/17/2019

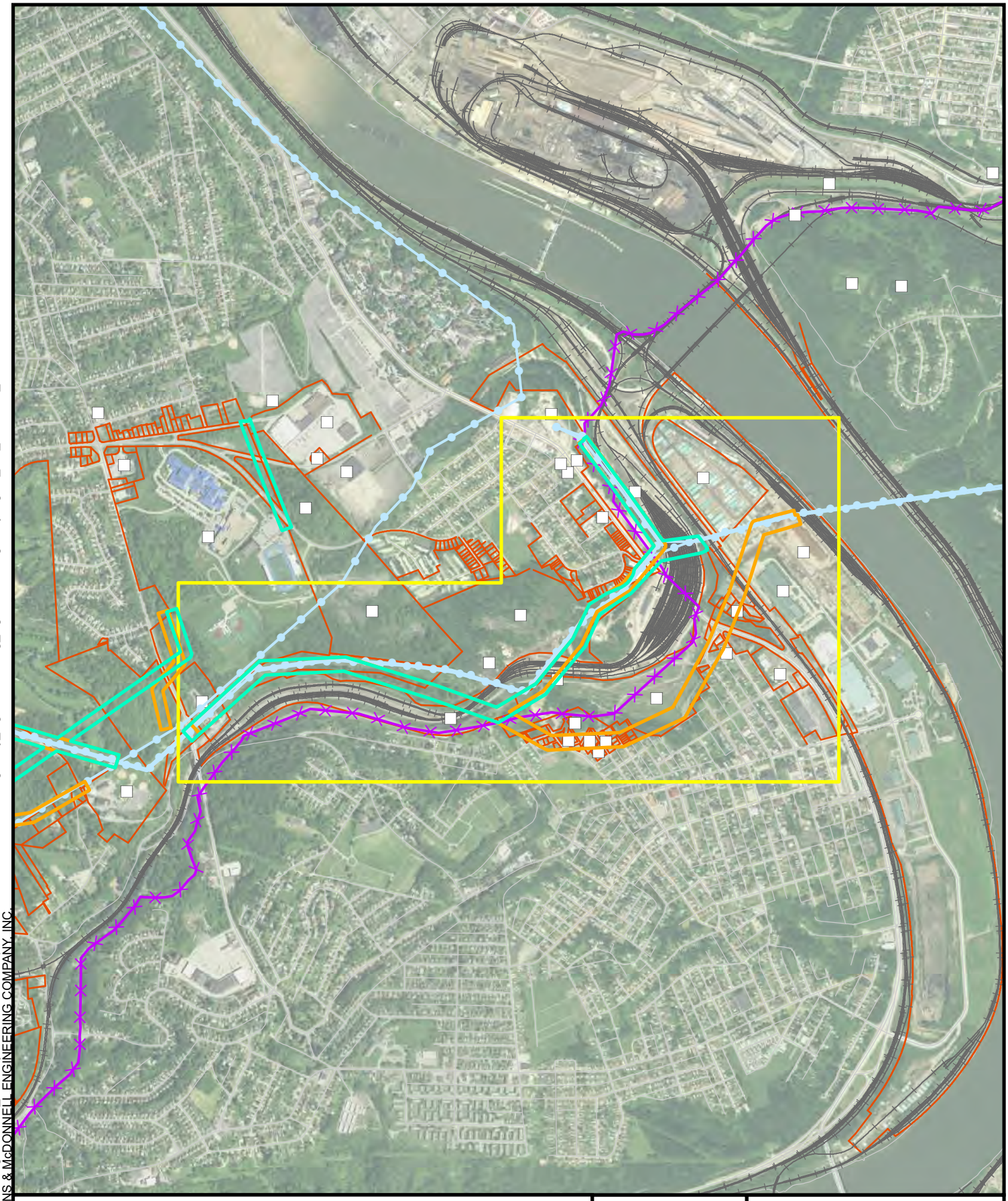


Figure 5-5
Technical - Infrastructure
Study Area 5 Route Options
Mon-Fayette Expressway
Duquesne Light Company
Allegheny County, PA

Source: Esri, PASDA, Mon-Fayette Expressway, McCormick Taylor, Duquesne Light Company, Burns & McDonnell Engineering Company, Inc.

Issued: 9/17/2019

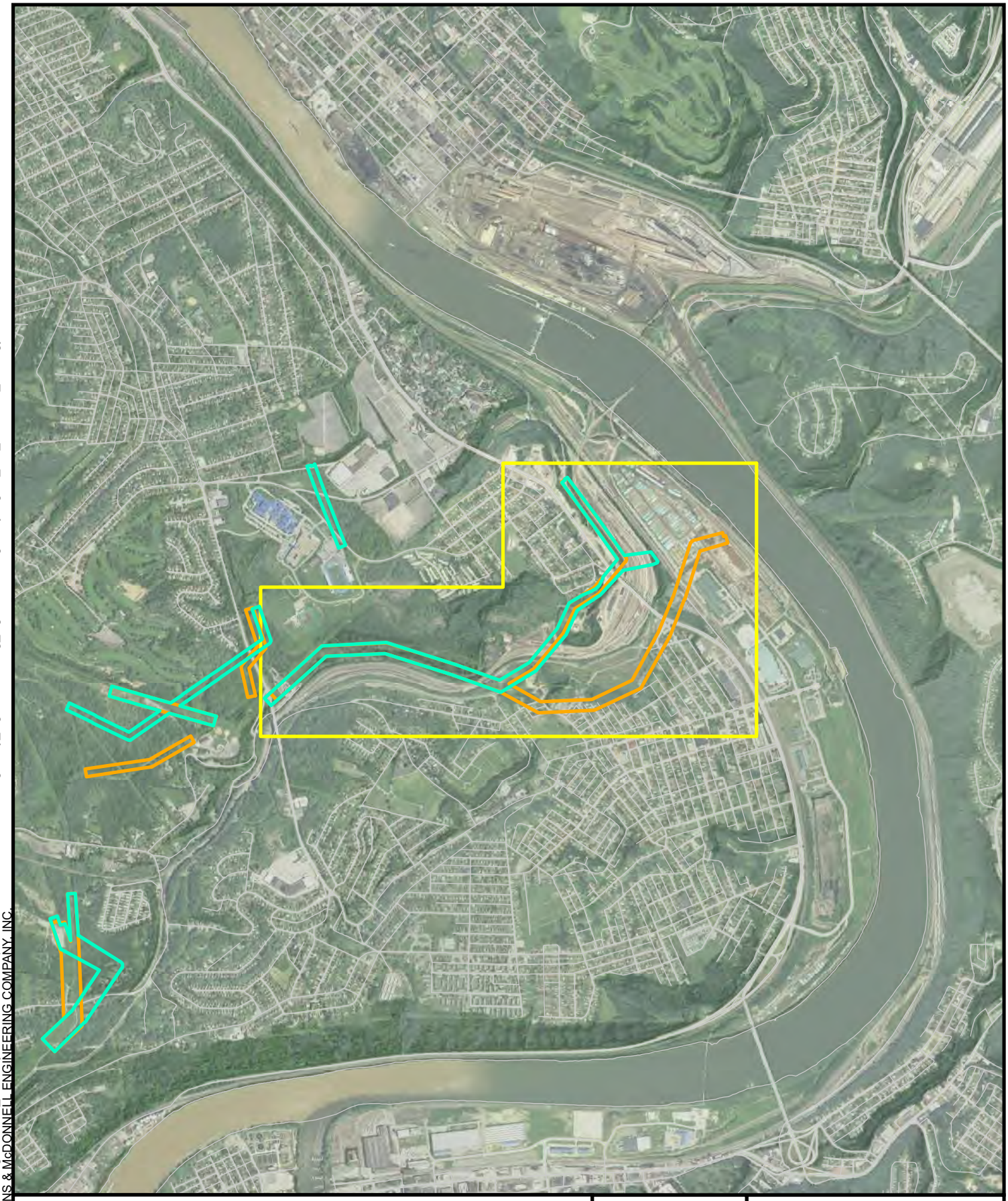


Figure 5-6
Technical - Topography
Study Area 5 Route Options
Mon-Fayette Expressway
Duquesne Light Company
Allegheny County, PA

Source: Esri, PASDA, Mon-Fayette Expressway, McCormick Taylor, Duquesne Light Company, Burns & McDonnell Engineering Company, Inc.

Issued: 9/17/2019

APPENDIX B - IMPACTED FACILITY OWNERS

Appendix B - Impacted Facility Owners

Pennsylvania Turnpike Commission
Mon/Fayette Expressway, Southern Section Project
Impacted Facility Owners

Section 53A1	
Facility Owner	**Facility Type**
Borough of Jefferson Hills 925 Old Clairton Road Jefferson Hills, PA 15025 Michael S. Glister, P.E. mglister@jeffersonhills.net	Sanitary
Columbia Gas of Pennsylvania Inc. 4000 Energy Drive Bridgeville, PA 15017 Mr. Fred Huebner Cell: (412) 874-1876 Office: (412) 220-1566 Fax: (412) 220-1565 fhuebner@nisource.com	Natural Gas
Comcast 1530 Chartiers Ave Pittsburgh, PA 15204 David Schade david_schade@comcast.com (724) 388-1652 Tim Gazda Office: (412) 875-1388 Tim_Gazda@comcast.com	Telecommunications
Duquesne Light Company (N6-CD) 2825 New Beaver Avenue, Pittsburgh, PA 15233 Office: (412) 393-7914 Cell: (412) 651-8844 nanderson@duqlight.com	Electric Distribution
Pennsylvania American Water 300 Galley Road McMurray, PA 15317 Eric R Beringer Office: (724) 743-3108 Eric.beringer@amwater.com	Water

Section 53A1	
Facility Owner	**Facility Type**
Peoples Natural Gas Company 1201 Pitt Street Pittsburgh, PA 15221 John Walko Office: (412) 244-4383 Cell: (412) 812-3369 John.Walko@peoples-gas.com	Natural Gas
SBA Communications Corp 8051 Congress Avenue Boca Raton, FL 33487-1307 Alternate Address: 212 Mellon Ave, Patton, PA 16668 Jason Della Valle Cell: (814) 244-3250 jdellavalle@sbasite.com	Cell Tower
United States Steel Corporation, Clairton Works Ray Boronyak Engineering Department 400 State Street Clairton, PA 15025 Office: (412) 233-1864 Cell: (412) 389-0899 rboronyak@uss.com	Telecommunications
Verizon Verizon Outside Plant Engineer 508 Old Frankstown Rd Monroeville, PA 15146 Jeff Guido Office: (412) 855-1376 jeffrey.d.guido@verizon.com	Telecommunications
West Penn Power 401 Coyle Curtain Road Monongahela, PA 15063 Christine Smith Office: (724) 489-3237 smithc@firstenergycorp.com	Electric Distribution

