INDEX TO EXHIBITS

Docket No. A-2019-3008589, A-2019-3008652

Hearing Date: February 3, 2021

Duquesne Light Statement No.:

INDEX TO EXHIBITS (cont'd)

Docket No. A-2019-3008589, A-2019-3008652

Hearing Date: February 3, 2021

Duquesne Light Statement No.:

5A-R (Amended Rebuttal - Harchick)

6R (Rebuttal - Hartle)

Duquesne Light Exhibit No.:

1 (Full Siting Application with Attachments 1 through 4 and 6 through 13)

3 (Amended Full Siting Application with Attachments 1 through 4 and 6 through 13)

5-Schaffer (Schaffer Condemnation Application)

Duquesne Light Confidential Exhibit No.:

2 (Full Siting Application with Confidential Exhibits 5A and 5B) *CONFIDENTIAL EXHIBIT - NOT ATTACHED*

4 (Amended Full Siting Application with Confidential Exhibits 5A and 5B) *CONFIDENTIAL EXHIBIT - NOT ATTACHED*

Alkazan Statement No.:

1 (Direct - Lichte with Exhibits A through C)

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Application of Duquesne Light Company filed Pursuant to 52 Pa. Code Chapter 57, Subchapter G, for Approval of the Siting and Construction of the 138 kV Transmission Lines Associated with the **Brunot Island-Crescent Project** in the City of Pittsburgh, McKees Rocks Borough, Kennedy Township, Robinson Township, Moon Township, and Crescent Township, Allegheny County Pennsylvania	:	Docket No. A-2019-_____

Duquesne Light Company

Statement No. 1

Written Direct Testimony of

Jason A. Harchick

Topics Addressed: **Need for the Project**
Description of the Project

DUQUESNE
STATEMENT
1

I. INTRODUCTION

Q. Please state your full name and business address.

A. My name is Jason A. Harchick. My business address is 2839 New Beaver Avenue, Pittsburgh, PA 15233.

Q. By whom are you employed and in what capacity?

A. I am employed by Duquesne Light Company ("Duquesne Light" or "Company") as the General Manager, System Planning, Protection, and Compliance.

Q. What are your current responsibilities?

A. I am responsible for system planning, which includes the performance of economic, investigative, and operational assessments related to Duquesne Light's transmission and distribution system and its interaction with other transmission entities.

Q. Please provide your educational background.

A. I received a B.S. degree in Electrical Engineering, with a concentration in power, from the University of Pittsburgh in April 2008, and a M.S. degree in Electrical Engineering from the University of Pittsburgh in April 2013. I have been a registered professional engineer in the Commonwealth of Pennsylvania since January 2014.

Q. Please describe your professional experience.

A. I began working as a Transmission Planning Engineer at Duquesne Light in 2008 and was promoted to Manager, Transmission Planning in November 2013. I was promoted to Senior Manager, System Planning and Protection, in October 2015. I promoted to Senior Manager, System Planning, Protection, and Compliance in April 2018. I assumed my current responsibilities as General Manager, System Planning, Protection and Compliance in August 2018.

Q. What is the subject matter of your direct testimony?

A. The purpose of my testimony is to summarize the information detailed in Attachment 2 to Duquesne Light's Application, *i.e.*, the Necessity Statement. As such, I will describe: (1) Duquesne Light's system planning process, including the role of PJM Interconnection, L.L.C. ("PJM"); (2) the existing system serving the areas of Aleppo Township, Bell Acres Borough, Coraopolis, Edgeworth Borough, Findlay Township, Franklin Park Borough, Glen Field Township, Haysville Borough, Kennedy Township, Leet Township, Leetsdale Borough, McKees Rocks Borough, Moon Township, Neville Island, Osbourne Borough., Robinson Township, Sewickley Borough, Sewickley Heights Borough, Sewickley Hills Borough, and Stowe Township in Allegheny County; (3) the need for the existing transmission line; (4) Duquesne Light's third party inspection of the existing infrastructure; and (5) the proposed Project and explain the future need for 345 kV.

Q. Are you responsible for the preparation of any of the Attachments or exhibits filed with the above captioned Application?

A. Yes; the Necessity Statement, Attachment 2 to the Application, was prepared under my supervision and direction.

II. OVERVIEW OF PLANNING PROCESS

Q. Please provide an overview of system planning.

A. System planning is the process which assures that transmission and distribution systems can supply electricity to all customer loads reliably and economically. The reliable and economical operation of transmission and distribution systems requires planning guidelines for system expansion and reinforcement.

Q. Can you briefly describe PJM, its responsibilities and Duquesne Light's role as a member of PJM?

A. Yes. PJM is a FERC-approved Regional Transmission Organization charged with ensuring the reliable and efficient operation of the electric transmission system under its functional control, and coordinating the transmission of electricity in all or parts of Delaware, Illinois, Indiana, Kentucky, Maryland, Michigan, New Jersey, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia and the District of Columbia. The Necessity Statement more fully describes the process by which PJM meets these responsibilities. *See* Attachment 2, pp. 2-3.

Duquesne Light, an owner of transmission facilities in Pennsylvania, is a member of PJM and actively participates in the PJM transmission planning process.

Q. Please describe Duquesne Light's system planning process.

A. The reliable and economical operation of Duquesne Light's transmission system requires planning criteria for system expansion and reinforcement. The Duquesne Light planning criteria are outlined in the *Duquesne Light Company Transmission Planning Criteria* document, which is more fully described in the Necessity Statement. *See* Attachment 2, pp. 2-5.

Using the *Duquesne Light Company Transmission Planning Criteria*, Duquesne Light's transmission system is planned so that it can be operated at all projected load levels and during normal scheduled outages. The system is also planned to withstand specific unscheduled contingencies without exceeding the equipment capability, causing system instability or cascade tripping, exceeding voltage tolerances, or causing large-scale, long term or frequent interruptions to customers.

III. NEED FOR PROPOSED PROJECT

Q. What existing Duquesne Light facilities are the subjects of the Project?

A. The Brunot Island-Crescent corridor has some of Duquesne Light's oldest in-service steel lattice towers. The Project addresses the results of the structural evaluations along the Brunot Island-Crescent corridor which determined that the structures are approaching end of life and indicate the structures are beyond permanent repair and require replacement. *See* Attachment 2, pp. 5-6. The structural evaluations and inspections were completed by an independent engineering firm with experience in transmission tower design.

Q. Please describe the existing system relevant to this proposed Project.

A. Duquesne Light's transmission system consists of approximately 686 circuit-miles of overhead and underground transmission lines operating at voltages of 69 kV, 138 kV and 345 kV. The transmission system forms a large loop around the City of Pittsburgh and its suburbs, and links load centers with generating facilities located to the east and to the west of the service area.

The transmission corridor from the Brunot Island Substation to the Crescent Substation provides a transmission source to three distribution substations including Sewickley, Montour, and Neville Substations. The Sewickley Substation provides electrical service to approximately 24,000 customers, the Montour Substation provides electrical service to approximately 35,000 customers, and the Neville Substation provides electrical service to approximately 5,500 customers. In addition, this transmission corridor allows for a significant flow of load current from the western portion of the system to the City of Pittsburgh as well as its eastern suburbs. These transmission lines are included in DLC's future year assessments of its transmission system which are performed in support of the TPL-001 NERC Reliability Standard.

IV. <u>DESCRIPTION OF PROPOSED PROJECT</u>

Q. Please describe the proposed Project.

A. To address aging structures described above, Duquesne Light proposes to construct the Brunot Island-Crescent 138 kV Transmission Corridor that will extend approximately 14.5 miles between the Brunot Island Substation in the City

of Pittsburgh and the Crescent Substation in Crescent Township and ties into the Sewickley, Montour, and Neville Substations along its path. The proposed Project is further explained in the Direct Testimony of Meenah Shyu (Duquesne Light Statement No. 3). A description of the siting and location of the Brunot Island-Crescent 138 kV Transmission Line is further explained in the Direct Testimony of Aimee Kay (Duquesne Light Statement No. 2).

Q. Why is Duquesne Light planning to rebuild one circuit to 345 kV standards?

A. Duquesne Light performs future year assessments of the transmission system using projected load forecasts of 5 and 10 years into the future. During these future assessments, Duquesne Light does not experience overloads in this corridor. However, during certain planned or unplanned transmission outages, Duquesne Light does experience an increase in load flow through this corridor. Although the additional capacity provided by a 345 kV transmission circuit is not required at this time, Duquesne Light anticipates this need will arise prior to the expected life of the new transmission structures. As such, building one circuit to 345 kV standards during this project and raising the voltage when the need arises will be a more cost effective solution than building an entirely new 345 kV circuit in the future. Designing the structures so that one circuit will operate at 345 kV requires increased pole height to allow for additional spacing between the conductors. Additional details of the structure design can be found in Attachment 4 and the Direct Testimony of Meenah Shyu (Duquesne Light Statement No. 3).

Q. What is the in-service date of the proposed Project?

A. The in-service date is December 31, 2023.

Q. Has the proposed Project been reviewed by PJM?

A. Yes. The proposed Project was reviewed by PJM stakeholders and included in PJM's Regional Transmission Expansion Plan ("RTEP") as projects s0320 and s0320.1.

Q. Does this conclude your direct testimony?

A. Yes, it does. If necessary, I will supplement my testimony if and as additional issues arise during the course of this proceeding.

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Application of Duquesne Light Company filed Pursuant to 52 Pa. Code Chapter 57, Subchapter G, for Approval of the Siting and Construction of the 138 kV Transmission Lines Associated with the **Brunot Island – Crescent Project** in the City of Pittsburgh, McKees Rocks Borough, Kennedy Township, Robinson Township, Moon Township, and Crescent Township, Allegheny County, Pennsylvania	:	Docket No. A-2019-3008589 Docket No. A-2019-3008652

Duquesne Light Company

Statement No. 1-R

Written Rebuttal Testimony of

Jason A. Harchick

Topics Addressed: **Need for the Project**
Description of the Project

DUQUESNE
STATEMENT
1R

I. INTRODUCTION

Q. Please state your full name and business address.

A. My name is Jason A. Harchick. My business address is 2839 New Beaver Avenue, Pittsburgh, PA 15233.

Q. Did you provide Direct Testimony in this proceeding?

A. Yes. I previously provided Duquesne Light Statement No. 1 in Docket No. A-2019-3008589, which is the docket number assigned to the Full Siting Application for the proposed Brunot Island-Crescent Transmission Line Project ("BI-Crescent Application") that is currently before the Pennsylvania Public Utility Commission ("PUC" or the "Commission"). The Full Siting Application was consolidated with the related Application at docket number A-2019-3008652 ("Schaefer Condemnation Application"). I did not provide Direct Testimony with regard to the Schaefer Condemnation Application.

Q. What is the purpose of your Rebuttal Testimony?

A. My rebuttal testimony responds to certain issues raised by Mr. Richard Gable and Mr. Dennis Zona during their oral testimony at the September 10, 2019 Hearing. Specifically, I will address: (1) the present need for the proposed rebuild of existing 138 kV transmission line facilities; and (2) the future need justifying the rebuild to accommodate the potential for a 345 kV configuration.

Q. How is the remainder of your testimony organized?

A. Section II of my rebuttal testimony will address the issues raised by Mr. Gable, and Section III will address the issues raised by Mr. Zona.

Q. Are you sponsoring any exhibits as a part of your rebuttal testimony?

A. No.

II. REBUTTAL TO MR. GABLE'S TESTIMONY

Q. What does Mr. Gable's claim regarding the future need for the 345 kV?

A. Mr. Gable claims that the proposed BI-Crescent involves eliminating the existing 138 kV transmission facilities. (Tr. 140) He also claims that the proposed BI-Crescent Project involves leaving two 138 kV transmission lines, and adding one 345 kV transmission line. (Tr. 140)

Q. Is Mr. Gable's characterization of the proposed BI-Crescent correct?

A. No. Multiple documents associated with the BI-Crescent Project make clear that the existing transmission facilities will be reconstructed as a double-circuit transmission line with one circuit designed to 138 kV standards and the other circuit designed to 345 kV standards. As such, the proposed BI-Crescent Project asks the Pennsylvania Public Utility Commission ("PUC") for approval to maintain the existing double-circuit configuration that is present in the corridor today, operate both circuits at 138 kV, and permit one of the circuits to be designed to be capable of operating at 345 kV. Furthermore, in the event the Company needs to energize at 345 kV, the Company would seek approval from the PUC before increasing the voltage of the line.

Q. Would the Company energize the BI-Crescent corridor to 345 kV without first obtaining Commission approval?

A. No. Duquesne Light witness Meenah Shyu made this clear in her direct testimony, stating that the BI-Crescent Project "initially will be operated as a double-circuit 138 kV transmission line until load growth makes it necessary to increase the voltage of the second circuit and necessary approvals are acquired." (Duquesne Light St. 3, p. 7) In addition, paragraph 22 of the BI-Crescent Application clearly states that the circuit that will be designed to 345 kV standards, "will be operated at 138 kV until load growth or system conditions require this voltage increase and necessary approvals are acquired." (BI-Crescent Application ¶ 22) Finally, Duquesne Light again made clear in the Necessity Statement attached to the BI-Crescent Application that it would not operate the proposed facilities at 345 kV "until load growth or other system conditions makes it necessary to increase the voltage of the second circuit and necessary approvals are acquired." (BI-Crescent Application, Attachment 2, p. 8)

Q. Why is the Company proposing to design the BI-Crescent Project to have one circuit capable of operating at 345 kV in the future?

A. As noted in the BI-Crescent Application, the associated Necessity Statement and my direct testimony (Duquesne Light St. 1), the goal of this proposal is to complete a reconstruction project that both replaces aging transmission system infrastructure while permitting other reliability benefits to be realized. For

example, as explained in the Necessity Statement, by constructing one of the circuits to 345 kV standards, Duquesne Light could, after obtaining future necessary approvals, reduce contingency situations involving other 345 kV circuits in its service area and mitigate thermal and voltage issues identified across the system that are anticipated to result from higher-than forecast load growth and the unavailability of generation. (BI-Crescent Application, Attachment 2, p. 7)

Q. Are there any other benefits associated with constructing the BI-Crescent to have one circuit capable of operation at 345 kV, at this time?

A. Yes, constructing the BI-Crescent Project such that one circuit is capable of operation at 345 kV, after the necessary approvals are acquired, would avoid subsequent construction activities in the event that the circuit was required to operate at 345 kV in the future. If both circuits were designed to only operate at 138 kV and a need arose to operate one of these circuits at 345 kV, Duquesne Light would need to redesign and reconstruct all of the transmission structures and transmission conductors associated with this project.

Q. Does Mr. Gable's testimony address any of the reasons you have discussed that demonstrate it is necessary to design the BI-Crescent Project to have one circuit capable of operating at 345 kV in the future?

A. No, he does not.

III. REBUTTAL TO MR. ZONA'S TESTIMONY

Q. How does Mr. Zona characterize the BI-Crescent Application as it relates to the ability to energize one of the transmission circuits at 345 kV?

A. Mr. Zona references Exhibit Zona 2 and explains that he has "written the voltages of every one of these insulations that they plan on putting as insulators from the cross arms." (Tr. 177; Exhibit Zona 2) He then asserts that the top three conductors depicted in Exhibit Zona 2 "are going to be 345 kV" and the lower three conductors "are going to be 138 kV." (Tr. 177; Exhibit Zona 4) Mr. Zona then references an e-mail conversation with a Duquesne Light employee, Travis Moore, that occurred between February and March 2017 and asserts that as a part of that conversation Mr. Moore stated that "As for the transmission line voltages, the voltages will remain the same as it is today, which is 138 kV for both circuits." (Tr. 178; Exhibit Zona 6) Based on these documents, Mr. Zona asserts that Duquesne Light is not designing one of the circuits to operate at 345 kV "because they want to spend more of the ratepayer's money," but that the circuit is designed this way because it would eventually be energized at 345 kV. (Tr. 178)

Q. Please respond to Mr. Zona's characterization of the BI-Crescent Project.

A. As an initial matter, I note that Mr. Zona appears to be characterizing the design of the project for one circuit to be capable of operating at 345 kV as unnecessary, or not needed. As explained with respect to Mr. Gable's testimony above, Duquesne Light demonstrated in the BI-Crescent Application, the associated Necessity Statement and in my direct testimony that it is necessary to reconstruct

these transmission facilities with the capability of one circuit to operate at 345 kV, in the future after the necessary approvals are acquired, in order to obtain important reliability benefits and also avoid additional construction activities that may become necessary in the future.

Furthermore, as explained above, Duquesne Light has been clear that the BI-Crescent Project will only be operated at 138 kV, as the existing facilities are operated today, until the Company receives the necessary approvals to operate one circuit at 345 kV. And, once again to be clear, Duquesne Light will not operate the circuit that is designed for 345 kV operations at a voltage level of 345 kV until it obtains all necessary approvals to do so.

Q. Does Mr. Zona reference or contest the Companies description of the need for the BI-Crescent Project in the Application, the Necessity Statement, or your direct testimony?

A. No, he does not.

Q. Do you agree with Mr. Zona that the BI-Crescent Project is designed such that one circuit could be operated at 345 kV because Duquesne Light does not want to spend more of its ratepayers' money?

A. I agree that the goal of the project is not to increase rates; the goal of the project is to replace aging transmission infrastructure and improve transmission system reliability. Duquesne Light submits that the proposed design is based upon anticipated need that will arise prior to the expected life of the new transmission

structures. As such, building one circuit to 345 kV standards during this project and raising the voltage when the need arises, and after the necessary approvals are acquired, will be a more cost effective solution than building an entirely new 345 kV circuit in the future.

Q. Does this conclude your rebuttal testimony at this time?

A. Yes. However, I reserve the right to supplement my testimony as additional issues arise during the course of this proceeding.

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Application of Duquesne Light Company filed Pursuant to 52 Pa. Code Chapter 57, Subchapter G, for Approval of the Siting and Construction of the 138 kV Transmission Lines Associated with the **Brunot Island-Crescent Project** in the City of Pittsburgh, McKees Rocks Borough, Kennedy Township, Robinson Township, Moon Township, and Crescent Township, Pennsylvania	:	Docket No. A-2019-3008589 Docket No. A-2019-3008652

Duquesne Light Company

Statement No. 1-A

Written Amended Direct Testimony of

Jason A. Harchick

Topics Addressed: **Need for the Amended Project**
Description of the Amended Project

DUQUESNE
STATEMENT
1A

I. INTRODUCTION

Q. Please state your full name and business address.

A. My name is Jason A. Harchick. My business address is 2839 New Beaver Avenue, Pittsburgh, PA 15233.

Q. By whom are you employed and in what capacity?

A. I am employed by Duquesne Light Company ("Duquesne Light" or "Company") as the General Manager, System Planning, Protection, and Compliance.

Q. What are your current responsibilities?

A. I am responsible for system planning, which includes the performance of economic, investigative, and operational assessments related to Duquesne Light's transmission and distribution system and its interaction with other transmission entities.

Q. Please provide your educational background.

A. I received a B.S. degree in Electrical Engineering, with a concentration in power, from the University of Pittsburgh in April 2008, and a M.S. degree in Electrical Engineering from the University of Pittsburgh in April 2013. I have been a registered professional engineer in the Commonwealth of Pennsylvania since January 2014.

Q. Please describe your professional experience.

A. I began working as a Transmission Planning Engineer at Duquesne Light in 2008 and was promoted to Manager, Transmission Planning in November 2013. I was

promoted to Senior Manager, System Planning and Protection, in October 2015. I was promoted to Senior Manager, System Planning, Protection, and Compliance in April 2018. I assumed my current responsibilities as General Manager, System Planning, Protection and Compliance in August 2018.

Q. What is the subject matter of your direct testimony?

A. The purpose of my testimony is to summarize the information detailed in Attachment 2 to Duquesne Light's Amended Application, *i.e.*, the Necessity Statement. As such, I will describe: (1) Duquesne Light's system planning process, including the role of PJM Interconnection, L.L.C. ("PJM"); (2) the existing system serving the areas of Aleppo Township, Bell Acres Borough, Coraopolis, Edgeworth Borough, Findlay Township, Franklin Park Borough, Glen Field Township, Haysville Borough, Kennedy Township, Leet Township, Leetsdale Borough, McKees Rocks Borough, Moon Township, Neville Island, Osbourne Borough., Robinson Township, Sewickley Borough, Sewickley Heights Borough, Sewickley Hills Borough, and Stowe Township in Allegheny County; (3) the need for the existing transmission line; (4) Duquesne Light's third party inspection of the existing infrastructure; and (5) provide an overview of the Amended Project in the Amended Application.

Q. Are you responsible for the preparation of any of the attachments or exhibits filed with the above captioned Amended Application?

A. Yes; the Necessity Statement, Attachment 2 to the Amended Application, was prepared under my supervision and direction.

Q. Have you previously provided testimony or sponsored exhibits filed with the above captioned Application?

A. Yes. On March 15, 2019, I provided Duquesne Light Statement No. 1 in Docket No. A-2019-3008589, which is the docket number assigned to the Full Siting Application for the proposed Brunot Island-Crescent Transmission Line Project ("BI-Crescent Application") before the Pennsylvania Public Utility Commission ("PUC" or the "Commission"). I also provided Duquesne Light Statement 1-R regarding the BI-Crescent Application. The related Condemnation Application at Docket number A-2019-3008652 ("Schaefer Condemnation Application") was consolidated with the BI-Crescent Application. I did not provide testimony with regard to the Schaefer Condemnation Application.

II. OVERVIEW OF PLANNING PROCESS

Q. Please provide an overview of system planning.

A. System planning is the process which assures that transmission and distribution systems can supply electricity to all customer loads reliably and economically. The reliable and economical operation of transmission and distribution systems requires planning guidelines for system expansion and reinforcement.

Q. Can you briefly describe PJM, its responsibilities and Duquesne Light's role as a member of PJM?

A. Yes. PJM is a FERC-approved Regional Transmission Organization charged with ensuring the reliable and efficient operation of the electric transmission system under its functional control, and coordinating the transmission of electricity in all or parts of Delaware, Illinois, Indiana, Kentucky, Maryland, Michigan, New Jersey, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia and the District of Columbia. The Necessity Statement more fully describes the process by which PJM meets these responsibilities. *See* Attachment 2, pp. 2-3. Duquesne Light, an owner of transmission facilities in Pennsylvania, is a member of PJM and actively participates in the PJM transmission planning process.

Q. Please describe Duquesne Light's system planning process.

A. The reliable and economical operation of Duquesne Light's transmission system requires planning criteria for system expansion and reinforcement. The Duquesne Light planning criteria are outlined in the *Duquesne Light Company Transmission Planning Criteria* document, which is more fully described in the Necessity Statement. *See* Attachment 2, pp. 2-5.

Using the *Duquesne Light Company Transmission Planning Criteria*, Duquesne Light's transmission system is planned so that it can be operated at all projected load levels and during normal scheduled outages. The system is also planned to withstand specific unscheduled contingencies without exceeding the equipment capability, causing system instability or cascade tripping, exceeding voltage tolerances, or causing large-scale, long term or frequent interruptions to customers.

III. NEED FOR PROPOSED PROJECT

Q. What existing Duquesne Light facilities are the subjects of the Project?

A. The Brunot Island-Crescent corridor has some of Duquesne Light's oldest in-service steel lattice towers. The Project addresses the results of the structural evaluations along the Brunot Island-Crescent corridor which determined that the structures are approaching end of their useful life and indicate the structures are beyond permanent repair and require replacement. *See* Attachment 2, pp. 5-6. The structural evaluations and inspections were completed by an independent engineering firm with experience in transmission tower design.

Q. Please describe the existing system relevant to this Amended Project.

A. Duquesne Light's transmission system consists of approximately 686 circuit-miles of overhead and underground transmission lines operating at voltages of 69 kV, 138 kV and 345 kV. The transmission system forms a large loop around the City of Pittsburgh and its suburbs, and links load centers with generating facilities located to the east and to the west of the service area.

The transmission corridor from the Brunot Island Substation to the Crescent Substation provides a transmission source to three (3) distribution substations including Sewickley, Montour, and Neville Substations. The Sewickley Substation provides electrical service to approximately 24,000 customers, the Montour Substation provides electrical service to approximately 35,000 customers, and the Neville Substation provides electrical service to approximately 5,500 customers. In addition, this transmission corridor allows for a significant flow of load current

from the western portion of the system to the City of Pittsburgh as well as its eastern suburbs. These transmission lines are included in Duquesne Light's future year assessments of its transmission system, which are performed in support of the TPL-001 NERC Reliability Standard.

IV. DESCRIPTION OF PROPOSED PROJECT

Q. Please describe the proposed Amended Project.

A. To address the aging structures described above, Duquesne Light proposes to construct the Brunot Island-Crescent 138 kV Transmission Corridor ("BI-Crescent Corridor") that will extend approximately 14.5 miles between the Brunot Island Substation in the City of Pittsburgh and the Crescent Substation in Crescent Township and ties into the Sewickley, Montour, and Neville Substations along its path. The proposed Amended Project is further explained in the Direct Testimony of Meenah Shyu (Duquesne Light Statement No. 3-A). A description of the siting and location of the Brunot Island-Crescent 138 kV Transmission Line is further explained in the Direct Testimony of Aimee Kay (Duquesne Light Statement No. 2-A).

Q. Does this piece of Direct Testimony differ from the Direct Testimony you previously submitted in this matter?

A. Yes. Duquesne Light Statement No. 1 supported the original proposal of rebuilding one of two existing 138 kV circuits to 345 kV standards. The original proposal indicated that the existing facilities would remain at 138 kV, as they are operated today, until the Company received the necessary approvals to operate one circuit at

345 kV. This Duquesne Light Statement No. 1-A supports removing the portion of the original proposal to build one circuit at 345 kV standards.

Q. Why is Duquesne Light removing its plan to rebuild one circuit to 345 kV standards?

A. Based upon the input Duquesne Light received from its customers through multiple channels and forums, including the feedback received at the public input hearing on October 9, 2019, Duquesne Light is re-engineering the BI-Crescent Project to eliminate the proposal to build of the circuits to 345 kV standards. In addition, changes in circumstances regarding recent generation deactivations may alleviate certain reliability criteria violations that Duquesne Light initially contemplated addressing by building one of the circuits associated with the BI-Crescent Corridor to 345 kV standards. As such, Duquesne Light now plans to rebuild both circuits at the existing 138 kV capacity.

Q. How do changes in circumstances regarding recent generation deactivations alleviate certain reliability needs contemplated in the original proposal?

A. Power flow analyses indicate the flow of electricity on the Duquesne transmission system typically travels from west to east. The BI-Crescent Corridor supports the flow of electricity from a number of generation stations, including: Beaver Valley, Bruce Mansfield, Davis-Besse, Perry, and Sammis (collectively, "Generation Stations").

In 2018, FirstEnergy Solutions announced it would be closing the Generation Stations. In or around November 2019, the Bruce Mansfield generation station deactivated, which resulted in a loss of 2,490 MW of generating capacity thereby reducing the flow of electricity through the BI-Crescent Project corridor.

While the Beaver Valley, Davis-Besse, Perry, and Sammis generating stations have all since rescinded their deactivation notices, the loss of 2,490 MW of generating capacity from the Bruce Mansfield deactivation alleviates the concern of possible reliability criteria violations. Duquesne Light's Amended Application for the BI-Crescent Project removes the proposal to build one of the circuits in the BI-Crescent Corridor to 345 kV standards.

Q. What is the in-service date of the proposed Project?

A. The in-service date is May 31, 2027.

Q. Has the proposed Project been reviewed by PJM?

A. Yes. The proposed Project was reviewed by PJM stakeholders and included in PJM's Regional Transmission Expansion Plan ("RTEP") as projects s0320 and s0320.1.

Q. Does this conclude your direct testimony?

A. Yes, it does. If necessary, I will supplement my testimony if and as additional issues arise during the course of this proceeding.

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Application of Duquesne Light Company Filed Pursuant to :	Docket No. A-2019-3008589
52 Pa. Code Chapter 57, Subchapter G, for Approval of the :	Docket No. A-2019-3008652
Siting and Construction of the 138 kV Transmission Lines :	
Associated with the Brunot Island-Crescent Project in the :	
City of Pittsburgh, McKees Rocks Borough, Kennedy :	
Township, Robinson Township, Moon Township, and :	
Crescent Township, Pennsylvania :	

VERIFICATION

I, Jason A. Harchick, General Manager of System Planning, Protection and Compliance, hereby state that the facts set forth are true and cover (or are true and correct to the best of my knowledge, information and belief) and that I expect to be able to prove the same at a hearing held in this matter. I understand that the statements herein are made subject to the penalties of 18 Pa. C.S. § 4904 (relating to unsworn falsifications to authorities).

Jason A. Harchick
General Manager of System Planning,
Protection and Compliance

Date: August 10, 2020

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Application of Duquesne Light Company filed Pursuant to 52 Pa. Code Chapter 57, Subchapter G, for Approval of the Siting and Construction of the 138 kV Transmission Lines Associated with the **Brunot Island-Crescent Project** in the City of Pittsburgh, McKees Rocks Borough, Kennedy Township, Robinson Township, Moon Township, and Crescent Township, Allegheny County Pennsylvania	:	Docket No. A-2019-_____

Duquesne Light Company

Statement No. 2

Written Direct Testimony of

Aimee Kay

Topics Addressed: **Summary of the Siting Study**
Selection of the Proposed Routes for the Project

DUQUESNE
STATEMENT
2

I. INTRODUCTION

Q. Please state your name and business address.

A. My name is Aimee Kay. My business address is 385 E. Waterfront Drive, Homestead, PA 15120.

Q. By whom are you employed and in what capacity?

A. I am employed by GAI Consultants, Inc. and currently serve as an Environmental Manager in the Power Delivery – Environmental Services Market Sector.

Q. What are your principal responsibilities in this position?

A. I am responsible for managing and coordinating studies for the siting, environmental assessment, permitting/licensing, and reports of high voltage electric transmission lines.

Q. Please provide a summary of your education and professional work experience.

A. I have been providing environmental consulting services for over 27 years and have been with GAI for over eight years. In my present capacity, I am responsible for (1) the management of environmental impact studies, (2) ecological, archaeological, land-use planning, and cultural resource studies, (3) facility siting studies, and (4) interpretation and application of government regulations and procedures relating to facility permitting. I have managed multiple utility transmission and substation (electric and gas) projects since joining GAI, along with numerous utility projects since 1990 while at previous employments. I earned a Bachelor of Arts Degree in Environmental Studies from Edinboro University in 1986 and a Master of Science in Urban and Regional Planning from Eastern Michigan University in 2007.

Q. What is the purpose of your direct testimony in this proceeding?

A. My testimony provides a summary of the Route Selection of the Brunot Island-Crescent 138kV Transmission Line and the Siting Study. In my testimony, I identify and generally describe the *Environmental Assessment and Line Routing Study for the Duquesne Light Company Brunot Island-Crescent 138 kV Transmission Line Project, Allegheny County, Pennsylvania* report and appendices dated June 2018 (collectively the "Report"), which is included as Attachment 3 to the Application of Duquesne Light Company for the Siting and Construction of a 138 kV Transmission Line in Allegheny County, Pennsylvania ("Siting Application"). The Report explains (1) the methodology utilized by GAI and Duquesne Light (together, the "Siting Team") to site the line route alternatives, (2) the evaluation of the alternatives and selection of a Proposed Route for the Project, and (3) the assessment and recommended mitigation of the potential environmental effects of the Proposed Route. The siting and environmental study activities described in the Report were performed by GAI, under my supervision, in coordination with Duquesne Light. The Report was filed with the Siting Application as Attachment 3.

Q. Were any portions of the siting study prepared by you or under your supervision?

A. Yes, the siting and environmental study activities were performed by GAI, under my supervision.

Q. Please provide an overview of the project.

A. As explained in the written direct testimony of Company witness Mr. Jason A. Harchick (Duquesne Light Statement No. 1), Duquesne Light identified a need to address aging infrastructure along the Brunot Island-Crescent 138 kV Transmission Line. To address the aging infrastructure, Duquesne Light proposes to rebuild the Brunot Island-Crescent 138 kV Transmission Line that will extend approximately 14.55 miles between the Brunot Island Substation in the City of Pittsburgh and the Crescent Substation in Crescent Township. As further explained in Duquesne Light Statement No. 3 (Bieber), the Brunot Island-Crescent 138 kV Transmission Line will be rebuilt as an overhead transmission line along existing Right of Way.

II. SITING STUDY

Q. Please describe the purpose of the Siting Study prepared for the proposed Project.

A. The purpose of the siting study was to select a suitable route for a 138 kV electric transmission line between the Brunot Island Substation and the Crescent Substation that tied into the Montour, Sewickley and Neville Substations along its path. Furthermore, the purpose was to establish alternative routes for evaluation that are environmentally sound, feasible from an engineering and economic perspective, and compliant with applicable regulatory requirements. Environmental soundness includes minimizing environmental impacts while maximizing siting opportunities. Engineering and economic feasibility includes minimizing engineering constraints, cost, and distance of the route. Per Pennsylvania regulations at 52 Pa. Code § 57.1, alternative routes analyzed must include "a reasonable right-of-way which includes not more than 25 percent of the right-of-way of the applicant's proposed route".

To meet the purpose of the siting study, the Project study area was examined for constraints and opportunities in order to develop alternative routes, analyze impacts associated with the alternative routes, and select the proposed route. The Proposed Route is the route that, when considering all the constraints and opportunities, best minimized the overall impacts of the Project.

Q. Please summarize the route development process used in the Siting Study.

A. The initial step in the siting process involved the identification of a study area boundary. This was established to include the Project end points (the existing Brunot Island Substation and the existing Crescent Substation), the mid route tie in substations (the existing Montour, Neville and Sewickley Substations), existing Duquesne Light transmission line corridors to allow for opportunities to parallel existing ROWs, and the intervening areas. The northern limits of this study area were defined to avoid the Ohio River. The southern limits of the study area were defined to avoid close proximity to the Pittsburgh International Airport and to avoid Interstate 376. The study area incorporates an approximately 34.1-square-mile area in Allegheny County, PA.

Following establishment of the study area, GAI utilized recent aerial photography (2015), United States Geological Survey (USGS) topographic mapping, agency coordination, and published data to compile a geographic information system (GIS)-based constraints map of the study area. This map identified sensitive natural, cultural and socioeconomic resources in the study area. GAI used this information to develop preliminary transmission line routes for further analysis to avoid major constraints to the extent feasible.

Field reconnaissance was conducted to update data available for resources in the vicinity of each of the preliminary routes. Route locations were then added or refined as necessary based upon environmental and human/built constraints. A total of three alternative routes were developed that minimize impacts to environmental, cultural and socioeconomic constraints. The three alternatives were then qualitatively and quantitatively analyzed and compared by the routing team to identify the ProposedRoute.

Q. Please summarize the guidelines and factors used to identify and evaluate the potential routes.

A. These guidelines recognize the importance of protecting and enhancing natural, historical, scenic, and recreational resources in and around electric transmission projects. The siting guidelines were developed based upon the Pennsylvania Public Utility Commission ("Commission") regulations (52 Pa. Code § 57.1 *et seq.*), public input, resource agency permitting requirements, engineering requirements and economic feasibility. The siting guidelines include both siting opportunities and siting constraints. Siting opportunities are locations representing land use and environmental resources, which are compatible with the safe, economical, and reliable construction and operation of a 138 kV transmission line. Siting constraints represent locations where a 138 kV transmission line might have a potential adverse impact on sensitive resources or locations where conditions might affect reliable and safe operation or economical construction of the line. Siting opportunities include paralleling existing electric transmission line, pipeline, or railroad ROW; maximizing the distance from residential dwellings, schools, daycare facilities, hospitals and other community facilities; a short

direct route; open, uninhabited privately owned terrain; consistency with stakeholder input; minimizing visibility from federal and state listed scenic roadways and designated scenic resources; minimizing conflict with designated public resource lands, recreation lands, nature preserves, or other conservation areas; minimizing potential environmental and land use impacts by avoiding circuitous routes; minimizing new crossings of large wetland complexes, critical habitat, and other unique or distinct natural resources; minimizing habitat fragmentation; and impacts on designated areas of biodiversity concern. Constraints include populated areas, recreational areas, conservation areas, sensitive natural areas, cultural sites, engineering constraints, airports and forestland.

Q. Please describe how the Proposed Route is selected.

A. To select the Proposed Route, the Siting Team examined 30 environmental, human/built, and engineering resource criteria to determine impacts for each of the three alternatives. These resource criteria were based on Commission regulations, public input, resource agency permitting requirements, engineering requirements and economic feasibility. GAI further evaluated these factors for each alternative as applicable within three areas of proximity: (1) the immediate construction ROW; (2) the area adjacent to the proposed ROW that would be in view of sensitive resources; and (3) a four-mile wide corridor, including the area two miles on either side of the centerline of each ROW.

Measurements compiled for each resource criterion data were assembled by review of database software for the three alternative routes (see Section 4 in the Report). In order to put resource measurements on a relative scale (acres, number, feet) and to obtain an impact score that could be compared across the different alternatives, the data

were then mathematically proportioned to a scale of 1 to 10 (see Section 4 and Appendix B in the Report). Higher scores indicate greater environmental impact; the route with the highest score (worst) for individual resources receives a 10; that with the lowest score (best) receives a 1. Thus, the scores are transformed to a relative scale from 1 to 10 to obtain relative scores for each resource criterion. Using the relative position of the route in comparison to the values for all routes provided an indication of how the route compares for that resource criterion.

These scaled scores were then weighted according to weights established by the Siting Criteria Council (SCC) for the GPU-DQE 500 kV Transmission Line Project. SCC weights existed for 22 of the 30 resource criteria. The Siting Team assigned weights for the remaining eight resource criteria (Land Trust Protected Area, Cemeteries, Exceptional Value Streams, Landslide Prone Area, Commercial/Industrial Areas, Forest Land Cleared, Non-existing ROW, and Length of ROW).

The scaled scores for each criterion were then multiplied by its respective weight to obtain the impact scores shown in Section 4 and Appendix B of the Report. These impact scores were summed to obtain an overall impact score for each alternative route.

Q. Was public outreach part of the route selection process?

A. Yes. Duquesne Light held three public open houses on February 21, 2017, February 28, 2017, and March 2, 2017, and invited impacted landowners, local residents and officials, businesses, organizations and the general public located along the Proposed Route. Duquesne Light advertised the open houses in local newspapers and utilized targeted internet ads, in which it also provided an email and mailing address for the public to

contact Duquesne Light with any questions, comments, or concerns. During each open house, multiple subject matter experts from Duquesne Light and its consultants were available to explain the scope of the project, its potential impact, and the proposed schedule. Duquesne Light also conducted further outreach with affected property owners, as discussed in Duquesne Light Statement No. 4, the Direct Testimony of Mark Hummel.

Furthermore, as the Report notes, various resources prepared by governmental and non-governmental agencies were consulted for information on the project area, including comprehensive plans, natural heritage inventories, and other publications. Regulatory agencies were also contacted concerning the potential presence of rare species and sensitive natural and recreational resources. The Pennsylvania Historical and Museum Commission's Historic Preservation Office was consulted for information on the cultural resources in the project area.

Q. Did Duquesne Light consider local comprehensive plans and zoning ordinances in selecting the Proposed Route for the Project?

A. Yes. Preliminarily, I understand that public utility facilities, such as transmission lines and substations, are generally exempt from local municipal authority. However, as required by the Commission's interim siting guidelines found at 52 Pa. Code § 69.1101 (2)(3) and § 69.3104 (1), GAI reviewed local zoning ordinances and comprehensive land use plans to evaluate the impact of the Proposed Route on municipalities. Further descriptions can be found in Section 7.2 of the Report.

III. PROPOSED ROUTE

Q. Please describe the feasible Alternative Routes identified by the Siting Team for the Brunot Island-Crescent 138 kV Transmission Line.

A. Using the siting analysis described above, the Siting Team identified three (3) suitable alternative routes for the Brunot Island-Crescent 138 kV Transmission Line: Proposed Route, which extends approximately 14.6 miles; Alternative 1, which extends approximately 15.1 miles; and Alternative 2, which extends approximately 16.1 miles. These three Alternative Routes are described in detail below.

Proposed Route (14.6 miles)

The Proposed Route exits the Brunot Island Substation to the west crossing the Ohio River. It then travels west roughly paralleling Chartiers Creek for approximately two miles in an undeveloped area squeezed between an industrial area to the north of Chartiers Creek and residential areas to the south of Chartiers Creek. Once crossing Chartiers Creek for the final time, the Proposed Route proceeds west-northwest following an existing ROW through a forested area for approximately 1 mile. The Proposed Route then turns north-northwest and precedes for approximately 0.5 miles. Where it crosses a subdivision located between McKees Rocks Road and Clever Road and then passes into a forested area that parallels Fairhaven Park. Once past Fairhaven Park the Proposed Route turns northwest and continues for approximately one mile, where it crosses residential areas intermingled with forested areas. The Proposed Route then crosses Interstate 79 and continues for approximately a mile in a northwest direction crossing residential areas intermingled with forested areas. The Proposed Route then turns north to enter and exit the Montour Substation, which involves approximately 0.70 miles of combined ROW.

The Proposed Route then continues in a generally northwest direction for approximately eight miles crossing residential areas intermingled with forested areas. In this eight mile stretch the Proposed Route crosses numerous residential streets, Thorn Run Road, University Boulevard, Flaugherty Run Road, Spring Run Road, and Bocktown Road before entering the Crescent Substation.

The Proposed Route:

- Has zero miles of non-paralleling ROW;
- Would impact 73.75 acres of forest land, 18.9 acres of NWI wetland, and 20 perennial streams;
- Crosses four commercial/industrial area, 102 houses, 11 apartment complexes, 47 roads/highways, and is adjacent to eight institutional complexes and three recreational areas;
- 0.6 acres of Core RTE habitat and zero acres of Land trust protected area;
- Crosses 11.0 miles of steep terrain and 7.5 miles of landslide-prone area;
- Is in the view shed of 34 Architectural/ historic site and crosses one Archaeological site; and
- Is, at its closest, two miles northeast of a runway associated with the Pittsburgh International Airport, and approximately 0.6 miles of the route is within two miles of the airport.

Alternative Route 1 (15.1 miles)

Alternative 1 exits the Brunot Island Substation to the north crossing the Ohio River and enters an industrial portion of McKees Rocks. Alternative 1 roughly parallels railroad ROW for approximately two miles, in a north-northwest direction. When it crosses over the McKees Rocks Bridge, Alternative 1 leaves the railroad ROW and crosses over Route 51. The route then roughly parallels Route 51 on a largely forested hill slope for 2.3 miles. Alternative 1 then crosses Interstate 79 and turns to the south for approximately 0.70 miles before turning northwest for 0.6 miles to enter the Montour Substation.

Between Interstate 79 and the Montour Substation, Alternative 1 passes through forested areas. Alternative 1 leaves the Montour Substation in a westward direction passing through forested area for approximately 1.4 miles. At this point, Alternative 1 meets and overlaps the Proposed Route and utilizes existing ROW. Alternative 1 continues along the existing ROW to the northwest for approximately 1.2 miles. Alternative 1 then deviates to the west passing through forested area for approximately 1.5 miles and crossing Thorn Run Road. Alternative 1 then turns north staying in forested area and continues for approximately 1.6 miles. Alternative 1 then crosses Route 51 and turns to the northwest were it continues for approximately three miles passing through mostly forested areas with some residential and industrial areas before it enters the Crescent Substation.

Alternative 1:

- Has 12.8 miles of non-paralleling ROW;
- Would impact 200.7 acres of forest land 4.4 acres of NWI wetland, and 22 perennial streams;
- Crosses nine commercial/industrial area, 24 houses, one apartment complex, 33 roads/highways, and is adjacent to six institutional complexes and one recreational area;
- 2.81 acres of Core RTE habitat and 0.1 acres of Land trust protected area;
- Crosses 11.2 miles of steep terrain and 9.4 miles of landslide-prone area;
- Is in the view shed of 37 Architectural/ historic site and crosses three Archaeological sites; and
- Is at its closest, 1.7 miles northeast of the Pittsburgh International Airport, and approximately 2.7 miles of the route is located within two miles of the airport.

Alternative Route 2 (16.1 miles)

Alternative 2 exits the Brunot Island Substation to the north crossing the Ohio River and enters an industrial portion of McKees Rocks. Alternative 2 roughly parallels railroad ROW for approximately 3.8 miles, in a north-northwest direction. When it crosses over the McKees Rocks Bridge, Alternative 2 leaves the railroad ROW, making several deviations to the south and west, crossing over Route 51 and Interstate 79, and staying within largely forested areas before entering the Montour Substation. Alternative 2 leaves the Montour Substation in a western direction and is located in a forested area while it skirts a large residential area for approximately three miles. Once past the residential area, Alternative 2 turns north for approximately 0.7 miles, and then turns northwest for approximately 1.4 miles, crossing over Thorn Run Road, and staying in forested areas. Alternative 2 then turns north for approximately 1.6 miles, where it is located in forested area that is situated between two residential areas. Alternative 2 then turns to the west and continues for approximately one mile through forested area before meeting the Proposed Route. Alternative 2 then turns northwest and continues along existing ROW for approximately 0.5 miles before diverging to the north-northwest to avoid several residential areas. Alternative 2 continues to the north-northwest for approximately 1.6 miles before entering the Crescent Substation.

Alternative 2:

- Has 15.0 miles of non-paralleling ROW;
- Would impact 230 acres of forest land, 4.5 acres of NWI wetland, and 22 perennial streams;
- Crosses six commercial/industrial area, eight houses, one apartment complex, 25 roads/highways, and is adjacent to six institutional complexes and three recreational areas;

- 3.2 acres of Core RTE habitat and 1.3 acres of Land trust protected area;
- Crosses 12.6 miles of steep terrain and 9.6 miles of landslide-prone area;
- Is in the view shed of 34 Architectural/ historic site and crosses one Archaeological site; and
- Is at its closest, Is at its closest, 1.4 miles east of the airport, and approximately four miles of the route is located within two miles of the airport.

Q. What route was selected for the Brunot Island-Crescent 138 kV Transmission Line?

A. Based on a qualitative and quantitative review of information obtained from GIS data, field reconnaissance, agency consultation and public outreach as well as engineering considerations for the Project, the Siting Team selected the the Proposed Route.

Q. Please explain why the Proposed Route was selected for Brunot Island-Crescent 138 kV Transmission Line.

A. The Siting Team evaluated the feasible alternatives and selected the overall best route that, on balance, minimizes the impact to the natural and human environments, avoids unreasonable and circuitous routes, and avoids non-standard design requirements. The Proposed Route is the shortest and required the least new ROW. The Proposed Route also had the least impacts from a human/built and engineering perspective. From an overall environmental perspective, all of the alternatives had some impacts to most of the criteria examined. The Proposed Route crosses the most human/built resources, as it has the most road crossings, crosses the most residential structures, and crosses the most institutional complexes. However, the Proposed Route will cross these human/built resources within existing ROW and no new long-term impacts are anticipated. Additionally, the Proposed Route crosses the least commercial/industrial areas. The

Proposed Route is the best alternative from an engineering perspective, as it crosses the least steep terrain and landslide-prone areas, and is the farthest from the Pittsburgh International Airport. The Proposed Route is the best alternative from an environmental resources perspective. It has the least impact to most of the environmental resources including forest land cleared, core RTE habitat, land trust protected areas, and perennial streams crossed, but has the has some of the higher impact to other criteria such as wetlands crossed and recreational areas. The Proposed Route is the second best alternative from a cultural resources perspective. It has the second most historical sites within its views shed and tied for the least archaeological sites crossed.

IV. COMPLIANCE WITH POTENTIAL PERMIT AND MITIGATION REQUIREMENTS

Q. Please summarize Duquesne Light's efforts to minimize the anticipated impacts and potential permit and mitigation requirements of the proposed Project.

A. Efforts were made during the siting process to minimize impacts on existing and future land uses, as well as avoid sensitive natural resources such as wetlands and streams. Where potential impacts are unavoidable, Duquesne Light will obtain any necessary permits and comply with the best management practices laid out within during construction. Best management practices may include fencing sensitive resources to protect them during construction, use of timber matting equipment for crossings of streams and wetlands, and utilizing erosion and sedimentation controls.

As part of the permitting process, any required waterway, wetland, or floodplain encroachment permits will be obtained from the applicable jurisdictional state and federal agencies prior to construction and Duquesne Light will comply with all special conditions

placed on the permits. In addition, to address water quality standards within watersheds along the Project corridor, Duquesne Light will comply with the regulations of the National Pollutant Discharge and Elimination System permit program, obtain the required soil erosion and sedimentation control permits, and follow the specified conditions required for the permit.

A detailed discussion of Duquesne Light's efforts to minimize the anticipated impacts and potential permit and mitigation requirements of the proposed Project is provided in Section 5 to the Report, including potential impacts to: land use; natural features; rare, threatened, and endangered species; cultural resources; community features and conserved lands; and agency requirements and permits.

Q. Does this conclude your testimony at this time?

A. Yes. I reserve the right to supplement my testimony as additional issues arise during the course of this proceeding.

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Application of Duquesne Light Company filed	:	
Pursuant to 52 Pa. Code Chapter 57,	:	Docket No. A-2019-3008589
Subchapter G, for Approval of the Siting and	:	Docket No. A-2019-3008652
Construction of the 138 kV Transmission	:	
Lines Associated with the **Brunot Island-**	:	
Crescent Project in the City of Pittsburgh,	:	
McKees Rocks Borough, Kennedy Township,	:	
Robinson Township, Moon Township, and	:	
Crescent Township, Allegheny County	:	
Pennsylvania	:	

Duquesne Light Company

Statement No. 2-R

Written Rebuttal Testimony of

Aimee Kay

Topics Addressed: **Route Selection**
Alternative Route Evaluation

DUQUESNE
STATEMENT
2R

I. INTRODUCTION

Q. Please state your name and business address.

A. My name is Aimee Kay. My business address is 385 E. Waterfront Drive, Homestead, PA 15120.

Q. Did you previously submit testimony in this proceeding on behalf of Duquesne Light Company ("Duquesne Light")?

A. Yes. On March 15, 2019, I submitted my direct testimony, Duquesne Light Statement No. 2.

Q. What is the purpose of your rebuttal testimony?

A. My testimony responds to certain concerns raised by several of the Protestants in their oral testimony at the September 10, 2019 lay witness hearing. Specifically, I respond to the Protestants' concerns regarding: (1) Route Selection of the Brunot Island-Crescent 138kV transmission line and the Siting Study; and (2) the criteria used by Duquesne Light and GAI to analyze and compare the Alternative Routes detailed in the Siting Study and my direct testimony.

Q. How is the remainder of your rebuttal testimony organized?

A. Section II of my rebuttal testimony summarizes and responds to the Protestants' concerns regarding Route Selection of the Brunot Island-Crescent 138kV transmission line and the Siting Study. In addition, Section II responds to any alternatives proposed by the Protestants. As a general matter, each alternative route proposed by the Protestants would require acquisition of new ROW which would result in higher environmental,

socioeconomic, and cultural impacts. Section III responds to certain of the Protestants' assertions regarding the criteria used in the Siting Study.

II. ROUTE SELECTION AND SITING STUDY

Q. Did you explain in your direct testimony, the methodology used to evaluate possible routes and ultimately select the Proposed Route?

A. Yes. As a part of that process, the Siting Team evaluated the feasible alternatives and selected the overall best route that, on balance, minimizes the impact to the natural and human environments, avoids unreasonable and circuitous routes, and avoids non-standard design requirements.

Q. Please summarize the characteristics of the Proposed Route.

A. The Proposed Route is the shortest and required the least new ROW and has the least impacts from an environmental, human/built, cultural, and engineering perspective.

Q. Does this mean that the Proposed Route will have no impact on the criteria examined by the Siting Team?

A. No. It is important to recognize that, like any construction project, all of the alternatives had some impacts to most of the criteria examined from an overall environmental perspective. As I noted in my direct testimony, the Proposed Route crosses the most human/built resources, as it has the most road crossings, is in close proximity to the most residential structures and institutional complexes. Importantly, however, the Proposed Route will cross these human/built resources within existing ROW. Meaning that

impacts will be temporary during construction, and any new permanent impacts will be minimized.

Q. Why is it important to recognize that the Proposed Route's effects on human/built resources are within existing ROW?

A. It is important because, where human/built resources would ostensibly be impacted by the Proposed Route, those resources are impacted by existing transmission facilities today.