Pennsylvania Turnpike Commission
Mon/Fayette Expressway, Southern Section Project
Impacted Facility Owners

Section 53B1	
Facility Owner	**Facility Type**
Comcast 1530 Chartiers Ave Pittsburgh, PA 15204 David Schade david_schade@comcast.com (724) 388-1652 Tim Gazda Office: (412) 875-1388 Tim_Gazda@comcast.com	Telecommunications
Developed Resources, Inc. David Iacovino 21 Cheswick Avenue Cheswick, PA 15024 Cell: (724) 321-4984 devers@live.com	Natural Gas Wells
Duquesne Light Company (N6-CD) 2825 New Beaver Avenue, Pittsburgh, PA 15233 Office: (412) 393-7914 Cell: (412) 651-8844 nanderson@duqlight.com	Electric Transmission 138kV
Duquesne Light Company (N6-CD) 2825 New Beaver Avenue, Pittsburgh, PA 15233 Office: (412) 393-7914 Cell: (412) 651-8844 nanderson@duqlight.com	Electric Distribution
DQE Communications, LLC Shawn Blanner 424 South 27th Street Pittsburgh, PA 15203 Office: (412) 393-1061 sblanner@dqe.com	Telecommunications
Equitrans 317 East Roy Furman HWY, Waynesburg, PA 15370 Kevin Lewis Office: (724) 852-7330 klewis@eqt.com	Natural Gas

Section 53B1	
Facility Owner	**Facility Type**
Pennsylvania American Water 300 Galley Road McMurray, PA 15317 Eric R Beringer Office: (724) 743-3108 Eric.beringer@amwater.com	Water
Peoples Natural Gas Company 1201 Pitt Street Pittsburgh, PA 15221 John Walko Office: (412) 244-4383 Cell: (412) 812-3369 John.Walko@peoples-gas.com	Natural Gas
United States Steel Corporation, Clairton Works Ray Boronyak Engineering Department 400 State Street Clairton, PA 15025 Office: (412) 233-1864 Cell: (412) 389-0899 rboronyak@uss.com	Telecommunications Leachate Waste Coke Oven Gas
Union Railroad Company 900 Thompson Run Road Monroeville, PA 15146 Greg Bykowski Office: (412) 433-7313 Cell: (412) 310-1123 grbykowski@uss.com	Telecommunications
Verizon Verizon Outside Plant Engineer 508 Old Frankstown Rd Monroeville, PA 15146 Jeff Guido Office: (412) 855-1376 jeffrey.d.guido@verizon.com	Telecommunications
West Mifflin Sanitary Sewer Municipal Authority 1302 Lower Bull Run RD West Mifflin, PA 15122 Gary Stetar Office: (412) 466-6070 Ext 227 garys@wmssma.org	Sanitary Sewer Sanitary Pump Station

Pennsylvania Turnpike Commission
Mon/Fayette Expressway, Southern Section Project
Impacted Facility Owners

Section 53B2	
Facility Owner	**Facility Type**
Comcast 1530 Chartiers Ave Pittsburgh, PA 15204 David Schade david_schade@comcast.com (724) 388-1652 Tim Gazda Office: (412) 875-1388 Tim_Gazda@comcast.com	Telecommunications
Duquesne Light Company (N6-CD) 2825 New Beaver Avenue, Pittsburgh, PA 15233 Office: (412) 393-7914 Cell: (412) 651-8844 nanderson@duqlight.com	Electric Transmission 138kV
Duquesne Light Company (N6-CD) 2825 New Beaver Avenue, Pittsburgh, PA 15233 Office: (412) 393-7914 Cell: (412) 651-8844 nanderson@duqlight.com	Electric Distribution
DQE Communications, LLC Shawn Blanner 424 South 27th Street Pittsburgh, PA 15203 Office: (412) 393-1061 sblanner@dqe.com	Telecommunications
Energy Transfer (Sunoco) 525 Fritztown Road Sinking Spring, PA 19608 Ronald Furman Office: (610) 670-3289 ronald.furman@energytransfer.com	Natural Gas (Inactive)
Pennsylvania American Water 300 Galley Road McMurray, PA 15317 Eric R Beringer Office: (724) 743-3108 Eric.beringer@amwater.com	Water

Section 53B2	
Facility Owner	**Facility Type**
Peoples Natural Gas Company 1201 Pitt Street Pittsburgh, PA 15221 John Walko Office: (412) 244-4383 Cell: (412) 812-3369 John.Walko@peoples-gas.com	Natural Gas
Verizon Verizon Outside Plant Engineer 508 Old Frankstown Rd Monroeville, PA 15146 Jeff Guido Office: (412) 855-1376 jeffrey.d.guido@verizon.com	Telecommunications
West Mifflin Sanitary Sewer Municipal Authority 1302 Lower Bull Run RD West Mifflin, PA 15122 Gary Stetar Office: (412) 466-6070 Ext 227 garys@wmssma.org	Sanitary Sewer

Pennsylvania Turnpike Commission
Mon/Fayette Expressway, Southern Section Project
Impacted Facility Owners

Section 53C1	
Facility Owner	**Facility Type**
Duquesne Light Company (N6-CD) 2825 New Beaver Avenue, Pittsburgh, PA 15233 Office: (412) 393-7914 Cell: (412) 651-8844 nanderson@duqlight.com	Electric Transmission 138kV
Duquesne Light Company (N6-CD) 2825 New Beaver Avenue, Pittsburgh, PA 15233 Office: (412) 393-7914 Cell: (412) 651-8844 nanderson@duqlight.com	Electric Distribution
Energy Transfer (Sunoco) 525 Fritztown Road Sinking Spring, PA 19608 Ronald Furman Office: (610) 670-3289 ronald.furman@energytransfer.com	Natural Gas (Inactive)
Peoples Natural Gas Company 1201 Pitt Street Pittsburgh, PA 15221 John Walko Office: (412) 244-4383 Cell: (412) 812-3369 John.Walko@peoples-gas.com	Natural Gas
United States Steel Corporation, Clairton Works Ray Boronyak Engineering Department 400 State Street Clairton, PA 15025 Office: (412) 233-1864 Cell: (412) 389-0899 rboronyak@uss.com	Electric Transmission 69kV

Pennsylvania Turnpike Commission
Mon/Fayette Expressway, Southern Section Project
Impacted Facility Owners

Section 53C2	
Facility Owner	**Facility Type**
Comcast 1530 Chartiers Ave Pittsburgh, PA 15204 David Schade david_schade@comcast.com (724) 388-1652 Tim Gazda Office: (412) 875-1388 Tim_Gazda@comcast.com	Telecommunications
Duquesne Light Company (N6-CD) 2825 New Beaver Avenue, Pittsburgh, PA 15233 Office: (412) 393-7914 Cell: (412) 651-8844 nanderson@duqlight.com	Electric Transmission 138kV
Duquesne Light Company (N6-CD) 2825 New Beaver Avenue, Pittsburgh, PA 15233 Office: (412) 393-7914 Cell: (412) 651-8844 nanderson@duqlight.com	Electric Distribution
DQE Communications, LLC Shawn Blanner 424 South 27th Street Pittsburgh, PA 15203 Office: (412) 393-1061 sblanner@dqe.com	Telecommunications
Pennsylvania American Water 300 Galley Road McMurray, PA 15317 Eric R Beringer Office: (724) 743-3108 Eric.beringer@amwater.com	Water
Peoples Natural Gas Company 1201 Pitt Street Pittsburgh, PA 15221 John Walko Office: (412) 244-4383 Cell: (412) 812-3369 John.Walko@peoples-gas.com	Natural Gas

Section 53C2	
Facility Owner	**Facility Type**
United States Steel Corporation, Clairton Works Ray Boronyak Engineering Department 400 State Street Clairton, PA 15025 Office: (412) 233-1864 Cell: (412) 389-0899 rboronyak@uss.com	Electric Transmission 69kV
Verizon Verizon Outside Plant Engineer 508 Old Frankstown Rd Monroeville, PA 15146 Jeff Guido Office: (412) 855-1376 jeffrey.d.guido@verizon.com	Telecommunications
West Mifflin Sanitary Sewer Municipal Authority 1302 Lower Bull Run RD West Mifflin, PA 15122 Gary Stetar Office: (412) 466-6070 Ext 227 garys@wmssma.org	Sanitary Sewer

Pennsylvania Turnpike Commission
Mon/Fayette Expressway, Southern Section Project
Impacted Facility Owners

Section 53C3	
Facility Owner	**Facility Type**
City of Duquesne 12 South Second Street Duquesne, PA 15110 Mayor Nickole Nesby Office: (412) 466-4746 nnesby@duquesnepa.us	Water
Comcast 1530 Chartiers Ave Pittsburgh, PA 15204 David Schade david_schade@comcast.com (724) 388-1652 Tim Gazda Office: (412) 875-1388 Tim_Gazda@comcast.com	Telecommunications
Duquesne Light Company (N6-CD) 2825 New Beaver Avenue, Pittsburgh, PA 15233 Office: (412) 393-7914 Cell: (412) 651-8844 nanderson@duqlight.com	Electric Transmission 138kV
Duquesne Light Company (N6-CD) 2825 New Beaver Avenue, Pittsburgh, PA 15233 Office: (412) 393-7914 Cell: (412) 651-8844 nanderson@duqlight.com	Electric Distribution
DQE Communications, LLC Shawn Blanner 424 South 27th Street Pittsburgh, PA 15203 Office: (412) 393-1061 sblanner@dqe.com	Telecommunications
Energy Transfer (Sunoco) 525 Fritztown Road Sinking Spring, PA 19608 Ronald Furman Office: (610) 670-3289 ronald.furman@energytransfer.com	Natural Gas (Inactive)

Section 53C3	
Facility Owner	**Facility Type**
Pennsylvania American Water 300 Galley Road McMurray, PA 15317 Eric R Beringer Office: (724) 743-3108 Eric.beringer@amwater.com	Sanitary Sewer
Peoples Natural Gas Company 1201 Pitt Street Pittsburgh, PA 15221 John Walko Office: (412) 244-4383 Cell: (412) 812-3369 John.Walko@peoples-gas.com	Natural Gas
United States Steel Corporation, Clairton Works Ray Boronyak Engineering Department 400 State Street Clairton, PA 15025 Office: (412) 233-1864 Cell: (412) 389-0899 rboronyak@uss.com	Telecommunications Coke Oven Gas
Union Railroad Company 900 Thompson Run Road Monroeville, PA 15146 Greg Bykowski Office: (412) 433-7313 Cell: (412) 310-1123 grbykowski@uss.com	Electric Telecommunications Oxygen Pneymatic Tube RR Tracks, Scale & Signal Maintenance Building
Verizon Verizon Outside Plant Engineer 508 Old Frankstown Rd Monroeville, PA 15146 Jeff Guido Office: (412) 855-1376 jeffrey.d.guido@verizon.com	Telecommunications

APPENDIX C - AGENCY CORRESPONDENCE

Schreffler, Angela M.