Q. What do these existing impacts mean relative to the impacts anticipated for each of the routes analyzed by the Siting Study?

A. The Proposed Route is the shortest and largely uses existing ROW. Much of the impact scores attributable to impacts on human/built resources in the Siting Study are within or along existing transmission line ROW and, therefore, those resources will be impacted in a similar fashion as they are by the transmission line facility that is there today. The impact scores attributable to impacts on human/built resources for each of the Alternatives Routes, however, are new impacts on those resources as each of these routes would require significantly new ROW to be acquired and constructed upon. The environmental impacts for construction on non-existing ROW are also much higher than those associated with construction on existing ROW. More specifically, impacts to the existing ROW will produce temporary and secondary impacts during construction that include noise and other construction-related disturbances, including vehicular traffic. The

most substantial land use effects associated with construction of the proposed line include a reduction in woodland and visual effects in residential areas.

As explained below, the specific concerns and criticisms lodged by the Protestants fail to recognize this fact. Ultimately, their proposals and claims would unreasonably shift the impacts of the Project onto land that is not currently impacted by existing transmission facilities.

Q. Do any of the Protestants criticize the Proposed Route?

A. Yes, several of the Protestants raised concerns regarding the Proposed Route for the BI-Crescent Project. I address each of the Protestants' claims below.

Q. Did Mrs. Crowe testify regarding the selection of Proposed Route and/or the Siting Study?

A. Mrs. Crowe states that the Proposed Route traverse her property at 1123 Juanita Drive, and that the proposed location of facilities will involve the clearing of "numerous mature trees." (Tr. 126) While Mrs. Crowe does not propose an alternative route, it appears that she has alleged the Project will impact her property.

Q. Please respond to Mrs. Crowe's testimony regarding the Proposed Route.

A. As an initial matter, I note that Mrs. Crowe testified regarding two properties: (1) the property located at 306 Konter Road, which is the property at which Mrs. Adams resides; and (2) the property at 1123 Juanita Drive, which is the property at which Mrs. Crowe resides. As explained with respect to Mrs. Adams' testimony, no transmission facilities

are currently located upon or planned to be located upon or cross the property located at 306 Konter Road.

With regard to Mrs. Crowe's testimony regarding impacts to 1123 Juanita Drive, the analysis accounts for forest land cleared and includes this information in the overall score. While the siting study does explain that the most substantial land use effects associated with construction of the proposed line include a reduction in woodland and visual effects in residential areas, the overall score for the Proposed Route remains the lowest after accounting for these effects.

Q. Did Mr. Gable testify regarding the selection of Proposed Route and/or the Siting Study?

A. Mr. Gable raises three concerns. First, Mr. Gable asserts that the electromagnetic field from Proposed Route will impact a picnic pavilion located on his property at 304 Konter Road. (Tr. 140-141) He further asserts that the electromagnetic field will cause numerous health concerns. (Tr. 141) Second, Mr. Gable asserts that the Proposed Route will impact residential homes. (*See* Tr. 142-143 (referencing Exhibits Gable 1 through 3)) Third, Mr. Gable asserts that under the Pennsylvania Constitution the public is entitled to clean air, and a clean environment and that the Proposed Route will impact these rights. (Tr. 145) I understand that Duquesne Light witness Meenah Shyu (Duquesne Light St. 3-R) responds to the Protestants' claims regarding electromagnetic fields.

Q. Please respond to Mr. Gable's testimony regarding the Proposed Route.

A. With regard to impacts to residential homes, the siting criteria did evaluate this resource for all proposed routes. "Residential Areas" as a specific environmental resource is given the highest weight in calculating the overall impact score. Because Mr. Gable's property includes the existing ROW, impacts from the Proposed Route are expected to be similar to the impacts by the existing transmission facilities located on Mr. Gable's property today.

Q. Mr. Gable proposed, as an alternative route, that Duquesne Light proceed "along the river" with an underground transmission line. (Tr. 145) Should Mr. Gable's alternative route be adopted?

A. No. Constructing a transmission line along the river would be problematic as there would be considerable conflicts with existing railroad and transportation infrastructure and numerous industrial developments are located along the river in McKees Rocks, additionally installing an underground transmission line can cost between five and ten times as much per mile as installing an overhead line, furthermore underground transmission lines have a shorter life expectancy and are more difficult with higher costs to repair when needed.

Q. Did Mrs. Marinkovic testify regarding the selection of Proposed Route and/or the Siting Study?

A. Mr. Marinkovic asserts that "the PUC should consider having Duquesne Light take an alternate route, which they have two that are available to them." (Tr. 153)

Q. Please respond to Mrs. Marinkovic's testimony regarding the Proposed Route.

A. As an initial matter, I note that Duquesne Light witness Lesley Gannon (Duquesne Light St. 4-R) explains that no transmission facilities traverse the property located at 205 Purdy Road today, and no facilities are planned to traverse that property as a part of the BI-Crescent Project. Similarly, Alternative 1 and 2 would not have facilities located on the 205 Purdy Road address location. I also note that 205 Purdy Road property is located outside of the study area for the Proposed Route. Any impacts from the Proposed Route are expected to be similar to the impacts by the existing transmission facilities located near, but not on, Mrs. Marinkovic's property today.

Q. Mrs. Marinkovic proposed that either Alternate Route 1 or Alternate Route 2 for the Project should be adopted. (Tr. 153) Should Mrs. Marinkovic's proposal be adopted?

A. No.

Q. Please explain.

A. For either Alternative Route 1 or 2, all new ROW would need to be obtained and new impacts would be associated with both routes compared to the Proposed Alternative that is located within existing ROW. Furthermore, both Alternative Routes 1 and 2 are longer than the Proposed Route, thereby further increasing the overall impact to resources in the region.

Q. Did Mrs. Wilson testify regarding the selection of Proposed Route and/or the Siting Study?

A. While Mrs. Wilson does not specifically contest the Proposed Route or propose an alternative, she does allege that Duquesne Light should be required to obtain a 150-foot wide easement for the Project. (Tr. 168)

Q. Please respond to Mrs. Wilson's testimony regarding the Proposed Route.

A. Duquesne Light witnesses John C. Hildebrand II. (Duquesne Light St. 5-R) and Meenah Shyu (Duquesne Light St. 3-R) address the safety concerns raised by Mrs. Wilson, and Mrs. Gannon addresses whether Duquesne Light has obtained a sufficient easement across the Wilson property. However, at the time of the siting study the size of the required easement was not known. In order to obtain the overall impact score for all the alternatives a 200-foot wide corridor was used for analysis and calculation purposes. If the corridor used in the analysis was reduced for the Proposed Route, it would reduce the potential impacts, and improve the overall impact score for the Proposed Route.

Q. Did Mr. Zona testify regarding the selection of Proposed Route and/or the Siting Study?

A. Mr. Zona raised several concerns regarding the Proposed Route and the Siting Study. Mr. Zona asserts that the proposed increase in structure height will create new visual impacts. (Tr. 174-175) Mr. Zona specifically contests that conclusion on page 51 of the Siting Study. (Tr. 176-177) Relatedly, Mr. Zona asserts that the Siting Study only

examines impacts on 100-feet on either side of the Proposed Route for residential impacts and that this is unreasonable. (Tr. 183)

Mr. Zona also asserts that the specific criteria used to evaluate the Proposed Route, Alternate Route 1 and Alternate Route 2. (Tr. 181-184) I note I will respond to Mr. Zona's specific criticisms regarding the selection of impact criteria and calculation of impact scores for each of the routes analyzed in the Siting Study in Section III, below.

Q. Please respond to Mr. Zona testimony regarding the Proposed Route.

A. Impacts from the Proposed Route are expected to be similar to the impacts by the existing transmission facilities located near Mr. Zona's property today. While the single pole transmission line structures will increase in height, and the new height may be more observable from some locations, it could be argued that the removal of the wider, lattice-tower structures of the existing transmission line would reduce visual impacts from other locations.

In addition, residences within 100 feet of the centerline (*i.e.* a 200-foot wide corridor) were used in the calculation of the Overall Impact Score. Importantly, however, Mr. Zona is incorrect that the Siting Study only analyzed resource impacts within 100 feet of the centerline. While, the majority of the resource impacts used in the calculation of the Overall Impact Scores were computed from within 100 feet of the centerline, resources with an intrinsic visual value such as parks, cemeteries, churches, and schools, which were computed from within 1000 feet of the centerline (*i.e.* a 2000-foot wide corridor).

III. CRITERIA USED TO EVALUATE ALTERNATIVE ROUTES

Q. You noted above that Mr. Zona criticized the criteria used to evaluate the Propose Route and the Alternative Routes in the Siting Study and your calculation of the impact score for each respective route. What were Mr. Zona's specific criticisms?

A. Mr. Zona contested the SCC criteria and additional criteria used in the Siting Study to evaluate the routes considered, and argued that these criteria were biased in favor of the Proposed Route. (Tr. 181-182; *see also* Exhibit Zona 4) Mr. Zona further asserted that the selection and weighting of the criteria used in the Siting Study and the underlying raw data is "arbitrary." (*See* Exhibit Zona 4) Finally, Mr. Zona asserts that the Siting Study is based on "unreasonable assumptions. (*See* Exhibit Zona 4)

Q. What is your experience evaluating and analyzing the environmental impacts of transmission facilities?

A. I have a Master of Science in Urban and Regional Planning and have been with GAI for nine (9) and a half years. For the past 34 years I have worked in the environmental planning field and in my present capacity am responsible for the management of environmental impact studies, ecological, socioeconomic, archaeological, land-use planning, and cultural resource studies, facilities siting studies, and interpretation and application of governmental regulations and procedures relating to facilities permitting. I work within GAI's Environmental Power Delivery Group and have managed utility transmission (electric and gas) siting projects since 2010.

Q. What are the "SCC" criteria Mr. Zona identifies in Exhibit Zona-4?

A. By way of background, the Siting Criteria Council (*i.e.* the "SCC") consisted of a group of individuals from the general public representing diverse backgrounds and interests. The purpose of the SCC was to assign a **criterion weight** to all individual Resource Criteria because not all of the criteria are equally important as perceived by the public. The SCC's Resource Criteria weights were used in the calculation of the Overall Impact score because they specifically were developed to eliminate bias by incorporating the Nominal Group Technique (NGT), which is a structured decision-making technique. The resource evaluation criteria used in the Siting Study to evaluate potential routes were evaluated for all three proposed routes. As such, Mr. Zona mistakenly refers to the SCC as "criteria"; there are only SCC Criteria **weights**.

In addition, the 30 resource criteria used in the Siting Study are based on PAPUC regulations, permitting requirements, government protected resources, resources that could be problematic in the construction or maintenance of a transmission line, and resources that the public may value. The 30 resource criteria used in the evaluation to select the preferred alternative are described in Section 3.2 of Attachment 3 to the BI-Crescent Application.

Q. How did the SCC develop these criteria weights?

A. In order to determine the most suitable alternative for a project, the relative scores for each criterion for each alternative need to be totaled. The SCC was created for the GPU-DQE 500 kV Transmission Line siting that included over 500 miles of line and a study area of 20,000 square miles. The purpose of the SCC was to aid in the selection of the

natural and manmade resource criteria that would be used to evaluate impacts along alternative routes. In addition, the SCC was asked to weigh these resource criteria.

As a part of this process, the SCC was given an overview of the siting and route evaluation process. Then, the SCC assisted in the selection and definition of Resource Evaluation Criteria. Finally, the SCC assigned weights to the Resource Evaluation Criteria, using a nominal group technique that encourages contributions from all members.

The weighting session consisted of four interactive rounds of discussion and weighting. Each member was asked to weigh each Resource Evaluation Criteria. After each round of weighting, each SCC member was given a weighting summary sheet that displayed their last vote and the mean for all the votes for each Resource Evaluation Criteria. Each member was given the opportunity during each round of voting to express their views on the weighting scores in an attempt to influence the next round of voting. At the conclusion of round four the SCC was satisfied with the results and voted to adopt the mean weights for each of the Resource Evaluation Criteria when routing decisions needed to be made and choices had to be made as to which resources were to be impacted. The weights established by the SCC are considered an industry standard.

Q. How were the SCC criteria weights used in the Siting Study?

A. SCC weights were used for 22 of the 30 resource criteria. GAI further augmented these with an additional eight resource criteria (Land Trust Protected Area, Cemeteries, Exceptional Value Streams, Landslide Prone Area, Commercial/Industrial Areas, Forest

Land Cleared, Non-existing ROW, and Length of ROW) to reflect items of local significance and current regulatory concerns.

Q. How were the criteria weights for these additional criteria established?

A. Weights for these eight resources were assigned by a group of environmental, planning and engineering professionals at GAI that have extensive experience siting and evaluating the impacts of projects in similar areas. The weights were determined by considering the relative importance of these resources and the weights assigned to related resources by the SCC. The weights used for the evaluation of the alternatives are shown in Table 4.0 of Attachment 3 to the BI-Crescent Application.

Q. Mr. Zona argues that the SCC criteria were developed in relation to a 512 kV project and, therefore, should not be used to evaluate this Project. Please respond to this argument.

A. The SCC Weights are based upon the sensitivity and frequency of the resources potentially affected by the construction and operation of the Project. The resources and their sensitivity are not related to the voltage of the Project. And, as noted above, the weights established by the SCC are considered an industry standard for evaluating transmission line projects.

Q. Mr. Zona further argues that GAI "arbitrarily" added criteria, in addition to the SCC criteria, to its analysis. What additional criteria did GAI include?

A. As noted above, the eight resource criteria that were added (Land Trust Protected Area, Cemeteries, Exceptional Value Streams, Landslide Prone Area, Commercial/Industrial Areas, Forest Land Cleared, Non-existing ROW, and Length of ROW).

Q. Why did GAI include these additional criteria?

A. As noted above, all of the criteria were added because they reflect local significance and current regulatory concerns.

The Landslide Prone area criterion was specifically included because soil stability is a key factor for locating transmission lines. New data became available in Allegheny County to help identify the potential for slope failure. This enables engineering analysis to be considered to either avoid those areas or find solutions for tower placement and construction.

Cemeteries were added as they are often protected under the State Historic Preservation Office.

Land Trust Protected Areas were added as a criterion since these areas are protected by the state or county and often have use restrictions associated with them.

Exceptional Value Streams are regulated by the Pennsylvania Department of Environmental Protection, who require a stringent review process, and impact to them should be avoided or minimized.

Commercial/Industrial Areas were added as a criterion as they are relevant to the region and often have conflicts with transmission lines.

Forest Land Cleared was added as a criterion due to its general impact on the environment and its impact to the federally and state listed endangered Indiana Bat and Northern Long-eared Bat.

Non-existing ROW and Length of ROW were included as criteria as they have a direct bearing on the number of accumulated impacts and overall cost of the Project.

Q. Mr. Zona argues that if the GAI criteria are removed from the evaluation conducted in the Siting Study, that the Proposed Route will have greater impacts than Alternative Route 1. Please respond.

A. Mr. Zona's argument should be rejected. Removal of relevant criteria would disregard impacts to the applicable resources, and disregard potential construction hazards.

Q. Is Mr. Zona's proposal to evaluate the Proposed Route, Alternative Route 1 and Alternative Route 2 based solely on the SCC criteria reasonable or appropriate?

A. While the SCC Criteria Weights are relevant for those applicable resources that occur within the potential area affected by the Project, the evaluation of additional criteria is to respond to the changing regulatory and ecological science regimes we work within. Thus, relevant criteria are added, deleted, and weighted by the experienced profession staff conducting the evaluations.

Q. Mr. Zona further argues that the selection of the SCC and GAI criteria is arbitrary. Why is the use of these criteria reasonable and appropriate to measure the impact of the route?

A. The SCC criteria weights are not arbitrary. Rather, they were developed by individuals representing diverse backgrounds and interests (as noted above), which included professors of ecology and history, city, county and regional planners, a school superintendent, a member of the League of Women Voters, farmers, a business woman, a health professional, a conservation organization member, and an employee of a business association. The SCC is the closest representation of current societal values we have assembled for the Western Pennsylvania Region. For each successive study, these weights are reviewed by a group of environmental, cultural and design professionals for their relevance in light of the resources potentially affected.

Furthermore, the additional criteria review by GAI were selected by experienced industry professionals based upon their understanding to respond to the changing regulatory and ecological science regimes they work within.

Q. In your experience developing studies to analyze the environmental impacts of transmission line projects, is this method of selecting the criteria evaluated consistent with wide-spread and accepted practices in the industry?

A. Yes. The procedures used in this Project Siting Study have been the Standard of Practice for PAPUC High Voltage Transmission Line Siting for the past 25 years.

Q. In addition, Mr. Zona asserts that the weight supplied to criteria is arbitrary. How were these weights calculated?

A. The rigorous process (explained above) that was used to develop the SCC criteria weights is not arbitrary. The weights established by the SCC are considered an industry standard.

Q. In your experience developing studies to analyze the environmental impacts of transmission line projects, is this method of weighting the criteria evaluated consistent with wide-spread and accepted practices in the industry?

A. Yes. The procedures used in this Project Siting Study have been the Standard of Practice for PAPUC High Voltage Transmission Line Siting for the past 25 years. Overall, the goals of the siting study were to select a reasonable route for the BI-Crescent Project and establish alternative routes for evaluation that are environmentally sound, feasible from an engineering and economic perspective, and compliant with applicable regulations. Moreover, the weighting criteria were used because they specifically were developed to eliminate bias and enable the siting team to evaluate routes objectively. This is consistent with wide-spread and accepted practices in the industry.

Q. Does Mr. Zona propose a different method for weighing these criteria?

A. No, he does not.

Q. Does Mr. Zona propose different weights for any of the criteria used?

A. No, he does not.

Q. Mr. Zona also argues that the "raw data" used by GAI to calculate the impact scores is arbitrary. Please respond.

A. The 30 resources were quantified by the following parameters: linear distance adjacent (miles), number within a specified distance, acres impacted within the ROW, and linear distance within two miles for the Airport impact calculation. Geographic Information Systems (GIS) Software, and a publicly available data were used for the identification and calculations of the raw data.

Q. In your experience developing studies to analyze the environmental impacts of transmission line projects, is this method of collecting and compiling of raw data used to analyze these criteria consistent with wide-spread and accepted practices in the industry?

A. Yes. GIS Software, and a publicly available data were used for the identification and calculations of the raw data. Publicly available data was obtained from local, state and federal government databases, recent aerial imagery was reviewed, and limited ground truthing of the data was conducted from public roadways. This is the standard industry practice for obtaining raw data for a siting study.

Q. Does Mr. Zona propose a different method for collecting and compiling this raw data?

A. No, he does not.

Q. Does Mr. Zona propose different values for any of the raw data used by GAI?

A. No, he does not.

Q. Finally, in Exhibit Zona-4, Mr. Zona states that the Siting Study is unreliable because it makes unreasonable assumptions, and provides an alleged example. Please respond.

A. Mr. Zona claims that the statement in the siting study "Since Proposed Route is proposed to utilize existing ROW no new visual impact is anticipated" is an unreasonable assumption. However, consideration should be given to the fact that the replacement of an existing structure with a new structure does not pose a new visual impact just a different visual impact, as the existing structure already creates a visual impact.

Q. In your experience developing studies to analyze the environmental impacts of transmission line projects, are the assumptions made in the Siting Study consistent with wide-spread and accepted practices in the industry?

A. Yes. The procedures and assumptions used in this Project Siting Study have been the Standard of Practice for PAPUC High Voltage Transmission Line Siting for the past 25 years.

Q. Do the assumptions in the Siting Study support Mr. Zona's argument that the impact criteria are unreliable by association?

A. No. While, Mr. Zona claims that the statement in the siting study "Since [the] Proposed Route is proposed to utilize existing ROW no new visual impact is anticipated" is an unreasonable assumption, this statement has no bearing on the selection of the criteria

used in the siting study. Visual impact is a secondary effect that was accounted for in many of the criteria used in the siting study, including recreational areas, cemeteries and historic sites, scenic areas, residential areas, and institutional areas. All these criteria, along with the associated visual impacts, were tabulated and used in the Overall Impact Score calculation for the Proposed Route and both alternatives.

Q. Mr. Zona also argues that the Siting Study does not properly tabulate the scores for each of the routes analyzed. (Tr. 182) Please respond.

A. To quantitatively analyze the three routes, the resource categories were converted to a relative scale, weighted and combined to produce a final impact score of each route.

In order to put resource measurements on a relative scale (e.g., acres, number, feet) and to obtain an impact score that could be compared across the different alternatives, the data were mathematically proportioned to a scale of 1 to 10. In this procedure, the alternative with the highest value (worst) for individual resources receives a relative score of 10; that with the lowest value (best) receives a relative score of 1. (Note: If all three alternatives have an impact value of zero for a specific resource criterion, then the weighted value is equal to zero). Thus, the raw data values are transformed to a relative scale from 1 to 10 to obtain Relative Scores for each Resource Evaluation Criterion impacted. Using the relative position of the alternative in comparison to the values for all alternatives provided an indication of how the alternative compares overall. The Relative Score was then multiplied by the Criteria Weight to obtain the Impact Score for each Resource Evaluation Criterion.

Q. In your experience analyzing the environmental impacts of transmission line projects, do other environmental consultants regularly rely upon such analyses in reaching their conclusions?

A. Yes.

IV. CONCLUSION

Q. Please summarize the conclusions you reached in your rebuttal testimony.

A. Based on the analysis presented in the siting study, the Siting Team evaluated the feasible alternatives and selected the overall best route that, on balance, minimizes the impact to the natural and human environments, avoids unreasonable and circuitous routes, and avoids non-standard design requirements.

Q. In your expert opinion, has Duquesne Light reasonably endeavored to minimize the anticipated impacts and comply with potential permit and mitigation requirements associated with the proposed Project?

A. Yes. Efforts were made during the siting process to minimize impacts on existing and future land uses, as well as avoid sensitive natural resources such as wetlands and streams. Where potential impacts are unavoidable, Duquesne Light will obtain any necessary permits and comply with the best management practices laid out within during construction. Best management practices may include fencing sensitive resources to protect them during construction, use of timber matting equipment for crossings of streams and wetlands, and utilizing erosion and sedimentation controls.

As part of the permitting process, any required waterway, wetland, or floodplain encroachment permits will be obtained from the applicable jurisdictional state and federal

agencies prior to construction and Duquesne Light will comply with all special conditions placed on the permits. In addition, to address water quality standards within watersheds along the Project corridor, Duquesne Light will comply with the regulations of the National Pollutant Discharge and Elimination System permit program, obtain the required soil erosion and sedimentation control permits, and follow the specified conditions required for the permit.

Finally, a detailed discussion of Duquesne Light's efforts to minimize the anticipated impacts and potential permit and mitigation requirements of the proposed Project is provided in Section 5 of Attachment 3 to the BI-Crescent Application, including potential impacts to: land use; natural features; rare, threatened, and endangered species; cultural resources; community features and conserved lands; and agency requirements and permits.

Taking all of the above into consideration, the Proposed Route represents the most reasonable route of the alternatives considered in the Siting Study and should be adopted.

Q. Does this conclude your testimony at this time?

A. Yes. I reserve the right to supplement my testimony as additional issues arise during the course of this proceeding.

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Application of Duquesne Light Company filed Pursuant to 52 Pa. Code Chapter 57, Subchapter G, for Approval of the Siting and Construction of the 138 kV Transmission Lines Associated with the **Brunot Island-Crescent Project** in the City of Pittsburgh, McKees Rocks Borough, Kennedy Township, Robinson Township, Moon Township, and Crescent Township, Allegheny County Pennsylvania	:	Docket No. A-2019-3008589 Docket No. A-2019-3008652

Duquesne Light Company

Statement No. 2-A

Written Amended Direct Testimony of

Aimee Kay

Topics Addressed: **Summary of the Siting Study**
Selection of the Proposed Routes for the Amended Project

DUQUESNE
STATEMENT
2A

I. INTRODUCTION

Q. Please state your name and business address.

A. My name is Aimee Kay. My business address is 385 E. Waterfront Drive, Homestead, PA 15120.

Q. By whom are you employed and in what capacity?

A. I am employed by GAI Consultants, Inc. and currently serve as an Environmental Manager in the Power Delivery – Environmental Services Market Sector.

Q. What are your principal responsibilities in this position?

A. I am responsible for managing and coordinating studies for the siting, environmental assessment, permitting/licensing, and reports of high voltage electric transmission lines.

Q. Please provide a summary of your education and professional work experience.

A. I have been providing environmental consulting services for over 28 years and have been with GAI for over ten years. In my present capacity, I am responsible for (1) the management of environmental impact studies, (2) ecological, archaeological, land-use planning, and cultural resource studies, (3) facility siting studies, and (4) interpretation and application of government regulations and procedures relating to facility permitting. I have managed multiple utility transmission and substation (electric and gas) projects since joining GAI, along with numerous utility projects since 1990 while at previous employments. I earned a Bachelor of Arts Degree in Environmental Studies from Edinboro University in 1986 and a Master of Science in Urban and Regional Planning from Eastern Michigan University in 2007.

Q. Have you previously provided testimony in this matter?

A. Yes, on March 15, 2019, I submitted Direct Testimony ("Duquesne Light Statement No. 2"), and on October 10, 2019, I submitted Rebuttal Testimony ("Duquesne Light Statement No. 2-R").

Q. What is the purpose of your amended direct testimony in this proceeding?

A. My testimony provides a summary of the Route Selection of the Brunot Island-Crescent 138 kV Transmission Line and the Siting Study. In my testimony, I identify and generally describe the *Environmental Assessment and Line Routing Study for the Duquesne Light Company Brunot Island-Crescent 138 kV Transmission Line Project, Allegheny County, Pennsylvania* report and appendices dated June 2018 (collectively the "Report"), which is included as Attachment 3-A to the Amended Application of Duquesne Light Company for the Siting and Construction of a 138 kV Transmission Line in Allegheny County, Pennsylvania ("Siting Application"). The Report explains (1) the methodology utilized by GAI and Duquesne Light (together, the "Siting Team") to site the line route alternatives, (2) the evaluation of the alternatives and selection of a Proposed Route for the Project, and (3) the assessment and recommended mitigation of the potential environmental effects of the Proposed Route. The siting and environmental study activities described in the Report were performed by GAI, under my supervision, in coordination with Duquesne Light. The Report was filed with the Siting Application as Attachment 3-A.

Q. Were any portions of the siting study prepared by you or under your supervision?

A. Yes, the siting and environmental study activities were performed by GAI, under my supervision.

Q. Please provide an overview of the project.

A. As explained in the written amended direct testimony of Company witness Mr. Jason A. Harchick (Duquesne Light Statement No. 1-A), Duquesne Light identified a need to address aging infrastructure along the Brunot Island-Crescent 138 kV Transmission Line. To address the aging infrastructure, Duquesne Light proposes to rebuild the Brunot Island-Crescent 138 kV Transmission Line that will extend approximately 14.5 miles between the Brunot Island Substation in the City of Pittsburgh and the Crescent Substation in Crescent Township. As further explained in Duquesne Light Statement No. 3-A (Shyu), the Brunot Island-Crescent 138 kV Transmission Line will be rebuilt as a 138 kV overhead transmission line along existing Right of Way ("ROW").

II. SITING STUDY

Q. Please describe the purpose of the Siting Study prepared for the proposed Project.

A. The purpose of the siting study was to select a suitable route for a 138 kV electric transmission line between the Brunot Island Substation and the Crescent Substation that tied into the Montour, Sewickley and Neville Substations along its path. Furthermore, the purpose was to establish alternative routes for evaluation that are environmentally sound, feasible from an engineering and economic perspective, and compliant with applicable regulatory requirements. Environmental soundness includes minimizing environmental impacts while maximizing siting opportunities. Engineering and economic feasibility includes minimizing engineering constraints, cost, and distance of the route. Per

Pennsylvania regulations at 52 Pa. Code § 57.1, alternative routes analyzed must include "a reasonable right-of-way which includes not more than 25 percent of the right-of-way of the applicant's proposed route".

To meet the purpose of the siting study, the Project study area was examined for constraints and opportunities in order to develop alternative routes, analyze impacts associated with the alternative routes, and select the proposed route. The Proposed Route is the route that, when considering all the constraints and opportunities, best minimized the overall impacts of the Project.

Q. Please summarize the route development process used in the Siting Study.

A. The initial step in the siting process involved the identification of a study area boundary. This was established to include the Project end points (the existing Brunot Island Substation and the existing Crescent Substation), the mid route tie in substations (the existing Montour, Neville and Sewickley Substations), existing Duquesne Light transmission line corridors to allow for opportunities to parallel existing ROWs, and the intervening areas. The northern limits of this study area were defined to avoid the Ohio River. The southern limits of the study area were defined to avoid close proximity to the Pittsburgh International Airport and to avoid Interstate 376. The study area incorporates an approximately 34.1-square-mile area in Allegheny County, PA.

Following establishment of the study area, GAI utilized recent aerial photography (2015), United States Geological Survey (USGS) topographic mapping, agency coordination, and published data to compile a geographic information system (GIS)-based constraints map of the study area. This map identified sensitive natural, cultural and socioeconomic

resources in the study area. GAI used this information to develop preliminary transmission line routes for further analysis to avoid major constraints to the extent feasible.

Field reconnaissance was conducted to update data available for resources in the vicinity of each of the preliminary routes. Route locations were then added or refined as necessary based upon environmental and human/built constraints. A total of three alternative routes were developed that minimize impacts to environmental, cultural and socioeconomic constraints. The three alternatives were then qualitatively and quantitatively analyzed and compared by the routing team to identify the Proposed Route.

Q. Please summarize the guidelines and factors used to identify and evaluate the potential routes.

A. These guidelines recognize the importance of protecting and enhancing natural, historical, scenic, and recreational resources in and around electric transmission projects. The siting guidelines were developed based upon the Pennsylvania Public Utility Commission ("Commission") regulations (52 Pa. Code § 57.1 *et seq.*), public input, resource agency permitting requirements, engineering requirements and economic feasibility. The siting guidelines include both siting opportunities and siting constraints. Siting opportunities are locations representing land use and environmental resources, which are compatible with the safe, economical, and reliable construction and operation of a 138 kV transmission line. Siting constraints represent locations where a 138 kV transmission line might have a potential adverse impact on sensitive resources or locations where conditions might affect reliable and safe operation or economical construction of the line. Siting opportunities include paralleling existing electric transmission line, pipeline, or railroad ROW;

maximizing the distance from residential dwellings, schools, daycare facilities, hospitals and other community facilities; a short direct route; open, uninhabited privately owned terrain; consistency with stakeholder input; minimizing visibility from federal and state listed scenic roadways and designated scenic resources; minimizing conflict with designated public resource lands, recreation lands, nature preserves, or other conservation areas; minimizing potential environmental and land use impacts by avoiding circuitous routes; minimizing new crossings of large wetland complexes, critical habitat, and other unique or distinct natural resources; minimizing habitat fragmentation; and impacts on designated areas of biodiversity concern. Constraints include populated areas, recreational areas, conservation areas, sensitive natural areas, cultural sites, engineering constraints, airports and forestland.

Q. Please describe how the Proposed Route is selected.

A. To select the Proposed Route, the Siting Team examined 30 environmental, human/built, and engineering resource criteria to determine impacts for each of the three alternatives. These resource criteria were based on Commission regulations, public input, resource agency permitting requirements, engineering requirements and economic feasibility. GAI further evaluated these factors for each alternative as applicable within three areas of proximity: (1) the immediate potential construction ROW; (2) the area adjacent to the potential ROW that would be in view of sensitive resources; and (3) a four-mile wide corridor, including the area two miles on either side of the centerline of each ROW.

Measurements compiled for each resource criterion data were assembled by review of database software for the three alternative routes (see Section 4 in the Report). In order to

put resource measurements on a relative scale (acres, number, feet) and to obtain an impact score that could be compared across the different alternatives, the data were then mathematically proportioned to a scale of 1 to 10 (see Section 4 and Appendix B in the Report). Higher scores indicate greater environmental impact; the route with the highest score (worst) for individual resources receives a 10; that with the lowest score (best) receives a 1. Thus, the scores are transformed to a relative scale from 1 to 10 to obtain relative scores for each resource criterion. Using the relative position of the route in comparison to the values for all routes provided an indication of how the route compares for that resource criterion.

These scaled scores were then weighted according to weights established by the Siting Criteria Council (SCC) for the GPU-DQE 500 kV Transmission Line Project. SCC weights existed for 22 of the 30 resource criteria. The Siting Team assigned weights for the remaining eight resource criteria (Land Trust Protected Area, Cemeteries, Exceptional Value Streams, Landslide Prone Area, Commercial/Industrial Areas, Forest Land Cleared, Non-existing ROW, and Length of ROW).

The scaled scores for each criterion were then multiplied by its respective weight to obtain the impact scores shown in Section 4 and Appendix B of the Report. These impact scores were summed to obtain an overall impact score for each alternative route.

Q. Was public outreach part of the route selection process?

A. Yes. Duquesne Light held three public open houses on February 21, 2017, February 28, 2017, and March 2, 2017, and invited impacted landowners, local residents and officials, businesses, organizations and the general public located along the Proposed Route.

Duquesne Light advertised the open houses in local newspapers and utilized targeted internet ads, in which it also provided an email and mailing address for the public to contact Duquesne Light with any questions, comments, or concerns. During each open house, multiple subject matter experts from Duquesne Light and its consultants were available to explain the scope of the project, its potential impact, and the proposed schedule. Duquesne Light also conducted further outreach with affected property owners, as discussed in Duquesne Light Statement No. 4-A, the amended direct testimony of Lesley Gannon. Additionally, I attended the Pennsylvania Public Utility Commission ("PUC" or "Commission") Public Input Hearing on October 9, 2019, where the Administrative Law Judge assigned to this matter took testimony on the record from the general public about the BI-Crescent Project.

Furthermore, as the Report notes, various resources prepared by governmental and non-governmental agencies were consulted for information on the project area, including comprehensive plans, natural heritage inventories, and other publications. Regulatory agencies were also contacted concerning the potential presence of rare species and sensitive natural and recreational resources. The Pennsylvania Historical and Museum Commission's Historic Preservation Office was consulted for information on the cultural resources in the project area.

Q. Did Duquesne Light consider local comprehensive plans and zoning ordinances in selecting the Proposed Route for the Project?

A. Yes. Preliminarily, I understand that public utility facilities, such as transmission lines and substations, are generally exempt from local municipal authority. However, as required by

the Commission's interim siting guidelines found at 52 Pa. Code § 69.1101 (2)(3) and § 69.3104 (1), GAI reviewed local zoning ordinances and comprehensive land use plans to evaluate the impact of the Proposed Route on municipalities. Further descriptions can be found in Section 7.2 of the Report.

Q. In your experience developing studies to analyze the environmental impacts of transmission line projects, was the Siting Study prepared and conducted consistent with wide-spread and accepted practices in the industry?

A. Yes. The procedures used in this Project Siting Study have been the Standard of Practice for PAPUC High Voltage Transmission Line Siting for the past 25 years. Overall, the goals of the siting study were to select a reasonable route for the BI-Crescent Project and establish alternative routes for evaluation that are environmentally sound, feasible from an engineering and economic perspective, and compliant with applicable regulations. Moreover, the weighting criteria were used because they specifically were developed to eliminate bias and enable the siting team to evaluate routes objectively. This is consistent with wide-spread and accepted practices in the industry.

III. PROPOSED ROUTE

Q. Please describe the feasible Alternative Routes identified by the Siting Team for the Brunot Island-Crescent 138 kV Transmission Line.

A. Using the siting analysis described above, the Siting Team identified three (3) suitable alternative routes for the Brunot Island-Crescent 138 kV Transmission Line: Proposed Route, which extends approximately 14.5 miles; Alternative 1, which extends

approximately 15.1 miles; and Alternative 2, which extends approximately 16.1 miles. These three Alternative Routes are described in detail below.

Proposed Route (14.5 miles)

The Proposed Route exits the Brunot Island Substation to the west crossing the Ohio River. It then travels west roughly paralleling Chartiers Creek for approximately two miles in an undeveloped area squeezed between an industrial area to the north of Chartiers Creek and residential areas to the south of Chartiers Creek. Once crossing Chartiers Creek for the final time, the Proposed Route proceeds west-northwest following an existing ROW through a forested area for approximately 1 mile. The Proposed Route then turns north-northwest and precedes for approximately 0.5 miles. Where it crosses a subdivision located between McKees Rocks Road and Clever Road and then passes into a forested area that parallels Fairhaven Park. Once past Fairhaven Park the Proposed Route turns northwest and continues for approximately one mile, where it crosses residential areas intermingled with forested areas. The Proposed Route then crosses Interstate 79 and continues for approximately a mile in a northwest direction crossing residential areas intermingled with forested areas. The Proposed Route then turns north to enter and exit the Montour Substation, which involves approximately 0.70 miles of combined ROW. The Proposed Route then continues in a generally northwest direction for approximately eight miles crossing residential areas intermingled with forested areas. In this eight-mile stretch, the Proposed Route crosses numerous residential streets, including Thorn Run Road, University Boulevard, Flaugherty Run Road, Spring Run Road, and Bocktown Road, before entering the Crescent Substation.

The Proposed Route:

- Has zero miles of non-paralleling ROW;
- Would impact 73.75 acres of forest land, 18.9 acres of NWI wetland, and 20 perennial streams;
- Crosses four commercial/industrial area, 102 houses, 11 apartment complexes, 47 roads/highways, and is adjacent to eight institutional complexes and three recreational areas;
- 0.6 acres of Core RTE habitat and zero acres of Land trust protected area;
- Crosses 11.0 miles of steep terrain and 7.5 miles of landslide-prone area;
- Is in the view shed of 34 Architectural/ historic site and crosses one Archaeological site; and
- Is, at its closest, two miles northeast of a runway associated with the Pittsburgh International Airport, and approximately 0.6 miles of the route is within two miles of the airport.

Alternative Route 1 (15.1 miles)

Alternative 1 exits the Brunot Island Substation to the north crossing the Ohio River and enters an industrial portion of McKees Rocks. Alternative 1 roughly parallels railroad ROW for approximately two miles, in a north-northwest direction. When it crosses over the McKees Rocks Bridge, Alternative 1 leaves the railroad ROW and crosses over Route 51. The route then roughly parallels Route 51 on a largely forested hill slope for 2.3 miles. Alternative 1 then crosses Interstate 79 and turns to the south for approximately 0.70 miles before turning northwest for 0.6 miles to enter the Montour Substation. Between Interstate 79 and the Montour Substation, Alternative 1 passes through forested areas. Alternative 1 leaves the Montour Substation in a westward direction passing through forested area for approximately 1.4 miles. At this point, Alternative 1 meets and overlaps the Proposed Route and utilizes existing ROW. Alternative 1 continues along the existing ROW to the northwest for approximately 1.2 miles. Alternative 1 then deviates to the west passing

through forested area for approximately 1.5 miles and crossing Thorn Run Road. Alternative 1 then turns north staying in forested area and continues for approximately 1.6 miles. Alternative 1 then crosses Route 51 and turns to the northwest were it continues for approximately three miles passing through mostly forested areas with some residential and industrial areas before it enters the Crescent Substation.

Alternative 1:

- Has 12.8 miles of non-paralleling ROW; which would need to be acquired as new ROW;
- Would impact 200.7 acres of forest land 4.4 acres of NWI wetland, and 22 perennial streams;
- Crosses nine commercial/industrial area, 24 houses, one apartment complex, 33 roads/highways, and is adjacent to six institutional complexes and one recreational area;
- 2.81 acres of Core RTE habitat and 0.1 acres of Land trust protected area;
- Crosses 11.2 miles of steep terrain and 9.4 miles of landslide-prone area;
- Is in the view shed of 37 Architectural/ historic site and crosses three Archaeological sites; and
- Is at its closest, 1.7 miles northeast of the Pittsburgh International Airport, and approximately 2.7 miles of the route is located within two miles of the airport.

Alternative Route 2 (16.1 miles)

Alternative 2 exits the Brunot Island Substation to the north crossing the Ohio River and enters an industrial portion of McKees Rocks. Alternative 2 roughly parallels railroad ROW for approximately 3.8 miles, in a north-northwest direction. When it crosses over the McKees Rocks Bridge, Alternative 2 leaves the railroad ROW, making several deviations to the south and west, crossing over Route 51 and Interstate 79, and staying within largely forested areas before entering the Montour Substation. Alternative 2 leaves the Montour

Substation in a western direction and is located in a forested area while it skirts a large residential area for approximately three miles. Once past the residential area, Alternative 2 turns north for approximately 0.7 miles, and then turns northwest for approximately 1.4 miles, crossing over Thorn Run Road, and staying in forested areas. Alternative 2 then turns north for approximately 1.6 miles, where it is located in forested area that is situated between two residential areas. Alternative 2 then turns to the west and continues for approximately one mile through forested area before meeting the Proposed Route. Alternative 2 then turns northwest and continues along existing ROW for approximately 0.5 miles before diverging to the north-northwest to avoid several residential areas. Alternative 2 continues to the north-northwest for approximately 1.6 miles before entering the Crescent Substation.

Alternative 2:

- Has 15.0 miles of non-paralleling ROW;
- Would impact 230 acres of forest land, 4.5 acres of NWI wetland, and 22 perennial streams;
- Crosses six commercial/industrial area, eight houses, one apartment complex, 25 roads/highways, and is adjacent to six institutional complexes and three recreational areas;
- 3.2 acres of Core RTE habitat and 1.3 acres of Land trust protected area;
- Crosses 12.6 miles of steep terrain and 9.6 miles of landslide-prone area;
- Is in the view shed of 34 Architectural/ historic site and crosses one Archaeological site; and
- Is at its closest, 1.4 miles east of the airport, and approximately four miles of the route is located within two miles of the airport.

Q. What route was selected for the Brunot Island-Crescent 138 kV Transmission Line?

A. Based on a qualitative and quantitative review of information obtained from GIS data, field reconnaissance, agency consultation and public outreach as well as engineering considerations for the Project, the Siting Team selected the Proposed Route.

Q. Please explain why the Proposed Route was selected for Brunot Island-Crescent 138 kV Transmission Line.

A. The Siting Team evaluated the feasible alternatives and selected the overall best route that, on balance, minimizes the impact to the natural and human environments, avoids unreasonable and circuitous routes, and avoids non-standard design requirements. The Proposed Route is the shortest and does not require the ROW. The Proposed Route also had the least impacts from a human/built and engineering perspective. From an overall environmental perspective, all of the alternatives had some impacts to most of the criteria examined. The Proposed Route crosses the most human/built resources, as it has the most road crossings, crosses the most residential structures, and crosses the most institutional complexes. However, the Proposed Route will cross these human/built resources within existing ROW and no new long-term impacts are anticipated. Additionally, the Proposed Route crosses the least commercial/industrial areas. The Proposed Route is the best alternative from an engineering perspective, as it crosses the least steep terrain and landslide-prone areas, and is the farthest from the Pittsburgh International Airport. The Proposed Route is the best alternative from an environmental resources perspective. It has the least impact to most of the environmental resources including forest land cleared, core RTE habitat, land trust protected areas, and perennial streams crossed, but has some of the higher impact to other criteria such as wetlands crossed and recreational areas. The

Proposed Route is the second-best alternative from a cultural resources perspective. It has the second most historical sites within its views shed and tied for the least archaeological sites crossed. As a general matter, the two Alternative Route would require acquisition of new ROW, which means that the environmental, human/built, cultural, and engineering impact scores attributable to impacts for each of the Alternatives Routes are new impacts on those resources as each of these routes. The Proposed Route is the shortest and does not require new ROW and has the least impacts from an environmental, human/built, cultural, and engineering perspective.

IV. COMPLIANCE WITH POTENTIAL PERMIT AND MITIGATION REQUIREMENTS

Q. Please summarize Duquesne Light's efforts to minimize the anticipated impacts and potential permit and mitigation requirements of the proposed Project.

A. Efforts were made during the siting process to minimize impacts on existing and future land uses, as well as avoid sensitive natural resources such as wetlands and streams. Where potential impacts are unavoidable, Duquesne Light will obtain any necessary permits and comply with the best management practices laid out within during construction. Best management practices may include fencing sensitive resources to protect them during construction, use of timber matting equipment for crossings of streams and wetlands, and utilizing erosion and sedimentation controls.

As part of the permitting process, any required waterway, wetland, or floodplain encroachment permits will be obtained from the applicable jurisdictional state and federal agencies prior to construction and Duquesne Light will comply with all special conditions placed on the permits. In addition, to address water quality standards within watersheds

along the Project corridor, Duquesne Light will comply with the regulations of the National Pollutant Discharge and Elimination System permit program, obtain the required soil erosion and sedimentation control permits, and follow the specified conditions required for the permit.

A detailed discussion of Duquesne Light's efforts to minimize the anticipated impacts and potential permit and mitigation requirements of the proposed Project is provided in Section 5 to the Report, including potential impacts to: land use; natural features; rare, threatened, and endangered species; cultural resources; community features and conserved lands; and agency requirements and permits.

Q. Does this conclude your testimony at this time?

A. Yes. I reserve the right to supplement my testimony as additional issues arise during the course of this proceeding.

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Application of Duquesne Light Company Filed Pursuant to 52 Pa. Code Chapter 57, Subchapter G, for Approval of the Siting and Construction of the 138 kV Transmission Lines Associated with the Brunot Island-Crescent Project in the City of Pittsburgh, McKees Rocks Borough, Kennedy Township, Robinson Township, Moon Township, and Crescent Township, Pennsylvania	:	Docket No. A-2019-3008589 Docket No. A-2019-3008652

VERIFICATION

I, Aimee Kay, GAI Consultants, Inc., hereby state that the facts set forth are true and cover (or are true and correct to the best of my knowledge, information and belief) and that I expect to be able to prove the same at a hearing held in this matter. I understand that the statements herein are made subject to the penalties of 18 Pa. C.S. § 4904 (relating to unsworn falsifications to authorities).

Aimee Kay

_____

Aimee Kay
Environmental Manager in Power Delivery

Date: August 10, 2020

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Application of Duquesne Light Company filed Pursuant to 52 Pa. Code Chapter 57, Subchapter G, for Approval of the Siting and Construction of the 138 kV Transmission Lines Associated with the **Brunot Island – Crescent Project** in the City of Pittsburgh, McKees Rocks Borough, Kennedy Township, Robinson Township, Moon Township, and Crescent Township, Allegheny County Pennsylvania	:	Docket No. A-2019-_____

Duquesne Light Company

Statement No. 3

Written Direct Testimony of
Meenah Shyu

Topics Addressed: Design and Safety Features of the Project

DUQUESNE
STATEMENT
3

Q. Please state your name and business address.

A. My name is Meenah Shyu, and my business address is 2841 New Beaver Avenue Pittsburgh, PA 15233.

Q. By whom are you employed?

A. I am employed by Duquesne Light Company ("Duquesne Light" or the "Company") as Manager of the Civil & Transmission Line Engineering Group**.**

Q. What are your current responsibilities?

A. I lead a team of civil engineers to support capital and maintenance projects. I also oversee the design of transmission projects and structural projects in substation that are engineered by Duquesne Light and Duquesne Light's engineering contractors.

Q. Please provide a summary of your education and professional work experience.

A. In 2008, I received a Bachelor of Science degree in Civil Engineering from Carnegie Mellon University in Pittsburgh, PA. In 2009, I received a Master of Science degree in Civil and Environmental Engineering from Carnegie Mellon University in Pittsburgh, PA.

My first professional occupation was at GAI Consultants in Homestead, PA, where I worked as a civil engineer in the Structural and Lines Group from July 2009 to May 2011. My second professional occupation was at DiGioia Gray & Associates in Monroeville, PA, where I worked as a transmission line engineer in the Transmission Line Engineering group from June 2011 to January 2016. My third and current

occupation is with Duquesne Light Company in Pittsburgh, PA. I have been working in the Civil & Transmission Line Engineering group with DLC since January 2016.

Q. What are your responsibilities in connection with the proposed Project?

A. In my role as Manager of Civil & Transmission Line Engineering, I am responsible for overseeing the overall engineering design development of the proposed Brunot Island – Crescent 138 kV Transmission Line Project.

Q. What is the purpose of your direct testimony in this proceeding?

A. My testimony addresses several issues. First, I will explain the major design features of the Brunot Island – Crescent 138 kV project. Second, I will explain the safety features incorporated into the design of the Brunot Island – Crescent 138 kV project. Third, I will explain Duquesne Light's Magnetic Field Management Program and how it has been incorporated into the design of the Brunot Island – Crescent 138 kV project.

Q. Please describe the portions of the Siting Application that you are sponsoring.

A. I am sponsoring Attachment 11, Duquesne Light Company Engineering Design Criteria, Electromagnetic Field Policy and Application, and Safety Practices.

Q. Please provide an overview of the proposed Project.

A. As explained in the written direct testimony of Company witness Mr. Jason A. Harchick (Duquesne Light Statement No. 1), the Brunot Island – Crescent corridor has some of Duquesne Light's oldest in-service steel lattice towers. Structural evaluations have

determined that the structures are approaching end of useful life. Based on current conditions, structure deterioration, and the use of industry-standard transmission line modeling software, Power Line Systems – Computer Aided Design and Drafting ("PLS-CADD"), to model the line at current design codes, all results indicate these structures are beyond permanent repair and require replacement. Duquesne Light proposes to rebuild the Brunot Island – Crescent 138 kV Transmission Line that will extend approximately 14.5 miles between the Brunot Island Substation in the City of Pittsburgh and the Crescent Substation in Crescent Township, the line will tie into the Montour Substation along its route. The Ohio River crossing double-monopole structure 6634 in Attachment 7, which currently supports four circuits—Brunot Island – Montour (Z-43) 138kV, Brunot Island – Crescent (Z-44) 138kV, Brunot Island – Collier (304) 345kV, Brunot Island – Crescent (331) 345kV—will be replaced with two single-monopole structures. One monopole will support the proposed Brunot Island – Montour (Z-43) 138kV circuit and the proposed Brunot Island – Crescent (Z-44) 138kV circuit. The second monopole will support the existing Brunot Island – Collier (304) 345kV circuit and the existing Brunot Island – Crescent (331) 345kV circuit.

Q. Please describe the design of the proposed Brunot Island – Crescent 138 kV Transmission Line.

A. The proposed new Brunot Island – Crescent 138 kV Transmission Line will be designed as a double-circuit 138 kV/345 kV transmission line, but initially will be operated as a double-circuit 138 kV transmission line until load growth makes it necessary to increase the voltage of the second circuit and necessary approvals are acquired. This proposed

rebuild will also accommodate connections to Neville, Montour and Sewickley Substations. The existing and proposed circuits that will be supported by the line structures are Z-24, Z-43, Z-44 and Z-143. A short portion of a single circuit (Z-45) 138 kV line will also be rerouted to a new termination bay within Montour Substation. The overhead 345 kV (initially energized at 138 kV) circuit design will utilize one (1) double bundle power conductor per phase for each of the three (3) phases in the circuit. The overhead 138 kV circuit will utilize three (3) single conductors, one for each of three phases. The power conductors utilized for this project will be 795 kcmil,[1] 20/7 ACSS-TW-HS[2] (Drake) conductors. The shield wire will primarily be fiber optic ground wire and will provide lightning protection and a communication path between the substations. This communication path could be used for communication between the protective relays at the station operate circuit breakers in order to remove the line from service should a fault in the line be detected.

Q. Please describe the principal types of structures that will be used for the new Brunot Island – Crescent 138 kV Transmission Line.

A. Based on preliminary engineering, the new Brunot Island – Crescent Transmission line will require approximately 108 new double-circuit support structures, which will consist of self-supporting weathering steel single poles on drilled concrete pier foundations.

The steel structures will largely consist of tubular steel monopole structures that will range from 60 to 200 feet in height, with an average height of approximately 180

[1] Kcmil stands for thousand circular mils. Kcmil wire size is the equivalent cross sectional area in thousands of circular mils. A circular mil is the area of a circle with a diameter of a thousandth (0.001) of an inch.
[2] ACSS-TW-HS stands for aluminum conductor steel supported, trapezoidal-shaped aluminum strands, high strength conductors

feet. All steel poles will be placed on drilled concrete shaft foundations. Due to the landslide prone nature of a portion of the project area, the drilled concrete shaft foundations will be designed, when necessary, such that they provide sufficient resistance against landslides. The average span between these structures will be approximately 900 feet. The longest span is approximately 2,500 feet across the Ohio River.