From: Sechler, Frederick <c-frsechle@pa.gov>
Sent: Tuesday, March 01, 2016 9:37 AM
To: Schreffler, Angela M.
Subject: PNDI # 022513: Mon/Fayette PA 51 to I-376 Project in Allegheny County
Attachments: 022513_Allegheny_Survey_CM_FCS_letter.pdf

Angela,

Please find attached the PNDI survey request letter for the PTC project in Allegheny County. There is only one T & E plant species in the vicinity of the new PTC construction. The one plant in close proximity is *Comassia scilloides* (wild hyacinth), which is located close to the very southern portion of the proposed project, near Peters Creek. I also included a voluntary botanical survey request for *Crataegus pennsylvanica* (red-fruited hawthorn), which is not currently listed, but is a G3Q plant species which occurs in disturbed areas in and around Pittsburgh area. I just included this species to be aware of the possibility of encountering this species during wetland delineations, or other field observations. A botanical survey is not required.

Thank you, and feel free to contact me with any questions or concerns.

Best,

Frederick

Frederick C. Sechler Jr| Ecological Information Specialist
PA Department of Conservation & Natural Resources
Bureau of Forestry | Natural Heritage Section
400 Market Street | Harrisburg, PA 17105
Phone: 717.705.2819 | Fax: 717.772.0271
E-mail: c-frsechle@pa.gov

pennsylvania
DEPARTMENT OF CONSERVATION
AND NATURAL RESOURCES

BUREAU OF FORESTRY

March 1, 2016 **PNDI Large Project Number: 022513**

Angela M. Schreffler
McCormick Taylor, Inc.
5 Capital Drive, Suite 400
Harrisburg, PA 17110
Email: amschreffler@mccormicktaylor.com (hard copy not to follow)

Re: Mon/Fayette PA 51 to I-376 Project
Multiple Municipalities, Allegheny County, PA

Dear Ms. Schreffler,

Thank you for the submission of the Pennsylvania Natural Diversity Inventory (PNDI) Environmental Review Large Project Number **022513** for review. PA Department of Conservation and Natural Resources screened this project for potential impacts to species and resources of concern under DCNR's responsibility, which includes plants, terrestrial invertebrates, natural communities, and geologic features only.

Potential Impact Anticipated

PNDI records indicate species or resources of concern are located in the project vicinity. Based on a detailed PNDI review, DCNR determined potential impacts to the following threatened or endangered species or species of special concern. Please note our new survey protocols are available at http://www.gis.dcnr.state.pa.us/hgis-er/Login.aspx.

Scientific Name	Common Name	PA Current Status	PA Proposed Status
Camassia scilloides	Wild hyacinth	Threatened	Endangered

Survey Request
DCNR requests a **botanical survey** for the following species:

- ***Camassia scilloides* (wild hyacinth)–**habitat is moist woods–locally documented in a second growth shrubby woodland adjacent to a pond close to Peters Creek–flowers in April-May–**Please conduct botanical survey in extreme southern part of the proposed project area north of Peters Creek**–

DCNR requests a voluntary botanical survey for the following species:

- ***Crataegus pennsylvanica* (red-fruited hawthorn)–(Not listed, Undetermined proposed listing)–**habitat is open woods, fields, roadsides, and streambanks–locally documented on an open grassy meadow that is gently sloped to parking lot for convenience store–flowers in April–May, fruits in August–September–**Please record this plant species if observed during wetland delineations or other field observations in and around the Monongahela River**–

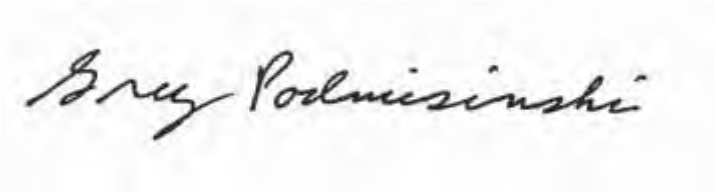
- A survey for the above species should be conducted by a qualified botanist *at the appropriate time of year and then submitted to our office for review*. **Your botanist should carefully review the new DCNR Botanical Survey Protocols available at http://www.gis.dcnr.state.pa.us/hgis-er/Login.aspx. These protocols are recommended to ensure that the all necessary information is collected and that survey reports are prepared properly. It is the expectation of DCNR that these protocols will be followed when conducting surveys for species under our jurisdiction.**
- Your botanist should *fill out the field survey form while performing their survey*: http://www.gis.dcnr.state.pa.us/hgis-er/hgis/Internet%20Field%20Survey%20Form_2007.pdf. Contact our office prior to the survey for detailed information about the species, or for a list of qualified surveyors.
- **Any target and non-target state-listed species found during the site visit should be reported to our office.** Mitigation measures and monitoring may be requested if species or communities of special concern are found on or adjacent to site.
- If more information becomes available and/or a habitat assessment is conducted, and potential suitable habitat for the above species is not present in the project site or will not be impacted, then contact me at c-frsechle@pa.gov or 717-705-2819 and I can reissue a no impact letter.

- If the land type(s) does not exist onsite a survey may not be necessary; please submit a habitat assessment report which describes the current land cover, habitat types and species found onsite.

This response represents the most up-to-date review of the PNDI data files and is valid for two (2) years only. If project plans change or more information on listed or proposed species becomes available, our determination may be reconsidered. Should the proposed work continue beyond the period covered by this letter, please resubmit the project to this agency as an "Update" (including an updated PNDI receipt, project narrative and accurate map). As a reminder, this finding applies to potential impacts under DCNR's jurisdiction only. Visit the PNHP website for directions on contacting the Commonwealth's other resource agencies for environmental review.

Should you have any questions or concerns, please contact Frederick Sechler, Jr., Ecological Information Specialist, by phone (717-705-2819) or via email (c-frsechle@pa.gov).

Sincerely,



Greg Podniesinski, Section Chief
Natural Heritage Section, DCNR Bureau of Forestry

Pennsylvania Fish & Boat Commission
established 1866

Division of Environmental Services
Natural Diversity Section
450 Robinson Lane
Bellefonte, PA 16823
814-359-5237

March 17, 2016

IN REPLY REFER TO
SIR# 45628

McCormick Taylor, Inc.
Angela Schreffler
5 Capital Drive, Suite 400
Harrisburg, Pennsylvania 17110

RE: Species Impact Review (SIR) – Rare, Candidate, Threatened and Endangered Species
PNDI Search No.
Mon/Fayette Transportation Project - Construction of four-lane, limited-access, tolled expressway
ALLEGHENY County: Duquesne City, East Pittsburgh Borough, Monroeville Municipality, North Versailles Township, Turtle Creek Borough, Wilkins Township

Dear Angela Schreffler:

This responds to your inquiry about a Pennsylvania Natural Diversity Inventory (PNDI) Internet Database search "potential conflict" or a threatened and endangered species impact review. These projects are screened for potential conflicts with rare, candidate, threatened or endangered species under Pennsylvania Fish & Boat Commission jurisdiction (PFBC) (fish, reptiles, amphibians, aquatic invertebrates only) using the Pennsylvania Natural Diversity Inventory (PNDI) database and our own files. These species of special concern are listed under the Endangered Species Act of 1973, the Wild Resource Conservation Act, and the Pennsylvania Fish & Boat Code (Chapter 75), or the Wildlife Code.

Ghost Shiner (*Notropis buchanani*, Endangered)
Warmouth (*Chaenobryttus gulosus*, Endangered)
Kirtland's Snake (*Clonophis kirtlandii*, Endangered)
Lilliput (*Toxolasma parvum*, Rare)
Pink Heelsplitter (*Potamilus alatus*, Rare)

Mussels

Rare or protected mussel species are known from the vicinity of the proposed new alignment over the Monongahela River. These mussels and other mussel species are likely to occur within the proposed project area but no recent surveys have been completed in this particular area despite the Monongahela River's improving water quality.

To avoid potential impacts to these mussel species, it is required that you complete a mussel survey in the areas proposed to be directly and indirectly affected by the instream work associated with a new bridge alignment over the Monongahela River. A mussel survey is required in order to determine the species present and their abundances.

A list of qualified malacologists and a PFBC-approved mussel survey protocol is enclosed for your convenience when arranging for a mussel survey. Prior to conducting a survey, qualified malacologist should submit a proposed work plan to this office. Upon completion of the mussel survey, please send a copy of the final report to this office for further evaluation. We look forward to receiving this information. A mussel survey by the PFBC staff may be arranged by contacting Nevin Welte (c-nwelte@pa.gov, 412-586-2334).

The mussel survey season begins May 1 and concludes October 1.

Kirtland's Snake

Kirtland's Snake is a small, elusive snake known to inhabit damp habitats such as marsh edges, wet fields and pastures, along creeks, canals, ponds, and ditches. Across their range, they are known to exist in small populations and in less-than-desirable (e.g., disturbed) habitats, such as junk yards, disturbed wetlands and waterways. Based on the review of this information and the proximity of the project to known historical occurrences of this species, potential habitat could be present within the proposed disturbance area, particularly from the Monongahela River north to the project's terminus with I-376.

We require completion of a detailed habitat assessment and presence-absence survey to determine whether the snake or its habitat exists within the vicinity of the proposed disturbance area for the new road alignment. A qualified biologist, who possesses a valid PFBC Scientific Collector's Permit, must complete this habitat assessment and presence-absence survey. PFBC currently does not maintain an official list of qualified surveyors for this species; however, the following biologists are experienced with the species and their habitats in Ohio and other western states and are therefore recognized as qualified by PFBC to conduct this assessment:

Douglas Wynn
241 Chase Street Apt. A3L
Russells Point, OH 43348
(614) 306-0313
sistrurus@aol.com

Brandon Ruhe
Ecological Associates
PO Box 620
Oley, PA 19547
(610) 462-8530
bruhe@machac.org

All areas of potential habitat should be carefully mapped and examined for the presence of Kirtland's Snake. Upon completion of the habitat assessment and presence-absence, please send a copy of the final report to this office for further evaluation. We look forward to receiving this information.

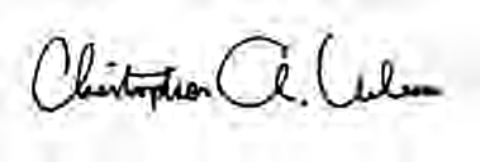
Fish

Potential impacts to the above-referenced fish species will be considered upon completion of the mussel survey. Other information, such as bathymetric mapping and extent of the proposed instream disturbances associated with the proposed new bridge alignment will be beneficial towards determining the extent, if any, impacts are anticipated to affect fish species protected under our jurisdiction.

This response represents the most up-to-date summary of the PNDI data and our files and is valid for two (2) years from the date of this letter. An absence of recorded species information does not necessarily imply species absence. Our data files and the PNDI system are continuously being updated with species occurrence information. Should project plans change or additional information on listed or proposed species become available, this determination may be reconsidered, and consultation shall be re-initiated.

If you have any questions regarding this review, please contact Nevin Welte at 412-586-2334 and refer to the SIR # 45628. Thank you for your cooperation and attention to this important matter of species conservation and habitat protection.

Sincerely,



Christopher A. Urban, Chief
Natural Diversity Section

CAU/NTW/dn

COMMONWEALTH OF PENNSYLVANIA
Pennsylvania Game Commission

2001 ELMERTON AVENUE
HARRISBURG, PA 17110-9797

"To manage all wild birds, mammals and their habitats for current and future generations."

ADMINISTRATIVE BUREAUS:

ADMINISTRATION.....717-787-5670
HUMAN RESOURCES.....717-787-7836
FISCAL MANAGEMENT.....717-787-7314
CONTRACTS AND PROCUREMENT.....717-787-6594
LICENSING.....717-787-2084
OFFICE SERVICES.....717-787-2116
WILDLIFE MANAGEMENT.....717-787-5529
INFORMATION & EDUCATION.....717-787-6286
WILDLIFE PROTECTION.....717-783-6526
WILDLIFE HABITAT MANAGEMENT.....717-787-6818
REAL ESTATE DIVISION.....717-787-6568
AUTOMATED TECHNOLOGY SERVICES.....717-787-4076

www.pgc.state.pa.us

Division of Environmental Planning and Habitat Protection
717-783-5957

March 17, 2016 PNDI Large Project

Ms. Angela Schreffler
McCormick Taylor, Inc.
5 Capital Drive
Suite 400
Harrisburg, PA 17110

PNDI Large Project
Re: Pennsylvania Turnpike Commission
Mon/Fayette Transportation Project, PA Route 51 to I-376
Jefferson Hills Borough, West Mifflin Borough, Dravosburg Borough, City of Duquesne, East Pittsburgh Borough, North Versailles Township, Turtle Creek Borough, Wilkins Township, and Monroeville Borough, Allegheny County, PA

Dear Ms. Schreffler,

Thank you for submitting the Mon/Fayette Transportation Project, PA Route 51 to I-376 project to the Pennsylvania Natural Diversity Inventory (PNDI) for review. The Pennsylvania Game Commission (PGC) screened this project for potential impacts to species and resources of concern under PGC responsibility, which includes birds and mammals only.

Potential Impact Anticipated

PNDI records indicate species or resources of concern are located in the vicinity of the project. The PGC has received and thoroughly reviewed the information that you provided to this office as well as PNDI data, and has determined that potential impacts to threatened, endangered, and species of special concern birds and mammals may be associated with your project. Therefore, additional measures are necessary to avoid potential impacts to the species listed below.

Scientific Name	Common Name	PA Status	Federal Status
Myotis sodalis	Indiana Bat	ENDANGRED	ENDANGERED
Myotis septentrionalis	Northern Long-eared Bat	THREATENED	THREATENED
Falco peregrinus	Peregrine Falcon	ENDANGERED	N/A
Pandion haliaetus	Osprey	THREATENED	N/A
N/A	Winter Bat Colony	SPECIAL CONCERN	

Next Steps

- Indiana bats are a federally listed endangered species under the jurisdiction of the U.S. Fish and Wildlife Service. As a result, our agency defers comments on potential impacts to Indiana bats to the U.S. Fish and Wildlife Service.

- Northern long-eared bats are a federally listed threatened species under the jurisdiction of the U.S. Fish and Wildlife Service. As a result, our agency defers comments on potential impacts to northern long-eared bats to the U.S. Fish and Wildlife Service.

- Peregrine falcons have been documented nesting on George Westinghouse Memorial Bridge (U.S. Route 30). In order to avoid impacts to nesting falcons, all work within 1000 feet of the nest location shall be conducted between August 1st and February 14th, outside nesting season. Further coordination with the PGC is necessary for any activities planned between February 15th and July 31st that are located within 1000 feet of the peregrine falcon nest.

- Osprey have been documented nesting along the southern bank of the Monongahela River in the area between the Port Perry Bridge and where the Mon/Fayette PA Route 51 to I-376 project is proposed to cross the Monongahela River. In order to avoid impacts to nesting osprey, no work is to occur within 800 feet of any osprey nest during nesting season (March 25th through July 31st). Further coordination with the PGC is necessary for any activities planned between March 25th and July 31st that are located within 800 feet of any osprey nest.

- Winter Bat Colonies
  - A 2003 bat hibernacula survey conducted on and within 500 feet of the project limits identified 35 potential bat hibernacula. Of the 35 potential bat hibernacula, 8 sites were trapped of which two sites documented bat use. In additional to the 8 sites that were trapped, another 6 potential hibernacula sites had acoustic surveys conducted at them, of which none documented bat activity.
  - Given that bat hibernacula can be impacts from project activities up to ¼ mile and the fact that the previous survey was conducted over 10 years ago, a bat hibernacula assessment should be conducted on and within ¼ mile of the currently proposed project limits.
  - Please note that a PGC permit will be needed to conduct trapping surveys at any potential bat hibernacula sites. Bat hibernacula survey results should be submitted to the PGC no later than December 31st of the year they were conducted.
  - In addition to the bat hibernacula assessment and if warranted trapping surveys, the PGC needs the following information to make determinations regarding potential impacts to bat hibernacula:
    - Location and details of all surface impacts to occur on each of the proposed alignments within 1000 feet of any bat hibernacula.
    - Location and details of all blasting to occur on each of the proposed alignments within ¼ mile of each bat hibernacula.

- In addition to the above, the PGC requests an alternative comparison matrix of all proposed alignments that includes the amount of impacts to resources and their associated habitats for the species under the PGC's jurisdiction listed above. This information is necessary so that a more accurate determination can be made regarding impacts to species and resources under the PGC's jurisdiction. The matrix should include, but not be limited to, the following information for each of the proposed alignments:
  - Amount and location of proposed impacts to wetlands, including the amount of each type of wetland to be impacted.
  - Amount and location of proposed impacts to other aquatic resources (streams, rivers, creeks, tributaries, etc.) impacts, as well as total amount of loss of each.
  - Total acres of impacts of forested habitat including location of, species composition, size (dbh), and age of trees to be impacted. Include the amount of contiguous forested habitat to be fragmented by each of the proposed alignments.
  - Total acres of impacts to threatened and endangered species habitat.
  - Impacts to wildlife migration corridors associated with each alignment. Including information regarding any proposed wildlife crossings associated with each alignment as well as how the location of each proposed wildlife crossings were determined.

- The PGC recommends the following are incorporated into the design of the project:
  - Habitat removal and/or disturbance within 1,000 feet of all identified bat hibernacula be avoided and minimized to the greatest extent possible.
  - Tree removal within the project area be avoided and minimized to the greatest extent possible.
  - Fragmentation of the large continuous forest blocks found within the project area be avoided and minimized to the greatest extent possible.
  - Adverse impacts to wetlands and other aquatic resources be avoided and minimized to the greatest extent possible and where possible, riparian buffers of at least 50 feet are maintained.
  - The overall footprint of the project be minimized to the greatest extent possible to avoid any unnecessary impacts.

This response represents the most up-to-date summary of the PNDI data files and is valid for two (2) years from the date of this letter. An absence of recorded information does not necessarily imply actual conditions on site. Should project plans change or additional information on listed or proposed species become available, this determination may be reconsidered.

Should the proposed work continue beyond the period covered by this letter, please resubmit the project to this agency as an "Update" (including an updated PNDI receipt, project narrative and accurate map). If the proposed work has not changed and no additional information concerning listed species is found, the project will be cleared for PNDI requirements under this agency for two additional years.

This finding applies to impacts to birds and mammals only. To complete your review of state and federally-listed threatened and endangered species and species of special concern, please be sure that the U.S. Fish and Wildlife Service, the PA Department of Conservation and Natural Resources,

and/or the PA Fish and Boat Commission have been contacted regarding this project as directed by the online PNDI ER Tool found at www.naturalheritage.state.pa.us.

Sincerely,

Tracey Librandi Mumma

Tracey Librandi Mumma
Division of Environmental Planning & Habitat Protection
Bureau of Wildlife Habitat Management
Phone: 717-787-4250, Extension 3614
Fax: 717-787-6957
E-mail:tlibrandi@pa.gov

A PNHP Partner

TLM/tlm

cc: Brian Scofield, U.S. Fish & Wildlife Service
Laroche
Brauning
Turner
Gross
Barber
McMorris
W. Anderson
Trusso
Dunkerley
File

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Pennsylvania Field Office
110 Radnor Road, Suite 101
State College, Pennsylvania 16801-4850

March 1, 2016

Diane Nulton
McCormick Taylor
5 Capital Drive, Suite 400
Harrisburg, PA 17110

RE: USFWS Project #2009-1187 (previously 2006-1929)
PNDI Large Project

Dear Ms. Nulton:

Thank you for your letter of February 24, 2016, which requests updated information about federally listed and proposed, endangered and threatened species within the area affected by the proposed Mon/Fayette Expressway, PA Route 51 to I-376, project located in Allegheny County, Pennsylvania. The following comments are provided pursuant to the Endangered Species Act of 1973 (ESA, 87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.) and the Migratory Bird Treaty Act (MBTA, 16 U.S.C. 703-712; Ch. 128; July 13, 1918; 40 Stat. 755, as amended).

Federally Listed Species

Indiana bat

The project area is within the range of the federally endangered Indiana bat (*Myotis sodalis*). Indiana bats hibernate in caves and abandoned mines during the winter months (November through March), and use a variety of forested upland and wetland habitats during the spring, summer, and fall. Indiana bats usually roost in dead or living trees with exfoliating bark, crevices or cavities. Female Indiana bats form nursery colonies under the exfoliating bark of dead or living trees, such as shagbark hickory, black birch, red oak, white oak, and sugar maple, in upland or riparian areas. More information on this species can be found at: http://www.fws.gov/MIDWEST/endangered/mammals/inba/index.html

Northern long-eared bat

The project is within the known range of the northern long-eared bat (*Myotis septentrionalis*), a species that is federally listed as threatened. Northern long-eared bats hibernate in caves and abandoned mines during the winter months, and use a variety of forested upland and wetland habitats during the spring, summer, and fall. More information on this species can be found at: http://www.fws.gov/midwest/endangered/mammals/nlba/index.html

Migratory Birds

The Service is the principal Federal agency charged with protecting and enhancing populations and habitat of migratory bird species. The MBTA prohibits the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests, except when specifically authorized by the Department of the Interior. While the MBTA has no provision for authorizing incidental take, the Service recognizes that some birds may be killed even if all reasonable measures to avoid take are implemented.