The minimum insulation distance from an energized live part to any of the line supporting structures is 5 feet. The minimum conductor-to-ground clearance for the proposed Brunot Island – Crescent Transmission Line will be 30 feet where possible under maximum electrical load and operating temperature.[3] Typical design diagrams similar to those that will be installed are included in Attachment 4.

Q. What is the National Electrical Safety Code?

A. The National Electrical Safety Code ("NESC") is a set of rules designed to safeguard people during the installation, operation, and maintenance of electric power lines. The NESC contains the basic provisions considered necessary for the safety of employees and the public. Although it is not intended as a design specification, its provisions establish minimum design requirements.

Q. Will the proposed Project comply with the NESC standards?

A. Yes.

[3] The maximum operating temperature is considered to be 392 degrees Fahrenheit.

Q. Please explain the safety features that will be incorporated into the design of the proposed Project.

A. In addition to the safety features incorporated by designing the line in accordance with the NESC, DLC's design loading conditions for structures, wires, and clearances exceed NESC standards. The line is designed for conductor-to-conductor clearances and conductor-to-ground clearances, which support maintenance and inspection activities. Work procedures and an Employee Safety Handbook have been developed to allow work to be performed in a safe manner. Personnel are furnished with appropriate Personal Protection Equipment for the performance of construction or maintenance activities in a safe manner.

A description of the safety features incorporated into the design of the proposed Project is provided in Attachment 11 to the Siting Application.

Q. Please explain Duquesne Light's electric and magnetic field ("EMF") program and how it will be incorporated into the design of the proposed Project.

A. Duquesne Light has adopted a program to mitigate the potential impacts from EMFs. This EMF program is applied to all new and reconstructed transmission lines. In order to lower magnetic field exposures, the program generally prescribes the use of a line design that provides ground clearances that meet or exceed the minimum NESC ground clearance and reverses phasing of new double circuit lines where it is feasible to do so at low or no cost. The implementation of additional modifications will be considered, provided those modifications can be made at low or no cost and will not interfere with the

operation of the line. Duquesne Light's EMF program for this Project is provided in the Safety and Design Criteria Attachment 11 to the Siting Application.

The Brunot Island – Crescent 138 kV Transmission Line will be designed for a minimum vertical ground clearance of 30 feet where feasible, which is greater than the clearance required by the NESC, 2017 edition.

As explained above, the Brunot Island – Crescent 138 kV Transmission Line will be designed as a double-circuit 138 kV/345 kV transmission line, but initially will be operated as a double-circuit 138 kV transmission line until load growth makes it necessary to increase the voltage of the second circuit and necessary approvals are acquired.

Q. Does this complete your direct testimony?

A. Yes, it does. If necessary, I will supplement my testimony if and as additional issues arise during the course of this proceeding.

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Application of Duquesne Light Company filed	:	
Pursuant to 52 Pa. Code Chapter 57,	:	Docket No. A-2019-3008589
Subchapter G, for Approval of the Siting and	:	Docket No. A-2019-3008652
Construction of the 138 kV Transmission	:	
Lines Associated with the **Brunot Island – Crescent Project** in the City of Pittsburgh,	:	
McKees Rocks Borough, Kennedy Township,	:	
Robinson Township, Moon Township, and	:	
Crescent Township, Allegheny County	:	
Pennsylvania	:	

Duquesne Light Company

Statement No. 3-R

Written Rebuttal Testimony of
Meenah Shyu

Topics Addressed: Design and Safety Features of the Project

DUQUESNE
STATEMENT
3R

I. INTRODUCTION

Q. Please state your name and business address.

A. My name is Meenah Shyu, and my business address is 2841 New Beaver Avenue Pittsburgh, PA 15233.

Q. Did you previously submit testimony in this proceeding on behalf of Duquesne Light Company ("Duquesne Light" or the "Company")?

A. Yes. On March 15, 2019, I submitted my direct testimony regarding the "Application of Duquesne Light Company filed Pursuant to 52 Pa. Code Chapter 57, Subchapter G, for Approval of the Siting and Construction of the 138 kV Transmission Lines Associated with the Brunot Island-Crescent Project in the City of Pittsburgh, McKees Rocks Borough, Kennedy Township, Robinson Township, Moon Township, and Crescent Township, Allegheny County Pennsylvania" at Docket No. A-2019-3008589 ("BI-Crescent Project").

Q. What is the purpose of your rebuttal testimony?

A. My testimony responds to certain issues related to specific design and safety features associated with the BI-Crescent Project, which were raised by several of the Protestants in their oral testimony at the September 10, 2019 lay witness hearing. Specifically, I will respond to the Protestants' concerns regarding: (1) the BI-Crescent Project's proposed design, including the proposed reconstruction of one 138 kV circuit to be capable of operating at 345 kV; (2) the Company's ability to fit the proposed design within existing 25-foot wide rights-of-way; (3) the Company's compliance with applicable National

Electrical Safety Code ("NESC") rules; and (4) how the Company proposed to mitigate the potential impacts of electromagnetic fields ("EMFs") as a part of the project.

Q. How is the remainder of your rebuttal testimony organized?

A. Section II of my rebuttal testimony summarizes and responds to the Protestants' concerns regarding the Company's proposed design for the BI-Crescent Project, including Protestants' claims that the BI-Crescent Project cannot be safely located in existing rights-of-way. I note that Duquesne Light witness John Hilderbrand (Duquesne Light St. 5-R) will explain that it is possible to safely design and locate a transmission line capable of operating at 345 kV within a 25-foot wide right-of-way, and that the BI-Crescent Project is designed to accomplish this possibility. In addition, Section III will address concerns regarding the steps Duquesne Light has taken to mitigate the potential impact of EMFs.

Q. Are you sponsoring any exhibits with your rebuttal testimony?

A. No.

II. REBUTTAL TO CRITICISMS OF DESIGN FEATURES

Q. Did you describe the primary design features of the BI-Crescent Project in your direct testimony?

A. Yes. On pages 3 to 5 of my direct testimony (Duquesne Light St. 3), I describe the engineering design of the Project and also provide an overview of the typical structures used in the project. In addition, I sponsored Attachment 11 to the initial Application,

which is the Duquesne Light Company Engineering Design Criteria, Electromagnetic Field Policy and Application, and Safety Practices.

Q. Do any of the Protestants raise concerns regarding the design features of the BI-Crescent Project?

A. Yes, albeit indirectly in many cases. Mr. Gable asserts that the BI-Crescent Project is designed to "eliminate" the existing 138 kV facilities. (Tr. 140) In addition, Mr. Zona testified regarding the typical structure designs and submitted several associated exhibits. (*See* Tr. 172-181; *see also* Exhibits Zona 1-3, 5, 6) I will respond to each of these Protestants below.

Q. Please respond to Mr. Gable's assertion that the BI-Crescent Project seeks to "eliminate" existing 138 kV facilities and substitute those facilities with facilities providing service at 345 kV.

A. The BI-Crescent Project will be designed to one 138 kV circuit and one 345 kV circuit. However, it will be constructed and installed as a double circuit 138 kV line. Therefore, the BI-Crescent Project will be operating as a double circuit 138 kV line. Duquesne Light witness Jason Harchick discusses the need for designing these facilities to be capable of 345 kV operation at some point in the future after all necessary approvals have been obtained. (*See* Duquesne Light St. 1-R)

Q. Please summarize Mr. Zona's testimony regarding the design features of the BI-Crescent Project.

A. Mr. Zona first testifies regarding the average height of the typical towers to be used for the Project and the tower that is planned to be located on his property, and asserts that Duquesne Light has increased the height of these structures from preliminary engineering. (Tr. 173-174) Next, Mr. Zona testifies that the BI-Crescent Project will result in an increase in the maximum conductor height and in additional increases in the heights of other conductors. (Tr. 174-175) Mr. Zona then testifies regarding the design of certain of the circuits to be capable of operating at 345 kV, and asserts that Duquesne Light is going to operate those facilities at 345 kV. (Tr. 177-178) Mr. Zona then testifies that regarding the dimensions of each structure and asserts that Duquesne Light cannot locate these structures within a 25 foot right-of-way, and that attempting to locate these structures in a right-of-way narrower than 150 feet violates accepted industry practices "worldwide", including the NESC. (Tr. 179-181) Finally, Mr. Zona appears to assert these design issues render the design of the BI-Crescent Project unsafe. (*See* Tr. 181)

Q. Please respond to Mr. Zona's assertion that an increase in average height of the typical towers to be used for the Project and/or an increase in average height of the tower planned to be located on his property has increased from preliminary engineering (Tr. 173-174).

A. The existing tower located on Mr. Zona's property is at a height of 90.8 feet with a double circuit configuration that is side-by-side. This existing tower is proposed to be replaced with an approximately 185 foot tall monopole with a double circuit configuration, stacked on top, and not as a side-by-side configuration. The stacked configuration ensures that the monopole can safely operate at rest within the 25-foot

width right-of-way because it is narrower in width compared to a side-by-side configuration. As a result of moving to a stacked configuration and in order to meet the required NESC clearances from wire to ground and NESC clearances wire to wire, the new structure would increase in height to approximately 185 feet.

Q. Does Duquesne Light regularly re-evaluate and update the preliminary engineering design of its transmission line projects, if it is necessary to do so?

A. Yes, Duquesne Light regularly evaluates and updates the preliminary engineering design of its transmission line projects throughout the course of each project. Typically, Duquesne Light hires expert transmission line engineering consultants to design these projects. Throughout the course of the design process, Duquesne Light and the consultant meet specifically to discuss design details, for example at a 30% design completion, 60% design completion, and 90% design completion. These meetings are in addition to regularly scheduled design meetings to discuss any design details and changes. It is necessary for Duquesne Light to review and understand that the design meets industry standard codes before going into construction.

Q. Why is it necessary to increase the average tower height, as compared to the existing structures?

A. In order to meet the NESC Code and stay within the existing right-of-way, Duquesne Light is proposing to increase the existing structure height on Mr. Zona's property from 90.8 feet to approximately 185 feet. The existing tower is a side-by-side configuration, which explains the lower tower height. By going to a stacked configuration, the circuits

would be on top of each other. The benefit of this configuration is that the structure will be inside the right-of-way. In order to meet the NESC wire to ground clearances and NESC wire to wire clearances, the monopole height increased to approximately 185 feet.

Q. Is the average tower height accurately described in the Application?

A. Yes.

Q. Please respond to Mr. Zona's assertion that the BI-Crescent Project will result in an increase in conductor heights along the existing transmission corridor (Tr. 174-175).

A. Yes, the conductor heights along the existing transmission corridor will increase for two reasons. One, the configuration will change from side-by-side to a stacked configuration. Two, Duquesne Light follows industry standard codes, such as the NESC Code, which outlines the required clearances that must be met such as clearances from wire to ground and wire to wire. In order to comply with these requirements, the height of the structure increased.

Q. Why is the increase in conductor height necessary from an engineering design standpoint?

A. Duquesne Light follows industry standard codes, such as the NESC Code. The current code is the NESC 2017 edition, which outlines the required clearances that must be met such as clearances from wire to ground and wire to wire. In order to comply with these requirements, the height of the structure increased.

Q. Please respond to Mr. Zona's assertion that the BI-Crescent Project will include 345 kV transmission facilities (Tr. 177-178).

A. Duquesne Light previously responded to a similar concern raised by Mr. Gable. Witness Jason Harchick discusses the necessity basis for designing these facilities to be capable of 345 kV operation at some point in the future after all necessary approvals have been obtained. (*See* Duquesne Light St. 1-R)

Q. From an engineering design standpoint, is there any benefit to designing the BI-Crescent Project to include facilities capable of operating at 345 kV at some point in the future?

A. From an engineering design standpoint, there is a significant benefit to designing the BI-Crescent Project to include facilities capable of operating at 345 kV. If the need arises to upgrade to 345 kV, very minimal construction will be needed and the cost to upgrade will be minimal. If however the BI-Crescent Project is designed to only be capable of 138 kV, if the need should arise in the future for 345 kV, then the entire line must be taken down and new foundations and structures must be erected. The cost to upgrade the line to 345 kV would be significant at that point in the future. It would be necessary to take down the line and construct new foundations and structures because the NESC Code may have increased clearances requirements for 345 kV. Additionally, the NESC Code has required structural load requirements that transmission structures must pass. The bundled conductor capable of carrying 345 kV voltage would increase the structural load on the 138 kV structures and would likely overstress the 138 kV structures.

Q. Is the design and proposed operation of the conductors associated with the BI-Crescent Project accurately described in the Application?

A. Yes.

Q. Please respond to Mr. Zona's assertion that the installation of the proposed facilities within a 25-foot wide right-of-way violates "worldwide" industry practices and/or the NESC (Tr. 179-181).

A. As described in Mr. John Hilderbrand's Testimony, Duquesne Light is not aware of what Mr. Zona is referring to as worldwide industry practices. It is our understanding that each utility determines the appropriate rights-of-way for safe operation of transmission lines. Duquesne Light agrees that the NESC Code is an industry standard code applicable to the BI-Crescent Line. The new BI-Crescent design meets all NESC Codes. While the NESC gives minimum safety clearance requirements, there is no requirement that governs the width of the prescribed right-of-way.

Q. Is Mr. Zona correct that the proposed design of the BI-Crescent Project violates accepted industry standards?

A. No, Mr. Zona is not correct that the proposed design of the BI-Crescent Project violates accepted industry standards. An accepted industry standard is the NESC Code. The proposed BI-Crescent Project meets and/or exceed the requirements of the NESC Code. Details of this can be found in Attachment 11 to the BI-Crescent Application.

Q. Is Mr. Zona correct that the proposed design of the BI-Crescent Project violates the NESC?

A. No, Mr. Zona is not correct that the proposed design of the BI-Crescent Project violates the NESC Code. The proposed BI-Crescent Project meets and/or exceed the requirements of the NESC Code. Details of this can be found in Attachment 11 to the BI-Crescent Application.

Q. Is Mr. Zona correct regarding his description of the location of facilities extending beyond existing 25-foot wide right-of-way (Tr. 179-181)?

A. No, Mr. Zona is not correct regarding his description of the location of facilities extending beyond existing 25-foot wide right-of-way. Attachment 4B to the BI-Crescent Application, which Mr. Zona is referring to (Exhibit Zona 3), is only a typical cross section of a suspension structure that was developed during the early stages of the Project. Attachment 4A to the BI-Crescent Application shows a typical cross section of a dead-end structure, which is another possible structure that can be used on the property. This type of structure does not have any steel arms and has a total width that is inside the right-of-way. Specific structure types, designs, and dimensions on every part of the line are still under review by the design team and the final design will be such that the structures and at-rest conductors will be fully within the right-of-way.

Q. Is Mr. Zona correct regarding his concern that conductor blow-out may extend beyond the bounds of Duquesne Light's rights-of-way?

A. Duquesne Light has designed the BI-Crescent Project to meet all NESC Codes, including the design blowout condition clearances. The NESC Code does not give guidance on how any of the clearance requirements is related to right-of-way widths. In addition, I have been advised by counsel that Duquesne Light asserts that its existing rights accommodate blowout for transmission lines.

Q. Where a 25-foot wide right-of-way is used, how will the transmission facilities be safely located inside the right-of-way?

A. As stated in Mr. John Hilderbrand's testimony, the footprint of the new monopoles and the conductors are designed to rest inside the 25-foot wide rights-of-way. Additionally, the increased height of the new structure ensures that NESC clearances will be met. We also have the rights to construct the new line using ingress/egress rights. The right-of-way agreement applicable to the Zona property states "thereunto belonging, or necessary or proper for use in connection therewith, with the right, privilege and authority to erect, construction, use, operate, maintain, repair, renew and finally remove the same, and to enter upon said premises at any time for said purposes, together with the further right to trim or remove any trees or shrubbery which, at any time, may interfere or threaten to interfere with the construction, maintenance and operation of such electric transmission system…".

Q. Does the design of the BI-Crescent Project comply with all applicable NESC safety standards?

A. Yes, while all NESC Codes must be met, the following NESC Codes are applicable and relevant to the customer:

- NESC Rule 232B1 for vertical clearances to grade for 138 kV is 20.6ft
- NESC Rule 234B2 for vertical clearances to a building for 138 kV is 6.6ft.
- NESC Rule 234B1a for horizontal clearances to a building for 138 kV during at rest conditions is 9.6ft.
- NESC Rule 234B1b for horizontal clearance to a building for 138 kV during wind displacement is 6.6ft + NESC 6psf blowout.

Q. Does the design of the BI-Crescent Project comply with any safety standards more stringent than the NESC?

A. Yes, the BI-Crescent Project complies with Duquesne Light's current design practices and criteria that are more stringent than the NESC Code. To account for any slight changes during construction that would change clearances slightly, the BI-Crescent Project's design has all NESC required clearances increased by 10%. Additionally, as stated in the Application's design Attachment 11, the design ground clearance is 30 feet which exceeds the 20.6 feet clearance required by NESC Rule 232B1 for vertical clearances to grade for 138 kV transmission lines.

Q. To be clear, does the design of the BI-Crescent Project and the associated facilities violate any accepted industry standards for the location and construction of electric transmission facilities?

A. No, the design of the BI-Crescent Project and the associated facilities do not violate the NESC Code, which is an industry standard code.

III. REBUTTAL TO CONCERNS REGARDING MITIGATION OF EMFS

Q. Did any of the Protestants testify regarding concerns related to electromagnetic field ("EMF") exposure?

A. Mr. Gable, Mr. Rabosky, and Mr. Zona raised concerns regarding exposure to EMFs associated with the BI-Crescent Project. Mr. Gable alleged that the Project would increase EMF exposure on his property and along the route generally. (Tr. 140-141, 145) In addition, Mr. Rabosky alleged health concerns related to EMF exposure. (Tr. 163-164) I specifically note, however, that Mr. Rabosky testified that it is his understanding "that there's no scientific link between electrical transmission and cancer." (Tr. 163-164) Lastly, Mr. Zona testified that the Proposed Route will expose the public to "EMI from the increased voltage…and increased current" along the Proposed Route. (Tr. 186)

Q. Did any of these Protestants specifically reference or contest Duquesne Light's Electromagnetic Field Policy and Application, and Safety Practices, which was included with the BI-Crescent Project as Attachment 11?

A. No, they did not.

Q. Please describe how Duquesne Light applied its Electromagnetic Field Policy to the BI-Crescent Project.

A. A large body of scientific evidence does not demonstrate that exposure to EMF are harmful, although guidelines have been set. The EMF exposure standard for the United

States is the IEEE Standard C95.6 "Safety Levels with Respect to Human Exposure to Electromagnetic Fields, 0-3 kHz," which specifies maximum permissible exposure (MPE) limits for the general public of 9040mG (60 Hz) for magnetic fields and 10kV/m (60 Hz) for electric fields within in the right-of-way and 5 kV/m off the right-of-way. Internally, the World Health Organization does not produce an EMF standard, but recognizes the International Council on Non-Ionizing Radiation Protection (ICNIRP) standard. The 2010 ICNIRP standard "ICNIRP Guidelines for Limiting Exposure to Time-varying Electric and Magnetic Fields (1 hZ to 100 kHz)" lists general public reference levels of 2000mG (60Hz) for magnetic fields and 4.167 kV/m (60Hz) for electric fields. Duquesne Light's transmission lines have EMF levels that are under the reference levels as indicated in these standards and guidelines. Duquesne Light also takes additional steps in its transmission line planning and design processes to identify and minimize any potential EMF impacts on the surrounding area. Duquesne Light balances circuit loads where practical to maximize the EMF-mitigating effects of reverse phasing. Also, the above-ground lines have been designed with a minimum conductor clearance of 30 feet in most areas. This establishes a wide "buffer area" in which EMF emitted by the line will rapidly dissipate.

Q. In addition to applying the Electromagnetic Field Policy to the BI-Crescent Project, did Duquesne Light take any additional steps to study the potential for EMF exposure as a result of this Project?

A. Yes, because EMF decrease significantly with distance from the source, any potential EMF emitted by a new transmission line is highly localized. Duquesne Light therefore

first identified the point(s) in a new transmission line with highest potential for EMF exposure. This point is usually a span with (i) lowest ground clearance, (ii) in densely populated neighborhoods; and (iii) in close proximity to publically-accessible areas (such as public sidewalks). An EMF study was conducted on select areas on the BI-Crescent Project to confirm that Duquesne Light's transmission lines have EMF levels that are under the reference levels as indicated in the standards and guidelines listed in the previous question.

Q. Was an analysis comparing existing EMF calculations to prospective EMF calculations under the configuration of the Brunot Island-Crescent 138 kV proposed in the Application conducted?

A. Yes, select areas were selected and studied for EMF levels on the Project. Duquesne Light's BI-Crescent Project has EMF levels that are under the acceptable levels as indicated in the standards and guidelines in the above paragraphs.

Q. Have you reviewed this analysis and relied upon it for the purposes of your rebuttal testimony?

A. Yes.

Q. Please explain the scope and purpose of the analysis.

A. The purpose of the EMF analysis is to understand the electric and magnetic field levels on the BI-Crescent Project and compare them to the standards and guidelines recognized

by WHO, since there is no standard guideline that Duquesne Light is aware of for acceptable EMF levels in the state of Pennsylvania.

Q. What does the analysis conclude?

A. The analysis concluded that Duquesne Light's BI-Crescent Project has EMF levels that are under the reference levels as indicated in the standards and guidelines recognized by WHO.

Q. Does this complete your rebuttal testimony?

A. Yes, it does. If necessary, I will supplement my testimony if and as additional issues arise during the course of this proceeding.

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Application of Duquesne Light Company filed Pursuant to 52 Pa. Code Chapter 57, Subchapter G, for Approval of the Siting and Construction of the 138 kV Transmission Lines Associated with the **Brunot Island – Crescent Project** in the City of Pittsburgh, McKees Rocks Borough, Kennedy Township, Robinson Township, Moon Township, and Crescent Township, Pennsylvania	:	Docket No. A-2019-3008589 Docket No. A-2019-3008652

Duquesne Light Company

Statement No. 3-A

Written Amended Direct Testimony of
Meenah Shyu

Topics Addressed: Design and Safety Features of the Amended Project

DUQUESNE
STATEMENT
3A

Q. Please state your name and business address.

A. My name is Meenah Shyu, and my business address is 2841 New Beaver Avenue Pittsburgh, PA 15233.

Q. By whom are you employed?

A. I am employed by Duquesne Light Company ("Duquesne Light" or the "Company") as Manager of the Civil & Transmission Line Engineering Group**.**

Q. What are your current responsibilities?

A. I lead a team of civil engineers to support capital and maintenance projects. I also oversee the design of transmission projects and structural projects in substations that are engineered by Duquesne Light and Duquesne Light's engineering contractors.

Q. Please provide a summary of your education and professional work experience.

A. In 2008, I received a Bachelor of Science degree in Civil Engineering from Carnegie Mellon University in Pittsburgh, PA. In 2009, I received a Master of Science degree in Civil and Environmental Engineering from Carnegie Mellon University in Pittsburgh, PA. My first professional occupation was at GAI Consultants in Homestead, PA, where I worked as a civil engineer in the Structural and Lines Group from July 2009 to May 2011. My second professional occupation was at DiGioia Gray & Associates in Monroeville, PA, where I worked as a transmission line engineer in the Transmission Line Engineering group from June 2011 to January 2016. My third and current occupation is with Duquesne Light

Company in Pittsburgh, PA. I have been working in the Civil & Transmission Line Engineering group with Duquesne Light Company since January 2016.

Q. What are your responsibilities in connection with the proposed Amended Project?

A. In my role as Manager of Civil & Transmission Line Engineering, I am responsible for overseeing the overall engineering design development of the proposed Brunot Island – Crescent 138 kV Transmission Line Project.

Q. Have you previously provided testimony in this matter?

A. Yes, on March 15, 2019, I submitted Direct Testimony ("Duquesne Light Statement No. 3"), and on October 10, 2019, I submitted Rebuttal Testimony ("Duquesne Light Statement No. 3-R").

Q. What is the purpose of your amended direct testimony in this proceeding?

A. My amended testimony addresses several issues. First, I will explain the major design features of the Brunot Island – Crescent 138 kV project ("BI-Crescent Amended Project" or "Amended Project"). Second, I will explain the safety features incorporated into the design of the Amended Project. Third, I will explain Duquesne Light's Magnetic Field Management Program and how it has been incorporated into the design of the Project.

Q. Please describe the portions of the Siting Application that you are sponsoring.

A. I am sponsoring Attachment 11, Duquesne Light Company Engineering Design Criteria, Electromagnetic Field Policy and Application, and Safety Practices.

Q. Please provide an overview of the proposed Amended Project.

A. As explained in the written amended direct testimony of Company witness Mr. Jason A. Harchick (Duquesne Light Statement No. 1-A), the Brunot Island – Crescent corridor has some of Duquesne Light's oldest in-service steel lattice towers. Structural evaluations have determined that the structures are approaching end of useful life. Based on current conditions and structure deterioration, these structures are beyond permanent repair and require replacement. Duquesne Light proposes to rebuild the Brunot Island – Crescent 138 kV Transmission Line, which will extend approximately 14.5 miles between the Brunot Island Substation in the City of Pittsburgh and the Crescent Substation in Crescent Township, the line will tie into the Montour Substation along its route. The Ohio River crossing double-monopole structure 6634, which is depicted in Attachment 7 and currently supports four circuits—Brunot Island – Sewickley (Z-43) 138kV, Brunot Island – Montour (Z-44) 138kV, Brunot Island – Collier (304) 345kV, Brunot Island – Crescent (331) 345kV—will be replaced with two single-monopole structures. One monopole will support the proposed Brunot Island – Montour (Z-43) 138kV circuit and the proposed Brunot Island – Crescent (Z-44) 138kV circuit. The second monopole will support the existing Brunot Island – Collier (304) 345kV circuit and the existing Brunot Island – Crescent (331) 345kV circuit.

Q. Please describe the design of the proposed Brunot Island – Crescent 138 kV Transmission Line, as amended by the Amended Application.

A. The amended Brunot Island – Crescent 138 kV Transmission Line Project, will be designed, constructed, and operated as a double-circuit 138 kV transmission line. This proposed rebuild will also accommodate connections to Neville, Montour and Sewickley Substations. The existing and proposed circuits that will be supported by the line structures are Z-24, Z-43, Z-44 and Z-143. A short portion of a single circuit (Z-45) 138 kV line will also be rerouted to a new termination bay within Montour Substation. The two (2) overhead 138kV circuits will utilize three (3) single conductors per circuit, one for each of three (3) phases. The power conductors utilized for this Amended Project will be 795 kcmil,[1] 20/7 ACSS-TW-HS[2] (Drake) conductors. The shield wire will primarily be fiber optic ground wire and will provide lightning protection and a communication path between the substations. This communication path could be used for communication between the protective relays at the station to operate circuit breakers in order to remove the line from service should a fault in the line be detected.

Q. How is the design of the Amended BI-Crescent Project different from the initial proposal?

A. The initial proposal submitted in March 2019 involved designing, constructing, and operating the Brunot Island – Crescent Transmission line as a 138 kV double-circuit transmission line, with the second circuit being designed and constructed to 345 kV standards, until load growth made it necessary to increase the voltage of the second circuit to 345 kV. The amended proposal does not contemplate increasing the voltage of the

[1] Kcmil stands for thousand circular mils. Kcmil wire size is the equivalent cross sectional area in thousands of circular mils. A circular mil is the area of a circle with a diameter of a thousandth (0.001) of an inch.
[2] ACSS-TW-HS stands for aluminum conductor steel supported, trapezoidal-shaped aluminum strands, high strength conductors

second circuit to 345 kV standards. In short, the Amended Project maintains the double-circuit 138 kV voltage that exists today. Both proposals were (and are) designed to meet all applicable NESC requirements. As explained by Mr. Jason A. Harchick in Duquesne Light Statement No. 1-A, Duquesne Light amended the initial proposal based on recent generator deactivations and after receiving feedback from its customers through multiple channels and forums, including the feedback received at the public input hearing on October 9, 2019.

Q. Please describe the principal types of structures that will be used for the Brunot Island – Crescent 138 kV Transmission Line.

A. Based on preliminary engineering, the Brunot Island – Crescent Transmission Line will require approximately 99 new double-circuit support structures, which will consist of self-supporting weathering steel single poles on drilled concrete pier foundations.

The steel structures will largely consist of tubular steel monopole structures that will range from 100 to 199 feet in height, with an average height of approximately 155 feet. All steel poles will be placed on drilled concrete shaft foundations. Due to the landslide prone nature of a portion of the project area, the drilled concrete shaft foundations will be designed, when necessary, such that they provide sufficient resistance against landslides. The average span between these structures will be approximately 900 feet. The longest span is approximately 2,500 feet across the Ohio River.

The minimum conductor-to-ground clearance for the proposed Brunot Island – Crescent Transmission Line will be 23 feet where possible under maximum electrical load

and operating temperature.[3] Typical design diagrams similar to those that will be installed are included in Attachment 4.

Q. How do the structure heights for the proposed Amended Project differ from the initial proposal, if at all?

A. The initial proposal contemplated structure heights ranging from 60 to 200 feet to accommodate the portion of the proposal to build to 345kV standards. The amended proposal, which eliminates the request to build to 345kV standards, reduces the structure height by 35 feet, on average, as compared to the initial proposal. As stated above, the current proposal contemplates structure heights ranging from 100 to 199 feet tall.

Q. What is the National Electrical Safety Code?

A. The National Electrical Safety Code ("NESC") is a set of rules designed to safeguard people during the installation, operation, and maintenance of electric power lines. The NESC contains the basic provisions considered necessary for the safety of employees and the public. Although it is not intended as a design specification, its provisions establish minimum design requirements.

Q. Will the proposed Amended Project comply with the NESC standards?

A. Yes.

[3] The maximum operating temperature is considered to be 392 degrees Fahrenheit.

Q. Does Duquesne Light Company need to acquire additional land rights to build the proposed Project in compliance with NESC standards?

A. No. The Amended Project can be safely located and constructed within the rights-of-way currently secured. The footprint of the new monopoles and the conductors are designed to rest inside the 25-foot wide rights-of-way. Additionally, the increased height of the new structures (as compared to the existing structures) ensures that NESC clearances will be met. The narrowest right-of-way in the Amended Project area is 25-feet wide. The right of way agreements in the Amended Project area allow the Company to construct, maintain, repair, renew and remove the transmission line, in addition to, the further right to trim or remove any trees or shrubbery which, at any time, may interfere or threaten to interfere with the construction, maintenance and operation of the electric transmission system. The Company also has the rights to conduct construction activities for the Amended Project using ingress and egress rights provided for in the existing agreements. The Company is increasing the heights of the structures as compared to the existing structures in order to accommodate the narrow rights-of-way and be compliant with NESC standards.

Q. Please explain the proposed Project as it relates to NESC blowout clearances.

A. Duquesne Light has designed the BI-Crescent Amended Project to meet all NESC standards, including the design blowout condition clearances. The NESC does not give guidance on how any of the clearance requirements is related to right-of-way widths. In addition, I have been advised by counsel that Duquesne Light asserts that its existing rights accommodate blowout for transmission lines.

Q. How do NESC clearances apply to a typical customer subject to a 25-foot wide right-of-way agreement on his or her property?

A. The following NESC Codes are applicable and relevant to a customer subject to a 25-foot wide right-of-way on his or her property:

- NESC Rule 232B1 for vertical clearances
- NESC Rule 234B2 for vertical clearances to a building.
- NESC Rule 234B1a for horizontal clearances to a building for 138 kV during at rest conditions.
- NESC Rule 234B1b for horizontal clearance to a building for 138 kV during wind displacement plus NESC 6psf blowout.

The Amended Project will be constructed, maintained, and operated in accordance with all NESC clearance requirements, including those listed above.

Q. Does the design of the Amended Project comply with any safety standards more stringent than the NESC?

A. Yes, the Amended Project complies with Duquesne Light's current design practices and criteria that are more stringent than the NESC Code. To account for any slight changes during construction that would change clearances slightly, the BI-Crescent Amended Project's design has all NESC required clearances increased by 10%. Additionally, as stated in the Amended Application's design Attachment 11, the design ground clearance is 23 feet which exceeds the 20.6 feet clearance required by NESC Rule 232B1 for vertical clearances to grade for 138 kV transmission lines.

Q. Does the design of the BI-Crescent Amended Project and the associated facilities violate any accepted industry standards for the location and construction of electric transmission facilities?

A. No, the design of the Amended Project and the associated facilities do not violate the NESC Code, which is an industry standard code.

Q. Please explain the safety features that will be incorporated into the design of the proposed Amended Project.

A. In addition to the safety features incorporated by designing the line in accordance with the NESC, Duquesne Light's design loading conditions for structures, wires, and clearances exceed NESC standards. The line is designed for conductor-to-conductor clearances and conductor-to-ground clearances, which support maintenance and inspection activities. Work procedures and an Employee Safety Handbook have been developed to allow work to be performed in a safe manner. Personnel are furnished with appropriate Personal Protection Equipment for the performance of construction or maintenance activities in a safe manner.

A description of the safety features incorporated into the design of the proposed Amended Project is provided in Attachment 11 to the Amended Application.

Q. Please explain Duquesne Light's electric and magnetic field ("EMF") program and how it will be incorporated into the design of the proposed Amended Project.

A. Duquesne Light has adopted a program to mitigate the potential impacts from EMFs. This EMF program is applied to all new and reconstructed transmission lines. In order to lower

magnetic field exposures, the program generally prescribes the use of a line design that provides ground clearances that meet or exceed the minimum NESC ground clearance and reverses phasing of new double circuit lines where it is feasible to do so at low or no cost. The implementation of additional modifications will be considered, provided those modifications can be made at low or no cost and will not interfere with the operation of the line. Duquesne Light's EMF program for this Amended Project is provided in the Safety and Design Criteria Attachment 11 to the Amended Application.

The Brunot Island – Crescent 138 kV Transmission Line will be designed for a minimum vertical ground clearance of 23 feet where feasible, which is greater than the clearance required by the NESC, 2017 edition.

As explained above, the Brunot Island – Crescent 138 kV Transmission Line will be designed as a double-circuit 138 kV transmission line.

Q. In addition to applying the Electromagnetic Field Policy to the BI-Crescent Amended Project, did Duquesne Light take any additional steps to study the potential for EMF exposure as a result of this Amended Project?

A. Yes, because EMF decreases significantly with distance from the source, any potential EMF emitted by a new transmission line is highly localized. Duquesne Light therefore first identified the point(s) in a new transmission line with highest potential for EMF exposure. This point is usually a span with (i) lowest ground clearance, (ii) in densely populated neighborhoods; and (iii) in close proximity to publically-accessible areas (such as public sidewalks). An EMF study was conducted on select areas in the Amended Project area to confirm that Duquesne Light's transmission lines have EMF levels that are under

the reference levels as indicated in the standards and guidelines listed in the previous question.

Q. Was an analysis comparing existing EMF calculations to prospective EMF calculations under the configuration of the Brunot Island-Crescent 138 kV proposed in the Amended Application conducted?

A. Yes, select areas were selected and studied for EMF levels on the Amended Project. Duquesne Light's BI-Crescent Project has EMF levels that are under the acceptable levels as indicated in the standards and guidelines in the above paragraphs.

Q. Does this complete your direct testimony?

A. Yes, it does. If necessary, I will supplement my testimony if and as additional issues arise during the course of this proceeding.

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY
COMMISSION

Application of Duquesne Light Company filed Pursuant to 52 Pa. Code Chapter 57, Subchapter G, for Approval of the Siting and Construction of the 138 kV Transmission Lines Associated with the **Brunot Island – Crescent Project** in the City of Pittsburgh, McKees Rocks Borough, Kennedy Township, Robinson Township, Moon Township, and Crescent Township, Allegheny County, Pennsylvania	:	Docket No. A-2019-3008589 Docket No. A-2019-3008652

VERIFICATION

I, Meenah Shyu, being the Manager of Civil Transmission Line Engineering at Duquesne Light Company hereby state that the facts set forth above are true and correct to the best of my knowledge, information and belief, and that I expect Duquesne Light Company to be able to prove the same at a hearing held in this matter. I understand that the statements herein are made subject to the penalties of 18 Pa.C.S. § 4904 (relating to unsworn falsification to authorities).

Meenah Shyu, P.E., P.M.P.
Manager of Civil Transmission Line Engineering

Date: 08/10/2020

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Application of Duquesne Light Company filed	:	
Pursuant to 52 Pa. Code Chapter 57,	:	Docket No. A-2019-3008589
Subchapter G, for Approval of the Siting and	:	Docket No. A-2019-3008652
Construction of the 138 kV Transmission	:	
Lines Associated with the **Brunot Island – Crescent Project** in the City of Pittsburgh,	:	
McKees Rocks Borough, Kennedy Township,	:	
Robinson Township, Moon Township, and	:	
Crescent Township, Allegheny County	:	
Pennsylvania	:	

Duquesne Light Company

Statement No. 3A-R

Written Rebuttal Testimony of
Meenah Shyu

Topics Addressed: Design and Safety Features of the Project

DUQUESNE
STATEMENT
3AR

I. INTRODUCTION

Q. Please state your name, title, and business address.

A. My name is Meenah Shyu, and I am the Manager of the Civil & Transmission Line Engineering Group at Duquesne Light Company ("Duquesne Light" or the "Company"). My business address is 2841 New Beaver Avenue Pittsburgh, PA 15233.

Q. Have you previously submitted testimony in this proceeding on behalf of Duquesne Light?

A. Yes. On March 15, 2019, I submitted my direct testimony regarding the "Application of Duquesne Light Company filed Pursuant to 52 Pa. Code Chapter 57, Subchapter G, for Approval of the Siting and Construction of the 138 kilovolt ("kV") Transmission Lines Associated with the Brunot Island-Crescent Project in the City of Pittsburgh, McKees Rocks Borough, Kennedy Township, Robinson Township, Moon Township, and Crescent Township, Allegheny County Pennsylvania" at Docket No. A-2019-3008589 ("BI-Crescent Project"). On October 10, 2019, I submitted rebuttal testimony ("Duquesne Light Statement 3-R"). On August 10, 2020, I submitted amended direct testimony ("Duquesne Light Statement 3-A").

Q. What is the purpose of your rebuttal testimony?

A. My testimony responds to certain issues related to specific design and safety features associated with the BI-Crescent Project, which were raised by the Allegheny County Sanitary Authority ("ALCOSAN") in its written direct testimony submitted on December 9, 2020 sponsored by Michael Lichte, P.E. and by Protestants at the telephonic hearing on December 21, 2020. Specifically, I will respond to ALCOSAN's concerns regarding the

BI-Crescent Project's proposed design, including the existing and proposed transmission infrastructure near ALCOSAN's existing and proposed wastewater facilities in the Chartiers Creek and Sheraden Park areas. I also respond to the safety of the existing structure and proposed replacement tower on or near Protestant Richard I. Gable's property as it relates to recent landslides in the BI-Crescent Project area, and to Protestant Dennis Zona's concerns related to viewshed impacts.

Q. How is your rebuttal testimony organized?

A. Section II of my rebuttal testimony provides an overview of Duquesne Light's efforts to coordinate the location of facilities associated with the BI-Crescent Project with ALOCSAN, and generally responds to the requirements proposed in ALOCSAN's direct testimony. Section III more specifically addresses Company's proposed design for the BI-Crescent Project, and responds to ALCOSAN's concerns related to the proposed and existing electric infrastructure on and near Chartiers Creek. Section IV of my rebuttal testimony addresses Company's proposed design for the BI-Crescent Project, and responds to ALCOSAN's concerns related to the proposed and existing electric infrastructure on and near Sheraden Park. Section V of my testimony summarizes and responds to design and safety concerns made by one or more Protestants at the telephonic hearing on December 21, 2020. I will note that Duquesne Light witness Lesley Gannon (Duquesne Light St. 4A-R) will respond to ALCOSAN's concerns about easement impacts near Chartiers Creek and/or Sheraden Park, and Duquesne Light witness Jason Hartle (Duquesne Light St. 5A-R) will respond to outreach, communication, and coordination with ALCOSAN. Throughout the course of this Project, Duquesne Light

has been committed to working with ALCOSAN. Duquesne Light has provided the information that ALCOSAN has requested through Discovery Requests on October 22, 2020. On November 11, 2020, Duquesne Light provided the requested civil engineering drawings of access roads, proposed and existing structure locations, as well as foundation depth information. The Project is currently at 90% design completion and Duquesne Light has provided all 90% preliminary designs related to ALCOSAN's proposed facilities. Construction in this area is anticipated to begin in the fall of 2023. Although Duquesne Light does not have ALCOSAN's 90% drawings nor their tentative construction schedule, Duquesne Light is committed to working with ALCOSAN to ensure the design and construction schedules of both projects move forward smoothly.

Q. Are you sponsoring any exhibits with your rebuttal testimony?

A. Yes, I am sponsoring Duquesne Light Exhibits MS-1, MS-2, MS-3, and MS-4. I will also refer to Attachment 11 of the Full Siting Application.

II. OVERVIEW OF ALCOSAN'S DIRECT TESTIMONY REGARDING DUQUESNE LIGHT'S BI-CRESCENT PROJECT

Q. Have you had an opportunity to review the direct testimony of ALCOSAN witness Mr. Lichte?

A. Yes.

Q. Please describe the concerns ALCOSAN has raised regarding the Company's BI-Crescent Project.

A. Mr. Lichte states that ALCOSAN has existing and planned facilities located in the vicinity of the Company's planned transmission route. ALCOSAN St. 1 at 3. Mr. Lichte further states that Duquesne Lights proposed transmission facilities "may have" an adverse impact on ALCOSAN's existing and planned wastewater facilities, if the Amended Application is approved without modification. ALCOSAN St. 1 at 3.

Q. At any point in Mr. Lichte's testimony does he affirmatively state that the Proposed Route for the BI-Crescent Project will adversely impact ALCOSAN's existing or planned facilities?

A. No. Although Mr. Lichte raises concerns regarding the proposed route throughout his testimony, he does not go beyond saying that Duquesne Light's proposed route and the associated facilities "may" adversely impact ALCOSAN's wastewater facilities. I specifically note that Mr. Lichte confirms the speculative nature of his concerns when he testifies that ALCOSAN has not finalized their engineering plans for the projects and has not determined the exact location of future facilities. ALCOSAN St. 1 at 8. Duquesne Light's design, which is 90% complete, is in close proximity to ALCOSAN's existing and planned facilities, but with appropriate construction techniques the BI-Crescent Project is unlikely to impact ALCOSAN's existing or planned facilities.

Q. Why is it important for the Commission to recognize that ALCOSAN has not finalized the engineering plans associated with their respective projects that are the subject of Mr. Lichte's testimony?

A. It is important to recognize this fact because, until the engineering plans are finalized, it is not possible to know whether ALCOSAN's facilities may be adversely impacted. Importantly, the potential for changes in the design and construction of contemplated facilities is not an abnormal occurrence in the context of public utility construction projects. Duquesne Light actively engages with other nearby public utilities throughout the design and construction phases of its projects—as it has with ALCOSAN—in order to coordinate the safe and reasonable location of public utility facilities. However, this is an ongoing process. Mr. Lichte appears to recognize the ongoing nature of this process, but essentially asks Duquesne Light to be required to locate its facilities (*i.e.*, the location of which have not been finalized) based upon the possible future location of ALCOSAN facilities (*i.e.*, the location of which have also not been finalized). This is not a reasonable or practical request.

Q. Does another Duquesne Light witness describe the Company's efforts to coordinate with ALCOSAN to date, regarding the BI-Crescent Project?

A. Yes. Duquesne Light witness Mr. Jason Hartle describes the Company's coordination efforts in his rebuttal testimony, Duquesne Light St. No. 5A-R.

Q. At this time, has ALCOSAN provided Duquesne Light with sufficient information to understand how the proposed route and location of facilities associated with the BI-Crescent Project will impact ALCOSAN's existing or planned facilities around Chartiers Creek or Sheraden Park?

A. With respect to ALCOSAN's existing facilities near Chartiers Creek and Sheradan Park, we have received preliminary designs, but only at 20% status. At this time, Duquesne Light does not have sufficient information to understand the impacts that ALCOSAN has on Duquesne Light's proposed facilities. Duquesne Light also understands that utility designs may change throughout the course of the design phase and that ALCOSAN's 90% designs would be desired to understand whether there would be impacts most likely to occur to Duquesne Light's facilities. Duquesne Light will need proposed coordinates of manholes, final route of the pipe, diameter of pipe, and depth of pipe to determine if ALCOSAN's proposed facilities near Chartiers Creek or Sheraden Park will be impacted by the BI-Crescent Project. As previously mentioned, Duquesne Light's facilities are 90% designed and the proposed locations of the BI-Crescent structures are not anticipated to change.

In addition, Duquesne Light has performed preliminary and final design One-Calls to verify existing utilities will not be impacted. Any individual, including utilities, must perform design One-Calls and construction One-Calls related to excavating. Duquesne Light is not aware of design One-Calls made by ALCOSAN to indicate their plans to excavate in the area near Duquesne Light's existing assets.

I respond in greater detail to the concerns raised by Mr. Lichte about ALCOSAN's planned and existing facilities around Chartiers Creek in Section III, below. I respond in greater detail to the specific concerns raised by Mr. Lichte about ALCOSAN's existing facilities around Sheraden Park in Section IV, below.

Q. Does Duquesne Light regularly re-evaluate and update the preliminary engineering design of its transmission line projects, if it is necessary to do so?

A. Yes, Duquesne Light regularly evaluates and updates the preliminary engineering design of its transmission line projects throughout the course of each project. Typically, Duquesne Light hires expert transmission line engineering consultants to design these projects. Throughout the course of the design process, Duquesne Light and the consultant meet specifically to discuss design details, for example at a 30% design completion, 60% design completion, and 90% design completion. These meetings are in addition to regularly scheduled design meetings to discuss any construction methods, design details and potential modifications. It is necessary for Duquesne Light to review and understand that the design meets industry standard codes before going into construction.

Q. Does the design of the BI-Crescent Project comply with all applicable NESC safety codes or regulations?

A. Yes, all NESC Codes must be met. The NESC Rules that are applicable and relevant to the Duquesne Light facilities addressed by ALCOSAN, include (but are not limited to):

- NESC Rule 232B1 for vertical clearances to grade for 138 kV is 20.6ft
- NESC Rule 234B2 for vertical clearances to a building for 138 kV is 6.6ft.
- NESC Rule 234B1a for horizontal clearances to a building for 138 kV during at rest conditions is 9.6ft.
- NESC Rule 234B1b for horizontal clearance to a building for 138 kV during wind displacement is 6.6ft + NESC 6psf blowout.

Q. Does the design of the BI-Crescent Project comply with any safety codes more stringent than the NESC?

A. Yes, the BI-Crescent Project complies with Duquesne Light's current design practices and criteria that are more stringent than the NESC. For example, to account for any slight changes during construction that would change clearances slightly, the BI-Crescent Project's design has all NESC required clearances increased by 10%. Please refer to Attachment 11 of the Full Siting Application for further details. Duquesne Light also adheres to Occupational Safety and Health Administration ("OSHA") regulations on electrical safety.

Q. To be clear, does the design of the BI-Crescent Project and the associated facilities violate any accepted industry standards for the location and construction of electric transmission facilities?

A. No, the design of the proposed BI-Crescent Project and the associated facilities do not violate the NESC, which is an industry standard code.

Q. Do you agree with Mr. Lichte's proposal that the Commission should condition approval of the Amended Application upon Duquesne Light siting its transmission line "in a manner that does not interfere with ALCOSAN's existing wastewater facilities or ALCOSAN's planned facilities?" ALCOSAN St. 1 at 13.

A. Duquesne Light is already committed to siting and constructing its utility facilities in a manner that does not interfere with other public utility's facilities. As such, Mr. Lichte's requested condition upon approval of the BI-Crescent Project is unnecessary and

redundant. Importantly, as described above, ALCOSAN's engineering designs for proposed facilities are not yet finalized. As such, it is unreasonable to ask Duquesne Light to specifically commit to engineering design criteria that may or may not ultimately impact the ALCOSAN's facilities. Rather than adopt the requirement proposed by Mr. Lichte, Duquesne Light submits that it is more reasonable for the parties to commit to continue collaborative efforts to design and locate their respectively contemplated projects. As explained in the rebuttal testimony of Duquesne Light witness Mr. Jason Hartle (Duquesne Light St. No. 5A-R), the Company looks forward to continuing its coordination efforts with ALCOSAN.

Q. What is the significance of the BI-Crescent Project being at 90% design?

A. At 90% design, Duquesne Light cannot make any significant changes without delaying the construction schedule or increasing Project costs. At this point, the proposed structure locations are defined, the foundations are designed and construction prints have been finalized. Being at 90% design means that the Project is in its final review phase before beginning construction.

For most replacement structures throughout the 14.5 mile line, most structures will either be located inside the base of the existing structure or be located approximately 20 to 30 feet from the existing structure location, yet still on the centerline. Duquesne Light is not making any significant changes in location between the existing and proposed facilities, but Duquesne Light is making reasonable design decisions for constructability and reliability purposes. This includes the areas of ALCOSAN's interest mentioned in Mr. Lichte's testimony.

III. REBUTTAL TO OVERLAP BETWEEN DUQUESNE'S EXISTING OR PROPOSED FACILITIES WITH ALCOSAN'S EXISTING OR PLANNED FACILITIES AROUND CHARTIERS CREEK

Q. Please describe the existing electric infrastructure on Parcels 43-L-130 and 43-L-150, near Chartiers Creek.

A. There are currently no existing facilities on the parcels mentioned. Please refer to Duquesne Light Exhibit labeled MS-1 for civil engineering drawings in the area near parcels Parcels 43-L-130 and 43-L-150, near Chartiers Creek.

Q. Please describe the proposed electric infrastructure related to the BI-Crescent Project on Parcels 43-L-130 and 43-L-150, near Chartiers Creek.

A. There are no proposed structures or access roads on the parcels mentioned, but the proposed lines will cross aerially over the southeast corner of the 43-L-130 parcel. See Duquesne Light Exhibit MS-1.

Q. Please respond to Mr. Lichte's assertion that the BI-Crescent Project will potentially overlap with ALCOSAN's proposed facilities on Parcels 43-L-130 and 43-L-150.

A. Duquesne Light's BI-Crescent Project involves installing a double circuit 138 kV line in close proximity to Duquesne Light's existing infrastructure. There are currently no existing or proposed structures on Parcels 43-L-130 or 43-L-150. As proposed, the Project involves an aerial crossing of two 138kV lines on a small portion of the southeast corner of parcel 43-L-130. The proposed line and structures were designed based on One-Call information to avoid potential impacts.

Based on the proposed plans, the overhead wires on parcel 43-L-130 will run above planned ALCOSAN underground pipe.

Q. Please respond to Mr. Lichte's assertion that the proposed BI-Crescent Project will overlap with ALCOSAN's proposed Tunnel Boring Machine Construction.

A. The proposed overhead wires will run above the ALCOSAN underground pipe. Clearances for the proposed line during the maximum operating temperature will be 20.6 feet at minimum, which meets the NESC Code. However, clearances will be higher during normal operations when the temperature is lower. ALCOSAN will have to follow clearances to overhead energized lines for approach distances of unqualified workers and machinery as indicated by OSHA Regulations during the construction of the line. As of date, Duquesne Light does not have detailed construction information from ALCOSAN to assess whether construction activities would be in conflict. Duquesne Light's existing facilities are currently energized and in operation, which means that ALCOSAN would always have had to coordinate with Duquesne Light as needed on these activities.

Q. Mr. Lichte specifically states that ALCOSAN's Tunnel Boring Machine Construction project will involve the use of "huge cranes" other excavation equipment. ALCOSAN St. 1 at 10-11. Will Duquesne Light's facilities impact ALCOSAN's use of this equipment?

A. ALCOSAN will have to adhere to OSHA clearances to energized lines with equipment and unqualified workers as indicated by OSHA Regulations. It would be required for ALCOSAN to adhere to OSHA clearances to energized lines for the proposed line as well

as the existing line, which is currently energized and in operation. As such, ALCOSAN is in no different position with respect to its Tunnel Boring Machine Construction project today than it will be if the proposed structures associated with the BI-Crescent Project are constructed; in either case ALCOSAN will have to adhere to OSHA clearances. I also note that the proposed line will have increased clearances compared to the existing line, which will provide more clearance and flexibility for construction work of other utilities in the area.