The potential exists for avian mortality if there is habitat destruction and alteration within the project boundaries. Site-specific factors that should be considered in project siting to avoid and minimize the risk to birds include avian abundance; the quality, quantity and type of habitat; geographic location; type and extent of bird use (e.g. breeding, foraging, migrating, etc.); and landscape features. Please review the enclosed information for general recommendations for avoiding and minimizing impacts to migratory birds within and around the project area. Please be aware that since these are general guidelines, some of them may not be applicable to the current project design or they may have already been included in the project design.

To avoid potential delays in reviewing your project, please use the above-referenced USFWS project tracking number in any future correspondence regarding this project.

Please contact Brian Scofield of my staff at 814-234-4090 if you have any questions or require further assistance regarding this matter.

Sincerely,

Lora L. Zimmerman
Field Office Supervisor

Enclosures

Adaptive Management Practices for Conserving Migratory Birds

The Fish and Wildlife Service is the principal Federal agency charged with protecting and enhancing populations and habitat of migratory bird species. The Migratory Bird Treaty Act (MBTA, 16 U.S.C. 703-712; Ch. 128; July 13, 1918; 40 Stat. 755, as amended) prohibits the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests, except when specifically authorized by the Department of the Interior. While the MBTA has no provision for authorizing incidental take, the Service recognizes that some birds may be killed even if all reasonable measures to avoid take are implemented. Unless the take is authorized, it is not possible to absolve individuals, companies or agencies from liability (even if they implement avian mortality avoidance or similar conservation measures). However, the Office of Law Enforcement focuses on those individuals, companies, or agencies that take migratory birds with disregard for their actions and the law.

The potential exists for avian mortality from habitat destruction and alteration within the project boundaries. Site-specific factors that should be considered in project siting to avoid and minimize the risk to birds include avian abundance; the quality, quantity and type of habitat; geographic location; type and extent of bird use (*e.g.* breeding, foraging, migrating, etc.); and landscape features.

We offer the following recommendations to avoid and minimize impacts to migratory birds within and around the project area:

1. Where disturbance is necessary, clear natural or semi-natural habitats (*e.g.*, forests, woodlots, reverting fields, shrubby areas) and perform maintenance activities (*e.g.*, mowing) between September 1 and March 31, which is outside the nesting season for most native bird species. Without undertaking specific analysis of breeding species and their respective nesting seasons on the project site, implementation of this seasonal restriction will avoid take of most breeding birds, their nests, and their young (*i.e.*, eggs, hatchlings, fledglings).

2. Minimize land and vegetation disturbance during project design and construction. To reduce habitat fragmentation, co-locate roads, fences, lay down areas, staging areas, and other infrastructure in or immediately adjacent to already-disturbed areas (*e.g.*, existing roads, pipelines, agricultural fields) and cluster development features (*e.g.*, buildings, roads) as opposed to distributing them throughout land parcels. Where this is not possible, minimize roads, fences, and other infrastructure.

3. Avoid permanent habitat alterations in areas where birds are highly concentrated. Examples of high concentration areas for birds are wetlands, State or Federal refuges, Audubon Important Bird Areas, private duck clubs, staging areas, rookeries, leks, roosts, and riparian areas. Avoid establishing sizable structures along known bird migration pathways or known daily movement flyways (*e.g.*, between roosting and feeding areas).

4. To conserve area-sensitive species, avoid fragmenting large, contiguous tracts of wildlife habitat, especially if habitat cannot be fully restored after construction. Maintain

contiguous habitat corridors to facilitate wildlife dispersal. Where practicable, concentrate construction activities, infrastructure, and man-made structures (*e.g.*, buildings, cell towers, roads, parking lots) on lands already altered or cultivated, and away from areas of intact and healthy native habitats. If not feasible, select fragmented or degraded habitats over relatively intact areas.

5. Develop a habitat restoration plan for the proposed site that avoids or minimizes negative impacts to birds, and that creates functional habitat for a variety of bird species. Use only plant species that are native to the local area for revegetation of the project area.

If you have any questions regarding these measures, please contact Lora Zimmerman of the Pennsylvania Field Office located in State College, PA at 814-234-4090.

Schreffler, Angela M.

From: Scofield, Brian <brian_scofield@fws.gov>
Sent: Tuesday, March 07, 2017 9:39 AM
To: Schreffler, Angela M.
Subject: Mon/Fayette PA Route 51 to I-376 (FWS #2009-1187)

Hi Angela,

Due to proposed forest clearing associated with construction of the project, bat hibernacula surveys were conducted to determine if Indiana bat and northern long-eared were utilizing hibernacula within the project area. According to the survey report, 15 openings were found to possess the qualities and characteristics of a bat hibernacula as described by the PGC's 2012 Hibernacula Assessment Protocol within the project area. The 15 potential hibernacula were further assessed by netting and/or trapping from September 30th to October 20th, 2016, in accordance with PGC's protocol. During these surveys, one tricolored bat (*Perimyotis subflavus*) was trapped. Based on these hibernacula survey results, we have concluded that Indiana bats and northern long-eared bats are either not using the 15 potential hibernacula, or are present in such low densities that they were not detected.

-Brian

Brian Scofield
U.S. Fish & Wildlife Service
Pennsylvania Field Office
110 Radnor Rd; Suite 101
State College, PA 16801
814-234-4090 x7471

COMMONWEALTH OF PENNSYLVANIA
PENNSYLVANIA GAME COMMISSION
2001 Elmerton Avenue
Harrisburg, PA 17110-9797
Wildlife Habitat Management
717-787-6818

February 23, 2017

Ms. Angela Schreffler
McCormick Taylor, Inc.
5 Capital Drive
Suite 400
Harrisburg, PA 17110

PNDI Large Project
Re: Pennsylvania Turnpike Commission
Mon/Fayette Transportation Project, PA Route 51 to I-376
Jefferson Hills Borough, West Mifflin Borough, Dravosburg Borough, City of Duquesne, East Pittsburgh Borough, North Versailles Township, Turtle Creek Borough, Wilkins Township, and Monroeville Borough, Allegheny County, PA

Dear Ms. Schreffler,

Thank you for submitting the Mon/Fayette Transportation Project, PA Route 51 to I-376 project to the Pennsylvania Natural Diversity Inventory (PNDI) for review. The Pennsylvania Game Commission (PGC) screened this project for potential impacts to species and resources of concern under PGC responsibility, which includes birds and mammals only.

Potential Impact Anticipated

PNDI records indicate species or resources of concern are located in the vicinity of the project. The PGC has received and thoroughly reviewed the information that you provided to this office on February 9, 2017, as well as PNDI data, and has determined that potential impacts to threatened, endangered, and species of special concern birds and mammals may be associated with your project. Therefore, additional measures are necessary to avoid potential impacts to the species listed below.

Scientific Name	Common Name	PA Status	Federal Status
Myotis sodalis	Indiana Bat	ENDANGRED	ENDANGERED
Myotis septentrionalis	Northern Long-eared Bat	THREATENED	THREATENED
Falco peregrinus	Peregrine Falcon	ENDANGERED	N/A
N/A	Winter Bat Colony	SPECIAL CONCERN	

Next Steps

- The PGC's previous PNDI response letter, dated March 17, 2016, indicated that osprey were located in the vicinity of the project. Osprey are still located in the vicinity of the project area, however the species status has changed since the March 2016 letter in that osprey are no longer a listed species in Pennsylvania. Therefore, no further coordination with the PGC is necessary regarding this species.

- Indiana bats and northern long-eared bats are both federally listed species under the jurisdiction of the U.S. Fish and Wildlife Service. As a result, our agency defers comments on potential impacts to Indiana and northern long-eared bats to the U.S. Fish and Wildlife Service.

- Peregrine falcons continue to be documented nesting on George Westinghouse Memorial Bridge (U.S. Route 30). In order to avoid impacts to nesting falcons, all work within 1000 feet of the nest location shall be conducted between August 1st and February 14th, outside nesting season. Further coordination with the PGC is necessary for any activities planned between February 15th and July 31st that are located within 1000 feet of the peregrine falcon nest.

- Winter Bat Colonies: Bat hibernacula surveys were conducted in 2016. Thirty-seven openings were identified within 1000 feet of both edges of proposed pavement. Of the 37 identified openings, 15 openings were found to warrant further investigation as they had the characteristics of potential bat hibernacula. The 15 opening warranting further investigation were surveyed following PGC protocols and only one opening (2003 B3) documented bat use. No federal or state listed species were documented at this hibernaculum via trapping or acoustic surveys. In order to avoid and minimize impacts to this hibernaculum to the greatest extent practicable, the following measure should be implemented:
    - Tree removal within 1000 feet of the hibernaculum shall be avoided to the greatest extent possible. If trees or dead snags greater than 5 inches in diameter at breast height must be removal within 1000 feet of the hibernaculum to facilitate the project, they shall be removed between November 15 and March 31.
    - No blasting shall occur within 1000 feet of the hibernaculum.
    - If any of the above measures cannot be implemented, then further coordination with the PGC is necessary.

- Included in the February 9, 2017 letter was information regarding estimated impacts to species and resources under the PGC's jurisdiction. The PGC requests that as project development continues, changes in estimated impacts be provided to the PGC.

- The PGC continues to recommend that the following measures be incorporated into the design of the project:
    - Habitat removal and/or disturbance within 1,000 feet of all identified bat hibernacula be avoided and minimized to the greatest extent possible.
    - Tree removal be avoided and minimized to the greatest extent possible throughout the project area.

- Fragmentation of the large continuous forest blocks found within the project area be avoided and minimized to the greatest extent possible.
- Adverse impacts to wetlands and other aquatic resources be avoided and minimized to the greatest extent possible and where possible, riparian buffers of at least 50 feet are maintained.
- The overall footprint of the project be minimized to the greatest extent possible to avoid any unnecessary impacts.

This response represents the most up-to-date summary of the PNDI data files and is valid for two (2) years from the date of this letter. An absence of recorded information does not necessarily imply actual conditions on site. Should project plans change or additional information on listed or proposed species become available, this determination may be reconsidered.

Should the proposed work continue beyond the period covered by this letter, please resubmit the project to this agency as an "Update" (including an updated PNDI receipt, project narrative and accurate map). If the proposed work has not changed and no additional information concerning listed species is found, the project will be cleared for PNDI requirements under this agency for two additional years.

This finding applies to impacts to birds and mammals only. To complete your review of state and federally-listed threatened and endangered species and species of special concern, please be sure that the U.S. Fish and Wildlife Service, the PA Department of Conservation and Natural Resources, and/or the PA Fish and Boat Commission have been contacted regarding this project as directed by the online PNDI ER Tool found at www.naturalheritage.state.pa.us.

Sincerely,

Tracey Librandi Mumma

Tracey Librandi Mumma
Division of Environmental Planning & Habitat Protection
Bureau of Wildlife Habitat Management
Phone: 717-787-4250, Extension 3614
Fax: 717-787-6957
E-mail:tlibrandi@pa.gov

A PNHP Partner

TLM/tlm

cc: William Packer, PA Turnpike Commission

Jon Crum, Federal Highway Administration
Brian Scofield, U.S. Fish & Wildlife Service
Laroche
Brauning
Turner
Gross
Barber
McMorris
W. Anderson
Tomlinson
Trusso

pennsylvania
DEPARTMENT OF CONSERVATION
AND NATURAL RESOURCES

BUREAU OF FORESTRY

February 23, 2017 **PNDI Number: 022513**

Angela M. Schreffler
McCormick Taylor, Inc.
5 Capital Drive, Suite 400
Harrisburg, PA 17110
Email: amschreffler@mccormicktaylor.com (hard copy not to follow)

Re: Mon/Fayette PA 51 to I-376 Project
Multiple Municipalities, Allegheny County, PA

Dear Ms. Schreffler,

Thank you for the submission of the Pennsylvania Natural Diversity Inventory (PNDI) Environmental Review Environmental Review Receipt Number **022513** for review. PA Department of Conservation and Natural Resources screened this project for potential impacts to species and resources of concern under DCNR's responsibility, which includes plants, terrestrial invertebrates, natural communities, and geologic features only.

No Impact Anticipated per botanical survey

PNDI records indicate species or resources under DCNR's jurisdiction are located in the vicinity of the project. McCormick Taylor conducted a botanical survey on April 27, 2016 for *Camassia scilloides* (wild hyacinth) within the proposed project area. No individuals of *C. scilloides* nor suitable habitat was found, and no other PA Threatened and Endangered nor PA plant species of concern were found within the proposed project area. Therefore, based on the information you submitted concerning the nature of the project, the botanical survey results, the immediate location, and our detailed resource information, DCNR has determined that no impact is likely. No further coordination with our agency is needed for this project.

DCNR recommends the following to help prevent the spread of invasive plant species and to encourage the use of native plants:

- Avoid using seed mixes that include invasive plant species if the project requires re-vegetating the area (http://www.ernstseed.com/seed-mixes/). Please also attempt to use weed-free straw or hay mixes when possible. A complete list of all Pennsylvania invasive plant species can be found here: http://www.dcnr.state.pa.us/cs/groups/public/documents/document/dcnr_20026634.pdf.
- The area of disturbance should be minimized to the fullest extent that would allow for this project; this will help to lessen the area of indirect disturbance to adjacent riparian areas.

This response represents the most up-to-date review of the PNDI data files and is valid for two (2) years only. If project plans change or more information on listed or proposed species becomes available, our determination may be reconsidered. Should the proposed work continue beyond the period covered by this letter, please resubmit the project to this agency as an "Update" (including an updated PNDI receipt, project narrative and accurate map). As a reminder, this finding applies to potential impacts under DCNR's jurisdiction only. Visit the PNHP website for directions on contacting the Commonwealth's other resource agencies for environmental review.

Should you have any questions or concerns, please contact Frederick Sechler, Jr., Ecological Information Specialist, by phone (717-705-2819) or via email (c-frsechle@pa.gov).

Sincerely,

Greg Podniesinski, Section Chief
Natural Heritage Section, DCNR Bureau of Forestry

Pennsylvania Fish & Boat Commission
established 1866

Division of Environmental Services
Natural Diversity Section
595 E Rolling Ridge Dr.
Bellefonte, PA 16823
814-359-5237

March 13, 2018

IN REPLY REFER TO
SIR# 45628

McCormick Taylor, Inc.
Angela Schreffler
5 Capital Drive, Suite 400
Harrisburg, Pennsylvania 17110

RE: Species Impact Review (SIR) – Rare, Candidate, Threatened and Endangered Species
PNDI Search No.
Mon/Fayette Transportation Project - Construction of four-lane, limited-access, tolled expressway
ALLEGHENY County: Duquesne City, East Pittsburgh Borough, Monroeville Municipality, North Versailles Township, Turtle Creek Borough, Wilkins Township

Dear Ms. Schreffler:

The is an ongoing consultation regarding the proposed project and several species of concern **Ghost Shiner (*Notropis buchanani*, Endangered), Warmouth (*Chaenobryttus gulosus*, Endangered) Kirtland's Snake (*Clonophis kirtlandii*, Endangered), Lilliput (*Toxolasma parvum*, Rare), and Pink Heelsplitter (*Potamilus alatus*, Rare).**

Kirtland's Snake

In 2016 and 2017, Mr. Brandon Ruhe and Scott Fiegel conducted – and subsequently revised – a Kirtland's Snake (*Clonophis kirtlandii*) habitat assessment and presence/absence survey along the proposed alignment north of the Monongahela River to the project's terminus with I-376[1].

According to the resulting habitat assessment, Kirtland's Snake habitat was identified in several locations; however, no Kirtland's Snake were found during the presence/inferred absence surveys.

[1] Phase 1 habitat assessment for Kirtland's Snake (*Clonophis kirtlandii*), Mon/Fayette Transportation Project, Allegheny County, East Pittsburgh Borough, Monroeville Municipality, North Versailles Township, Turtle Creek Borough, Wilkins Township, PFBC SIR# 45628. Prepared by Brandon Ruhe and Scott Fiegel. January 25, 2018.

Presence/inferred absence report for Kirtland's Snake (*Clonophis kirtlandii*), Mon/Fayette, PA Route 51 to I-376 Transportation Project, Allegheny County, East Pittsburgh Borough, Monroeville Municipality, North Versailles Township, Turtle Creek Borough, Wilkins Township, PFBC SIR# 45628. Prepared by Brandon Ruhe and Scott Fiegel. January 25, 2018.

Therefore, the proposed expressway corridor is not likely occupied by the Kirtland's Snake. I concur with the results of Mr. Ruhe's and Mr. Fiegel's evaluation; therefore, I do not foresee the proposed project resulting in adverse impacts to the Kirtland's Snake.

Mussels

Rare or protected mussel species are known from the vicinity of the proposed new alignment over the Monongahela River. These mussels and other mussel species are likely to occur within the proposed project area but no recent mussel surveys have been completed in this particular area despite the Monongahela River's improving water quality.

To avoid potential impacts to these mussel species, it is required that you complete a mussel survey in the areas proposed to be directly and indirectly affected by the instream work associated with the new bridge alignment over the Monongahela River. A mussel survey is required in order to determine the species present and their abundance. Per our March 22, 2017 conference call, PFBC concurs that delaying the mussel survey until closer to submittal to the 105/404 permit application is appropriate to ensure data currency (i.e., most up-to-date information is used to complete the review; survey results remain valid for five (5) years following the survey).

A list of qualified malacologists and a PFBC-approved mussel survey protocol is enclosed for your convenience when arranging for a mussel survey. Prior to conducting a survey, the qualified malacologist should submit a proposed work plan to this office for review. Upon completion of the mussel survey, please send a copy of the final report to this office for further evaluation. We look forward to receiving this information.

The mussel survey season begins May 1 and concludes September 30.

Fish

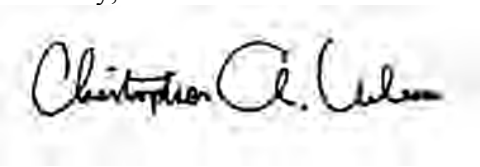
Potential impacts to the above-referenced fish species will be considered upon completion of the mussel survey. Other information, such as bathymetric mapping and extent of the proposed instream disturbances associated with the proposed new bridge alignment will be beneficial towards determining the extent, if any, of the impacts that are anticipated to affect fish species protected under our jurisdiction. As above ("Mussels"), PFBC will delay PNDI resolution of fish concerns pending the completion of the mussel survey closer to the 105/404 permit application.

In summary, the presence-inferred asbsence surveys for the Kirtland's Snake were negative, therefore, no impacts are expected to this species from the proposed project. The PFBC freshwater mussel and fish concerns remain, pending the mussel and fish survey results, which are planned closer to the 105/404 application submittal. This will ensure up-to-date mussel and fish survey information and more detail regarding the final alignment plans of the Mon/Fayette Transportation project.

This response represents the most up-to-date summary of the PNDI data and our files and is valid for two (2) years from the date of this letter. An absence of recorded species information does not necessarily imply species absence. Our data files and the PNDI system are continuously being updated with species occurrence information. Should project plans change or additional information on listed or proposed species become available, this determination may be reconsidered, and consultation shall be re-initiated.

If you have any questions regarding this review, please contact Nevin Welte at 412-586-2334 (c-nwelte@pa.gov) and refer to the SIR # 45628. Thank you for your cooperation and attention to this important matter of species conservation and habitat protection.

Sincerely,



Christopher A. Urban, Chief
Natural Diversity Section

CAU/NTW/dn

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Pennsylvania Field Office
110 Radnor Road, Suite 101
State College, Pennsylvania 16801-4850

May 2, 2019

Angela Schreffler
McCormick Taylor, Inc.
5 Capital Drive, Suite 400
Harrisburg, PA 17110

RE: USFWS Project #2009-1187
PNDI-648522

Dear Ms. Schreffler:

The U.S. Fish and Wildlife Service (Service) received your letter of April 19, 2019, requesting updated information about federally threatened and endangered species within the area of the proposed Mon/Fayette Expressway PA 51 to I-376 (PA 51 to PA 837 section) located in Allegheny County, Pennsylvania. We previously commented on this project in letters dated August 7, 2009, and March 1, 2016. The proposed project is located within the range of the federally endangered Indiana bat (*Myotis sodalis*) and the threatened northern long-eared bat (*Myotis septentrionalis*). The following comments are provided pursuant to the Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq*.; Act) to ensure the protection of federally threatened and endangered species.