Q. Mr. Lichte further claims that "the ability of ALCOSAN to carry out its construction depends on the exact siting of Duquesne's transmission lines within its easement." ALCOSAN St. 1 at 11. Please respond.

A. The Duquesne Light proposed structure locations are near final design and coincide with PA One-Call data that was provided to Duquesne Light. Duquesne Light cannot further define impacts to ALCOSAN's proposed facilities when ALCOSAN's design is not near completion.

IV. REBUTTAL TO OVERLAP BETWEEN DUQUESNE'S EXISTING OR PROPOSED FACILITIES WITH ALCOSAN'S EXISTING OR PLANNED FACILITIES AROUND SHERADEN PARK

Q. Please describe the existing electric infrastructure on Parcel 43-P-1-0-1, near Sheraden Park.

A. There are a total of five existing structures on parcel 43-P-1-0-1 that were installed in 1978. Duquesne Light is willing to provide ALCOSAN with the structure heights and foundation depths for the existing structures as may be necessary to facilitate the safe and timely construction of each utility's projects.

Q. Please respond to Mr. Lichte's assertion that the existing Duquesne Light facilities currently lay atop ALCOSAN's existing facilities on Parcel 43-P-1-0-1, near Sheraden Park.

A. The existing structures are currently located overtop of ALCOSAN lines, but are not interfering. The transmission line also aerially crosses over the existing underground ALCOSAN facilities in various places along parcel 43-P-1-0-1. Please refer to the Exhibit labeled MS-2 for civil engineering drawings in the area near parcel 43-P-1-0-1, near Sheraden Park.

Q. Please describe the BI-Crescent Project's proposed electric infrastructure on Parcel 43-P-1-0-1, near Sheraden Park.

A. As previously mentioned, there are five existing structures on parcel 43-P-1-0-1 that were installed in 1978. Two existing structures (6636 & 6637) will remain on this parcel and are not part of the BI-Crescent project. However, as a part of the BI-Crescent Project, the Company is proposing to replace three of the five existing structures on parcel 43-P-1-0-1 (6873, 6874, and 6875) with steel monopoles. The proposed foundation depths for the proposed monopoles were designed based on the flood plain elevation and the soil data parameters that were used from the soil borings. The heights for proposed structures 6873, 6874, and 6875 are approximately 148, 147, and 140ft above grade, respectively. The new monopoles are being installed to meet NESC clearances with the 795 ACSS/TW conductor. Construction necessary for the three structure replacements is currently scheduled for the fall of 2023.

Q. How did Duquesne Light design the Project's proposed electric infrastructure on Parcel 43-P-1-0-1, near Sheraden Park?

A. The proposed line and structure locations for Parcel 43-P-1-0-1 were designed based on PA One-Call information to avoid potential impacts with new structure locations. Proposed access roads will be built at ground surface and will be improved to help accessibility during construction and will be restored to approximate existing contours. Timber matting and air bridges are planned in areas where an underground sanitary line is located to help disperse any point loading on ALCOSAN's facilities.

Using the Pennsylvania One-Call system, the typical construction practice is to submit a design One-Call application during the design phase in order to identify underground conflicts and a construction One-Call application prior to excavation activities. Duquesne Light is committed to following the PA One-Call system and working with customers and other utilities to identify underground lines and ensure safe construction practices. A timeline of PA One-Calls made by Duquesne Light during the design phase near Sheraden Park is shown below:

- 5/30/2019 – Preliminary Design One-Call
  - PA One Call Ticket # 20191503128 – Duquesne Light received a response e-mail from ALCOSAN on 6/13/2019, which contained an interceptor sewer plan and depth profile extending from approx. W. Carson Street to approx. Chartiers Creek existing west of Duquesne Light structure ("Str.") 3.
  - PA One Call Ticket # 20191503128 – Duquesne Light received a response from Pittsburgh Water & Sewer Authority ("PWSA") on June 13, 2019, which contained a representation of sewer collector lines in the immediate vicinity of the intersection of Youghiogheny St and Wind Gap Ave only.
  - PA One Call Ticket # 20191503130 – Duquesne Light received a response e-mail from ALCOSAN on June 13, 2019, which contained an interceptor sewer plan and depth profile in area of Chartiers Creek west of Duquesne Light Str 3.
  - PA One Call Ticket # 20191503131 – Duquesne Light received a response from PWSA on August 31, 2020, which contained a representation of sewer collector

lines in the vicinity of the intersection of Youghiogheny St and Wind Gap Ave only. This response included similar mapping as to what was received in response to Ticket # 20191503128.

- 8/21/2020 – Final Design One-Call
  - PA One Call Ticket # 20202340592 – Duquesne Light received a response e-mail from ALCOSAN on 9/10/2020, which contained an interceptor sewer plan and depth profile extending from approx. W. Carson Street to approx. Chartiers Creek existing west of Duquesne Light Str 3.
  - PA One Call Ticket # 20202340599 – Duquesne Light received a response from PWSA on August 31, 2020, which contained a representation of sewer collector lines extending from approx. W. Carson Street to approx. Chartiers Creek existing west of Duquesne Light Str 3.
  - PA One Call Ticket # 20202340600 – ALCOSAN responded to this ticket on 09/05/20 with a design conflict, but did not provide any additional mapping.

Q. Mr. Lichte claims that ALCOSAN has not been provided detailed foundation plans and that it has structural concerns with Duquesne Light's proposed use of foundations or pads. ALCOSAN St. 1 at 12-13. Please respond.

A. Duquesne Light has provided the proposed foundation depths to ALCOSAN, and Duquesne Light does not expect that the foundations will impact ALCOSAN's facilities. The proposed foundation depths are not proposed to change. Moreover, the proposed foundations have been designed with the use of boring logs and a drilled caisson will be installed, which is an industry standard for monopole structures.

V. REBUTTAL TO CRITICSMS OF DESIGN AND SAFETY FEATURES RAISED BY PROTESTANT(S)

Q. Did you describe the primary design features of the BI-Crescent Project in your direct testimony?

A. Yes. On pages 3 to 5 of my direct testimony (Duquesne Light St. 3), I describe the engineering design of the Project and also provide an overview of the typical structures used in the project. In addition, I sponsored Attachment 11 to the initial Application,

which is the Duquesne Light Company Engineering Design Criteria, Electromagnetic Field Policy and Application, and Safety Practices.

Q. Do any of the Protestants raise concerns regarding the design features of the BI-Crescent Project?

A. Yes. Mr. Gable raises concerns about the depth of the foundation proposed for replacement tower on his property (Str. # 6950). Tr. 354-355. Mr. Zona raises concerns about the structure type and viewshed impacts for the proposed Project. Tr. 349.

Q. Please summarize Mr. Gable's testimony regarding the design features of the BI-Crescent Project.

A. Mr. Gable expresses concerns about landslides on or near his property, and allege the landslides have already, or will, affect the existing tower located on his property or the replacement tower on his property proposed as a part of the BI-Crescent Project. Tr. 354-355. Mr. Gable asserts that the existing structure (Str. #83-84) "sits on a shelf of shale and rock, and the State has already told me that the hill's been fractured." Tr. 354. He further asserts that the proposed replacement monopole may not be safe because the depth of the foundation required to support a monopole may further compromise the rock. Tr. 354. Mr. Gable suggests that the existing structure's foundation is in suitable condition and implies that replacement of the existing structure is not required. Tr. 354-355.

Q. Please respond to Mr. Gable's assertion that the depth of the foundations for the towers proposed in the BI-Crescent Project "could cause an adverse reaction" and the proposed "pole could come down." Tr. 354.

A. Duquesne Light uses engineering data with expert geologists to make conclusions on the soil characteristics of the proposed monopole - this includes the characteristics of the rock. By collecting soil borings, which is an industry accepted practice, there is sufficient information to make scientific assessments of the soil in order to design a suitable foundation. Foundations can be made deeper and/or wider based on the soil data characteristics collected.

Based on the data collected, the landslide occurred in an area where there was a section of weathered rock that has been exposed to weather conditions for years, causing fractures. However, the proposed foundation will be socketed to intact rock that has not been exposed to weather conditions, located deep in the earth.

Q. Please respond to Mr. Gable's assertion that the existing structure and its foundation is suitable. Tr. 354.

A. The existing four foundations were constructed in 1936 as concrete pier foundations. The proposed foundation will consist of one reinforced concrete foundation, which will be able to withstand any surface movement and will be embedded in rock. This type of foundation is a widely constructed and industry accepted method for foundation construction. Duquesne Light does not have concerns with the soil data and foundation design of the proposed structure.

Q. Please describe prior landslides, if any, that have occurred on or near Mr. Gable's property.

A. There was one landslide near (but not on) Mr. Gable's property in January of 2020. The landslide did not impact the foundations of the existing tower located on Mr. Gable's property foundations. The landslide occurred on the opposite side of a deep ravine, away from where the new foundation will be located. Duquesne Light does not anticipate that the most current landslide would affect the proposed foundation.

Q. Has Duquesne Light evaluated the integrity of its existing facilities since the landslide in or around January 2020?

A. Duquesne Light has increased the frequency of foot patrol and helicopter inspections in order to maintain the existing BI-Crescent Transmission Line until the proposed BI-Crescent Transmission can be constructed. During a foot patrol inspection, a visual inspection is made from the ground. Foundation conditions, steel member conditions, and connection conditions are assessed and pictures are taken. During a helicopter inspection, a person conducts visual inspection aerially. The conductor condition, insulator hardware conditions, steel member conditions, and connection conditions are assessed and pictures are taken.

Q. **Has Duquesne Light evaluated the BI-Crescent Project, and specifically the proposed replacement tower on Mr. Gable's property, since the landslide in or around January 2020?**

A. The proposed structure on Mr. Gable's property will have a foundation that will withstand surface movement. The proposed foundation will be embedded in 13 feet of soil and affixed to 17 feet of rock, providing a stable design. The recent landslide activity around does not impact the proposed design, which already accounts for the soil characteristics into the foundation design.

Q. To be clear, do the recent landslide events pose a risk to the existing or replacement transmission facilities on or near Mr. Gable's property?

A. No, recent surface movements do not pose a risk to the replacement transmission facilities. For the replacement transmission facilities, the soil boring data collected, included with my testimony as Duquesne Light Exhibits MS-3 and MS-4, provides detailed information in order to design a suitable foundation for the proposed facility. The proposed foundation will be embedded deep into the soil and affixed to rock, providing a stable design.

Q. Please summarize Mr. Zona's testimony regarding the design features of the BI-Crescent Project.

A. Mr. Zona expresses concerns about the existing lattice tower near his property and recommends it be replaced with same height monopole with two side circuit arrangement rather than single stacked structure. Tr. 349. Mr. Zona believes that the viewshed in his neighborhood will be impacted by monopole in the proposed vertically stacked arrangement. Tr. 349.

Q. Please respond to Mr. Zona's assertion that the existing structure be replaced with a monopole of the same height. Tr. 349.

A. The existing BI-Crescent transmission line was built in 1914 as a 69kV line and upgraded as 138kV in 1964. The lines were built according to the NESC in effect at that time. However, the NESC Code has changed and increased its requirements over the years. Because of these changes, all heights and clearances must be increased for Duquesne Light to meet the requirements of newest edition of the National Electric Safety Code. Replacing the existing structure with a monopole of the same height would create violations in the NESC Code, newest edition. Some of the NESC Rules that apply to Mr. Zona's property, include (but are not limited to):

- NESC Rule 232B1 for vertical clearances to grade for 138 kV is 20.6ft
- NESC Rule 234B2 for vertical clearances to a building for 138 kV is 6.6ft.
- NESC Rule 234B1a for horizontal clearances to a building for 138 kV during at rest conditions is 9.6ft.
- NESC Rule 234B1b for horizontal clearance to a building for 138 kV during wind displacement is 6.6ft + NESC 6 pounds per square feet ("psf") blowout.
- NESC Rule 235C for phase to phase vertical clearance for 138kV anywhere along the span for 138 kV is 5.2ft.
- NESC Rule 235C for phase to support vertical clearance on 138 kV is 5.9ft.

Q. Please respond to Mr. Zona's assertion that the existing structure be replaced by a monopole with horizontally stacked circuits. Tr. 349.

A. The proposed BI-Crescent transmission line with the stacked circuits is designed to limit the blowout of the line as defined by the NESC as 6 psf. By staying in the horizontally

stacked configuration, this blowout would become greater compared to a stacked configuration.

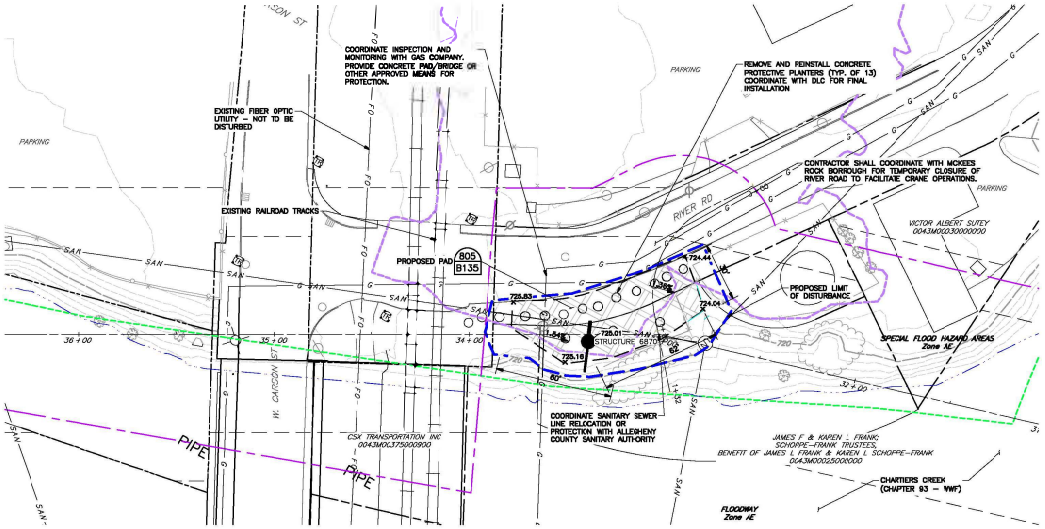
Q. Please respond to Mr. Zona's concerns regarding the impact the Project will have on his neighborhood.

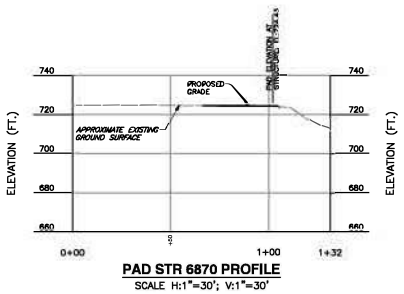
A. The existing BI-Crescent Transmission Line has existed since 1914 and has been part of the neighborhood since the neighborhood's creation. The proposed BI-Crescent Transmission Line will replace that existing line. Any impacts from construction activities will be temporary in nature and the finished BI-Crescent Transmission line will not require maintenance as frequently. In terms of viewshed, the new monopole will be of a weathering steel material, which will blend into the surrounding environment. In addition, although the monopoles will increase structure height, they will have a smaller base footprint compared to the existing structures. In this regard the new monopoles will diminish certain impacts associated with the current lattice steel structures, which are wider and shinier and, therefore, do not blend well into the surrounding environment.

Q. Does this complete your rebuttal testimony?

A. Yes, it does. If necessary, I will supplement my testimony if and as additional issues arise during the course of this proceeding.

Duquesne Light Exhibit MS-1





PAD STR 6870 PROFILE
SCALE H:1"=30'; V:1"=30'

LEGEND: (NOT ALL ITEMS SHOWN ON PLAN)

- EXISTING ADJACENT PROPERTY LINE
- EXISTING DLC MAINTENANCE CORRIDOR
- EXISTING INDEX CONTOUR
- EXISTING INTERMEDIATE CONTOUR
- EXISTING UNPAVED ROAD EDGE
- EXISTING TREELINE
- EXISTING STREAM
- EXISTING WETLAND (PEM)
- EXISTING WETLAND (PSS)
- DELINEATION BOUNDARY
- FEMA ZONE A/AE FLOODPLAIN BOUNDARY
- FEMA ZONE AE FLOODWAY BOUNDARY
- ASSUMED 50-FT FLOODWAY
- EXISTING GAS LINE
- EXISTING SANITARY SEWER LINE
- EXISTING WATER LINE
- EXISTING FENCE
- EXISTING TRANSMISSION STRUCTURE
- PROPOSED TRANSMISSION STRUCTURE
- PROPOSED TIMBER MATTING
- PROPOSED TEMPORARY ACCESS ROAD
- PROPOSED ACCESS ROAD BASELINE STATIONING
- PROPOSED TRANSMISSION LINE BASELINE STATIONING
- PROPOSED INDEX CONTOUR
- PROPOSED INTERMEDIATE CONTOUR
- PROPOSED GRADE/SLOPE
- PROPOSED ELEVATION
- PROPOSED FILL LIMITS
- PROPOSED CUT LIMITS
- PROPOSED LIMIT OF DISTURBANCE
- PROPOSED DRAINAGE CHANNEL/DIVERSION
- PROPOSED RIPRAP APRON
- PROPOSED INLET
- PROPOSED ENDWALL
- PROPOSED STORM SEWER
- PROPOSED TOE-KEY
- PROPOSED OUTLET DRAIN
- APPROXIMATE CEC TEST BORING LOCATION
- APPROXIMATE LIMITS OF PROPOSED GEOGRID INSTALLATION
- PROPOSED ORANGE CONSTRUCTION FENCE

NOTES:

1. PROJECT AREA IS LOCATED IN FLOOD ZONE AE (BASE FLOOD ELEVATIONS DETERMINED), AS DEPICTED ON FLOOD INSURANCE RATE MAP 42003C0033 H, EFFECTIVE DATE SEPTEMBER 26, 2014, ALLEGHENY COUNTY, PENNSYLVANIA. THE FLOOD ZONES SHOWN ARE PLOTTED FROM PUBLICLY AVAILABLE FEMA FLOOD DATA.
2. CONTRACTOR TO PROVIDE 5 FT BUFFER AROUND STRUCTURE LEGS DURING WORK PAD CONSTRUCTION.
3. CONTRACTOR SHALL COORDINATE WITH STATE AND LOCAL AUTHORITIES AND DUQUESNE LIGHT FOR ANY ROAD CLOSURES AND/OR TRAFFIC MODIFICATIONS. CONTRACTOR SHALL GET ALL NECESSARY PERMITS AND APPROVALS PRIOR TO THE START OF CONSTRUCTION.

EARTHWORK NOTES

1. EARTHWORK ANALYSIS IS PRELIMINARY AND FOR INFORMATION PURPOSES ONLY.
2. ACTUAL EARTHWORK WILL VARY BASED ON SITE CONDITIONS AND MATERIALS USED.
3. EARTHWORK ANALYSIS DOES NOT CONSIDER SOIL SHRINK OR SWELL.
4. TRENCH AND TRANSMISSION TOWER FOUNDATION SPOILS ARE NOT INCLUDED.

STR 6870

	CUT (CY)	FILL (CY)	NET (CY)	
RAW VOLUME	30	11	20	CUT
EXISTING TOPSOIL TO BE REMOVED			60	
PROPOSED STONE			120	
ADJUSTED VOLUMES			60	CUT

ANTICIPATED INCIDENTAL EARTHWORK FOR GEOTECHNICAL IMPROVEMENTS: N/A

NOTE: QUANTITIES LISTED ABOVE ARE APPROXIMATE AND HAVE BEEN ADJUSTED USING 8-IN AVERAGE OF EXISTING TOPSOIL, 12-IN OF PROPOSED STONE ON THE PAD AND ACCESS ROAD. NO ADJUSTMENTS WERE MADE FOR SHRINK OR SWELL. DRAINAGE AGGREGATE IN TOE-KEY EXCAVATIONS NOT INCLUDED.

REFERENCES

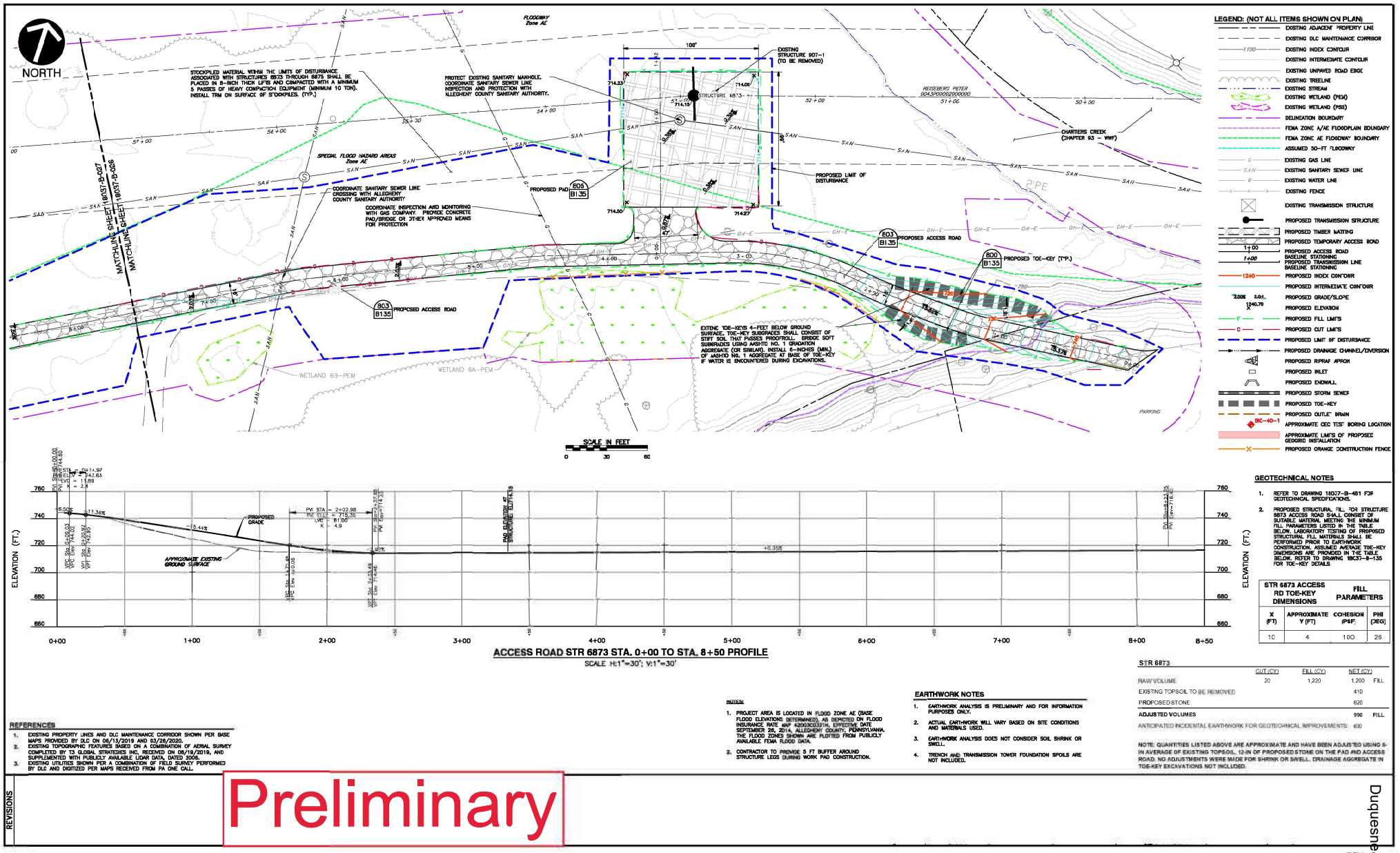
1. EXISTING PROPERTY LINES AND DLC MAINTENANCE CORRIDOR SHOWN PER BASE MAPS PROVIDED BY DLC ON 06/13/2019 AND 03/26/2020.
2. EXISTING TOPOGRAPHIC FEATURES BASED ON A COMBINATION OF AERIAL SURVEY COMPLETED BY T3 GLOBAL STRATEGIES INC, RECEIVED ON 08/19/2019, AND SUPPLEMENTED WITH PUBLICLY AVAILABLE LIDAR DATA, DATED 2006.
3. EXISTING UTILITIES SHOWN PER A COMBINATION OF FIELD SURVEY PERFORMED BY DLC AND DIGITIZED PER MAPS RECEIVED FROM PA ONE CALL.

REVISIONS

Preliminary

Duquesne Light Exhibit MS-1
REV. 2
Page 1 of 1

Duquesne Light Exhibit MS-2



ACCESS ROAD STR 6873 STA. 0+00 TO STA. 8+50 PROFILE

SCALE H:1"=30'; V:1"=30'

GEOTECHNICAL NOTES

1. REFER TO DRAWING 18037-B-461 FOR GEOTECHNICAL SPECIFICATIONS.
2. PROPOSED STRUCTURAL FILL FOR STRUCTURE 6873 ACCESS ROAD SHALL CONSIST OF SUITABLE MATERIAL MEETING THE MINIMUM FILL PARAMETERS LISTED IN THE TABLE BELOW. LABORATORY TESTING OF PROPOSED STRUCTURAL FILL MATERIALS SHALL BE PERFORMED PRIOR TO EARTHWORK CONSTRUCTION. ASSUMED AVERAGE TOE-KEY DIMENSIONS ARE PROVIDED IN THE TABLE BELOW. REFER TO DRAWING 18037-B-135 FOR TOE-KEY DETAILS.

STR 6873 ACCESS RD TOE-KEY DIMENSIONS		FILL PARAMETERS	
X (FT)	APPROXIMATE Y (FT)	COHESION (PSF)	PHI (DEG)
10	4	100	26

STR 6873

	CUT (CY)	FILL (CY)	NET (CY)
RAW VOLUME	20	1,220	1,200 FILL
EXISTING TOPSOIL TO BE REMOVED			410
PROPOSED STONE			620
ADJUSTED VOLUMES			990 FILL
ANTICIPATED INCIDENTAL EARTHWORK FOR GEOTECHNICAL IMPROVEMENTS			400

NOTE: QUANTITIES LISTED ABOVE ARE APPROXIMATE AND HAVE BEEN ADJUSTED USING 6-IN AVERAGE OF EXISTING TOPSOIL, 12-IN OF PROPOSED STONE ON THE PAD AND ACCESS ROAD. NO ADJUSTMENTS WERE MADE FOR SHRINK OR SWELL. DRAINAGE AGGREGATE IN TOE-KEY EXCAVATIONS NOT INCLUDED.

NOTES:

1. PROJECT AREA IS LOCATED IN FLOOD ZONE AE (BASE FLOOD ELEVATIONS DETERMINED), AS DEPICTED ON FLOOD INSURANCE RATE MAP 42003C0331H, EFFECTIVE DATE SEPTEMBER 26, 2014, ALLEGHENY COUNTY, PENNSYLVANIA. THE FLOOD ZONES SHOWN ARE PLOTTED FROM PUBLICLY AVAILABLE FEMA FLOOD DATA.
2. CONTRACTOR TO PROVIDE 5 FT BUFFER AROUND STRUCTURE LEGS DURING WORK PAD CONSTRUCTION.

EARTHWORK NOTES

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2. ACTUAL EARTHWORK WILL VARY BASED ON SITE CONDITIONS AND MATERIALS USED.
3. EARTHWORK ANALYSIS DOES NOT CONSIDER SOIL SHRINK OR SWELL.
4. TRENCH AND TRANSMISSION TOWER FOUNDATION SPOILS ARE NOT INCLUDED.

REFERENCES

1. EXISTING PROPERTY LINES AND DLC MAINTENANCE CORRIDOR SHOWN PER BASE MAPS PROVIDED BY DLC ON 06/11/2019 AND 03/26/2020.
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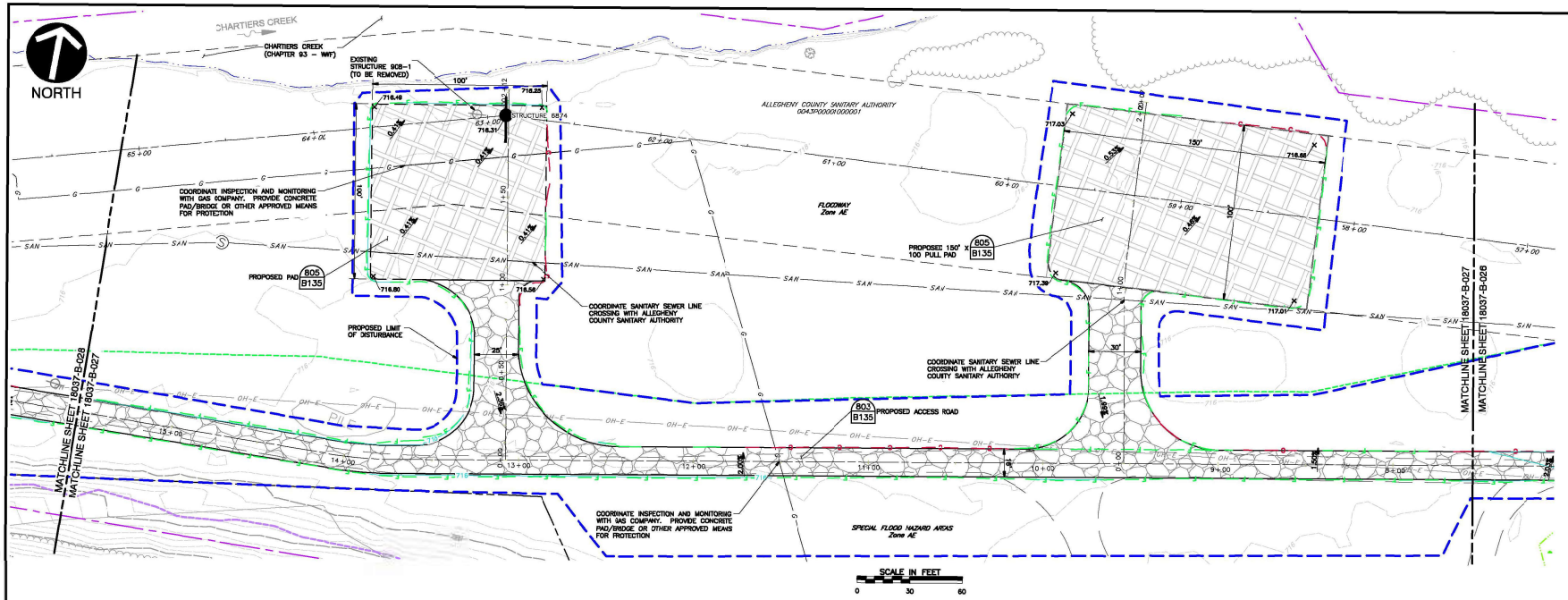
3. EXISTING UTILITIES SHOWN PER A COMBINATION OF FIELD SURVEY PERFORMED BY DLC AND DIGITIZED PER MAPS RECEIVED FROM PA ONE CALL.

REVISIONS

Preliminary

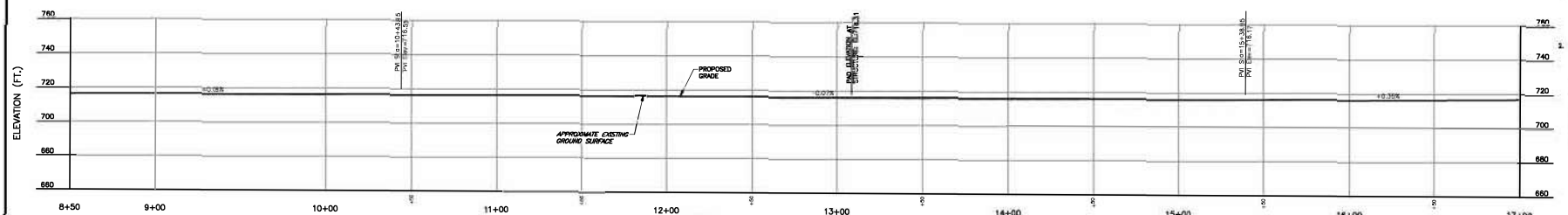


LEGEND: (NOT ALL ITEMS SHOWN ON PLAN)

- EXISTING ADJACENT PROPERTY LINE
- EXISTING DLC MAINTENANCE CORRIDOR
- EXISTING INDEX CONTOUR
- EXISTING INTERMEDIATE CONTOUR
- EXISTING UNPAVED ROAD EDGE
- EXISTING TREELINE
- EXISTING STREAM
- EXISTING WETLAND (PEM)
- EXISTING WETLAND (PSS)
- DELINEATION BOUNDARY
- FEMA ZONE A/AE FLOODPLAIN BOUNDARY
- FEMA ZONE AE FLOODWAY BOUNDARY
- ASSUMED 50-FT FLOODWAY
- EXISTING GAS LINE
- EXISTING SANITARY SEWER LINE
- EXISTING WATER LINE
- EXISTING FENCE
- EXISTING TRANSMISSION STRUCTURE
- PROPOSED TRANSMISSION STRUCTURE
- PROPOSED TIMBER MATTING
- PROPOSED TEMPORARY ACCESS ROAD
- PROPOSED ACCESS ROAD BASELINE STATIONING
- PROPOSED TRANSMISSION LINE BASELINE STATIONING
- PROPOSED INDEX CONTOUR
- PROPOSED INTERMEDIATE CONTOUR
- PROPOSED GRADE/SLOPE
- PROPOSED ELEVATION
- PROPOSED FILL LIMITS
- PROPOSED CUT LIMITS
- PROPOSED LIMIT OF DISTURBANCE
- PROPOSED DRAINAGE CHANNEL/DIVERSION
- PROPOSED RIPRAP APRON
- PROPOSED INLET
- PROPOSED ENDWALL
- PROPOSED STORM SEWER
- PROPOSED TOE-KEY
- PROPOSED OUTLET DRAIN
- APPROXIMATE CEC TEST BORING LOCATION
- APPROXIMATE LIMITS OF PROPOSED GEOGRID INSTALLATION
- PROPOSED ORANGE CONSTRUCTION FENCE

NOTES:

1. PROJECT AREA IS LOCATED IN FLOOD ZONE AE (BASE FLOOD ELEVATIONS DETERMINED), AS DEPICTED ON FLOOD INSURANCE RATE MAP 42003C0331H, EFFECTIVE DATE SEPTEMBER 26, 2014, ALLEGHENY COUNTY, PENNSYLVANIA. THE FLOOD ZONES SHOWN ARE PLOTTED FROM PUBLICLY AVAILABLE FEMA FLOOD DATA.
2. CONTRACTOR TO PROVIDE 5 FT BUFFER AROUND STRUCTURE LEGS DURING WORK PAD CONSTRUCTION.



ACCESS ROAD 6874 STA. 8+50 TO STA. 17+00 PROFILE

SCALE H:1"=30'; V:1"=30'

REFERENCES

1. EXISTING PROPERTY LINES AND DLC MAINTENANCE CORRIDOR SHOWN PER BASE MAPS PROVIDED BY DLC ON 08/13/2019 AND 03/26/2020.
2. EXISTING TOPOGRAPHIC FEATURES BASED ON A COMBINATION OF AERIAL SURVEY COMPLETED BY T3 GLOBAL STRATEGIES INC. RECEIVED ON 08/19/2019, AND SUPPLEMENTED WITH PUBLICLY AVAILABLE LIDAR DATA, DATED 2006.
3. EXISTING UTILITIES SHOWN PER A COMBINATION OF FIELD SURVEY PERFORMED BY DLC AND DIGITIZED PER MAPS RECEIVED FROM PA ONE CALL.

EARTHWORK NOTES

1. EARTHWORK ANALYSIS IS PRELIMINARY AND FOR INFORMATION PURPOSES ONLY.
2. ACTUAL EARTHWORK WILL VARY BASED ON SITE CONDITIONS AND MATERIALS USED.
3. EARTHWORK ANALYSIS DOES NOT CONSIDER SOIL SHRINK OR SWELL.
4. TRENCH AND TRANSMISSION TOWER FOUNDATION SPOILS ARE NOT INCLUDED.

STR 6874 & PULL PAD

	CUT (CY)	FILL (CY)	NET (CY)	
RAW VOLUME	50	590	540	FILL
EXISTING TOPSOIL TO BE REMOVED			910	
PROPOSED STONE			1,690	
ADJUSTED VOLUMES			240	CUT

ANTICIPATED INCIDENTAL EARTHWORK FOR GEOTECHNICAL IMPROVEMENTS: N/A

NOTE: QUANTITIES LISTED ABOVE ARE APPROXIMATE AND HAVE BEEN ADJUSTED USING 9-IN AVERAGE OF EXISTING TOPSOIL, 12-IN OF PROPOSED STONE ON THE PAD AND ACCESS ROAD. NO ADJUSTMENTS WERE MADE FOR SHRINK OR SWELL. DRAINAGE AGGREGATE IN TOE-KEY EXCAVATIONS NOT INCLUDED.

REVISIONS

Preliminary

Duquesne Light Exhibit MS-2
REV. 1
Page 2 of 2

Duquesne Light Exhibit MS-3

Civil & Environmental Consultants, Inc.
4000 Triangle Lane, Suite 200
Export, Pennsylvania 15632

BORING NUMBER BIC-83-1

CLIENT Duquesne Light Company
PROJECT NAME Brunot Island to Crescent Transmission Circuit - Phase II
PROJECT NUMBER 183-074
PROJECT LOCATION Allegheny County, PA
DATE STARTED 5/31/19 **COMPLETED** 5/31/19
GROUND ELEVATION 907 ft **BACKFILL** Auger Cuttings
DRILLING CONTRACTOR Test Boring Services, Inc.
WATER LEVELS:
DRILLING METHOD HSA, SPT & NQ-Core
BEFORE CORING --- / Dry
CEC REP EK **CHECKED BY** KAQ
AT END OF DRILLING 14.2 ft / Elev 892.8 ft
NOTES 40.54437214, -80.21989063
24hrs AFTER DRILLING --- / Backfilled Immediately

ELEVATION (ft)	MATERIAL DESCRIPTION	DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)
	Topsoil - 4 in.	0				
905	Brown, Silty CLAY, Trace Gravel-Sized Rock Fragments, Trace Organics, Moist, Very Soft **(COLLUVIAL SOIL)**		SS 1	80	1-1-1 (2)	1.5
	Bag sample of auger cuttings obtained from approximately 0 to 12 ft.					
	Brown, Completely Weathered, Shaley SANDSTONE, Some Clay, Very Soft **WEATHERED ROCK)**		SS 2	100	7-12-16 (28)	
		5				
900	Brown, Trace Dark Brown, Completely Weathered, Clayey SHALE, Very Soft **(WEATHERED ROCK)**		SS 3	100	10-14-13 (27)	
	Light Brown, Trace Orangish Brown, Completely Weathered CLAYSTONE, Very Soft **(WEATHERED ROCK)**	10	SS 4	100	12-7-7 (14)	
895	*Trace reddish brown and some shale encountered from approximately 12.0 to 12.8 ft.*		SS 5	100	21-50/0.3	
	Grey LIMESTONE, Slightly to Highly Weathered, Broken to Very Broken, Hard to Soft **(BEDROCK)**		SS 6	100	50/0.1	
	Slightly broken from approximately 13.9 to 14.4 ft.	15	NQ 1	93 (27)		
	(PINE CREEK LIMESTONE)					
890	Grey, Trace Orangish Brown, Shaley SANDSTONE, Completely to Highly Weathered, Very Broken to Broken, Soft to Medium Hard **(BEDROCK)**		NQ 2	100 (0)		
	Clay seam encountered from approximately 15.5 to 15.6 ft.					
	Clay seam encountered from approximately 19.3 to 19.4 ft.	20				
	(BUFFALO SANDSTONE)					
885			NQ 3	100 (0)		
	Grey, Trace Orangish Brown, Clayey SHALE, Highly to Completely Weathered, Broken to Very Broken, Very Soft to Soft **(BEDROCK)**					
	Grey to Reddish Brown CLAYSTONE, Highly to Completely Weathered, Broken to Very Broken, Very Soft **(BEDROCK)**	25				
880			NQ	100		

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

50/0.3
50/0.1

CEC CUSTOM LOG 183-074 FINAL BORING LOGS.GPJ CEC.GDT 8/22/19

(Continued Next Page)

Civil & Environmental Consultants, Inc.
4000 Triangle Lane, Suite 200
Export, Pennsylvania 15632

BORING NUMBER BIC-83-1

CLIENT Duquesne Light Company **PROJECT NAME** Brunot Island to Crescent Transmission Circuit - Phase II

PROJECT NUMBER 183-074 **PROJECT LOCATION** Allegheny County, PA

ELEVATION (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	▲ SPT N VALUE ▲ 20 40 60 80 / PL MC LL 20 40 60 80 / ☐ FINES CONTENT (%) ☐ 20 40 60 80
		Grey to Reddish Brown CLAYSTONE, Highly to Completely Weathered, Broken to Very Broken, Very Soft **(BEDROCK)** ***(continued)***	30	4	(0)			
875		Grey LIMESTONE, Slightly Weathered, Moderately to Slightly Broken, Hard **(BEDROCK)** *Broken from approximately 32.9 to 33.1 ft.* **(BRUSH CREEK LIMESTONE)**		NQ 5	100 (28)			
		Grey, Trace Brown, Clayey SHALE, Moderately to Highly Weathered, Broken to Very Broken, Soft to Very Soft **(BEDROCK)**	35					
870		Grey, Some Brown SANDSTONE, Trace Shale, Slightly to Moderately Weathered, Moderately Broken to Broken, Medium Hard to Soft **(BEDROCK)** *Slightly broken from approximately 37.0 to 37.8 ft.* **(BUFFALO SANDSTONE)**	40	NQ 6	100 (34)			
		Bottom of boring at 40.4 feet.						

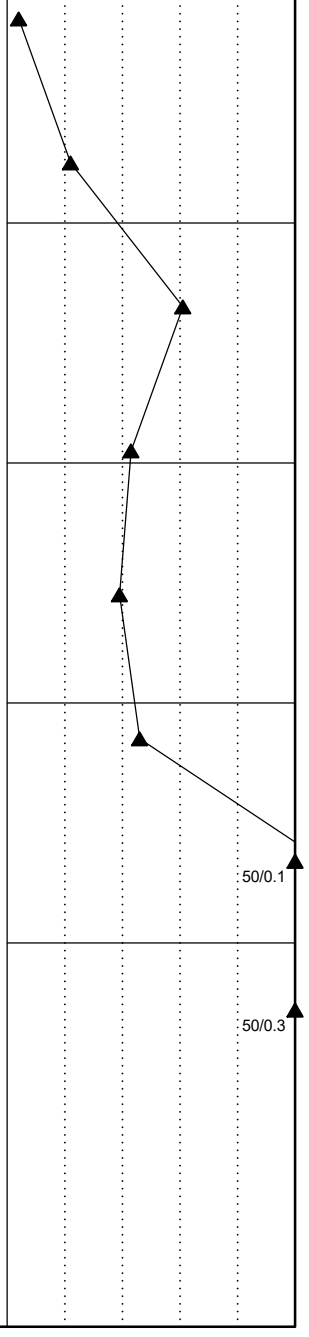
Civil & Environmental Consultants, Inc.
4000 Triangle Lane, Suite 200
Export, Pennsylvania 15632

BORING NUMBER BIC-83-2

PAGE 1 OF 1

CLIENT Duquesne Light Company
PROJECT NAME Brunot Island to Crescent Transmission Circuit - Phase II
PROJECT NUMBER 183-074
PROJECT LOCATION Allegheny County, PA
DATE STARTED 5/31/19 **COMPLETED** 5/31/19
GROUND ELEVATION 887 ft **BACKFILL** Auger Cuttings
DRILLING CONTRACTOR Test Boring Services, Inc.
WATER LEVELS:
DRILLING METHOD HSA and SPT
BEFORE CORING --- / Not Applicable
CEC REP EK **CHECKED BY** KAQ
AT END OF DRILLING --- / Dry
NOTES 40.54455812, -80.21968854
24hrs AFTER DRILLING --- / Backfilled Immediately

ELEVATION (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)
		Topsoil - 4 in.	0				
885		Brown, Trace Dark Brown, Gravel-Sized ROCK FRAGMENTS, Some Clay, Moist, Very Loose **(FILL)**		SS 1	60	1-1-3 (4)	<0.5
			5	SS 2	100	12-10-12 (22)	
880		Light Brown, Some Orangish Brown, Completely Weathered, Shaley CLAYSTONE, Very Soft **(WEATHERED ROCK)**		SS 3	100	32-27-34 (61)	
		Light Brown to Grey, Trace Reddish Brown, Completely to Highly Weathered CLAYSTONE, Very Soft **(WEATHERED ROCK)**	10	SS 4	100	16-24-19 (43)	
875				SS 5	100	12-15-24 (39)	
			15				
		Light Brown, Some Reddish Brown, Highly Weathered, Clayey SHALE, Soft **(WEATHERED ROCK)**		SS 6	100	11-17-29 (46)	
870		Light Brown, Completely Weathered, Shaley SANDSTONE, Some Clay, Very Soft **(WEATHERED ROCK)**		SS 7	100	22-50/0.1	
			20				
				SS 8	100	27-50/0.3	
		Bottom of boring at 21.8 feet.					



CEC CUSTOM LOG 183-074 FINAL BORING LOGS.GPJ CEC.GDT 8/22/19

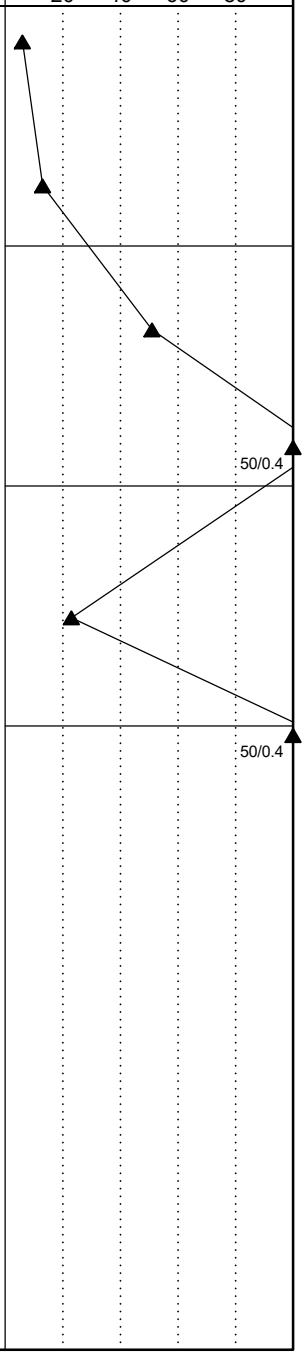
Civil & Environmental Consultants, Inc.
4000 Triangle Lane, Suite 200
Export, Pennsylvania 15632

BORING NUMBER BIC-83-3

PAGE 1 OF 1

CLIENT Duquesne Light Company
PROJECT NAME Brunot Island to Crescent Transmission Circuit - Phase II
PROJECT NUMBER 183-074
PROJECT LOCATION Allegheny County, PA
DATE STARTED 6/3/19 **COMPLETED** 6/3/19
GROUND ELEVATION 862 ft **BACKFILL** Auger Cuttings
DRILLING CONTRACTOR Test Boring Services, Inc.
WATER LEVELS:
DRILLING METHOD HSA and SPT
BEFORE CORING --- / Not Applicable
CEC REP EK **CHECKED BY** KAQ
AT END OF DRILLING --- / Dry
NOTES 40.54386051, -80.22156835
24hrs AFTER DRILLING --- / Backfilled Immediately

ELEVATION (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)
860		Orangish Brown CLAY, Some to Trace Gravel-Sized Rock Fragments, Trace Organics, Moist, Medium Stiff to Stiff **(COLLUVIAL SOIL)**	0	SS 1	100	2-2-4 (6)	1.5
				SS 2	100	7-6-7 (13)	3.5
			5				
855		Grey, Trace Brown, Highly to Completely Weathered SANDSTONE, Trace to Some Clay, Very Soft to Soft **(WEATHERED ROCK)** *Trace reddish brown encountered from approximately 6.0 to 7.5 ft.*		SS 3	100	12-30-21 (51)	
				SS 4	100	50/0.4	
			10				
850		**(BUFFALO SANDSTONE)**		SS 5	100	13-13-10 (23)	
			15				
		Bottom of boring at 15.4 feet.		SS 6	100	50/0.4	



CEC CUSTOM LOG 183-074 FINAL BORING LOGS.GPJ CEC.GDT 8/22/19

BORING NUMBER BIC-83-4

Civil & Environmental Consultants, Inc.
4000 Triangle Lane, Suite 200
Export, Pennsylvania 15632

CLIENT Duquesne Light Company
PROJECT NAME Brunot Island to Crescent Transmission Circuit - Phase II
PROJECT NUMBER 183-074
PROJECT LOCATION Allegheny County, PA
DATE STARTED 6/3/19 **COMPLETED** 6/3/19
GROUND ELEVATION 918 ft **BACKFILL** Auger Cuttings
DRILLING CONTRACTOR Test Boring Services, Inc.
WATER LEVELS:
DRILLING METHOD HSA, SPT & NQ-Core
BEFORE CORING --- / Dry
CEC REP EK **CHECKED BY** KAQ
AT END OF DRILLING 42.1 ft / Elev 875.9 ft
NOTES 40.54371092, -80.22106363
24hrs AFTER DRILLING --- / Backfilled Immediately

ELEVATION (ft)	MATERIAL DESCRIPTION	DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)
	Topsoil - 4 in.	0				
915	Orangish Brown CLAY, Some to Trace Gravel-Sized Rock Fragments, Moist, Medium Stiff **(RESIDUAL SOIL)** *Bag sample of auger cuttings obtained from approximately 0 to 9.4 ft.*		SS 1	100	4-2-5 (7)	1.5
	Light Brown, Trace Orangish Brown, Completely Weathered, Shaley CLAYSTONE, Very Soft **(WEATHERED ROCK)**		SS 2	100	10-30-36 (66)	
		5	SS 3	100	35-50/0.4	
910	Grey and Brown, Completely Weathered, Shaley SANDSTONE, Very Soft **(WEATHERED ROCK)**					
			SS 4	100	50/0.4	
	Dark Grey, Trace Orangish Brown, Sandy SHALE, Trace Clay, Completely to Moderately Weathered, Very Broken to Broken, Very Soft to Medium Hard **(BEDROCK)**	10	NQ 1	53 (0)		
905			NQ 2	100 (0)		
		15				
900			NQ 3	100 (8)		
	Grey, Some Brown SANDSTONE, Trace Clay, Moderately to Highly Weathered, Broken to Very Broken, Medium Hard to Soft **(BEDROCK)** *Moderately broken from approximately 18.6 to 19.0 ft.*	20				
	Grey CLAYSTONE, Completely to Highly Weathered, Very Broken to Broken, Very Soft **(BEDROCK)**					
895			NQ 4	96 (0)		
		25				
890	Brown to Grey, Clayey SANDSTONE, Highly to Moderately Weathered, Broken to Very Broken, Soft to Medium Hard **(BEDROCK)**					

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

50/0.4
50/0.4

CEC CUSTOM LOG 183-074 FINAL BORING LOGS.GPJ CEC.GDT 8/22/19

(Continued Next Page)

Civil & Environmental Consultants, Inc.
4000 Triangle Lane, Suite 200
Export, Pennsylvania 15632

BORING NUMBER BIC-83-4

CLIENT Duquesne Light Company **PROJECT NAME** Brunot Island to Crescent Transmission Circuit - Phase II

PROJECT NUMBER 183-074 **PROJECT LOCATION** Allegheny County, PA

ELEVATION (ft)	MATERIAL DESCRIPTION	DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)
890	Brown to Grey, Clayey SANDSTONE, Highly to Moderately Weathered, Broken to Very Broken, Soft to Medium Hard **(BEDROCK)** ***(continued)***		NQ 5	100 (0)		
	Clay seam encountered from approximately 28.8 to 28.9 ft.	30				
	Vertical fracture encountered from approximately 29.4 to 30.2 ft.					
	Shaley from approximately 29.7 to 30.5 ft.					
	Grey, Trace Orangish Brown, Sandy SHALE, Trace Clay, Completely to Highly Weathered, Very Broken to Broken, Very Soft to Soft **(BEDROCK)**		NQ 6	78 (12)		
885						
	Grey, Trace Brown SANDSTONE, Moderately Weathered, Slightly Broken, Hard **(BEDROCK)**	35				
	Grey, Trace Brown, Shaley SILTSTONE, Trace Clay, Moderately Weathered, Broken, Soft **(BEDROCK)**					
	Purplish Brown to Reddish Brown CLAYSTONE, Completely Weathered, Very Broken to Broken, Very Soft **(BEDROCK)**		NQ 7	100 (0)		
880		40				
	Shaley from approximately 41.9 to 42.9 ft.					
875						
	Grey, Trace Reddish Brown, Sandy CLAYSTONE, Moderately Weathered, Broken to Very Broken, Medium Hard to Soft **(BEDROCK)**		NQ 8	100 (8)		
	Grey LIMESTONE, Slightly Weathered, Broken, Hard **(BEDROCK)**	45				
	(PINE CREEK LIMESTONE)					
	Grey, Trace Brown CLAYSTONE, Highly to Completely Weathered, Broken to Very Broken, Very Soft **(BEDROCK)**					
	Grey, Shaley SANDSTONE, Moderately Weathered, Broken to Very Broken, Medium Hard to Soft **(BEDROCK)**		NQ 9	100 (17)		
870	*Slightly broken from approximately 47.2 to 47.9 ft.*					
	(BUFFALO SANDSTONE)	50				
	Bottom of boring at 50.0 feet.					