Northern long-eared bat

The Service promulgated a Final 4(d) Rule in 2014 establishing measures that were determined to be necessary and advisable for the conservation of the northern long-eared bat. We reviewed your project and determined it is not located within 0.25 mile of a known northern long-eared bat hibernaculum or within 150 feet from a known, occupied maternity roost tree; therefore, any incidental take that may occur is in accordance with the Final 4(d) Rule and is not in violation of the Act. If this project is authorized, funded, and/or permitted by a Federal agency or designated non-Federal representative, consultation under section 7 of the Endangered Species Act is required. The Service completed a nationwide biological opinion that fulfills this requirement, provided the conditions of the Final 4(d) Rule are implemented. The Service created a framework to streamline section 7 consultations when Federal or designated non-Federal representative actions may affect the northern long-eared bat, but do not cause prohibited take. For many projects, you may complete section 7 consultation under the streamlined consultation process by using the Determination Key that is available through our Information for Planning and Consultation (IPaC) website. More information about the framework and instructions for

use of the online Determination Key are available here:
https://www.fws.gov/midwest/endangered/mammals/nleb/s7.html

Indiana bat

Indiana bats use a variety of upland, wetland and riparian habitats during the spring, summer and fall. Indiana bats usually roost in dead or living trees with exfoliating bark, or living or dead trees with crevices or cavities. Female Indiana bats form nursery colonies under the exfoliating bark of dead or living trees, such as shagbark hickory, in upland or riparian areas. However, a variety of tree species such as black birch, red and white oak, and sugar maple are also used.

To determine whether this project will affect any Indiana bat wintering habitats (*i.e.*, hibernacula), the project area was surveyed for cave and mine openings. According to the survey report, 15 potential bat hibernacula were identified. Between September 30, 2016, and October 20, 2016, the potential bat hibernacula were surveyed for bats following approved protocols. During these surveys, one tricolored bat (*Perimyotis subflavus*) was captured. Based on the survey results, Brian Scofield, formerly of our office, concluded that wintering Indiana bats are either absent or are present in such low densities that they were not detected. Therefore, we do not anticipate impacts to hibernating Indiana bats as a result of project construction.

Due to the anticipated impacts of the project to forested habitat, we recommend a summer bat survey of the project area by a Service-approved biologist (list available here: https://www.fws.gov/northeast/pafo/endangered/surveys.html) be conducted to determine presence or absence of summering Indiana bats by following the *2019 Range-wide Indiana Bat Summer Survey Guidelines*, available here: https://www.fws.gov/midwest/endangered/mammals/inba/inbasummersurveyguidance.html Surveys are requested to determine summer use of the area. Survey results will provide valuable information not only for Indiana bats, but for other bat species, including bats of conservation concern. Summer use survey results should be submitted to the Service for review and concurrence.

This response is based on the information submitted to our office and our knowledge of species distribution and habitat needs. No field inspection of the project area has been conducted by this office.

To avoid potential delays in reviewing your project, please use the above-referenced USFWS project tracking number in any future correspondence regarding this project.

Please contact Melinda Turner of my staff at 814-234-4090 if you have any questions or require further assistance.

Sincerely,

Sonja Jahrsdoerfer

Sonja Jahrsdoerfer
Project Leader

Pennsylvania Fish & Boat Commission
established 1866

Division of Environmental Services
Natural Diversity Section
595 E Rolling Ridge Dr.
Bellefonte, PA 16823
814-359-5237

July 18, 2019

IN REPLY REFER TO
SIR# 51134

McCormick Taylor
Garrett Harris
5 Capital Drive
Harrisburg, Pennsylvania 17110

RE: Species Impact Review (SIR) – Rare, Candidate, Threatened and Endangered Species
PNDI Search No. 648522_1
Mon/Fayette Expressway PA 51 to I376 (PA51 to PA 837 Section)
ALLEGHENY County: Clairton City, Dravosburg Borough, Duquesne City, Jefferson, West Mifflin Borough

Dear Garrett Harris:

This responds to your inquiry about a Pennsylvania Natural Diversity Inventory (PNDI) Internet Database search "potential conflict" or a threatened and endangered species impact review. These projects are screened for potential conflicts with rare, candidate, threatened or endangered species under Pennsylvania Fish & Boat Commission jurisdiction (fish, reptiles, amphibians, aquatic invertebrates only) using the Pennsylvania Natural Diversity Inventory (PNDI) database and our own files. These species of special concern are listed under the Endangered Species Act of 1973, the Wild Resource Conservation Act, and the Pennsylvania Fish & Boat Code (Chapter 75), or the Wildlife Code.

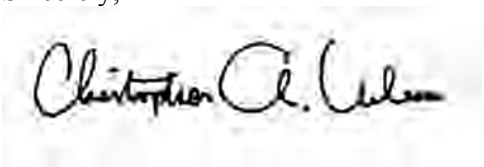
An element occurrence of a rare, candidate, threatened, or endangered species under our jurisdiction is known from the vicinity of the proposed project. However, given the nature of the proposed project, the immediate location, or the current status of the nearby element occurrence(s), no adverse impacts are expected to the species of special concern.

Please note previous PFBC SIR correspondence (SIR 45628) for comments regarding other portions of the proposed Mon/Fayette Expressway.

This response represents the most up-to-date summary of the PNDI data and our files and is valid for two (2) years from the date of this letter. An absence of recorded species information does not necessarily imply species absence. Our data files and the PNDI system are continuously being updated with species occurrence information. Should project plans change or additional information on listed or proposed species become available, this determination may be reconsidered, and consultation shall be re-initiated.

If you have any questions regarding this review, please contact Nevin Welte at 412-586-2334 and refer to the SIR # 51134. Thank you for your cooperation and attention to this important matter of species conservation and habitat protection.

Sincerely,



Christopher A. Urban, Chief
Natural Diversity Section

CAU/NTW/dn

pennsylvania
DEPARTMENT OF CONSERVATION
AND NATURAL RESOURCES

BUREAU OF FORESTRY

April 29, 2019

PNDI Number: 648522
Version: Final_1; 4/19/19

Angela Schreffler
McCormick Taylor
5 Capital Drive, Suite 400
Harrisburg, PA 17110
Email: AMSchreffler@mccormicktaylor.com (hard copy will not follow)

Re: UPDATE- Mon/Fayette Expressway PA 51 to I376 (PA 51 to PA 837 section)
Cities of Clairton and Duquesne; Boroughs of West Mifflin, Dravosburg, and Jefferson Hills
Allegheny County, PA

Dear Angela Schreffler,

Thank you for the submission of the Pennsylvania Natural Diversity Inventory (PNDI) Environmental Review Receipt Number **648522** for review. This project has also been known as 022513. PA Department of Conservation and Natural Resources screened this updated project for potential impacts to species and resources under DCNR's responsibility, which includes plants, terrestrial invertebrates, natural communities, and geologic features only.

Potential Impact Anticipated- Survey Request

PNDI records indicate species or resources under DCNR's jurisdiction are located in the updated project vicinity. At DCNR's request, McCormick Taylor conducted a botanical survey for *Camassia scilloides* (wild hyacinth) in the vicinity of Peters Creek Road on April 27, 2016. Based on negative survey findings, DCNR cleared the project (PNDI Number 022513) in a letter dated February 23, 2017. Additional surveys for *C. scilloides* are not requested for the updated project. However, based on a detailed PNDI review, DCNR determined potential impacts to other species of concern. A survey is requested for the following species:

Scientific Name	Common Name	PA Current Status	PA Proposed Status
Trillium nivale	Snow Trillium	Rare	Threatened

Habitat Information

- ***Trillium nivale* (Snow Trillium):** locally documented on a steep slope in a mature sugar maple ravine with a sparse to moderate shrub layer, associated canopy species include *Acer saccharum, Acer rubrum, Tilia americana, Quercus rubra*; typical suitable habitat found within rocky, wooded slopes, frequently under hemlocks; flowers late February-March.

Survey Guidelines

- A shapefile of the requested survey areas has been provided as an email attachment. DCNR determined these areas based on aerial imagery and the soil and topographic characteristics of documented *Trillium nivale* populations. This is an approximate guideline for the survey and may be adjusted based on field conditions.
- If suitable habitat does not exist on site, a survey may not be necessary. Please submit a habitat assessment report which describes the current land cover, habitat types, and species found on site.
- A botanical survey for the above species should be conducted by a qualified botanist at the appropriate time of year. Please submit the resulting report to our office for review.

- Should you need assistance selecting a botanical consultant, a list of Wild Plant Management Permit holders is available at the address below. DCNR recommends that botanical surveys are conducted by individuals with a Wild Plant Management Permit; however, it is only required if wild plants classified as PA Endangered or Threatened will be removed, collected, or transplanted. https://conservationexplorer.dcnr.pa.gov/content/wild-plant-management-permit-holders
- **Your botanist should carefully review the new DCNR Botanical Survey Protocols** available at https://conservationexplorer.dcnr.pa.gov/content/survey-protocols. These protocols are recommended to ensure that all necessary information is collected and that survey reports are prepared properly. It is the expectation of DCNR that these protocols will be followed when conducting surveys for species under our jurisdiction.
- All target and non-target state-listed species found during the botanical survey should be reported to our office. **Please submit a completed Botanical Field Survey Form for each occurrence or population identified:** http://www.gis.dcnr.state.pa.us/PNDI/2015%20Field%20Survey%20Form.pdf. Mitigation measures and monitoring may be requested if state-listed species are found on or adjacent to the site.

This response represents the most up-to-date review of the PNDI data files and is valid for two (2) years only. If project plans change or more information on listed or proposed species becomes available, our determination may be reconsidered. Should the proposed work continue beyond the period covered by this letter and a permit has not been acquired, please resubmit the project to this agency as an "Update" (including an updated PNDI receipt, project narrative, description of project changes and accurate map). As a reminder, this finding applies to potential impacts under DCNR's jurisdiction only. Visit the PNHP website for directions on contacting the Commonwealth's other resource agencies for environmental review.

Should you have any questions or concerns, please contact Megan Pulver, Ecological Information Specialist, by phone (717-705-2819) or via email (c-mpulver@pa.gov).

Sincerely

Greg Podniesinski, Section Chief
Natural Heritage Section

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Pennsylvania Ecological Services Field Office
110 Radnor Road Suite 101
State College, PA 16801-7987
Phone: (814) 234-4090 Fax: (814) 234-0748
http://www.fws.gov/northeast/pafo/

In Reply Refer To: November 22, 2019
Consultation Code: 05E2PA00-2020-TA-0229
Event Code: 05E2PA00-2020-E-01129
Project Name: Mon/Fayette Expressway PA 51 to I-376 (PA 51 to Duquesne Section)

Subject: Verification letter for the 'Mon/Fayette Expressway PA 51 to I-376 (PA 51 to Duquesne Section)' project under the January 5, 2016, Programmatic Biological Opinion on Final 4(d) Rule for the Northern Long-eared Bat and Activities Excepted from Take Prohibitions.