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

CEC CUSTOM LOG 183-074 FINAL BORING LOGS.GPJ CEC.GDT 8/22/19

Duquesne Light Exhibit MS-4

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FIELD BORING LOG

BORING NO. 83-84
SHEET 1 OF 3
DATE: START 4/28/17
END 4/28/17
APPX. ELEV. 900.0

PROJECT NAME DLC: B.I. to Crescent T-Line Rebuild PROJECT NUMBER Allegheny County, PA
STR. NO. 83-84 NORTHING 450683.513 EASTING 1282365.155 (As Staked Coordinates)
INSPECTOR Andrew Smeltzer
DRILLERS NAME/COMPANY Craig Hormel/Pennsylvania Drilling Company
EQUIPMENT USED CME 45C Track Rig with Automatic Hammer
DRILLING METHODS 3-1/4" Inside Diameter Hollow Stem Auger in conjunction with Standard Penetration Testing and NQ Wireline Coring
CASING: SIZE: _____ ; DEPTH: _____ ; WATER: DEPTH: _____ TIME: _____ DATE: _____
CHECKED BY: TCH DATE: 7/26/17 ; DEPTH: _____ TIME: _____ DATE: _____
NOT ENCOUNTERED [X]

DEPTH (FT)	SAMPLE NO./ TYPE/CORE RUN	BLOWS/0.5 FT. ON SAMPLER	RECOVERY (Ft.)	RECOVERY(%) / RQD (%)	POCKET PENT/ TORVANE (TSF)	USCS / AASHTO	H_2O CONTENT	DESCRIPTION	REMARKS
0.0	S-1	1 1 1	0.8'	-	4.75	cl	Dry	Silty CLAY, trace sand, brown, hard [Fill]	Boring offset 18' ahead.
1.5									
3.0	S-2	6 5 6	1.5'	-	4.5	cl	Dry		
4.0								HIGHLY WEATHERED ROCK (Siltstone), tan, soft, highly weathered, laminated flat bedding, laminated flat fractures	
4.5									
6.0	S-3	9 11 14	1.5'	-	-	-	Dry		
7.5									
9.0	S-4	35 45 38	1.5'	-	-	-	Dry		
10.5	S-5	35 40 50/0.4	1.4'	-	-	-	Dry		
11.9	S-6	15 40 50/0.3	1.3'	-	-	-	Dry		
12.0									
13.3	R-1	-	3.2'	100 0	-	-	-	SILTSTONE, tan, soft, highly weathered, thin flat bedding, close flat to medium-steep fractures	
16.5	R-2	-	5.0'	100	-	-	-		
19.5									

Note: Soil classification symbols above that are determined by visual observation are shown with lowercase letters (e.g. sm) while classification symbols determined by laboratory testing are shown in capital letters (e.g. SM).

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FIELD BORING LOG

BORING NO. 83-84
SHEET 2 OF 3
DATE: START 4/28/17
END 4/28/17
APPX. ELEV. 900.0

PROJECT NAME DLC: B.I. to Crescent T-Line Rebuild PROJECT NUMBER Allegheny County, PA
STR. NO. 83-84 NORTHING 450683.513 EASTING 1282365.155 (As Staked Coordinates)
INSPECTOR Andrew Smeltzer
DRILLERS NAME/COMPANY Craig Hormel/Pennsylvania Drilling Company
EQUIPMENT USED CME 45C Track Rig with Automatic Hammer
DRILLING METHODS 3-1/4" Inside Diameter Hollow Stem Auger in conjunction with Standard Penetration Testing and NQ Wireline Coring
CASING: SIZE: _____ ; DEPTH: _____ ; WATER: DEPTH: _____ TIME: _____ DATE: _____
CHECKED BY: TCH DATE: 7/26/17 ; DEPTH: _____ TIME: _____ DATE: _____
NOT ENCOUNTERED [X]

DEPTH (FT)	SAMPLE NO./ TYPE/CORE RUN	BLOWS/0.5 FT. ON SAMPLER	RECOVERY (Ft.)	RECOVERY(%) / RQD (%)	POCKET PENT/ TORVANE (TSF)	USCS / AASHTO	H_2O CONTENT	DESCRIPTION	REMARKS
21.5				0		-	-	CLAYSTONE, red to dark purple, very soft, highly weathered, no apparent bedding, close to medium spaced, shallow to steep fractures *(continued)*	
	R-3	-	5.0'	100 0	-	-	-		
26.5									
	R-4	-	5.0'	100 0	-	-	-		
30.0									
31.5								SILTSTONE, grey-olive, hard to medium-hard, weathered, thin flat bedding, close shallow to steep fractures	
	R-5	-	5.0'	100 50	-	-	-		
36.5									
	R-6	-	5.0'	100	-	-	-	SILTSTONE, blue-grey, hard, minor weathering, thin flat bedding, close to wide shallow to medium-steep fractures	

Note: Soil classification symbols above that are determined by visual observation are shown with lowercase letters (e.g. sm) while classification symbols determined by laboratory testing are shown in capital letters (e.g. SM).

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FIELD BORING LOG

BORING NO. 83-84
SHEET 3 OF 3
DATE: START 4/28/17
END 4/28/17
APPX. ELEV. 900.0

PROJECT NAME DLC: B.I. to Crescent T-Line Rebuild PROJECT NUMBER Allegheny County, PA
STR. NO. 83-84 NORTHING 450683.513 EASTING 1282365.155 (As Staked Coordinates)
INSPECTOR Andrew Smeltzer
DRILLERS NAME/COMPANY Craig Hormel/Pennsylvania Drilling Company
EQUIPMENT USED CME 45C Track Rig with Automatic Hammer
DRILLING METHODS 3-1/4" Inside Diameter Hollow Stem Auger in conjunction with Standard Penetration Testing and NQ Wireline Coring
CASING: SIZE: _____ ; DEPTH: _____ ; WATER: DEPTH: _____ TIME: _____ DATE: _____
CHECKED BY: TCH DATE: 7/26/17 ; DEPTH: _____ TIME: _____ DATE: _____
NOT ENCOUNTERED [X]

DEPTH (FT)	SAMPLE NO./ TYPE/CORE RUN	BLOWS/0.5 FT. ON SAMPLER	RECOVERY (Ft.)	RECOVERY(%) / RQD (%)	POCKET PENT/ TORVANE (TSF)	USCS / AASHTO	H_2O CONTENT	DESCRIPTION	REMARKS
41.5				44		-	-	SILTSTONE, blue-grey, hard, minor weathering, thin flat bedding, close to wide shallow to medium-steep fractures *(continued)*	
	R-7	-	5.0'	100 84	-	-	-	- calcite deposits in steep fracture	
46.5									
	R-8	-	5.0'	100 80	-	-	-	- steep vertical fracture approximately 3" wide	Loss of core water.
51.5									
	R-9	-	4.8'	96 94	-	-	-		
56.5								56.5	
								End of Boring at 56.5'	

Note: Soil classification symbols above that are determined by visual observation are shown with lowercase letters (e.g. sm) while classification symbols determined by laboratory testing are shown in capital letters (e.g. SM).

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Application of Duquesne Light Company Filed Pursuant to 52 Pa. Code Chapter 57, Subchapter G, for Approval of the Siting and Construction of the 138 kV Transmission Lines Associated with the Brunot Island-Crescent Project in the City of Pittsburgh, McKees Rocks Borough, Kennedy Township, Robinson Township, Moon Township, and Crescent Township, Pennsylvania	Docket No. A-2019-3008589 Docket No. A-2019-3008652

VERIFICATION

I, Meenah Shyu, Manager of the Civil & Transmission Line Engineering Group, hereby state that the facts set forth are true and cover (or are true and correct to the best of my knowledge, information and belief) and that I expect to be able to prove the same at a hearing held in this matter. I understand that the statements herein are made subject to the penalties of 18 Pa. C.S. § 4904 (relating to unsworn falsifications to authorities).

Meenah Shyu
Manager of Civil & Transmission Line
Engineering Group

Date: January 21, 2021

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Application of Duquesne Light Company filed Pursuant to 52 Pa. Code Chapter 57, Subchapter G, for Approval of the Siting and Construction of the 138 kV Transmission Lines Associated with the **Brunot Island-Crescent Project** in the City of Pittsburgh, McKees Rocks Borough, Kennedy Township, Robinson Township, Moon Township, and Crescent Township, Allegheny County Pennsylvania	:	Docket No. A-2019-_____

Duquesne Light Company

Statement No. 4

Written Direct Testimony of

Lesley Gannon

Topics Addressed: Right of Way Acquisition on the Project

DUQUESNE
STATEMENT
4

INTRODUCTION

Q. Please state your name and business address.

A. My name is Lesley Cummings Gannon. My business address is 1800 Seymour Street, Pittsburgh, PA 15233.

Q. By whom are you employed and in what capacity?

A. I am employed by Duquesne Light Company ("Duquesne Light" or the "Company") as the Senior Manager of Real Estate and Rights of Way. In my position, I am responsible for managing all of the real estate-related acquisitions and divestitures for the Company.

Q. What are your qualifications, work experience and educational background?

A. I have been employed by Duquesne Light Company since 2013. In my current position, I manage the Real Estate Department, which has one Real Estate Specialist, one Supervisor of Survey and Right of Way, four surveying technicians, four right of way agents and a clerk. The Real Estate Department was formed in late 2017, and I have been in my current position for one year and 5 months. I am also Assistant Corporate Secretary for the Company.

Prior to assuming my present position at Duquesne Light, I was Managing Counsel, Commercial/General in the Company's Office of the General Counsel for 4 years and 9 months, in which position I managed all transactional work at the Company, including any legal issues relating to real estate. Prior to being hired by the Company, I performed similar work as contract counsel for the Company from May of 2008. From

2005 to 2013, in addition to representing the Company as set forth above, I managed my law firm, Gannon Law Offices, which represented small and mid-sized businesses in the Pittsburgh area in transactional and real estate matters. From 2001 to 2005, I was an associate at Sherrard, German & Kelly, P.C. in their financial services and transactional practice groups. Prior to 2001, I held various positions in the financial services industry.

I am an attorney licensed to practice law in the Commonwealth of Pennsylvania since 2001. I graduated from Duquesne University School of Law in 2001 and was admitted to the Pennsylvania Bar in 2001. I also hold a Bachelor of Arts in Business and Communications from Carlow University.

Q. What are your responsibilities in connection with the Brunot Island-Crescent Project?

A. The Company's Supervisor of Survey and Rights of Way, who is no longer with the Company, worked with Burns and McDonnell to identify the parcel owners on and adjacent to the proposed Project line, identify any areas in which the Company will require new or enhanced rights-of-way for the Project, and acquire such rights of way. In October 2017, the Company's Rights of Way and Survey groups came under the new Real Estate Department and my supervision. The proposed Project involves the replacement of infrastructure located on easements that had been in place for decades and that were not reflective of modern electrical infrastructure easement requirements. Therefore, the Company needed to acquire property rights on 122 properties along the length of the proposed Project line. To do so, the Company engaged Burns and

McDonnell to serve as the Company's agent in the acquisition of the needed property rights.

Q. What is the purpose of your direct testimony in this proceeding?

A. First, I will identify the portions of the above-captioned Siting Application that I am sponsoring. Second, I will summarize our process for identifying new right-of-way required for the Project and the property owners that would be affected. Third, I will explain the process we employed to attempt to acquire rights of way and easements for the Brunot Island-Crescent Transmission Line. Fourth, I will explain the Company's policy regarding the property owner's use of the right-of-way area, and will provide examples of measures the Company employs to mitigate the impacts of the Transmission Lines on property owners' present and future uses of their properties. Fifth, I will explain the status of our efforts to acquire the rights-of-way and easements needed for the Project.

Q. Please describe the portions of the Siting Application that you are sponsoring.

A. I am responsible for Attachment 9, comprising a series of aerial survey maps that show the owners of property that will be traversed by the proposed Brunot Island-Crescent Transmission Line.

Q. Please describe the Company's process for identifying the owners of property that will be traversed by Project facilities.

A. Starting in 2014, Company personnel and contractors researched the Project routes for property owner names, property records, and mapping. They then collected boundary and physical evidence from the field to determine or confirm property boundaries. Members of my department prepared mapping for the contract right-of-way agents when they met with the property owners to show them where the proposed right of way was being requested.

Q. Please explain the Company's policy regarding dealing with owners of property to be traversed by Project facilities.

A. The Company's policy regarding dealing with property owners is described in the informational packet provided to property owners along the Proposed Route, included as Attachment 13. Among other information, described in more detail below, this packet provides that Duquesne Light representatives are to: act with integrity at all times; treat everyone courteously and in a professional manner; be forthright and honest in all actions and communications; comply with all laws and regulations; avoid any conflicts of interest; accept responsibility for any actions or decisions; be good stewards of the environment; and place a high priority on safety for the public, as well as Company employees and representatives.

Q. Did the Company provide information to owners of land that may be subject to a right-of-way or easement for the Project?

A. Yes. As mentioned above, prior to contacting property owners to negotiate right-of-way agreements, the Company provided informational packets to notify property owners of

the Company's plans to negotiate to acquire rights of way and easements across their land. This packet discloses to the property owner information including the name, purpose, and general location of the Project; Duquesne Light's standards of employee and agent conduct; and notices of eminent domain power and right-of-way management practices; and also includes a permission form for landowners to grant Duquesne Light access to their property.

This packet contains the notices required by the Pennsylvania Public Utility Commission in its regulations at 52 Pa. Code § 57.91. The first notice discusses the Company's power of eminent domain with respect to the Project, and the associated rights of the property owner. The second notice provides information regarding the right-of-way maintenance practices for the Project facilities. An example of this informational packet is included as Attachment 13 to the Siting Application.

Additionally, the Company held public meetings on February 21, 2017, February 28, 2017, and March 2, 2017 at the Crescent Municipal Building, VFW Post 418 Hall in Mckees Rocks, and Kennedy Township Fire Department to provide information about the Project to owners of property in the area. At this meeting, Company representatives delivered informational presentations about the Project need, route, design, and operational characteristics; answered questions from attendees; and provided informational literature regarding property owner rights, eminent domain, and a surveying permission form.

Q. What does the Company do after providing the information and notices to property owners?

A. Pursuant to 52 Pa. Code § 57.91, the Company waits at least 15 days following landowner's receipt of the informational packet provided in Attachment 13 to the Siting Application. We then contact the property owner(s) via telephone or in person to schedule a convenient time to meet so that we can explain the details of the Project and answer any questions they may have. At such meeting, we usually make a monetary offer to the property owner(s) for the right-of-way sought. The amount of the offer is based on the fair market value of the property interests the Company wishes to acquire.

Q. Please explain the Company's policy regarding the property owner's use of the right-of-way area.

A. Following the Company's acquisition of a right of way and easement, the property owner can continue to use the right-of-way area, so long as such use is compatible with the safe and reliable operation and maintenance of Company facilities. Compatible uses that require no prior review or approval from the Company include farming and gardening. The Company also allows compatible development within the right-of-way area, provided that the design and work in the area does not interfere with the safe and reliable operation and maintenance of Company facilities. Such uses can include: grading, installation of roadways or parking lots, and installation of underground infrastructure (such as utilities).

Q. Please identify methods and/or examples the Company has worked with property owners along the Proposed Route to mitigate effects of the Project on their present and future land uses.

A. The Proposed Route was tailored to the extent feasible to keep the existing transmission line right-of-way throughout the siting process.

Q. Please explain the status of the Company's efforts to acquire right-of-way and easements for the Project.

A. There are a total of 461 deeded properties along the Proposed Route, owned by a total of 391 property owners. The Company required additional easements from 122 property owners for this Project. One hundred and twenty (120) of these easements have been obtained.

The Company is separately filing for approval of the condemnation of rights of way and easements across certain portions of one (1) parcel pursuant to Section 1511(c) of the Business Corporation Law of 1988, 15 Pa.C.S. 1511(c). The Company is continuing to pursue negotiations with all owners of the remaining properties along the Proposed Route.

Q. Does this complete your direct testimony?

A. Yes.

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Application of Duquesne Light Company filed Pursuant to 52 Pa. Code Chapter 57, Subchapter G, for Approval of the Siting and Construction of the 138 kV Transmission Lines Associated with the **Brunot Island-Crescent Project** in the City of Pittsburgh, McKees Rocks Borough, Kennedy Township, Robinson Township, Moon Township, and Crescent Township, Allegheny County Pennsylvania	:	Docket No. A-2019-3008589
Application of Duquesne Light Company Under 15 Pa.C.S. § 1511(c) For A Finding and Determination That the Service to be Furnished by the Applicant Through Its Proposed Exercise of the Power of Eminent Domain to Acquire a Certain Portion of the Lands of **George N. Schaefer** of Moon Township, Allegheny County, Pennsylvania for the Siting and Construction of Transmission Lines Associated with the Proposed Brunot Island – Crescent Project is Necessary or Proper for the Service, Accommodation, Convenience, or Safety of the Public	:	Docket No. A-2019-3008652

Duquesne Light Company

Statement No. 4-R (A-2019-3008589)
Statement No. 1-R (A-2019-3008652)

Written Rebuttal Testimony of

Lesley Gannon

Topics Addressed: **Right Of Way Acquisition**
Landowner And Public Outreach
Notice Of Schaefer Condemnation Application

DUQUESNE
STATEMENT
4R

I. INTRODUCTION

Q. Please state your name and business address.

A. My name is Lesley Cummings Gannon. My business address is 1800 Seymour Street, Pittsburgh, PA 15233.

Q. Did you previously submit testimony in this proceeding on behalf of Duquesne Light Company ("Duquesne Light" or the "Company")?

A. Yes. On March 15, 2019, I submitted my direct testimony, Duquesne Light Statement No. 4, relative to the "Application of Duquesne Light Company filed Pursuant to 52 Pa. Code Chapter 57, Subchapter G, for Approval of the Siting and Construction of the 138 kV Transmission Lines Associated with the **Brunot Island-Crescent Project** in the City of Pittsburgh, McKees Rocks Borough, Kennedy Township, Robinson Township, Moon Township, and Crescent Township, Allegheny County Pennsylvania" at Docket No. A-2019-3008589 ("BI-Crescent Project"). I also submitted direct testimony, labeled Duquesne Light Statement No. 1 (Schaefer), regarding the "Application of Duquesne Light Company Under 15 Pa.C.S. § 1511(c) For A Finding and Determination That the Service to be Furnished by the Applicant Through Its Proposed Exercise of the Power of Eminent Domain to Acquire a Certain Portion of the Lands of **George N. Schaefer** of Moon Township, Allegheny County, Pennsylvania for the Siting and Construction of Transmission Lines Associated with the Proposed Brunot Island – Crescent Project is Necessary or Proper for the Service, Accommodation, Convenience, or Safety of the Public" at Docket No. A-2019-3008652 ("Schaefer Condemnation Application").

Q. What is the purpose of your rebuttal testimony?

A. My testimony responds to certain issues raised by several of the Protestants in their oral testimony at the September 10, 2019 lay witness hearing. Specifically, I will respond to the Protestants' concerns regarding: (1) how the Company determined what right-of-way acquisitions were required for the project; (2) the Company's interactions with and notices provided to landowners whose properties would be traversed by right-of-way associated with the project; (3) the Company's public outreach efforts before the filing of the project; and (4) the Company's efforts to identify and provide notice to potential holders of property interests in the property associated with the Schaefer Condemnation Application.

Q. How is the remainder of your rebuttal testimony organized?

A. Section II of my rebuttal testimony summarizes and responds to the Protestants' concerns regarding the Company's analysis and determination of what rights-of-way needed to be acquired for the Project. Importantly, as discussed in my direct testimony (Duquesne Light St. No. 4) much of the project is located on existing rights-of-way that are already traversed by Duquesne Light transmission facilities. Finally, Section III will address issues that arose regarding notice of the Schaefer Condemnation Application.

Q. Are you sponsoring any exhibits associated with your rebuttal testimony?

A. Yes. Included with my testimony are the following exhibits: (1) Duquesne Light Exhibit LG-1, which depicts the location of the proposed facilities relative to the 306 Konter Road property and the 205 Purdy Road property; (2) Duquesne Light Exhibit LG-2, which depicts the location of existing transmission facilities right-of-way over the original parcel (including the property located at 304 Konter Road) for which Duquesne Light obtained an easement that will be used for the BI-Crescent Project; and (3) Duquesne Light Exhibit LG-3, which depicts the location of the proposed facilities relative to the 1123 Juanita Drive property.

In addition, specific to the Schaefer Condemnation Application, I am also sponsoring Duquesne Light Exhibit LG-5 (Schaefer), which is the proof of publication of notice by the Company in the Pittsburgh Post-Gazette regarding the BI-Crescent Project and the Schaefer Condemnation Application.

II. RIGHT OF WAY ACQUISITION

Q. Ms. Gannon, did you describe the Company's right-of-way acquisition efforts in your direct testimony?

A. Yes.

Q. Have any of the Protestants challenged the Company's right-of-way acquisition efforts in this proceeding?

A. Yes. Mrs. Adams and Mrs. Crowe asserted that the Company has not obtained necessary right-of-way with respect to the property located at 306 Konter Road. (*See* Tr.

77-78; 119-120) In addition, Mrs. Marinkovic asserted that Duquesne Light has not obtained necessary rights-of-way with respect to her property located at 205 Purdy Road, specific to the alleged enlargement of a private road. (Tr. 149-150) In addition, Mrs. Crowe asserts that the Company has not obtained necessary right-of-way from properties near her residence, located at 1123 Juanita Drive. (Tr. 125) Finally, Mrs. Wilson alleged that the Company has not property obtain an easement for the section of right-of-way that traverses her property at 9 McGovern Boulevard. (Tr. 168) I will respond to these assertions below, based on the relative locations of these properties.

A. PROPERTIES NEAR KONTER ROAD

Q. Please respond to Mrs. Adams' and Mrs. Crowe's assertions that the Company has not obtained necessary rights-of-way regarding the 306 Konter Road property.

A. Mrs. Adams' and Mrs. Crowes' assertion that Duquesne Light must obtain rights-of-way from them to complete the BI-Crescent Project is incorrect. No existing Duquesne Light transmission facilities traverse the property located at 306 Konter Road today and no transmission facilities are planned to traverse this property as a part of the BI-Crescent Project. As such, the Company does not need and does not intend to acquire any rights-of-way to locate any transmission facilities associated with the BI-Crescent Project on the property located at 306 Konter Road.

Q. Can you please explain the location of the BI-Crescent Project and associated right-of-way relative to the property located at 306 Konter Road?

A. Again, none of the right-of-way or the associated facilities traverse this property. A map depicting the location of these facilities is attached as Duquesne Light Exhibit LG-1. As can be seen on the map, the edge of the easement acquired on Mr. Gable's property is more than 650 feet from the closest property line of the parcel located at 306 Konter Road.

Q. What is the basis for Mrs. Adams' and Mrs. Crowe's assertions in this proceeding that the Company must obtain an easement from them?

A. Mrs. Adams and Mrs. Crowe believe that the Company must obtain an easement to use Konter Road to access a construction road located on the property of Mr. Richard Gable, their neighbor, located at 304 Konter Road. I note that the Company obtained an easement from Mr. Gable in connection with the BI-Crescent Project in 2018 (*see* Tr. 140, 144-145; *see also* Exhibit Gable 4) and that the Company possesses an additional easement associated with the existing transmission facilities right-of-way that will be used for the BI-Crescent Project (as depicted in Duquesne Light Exhibit LG-2).

Q. Is Duquesne Light required to obtain an easement to use Konter Road?

A. I am advised by counsel that Duquesne Light is not. On November 14, 1914, Alpha Light Company, predecessor-in-interest to Duquesne Light, purchased an easement from

Ebenezer and Susannah Worth and Samuel P. and Mary E. Worth across their undeveloped property in Coraopolis (the "Worth Property"). This easement was documented in an Indenture (the "Worth Agreement"),which is filed of record, and the Worth Property and associated eastement are depicted in Duquesne Light Exhibit LG-2. The Worth Property was later subdivided into several parcels and Konter Road was constructed; however, the Worth Agreement is still in the chain of title for all parcels subdivided from the Worth Property and on Konter Road, including 304 Konter Road. The Worth Agreement permits Duquesne Light "to erect, use, operate, maintain, repair, renew and finally remove…" the electric transmission system and "t*o enter upon said premises at any time for said purposes*" (emphasis added). Because Kontor Road is part of the Worth Property, Duquesne Light has the right to utilize it to access its infrastructure, including repairing and renewing that infrastructure.

Q. Mrs. Adams and Mrs. Crowe also point to supposed plans to widen Konter Road as a part of the Project. (Tr. 93-96; Exhibit Adams 16A) Please identify what Exhibit Adams 16A is and explain what it depicts.

A. Exhibit Adams 16A appears to be a depiction of boundary of the Worth Property, as defined above, at the time the Worth Easement was acquired by Duquesne Light and of which Konter Road was a part. There are no current plans to widen Konter Road, which was part of the original Worth Property; however, there are ruts and holes in the road that Duquesne Light will need to repair in order to drive construction vehicles on the road.

Q. Are Mrs. Adams and Mrs. Crowe correct that Duquesne Light intends to widen Konter Road as a part of the BI-Crescent Project?

A. No. Duquesne Light's current construction plans do not involve the widening of Konter Road; however, Duquesne Light will repair ruts and potholes in the road so that construction vehicles can utilize the road. Duquesne Light also plans to create a construction entrance to Mr. Gable's property, as permitted under Duquesne Light's agreement with Mr. Gable.

Q. Does the Company have the right to legally access Konter Road and conduct construction activities associated with the BI-Crescent Project?

A. Yes. As advised by counsel, the Worth Agreement is still in the chain of title for all parcels subdivided from the Worth Property, including the portion that is now Konter Road. The Worth Agreement permits Duquesne Light "to erect, use, operate, maintain, repair, renew and finally remove…" the electric transmission system and "t*o enter upon said premises at any time for said purposes*" (emphasis added).

Q. Do Mrs. Adams and Mrs. Crowe raise any other issues regarding Duquesne Light's right-of-way acquisition activities with respect to 306 Konter Road?

A. Yes. Both Mrs. Adams and Mrs. Crowe assert that Duquesne Light, its employees and/or its agents: (1) have trespassed on this property (*see e.g.*, Tr. 74-75, 123); (2) have

harassed Mrs. Adams, Mrs. Crowe or other landowners during the course of right-of-way acquisition activities (*see e.g.*, Tr. 82, 101-102); and (3) have not communicated with the attorney retained by Mrs. Adams and Mrs. Crowe regarding 306 Konter Road (*see e.g.*, Tr. 81-82).

Q. Are Mrs. Adams' and Mrs. Crowe's assertions that Duquesne Light is trespassing on the property located at 306 Konter Road correct?

A. No. The real property known as 306 Konter Road, Allegheny County Tax Parcel Number 0701-L-00126-0000-00, is not impacted by the existing BI-Crescent Line nor by the BI-Crescent Project. That parcel is also not impacted by any related Duquesne Light construction plans or construction-related activities. I am unaware of any circumstance in which Duquesne Light's agents or employees trespassed upon the parcel located at 306 Konter Road.

Q. Are Mrs. Adams' and Mrs. Crowe's assertions correct that Duquesne Light, its employees or its agents have harassed Mrs. Adams, Mrs. Crowe or other landowners during the course of right-of-way acquisition activities?

A. No. Contrary to Mrs. Adams' and Mrs. Crowe's assertions, I am unaware of any circumstances in which Duquesne Light agents or employees harassed any landowners in the course of right of way acquisition activities. Duquesne Light agents are required to comply by the Code of Conduct provided to all property owners prior to negotiation of a

transmission line easement, which Code of Conduct was included in the notices attached to the Application as Attachment 13. Further, Duquesne Light did not seek an easement from either Mrs. Adams or Mrs. Crowe in connection with the BI-Crescent Project as 306 Konter Road is not impacted by the BI-Crescent Project and no further easement was required on the property located at 1123 Juanita Drive beyond the easement currently in place.

Q. Are Mrs. Adams' and Mrs. Crowe's assertions correct that Duquesne Light, its employees or its agents have not properly communicated through their attorney?

A. No. Except as related to Mrs. Crowe and Mrs. Adams' PUC Complaints, Duquesne Light counsel worked directly with Mrs. Adams and Mrs. Crowe's attorney in connection with all questions raised by these property owners. Protestants' counsel advised Duquesne Light counsel that she did not represent Mrs. Adams or Mrs. Crowe in connection with their PUC Complaints

Q. Please respond to Mrs. Marinkovic's assertion that the Company has not obtained necessary rights-of-way regarding the 205 Purdy Road property.

A. As with the property located at 306 Konter Road, no existing Duquesne Light transmission facilities traverse the property located at 205 Purdy Road today and no transmission facilities are planned to traverse this property as a part of the BI-Crescent Project. As such, the Company does not need and does not intend to acquire any rights-

of-way to locate any transmission facilities associated with the BI-Crescent Project on the property located at 205 Purdy Road.

Q. Can you please explain the location of the BI-Crescent Project and associated right-of-way relative to the property located at 205 Purdy Road?

A. Again, none of the right-of-way or the associated facilities traverse this property. A map depicting the location of these facilities is attached as Duquesne Light Exhibit LG-1. As can be seen on the map, the BI-Crescent Line is more than 200 feet from the closest boundary line of the parcel at 205 Purdy Road.

Q. Similar to Mrs. Adams and Mrs. Crowe, Mrs. Marinkovic also points to supposed plans to widen the point where Purdy Road meets Konter Road as a part of the Project. (Tr. 150-151; Exhibit Adams 16A) Please respond.

A. There are no current plans to widen Konter Road in connection with the BI-Crescent Project; however, there are ruts and holes in the road that Duquesne Light will need to repair in order to drive construction vehicles on the road.

Q. Does the Company have the right to legally access Purdy Road and conduct construction activities associated with the BI-Crescent Project?

A. Yes. As noted above, as I am advised by counsel, the Worth Agreement is still in the chain of title for all parcels subdivided from the Worth Property, including Konter Road.

The Worth Agreement permits Duquesne Light "to erect, use, operate, maintain, repair, renew and finally remove…" the electric transmission system and "t*o enter upon said premises at any time for said purposes*" (emphasis added).

Q. Does Mrs. Marinkovic raise any other issues regarding Duquesne Light's right-of-way acquisition activities?

A. Yes. Mrs. Marinkovic asserts that Duquesne Light, its employees and/or its agents: (1) have trespassed on this property (*see e.g.*, Tr. 153); and/or (2) have harassed and bullied other landowners during the course of right-of-way acquisition activities (*see e.g.*, Tr. 153).

Q. Are Mrs. Marinkovic's assertions correct that Duquesne Light is trespassing on properties at or near Purdy Road, or other properties?

A. No. As noted previously, I am advised by counsel that the properties that are within the original Worth Property are subject to the original Worth Agreement. The Worth Agreement permits Duquesne Light "to erect, use, operate, maintain, repair, renew and finally remove…" the electric transmission system and "t*o enter upon said premises at any time for said purposes*" (emphasis added).

Q. Are Mrs. Marinkovic's assertions correct that Duquesne Light, its employees or its agents have harassed her or other landowners during the course of right-of-way acquisition activities?

A. No. I am unaware of any circumstances in which Duquesne Light agents or employees harassed any landowners in the course of right-of-way acquisition activities. Duquesne Light agents are required to comply by the Code of Conduct provided to all property owners prior to negotiation of a transmission line easement, which Code of Conduct was included in the notices attached to the Application as Attachment 13. However, Duquesne Light did not attempt to acquire easements or other rights from Mrs. Marinkovic in connection with the BI-Crescent Project, as the BI-Crescent Line is not on the parcel located at 205 Purdy Road, Allegheny Tax Parcel Number 0701-L-00195-0000-00, and the BI-Crescent Project does not impact that property.

B. PROPERTIES NEAR JUANITA DRIVE

Q. Mrs. Crowe also appears to assert that the Company has not obtained easements necessary for for the BI-Crescent from properties near 1123 Juanita Drive. Please respond.

A. The only property located near 1123 Juanita Drive that will be traversed by right-of-way associated with the BI-Crescent Project is the property located at 1123 Junanita Drive. The Company already possesses as easement for transmission facilities on this property.

As such, the Company does not need and does not intend to acquire any rights-of-way to from other nearby properties.

Q. Can you please explain the location of the BI-Crescent Project and associated right-of-way relative to the property located at 1123 Juanita Drive?

A. Unlike the other properties addressed hereunder, the existing BI-Crescent Line does traverse Mrs. Crowe's property located at 1123 Juanita Drive, Allegheny County Tax Parcel ID Number 0209-A-00089-0000-00. A map depicting the location of these facilities is attached as Duquesne Light Exhibit LG-3. As can be seen on the map, the BI-Crescent Line is right along the border between Mrs. Crowe's property and properties owned by Mr. and Mrs. Schneider, Mr. and Mrs. Mascellino, and Mr. and Mrs. Grimes. The dotted line along the BI-Crescent Line indicates the distance that Duquesne Light has historically managed vegetation along the corridor.

Q. Does Mrs. Crowe raise any additional issues with Duquesne Light's right-of-way acquisition activities with respect to the 1123 Juanita Drive property?

A. Yes. Mrs. Crowe asserts Duquesne Light employees may have trespassed on her property, near Zenoba Drive. (Tr. 129-130; *see also* Exhibit Crowe 8)

Q. Has Duquesne Light, its employees or its agents trespassed on the property located at 1123 Juanita Drive?

A. I am unaware of any Duquesne Light employee or agent who has entered the property located at 1123 Juanita Drive in furtherance of the BI-Crescent Project. The blue tag on a stake depicted in Crowe Exhibit 8 is not a Duquesne Light survey tag. Notwithstanding this, I am advised by counsel that Duquesne Light does have the legal right to enter the property located at 1123 Juanita Drive by virtue of its existing easement on this property. By way of further explanation, on November 30, 1914, Southern Heat, Light and Power Company, predecessor-in-interest to Duquesne Light, purchased an easement from R. H. and Mary McKown across their undeveloped property in Robinson Township, Pennsylvania (the "McKown Property"). This easement was documented in an Indenture (the "McKown Agreement") which was filed of record in the Allegheny County Real Estate Office. The McKown Property was later subdivided into many parcels; however, the McKown Agreement is still in the chain of title for all parcels subdivided from the McKown Property and on Konter Road. The McKown Agreement permits Duquesne Light "to erect, use, operate, maintain, repair, renew and finally remove…" the electric transmission system and "t*o enter upon said premises at any time for said purposes*" (emphasis added).

C. THE WILSON PROPERTY

Q. Mrs. Wilson asserts that the Company has not obtained a sufficient easement for the portion of the Project that will traverse her property at 9 McGovern Boulevard. Please respond.

A. Mrs. Wilson's assertion is twofold. First, she states that the Company has cleared beyond the existing 25 foot wide easement on her property. (Tr. 168). Second, she asserts that the Company should be required to obtain a 150 foot wide easement to cross her property. (Tr. 168).

Mrs. Wilson is correct that the 1914 easement burdening Mrs. Wilson's property provides that the right of way itself is 25 feet in width; however, the Indenture of record also gives Duquesne Light right to "enter upon said premises at any time, for said [electric transmission system] purposes, together with the *further right to trim or remove any trees or shrubbery which, at any time, may interfere or threaten to interfere with the construction, maintenance or operation of such electric transmission system.*" [Emphasis added.] It is on this basis that Duquesne Light has been pruning or removing vegetation on Mrs. Wilson's property for over 100 years. To the best of my knowledge, Mr. Moore attempted to acquire an additional easement in the hope to expand the vegetation work on Mrs. Wilson's property beyond what has been managed historically. When negotiations between Mrs. Wilson's counsel and counsel for Duquesne Light proved unsuccessful, Duquesne Light redesigned the pole on Mrs. Wilson's property so that the BI-Crescent Line, as re-engineered, would comply with appropriate safety codes and remain within the existing cleared corridor. As re-engineered, Duquesne Light no longer requires an easement 150 feet in width on Mrs. Wilson's property.

III. NOTICE OF SCHAEFER CONDEMNATION APPLICATION

Q. As a part of this proceeding, did you testify regarding the Company's Schaefer Condemnation Application?

A. Yes.

Q. Please explain the Company's efforts to investigate the ownership of the property that is the subject of the Schaefer Condemnation Application.

A. George Schaefer died in 1946 and his wife Alice died in 1952, leaving six (6) surviving children: (1) Herbert William Schaefer; (2) Alice Elizabeth Schaefer; (3) Edna Marguerite Schaefer; (4) Jean Whitting Smith; (5) Beatrice Eleanor Sullivan; and (6) Glenn Abbot Schaefer. At the time of Duquesne Light's search efforts, Beatrice Eleanor Sullivan was the only one of Mr. Schaefer's six surviving children still living. Our counsel contacted attorney Chris Beall, husband to one of Mrs. Sullivan's daughters. During that conversation, Mr. Beall advised Duquesne Light counsel that the Schaefer heirs were not interested in entering into an agreement, acknowledgement or acceptance of ownership of the Schaefer property, would have any negative consequences for the Schaefer heirs. Mr. Beall further advised that the Schaefer heirs had no interest in assisting DLC clear title to the Property. Our counsel was later contacted by Michael Syme, who declared himself to be counsel for the Schaefer heirs and asserted that all Schaefer children died intestate. Duquesne Light counsel searched available records from the Counties of the last known residences of each Schaefer child and found record

of the wills of two of Mr. Schaefer's children and it is presumed that the remaining three died intestate.

Through review of intestacy law and those estates of record, Duquesne Light believes that the heirs ultimately served were those who could claim an interest in the Schaefer property. Roger E. Smith, Wayne Allen Smith, and Gary Lee Smith are descendants of Jean Witting Smith and are beneficiaries under will of Alice Elizabeth Schaefer. Teri Sue Phoenix, Steven Lambert Schaefer, and David Abbott Schaefer are the children of Glenn Abbott Schaefer and are beneficiaries under will of Alice Elizabeth Schaefer. Beatrice Eleanor Sullivan is the daughter of George and Alice Schaefer and her children, Gail Dodge and Jean Louise Sullivan-Bell are beneficiaries under will of Alice Elizabeth Schaefer.

Q. Upon whom did the Company serve the BI-Crescent Project Application and the Schaefer Condemnation Application with respect to the Schaefer Property?

A. Based upon the representation of Attorney Syme, that he was acting as counsel to the Schaefer Estate, Duquesne Light initially served the BI-Crescent Project Application and the Schaefer Condemnation Application upon Attorney Syme.

Q. Did the Company also publish a notice of both Applications in a newspaper of general circulation in the area in which the property is located?

A. Yes. Duquesne Light filed a proof of publication on April 30, 2019, a copy of which is attached hereto as Duquesne Light Exhibit LG-5 (Schaefer).

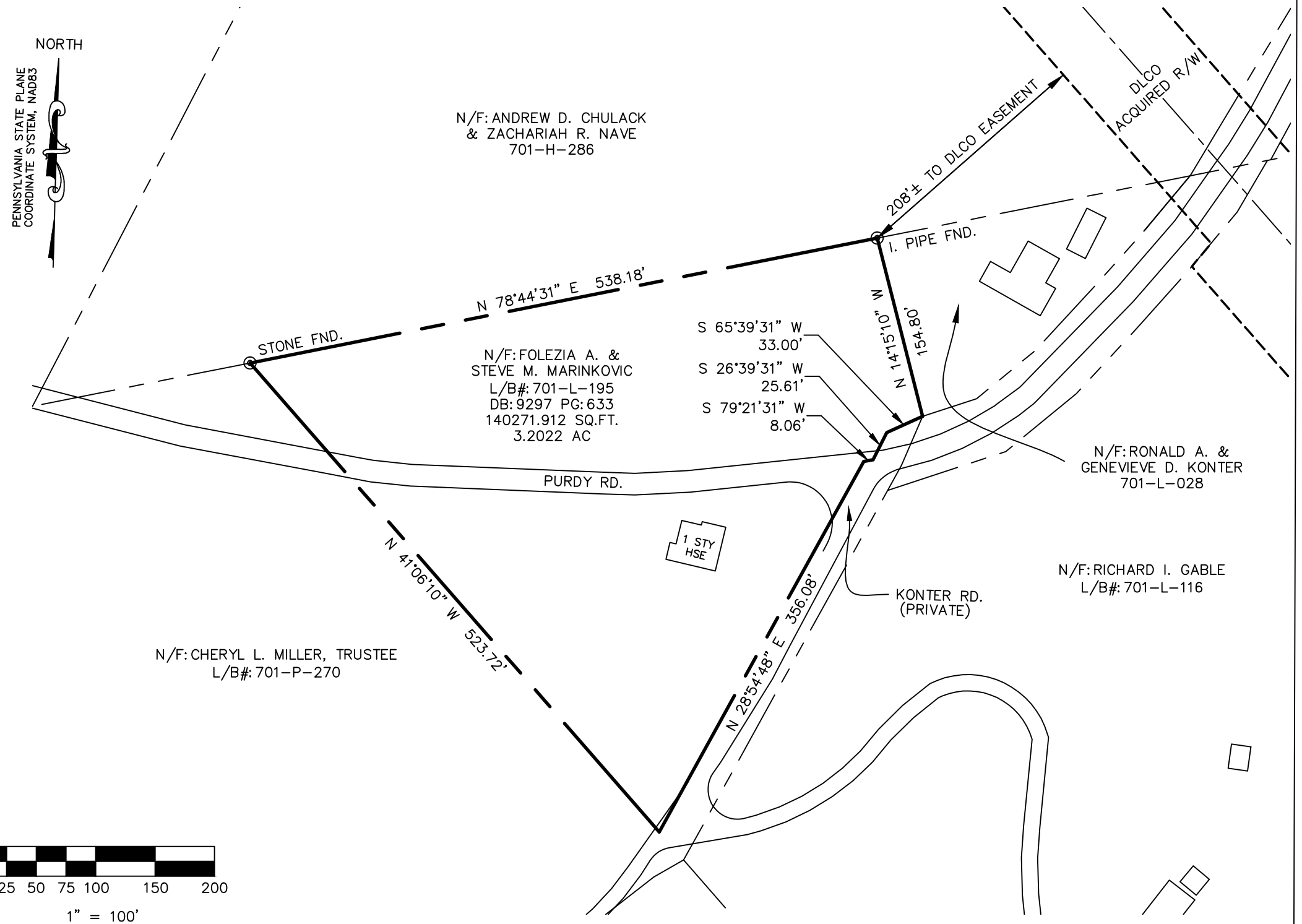
Q. Did the Company subsequently serve the known, potential heirs of the Schaefer property?

A. Yes. After receiving correspondence from Mr. Beall and the Administrative Law Judge with respect to the Schaefer property and associatied condemnation application, the Company served the BI-Crescent Project Application and the Schaefer Condemnation Application upon Roger E. Smith, Wayne Allen Smith, Gary Lee Smith, Teri Sue Phoenix, Steven Lambert Schaefer, David Abbott Schaefer, Beatrice Eleanor Sullivan, Gail Dodge, and Jean Louise Sullivan-Bell on August 15, 2019.

Q. Does this complete your rebuttal testimony at this time?

A. Yes. I reserve the right to supplement my testimony as additional issues arise during the course of this proceeding.

Duquesne Light Exhibit LG-1



NOTES:
- ALL BUILDING AND ROAD LOCATIONS ARE FROM DUQUESNE LIGHT GIS DATA

REVISIONS:

SURVEY NOTES:
DATE OF SURVEY: 2/28/17

○	SET IRON ROD UNLESS OTHERWISE NOTED	A	ARC
◎	FOUND IRON ROD UNLESS OTHERWISE NOTED	R	RADIUS
N/F	NOW OR FORMERLY	STY	STORY
L/B#	TAX IDENTIFICATION	PBV	PLAN BOOK VOLUME
FND	FOUND	PG	PAGE
I.P.	IRON PIN	⊘	DUQUESNE LIGHT POLE (EXISITNG)
CONC	CONCRETE	◒	DUQUESNE LIGHT POLE (PROPOSED)
R/W	RIGHT-OF-WAY		
POB	POINT OF BEGINNING		

DUQUESNE LIGHT COMPANY
PITTSBURGH, PA.
NUMBER LL 8783
SCALE 1"=100'
REAL ESTATE - SURVEYING DEPT.
DATE 10/04/19

DUQUESNE LIGHT COMPANY
Real Estate/Surveying Dept. Pittsburgh, PA

SCALE 1"=100'	DATE 10/04/19	ARCH. APP.	
	DRAWN JLS	ELECT. APP.	
	CHECKED	MECH. APP.	
	INSPECTED	STRUCT. APP.	

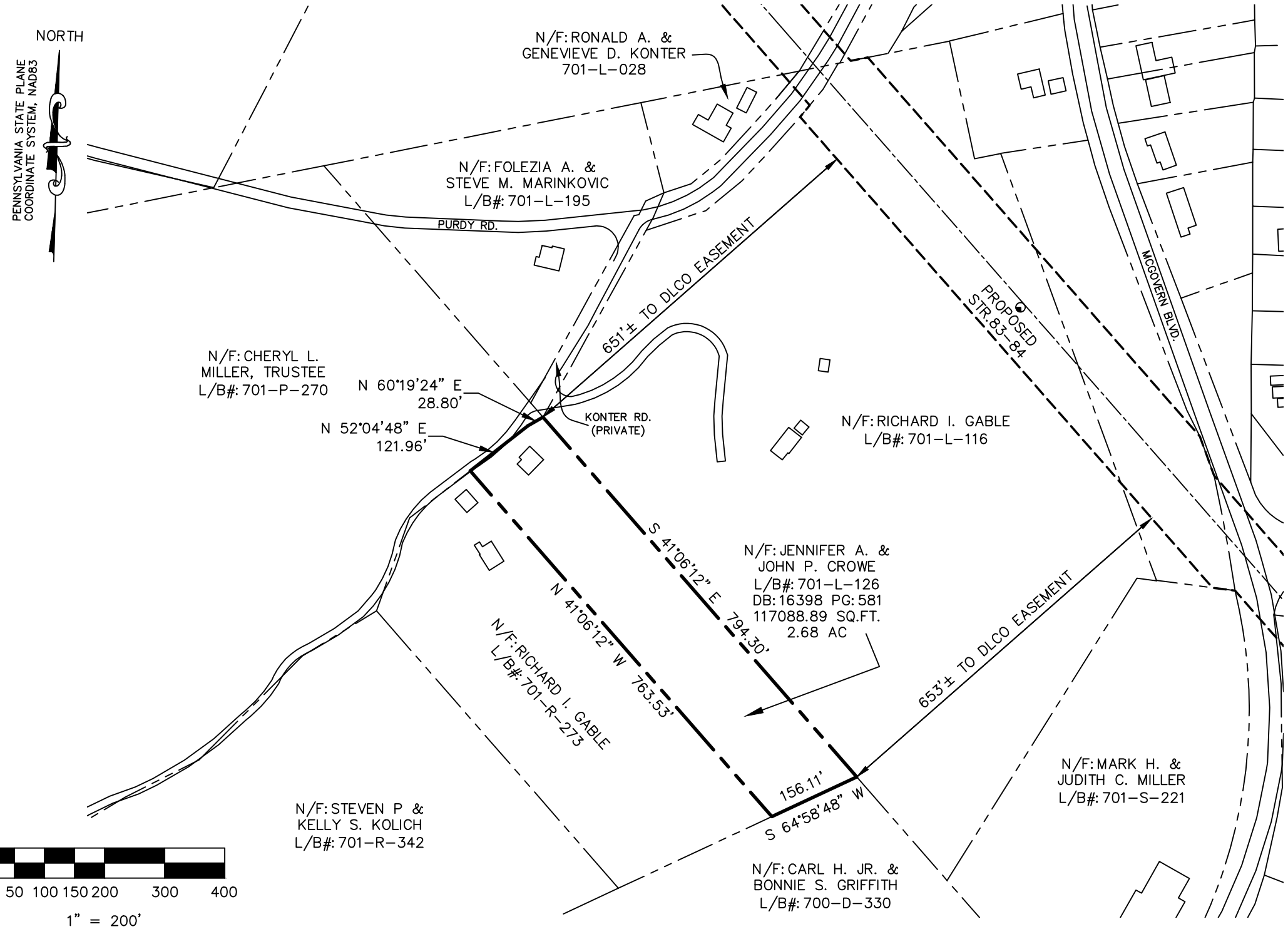
APP. COMPLETE WHEN INITIALED HERE

O.F.E. No.
C.O. No.

BI-CRESCENT

FOLEZIA A. & STEVE M. MARINKOVIC
L/B#: 701-L-195/DB: 9297 PG: 633
MOON TWP/ALLEGHENY COUNTY

LL 8783



DUQUESNE LIGHT COMPANY
PITTSBURGH, PA.
NUMBER LL 8920
SCALE 1"=200'
REAL ESTATE - SURVEYING DEPT.
DATE 10/04/19

NOTES:
- ALL BUILDING AND ROAD LOCATIONS ARE FROM DUQUESNE LIGHT GIS DATA

REVISIONS:

SURVEY NOTES:
DATE OF SURVEY: 2/28/17

○	SET IRON ROD UNLESS OTHERWISE NOTED	A	ARC
◎	FOUND IRON ROD UNLESS OTHERWISE NOTED	R	RADIUS
N/F	NOW OR FORMERLY	STY	STORY
L/B#	TAX IDENTIFICATION	PBV	PLAN BOOK VOLUME
FND	FOUND	PG	PAGE
I.P.	IRON PIN	⊘	DUQUESNE LIGHT POLE (EXISITNG)
CONC	CONCRETE	◒	DUQUESNE LIGHT POLE (PROPOSED)
R/W	RIGHT-OF-WAY		
POB	POINT OF BEGINNING		

DUQUESNE LIGHT CO.
DUQUESNE LIGHT COMPANY
Real Estate/Surveying Dept. Pittsburgh, PA

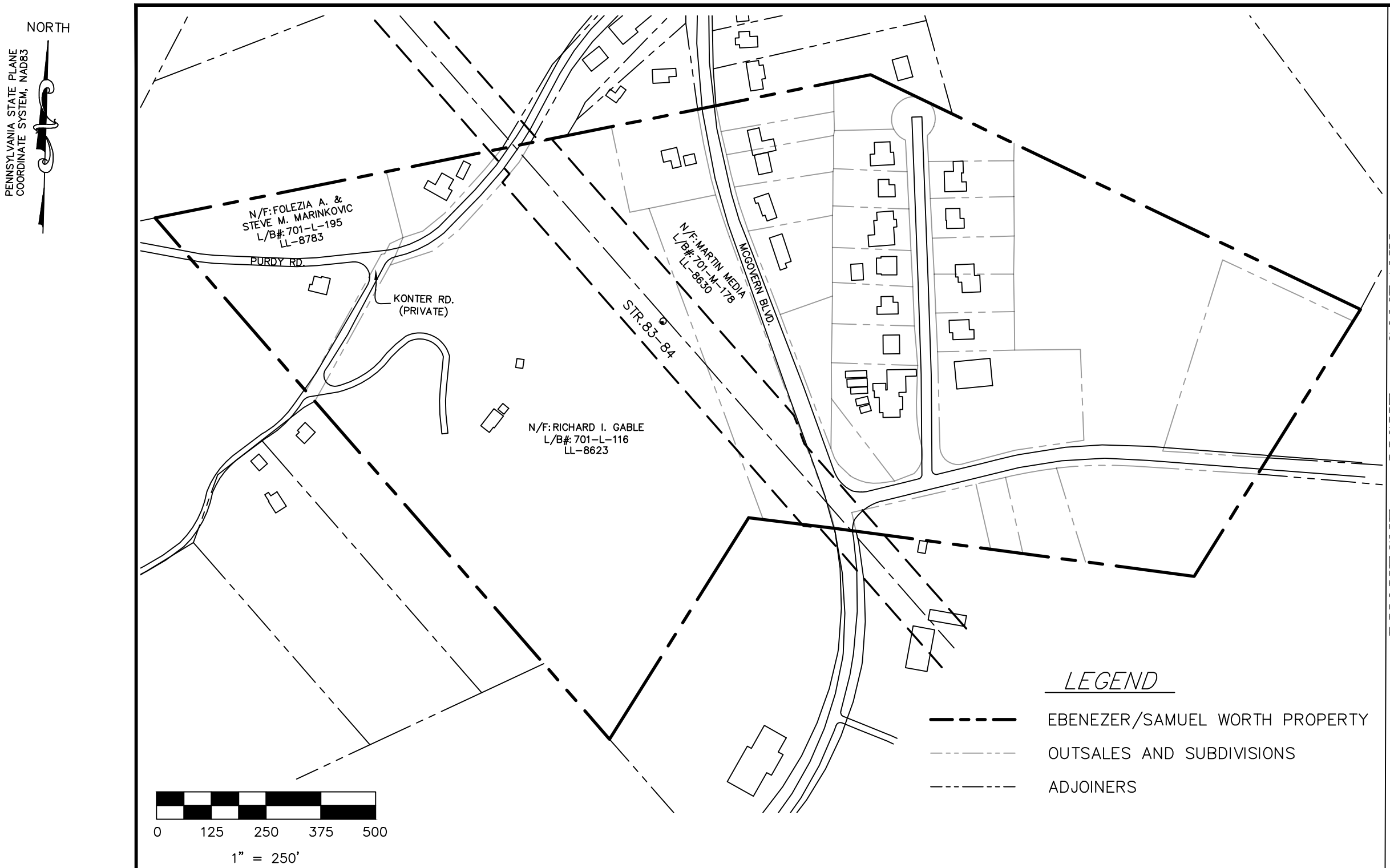
BI-CRESCENT

JENNIFER A. & JOHN P. CROWE
L/B#: 701-L-126/DB: 16398 PG: 581
MOON TWP./ALLEGHENY COUNTY

SCALE 1"=200'	DATE 10/04/19	ARCH. APP.	
	DRAWN JLS	ELECT. APP.	
	CHECKED	MECH. APP.	
	INSPECTED	STRUCT. APP.	

APP. COMPLETE WHEN INITIALED HERE
O.F.E. No.
C.O. No.
LL 8920

Duquesne Light Exhibit LG-2



DUQUESNE LIGHT COMPANY
PITTSBURGH, PA.
NUMBER LL SKETCH
SCALE 1"=250'
REAL ESTATE - SURVEYING DEPT.
DATE 10/04/19

REVISIONS:

SURVEY NOTES:
DATE OF SURVEY: 2/28/17

○	SET IRON ROD UNLESS OTHERWISE NOTED	A	ARC
◎	FOUND IRON ROD UNLESS OTHERWISE NOTED	R	RADIUS
N/F	NOW OR FORMERLY	STY	STORY
L/B#	TAX IDENTIFICATION	PBV	PLAN BOOK VOLUME
FND	FOUND	PG	PAGE
I.P.	IRON PIN	⊘	DUQUESNE LIGHT POLE (EXISITNG)
CONC	CONCRETE	◒	DUQUESNE LIGHT POLE (PROPOSED)
R/W	RIGHT-OF-WAY		
POB	POINT OF BEGINNING		

DUQUESNE LIGHT CO.
DUQUESNE LIGHT COMPANY
Real Estate/Surveying Dept. Pittsburgh, PA

BI-CRESCENT

EBENEZER/SAMUEL WORTH
ORIGINAL PROPERTY SKETCH
MOON TWP/ALLEGHENY COUNTY

SCALE 1"=250'	DATE 10/04/19	ARCH. APP.	
	DRAWN JLS	ELECT. APP.	
	CHECKED	MECH. APP.	
	INSPECTED	STRUCT. APP.	

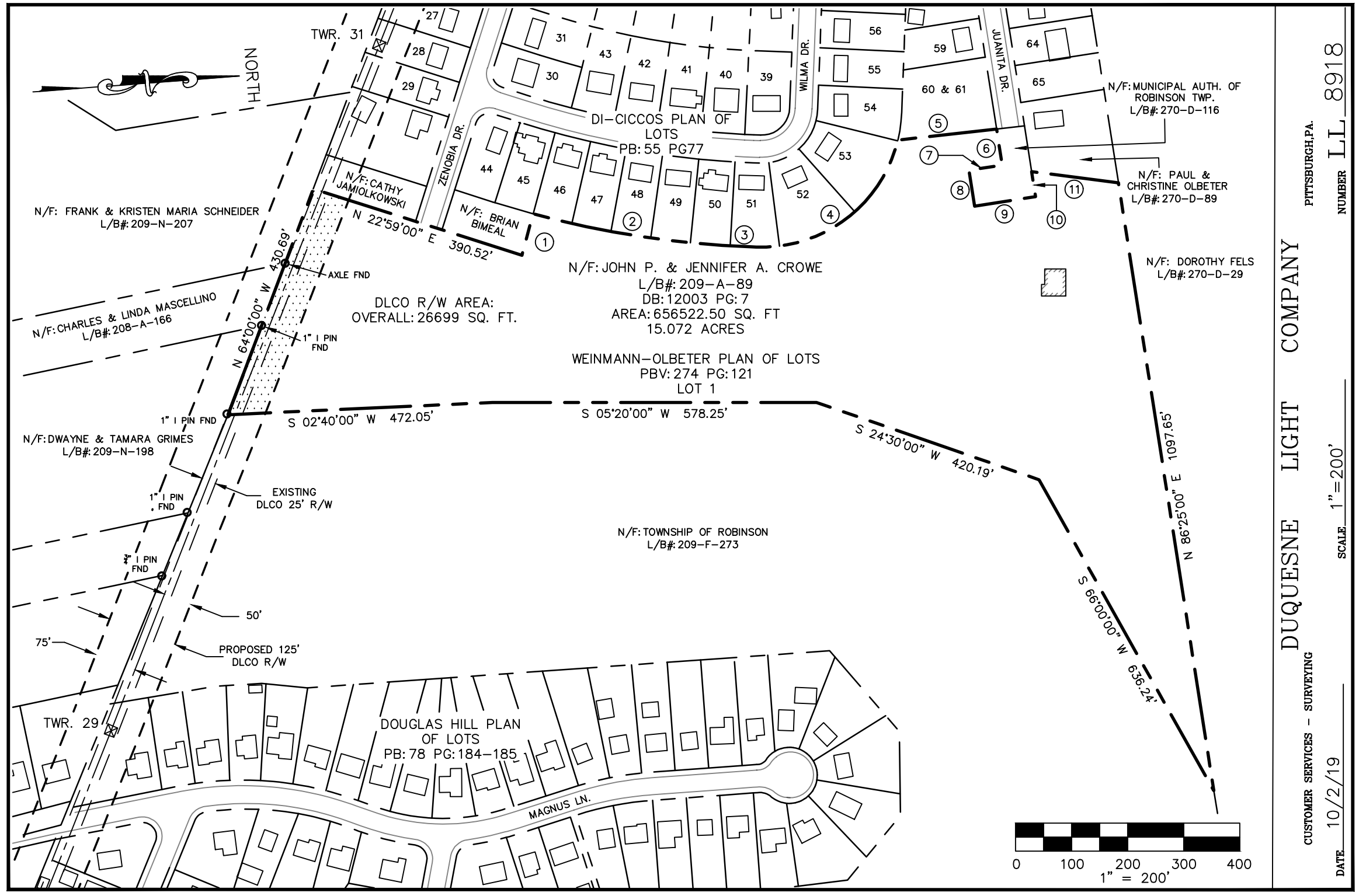
APP. COMPLETE WHEN INITIALED HERE

O.F.E. No.

C.O. No.

SKETCH

Duquesne Light Exhibit LG-3



COURSE DESCRIPTION:

1.	N 69°30'17" W	76.51'
2.	R=1724.38'	391.61'
3.	N 07°29'00" E	11.93'
4.	R=250.00'	342.58'
5.	N 01°02'20" W	177.24'
6.	N 86°25'00" W	65.00'
7.	S 03°35'00" E	60.00'
8.	N 86°25'00" E	65.00'
9.	N 03°35'00" W	110.00'
10.	S 86°25'00" W	169.82'
11.	N 03°35'00" W	149.87'

NOTES:
- ALL BUILDING AND ROAD LOCATIONS ARE FROM DUQUESNE LIGHT GIS DATA

DUQUESNE LIGHT COMPANY
CUSTOMER SERVICES - SURVEYING
PITTSBURGH, PA.
SCALE 1"=200'
DATE 10/2/19
NUMBER LL 8918

REVISIONS:

SURVEY NOTES:
DATE OF SURVEY: 1/14/17

○	SET IRON ROD UNLESS OTHERWISE NOTED	A	ARC
●	FOUND IRON ROD UNLESS OTHERWISE NOTED	R	RADIUS
N/F	NOW OR FORMELY	STY	STORY
LB#	TAX IDENTIFICATION NUMBER	PBV	PLAN BOOK VOLUME
FND	FOUND	PG	PAGE
I.P.	IRON PIN	⊘	DUQUESNE LIGHT POLE (EXISITNG)
CONC	CONCRETE	◒	DUQUESNE LIGHT POLE (PROPOSED)
R/W	RIGHT-OF-WAY		
POB	POINT OF BEGINNING		

DUQUESNE LIGHT CO.
DUQUESNE LIGHT COMPANY
Real Estate/Surveying Dept. Pittsburgh, PA

BI-CRESCENT

JOHN P. & JENNIFER A. CROWE
L/B#209-A-89/DB: 12003 PG: 007
ALLEGHENY COUNTY

SCALE 1"=200'	DATE 10/2/19	ARCH. APP.	
	DRAWN DND	ELECT. APP.	
	CHECKED JLS	MECH. APP.	
	INSPECTED	STRUCT. APP.	

APP. COMPLETE WHEN INITIALED HERE
O.F.E. No.
C.O. No.
LL 8918

N:\A-SurveyDwgs\PROJECTS\S8487(BI-Crescent)\DRAWINGS OUT\LL-8918 JOHN & JENNIFER CROWE 10 2 19.dwg, 10/4/2019 7:09:19 AM

Duquesne Light Exhibit LG-5 (Schaefer)

Emily M. Farah
Counsel, Regulatory

411 Seventh Avenue
Mail drop 15-7
Pittsburgh, PA 15219

Tel: 412-393-6431
efarah@duqlight.com

April 30, 2019

Via Electronic Filing

Rosemary Chiavetta, Secretary
Pennsylvania Public Utility Commission
Keystone Bldg. 2nd Floor W
400 N. Street
Harrisburg, PA 17120

RE: Application of Duquesne Light Company filed Pursuant to 52 Pa. Code Chapter 57, Subchapter G, for Approval of the Siting and Construction of the 138 kV Transmission Lines Associated with the Brunot Island - Crescent Project in the City of Pittsburgh, McKees Rocks Borough, Kennedy Township, Robinson Township, Moon Township, and Crescent Township, Allegheny County, Pennsylvania
Docket No. A-2019-3008589

Dear Secretary Chiavetta:

On March 15, 2019, Duquesne Light Company ("Duquesne Light" or the "Company") filed the above-captioned Line Siting Application, wherein the Company stated it would publish notice of the filing and other relevant information in newspapers of general circulation. On March 28, 2019 the Presiding Officer, Administrative Law Judge Mary D. Long, set a Prehearing Conference for June 6, 2019.

The newspaper of general circulation in the Brunot Island – Crescent 138 kV Transmission Line ("BI – Crescent") territory is the Pittsburgh Post-Gazette. On April 15, 2019 and April 24, 2019 Duquesne Light published notice of the project in the Pittsburgh Post-Gazette, pursuant to 52 Pa. Code § 57.75. As shown on the enclosed proof of publication, the notice included (but was not limited to) a description of the BI – Crescent project and its location, and information regarding the Prehearing Conference.

Please contact me if you have any questions, comments, or concerns.

Respectfully,

Emily M. Farah
Counsel, Regulatory
Duquesne Light Company

Enclosure

No._____ Term,_____

Proof of Publication of Notice in Pittsburgh Post-Gazette

Under Act No 587, Approved May 16, 1929, PL 1784, as last amended by Act No 409 of September 29, 1951

Commonwealth of Pennsylvania, County of Allegheny, ss K. Flaherty, being duly sworn, deposes and says that the Pittsburgh Post-Gazette, a newspaper of general circulation published in the City of Pittsburgh, County and Commonwealth aforesaid, was established in 1993 by the merging of the Pittsburgh Post-Gazette and Sun-Telegraph and The Pittsburgh Press and the Pittsburgh Post-Gazette and Sun-Telegraph was established in 1960 and the Pittsburgh Post-Gazette was established in 1927 by the merging of the Pittsburgh Gazette established in 1786 and the Pittsburgh Post, established in 1842, since which date the said Pittsburgh Post-Gazette has been regularly issued in said County and that a copy of said printed notice or publication is attached hereto exactly as the same was printed and published in the regular editions and issues of the said Pittsburgh Post-Gazette a newspaper of general circulation on the following dates, viz:

15, 24 of April, 2019

Affiant further deposes that he/she is an agent for the PG Publishing Company, a corporation and publisher of the Pittsburgh Post-Gazette, that, as such agent, affiant is duly authorized to verify the foregoing statement under oath, that affiant is not interested in the subject matter of the afore said notice or publication, and that all allegations in the foregoing statement as to time, place and character of publication are true.

K. Flaherty

PG Publishing Company

Sworn to and subscribed before me this day of:
April 24, 2019

Elizabeth R. Chmura

Commonwealth of Pennsylvania - Notary Seal
Elizabeth R. Chmura, Notary Public
Allegheny County
My commission expires February 8, 2022
Commission number 1326781
Member, Pennsylvania Association of Notaries

COPY OF NOTICE OR PUBLICATION

NOTICES
PENNSYLVANIA PUBLIC UTILITY COMMISSION
Transmission Lines, Prehearing Conference
A-2019-3008589 Duquesne Light Company Application of Duquesne Light Company filed under 52 Pa. Code Chapter 57 Subchapter G (relating to Commission review of siting and construction of electric transmission lines) for approval of the siting and construction of the 138 kV transmission lines associated with the Brunot Island-Crescent Project in the City of Pittsburgh, McKees Rocks Borough, Kennedy Township, Robinson Township, Moon Township and Crescent Township, Allegheny County. A-2019-3008452 Duquesne Light Company Application of Duquesne Light Company under 15 Pa.C.S. § 1511(d) (relating to eminent power of certain public utility corporations) for a finding and determination that the service to be furnished by the applicant through its proposed exercise of the power of eminent domain to acquire a certain portion of the lands of George N. Schaefer of Moon Township, Allegheny County for the siting and construction of transmission lines associated with the proposed Brunot Island — Crescent Project is necessary or proper for the service, accommodation, convenience or safety of the public.
Formal protests and petitions to intervene must be filed in accordance with 52 Pa. Code (relating to public utilities) on or before May 29, 2019. Filings must be made with the Secretary of the Pennsylvania Public Utility Commission, 300 North Street, Harrisburg, PA 17120, with a copy served on the applicant. The documents filed in support of the application are available for inspection and copying at the Office of the Secretary between 8 a.m. and 4:30 p.m. Monday through Friday at the Pennsylvania Public Utility Commission's (Commission) web site at www.puc.pa.gov and at the applicant's business address.
Applicant: Duquesne Light Company Through and by Counsel: Anthony D. Kanagy, Esquire, 17 North Second Street, 12th Floor, Harrisburg, PA 17101-1601
Prehearing: Conference An initial prehearing conference on the previously-captioned cases will be held as follows: Date: Thursday, June 6, 2019 at 10am
Location: 2nd Floor Hearing Room Pittsburgh Suite 220, 301 Fifth Avenue Pittsburgh, PA 15222 (412) 565-3550 Fax 412 565 5692
Presiding: Administrative Law Judge Mary D. Long First Floor
Persons with a disability who wish to attend the hearing should contact the Scheduling Office at the Commission at least 5 business days prior to the hearing.
For persons who require an interpreter to participate in the hearing, the Commission will make every reasonable effort to have an interpreter present. Call the Scheduling Office at the Commission at least 10 business days prior to the hearing.
•Scheduling Office: (717) 787-1399
•Pennsylvania AT&T Relay Service number for persons who are Deaf or Hearing Impaired: (800) 654-5988

STATEMENT OF ADVERTISING COSTS

Duquesne Light Co-LEGAL
411 SEVENTH AVE 16-1
ATTN: MARY JANE HAMMER
PITTSBURGH PA 15219-1919

To PG Publishing Company

Total ---------- $1,404.00

Publisher's Receipt for Advertising Costs

PG PUBLISHING COMPANY, publisher of the Pittsburgh Post-Gazette, a newspaper of general circulation, hereby acknowledges receipt of the aforsaid advertising and publication costs and certifies that the same have been fully paid.

Office
2201 Sweeney Drive
CLINTON, PA 15026
Phone 412-263-1338

PG Publishing Company, a Corporation, Publisher of Pittsburgh Post-Gazette, a Newspaper of General Circulation

By _____

I hereby certify that the foregoing is the original Proof of Publication and receipt for the Advertising costs in the subject matter of said notice.

_____
Attorney For

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Application of Duquesne Light Company filed Pursuant to 52 Pa. Code Chapter 57, Subchapter G, for Approval of the Siting and Construction of the 138 kV Transmission Lines Associated with the **Brunot Island-Crescent Project** in the City of Pittsburgh, McKees Rocks Borough, Kennedy Township, Robinson Township, Moon Township, and Crescent Township, Allegheny County Pennsylvania	:	Docket No. A-2019-3008589 Docket No. A-2019-3008652

Duquesne Light Company

Statement No. 4-A

Written Amended Direct Testimony of

Lesley Gannon

Topics Addressed: **Right of Way Acquisition on the Project**
Landowner And Public Outreach

DUQUESNE
STATEMENT
4A

INTRODUCTION

Q. Please state your name and business address.

A. My name is Lesley Cummings Gannon. My business address is 1800 Seymour Street, Pittsburgh, PA 15233.

Q. By whom are you employed and in what capacity?

A. I am employed by Duquesne Light Company ("Duquesne Light" or the "Company") as the Senior Manager of Real Estate and Rights of Way. In my position, I am responsible for managing all of the real estate-related acquisitions and divestitures for the Company.

Q. What are your qualifications, work experience and educational background?

A. I have been employed by Duquesne Light Company since 2013. In my current position, I manage the Real Estate Department, which has one Real Estate Specialist, one Supervisor of Survey and Right of Way, four surveying technicians, four right of way agents and a clerk. The Real Estate Department was formed in late 2017, and I have been in my current position for two years and 8 months. I am also Assistant Corporate Secretary for the Company.

Prior to assuming my present position at Duquesne Light, I was Managing Counsel, Commercial/General in the Company's Office of the General Counsel for 4 years and 9 months, in which position I managed all transactional work at the Company, including any legal issues relating to real estate. Prior to being hired by the Company, I performed similar work as contract counsel for the Company from May of 2008. From 2005 to 2013, in

addition to representing the Company as set forth above, I managed my law firm, Gannon Law Offices, which represented small and mid-sized businesses in the Pittsburgh area in transactional and real estate matters. From 2001 to 2005, I was an associate at Sherrard, German & Kelly, P.C. in their financial services and transactional practice groups. Prior to 2001, I held various positions in the financial services industry.

I am an attorney licensed to practice law in the Commonwealth of Pennsylvania since 2001. I graduated from Duquesne University School of Law in 2001 and was admitted to the Pennsylvania Bar in 2001. I also hold a Bachelor of Arts in Business and Communications from Carlow University.

Q. What are your responsibilities in connection with the Brunot Island-Crescent Project?

A. The Company's Supervisor of Survey and Rights of Way, who is no longer with the Company, worked with Burns and McDonnell to identify the parcel owners on and adjacent to the proposed Project line, identify any areas in which the Company will require new or enhanced rights-of-way for the Project, and acquire such rights of way. In October 2017, the Company's Rights of Way and Survey groups came under the new Real Estate Department and my supervision. The proposed Project involves the replacement of infrastructure located on easements that had been in place for decades and that were not reflective of modern electrical infrastructure easement requirements. Therefore, the Company needed to acquire property rights on 122 properties along the length of the proposed Project line. To do so, the Company engaged Burns and McDonnell to serve as the Company's agent in the acquisition of the needed property rights.

Q. What is the purpose of your direct testimony in this proceeding?

A. First, I will identify the portions of the above-captioned Siting Application that I am sponsoring. Second, I will summarize our process for identifying new right-of-way required for the Project and the property owners that would be affected. Third, I will explain the process we employed to attempt to acquire rights of way and easements for the Brunot Island-Crescent Transmission Line. Fourth, I will explain the Company's policy regarding the property owner's use of the right-of-way area, and will provide examples of measures the Company employs to mitigate the impacts of the Transmission Lines on property owners' present and future uses of their properties. Fifth, I will explain the status of our efforts to acquire the rights-of-way and easements needed for the Project.

Q. Did you previously submit testimony in this proceeding on behalf of Duquesne Light?

A. Yes. On March 15, 2019, I submitted my direct testimony, Duquesne Light Statement No. 4, relative to the "Application of Duquesne Light Company filed Pursuant to 52 Pa. Code Chapter 57, Subchapter G, for Approval of the Siting and Construction of the 138 kV Transmission Lines Associated with the **Brunot Island-Crescent Project** in the City of Pittsburgh, McKees Rocks Borough, Kennedy Township, Robinson Township, Moon Township, and Crescent Township, Allegheny County Pennsylvania" at Docket No. A-2019-3008589 ("BI-Crescent Project"). I also submitted direct testimony, labeled Duquesne Light Statement No. 1 (Schaefer), regarding the "Application of Duquesne Light Company Under 15 Pa.C.S. § 1511(c) For A Finding and Determination That the Service to be Furnished by the Applicant Through Its Proposed Exercise of the Power of Eminent Domain to Acquire a Certain Portion of the Lands of **George N. Schaefer** of Moon

Township, Allegheny County, Pennsylvania for the Siting and Construction of Transmission Lines Associated with the Proposed Brunot Island – Crescent Project is Necessary or Proper for the Service, Accommodation, Convenience, or Safety of the Public" at Docket No. A-2019-3008652 ("Schaefer Condemnation Application"). On October 10, 2019, I submitted rebuttal testimony regarding the BI-Crescent Project (Statement No. 4-R) at Docket No. A-2019-3008589 and rebuttal testimony regarding the Shaefer Condemnation Application (Statement No. 1-R) at Docket No A-2019-3008652).

Q. Please describe the portions of the Siting Application that you are sponsoring.

A. I am responsible for Attachment 9, comprising a series of aerial survey maps that show the owners of property that will be traversed by the proposed Brunot Island-Crescent Transmission Line from which DLC obtained or required additional rights.

Q. Please describe the Company's process for identifying the owners of property that will be traversed by Project facilities.

A. Starting in 2014, Company personnel and contractors researched the Project routes for property owner names, property records, and mapping. They then collected boundary and physical evidence from the field to determine or confirm property boundaries. Members of my department prepared mapping for the contract right-of-way agents when they met with the property owners to show them where the proposed right of way was being requested.

Q. Please explain the Company's policy regarding dealing with owners of property to be traversed by Project facilities.

A. The Company's policy regarding dealing with property owners is described in the informational packet provided to property owners along the Proposed Route, included as Attachment 13. Among other information, described in more detail below, this packet provides that Duquesne Light representatives are to: act with integrity at all times; treat everyone courteously and in a professional manner; be forthright and honest in all actions and communications; comply with all laws and regulations; avoid any conflicts of interest; accept responsibility for any actions or decisions; be good stewards of the environment; and place a high priority on safety for the public, as well as Company employees and representatives.

Q. Did the Company provide information to owners of land that may be subject to a right-of-way or easement for the Project?

A. Yes. As mentioned above, prior to contacting property owners to negotiate right-of-way agreements, the Company provided informational packets to notify property owners of the Company's plans to negotiate to acquire rights of way and easements across their land. This packet discloses to the property owner information including the name, purpose, and general location of the Project; Duquesne Light's standards of employee and agent conduct; and notices of eminent domain power and right-of-way management practices; and also includes a permission form for landowners to grant Duquesne Light access to their property.

This packet contains the notices required by the Pennsylvania Public Utility Commission in its regulations at 52 Pa. Code § 57.91. The first notice discusses the Company's power of eminent domain with respect to the Project, and the associated rights of the property owner. The second notice provides information regarding the right-of-way maintenance practices for the Project facilities. An example of this informational packet is included as Attachment 13 to the Siting Application.

Additionally, the Company held public meetings on February 21, 2017, February 28, 2017, and March 2, 2017 at the Crescent Municipal Building, VFW Post 418 Hall in Mckees Rocks, and Kennedy Township Fire Department to provide information about the Project to owners of property in the area. At this meeting, Company representatives delivered informational presentations about the Project need, route, design, and operational characteristics; answered questions from attendees; and provided informational literature regarding property owner rights, eminent domain, and a surveying permission form.

The Pennsylvania Public Utility Commission ("PUC" or "Commission") held a Public Input Hearing on October 9, 2019, where the Administrative Law Judge assigned to this matter took testimony on the record from the general public about the BI-Crescent Project. I attended the Public Input Hearing and fielded questions from the public about the BI-Crescent Project off the record.

In July 2020, land agents under my supervision sent notices to property owners indicating that the Company plans to execute on options for easements previously acquired in furtherance of this Project.

Q. What does the Company do after providing the information and notices to property owners?

A. Pursuant to 52 Pa. Code § 57.91, the Company waits at least 15 days following landowner's receipt of the informational packet provided in Attachment 13 to the Siting Application. We then contact the property owner(s) via telephone or in person to schedule a convenient time to meet so that we can explain the details of the Project and answer any questions they may have. At such meeting, we usually make a monetary offer to the property owner(s) for the right-of-way sought. The amount of the offer is based on the fair market value of the property interests the Company wishes to acquire.

Q. Please explain the Company's policy regarding the property owner's use of the right-of-way area.

A. Following the Company's acquisition of a right of way and easement, the property owner can continue to use the right-of-way area, so long as such use is compatible with the safe and reliable operation and maintenance of Company facilities. Compatible uses that require no prior review or approval from the Company include farming and gardening. The Company also allows compatible development within the right-of-way area, provided that the design and work in the area does not interfere with the safe and reliable operation and maintenance of Company facilities. Such uses can include: grading, installation of roadways or parking lots, and installation of underground infrastructure (such as utilities).

Q. Please identify methods and/or examples the Company has worked with property owners along the Proposed Route to mitigate effects of the Project on their present and future land uses.

A. The Proposed Route was tailored to the extent feasible to keep the existing transmission line right-of-way throughout the siting process.

Q. Please explain the status of the Company's efforts to acquire right-of-way and easements for the Project.

A. There are a total of 461 deeded properties along the Proposed Route, owned by a total of 391 property owners. The Company required additional easements from 118 property owners for this Project. One hundred and twenty (116) of these easements have been obtained.

As mentioned above, the Company has separately filed for approval of the condemnation of rights of way and easements across certain portions of one (1) parcel pursuant to Section 1511(c) of the Business Corporation Law of 1988, 15 Pa.C.S. 1511(c). The Company is continuing to pursue negotiations with all owners of the remaining properties on which the Company requires additional rights along the Proposed Route.

Q. Does this complete your direct testimony?

A. Yes. I reserve the right to supplement my testimony as additional issues arise during the course of this proceeding.

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Application of Duquesne Light Company Filed Pursuant to 52 Pa. Code Chapter 57, Subchapter G, for Approval of the Siting and Construction of the 138 kV Transmission Lines Associated with the Brunot Island-Crescent Project in the City of Pittsburgh, McKees Rocks Borough, Kennedy Township, Robinson Township, Moon Township, and Crescent Township, Pennsylvania	:	Docket No. A-2019-3008589 Docket No. A-2019-3008652

VERIFICATION

I, Lesley Cummings Gannon, Senior Manager of Real Estate and Rights of Way, hereby state that the facts set forth are true and cover (or are true and correct to the best of my knowledge, information and belief) and that I expect to be able to prove the same at a hearing held in this matter. I understand that the statements herein are made subject to the penalties of 18 Pa. C.S. § 4904 (relating to unsworn falsifications to authorities).

Lesley Cummings Gannon
Senior Manager of Real Estate and
Rights of Way

Date: August 10, 2020

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Application of Duquesne Light Company filed Pursuant to 52 Pa. Code Chapter 57, Subchapter G, for Approval of the Siting and Construction of the 138 kV Transmission Lines Associated with the **Brunot Island-Crescent Project** in the City of Pittsburgh, McKees Rocks Borough, Kennedy Township, Robinson Township, Moon Township, and Crescent Township, Allegheny County Pennsylvania	:	Docket No. A-2019-3008589
Application of Duquesne Light Company Under 15 Pa.C.S. § 1511(c) For A Finding and Determination That the Service to be Furnished by the Applicant Through Its Proposed Exercise of the Power of Eminent Domain to Acquire a Certain Portion of the Lands of **George N. Schaefer** of Moon Township, Allegheny County, Pennsylvania for the Siting and Construction of Transmission Lines Associated with the Proposed Brunot Island – Crescent Project is Necessary or Proper for the Service, Accommodation, Convenience, or Safety of the Public	:	Docket No. A-2019-3008652

Duquesne Light Company

Statement No. 4A-R (A-2019-3008589)
Statement No. 1A-R (A-2019-3008652)

Written Rebuttal Testimony of

Lesley Gannon

Topics Addressed: Easement and Condemnation

DUQUESNE
STATEMENT
4AR

I. INTRODUCTION

Q. Please state your name and business address.

A. My name is Lesley Cummings Gannon. My business address is 1800 Seymour Street, Pittsburgh, PA 15233.

Q. Did you previously submit testimony in this proceeding on behalf of Duquesne Light Company ("Duquesne Light" or the "Company")?

A. Yes. On March 15, 2019, I submitted my direct testimony, Duquesne Light Statement No. 4, relative to the "Application of Duquesne Light Company filed Pursuant to 52 Pa. Code Chapter 57, Subchapter G, for Approval of the Siting and Construction of the 138 kV Transmission Lines Associated with the **Brunot Island-Crescent Project** in the City of Pittsburgh, McKees Rocks Borough, Kennedy Township, Robinson Township, Moon Township, and Crescent Township, Allegheny County Pennsylvania" at Docket No. A-2019-3008589 ("BI-Crescent Project"). I also submitted direct testimony, labeled Duquesne Light Statement No. 1 (Schaefer), regarding the "Application of Duquesne Light Company Under 15 Pa.C.S. § 1511(c) For A Finding and Determination That the Service to be Furnished by the Applicant Through Its Proposed Exercise of the Power of Eminent Domain to Acquire a Certain Portion of the Lands of **George N. Schaefer** of Moon Township, Allegheny County, Pennsylvania for the Siting and Construction of Transmission Lines Associated with the Proposed Brunot Island – Crescent Project is Necessary or Proper for the Service, Accommodation, Convenience, or Safety of the Public" at Docket No. A-2019-3008652 ("Schaefer Condemnation Application"). On

August 10, 2020, I submitted amended direct testimony ("Duquesne Light Statement No. 4A").

Q. What is the purpose of your rebuttal testimony?

A. My testimony responds to certain issues raised by Allegheny County Sewer Authority ("ALCOSAN") in their direct testimony submitted on December 9, 2020 and sponsored by Michael Lichte, P.E. Specifically, I will respond and rebut ALCOSAN's concerns regarding use of Company easements as it relates to ALCOSAN's existing or proposed facilities near Chartier's Creek and Sheraden Park.

Q. Are you sponsoring any exhibits associated with your rebuttal testimony?

A. I am sponsoring as Duquesne Light Exhibit LG-1 a true and correct copy of the Special Warranty Deed dated February 2, 2016 by and between the Company and ALCOSAN, in which the Company conveyed title to ALCOSAN of the real property known as Tax Parcels 43-P-1-0-01 and 43-P-100 in the tax records of Allegheny County, Pennsylvania (the "ALCOSAN Deed"). I am also sponsoring as Duquesne Light Exhibit LG-2 a true and correct copy of the Right-of-Way ("ROW") Agreement by and between Crivelli Limited Partnership and the Company dated October 9, 2020 (the "Crivelli Agreement") and recorded in the Real Estate Office of Allegheny County on October 15, 2020, in which Crivelli Limited Partnership granted to the Company an easement and right of way over the real property known as 43-L-130.

Q. Can you please explain the location of the BI-Crescent Project and associated right-of-way relative to the ALCOSAN facilities near Chartier's Creek (Parcel 43-L-130)?

A. As referenced on Duquesne Drawing No. LL-8676, which is attached to the Crivelli Agreement, the Company plans to utilize the easement for aerial occupation only. No structure is planned on or under the surface of the real property. The aerial conductor will occupy a very small corner of Parcel 43-L-130. By virtue of the Crivelli Agreement, the Company has the right to occupy Parcel 43-L-130 as set forth in the Company's amended line siting application.

Q. Can you please explain the location of the BI-Crescent Project and associated right-of-way relative to the ALCOSAN facilities near Sheraden Park (through Parcel 43-P-1-0-1)?

A. ALCOSAN acquired title to Parcel 43-P-1-0-1 from the Company in 2016 by virtue of the ALCOSAN Deed (Exhibit LG-1). This conveyance was the result of years of negotiations and discussions to allow ALCOSAN to comply with its 2008 Consent Decree and allow the Company to continue to operate, maintain and upgrade its infrastructure on Parcel 43-P-1-0-1. Accordingly, page two of the ALCOSAN Deed excepts and reserves from the grant of the land "two perpetual easements and rights of way over and across" Parcel 43-P-1-0-1 to "install, repair, renew and remove electrical transmission system," provided that such exceptions do not impair, limit or interfere with the vernal pools noted in Exhibit C to the ALCOSAN Deed (Exhibit LG-1).

Q. Is Duquesne Light proposing to exercise its power of eminent domain on Parcel 43-L-130, Parcel 43-L-150, near Chartier's Creek, as a part of the BI-Crescent Project?

A. As noted previously, the Company possesses an easement over Parcel 43-L-130 sufficient to perform the BI-Crescent Project as planned. I am unaware of any need to occupy Parcel 43-L-150 for the amended BI-Crescent Project. Accordingly, there is no need for the Company to exercise its power of eminent domain relative to these parcels.

Q. Is Duquesne Light proposing to exercise its power of eminent domain on Parcel 43-P-1-0-1, near Sheraden Park, as a part of the BI-Crescent Project?

A. As noted previously, the Company has an easement over Parcel 43-P-1-0-1 sufficient to perform the amended BI-Crescent Project as planned and, therefore, there is no need for the Company to exercise its power of eminent domain relative to this parcel.

Q. Has Duquesne Light secured the land rights necessary to carry out the Project near Chartier's Creek (near Parcel 43-L-130)?

A. As referenced above, the Crivelli Right of Way Agreement was executed on October 9, 2020 and recorded on October 15, 2020. Allegheny County Real Estate Office indicates that ALCOSAN took title to Parcel 43-L-130 on or about November 30, 2020, at which time ALCOSAN had record notice of the Crivelli Right of Way Agreement. The Crivelli Right of Way Agreement granted the Company the right to occupy Parcel 43-L-130 as required in order to complete the portion of the BI-Crescent Project as planned on Parcel

43-L-130. The Company will happily continue consulting with ALCOSAN to help assuage ALCOSAN's concerns.

Q. In your opinion, can Duquesne Light and ALCOSAN facilities coexist near Chartier's Creek (near Parcel 43-L-130)?

A. I am unaware of any reason that the Company's aerial infrastructure over Parcel 43-L-130 will impact ALCOSAN's planned facilities on that parcel.

Q. In your opinion, can Duquesne Light and ALCOSAN facilities coexist near Sheraden Park (Parcel 43-P-1-0-1)?

A. To the best of my information, ALCOSAN's planned ponds and wetlands on Parcel 43-P-1-0-1 can coexist with the Company's infrastructure currently on, under and over that parcel and I am aware of no reason to believe that the Company's infrastructure, as improved under the BI-Crescent Project, will be unable to coexist with ALCOSAN's plans for that parcel.

Q. Does this complete your rebuttal testimony at this time?

A. Yes. I reserve the right to supplement my testimony as additional issues arise during the course of this proceeding.

Duquesne Light Exhibit LG-1

60 2016 00003692

Allegheny County
Jerry Tyskiewicz
Department of Real Estate
Pittsburgh, PA 15219

Instrument Number: 2016-3692 **BK-DE VL-16283 PG-73**

Recorded On: February 09, 2016 **As-Deed**

Parties: DUQUESNE LIGHT CO

To **ALLEGHENY COUNTY SANITARY AUTH** **# of Pages: 11**

Comment:

********** **THIS IS NOT A BILL** **********

Deed	**162.00**
	0
	0
Total:	**162.00**

Realty Transfer Stamp

Affidavit Attached-No Stamp Num-T2983
PITTSBURGH
Ward-20-WEST END-CORLISS
Value 8,800.00

Commonwealth of Pennsylvania	88.00
Munic-Pittsburgh City of	176.00
School District-Pittsburgh	88.00
Munic-Penalty	0.00
Munic-Interest	0.00
School-Penalty	0.00
School-Interest	0.00
	352.00

Department of Real Estate Stamp

Certified On/By-> 02-09-2016 / Scott Stickman

0043P00001000001 **0043P00100000000**

I hereby certify that the within and foregoing was recorded in the Department of Real Estate in Allegheny County, PA

****DO NOT REMOVE-THIS PAGE IS PART OF THE RECORDED DOCUMENT****

File Information:

Document Number: 2016-3692
Receipt Number: 3032526
Recorded Date/Time: February 09, 2016 02:37:05P
Book-Vol/Pg: BK-DE VL-16283 PG-73
User / Station: E Walls - Cash Station 22

Record and Return To:

CHICAGO TITLE INSURANCE CO
WILL CALL
PITTSBURGH PA 15219

Jerry Tyskiewicz, Director
Rich Fitzgerald, County Executive

Chicago Title Insurance Company
Will Call
File Number
150459 PIT

2016058 DRE Certified
09-Feb-2016 02:34P\Int By: Scott Stickman

When recorded please return to:

Babst Calland
Two Gateway Center
603 Stanwix Street, 6th Floor
Pittsburgh, PA 15222
Attn: Justin D. Ackerman, Esq.

(2)

SPECIAL WARRANTY DEED

Made the 2nd day of February, 2016

Between

DUQUESNE LIGHT COMPANY, a Pennsylvania corporation (hereinafter called "Grantor"),

and

ALLEGHENY COUNTY SANITARY AUTHORITY, a Pennsylvania municipal authority (hereinafter called "Grantee");

WITNESSETH, that Grantor for **EIGHT THOUSAND EIGHT HUNDRED AND 00/100 DOLLARS** ($8,800.00), and intending to be legally bound, does hereby grant, bargain, sell, and convey unto the said Grantee, its successors and assigns, forever, all that real property more particularly described on Exhibit A, which is attached hereto and by this reference made a part hereof (collectively, "Parcel 1").

TOGETHER WITH all rights, restrictions, easements, rights-of-way, leases, licenses and other appurtenances benefiting Parcel 1 or any part thereof.

BEING all or a portion of the same property conveyed or devised to Grantor by deed of W. B. Carson and Sarah C. Carson, his wife, of the City of Pittsburgh, County of Allegheny, Commonwealth of Pennsylvania dated August 5, 1926, recorded in the Office of the Department of Real Estate of Allegheny County at Deed Book Volume 2306, Page 126, and by deed of Southern Heat, Light and Power Company, a corporation of the Commonwealth of Pennsylvania, recorded in the Office of the Department of Real Estate of Allegheny County at Deed Book Volume 2335, Page 1.

TO HAVE AND TO HOLD the same to and for the use of said Grantee, its successors and assigns forever, and the Grantor for itself, and its successors and assigns hereby covenants that it will **WARRANT SPECIALLY** Parcel 1.

ADDITIONALLY WITNESSETH, That Grantor, in consideration of One Dollar ($1.00) and other good and valuable consideration paid to Grantor by Grantee, the receipt and sufficiency of which is hereby acknowledged, does hereby remise, release and forever quitclaim unto Grantee, its successors and assigns, forever, any and all of Grantor's right, title and interest

to and in all that real property more particularly described on Exhibit B, which is attached hereto and by this reference made a part hereof (collectively, "Parcel 2").

TOGETHER WITH all rights, restrictions, easements, rights-of-way, leases, licenses and other appurtenances benefiting Parcel 2 or any part thereof, including, without limitation, the adverse possession and quiet title rights described below.

BEING comprised of the tract that was conveyed to Peter Riesberg by deed from Nathan Riesberg et al. dated June 12, 1947 and recorded in Deed Book Volume 2946, page 395; LESS the parcel of land that was acquired by the Redevelopment Authority of Allegheny County as evidenced by Agreement of Confirmation in Condemnation Proceedings between the Redevelopment Authority of Allegheny County and Peter Riesberg dated October 16, 1958 and recorded in Deed Book Volume 3717, page 472.

NOTWITHSTANDING THE FOREGOING, Parcel 2 has been in the continuous possession of Grantor since 1927, and Grantor hereby conveys any adverse possession and quiet title rights that it may have in Parcel 2, and preserves such rights for the benefit of Grantee.

EXCEPTING AND RESERVING to Grantor, its successors and assigns, two perpetual easements and rights of way over, under and across the Property, the centerlines of which are set forth on Exhibit C attached hereto and made a part hereof, for an unlimited number of aerial cables or wires, as now existing or at any time hereafter to be constructed, installed or erected at any location over, under and across Parcel 2 and any future cables or wires, for the conveyance, distribution and use of electrical current and for the protection and control of the electrical transmission system of the Grantor, with the right to install, repair, renew and finally remove said cables or wires, or any of them, and to fell, trim or remove any trees or shrubbery which at any time the Grantor may deem reasonably necessary to prevent interference or threatened interference with the construction, maintenance, repair, renewal, or use or operation of said cables or wires, together with the further right to enter upon the Property at any time for said purposes. Provided, however, that none of the exceptions or reservations set forth herein shall impair, limit or interfere with Grantee's use of the Property for the vernal pools in the locations set forth on Exhibit C, as may presently exist or shall hereafter be constructed, including the repair, reconstruction, inspection or maintenance of same.

NOTICE – THIS DOCUMENT DOES NOT SELL, CONVEY, TRANSFER, INCLUDE OR INSURE THE TITLE TO THE COAL AND RIGHT OF SUPPORT UNDERNEATH THE SURFACE LAND DESCRIBED OR REFERRED TO HEREIN, AND THE OWNER OR OWNERS OF SUCH COAL MAY HAVE THE COMPLETE LEGAL RIGHT TO REMOVE ALL OF SUCH COAL AND, IN THAT CONNECTION, DAMAGE MAY RESULT TO THE SURFACE OF THE LAND AND ANY HOUSE, BUILDING OR OTHER STRUCTURE ON OR IN SUCH LAND. THE INCLUSION OF THIS NOTICE DOES NOT ENLARGE, RESTRICT OR MODIFY ANY LEGAL RIGHTS OR ESTATES OTHERWISE CREATED, TRANSFERRED, EXCEPTED OR RESERVED BY THIS INSTRUMENT. [This notice is set forth in the Manner provided in Section 1 of the Act of July 17, 1957, P.L. 984, as amended, and is not intended as notice of unrecorded instruments, if any.]

NOTICE THE UNDERSIGNED, AS EVIDENCED BY THE SIGNATURE(S) TO THIS NOTICE AND THE ACCEPTANCE AND RECORDING OF THIS DEED, (IS, ARE) FULLY COGNIZANT OF THE FACT THAT THE UNDERSIGNED MAY NOT BE OBTAINING THE RIGHT OF PROTECTION AGAINST SUBSIDENCE, AS TO THE PROPERTY HEREIN CONVEYED, RESULTING FROM COAL MINING OPERATIONS AND THAT THE PURCHASED PROPERTY, HEREIN CONVEYED, MAY BE PROTECTED FROM DAMAGE DUE TO MINE SUBSIDENCE BY A PRIVATE CONTRACT WITH THE OWNERS OF THE ECONOMIC INTEREST IN THE COAL. THIS NOTICE IS INSERTED HEREIN TO COMPLY WITH THE BITUMINOUS MINE SUBSIDENCE AND LAND CONSERVATION ACT OF 1966, AS AMENDED 1980, OCT. 10, P.L. 874, NO 156 §1.

ATTEST:

ALLEGHENY COUNTY SANITARY AUTHORITY

By: _____
Name: Arletta Scott Williams
Title: Executive Director

IN WITNESS WHEREOF, the said Grantor has caused this Special Warranty Deed to be executed and delivered the day and year first above written.

ATTEST:

DUQUESNE LIGHT COMPANY

Digitally signed by Lesley Gannon DN: cn=Lesley Gannon, o, ou=Legal Services, email=lgannon@duqlight.com, c=US Date: 2016.01.22 12:40:46 -05'00'

By:_____
Name: F. Michael Doran
Title: Vice President of Operations

ACKNOWLEDGEMENT

COMMONWEALTH OF PENNSYLVANIA)
)SS:
COUNTY OF ALLEGHENY)

Before me, a Notary Public, the undersigned officer, personally appeared F. Michael Doran, who acknowledged himself/herself to be the Vice President, Operations of Duquesne Light Company and that he/she, as such Vice President, Operations and being authorized to do so, executed the foregoing instrument for the purpose therein contained and that it be recorded as such.

Pamela L Gibeau
Notary Public

SWORN TO and SUBSCRIBED

before me this 2nd day of

February, 2016.

My Commission Expires:

COMMONWEALTH OF PENNSYLVANIA
NOTARIAL SEAL
PAMELA L GIBEAU
Notary Public
PITTSBURGH CITY, ALLEGHENY COUNTY
My Commission Expires Jan 9, 2017

Certificate of Residence

I do hereby certify that the Tax Bill Address Of the within named Grantee is

Allegheny County Sanitary Authority
3300 Preble Avenue
Pittsburgh, Pennsylvania 15233-1092

I do hereby certify that the Owner Mailing Address of the within named Grantee is

Allegheny County Sanitary Authority
3300 Preble Avenue
Pittsburgh, Pennsylvania 15233-1092

Cathleen Crawford
As Agent

EXHIBIT A

All that certain tract of land situate in the 20th Ward of the City of Pittsburgh, County of Allegheny and Commonwealth of Pennsylvania, bounded and described as follows:

Beginning at a point in the center of a Township Road and on the Northerly line of the right of way of the Ohio Connecting Railroad; thence along the line of the Ohio Connecting Railroad and the land of the Heirs of Maria McGunnegle, the following 10 courses and distances: (1) North 67° 9' 45" West, a distance of 25.37 feet; (2) South 86° 50' 15" West, a distance of 100 feet; (3) North 71° 30' 36" West, a distance of 113.59 feet; (4) North 80° 12' 18" West, a distance of 113.59 feet; (5) North 88° 54' West, a distance of 113.59 feet; (6) North 46° 22' 9" West, a distance of 155 feet; (7) South 69° 21' 45" West, a distance of 590 feet; (8) South 76° 28' 45" West, a distance of 850 feet; (9) South 80° 38' 4" West, a distance of 282.26 feet; (10) North 84° 15' 45" West, a distance of 8.29 feet to the center line of Chartiers Creek; thence along the center line of Chartiers Creek, the following courses and distances: North 77° East, a distance of 193.91 feet; North 63° East, a distance of 300 feet; North 56° 45' East, a distance of 472.15 feet to a point of curve; thence by a curve curving to the right with a radius of 829.39 feet for a distance of 199.04 feet to a point of tangent; thence North 70° 30' East, a distance of 370.45 feet to a point of curve; thence by a curve curving to the left with a radius of 739.95 feet for a distance of 390.67 feet to a point of tangent; thence North 40° 15' East, a distance of 216.38 feet to a point of curve; thence by a curve curving to the right with a radius of 500 feet for a distance of 434.15 feet to a point of tangent; thence East for a distance of 210.94 feet to a point of curve; thence by a curve curving to the right with a radius of 232.76 feet for a distance of 188.90 feet; thence South 43° 30' East, a distance of 236.83 feet to a point of curve; thence by a curve curving to the left with a radius of 150 feet for a distance of 181.95 feet; thence North 67° East, a distance of 650.94 feet; thence North 70° 45' East, a distance of 725 feet to a point in the center of Chartiers Creek and on the Westerly side of West Carson Street; thence by the Westerly side of West Carson Street, South 29° 13' East, a distance of 98.01 feet; thence by the same, South 28° 53' East, a distance of 102.26 feet to a point on the Westerly side of West Carson Street and in the center line of a Township Road; thence by the center line of said Township Road and by other lands of McGunnegle, the following 7 courses and distances: (1) South 69° 22' 30" West, a distance of 165 feet; (2) South 72° 7' 30" West, a distance of 268 feet; (3) South 78° 7' 30" West, a distance of 725 feet; (4) South 67° 7' 30" West, a distance of 340 feet; (5) South 62° 52' 30" West, a distance of 219 feet; (6) South 52° 22' 30" West, a distance of 483 feet; (7) South 23° 7' 30" West, a distance of 165.05 feet to a point in the center of the aforementioned Township Road and on the Northerly line of the Ohio Connecting Railroad and at the place of beginning.

Excepting therefrom and thereout:

a. All that portion of the above described land which lies to the East of the Westerly line of Stafford Street; and

b. All that portion of the above described land which lies to the North of the boundary line established by agreement between Duquesne Light Company and the Redevelopment Authority of Allegheny County dated May 5, 1960 and recorded in Deed Book Volume 3814, page 456.

c. All that certain parcel of land described in Exhibit B hereto.

Designated as Tax Parcels 43-P-1-0-01 and 43-P-100.