Dear Angela Schreffler:

The U.S. Fish and Wildlife Service (Service) received on November 21, 2019 your effects determination for the 'Mon/Fayette Expressway PA 51 to I-376 (PA 51 to Duquesne Section)' (the Action) using the northern long-eared bat (*Myotis septentrionalis*) key within the Information for Planning and Consultation (IPaC) system. This IPaC key assists users in determining whether a Federal action is consistent with the activities analyzed in the Service's January 5, 2016, Programmatic Biological Opinion (PBO). The PBO addresses activities excepted from "take"[1] prohibitions applicable to the northern long-eared bat under the Endangered Species Act of 1973 (ESA) (87 Stat.884, as amended; 16 U.S.C. 1531 et seq.).

Based upon your IPaC submission, the Action is consistent with activities analyzed in the PBO. The Action may affect the northern long-eared bat; however, any take that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR §17.40(o). Unless the Service advises you within 30 days of the date of this letter that your IPaC-assisted determination was incorrect, this letter verifies that the PBO satisfies and concludes your responsibilities for this Action under ESA Section 7(a)(2) with respect to the northern long-eared bat.

Please report to our office any changes to the information about the Action that you submitted in IPaC, the results of any bat surveys conducted in the Action area, and any dead, injured, or sick northern long-eared bats that are found during Action implementation. If the Action is not completed within one year of the date of this letter, you must update and resubmit the information required in the IPaC key.

This IPaC-assisted determination allows you to rely on the PBO for compliance with ESA Section 7(a)(2) only for the northern long-eared bat. It **does not** apply to the following ESA-protected species that also may occur in the Action area:

- Indiana Bat, *Myotis sodalis* (Endangered)

If the Action may affect other federally listed species besides the northern long-eared bat, a proposed species, and/or designated critical habitat, additional consultation between you and this Service office is required. If the Action may disturb bald or golden eagles, additional coordination with the Service under the Bald and Golden Eagle Protection Act is recommended.

---

[1]Take means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct [ESA Section 3(19)].

Action Description
You provided to IPaC the following name and description for the subject Action.

1. Name

Mon/Fayette Expressway PA 51 to I-376 (PA 51 to Duquesne Section)

2. Description

The following description was provided for the project 'Mon/Fayette Expressway PA 51 to I-376 (PA 51 to Duquesne Section)':

> The proposed project is the construction of a new four-lane, limited-access, tolled expressway between the logical termini of PA 51 to I-376. At this time, the PTC is forwarding PA 51 to PA 837 section of the project, which has logical termini and independent utility. Proposed project activities will include (but not limited to): tree removal, clearing and grubbing of vegetation, installation of E&S controls, new bridge construction including new bridge piers, temporary causeway installation and removal, new roadway construction, new interchange construction, installation of stormwater BMPs, installation of drainage piping, and installation of new guiderail and signage. The first federal Section 404/State Chapter 105 permit is anticipated to be submitted early 2020 for construction section 53C-2 and construction section 53C-3 . The mainline permits for the southern section are anticipated to be submitted by 2021/2022.

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/40.333390495665114N79.91573828099216W

Determination Key Result

This Federal Action may affect the northern long-eared bat in a manner consistent with the description of activities addressed by the Service's PBO dated January 5, 2016. Any taking that may occur incidental to this Action is not prohibited under the final 4(d) rule at 50 CFR §17.40(o). Therefore, the PBO satisfies your responsibilities for this Action under ESA Section 7(a)(2) relative to the northern long-eared bat.

Determination Key Description: Northern Long-eared Bat 4(d) Rule

This key was last updated in IPaC on May 15, 2017. Keys are subject to periodic revision.

This key is intended for actions that may affect the threatened northern long-eared bat.

The purpose of the key for Federal actions is to assist determinations as to whether proposed actions are consistent with those analyzed in the Service's PBO dated January 5, 2016.

Federal actions that may cause prohibited take of northern long-eared bats, affect ESA-listed species other than the northern long-eared bat, or affect any designated critical habitat, require ESA Section 7(a)(2) consultation in addition to the use of this key. Federal actions that may affect species proposed for listing or critical habitat proposed for designation may require a conference under ESA Section 7(a)(4).

Determination Key Result

This project may affect the threatened Northern long-eared bat; therefore, consultation with the Service pursuant to Section 7(a)(2) of the Endangered Species Act of 1973 (87 Stat.884, as amended; 16 U.S.C. 1531 et seq.) is required. However, based on the information you provided, this project may rely on the Service's January 5, 2016, *Programmatic Biological Opinion on Final 4(d) Rule for the Northern Long-Eared Bat and Activities Excepted from Take Prohibitions* to fulfill its Section 7(a)(2) consultation obligation.

Qualification Interview

1. Is the action authorized, funded, or being carried out by a Federal agency?

   Yes

2. Have you determined that the proposed action will have "no effect" on the northern long-eared bat? (If you are unsure select "No")

   No

3. Will your activity purposefully **Take** northern long-eared bats?

   No

4. Is the project action area located wholly outside the White-nose Syndrome Zone?

   Automatically answered
   No

5. Have you contacted the appropriate agency to determine if your project is near a known hibernaculum or maternity roost tree?

   Location information for northern long-eared bat hibernacula is generally kept in state Natural Heritage Inventory databases – the availability of this data varies state-by-state. Many states provide online access to their data, either directly by providing maps or by providing the opportunity to make a data request. In some cases, to protect those resources, access to the information may be limited. A web page with links to state Natural Heritage Inventory databases is available at www.fws.gov/midwest/endangered/mammals/nleb/nhisites.html.

   Yes

6. Will the action affect a cave or mine where northern long-eared bats are known to hibernate (i.e., hibernaculum) or could it alter the entrance or the environment (physical or other alteration) of a hibernaculum?

   No

7. Will the action involve Tree Removal?

   Yes

8. Will the action only remove hazardous trees for the protection of human life or property?

   No

9. Will the action remove trees within 0.25 miles of a known northern long-eared bat hibernaculum at any time of year?

   No

10. Will the action remove a known occupied northern long-eared bat maternity roost tree or any trees within 150 feet of a known occupied maternity roost tree from June 1 through July 31?

    No

Project Questionnaire

If the project includes forest conversion, report the appropriate acreages below. Otherwise, type '0' in questions 1-3.

1. Estimated total acres of forest conversion:

595

2. If known, estimated acres of forest conversion from April 1 to October 31

595

3. If known, estimated acres of forest conversion from June 1 to July 31

595

If the project includes timber harvest, report the appropriate acreages below. Otherwise, type '0' in questions 4-6.

4. Estimated total acres of timber harvest

0

5. If known, estimated acres of timber harvest from April 1 to October 31

0

6. If known, estimated acres of timber harvest from June 1 to July 31

0

If the project includes prescribed fire, report the appropriate acreages below. Otherwise, type '0' in questions 7-9.

7. Estimated total acres of prescribed fire

0

8. If known, estimated acres of prescribed fire from April 1 to October 31

0

9. If known, estimated acres of prescribed fire from June 1 to July 31

0

If the project includes new wind turbines, report the megawatts of wind capacity below. Otherwise, type '0' in question 10.

10. What is the estimated wind capacity (in megawatts) of the new turbine(s)?
0

Pennsylvania State Historic Preservation Office
PENNSYLVANIA HISTORICAL AND MUSEUM COMMISSION

September 4, 2019

David Rue, Ph.D.
President
Rue Environmental
811 Cricklewood Dr., #3
State College, PA 16803

Re: ER 2016-0945-042-HH; PTC: Phase I Archaeological Survey Duquesne Light Corridor, Mon/Fayette Transportation Project, Allegheny County, PA

Dear Dr. Rue,

Thank you for submitting additional information concerning the above referenced project. The Pennsylvania State Historic Preservation Office (PA SHPO) reviews projects in accordance with state and federal laws. Section 106 of the National Historic Preservation Act of 1966, and the implementing regulations (36 CFR Part 800) of the Advisory Council on Historic Preservation, is the primary federal legislation. The Environmental Rights amendment, Article 1, Section 27 of the Pennsylvania Constitution and the Pennsylvania History Code, 37 Pa. Cons. Stat. Section 500 et seq. (1988) is the primary state legislation. These laws include consideration of the project's potential effects on both historic and archaeological resources.

This report meets our standards and specifications as outlined in Guidelines for Archaeological Investigations in Pennsylvania (SHPO 2017) and the Secretary of the Interior's Guidelines for Archaeological Documentation. We agree with the recommendations of this report and, in our opinion, no further archaeological work is necessary for this project.

If you need further information concerning archaeological issues, please consult Casey Hanson at chanson@pa.gov or (717) 772-0923.

Sincerely,

Douglas C. McLearen, Chief
Division of Environmental Review

Pennsylvania State Historic Preservation Office
PENNSYLVANIA HISTORICAL AND MUSEUM COMMISSION

27 November 2019

Charles Richmond
McCormick Taylor 5
Capital Drive Suite 400
Harrisburg, PA 17110

RE: ER 2016-0945-042-JJ, FHWA: Mon/Fayette PA Route 51 to I-376 Project Revaluation, Allegheny County, Addendum Historic Structures Survey & Determination of Effects Report

Dear Mr. Richmond:

Thank you for the *Addendum Historic Structures Survey & Determination of Effects Report* for the above listed project. The addendum was prepared to address additional resources identified in the Area of Potential Effect (APE) which was modified to accommodate July 2019 project modifications. We are in agreement with the expanded APE. We are also in agreement that the following resources lack sufficient integrity and/or significance and are **not eligible** for the National Register of Historic Places:

Kurt J. Lesker Company (1925 Route 51)
Dick Building Corp (1900 Route 51)
435 Hoffman Boulevard
Duquesne Place Addition Nos. 4, 5, and 6 Groupings

We are also in agreement that none of the historic properties within the APE have the potential to be adversely affected either directly or indirectly by the proposed modifications to the original design.

The overall finding for the project remains **Historic Properties Adversely Affected**. We look forward to continuing to consult with you on implementation of the mitigation measures outlined in the associated agreement.

If you need further information concerning this review, please contact Barbara Frederick at (717) 772-0921.

Sincerely,

Douglas C. McLearen, Chief
Division of Archaeology and Protection

BURNS McDONNELL

CREATE AMAZING.

Burns & McDonnell Engineering Company, Inc.
200 W. Adams St. Suite 1600
Chicago, IL 60606
O 312-223-0920
F 312-223-9664
www.burnsmcd.com