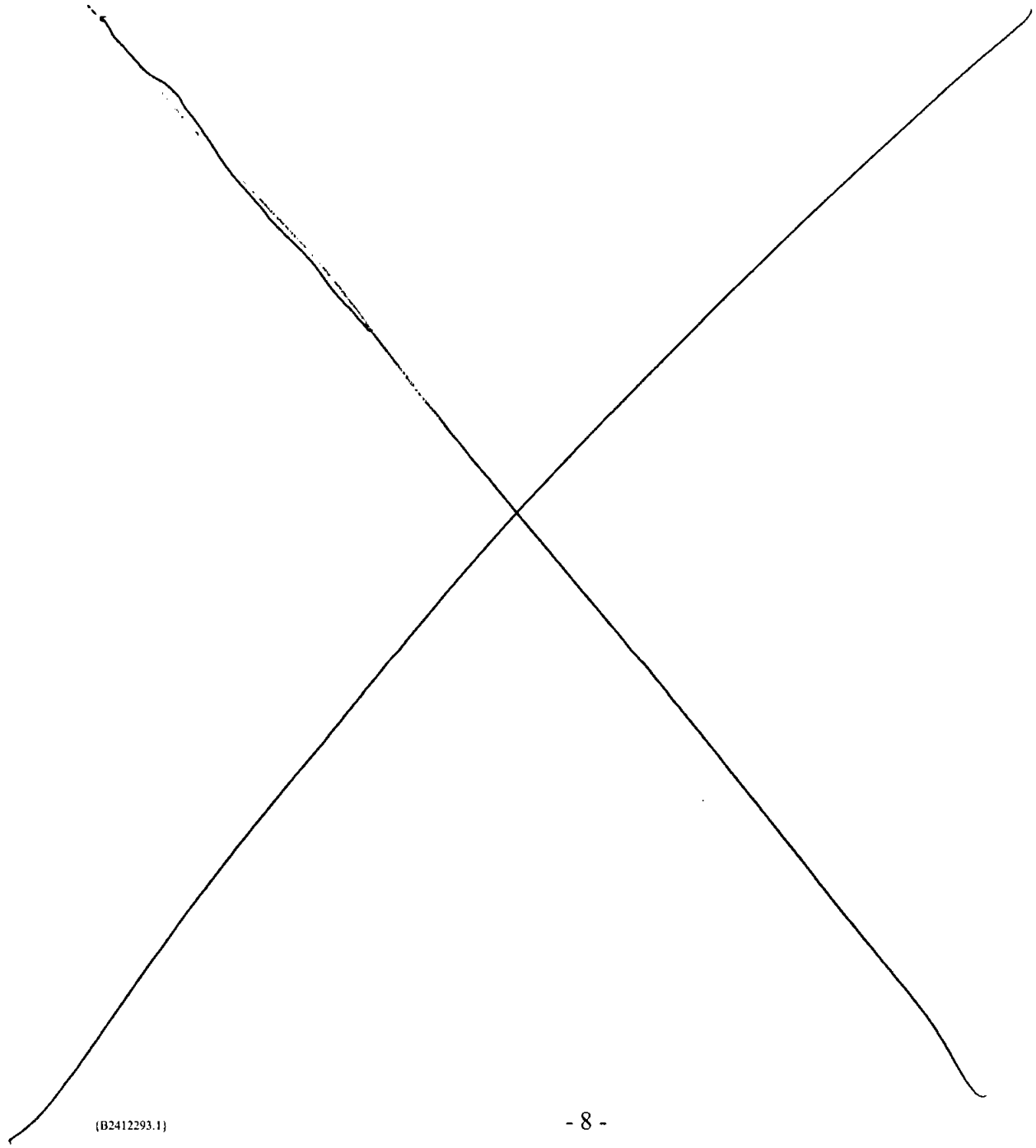


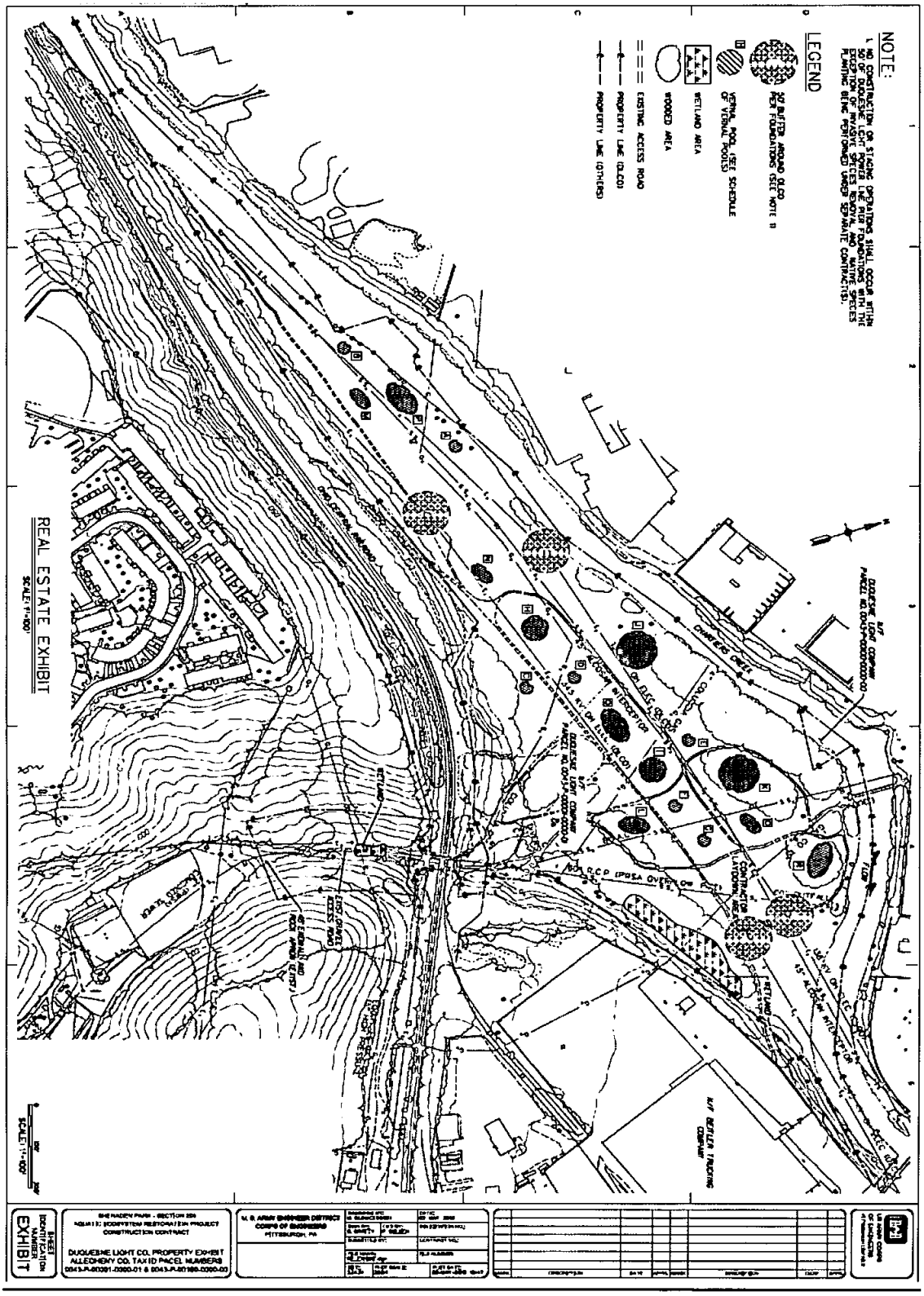
EXHIBIT B

All that certain parcel of land situate in the 20th Ward of the City of Pittsburgh, County of Allegheny and Commonwealth of Pennsylvania, bounded and described as follows:

Beginning on the southwesterly side of Furnace Street, 33 feet wide, in the Borough of McKees Rocks at the dividing line between Lots 54 (erroneously identified as 55 in prior deeds) and 785 in John A. McKees' Plan of Lots (recorded in Plan Book Volume 6, pages 22 and 23); thence along said dividing line, South 19° 53' East, 77 feet to a point; thence South 70° 07' West, 35.50 feet to a point; thence South 19° 53' East, 34.92 feet to a point; thence South 70° 15' West, 7.50 feet to a point; thence South 61° 15' West, 141.87 feet to the center line of Chartiers Creek, at the TRUE PLACE OF BEGINNING; thence South 61° 15' West, 124.63 feet to a point; thence South 53° 23' 30" West, 191.23 feet; thence North 22° 08' East, 41.50 feet to the southwesterly corner of Lot 786 in said plan; thence along said Lot 786, North 58° 10' East, 163.20 feet to the dividing line between Lots 785 and 786 in said plan; thence along said dividing line, North 22° 08' East, 106.15 feet to a point at the southwesterly corner of a parcel of land which was acquired by the Redevelopment Authority of Allegheny County and which parcel is described in Agreement of Confirmation in Condemnation Proceedings between the Redevelopment Authority of Allegheny County and Peter Riesberg dated October 16, 1958 and recorded in Deed Book Volume 3717, page 472; thence along the southerly line of said parcel which was acquired by the Redevelopment Authority of Allegheny County in an easterly direction, 84.49 feet, more or less, to the point at the TRUE PLACE OF BEGINNING.

The above described parcel is identified as Tax Parcel 43-P-2.

EXHIBIT C


NOTE:
LEGEND
REAL ESTATE EXHIBIT
SCALE: 1"=100'
SCALE: 1"=100'
EXHIBIT
DUQUESNE LIGHT CO. PROPERTY EXHIBIT
ALLEGHENY CO. TAX ID PARCEL NUMBERS
0043-P-00091-0000-01 & 0043-P-00166-0000-00
M. B. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
PITTSBURGH, PA

Duquesne Light Exhibit LG-2

60 2020 00028663

Allegheny County
Jerry Tyskiewicz
Department of Real Estate
Pittsburgh, PA 15219

Instrument Number: 2020-28663 **BK-DE VL-18187 PG-398**

Recorded On: October 15, 2020 **As-** Deed Right of Way

Parties: CRIVELLI L P

To DUQUESNE LIGHT CO **# of Pages:** 5

Comment:

********** **THIS IS NOT A BILL** **********

Deed Right of Way	181.75
	0
	0
Total:	181.75

Realty Transfer Stamp

Affidavit Attached-No
NOT A DEED OF TRANSFER EXEMPT

Value

Department of Real Estate Stamp

Certified On/By-> 10-15-2020 / Michael Galovich

NOT A DEED OF TRANSFER

I hereby certify that the within and foregoing was recorded in the Department of Real Estate in Allegheny County, PA.

****DO NOT REMOVE-THIS PAGE IS PART OF THE RECORDED DOCUMENT****

File Information:

Document Number: 2020-28663
Receipt Number: 3821465
Recorded Date/Time: October 15, 2020 12:31:50P
Book-Vol/Pg: BK-DE VL-18187 PG-398
User / Station: M Ward-Davis - CASH 04

Record and Return To:

DUQUESNE LIGHT CO
ATTN RALPH VERMEIL
2841 NEW BEAVER AVE
PITTSBURGH PA 15233

Jerry Tyskiewicz, Director
Rich Fitzgerald, County Executive

RIGHT-OF-WAY AGREEMENT

THIS INDENTURE made this 9th day of October, 2020,

BETWEEN

Crivelli Limited Partnership of 108 McKees Rocks Plaza, McKees Rocks, PA 15136, Allegheny County, Pennsylvania, (hereinafter called "Grantor(s)"),

AND

DUQUESNE LIGHT COMPANY, a corporation organized and existing under the laws of the Commonwealth of Pennsylvania, having its principal office in the City of Pittsburgh, Allegheny County, Pennsylvania, (hereinafter called "Duquesne"),

WITNESSETH:

THAT Grantor(s), for good and valuable consideration, the receipt whereof is hereby acknowledged, do(es) hereby give, grant, bargain, sell and convey unto Duquesne, its successors and assigns, forever, a perpetual easement and right of way (hereinafter called "Easement") One Hundred and Fifty (150) feet in width, upon, over, under, along, across and through that certain tract of land situate in McKees Rocks Township/Borough, Allegheny County, Pennsylvania, and bounded and described, generally as follows:

On the North by lands of Crivelli Limited Partnership
On the East by lands of Carson Street
On the South by lands of Old Town Properties LP
On the West by lands of Old Town Properties LP

which tract of land Parcel ID # 0043L00130000000, by deed dated December 23rd, 2002, and of record in the Office of the Recorder of Deeds of Allegheny County, in Instrument Number 2003-31889, conveyed to Crivelli Limited Partnership, the Grantor(s) herein, the Easement herein granted being for a transmission system (hereinafter called "The System") for the conveyance, transmission, distribution and use of electric current and/or communications services, consisting of cables and wires, supported on poles, H-frames, towers, columns and support structures and together with such crossarms, anchors, guys and other fixtures and apparatus as Duquesne may at any time and from time to time deem necessary or proper; together with the following rights, privileges and authority: to erect, construct, use, operate, own, maintain, repair, renew and finally remove The

maintenance, repair, renewal and final removal of The System; to enter upon the tract of land at any time for such purposes; and to sublet or assign Duquesne's interest, in whole or in part, without the prior consent of Grantor(s).

The Easement herein granted shall extend from Carson Street on the East to Old Town Properties LP on the West. The centerline of the Easement herein granted shall be located substantially at the location indicated on Duquesne's Drawing No. LL-8676, attached hereto and made a part hereof, and shall be finally evidenced by a line connecting the center points of the support structures.

The tract of land upon, over, under, across, along and through which the Easement is granted may always be used by Grantor(s), for such uses and purposes as are not inconsistent with and will not interfere with the erection, construction, use, operation, ownership, maintenance, repair, renewal and final removal of The System; provided, however, that no buildings or structures other than fences shall be located or constructed by the Grantor(s) within the limits of the Easement; and provided, further, that the Grantor(s), in the use of the tract of land, shall not damage or injure any of Duquesne's property on the Easement, nor interfere, in any manner with the erection, construction, use, operation, ownership, maintenance, repair, renewal and final removal of The System.

NOTICE--THIS DOCUMENT MAY NOT SELL, CONVEY, TRANSFER, INCLUDE OR INSURE THE TITLE TO THE COAL AND RIGHT OF SUPPORT UNDERNEATH THE SURFACE LAND DESCRIBED OR REFERRED TO HEREIN, AND THE OWNER OR OWNERS OF SUCH COAL MAY HAVE THE COMPLETE LEGAL RIGHT TO REMOVE ALL OF SUCH COAL AND, IN THAT CONNECTION, DAMAGE MAY RESULT TO THE SURFACE OF THE LAND AND ANY HOUSE, BUILDING OR OTHER STRUCTURE ON OR IN SUCH LAND. THE INCLUSION OF THIS NOTICE DOES NOT ENLARGE, RESTRICT OR MODIFY ANY LEGAL RIGHTS OR ESTATES OTHERWISE CREATED, TRANSFERRED, EXCEPTED OR RESERVED BY THIS INSTRUMENT. (This notice is set forth in the manner provided in Section 1 of the act of July 17, 1957, P.L. 984, as amended.)

WITNESS the hand(s) and seal(s) of the Grantor(s) the day and year first above written.

ATTEST/WITNESS: GRANTOR(S)

Crivelli Limited Partnership

_____ James Crivelli

_____ _____

COMMONWEALTH OF PENNSYLVANIA)
) SS:
COUNTY OF Allegheny)

Before me, a Notary Public in and for the Commonwealth and County, personally appeared James Crivelli, know to me (or satisfactorily proven) to be the person(s) whose name(s) is/are subscribed to the within instrument, and acknowledged the foregoing Agreement to be his/her/their act and deed and desire the same to be recorded as such.

WITNESS my hand and Notarial seal this 9th day of OCTOBER, 2020.

Commonwealth of Pennsylvania - Notary Seal
Matthew D. Johnston, Notary Public
Butler County
My commission expires November 23, 2022
Commission number 1259054
Member, Pennsylvania Association of Notaries

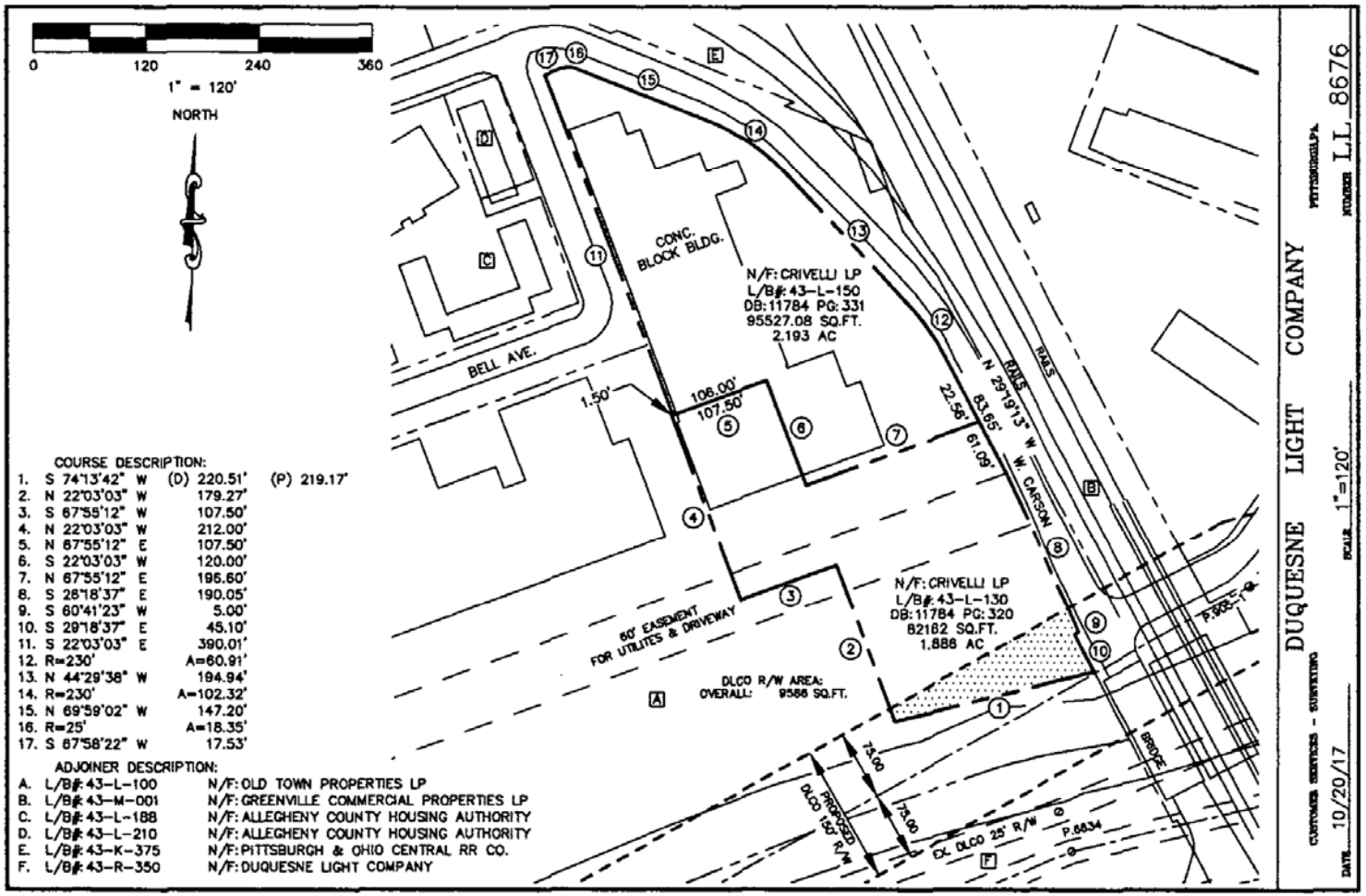
Notary Public

COMMONWEALTH OF PENNSYLVANIA)
) SS:
COUNTY OF)

On this _____ day of _____, 20___, before me, the undersigned officer, a Notary Public in and for the Commonwealth and County, personally appeared James Crivelli, as Owner-Partner of Crivelli Limited Partnership, and as such Owner-Partner, being authorized to do so, executed the foregoing Agreement for the purposes therein contained.

IN WITNESS WHEREOF I have set my hand and official seal.

_____
Notary Public



COURSE DESCRIPTION:

1.	S 74°13'42" W	(D) 220.51'	(P) 219.17'
2.	N 22°03'03" W	179.27'	
3.	S 67°55'12" W	107.50'	
4.	N 22°03'03" W	212.00'	
5.	N 67°55'12" E	107.50'	
6.	S 22°03'03" W	120.00'	
7.	N 67°55'12" E	196.60'	
8.	S 28°18'37" E	190.05'	
9.	S 60°41'23" W	5.00'	
10.	S 29°18'37" E	45.10'	
11.	S 22°03'03" E	390.01'	
12.	R=230'	A=60.91'	
13.	N 44°29'38" W	194.94'	
14.	R=230'	A=102.32'	
15.	N 69°59'02" W	147.20'	
16.	R=25'	A=18.35'	
17.	S 67°58'22" W	17.53'	

ADJOINER DESCRIPTION:

A.	L/B#: 43-L-100	N/F: OLD TOWN PROPERTIES LP
B.	L/B#: 43-M-001	N/F: GREENVILLE COMMERCIAL PROPERTIES LP
C.	L/B#: 43-L-188	N/F: ALLEGHENY COUNTY HOUSING AUTHORITY
D.	L/B#: 43-L-210	N/F: ALLEGHENY COUNTY HOUSING AUTHORITY
E.	L/B#: 43-K-375	N/F: PITTSBURGH & OHIO CENTRAL RR CO.
F.	L/B#: 43-R-350	N/F: DUQUESNE LIGHT COMPANY

NOTES:
- ALL BUILDING AND ROAD LOCATIONS ARE FROM DUQUESNE LIGHT GIS DATA

REVISIONS:

SURVEY NOTES:
DATE OF SURVEY: 3/27/17

○	SET IRON ROD UNLESS OTHERWISE NOTED	R	RADIUS
●	FOUND IRON ROD UNLESS OTHERWISE NOTED	STY	STORY
N/F	NOW OR FORMERLY	PBV	PLAN BOOK VOLUME
L/B#	TAX IDENTIFICATION	PG	PAGE
FND	FOUND	⊘	DUQUESNE LIGHT POLE (EXISITING)
I.P.	IRON PIN	◕	DUQUESNE LIGHT POLE (PROPOSED)
CONC	CONCRETE	(D)	DEED
R/W	RIGHT-OF-WAY	(P)	PLAN
A	ARC		

NOTE: THIS IS NOT A BOUNDARY SURVEY

Duquesne Light — Our Energy...Your Power
Customer Services – Surveying Dept. · Pittsburgh, PA

BI-CRESCENT

CRIVELLI LP
L/B#: 43-M-130 & 43-L-150/DB: 11784 PG: 320 & DB: 11784 PG: 331
MCKEES ROCKS BORO./ALLEGHENY COUNTY

SCALE 1"=120'	DATE 10/20/17	ARCH. APP.	
	DRAWN JLS	ELECT. APP.	
	CHECKED MEH	MECH. APP.	
	INSPECTED	STRUCT. APP.	

APP. COMPLETED WHEN OFFICIALLY ISSUED

O.F.E. No.

C.O. No.

LL 8676

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Application of Duquesne Light Company Filed Pursuant to :	Docket No. A-2019-3008589
52 Pa. Code Chapter 57, Subchapter G, for Approval of the :	Docket No. A-2019-3008652
Siting and Construction of the 138 kV Transmission Lines :	
Associated with the Brunot Island-Crescent Project in the :	
City of Pittsburgh, McKees Rocks Borough, Kennedy :	
Township, Robinson Township, Moon Township, and :	
Crescent Township, Pennsylvania :	

VERIFICATION

I, Lesley Cummings Gannon, Senior Manager of Real Estate and Rights of Way, hereby state that the facts set forth are true and cover (or are true and correct to the best of my knowledge, information and belief) and that I expect to be able to prove the same at a hearing held in this matter. I understand that the statements herein are made subject to the penalties of 18 Pa. C.S. § 4904 (relating to unsworn falsifications to authorities).

Lesley Cummings Gannon
Senior Manager of Real Estate and
Rights of Way

Date: January 21, 2021

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Application of Duquesne Light Company filed	:	
Pursuant to 52 Pa. Code Chapter 57,	:	Docket No. A-2019-3008589
Subchapter G, for Approval of the Siting and	:	Docket No. A-2019-3008652
Construction of the 138 kV Transmission	:	
Lines Associated with the **Brunot Island – Crescent Project** in the City of Pittsburgh,	:	
McKees Rocks Borough, Kennedy Township,	:	
Robinson Township, Moon Township, and	:	
Crescent Township, Allegheny County	:	
Pennsylvania	:	

Duquesne Light Company

Statement No. 5-R

Written Rebuttal Testimony of
John C. Hilderbrand II.

Topics Addressed: **Safe Design of The Project With Existing Rights-of-Way**

DUQUESNE
STATEMENT
5R

I. INTRODUCTION

Q. Please state your name and business address.

A. My name is John C. Hilderbrand II, and my business address is 2841 New Beaver Avenue, Pittsburgh, Pennsylvania 15233.

Q. By whom are you employed and in what capacity?

A. I am employed by Duquesne Light Company ("Duquesne Light" or the "Company") as Interim Vice President, Operations. I am responsible for the Company's Engineering, Transmission and Distribution Field Operations; Underground Network; Project Management; Operations Control Center; Substation Construction and Maintenance; Operations Support Services including Safety; Customer Care and Meter Operations.

Q. What are your qualifications, work experience and educational background?

A. I have a Bachelor of Science Degree in Electrical Engineering from the University of Pittsburgh and have been a licensed Professional Engineer since 2006. I have 34 years of electric utility experience with 25 years in various levels of management involving many aspects of the distribution and transmission system. I've held positions of Director, Transmission Projects and Director, Transmission Engineering at Allegheny Power as well as Managing Director, of Engineering & Programs at Duquesne Light; in these roles I was responsible for ensuring safe construction, operation and maintenance of transmission line facilities. My resume is attached hereto as Duquesne Light Exhibit JCH-1.

Q. Did you previously submit testimony in this proceeding on behalf of Duquesne Light?

A. I have not previously submitted testimony in this proceeding.

Q. What is the purpose of your rebuttal testimony?

A. As a licensed Professional Engineer, with significant experience overseeing design, operation and maintenance of transmission facilities, my testimony responds to specific issues related to design and safety features associated with the BI-Crescent Project, which were raised by several of the Protestants in their oral testimony at the September 10, 2019 lay witness hearing. Specifically, I will respond to the Protestants' assertions that the BI-Crescent Project cannot be safely constructed within existing 25-foot wide rights-of-way. In support of my testimony, I will also reference prior examples of transmission line projects where Duquesne Light safety constructed and operated similar facilities within similar rights-of-way.

Q. How is the remainder of your rebuttal testimony organized?

A. Section II of my rebuttal testimony summarizes and responds to the Protestants' concerns regarding the Company's proposed design for the BI-Crescent Project, specifically certain of the Protestants' claims that the BI-Crescent Project cannot be safely located in existing rights-of-way.

Q. Are you sponsoring any exhibits with your rebuttal testimony?

A. Yes. As part of my rebuttal testimony, I am sponsoring my resume as Duquesne Light Exhibit JCH-1.

II. THE BI-CRESCENT PROJECT CAN SAFELY BE CONSTRUCTED IN 25-FOOT WIDE RIGHTS-OF-WAY

Q. Were the primary design features of the BI-Crescent Project described in this proceeding direct testimony?

A. Yes. On pages 3 to 5 of the direct testimony of Meenah Shyu (Duquesne Light St. 3), Duquesne Light witness Meenah Shyu described the engineering design of the Project and also provided an overview of the typical structures used in the project. In addition, I understand Ms. Shyu sponsored Attachment 11 to the BI-Crescent Application, which is the Duquesne Light Company Design and Safety Practices.

Q. Do any of the Protestants raise specific concerns regarding the ability of the Company to safely locate and construct the proposed facilities associated with the BI-Crescent Project within 25-foot wide rights-of-way?

A. Yes. Mr. Zona specifically testifies regarding the dimensions of each structure and asserts that Duquesne Light cannot locate these structures within a 25-foot right-of-way, and that attempting to locate these structures in a right-of-way narrower than 150 feet violates accepted industry practices "worldwide", including the National Electric Safety Code ("NESC"). (Tr. 179-181) Based upon this assertion, Mr. Zona then appears to testify these design issues render the design of the BI-Crescent Project unsafe. (*See* Tr. 181) I will respond to these assertions below, and note that Duquesne Light witness

Meenah Shyu also generally responds to these assertions in her rebuttal testimony (Duquesne Light St. 3-R).

Q. Mr. Hilderbrand, can the facilities contemplated by the BI-Crescent Project be safely located and constructed within 25-foot wide rights-of-way?

A. Yes, the BI-Crescent Project can be safely located and constructed within the 25-foot wide rights-of-way. The footprint of the new monopoles and the conductors are designed to rest inside the 25-foot wide rights-of-way. Additionally, the increased height of the new structure ensures that NESC clearances will be met. We also have the rights to construct the new line using ingress and egress rights. The right-of-way agreement states "thereunto belonging, or necessary or proper for use in connection therewith, with the right, privilege and authority to erect, construction, use, operate, maintain, repair, renew and finally remove the same, and to enter upon said premises at any time for said purposes, together with the further right to trim or remove any trees or shrubbery which, at any time, may interfere or threaten to interfere with the construction, maintenance and operation of such electric transmission system…"

Q. Please respond to Mr. Zona's assertion that the installation of the proposed facilities within a 25-foot wide right-of-way violates "worldwide" industry practices and/or the NESC (Tr. 179-181).

A. Duquesne Light is not aware of any worldwide industry practices that govern the construction of lines inside the state of Pennsylvania. It is our understanding that each utility determines the appropriate rights-of-way for safe operation of transmission lines.

Duquesne Light agrees that the NESC Code is an industry standard code applicable to the BI-Crescent Line. The new BI-Crescent design meets all NESC Codes. While the NESC gives minimum safety clearance requirements, there is no requirement that governs the width of the prescribed right-of-way.

Q. Has Duquesne Light previously designed, located and constructed transmission facilities similar to the facilities contemplated by the BI-Crescent Project in rights-of-way similar to those involved in the BI-Crescent Project?

A. Yes, Duquesne Light has designed, located, and constructed Circuit 308 Highland to Logan's Ferry single circuit 345 kV transmission line on steel monopoles with a vertically stacked configuration. This transmission facility was placed into service in 2013 and was designed to meet the applicable NESC Code Edition in effect at that time. Portions of the line were constructed within a 30-foot right-of-way and with the use of centerline right-of-way agreements. Duquesne Light has constructed Z-20 and Z-21 Crescent to North double circuit 138 kV transmission line on steel lattice towers and are configured in a side by side stacked configuration rather than the narrower vertically stacked configuration proposed for the BI-Crescent Project. This 138 kV transmission facility was placed into service in the 1970s, although the structures were constructed in the 1920s, and were originally energized at 69 kV. Portions of the line were constructed within a 30-foot right-of-way and with the use of centerline right-of-way agreements. Duquesne Light has also constructed Z-55 and Z-56 Cheswick to North double circuit 138 kV transmission line on steel lattice towers and are configured in a side by side stacked configuration rather than the narrower vertically stacked configuration proposed

for the BI-Crescent Project. This 138 kV transmission facility was placed into service in the 1970s, although the structures were constructed in the 1920s, and were originally energized at 69 kV. Portions of the line were constructed within a 30-foot right-of-way and with the use of centerline right-of-way agreements.

Q. Is Mr. Zona correct that the proposed design of the BI-Crescent Project violates the NESC?

A. No, Mr. Zona is not correct that the proposed design of the BI-Crescent Project violates the NESC.

Q. Does the design of the BI-Crescent Project comply with all applicable NESC safety standards?

A. Yes.

Q. To be clear, does the design of the BI-Crescent Project and the associated facilities violate any accepted industry standards for the location and construction of electric transmission facilities?

A. No. The new BI-Crescent design meets all NESC Codes. While the NESC gives minimum safety clearance requirements, there is no requirement that governs the width of the prescribed right-of-way.

Q. Do the unique characteristics of Duquesne Light's service territory require it to construct transmission facilities in narrow rights-of-way?

A. Yes. Duquesne Light's service territory is located in the City of Pittsburgh and the surrounding suburbs. Over the past 100 years, there has been significant growth next to Duquesne Light's existing transmission facilities. In addition, there are few, if any, reasonable alternatives to existing transmission paths. There are many non-condemnable properties that would make it, at a minimum, extremely cost prohibitive, if not impossible to acquire new 150-foot wide rights-of-way. Duquesne Light must balance these issues with its obligation to provide reliable service to all of its customers. The existing BI-Crescent facilities are very old; many structures were constructed in 1914 and are now beyond permanent repair. Additionally, certain structures are located in a landslide prone area and the proposed BI-Crescent Project will be designed with consideration to these environments. The current transmission line must, therefore, be reconstructed for Duquesne Light to continue to provide safe and reliable service to customers.

Q. Does Duquesne Light continually review existing transmission lines to ensure they meet NESC clearances to other objects?

A. Yes.

Q. How does Duquesne Light continually ensure that existing lines meet NESC clearances to other objects?

A. Duquesne Light performs periodic inspections with the utilization of Light Detection and Ranging ("LiDAR") technology to analyze clearances from transmission conductors to other objects, as noted in Attachment 11 to the BI-Crescent Application.

Q. Does this complete your rebuttal testimony?

A. Yes, it does. If necessary, I will supplement my testimony if and as additional issues arise during the course of this proceeding.

Duquesne Light Exhibit JCH-1

John C. Hilderbrand II, PE

Professional Experience

2015 – Present Duquesne Light

September 2019 – Present Interim Vice President, Operations

Responsible for the Company's Engineering, Transmission and Distribution Field Operations; Underground Network; Project Management; Operations Control Center; Substation Construction and Maintenance; Operations Support Services including Safety; Customer Care and Meter Operations.

2015 – 2019 Managing Director, Engineering & Programs

Direct strategic and day-to-day activities of Asset Management, Engineering, Project Management and System Planning & Protection and Compliance. Capital budget of $223 million and Operation & Maintenance budget of $24 million annually; 180 employees supplemented with 79 contractors and staff augmentation, 158 construction contractors and 177 vegetation contractors.

1985 – Present Allegheny Power/FirstEnergy

2011 – 2015 Director, Operations Support, Mon Power/FirstEnergy

Directed day-to-day operational activities for Fleet, Facilities, Meter Reading, Meter Services and Substations. On point for all Labor Relations issues in Mon Power with IBEW Local 50 and Local 2357.

2009 – 2011 Director, Transmission Engineering

Directed activities to ensure the security, reliability and integrity of Allegheny Power's Transmission System by providing strategic and technical direction and support for all EHV and Transmission facilities, >100 kV. Capital budget of $16 million and Operation & Maintenance budget of $19 million annually; 62 employees supplemented with primarily 30 vegetation contractors.

2006 – 2009 Director, Transmission Projects

Directed activities for the engineering and construction of multiple projects related to transmission lines and substations for Allegheny Power. Capital budget of $91 million and Operation & Maintenance budget of $1.7 million annually; 64 employees supplemented with approximately 60 construction contractors.

2001 – 2006 General Manager, Substations

Oversaw substation operation, maintenance, minor construction, safety, standards and employee relations for Allegheny Power encompassing 1300 substations in 5 states serving approximately 1.5 million customers. Capital and Operation & Maintenance budget of $24 million annually; 230 employees.

1998 – 2001 General Manager, Operations

Oversaw lines safety, operation & maintenance, and construction, and employee relations for the Charleroi, Pleasant Valley, and Uniontown Service Centers. Capital and Operation & Maintenance budget of $5.0 million annually; 145,000 customers and 95 employees.

1996 – 1998 Administrative Team Leader, Metro Region

Assisted the Director with day to day operational issues; oversee employee relations and human relations for Metro Region. Metro Region served about 200,000 customers through three (3) service center locations with 220 employees.

John C. Hilderbrand II, PE

1994 – 1996 Supervisor, Building Operations and Maintenance, Greensburg
Supervised the facilities management function for nine buildings totaling 347,000 square feet, with $7.3 million annual O&M budget. Four of the nine buildings were on a 21 acre campus. Staff of 26 facility employees supplemented with 44 contracted employees provided building maintenance, electrical, grounds, HVAC, food service, furnishings, central storeroom services, cleaning services, transportation services including 187 vehicle fleet.

1991 – 1994 Engineer, Division Planning, Loyalhanna Division
Performed activities related to the functional operation of 32-12 kV circuits and associated 25 kV subtransmission network serving 34,000 customers in 400 square miles. Managed the Division's $2.0 million annual capital budget.

1985 – 1991 Engineering Technician, Lincoln Division
Performed engineering activities involving extension of electrical service to residential, commercial, and industrial customers, and involving construction, improvement, rehabilitation, and maintenance to distribution and subtransmission facilities, 4 kV – 25 kV.

Education

1991 **University of Pittsburgh** **Pittsburgh, PA**

Bachelor of Science in Electrical Engineering
Graduated Summa Cum Laude, QPA 3.92/4.00

1985 **The Pennsylvania State University, The DuBois Campus** **DuBois, PA**

Associate of Science in Electrical Engineering Technology
Graduated with Highest Honors, QPA 4.00/4.00.

Certifications

- Professional Engineer, PE073603 (Obtained 7/2006)
- The P.U.R. - Principles of Public Utilities and Operations and Maintenance (Obtained 1992)

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Application of Duquesne Light Company filed	:	
Pursuant to 52 Pa. Code Chapter 57,	:	Docket No. A-2019-3008589
Subchapter G, for Approval of the Siting and	:	Docket No. A-2019-3008652
Construction of the 138 kV Transmission	:	
Lines Associated with the **Brunot Island – Crescent Project** in the City of Pittsburgh,	:	
McKees Rocks Borough, Kennedy Township,	:	
Robinson Township, Moon Township, and	:	
Crescent Township, Allegheny County	:	
Pennsylvania	:	

Duquesne Light Company

Statement No. 5A-R

Written Rebuttal Testimony of
Jason Hartle

Topics Addressed: ALCOSAN Outreach, Coordination, and Communications

DUQUESNE
STATEMENT
5AR

I. INTRODUCTION

Q. Please state your name, title, and business address.

A. My name is Jason Hartle, and I am employed by Duquesne Light Company ("Duquesne Light" or the "Company") as a Senior Project Manager for the Operations Group**.** My business address is 2825 New Beaver Avenue Pittsburgh, PA 15233.

Q. Have you previously submitted testimony in this proceeding on behalf of Duquesne Light?

A. Yes. On October 10, 2019, I submitted rebuttal testimony ("Duquesne Light Statement 6-R") regarding the "Application of Duquesne Light Company filed Pursuant to 52 Pa. Code Chapter 57, Subchapter G, for Approval of the Siting and Construction of the 138 kilovolt ("kV") Transmission Lines Associated with the Brunot Island-Crescent Project in the City of Pittsburgh, McKees Rocks Borough, Kennedy Township, Robinson Township, Moon Township, and Crescent Township, Allegheny County Pennsylvania" at Docket No. A-2019-3008589 ("BI-Crescent Project" or the "Project").

Q. What is the purpose of your rebuttal testimony?

A. My testimony responds to certain outreach, coordination, and communications, related to information requested by the Allegheny County Sanitary Authority ("ALCOSAN") in its written direct testimony submitted on December 9, 2020 sponsored by Michael Lichte, P.E. Specifically, I will respond to outreach, coordination efforts, and communications between ALCOSAN and the Company as it relates to ALCOSAN's existing and proposed wastewater facilities near the Chartier's Creek and Sheraden Park areas within or around the BI-Crescent Project area.

Q. How is your rebuttal testimony organized?

A. Section II responds to certain aspects of ALCOSAN's related to the proposed and existing electric infrastructure on and near Sheraden Park. Section V of my testimony summarizes and responds to design and safety concerns made by one or more Protestants at the telephonic hearing on December 21, 2020. I will note that Duquesne Light witness Meenah Shyu (Duquesne Light St. 3A-R) will respond to ALCOSAN's concerns about design and safety aspects of the Project near Chartier's Creek and/or Sheraden Park and Duquesne Light witness Lesley Gannon (Duquesne Light St. 4A-R) will respond to ALCOSAN's concerns about easement impacts near Chartier's Creek and/or Sheraden Park.

Q. Are you sponsoring any exhibits with your rebuttal testimony?

A. No.

II. OVERVIEW OF DUQUESNE LIGHT'S EFFORTS TO DATE TO COORDINATE WITH ALCOSAN

Q. Have you had an opportunity to review the direct testimony of ALCOSAN witness Mr. Lichte?

A. Yes.

Q. Please describe the concerns ALCOSAN has raised regarding the Company's BI-Crescent Project.

A. Mr. Lichte states that ALCOSAN has existing and planned facilities located in the vicinity of the Company's planned transmission route. ALCOSAN St. 1 at 3. Mr. Lichte

further states that Duquesne Lights proposed transmission facilities "may have" an adverse impact on ALCOSAN's existing and planned wastewater facilities, if the Amended Application is approved without modification. ALCOSAN St. 1 at 3.

Q. Please summarize Duquesne Light's efforts to coordinate with ALCOSAN to date regarding the BI-Crescent Project.

A. On or about September 2, 2020, representative(s) from ALCOSAN's civil engineering group contacted Duquesne Light requesting a review of ALCOSAN's existing and proposed facilities as it relates to the BI-Crescent Project. On September 16, 2020, ALCOSAN shared with Duquesne Light a "KMZ file" that contained information regarding the locations of Duquesne Light's proposed new structures 6867 to 6878 that are in the vicinity of the Chartier's Creek area. On September 18, 2020 ALCOSAN filed its intervention in the above-captioned matter.

Q. Have these discussions continued since ALCOSAN intervened in this proceeding and served its direct testimony?

A. Yes. Between September 24, 2020 and October 29, 2020, Duquesne Light was coordinating with ALCOSAN to share information informally and outside of the contested Pennsylvania Public Utility Commission ("Commission") process. On October 22, 2020, ALCOSAN propounded its first set of discovery requests on Duquesne Light. Duquesne Light submitted timely responses to ALCOSAN's discovery requests on November 11, 2020.

Q. What was the nature of the information communicated within Duquesne Light's November 11, 2020 discovery responses?

A. Duquesne Light provided engineering maps and GIS data in order for ALCOSAN to properly assess how it could coordinate its own construction needs with Duquesne Light's proposed BI-Crescent Project. The information submitted, which included planned locations of proposed structures, lines, and temporary access roads, was similar to the information provided previously between September 24, 2020 and October 29, 2020.

Q. Has Duquesne Light requested any information from ALCOSAN regarding its existing and planned facilities in the Chartier's Creek and/or Sheraden Park areas identified in Mr. Lichte's testimony?

A. Yes. Duquesne Light requested technical information in Duquesne Light Company's Interrogatories Set 1, dated December 22, 2020. ALCOSAN provided timely responses on January 11, 2020.

Q. Why was it important for Duquesne Light to obtain this information?

A. Moreover, as detailed in the rebuttal testimony of Duquesne Light witness Meenah Shyu (Duquesne Light St. No. 3A-R), without this information Duquesne Light cannot know what impact it may have on ALCOSAN's planned or existing facilities and, therefore, it is unreasonable to expect Duquesne Light to plan accordingly.

Q. Has ALCOSAN provided Duquesne Light with the information that is necessary for Duquesne Light to coordinate its construction activities with ALCOSAN?

A. No. While ALCOSAN has supplied basic information requested for existing and proposed facility locations, which will enable Duquesne Light to review our design and attempt to eliminate permanent interferences, they have not supplied means and methods for construction and detailed schedule information that will be necessary to avoid conflicts between the two projects during construction phase. These details appear unavailable based on Mr. Lichte's testimony and ALCOSAN's responses to Duquesne Light's discovery requests for DLC-I-2 and DLC-I-6.

It is important to recognize the difference between the extent to which Duquesne Light has completed its engineering of the BI-Crescent Project (*i.e.*, 90% design) and the extent to which ALCOSAN has completed its engineering proposed facilities (*i.e.*, 20 % design) that are contemplated for the Chartier's Creek area. While Duquesne Light has progressed substantially in its engineering of the BI-Crescent Project in this area, ALCOSAN has not.

Q. Does Duquesne Light intend to continue coordinating with ALCOSAN in order for the utilities to complete their respective projects?

A. Of course. Should the BI-Crescent Project be approved by the Commission, Duquesne Light is looking forward to working with ALCOSAN in order to ensure both companies can swiftly and safely perform their projects.

Q. Does this complete your rebuttal testimony?

A. Yes, it does. If necessary, I will supplement my testimony if and as additional issues arise during the course of this proceeding.

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Application of Duquesne Light Company Filed Pursuant to :	Docket No. A-2019-3008589
52 Pa. Code Chapter 57, Subchapter G, for Approval of the :	Docket No. A-2019-3008652
Siting and Construction of the 138 kV Transmission Lines :	
Associated with the Brunot Island-Crescent Project in the :	
City of Pittsburgh, McKees Rocks Borough, Kennedy :	
Township, Robinson Township, Moon Township, and :	
Crescent Township, Pennsylvania :	

VERIFICATION

I, Jason Hartle, Senior Project Manager, hereby state that the facts set forth are true and cover (or are true and correct to the best of my knowledge, information and belief) and that I expect to be able to prove the same at a hearing held in this matter. I understand that the statements herein are made subject to the penalties of 18 Pa. C.S. § 4904 (relating to unsworn falsifications to authorities).

Jason A. Hartle

Jason Hartle, PMP
Senior Project Manager

Date: January 21, 2021

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Application of Duquesne Light Company filed Pursuant to 52 Pa. Code Chapter 57, Subchapter G, for Approval of the Siting and Construction of the 138 kV Transmission Lines Associated with the **Brunot Island-Crescent Project** in the City of Pittsburgh, McKees Rocks Borough, Kennedy Township, Robinson Township, Moon Township, and Crescent Township, Allegheny County Pennsylvania	:	Docket No. A-2019-3008589

Duquesne Light Company

Statement No. 6-R

Written Rebuttal Testimony of

Jason Hartle

Topics Addressed: Landowner Notice And Public Outreach

DUQUESNE
STATEMENT
6R

I. INTRODUCTION

Q. Please state your name and business address.

A. My name is Jason Hartle, and my business address is 2825 New Beaver Avenue Pittsburgh, PA 15233.

Q. By whom are you employed?

A. I am employed by Duquesne Light Company ("Duquesne Light" or the "Company") as a Senior Project Manager for the Operations Group**.**

Q. What are your current responsibilities?

A. I lead manage multiple capital and maintenance projects. I oversee projects from many aspects, including: financial, planning, executing, monitoring and controlling and project closeout. The projects currently in my portfolio include, transmission projects, substation renovation and new build projects and various underground distribution enhancements.

Q. Please provide a summary of your education and professional work experience.

A. In 2002, I received a Bachelor of Science degree in Mechanical Engineering from the University of Pittsburgh at Johnstown, PA.

My first professional occupation was at Electric Boat in Groton, CT, where I worked as a mechanical engineer in the Mechanical Systems Group from July 2002 to December 2006. My second professional occupation was at Westinghouse Electric Company, where I worked as a field service engineer and project manager in the Field

Services Division, and a project manager and resource manager in the New Plants Division from January 2007 unitl November 27, 2017. My third and current occupation is with Duquesne Light Company in Pittsburgh, PA. I have been working in the Operations and Project Management group with DLC since November 2017.

Q. What are your responsibilities in connection with the proposed Project?

A. I became the Project Manager for the Project on September 16, 2019. In my role as the Project Manager, I am responsible for overseeing the overall planning, execution, monitoring and controlling, and closeout of the Project and providing testimony with regards to these areas of the line siting. "Application of Duquesne Light Company filed Pursuant to 52 Pa. Code Chapter 57, Subchapter G, for Approval of the Siting and Construction of the 138 kV Transmission Lines Associated with the **Brunot Island-Crescent Project** in the City of Pittsburgh, McKees Rocks Borough, Kennedy Township, Robinson Township, Moon Township, and Crescent Township, Allegheny County Pennsylvania" at Docket No. A-2019-3008589 ("BI-Crescent Project").

Q. Did you previously submit testimony in this proceeding on behalf of Duquesne Light?

A. I have not previously submitted testimony in this proceeding.

Q. What is the purpose of your rebuttal testimony?

A. My testimony responds to certain issues raised by several of the Protestants in their oral testimony at the September 10, 2019 lay witness hearing. Specifically, I will respond to the Protestants' concerns regarding: (1) the Company's interactions with and notices provided to landowners whose properties would be traversed by right-of-way associated with the project; and (2) the Company's public outreach efforts before the filing of the project.

Q. How is the remainder of your rebuttal testimony organized?

A. Section II will respond to the Protestants' claims that Duquesne Light has not conducted sufficient public outreach regarding the BI-Crescent Project. Section II will also respond to certain of the Protestants' allegations that they, or others, were not served with the required notices associated with the Project. As explained below, the properties at (a) 306 Konter Road (which is the subject of Mrs. Adams' Protest and one of Mrs. Crowe's Protests), (b) 205 Purdy Road (which is the subject of Mrs. Marinkovic's Protest), and (c) many of the properties neighboring the 1123 Juanita Drive property (which is also the subject of Mrs. Crowe's Protest) are not traversed by rights-of-way associated with existing Duquesne Light facilities and no additional rights-of-way for these properties are required to accommodate the BI-Crescent Project. In Section III, I will respond to certain allegations by Mrs. Adams and Mrs. Crowe that Duquesne Light's employees and/or agents have damaged and failed to repair damage to the property at 306 Konter Road. In addition, I also respond to Mrs. Crowe's assertion that Duquesne Light has not contacted

her regarding her request for compensation associated with an alleged loss of timber related to the right-of-way on 1123 Juanita Drive.

Q. Are you sponsoring any exhibits associated with your rebuttal testimony?

A. No.

II. PUBLIC OUTREACH AND LANDOWNER NOTICE

Q. Mr. Hartle, did the Company describe its public outreach efforts it its direct testimony?

A. Yes. Duquesne Light witness Lesley Gannon addressed this issue in her direct testimony (Duquesne Light St. 4).

Q. Have any of the Protestants challenged the Company's public outreach efforts in this proceeding?

A. Yes. Mrs. Adams testified that members of the public were concerned and requested a public input hearing. (Tr. 98-102) Mrs. Crowe testified that Pennsylvana State Represntative Valerie Gaydos had not been aware of the Project and that members of the public were concerned. (Tr. 121-122) Ms. Marinkovic also testified that certain people that attended a public meeting on August 29, 2019, would be affected by the Project and had not received notification from Duquesne Light. (Tr. 154)

Q. Please respond.

A. In February of 2017, letters were distributed to property owners that owned property along the current right-of-way planned for potential impact at the time of line siting filing. (*See* Attachment 13 to the BI-Crescent Siting Application) The Project team hosted three open houses at various locations in order to capture customer input and educate property owners on the project. The first Project Open House was held on February 21,2017 from 4 p.m. to 7 p.m. at the Crescent Township Municipal Building, located at 225 Spring Run Road, Crescent, Pa 15046. The second Project Open House was held on February 28,2017 from 2 p.m. to 7 p.m at the VFW Post 418 Hall, 1242 Chartiers Ave., McKees Rocks, Pa 15136, and the third Project Open House was held on March 02, 2017 from 4 p.m. to 7 p.m, at the Kennedy Township Independent Volunteer Fire Company, which is located at 1796 Pine Hollow Road, McKees Rocks, Pa 15136

Q. How did Duquesne Light provide notice of these public meetings?

A. The notice for the public meetings were distributed through two main methods. The first method, involved the distribution and mailing of one of three different versions of letters (included in Attachment 13 to the BI-Crescent Application) to all Duquesne Light customers anticipated to be affected by the Project; each version of the letter was developed based on the anticipated impact on each property. Each version of the letter was designed to give each property owner information on the project and to invite them to attend any one of three Project Open House Meetings held by Duquesne Light. Under the second method, Duquesne Light contracted a media consultant to advertise online

with Geo-targeted internet advertisements to spread the news of the Project Open House Meetings. These advertisements stated there was an open house regarding transmission changes in the area and the date and appeared on AccuWeather.com, WPXI.com, TribLive.com, NTD.TV, OnlyinYourState.com, Post-Gazette.com, 247Sports.com, WTAE.com, Forbes.com, and Weather.com and were viewed by over 95,000 people.

Q. Mr. Hartle, did the Company describe its efforts to serve landowners, including the Protestants, with the notices attached to the Application as Attachment 13 in its direct testimony?

A. Yes. Duquesne Light witness Lesley Gannon addressed this issue in her direct testimony (Duquesne Light St. 4).

Q. Have any of the Protestants challenged the Company's efforts to served the required notices included in Attachment 13 upon affected landowners?

A. Yes. Mrs. Adams stated she did not receive Attachment 13. (Tr. 73) Mrs. Crowe asserts that she did not receive Attachment 13, and that none of their neighbors were provided with the form. (Tr. 125-26) Mrs. Marinkovic stated that she did not receive notification from Duquesne Light regarding activities on Purdy Road. (Tr. 149-150)

Q. Please respond to Mrs. Adams', Mrs. Crowe's and Mrs. Marinkovic's assertions that they were not provided the notices included in Attachment 13 to the Application.

A. Only owners of properties on which the BI-Crescent Line is or was planned to be located were mailed the notices in Attachment 13 to the Application. Mrs. Adams and Mrs. Marinkovic did not receive the notices included in Attachment 13 to the Application because the BI-Crescent Line does not cross their respective properties (i.e., 306 Konter Road and 205 Purdy Road). For similar reasons, Mrs. Crowe did not receive a notice associated with the 306 Konter Road property.

Jennifer and John Crowe were, however, sent a notice with respect to 1123 Juanita Drive because the 1123 Juanita Drive property is traversed by right-of-way associated with the BI-Crescent Project.

Q. Please respond to Mrs. Crowe's and Mrs. Marinkovic's assertions that their neighbors were not provided with the notices included in Attachment 13 to the Application.

A. Duquesne Light witness Lesley Gannon (Duquesne Light St. 4-R (A-2019-3008589) more fully explains the location of Duquesne Light's rights-of-way and the proposed facilities relative to 306 Konter Road, 205 Purdy Road and 1123 Juanita Drive. Any properties owned by Mrs. Crowe's or Mrs. Marinkovic's neighbors that are not expected

to be traversed by the BI-Crescent Project would not have been mailed these notices, because their properties would not be impacted by the proposed facilities.

III. ISSUES RELATED TO INTERACTIONS WITH THE ADAMS AND CROWE OWNERS

Q. Did Mrs. Adams and Mrs. Crowe raise any issues related to the alleged actions of Duquesne Light's employees and/or agents with respect to the property located at 306 Konter Road?

A. Yes, they testified that Duquesne Light and/or its have damaged and have failed to repair damage to the property at 306 Konter Road (see e.g., Tr. 91-92, 120, Exhibit Adams 16).

Q. Does Mrs. Crowe raise any other issues with Duquesne Light's right-of-way acquisition activities with respect to the 1123 Juanita Drive property?

A. Yes. Mrs. Crowe asserts that Duquesne Light has not engaged her to discuss her Protest or compensation associated with an alleged loss of timber related to the right-of-way on 1123 Juanita Drive. (Tr. 127-129)

Q. Please respond.

A. Duquesne Light is investigating these claims and will contact Mrs. Crowe and Mrs. Adams once it completes its investigation.

Q. Does this complete your rebuttal testimony at this time?

A. Yes. I reserve the right to supplement my testimony as additional issues arise during the course of this proceeding.

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Application of Duquesne Light Company filed Pursuant to 52 Pa. Code Chapter 57, Subchapter G, for Approval of the Siting and Construction of the 138 kV Transmission Lines Associated with the **Brunot Island – Crescent Project** in the City of Pittsburgh, McKees Rocks Borough, Kennedy Township, Robinson Township, Moon Township, and Crescent Township, Allegheny County, Pennsylvania	:	Docket No. A-2019-_____

APPLICATION OF DUQUESNE LIGHT COMPANY

TO THE PENNSYLVANIA PUBLIC UTILITY COMMISSION:

Duquesne Light Company ("Duquesne Light" or the "Company") hereby files, pursuant to 52 Pa. Code § 57.72, this Application requesting Pennsylvania Public Utility Commission ("Commission") approval to site and construct approximately 14.5 miles of overhead double-circuit 138 kV transmission lines in the City of Pittsburgh, McKees Rocks Borough, Kennedy Township, Robinson Township, Moon Township, and Crescent Township, Allegheny County, Pennsylvania (Hereinafter called the " Brunot Island – Crescent Project" or "BI-Crescent Project"). The proposed Project is required to replace aging transmission system infrastructure. The BI – Crescent corridor has some of Duquesne Light's oldest in-service steel lattice towers. Structural evaluations have determined that the structures are approaching end of useful life. Based on current condition, structure deterioration, and Power Line Systems – Computer Aided Design and Drafting ("PLS-CADD")[1] modeling at current design codes, all results indicate these

[1] PLS-CADD is an industry-standard transmission line modeling software.

DUQUESNE EXHIBIT 1

structures are beyond permanent repair and require replacement. Temporary repairs have been made to ensure reliable service until new replacement structures can be installed.[2]

The proposed Project involves the rebuild of the double-circuit BI – Crescent 138 kV Transmission Line that will extend approximately 14.5 miles between the Brunot Island Substation in the City of Pittsburgh and the Crescent Substation in Crescent Township, the line will tie into the Montour, Sewickley, and Neville Substations along its route.

Through this application, Duquesne Light seeks Commission approval of the siting and construction of the proposed Project. Subject to the Commission's approval, the project has a scheduled construction start date of June 2020 to meet an in-service date of December 2023. In support of this Application, Duquesne Light states as follows:

I. INTRODUCTION

1. This Application is filed by Duquesne Light, a public utility that provides electric distribution, transmission, and provider of last resort services in Pennsylvania subject to the regulatory jurisdiction of the Commission.

2. Duquesne Light's principal business address is:

Duquesne Light Company
411 Seventh Avenue
Pittsburgh, PA 15230

[2] Separate but concurrently, the Company is submitting the *Petition of Duquesne Light Company for Waiver of Provisions of the Pennsylvania Public Utility Commission's Regulations at 52 Pa. Code § 57.71 et seq., for the Siting and Construction of Six Structures on an Existing Transmission Line*. This waiver is being requested in order to allow Duquesne Light to replace six structures on an existing high voltage transmission line that were impacted by landslides in the spring of 2018. The six structures in question are part of the Brunot Island-Crescent double-circuit 138 kV Transmission Line between the Brunot Island Substation in the City of Pittsburgh and the Crescent Substation in Crescent Township ("BI-Crescent Line"). Replacement of these structures is necessary in order to maintain safe and reliable service to customers because these structures are in a landslide-prone area. The existing structures will be replaced with monopoles on concrete foundations that will be designed to withstand potential landslides. This waiver covers six structures totaling .58 miles that is inclusive of the total 14.5 miles route.

3. Duquesne Light's attorneys are:

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Duquesne Light's attorneys are authorized to receive all notices and communications regarding this Application.

4. Duquesne Light furnishes electric service to approximately 596,000 customers throughout its certificated service territory, which includes all or portions of Allegheny and Beaver Counties and encompasses approximately 800 square miles in western Pennsylvania. Duquesne Light is a "public utility" and an "electric distribution company" as defined in Sections 102 and 2803 of the Pennsylvania Public Utility Code, 66 Pa.C.S. §§ 102, 2803.

5. The proposed Project involves the siting and rebuild of the double-circuit BI – Crescent 138 kV Transmission Line that will extend approximately 14.5 miles between the Brunot Island Substation in the City of Pittsburgh and the Crescent Substation in Crescent Township. In anticipation of future increased capacity needs within the life span of the BI-Crescent transmission line, Duquesne Light is proposing to build one circuit to 345 kV standards during this project and raise the voltage when the need arises in the future. However, the line will be operated at 138 kV until additional capacity is needed. Duquesne Light seeks Commission approval of the siting and construction of the overhead 138 kV transmission line, as described herein, associated with the proposed Project.

6. Accompanying this Application is Statement No. 1, the direct testimony of Mr. Jason Harchick related to the need for the Project; Statement No. 2, the direct testimony of Ms. Aimee Kay related to the Siting Study; Statement No. 3, the direct testimony of Ms. Meenah Shyu related to design and safety, and Statement No. 4, the direct testimony of Ms. Lesley Gannon related to Right-of-Way acquisition of the Project. Additionally, the following Attachments are included that provide additional detailed information regarding the proposed Project:

- Attachment 1 – PUC Cross-Reference Matrix
- Attachment 2 – Need Statement
- Attachment 3 – Environmental Assessment and Line Route Siting Study
- Attachment 4 – Cross-Sectional Diagrams of Typical Structures for the BI-Crescent Project
- CONFIDENTIAL Attachment 5a – Map of Existing DLC Facilities
- CONFIDENTIAL Attachment 5b – Map of Proposed DLC Facilities
- Attachment 6 – One Light Diagrams of Existing and Proposed DLC Facilities
- Attachment 7 – Aerial Map of Alternatives Considered
- Attachment 8 – Topographical Map of the Alternatives and Preferred Route
- Attachment 9 – Map of Affected Parcels and Landowers
- Attachment 10 – Landowner Matrix
- Attachment 11 – Duquesne Light Company Design Criteria, Electromagnetic Field Policy and Application, and Safety Practices
- Attachment 12 – Duquesne Light's Vegetation Management Practices
- Attachment 13 – Public Notices Required by 52 Pa. Code § 69.3102

7. CONFIDENTIAL Attachments 5a and 5b show critical energy infrastructure information regarding the bulk transmission system of Duquesne Light located within their certificated territory in Pennsylvania. Duquesne Light believes the transmission system data set forth in Attachments 5a and 5b include sensitive information about critical energy infrastructure

that should not be publically accessible. Accordingly, Duquesne Light is submitting CONFIDENTIAL versions of Attachments 5a and 5b.

8. This Application, including the accompanying Attachments and Statements, which are incorporated herein by reference, contains all of the information required by 52 Pa. Code §§ 57.72(c), 69.1101, 69.3102 – 69.3107.

II. NEED FOR THE PROJECT

A. SYSTEM PLANNING

9. System planning is the process which assures that transmission and distribution systems can supply electricity to all customer loads reliably and economically. The reliable and economical operation of transmission systems requires planning guidelines for system expansion and reinforcement.

10. PJM Interconnection, L.L.C. ("PJM") is a Federal Energy Regulatory Commission ("FERC") approved Regional Transmission Organization ("RTO") charged with ensuring the reliability of the electric transmission system under its functional control and coordinating the movement of electricity in all or parts of Delaware, Illinois, Indiana, Kentucky, Maryland, Michigan, New Jersey, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia and the District of Columbia. Duquesne Light, an owner of transmission facilities in Pennsylvania, is a member of PJM and actively participates in the PJM transmission planning process.

11. In order to ensure reliable transmission service, PJM prepares an annual Regional Transmission Expansion Plan ("RTEP") to ensure power continues to flow reliably to customers. The North American Electric Reliability Corporation ("NERC"), PJM, and transmission owner reliability criteria are used by PJM and the transmission owners to analyze the system and

determine if specific transmission upgrade projects are needed to ensure long-term reliable electric service to customers.

12. Duquesne Light has adopted reliability and planning standards to ensure adequate levels of electric service to its customers consistent with good utility practice. The Duquesne Light Transmission Planning Criteria were developed from and are consistent with the NERC and PJM planning and reliability standards.[3]

13. In accordance with the Duquesne Light Transmission Planning Criteria, Duquesne Light's transmission system is planned so that it can be operated at all projected load levels and during normal scheduled outages to withstand specific unscheduled contingencies without exceeding the equipment capability, causing system instability or cascade tripping, or exceeding voltage tolerances. The transmission system is required to have adequate capability so that it can be operated normally and can withstand unscheduled contingencies and other system conditions.

B. PLANNING AND RELIABILITY ISSUES

14. Duquesne Light's transmission system primarily consists of 69 kV, 138 kV, and 345 kV facilities that currently form a loop around the City of Pittsburgh and its suburbs.

15. A map of the relevant portion of Duquesne Light's existing system is provided in CONFIDENTIAL Attachment 5a to this Application.

16. The BI – Crescent corridor has some of Duquesne Light's oldest in-service steel lattice towers. Duquesne Light has performed structural evaluations and determined that the structures are approaching end of useful life. Based on current condition, structure deterioration, and PLS-CADD modeling at current design codes, all results indicate these structures are beyond

[3] Duquesne Light's reliability and planning standards are set forth in its Federal Energy Regulatory Commission Form No. 715 annual report.

permanent repair and require replacement. Temporary repairs have been made to certain facilities to ensure reliable service until new replacement structures can be installed.

17. While the primary driver for this project is to replace aging transmission system infrastructure, other benefits can be achieved by rebuilding this transmission corridor.

18. Transmission system studies have shown that during outages of various 345 kV circuits within the Duquesne Light service area, significant thermal and voltage concerns arise. Energizing one of the new BI – Crescent 138 kV circuits at 345 kV in the future would help to mitigate these issues.

III. DESCRIPTION OF THE PROPOSED TRANSMISSION LINE

A. OVERVIEW OF THE PROPOSED PROJECT

19. To address the identified reliability and planning issues described above, Duquesne Light proposes to rebuild the double-circuit BI – Crescent 138 kV Transmission Line. The proposed double-circuit BI – Crecsent 138 kV Transmission Line will extend approximately 14.5 miles between the Brunot Island Substation in the City of Pittsburgh and the Crescent Substation in Crescent Township.

20. The entire Project will be located in Allegheny County. Approximately 2.0 miles of the project will be located within the City of Pittsburgh, approximately 2.6 miles will be located within Kennedy Township, approximately 3.1 miles will be located within Robinson Township, approximately 5.0 miles will be located within Moon Township, and approximately 1.8 miles will be located within Crescent Township.

21. An aerial photograph map showing the location of the proposed double-circuit Brunot Island – Crescent 138 kV Transmission Line is provided in CONFIDENTIAL Attachment 5b and Attachments 7 and 8 to this Application.

22. The proposed Project will replace aging transmission system infrastructure to meet safety and reliability standards. One circuit position on the transmission structures will be designed to 345 kV standards, but will be operated at 138 kV until load growth or system conditions require this voltage increase and necessary approvals are acquired. The other circuit position on the transmission structures will be designed to 138 kV standards and will be operated at 138 kV.

23. The proposed Project was reviewed by PJM stakeholders and included in PJM's RTEP as project s0320 and s0320.1.

B. ENGINEERING DESCRIPTION

24. The proposed new BI – Crescent 138 kV Transmission Line will be designed as a double-circuit 138 kV/345 kV transmission line, but initially will be operated as a double-circuit 138 kV transmission line until load growth or other system conditions makes it necessary to increase the voltage of the second circuit and necessary approvals are acquired. This proposed rebuild will also accommodate connections to Montour, Neville, and Sewickley Substations. The existing 138 kV circuits that are supported by the line structures are Crescent – Montour (Z-24), Brunot Island – Sewickley (Z-43), Brunot Island – Montour (Z-44) and Crescent – Sewickley (Z-143). The proposed 138 kV circuits that will be supported by the line structures are Montour – Sewickley (Z-24), Brunot Island – Montour (Z-43), Brunot Island – Crescent (Z-44) and Crescent – Sewickley (Z-143). A short portion of a 138 kV single circuit Findlay-Montour (Z-45) 138 kV line will also be rerouted to a new termination bay within the Montour Substation.[4]

[4] Duquesne Light submitted a separate LON seeking approval for the work associated with this relocation. The LON was approved by the Commission on October 4, 2018 at docket number A-2018-3002896

25. Based on preliminary engineering, the new BI – Crescent transmission line will require approximately 108 new double-circuit support structures, which will consist of self-supporting weathering steel single poles on drilled concrete pier foundations.

26. The new steel structures will largely consist of tubular steel monopole structures that will range from 60 to 200 feet in height, with an average height of approximately 180 feet. The existing steel structures are primarily steel lattice towers ranging in height from 75 to 145 feet in height, with an average height of approximately 90 feet. All steel poles will be placed on drilled concrete shaft foundations. The average span between these structures will be approximately 900 feet. The longest span is approximately 2,500 feet across the Ohio River.

27. Cross-sectional diagrams showing the typical placement of the support structures are provided in Attachment 4 of this Application.

28. The overhead 138 kV circuit (designed as 345 kV) will utilize double bundle power conductor per phase for each of the three (3) phases in the circuit. The other overhead 138 kV circuit will utilize three (3) single conductors, one for each of three (3) phases. The power conductors utilized for this project will be 795 kcmil,[5] 20/7 ACSS-TW-HS[6] (Drake) conductors. The sole shield wire will primarily be fiber optic ground wire and will provide lightning protection and a communication path between the substations. This communication path could be used for communication between the protective relays at the station operate circuit breakers in order to remove the line from service should a fault in the line be detected.

29. Duquesne Light structure 6634, located in the City of Pittsburgh, is one of the structures which supports the transmission lines in the BI – Crescent transmission corridor. In

[5] Kcmil stands for thousand circular mils. Kcmil wire size is the equivalent cross sectional area in thousands of circular mils. A circular mil is the area of a circle with a diameter of one thousandth (0.001) of an inch.

[6] ACSS-TW-HS stands for aluminum conductor steel supported, trapezoidal-shaped aluminum strands, high strength conductors

addition to supporting the present BI – Montour (Z-44) 138 kV transmission circuit and the present BI – Sewickley (Z-43) 138 kV transmission circuit, the structure also supports the existing BI – Collier (304) 345 kV transmission circuit and existing BI – Crescent (331) 345 kV transmission circuit. In order to safely perform maintenance on this structure, all four (4) of these transmission circuits must be removed from service. In an effort to improve Duquesne Light's ability to safely perform maintenance and eliminate the contingency consideration for loss of all four (4) transmission circuits, Duquesne Light plans to replace this structure with two (2) new self-supporting monopoles. One monopole will support the proposed BI – Montour (Z-43) 138 kV transmission circuit and the proposed BI – Crescent (Z-44) 138 kV transmission circuit. The second monopole will support the existing BI – Collier (304) 345 kV transmission circuit and existing BI – Crescent (331) 345 kV transmission circuit.

30. The new BI – Crescent Transmission Line will be designed to meet, and generally exceed, the National Electrical Safety Code ("NESC") minimum standards. This includes electrical clearance requirements to all existing structures and features.

31. The minimum conductor-to-ground clearance for the proposed BI – Crescent Transmission Line will be 30 feet where possible under maximum electrical load and operating temperature[7].

IV. SITING ANALYSIS

A. SUMMARY OF SITING ANALYSIS

32. In accordance with the Commission's regulations at 52 Pa. Code § 57.72(c), Duquesne Light conducted an extensive, multi-faceted analysis to determine the proposed route for the project. Duquesne Light contracted with GAI Consultants, Inc. to complete a

[7] The maximum operating temperature is considered to be 392 degrees Fahrenheit.

comprehensive siting study. The results of the siting study are contained in the "Environmental Assessment and Line Route Study," which is provided as Attachment 3 to this Application.

33. The goal of Duquesne Light's siting analysis for the double-circuit BI – Crescent 138 kV Transmission Line was to determine the most suitable route to interconnect the proposed transmission line with the existing Brunot Island and Crescent Substations tying into the Montour, Neville, and Sewickley Substations along the route, while minimizing the impact to the natural and human environments, avoiding unreasonable and circuitous routes, and avoiding extreme costs.

34. Many sources of information were used to develop data for the Environmental Assessment and Line Route Study. These sources of information are summarized in Attachment 3 to this Application.

35. The route development process is inherently iterative with modifications made throughout the siting analysis as a result of the identification of new constraints, input from agencies, landowners, and other stakeholders, periodic re-assessment of routes, and adjustments to the overall route network to develop feasible alternative routes.

36. Once the alternative routes were identified, the siting team undertook an analysis of potential impacts of each alternative route to human/build environment, the natural environment, and engineering considerations. The alternative routes were reviewed in detail and compared using a combination of information collected in the field, Geographic Information System data sources, public and agency input, engineering and constructability considerations, and the collective knowledge and experience of the siting team.

37. Using the analysis described above, the siting team selected a proposed route that, on balance, best minimized the overall impacts of the Project. The rationale for selecting the

proposed route was derived from the accumulation of the siting decisions made throughout the process, the knowledge and experience of the siting team, comments from the public and regulatory agencies, and the comparative analysis of potential impacts of each alternative route.

38. A detailed description of the process used to select the proposed route for the project is provided in Attachment 3 to the Siting Application.

B. SELECTION OF PROPOSED LINE

39. Using the siting analysis described above, Duquesne Light identified three (3) alternative routes for the rebuild of the double-circuit BI – Crescent 138 kV Transmission Line: the Proposed Route, which extends approximately 14.5 miles and utilized existing Right-of-Way ("ROW") over its entire length; Alternative 1, which extends approximately 15.1 miles and utilizes 2.3 miles of existing ROW; and Alternative 2 which extends approximately 16.1 miles and utilizes 1.2 miles of existing ROW.

40. Duquesne Light, in conjunction with its siting consultants, undertook a detailed comparison of each Alternative. A detailed explanation of the analysis and comparison of the Alternatives is provided in Attachment 3 to this Application.

41. Duquesne Light held three (3) public open houses in February and March of 2017 and invited impacted landowners along the proposed route, advertising in local newspapers the time and location of the open house as well as using targeted internet ads. During the open house events, multiple subject matter experts from Duquesne Light and its consultants were available to explain the scope of the project, its potential impact, and the proposed schedule.

42. The Alternatives were compared and the Proposed Route was selected based upon a detailed analysis and balance of potential impacts on the human/built environment, natural environmental, and engineering and constructability considerations.

43. The Proposed Route extends approximately 14.5 miles and is primarily located in existing ROW. A general description of the proposed route is provided below:

- The route begins at the Brunot Island Substation traveling west roughly paralleling Chartiers Creek for approximately two (2) miles in a highly developed area.
- Once out of the highly developed area the route continues approximately 3.8 miles in a northwest path along an existing ROW through several residential developments.
- The route then turns to the north for approximately 0.7 miles to enter the Montour Substation the route backtracks the same 0.7-mile alignment when exiting the Montour Substation.
- The route then continues in a relatively direct northwest course along an existing ROW for approximately eight (8) miles until it reaches the Crescent Substation.

44. The Proposed Route is the shortest route, and utilizes the existing ROW thereby minimizing overall impacts and having the least environmental impact as compared to the other viable alternatives. Details of these overall impacts can be found in Attachment 3 of this Application.

45. By utilizing existing ROW, the Proposed Route minimizes the extent of tree clearing, habitat fragmentation, land use conversion, and other impacts associated with constructing a new ROW. In addition, the presence of the existing transmission structures and cleared ROW minimizes the potential for additional visual impacts associated with the construction of the new line.

46. All work areas associated with the construction of the double-circuit BI – Crescent 138 kV Transmission Line will be studied for waterbody and wetland features prior to the start of any construction.

47. Duquesne Light will obtain all necessary permits from the United States Army Corps of Engineers or the Pennsylvania Department of Environmental Protection, and will comply with all of the terms and conditions placed on any permits required.

48. Further, Duquesne Light will acquire any required soil erosion and sedimentation control permits and will comply with any conditions placed on those permits. The final design, erosion and sedimentation control measures, and construction of the double-circuit BI – Crescent 138 kV Transmission Line will minimize impacts to waterbody and wetland features to the extent feasible.

49. Duquesne Light contacted the United States Fish and Wildlife Service ("USFWS"), Pennsylvania Fish and Boat Commission ("PFBC"), Pennsylvania Game Commission ("PGC"), and Pennsylvania Department of Conservation and Natural Resources ("PADCNR") to review the proposed double-circuit BI – Crescent 138 kV Transmission Line for potential rare threatened or endangered species impacts. After reviewing the project USFWS, PGC, and PFBC reported that the project will not impact any threatened and endangered species, or special concern species and resources located within the project area. The PADCNR requested surveys for two (2) plant species, Short's Sedge (Carex shortiana) and rock skullcap (Scutellaria saxatilis) along the Preferred Route. Surveys for the two (2) plant species and coordination with the PADCNR is ongoing. The final design and construction will minimize and avoid impacts to these plant to the extent feasible.

50. Architectural and archeological consultation with the Pennsylvania State Historic Preservation Office and surveys are ongoing. The final design and construction will minimize and avoid impacts to architectural and archeological resources to the extent feasible.

51. A list of the Local, State and Federal governmental agencies and their requirements in connection with the construction or maintenance of the proposed double-circuit Brunot Island – Crescent 138 kV Transmission Line is provided in Attachment 3 to this Application.

52. Duquesne Light determined that the cumulative environmental, human/built, engineering, and constructability impacts associated with the proposed route, the Existing Alternative, will be significantly less than the other alternatives. A detailed explanation of the selection of the preferred route is provided in Attachment 3 to this Application.

V. RIGHTS-OF-WAY

53. The ROW width is generally determined by the structure type, design tensions, span length, and conductor "blowout" (the distance the wires are moved by a crosswind).

54. The ROW for the proposed double-circuit BI – Crescent 138 kV Transmission Line will be variable in width. Duquesne Light will design and construct the line to fit within the ROW while maintaining all necessary clearances.

55. The names and addresses of all known persons, corporations and other entities of record owning property along the route selected for the proposed double-circuit Brunot Island – Crescent 138 kV Transmission Line are provided in Attachment 10 to this Application.

56. There are a total of 461 deeded properties along the Proposed Route, owned by a total of 391 property owners. The Company required additional easements from 122 property owners for this Project. One hundred and twenty (120) of these easements have been obtained. At the time of this filing, new ROWs and easements are needed from several property owners.

57. Although negotiations continue with all remaining property owners, Duquesne Light is separately filing one (1) condemnation application, pursuant to 15 Pa.C.S. §1511(c), for

a finding and determination that the service to be furnished through its proposed exercise of the power of eminent domain to acquire the tracts of land for the proposed Project is necessary or proper for the service, accommodation, convenience, or safety of the public. Duquesne Light is also proceeding with negotiations regarding the acquisition by tax sale of the property traversed by the one remaining ROW.

VI. HEALTH AND SAFETY

58. The proposed Project will not create any unreasonable risk of danger to the public health or safety. The project will be designed, constructed, operated, and maintained in a manner that meets or surpasses all applicable NESC minimum standards and all applicable legal requirements.

59. Descriptions of Duquesne Light's construction, operation, maintenance and safety standards and procedures for transmission and distribution lines are provided in Attachment 11 to this Application. These standards meet or exceed all relevant NESC standards and all standards of the Federal Occupational Safety and Health Administration.

60. The project is being completed within an existing transmission line corridor. Duquesne Light will apply the Wire Zone/Border Zone management technique, which is recognized as an industry best practice to manage vegetation and ensure the safe and reliable delivery of electricity. A further description of Duquesne Light's vegetation management practices are provided in Attachment 12 to this Application.

61. Duquesne Light performed an electromagnetic field study for the proposed transmission line. A further description of Duquesne Light's electromagnetic field practices and policies are provided in Attachment 11 to this Application.

62. Duquesne Light will not impact communication towers, and will work to minimize the impact to other utilities affected by the proposed Project.

63. Several major roadways, including Route 51 and Interstate I-79, will be spanned by the various segments of the project. Pennsylvania Department of Transportation Highway Occupancy Permits or equivalent type permits will be acquired by Duquesne Light for these major highways and all other state roads prior to construction.

64. Aviation coordination will be conducted through the Federal Aviation Association ("FAA"). Duquesne Light will assure that that the pole locations and heights are properly submitted to the FAA. Duquesne Light will comply with any additional lighting or other visual aids that may be required by these agencies to assure aviation safety in the region.

65. A further description of the safety considerations which will be incorporated into the design, construction and maintenance of the proposed Project are provided in Attachment 11 to this Application.

VII. CONSTRUCTION COST AND IN-SERVICE DATE

66. Duquesne Light will own, operate, and maintain the transmission lines associated with the proposed Project. The costs for the proposed Project will be paid for by Duquesne Light.[8]

67. The estimated cost to design and construct the proposed Project using the preferred route is approximately in the range of $95 to $115 million.

68. The estimated cost for the proposed Project is an order-of-magnitude estimate developed using averages of recent costs for similar projects and without an in-depth analysis or

[8] The costs and cost recovery of this Project are subject to the regulatory jurisdiction of the Federal Energy Regulatory Commission.

field investigation. The estimated cost is subject to change as the constructability of the project, sequence of construction, and other factors that may affect cost are identified and analyzed as the project progresses.

69. The proposed Project has a scheduled construction start date of June 2020 to meet an in-service date of December 2023.

VIII. NOTICE AND SERVICE

70. Duquesne Light has provided public notices in accordance with Section 69.3102 of the Commission's Interim Siting Guidelines, 52 Pa. Code § 69.3102. The public notices for this project are provided in Attachment 13 to this Application.

71. Copies of this Application and the Notice of Filing are being served in accordance with the provisions of Section 57.74 of the Commission's regulations, 52 Pa. Code § 57.74.

72. A copy of this Application is available for public examination during ordinary business hours at Duquesne Light Company, 411 Seventh Avenue, Pittsburgh, PA 15320-1930.

73. As soon as practicable after the filing of this Application, Duquesne Light will publish notice of the filing in two (2) newspapers of general circulation in the area of the Brunot Island – Crescent 138 kV Transmission Line. This notice will: (a) note the filing with the Commission; (b) provide brief description of the project and its location; (c) provide locations where the complete application may be reviewed by the public; and (d) provide any additional information as directed by the Commission.

74. Duquesne Light also requests that the Commission publish notice of this Application in the Pennsylvania Bulletin.

IX. RELATED PROCEEDINGS

75. As noted above, simultaneous with the filing of this Siting Application, Duquesne Light is filing one (1) Condemnation Application pursuant to 15 Pa. C.S. § 1511(c) for a finding and determination by the Commission that the service to be furnished by the Duquesne Light through its proposed exercise of the power of eminent domain for the siting and construction of the 138 kV transmission lines associated with the BI – Crescent Project is necessary or proper for the service, accommodation, convenience or safety of the public. Issues relating to the need for the Condemnation Application are interrelated with this Application.

76. Pursuant to 52 Pa. Code § 57.75(i)(1), Duquesne Light requests that this related proceeding be consolidated for hearings, if necessary, and decision. Duquesne Light will file an appropriate motion to consolidate these proceedings once all docket numbers have been assigned.

X. CONCLUSION

WHEREFORE, Duquesne Light Company respectfully requests that the Pennsylvania Public Utility Commission approve the siting and constructing of the approximately 14.5 miles of overhead 138 kV transmission lines associated with the proposed Brunot Island – Crescent Project in the City of Pittsburgh, McKees Rocks Borough, Kennedy Township, Robinson Township, Moon Township, and Crescent Township, Allegheny County, Pennsylvania as explained above and in the Attachments and to this Application.

Respectfully submitted,

Tishekia Williams (PA ID # 208997)
Emily Farah (PA ID # 322559)
Duquesne Light Company
411 Seventh Avenue
Pittsburgh, PA 15230-1930

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Date: March 15, 2019

Attorneys for Duquesne Light Company

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Application of Duquesne Light Company filed	:	Docket No.A-2019-_____
Pursuant to 52 Pa. Code Chapter 57, Subchapter G	:	
For Approval of the Siting and Construction of the	:	
138 kV Transmission Lines Associated with the	:	
Brunot Island –Crescent Project in the City of	:	
Pittsburgh, McKees Rocks Borough, Kennedy	:	
Township, Robinson Township, Moon Township	:	
And Crescent Township, Pennsylvania	:	

VERIFICATION

I, Meenah Shyu, being the Manager of Civil Transmission Line Engineering at Duquesne Light Company hereby state that the facts above set forth are true and correct to the best of my knowledge, information and belief, and that I expect Duquesne Light Company to be able to prove the same at a hearing held in this matter. I understand that the statements herein are made subject to the penalties of 18 Pa.C.S. § 4904 (relating to unsworn falsification to authorities).

Date: March 15, 2019

Meenah Shyu
Manager of Civil Transmission Line Engineering

Attachment 1

ATTACHMENT 1
BI-CRESCENT PROJECT
PUC REGULATION CROSS-REFERENCE MATRIX

Administrative Code Section or Statute	PUC Regulation Requirement	Location In Filing
57.72	Form and content of application	
57.72(a)	Applications shall be in conformity with Section 1.31 (relating to form of documentary filings generally). Supporting exhibits such as maps, photographs and other engineering materials may be on paper not exceeding 28 inches by 40 inches.	Attachments 1 – 15 CONFIDENTIAL Attachment 5a – Map of Existing Facilities CONFIDENTIAL Attachment 5b – Map of Proposed Facilities Attachment 8 – Aerial Map of the Preferred Route and Alternatives Considered Attachment 8 – Topographical Map of the Preferred Route and Alternatives Considered Attachment 9 – Map of Affected Parcels and Landowners
57.72(b)	The application shall be signed by a person having authority with respect thereto and having knowledge of the matters herein set forth and shall be verified under oath.	Siting Application
57.72(c)	An application shall contain:	
57.72(c)(1)	The name of the applicant and the address of its principal business office	Siting Application
57.72(c)(2)	The name, title and business address of the attorney of the applicant and the person authorized to receive notice and communications with respect to the application if other than the attorney of the applicant.	Siting Application
57.72(c)(3)	A general description – not a legal or metes and bounds description – of the proposed route of the HV line, to include the number of route miles, the right-	Siting Application Attachment 3 – Section

Administrative Code Section or Statute	PUC Regulation Requirement	Location In Filing
	of-way width and the location of the proposed HV line within each city, borough, town and township traversed.	3.4.1 Attachment 9 Duquesne Light Stmt. No. 2
57.72(c)(4)	The names and addresses of known persons, corporations and other entities of record owning property within the proposed right-of-way, together with an indication of HV line rights-of-way acquired by the applicant.	Attachment 9 – Map of Affected Parcels and Landowners Attachment 10 – Landowner Matrix
57.72(c)(5)	A general statement of the need for the proposed HV line in meeting identified present and future demands for service, of how the proposed HV line will meet that need and of the engineering justifications for the proposed HV line.	Attachment 2
57.72(c)(6)	A statement of the safety considerations which will be incorporated into the design, construction and maintenance of the proposed HV line.	Attachment 11
57.72(c)(7)	A description of studies which had been made as to the projected environmental impact of the HV line as proposed and of the efforts which have been and which will be made to minimize the impact of the HV line upon the environmental and upon scenic and historic areas, including but not limited to impacts, where applicable, upon land use, soil and sedimentation, plant and wildlife habitats, terrain, hydrology and landscape.	Siting Application Attachment 3
52.72(c)(8)	A description of the efforts of the applicant to locate and identify archaeologic, geologic, historic, scenic or wilderness areas of significance within 2 miles of the proposed right-of-way and the location and identity of the areas discovered by the applicant.	Attachment 3
57.72(c)(9)	The location and identity of airports within 2 miles of the nearest limit of the right-of-way of the proposed HV line.	Attachment 3 – Section 4.7
57.72(c)(10)	A general description of reasonable alternative routes to the proposed HV line, including a description of the corridor planning methodology, a comparison of the merit and detriments of each route, and a statement of	Attachment 3 – Sections 3.4.1-3.4.3 and 4

	the reasons for selecting the proposed HV line route.	
57.72(c)(11)	A list of the local, State and Federal governmental agencies which have requirements which shall be met in connection with the construction or maintenance of the proposed HV line and a list of documents which have been or are required to be filed with those agencies in connection with the siting and construction of the proposed HV line.	Attachment 3 – Section 6.1
57.72(c)(12)	The estimated cost of construction of the proposed HV line, and the projected date for completion.	Siting Application Attachment 3 – Section 1.2 and 3.4.1
57.72(c)(13)	The following exhibits:	
57.72(c)(13)(i)	A depiction of the proposed route on aerial photographs and topographic maps of suitable detail.	Attachment 7 Attachment 8
57.72(c)(13)(ii)	A description of the proposed HV line, including the length of the line, the design voltage, the size, number and materials of conductors, the design of the supporting structures and their height, configuration and materials of construction, the average distance between supporting structures, the number of supporting structures, the line to structure clearances and the minimum conductor to ground clearances at mid-span under normal load and average weather conditions and under predicted extreme load and weather conditions.	Siting Application Attachment 11 Duquesne Light Stmt. No. 3
57.72(c)(13)(iii)	A simple drawing of a cross section of the proposed right-of-way of the HV line and any adjoining rights-of-way showing the placement of the supporting structures at typical locations, with the height and width of the structures, the width of the right-of-way and the lateral distance between the conductors and the edge of the right-of-way indicated	Attachment 4
57.72(c)(13)(iv)	A system map which shows in suitable detail the location and voltage of existing transmission lines and substations of the applicant and the location and voltage of the proposed HV line and associated substations.	CONFIDENTIAL Attachment 5a CONFIDENTIAL Attachment 5b
57.72(c)(14)	A statement identifying litigation concluded or in progress which concerns property or matter relating to the proposed HV line, right-of-way route or	Siting Application

	environmental matters.	
57.72(c)(15)	Additional information as the Commission may require.	
57.74(a)	(a) *Filing.* The applicant shall file with the Commission the original and six copies of the application. An affidavit of service showing the identity of those served under subsections (b) and (c) shall accompany the original and the copies of the application filed with the Commission.	Notice of Filing Certificate of Service
57.74(b)	(b) *Copies.* At the time of filing, the applicant shall serve a copy of the application by registered or certified mail, return receipt requested, upon the following: (1) The chief executive officer, the governing body and the body charged with the duty of planning land use in each city, borough, town, township and county in which any portion of the HV line is proposed to be located. (2) The president of the public utility, other than the applicant, in whose service territory any portion of the HV line is proposed to be located. (3) The Department of Environmental Resources, Attention: Bureau of Environmental Planning; Post Office Box 2357, 101 S. Second Street, Harrisburg, Pennsylvania, 17120. (NOTE: now Department of Environmental Protection at different Harrisburg office).	Certificate of Service
57.74(c)	(c) *Notice.* (1) At the time of filing, the applicant shall serve a notice of filing and a map of suitable detail showing the proposed route of the proposed facility by registered or certified mail, return receipt requested, upon the following: (i) The Secretary of the Department of Transportation, Room 1200 Transportation and Safety Building, Harrisburg, Pennsylvania 17120. (ii) The Chairman of the Historical and Museum Commission, Post Office Box 1026, Harrisburg, Pennsylvania 17120. (iii) Other local, State or Federal agencies designated in § 57.72 (c)(11)(relating to form and content of application). (iv) The persons, corporations, and other entities designated in § 57.72(c)(4), unless they are served with a copy of the application under § 57.75(i) (relating to hearing and notice).	Notice of Filing Attachment 10 Certificate of Service

57.74(c)	(2) The notice of filing shall contain a statement identifying the filing, the date on which the filing was or is to be made, a description of the proposed line, the design voltage, the number of route miles, the right-of-way width and the location of the proposed HV line within each township traversed and a statement that a copy of the application is available for public examination as provided in subsection (d).	Notice of Filing Siting Application Attachment 9
57.74(d)	(d) *Examination.* On the day of filing of the application, the applicant shall make a copy of the application available for public examination during ordinary business hours at a convenient location within a county in which any part of the proposed HV will be located.	Siting Application Notice of Filing
57.74(e)	(e) *Additional notice.* The applicant shall provide an additional notice and shall serve such additional copies of the application without cost as the Commission may require.	N/A
69.1101	To further the State's goal of making State agency actions consistent with sound land-use planning, and under the act of June 22, 2000 (P. L. 483, No. 67) and the act of June 23, 2000 (P. L. 495, No. 68), the Commission will consider the impact of its decisions upon local comprehensive plans and zoning ordinances. This will include reviewing applications for: (1) Certificates of public convenience. (2) Siting electric transmission lines. (3) Siting a public utility "building" under section 619 of the Municipalities Planning Code (53 P. S. § 10619). (4) Other Commission decisions.	Attachment 3 Duquesne Light Stmt. No. 2
69.3102(a)	(a) Applications for electric transmission siting authority should provide the following information with the initial application for siting approval demonstrating its efforts to fully notify landowners who are either owners of land that will be purchased for the transmission project or will be subject to right of way/easement requirements: (1) A Code of Conduct/Internal Practices governing the manner in which public utility employees or their agents interact with landowners along proposed rights	Attachment 13

	of way. (2) Copies of information provided to landowners by the public utility of any publicly disseminated notices advising landowners to contact the Commission or the Office of Consumer Advocate (OCA) in the event of improper land agent practices. (3) Copies of all notices sent under § 57.91 (relating to disclosure of eminent domain power of electric utilities).	
69.3102(b)	(b) Applicants for transmission siting authority should serve a copy of the Code of Conduct on all landowners along the proposed route whose property is to be purchased, subject to easement rights or borders the transmission corridor. The Code of Conduct should also be available on the applicant's website.	Attachment 13
69.3102(c)	(c) Applicants for transmission siting authority should provide prior notice to the Commission's Office of Communications of informational presentations to community groups by the public utility scheduled after the filing of the transmission siting application so that the Commission, OCA and other interested parties can attend meetings or obtain copies of information being disseminated at the presentations.	N/A
69.3103	Applicants for eminent domain authority should follow the following requirements and provide the following information as part of the application: (1) Applicants for transmission siting authority should file applications for all known eminent domain authority as separate filings, but simultaneously with the associated transmission siting applications. Testimonial evidence in support of an eminent domain application should be filed with the application. Subsequent eminent domain authority applications should be filed as soon as reasonably known during the course of the transmission siting application. (2) As part of an eminent domain application, the public utility applicant should present, for those properties subject to condemnation at the time the transmission siting application is filed or later in the siting proceeding, the reason for the exercise of condemnation power for each property and the precise location of the affected property. Supporting maps or	Condemnation Applications

	legal descriptions of the property to be condemned should be supplied to the extent feasible. Submission of information pursuant to this guideline should be consistent with the filing requirements for the exercise of eminent domain powers under 26 Pa.C.S. § 302(b)(5) (relating to declaration of taking). (3) A public utility transmission siting application should include a summary status report for those properties along the proposed transmission route where negotiations for either property acquisition or rights of way/easements may be ongoing. This information should be supplemented as requested by the administrative law judge or the parties during the course of the transmission siting proceeding.	
69.3104	Applications for exemption from municipal zoning requirements should provide the following information with the application: (1) Copies of comprehensive land use plans, zoning ordinances and other documentation relevant to the buildings affected by the exemption request. This information may be filed in either hard copy or electronic format. (2) Provision of metes and bounds or site maps of building sites. (3) A procedure for providing notice to affected municipalities of the request for exemption.	N/A
69.3105(1)	Applications for the siting of electric transmission lines should provide the following information as part of the § 57.72(c) (relating to form and content of application) requirements: (1) Transmission applicants should utilize a combination of transmission route evaluation procedures including high-level GIS data, traditional mapping (including United States Geological Survey data and compilation), aerial maps and analysis of physical site specific constraints raised by affected landowners.	Attachment 3 Attachment 7 Attachment 8 Attachment 9
69.3105(2)	Applications for the siting of electric transmission lines should provide the following information as part of the § 57.72(c) (relating to form and content of application) requirements:	Siting Application

	(2) Transmission applicants should summarize the status of property acquisitions (including fee simple acquisitions and rights of way/easements) as part of the application. The applicant should provide the current status and continuing updates on property acquisition litigation or settlements during the course of the siting proceeding.	
69.3105(3)	Applications for the siting of electric transmission lines should provide the following information as part of the § 57.72(c) (relating to form and content of application) requirements: (3) In providing information regarding the reasonable alternative routes, the utility actively considered in its final phase of the route selection process, and the relative merits of each, in accordance with § 57.72(c)(10), the applicant should include the following information: (i) The environmental, historical, cultural and aesthetic considerations of each route. (ii) The proximity of these alternative routes to residential and nonresidential structures. (iii) The applicant's consideration of relevant existing rights of way. (iv) The comparative construction costs associated with each route.	Attachment 3 Duquesne Light Stmt. No. 2
69.3106	Applications for siting of electric transmission lines should include as part of the filing requirement under § 57.72(e)(7) the following information: A matrix or list showing all expected Federal, state and local government regulatory permitting or licensing approvals that may be required for the project at the time the application is filed, the issuing agency, approximate timeline for approval and current status. The applicant should provide an update on the status of the regulatory permitting/licensing approvals as the case progresses.	Attachment 3 – Section 6.1
69.3107(a)	(a) *Interim guidelines for the use of herbicides and*	Attachment 12

	pesticides. Applicants for transmission line siting authority should provide a detailed vegetation management plan that includes the following components: (1) A general description of the utility's vegetation management plan. (2) Factors that dictate when each method, including aerial spraying, is utilized. (3) Vegetation management practices near aquatic and other sensitive locations. (4) Notice procedures to affected landowners regarding vegetation management practices. (5) Provision of a copy of a landowner maintenance agreement that describes the duties and responsibilities of landowners and the utility for vegetation management to the extent utilized.	
69.3107(b)	(b) *Interim guidelines for Electromagnetic Field (EMF) impacts.* Transmission siting applications should include the following: A description of the EMF mitigation procedures that the utility proposes to utilize along the transmission line route. This description should include a statement of policy approach for evaluating design and siting alternatives and a description of the proposed measures for mitigating EMF impacts.	Attachment 11

Attachment 2

ATTACHMENT 2
BRUNOT ISLAND-CRESCENT PROJECT
NECESSITY STATEMENT

1. Introduction

Duquesne Light Company ("Duquesne Light" or the "Company") proposes to site and rebuild the Brunot Island – Crescent 138 kV Transmission Corridor in City of Pittsburgh, McKees Rocks Borough, Kennedy Township, Robinson Township, Moon Township, and Crescent Township, Allegheny County, Pennsylvania; (collectively, the "Project"). The Brunot Island – Crescent 138 kV Transmission Corridor is presently comprised of double-circuit lattice towers operating at 138 kV. There are four (4) distinct 138 kV circuits located within this corridor: Crescent – Montour (Z-24), Brunot Island – Sewickley (Z-43), Brunot Island – Montour (Z-44) and Crescent – Sewickley (Z-143). Additional details of the present and proposed configurations can be found in Attachment 6 to the Siting Application. The Project involves the reconstruction of approximately 14.5 miles of 138 kV transmission line between the Brunot Island Substation located in the City of Pittsburgh and the Crescent Substation located in Crescent Township. The transmission line will be reconstructed as a double-circuit transmission line with one circuit designed to 138 kV standards and the other circuit designed to 345 kV standards. For additional explanation of the 345 kV design refer to the Direct Testimony of Jason A. Harchick (Duquesne Light Statement No. 1) and Meenah Shyu (Duquesne Light Statement No. 3).

The Project is required to replace transmission equipment which is approaching end of life and located in areas prone to landslides in order to maintain reliable electric service

of the Bulk Electric System and for approximately 64,500 customers which receive electric service directly from the substations connected by the Project. On March 31, 2018, a landslide occurred along the tower line and resulted in damage to four (4) transmission structures, including one collapse, and an interruption to the Crescent-Montour (Z-24) and Brunot Island-Sewickley (Z-43) transmission circuits. The Project will also allow for an increase in the capacity of the transmission system and position the transmission system for additional load growth.

The estimated cost to site, design, and construct the Project is in the range of $95 – $115 million. Subject to the Commission's approval, construction is scheduled to begin in June 2020, to support the Project's scheduled in-service date of December 31, 2023.

2. Asset Management Process

Duquesne Light's Asset Management process includes maintenance programs associated with inspection and replacement of its assets, including transmission lines. These maintenance programs ensure prudent repair and replacement of assets to maintain the reliability of the Duquesne Light system by proactively preventing equipment failures. Duquesne Light performs ground and aerial inspections of its transmission lines each on a five (5) year rotation. In 2012, Duquesne Light contracted an independent structural engineering consultant to perform a below grade inspection to determine grillage foundation member adequacy on this particular line.

3. System Planning Process

System planning is the process which assures that transmission and distribution systems can supply electricity to all customer loads reliably and economically. The reliable and economical operation of transmission and distribution systems requires planning guidelines for system expansion and reinforcement.

As a transmission owner operating in Pennsylvania, Duquesne Light is a member of PJM Interconnection, L.L.C. ("PJM"). PJM is a Federal Energy Regulatory Commission ("FERC") approved Regional Transmission Organization ("RTO") charged with ensuring the reliable and efficient operation of the electric transmission system under its functional control, and coordinating the transmission of electricity in all or parts of Delaware, Illinois, Indiana, Kentucky, Maryland, Michigan, New Jersey, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia and the District of Columbia. In order to ensure reliable transmission service, PJM prepares an annual Regional Transmission Expansion Plan ("RTEP"). The North American Electric Reliability Corporation ("NERC"), PJM, and transmission owner reliability criteria are used by PJM and the transmission owners to analyze the system and determine if specific transmission upgrade projects are needed to ensure long-term reliable electric service to customers.

PJM's RTEP process is currently set forth in Schedule 6 of PJM's Amended and Restated Operating Agreement ("Schedule 6"). The RTEP is an annual planning process that encompasses a comprehensive series of detailed analyses to ensure electric power continues to flow reliably to customers under stringent reliability planning criteria. PJM Manual 14B outlines the RTEP process and reliability criteria used for this reliability

process. The Company implements PJM's reliability and planning mandates in part through the Duquesne Light Company Transmission Planning Criteria document ("Planning Criteria"), which was developed to ensure adequate and appropriate levels of electric service to its customers consistent with good utility practice. Duquesne Light's reliability and planning standards are set forth in its FERC Form No. 715 annual report. The fundamental purpose of the Planning Criteria is to provide Duquesne Light planning engineers with a comprehensive set of planning criteria that enable them to plan for a reliable system for Duquesne Light's customers. Duquesne Light's Planning Criteria are consistent with good utility practices and with the reliability criteria and standards used by similarly situated distribution and transmission utilities. For example, the PJM and Duquesne Light Planning Criteria generally provide that the Transmission System should be designed so that:

(i) Normal operation of the system will not load any electric facility beyond its normal continuous rating.

(ii) The loss of any single transmission line, generating unit, power transformer, substation bus, circuit breaker, or double-circuit line due to the outage of a single tower or pole, does not result in any system electric facility being operated beyond its applicable emergency rating.

(iii) The loss of any single facility should not result in a voltage drop of more than 5% on the transmission system.

(iv) The Duquesne Light transmission system relies on underground cables to supply the City of Pittsburgh. Underground cable outages could be long in duration and therefore, the remainder of the system should continue to

operate reliably and within its normal rating limits following such events. Duquesne Light plans transmission solutions so that no loss of load occurs following an N-2 contingency supporting the City of Pittsburgh.

(v) Once a bulk power substation exceeds or is projected to exceed 100 MVA the station will require three (3) transmission sources.

Using the Planning Criteria, Duquesne Light's transmission system is planned so that it can be operated at all projected load levels and during normal scheduled outages. The system is also planned to withstand specific unscheduled contingencies without exceeding the equipment capability, causing system instability or cascade tripping, exceeding voltage tolerances, or causing large-scale, long term or frequent interruptions to customers. The planning process begins with the development of a computer model of the future system. Once the system model is complete, comprehensive power flow simulations and contingency analyses are performed to determine the ability of the system to comply with the Duquesne Light transmission planning and reliability criteria set forth in the Planning Criteria. All conditions where the system is not in conformance with the Planning Criteria are identified, and system reinforcement alternatives are added to bring the system into compliance. Also identified are estimated costs and lead times to implement the reinforcements under consideration. Computer simulations of the system with the identified reinforcement alternatives are completed to identify the best overall reinforcement that will meet the needs of the area in a reliable and economical manner. Finally, all reinforcements are reviewed with stakeholders at either PJM's Transmission

Expansion Advisory Committee ("TEAC") or Sub-Regional Transmission Expansion Plan ("SRRTEP") meetings.

4. Definition of the Problem

Structures associated with the Project were originally constructed in 1914. Duquesne Light has performed structural evaluations and determined that the structures are approaching end of useful life. These structural evaluations were performed by an engineering consultant with experience in transmission line design, modeling, and structural analysis. Based on current condition, below grade section losses, and Power Line Systems – Computer Aided Design and Drafting ("PLS-CADD") modeling at current design codes, all results indicate these structures are beyond permanent repair and require replacement. Temporary repairs have been made to certain facilities to ensure reliable service until new replacement structures can be installed.

On March 31, 2018, a landslide occurred along the tower line and resulted in one transmission structure to collapse, damage to adjacent transmission structures, and an interruption to the Crescent-Montour (Z-24) and Brunot Island-Sewickley (Z-43) transmission circuits. As a result, four transmission structures were replaced with temporary emergency structures in the spring of 2018, each consisting of two directly embedded galvanized steel monopoles to reenergize these transmission circuits. The Project will install permanent transmission structures in place of the temporary emergency transmission structures.

5. System Planning Studies

While the primary driver for this project is to replace aging transmission system infrastructure, other benefits can be achieved by reconstructing as a double-circuit transmission line with one circuit designed to 138 kV standards and the other circuit designed to 345 kV standards.

Transmission system studies have shown that certain contingency situations involving various 345 kV circuits within the Duquesne Light service area, result in transmission facilities to approach their thermal and voltage limits. Specifically, contingencies involving Duquesne Light 345 kV circuits produce high voltage across portions of the transmission system which would be reduced if the new Brunot Island – Crescent 138 kV circuit were energized to 345 kV.

Duquesne Light has also performed sensitivity studies to analysis the impact to the transmission system from higher than forecasted load growth and unavailability of generation which identify contingency situations that result in transmission facilities exceeding their thermal and voltage tolerances. These sensitivity studies are beyond the criteria defined within NERC reliability standard TPL-001, PJM Planning Criteria, and Duquesne Light Planning Criteria. The thermal and voltage issues identified across portions of the transmission system which would be mitigated if the new Brunot Island – Crescent 138 kV circuit were energized to 345 kV.

6. Proposed Solution

Duquesne Light proposed to address the issues illustrated above by reconstructing approximately 14.5 miles of 138 kV transmission line between the Brunot Island Substation and the Crescent Substation. The transmission line will be reconstructed as a double-circuit transmission line with one circuit designed to 138 kV standards and the other circuit designed to 345 kV standards. While one circuit will be designed for 345 kV standards, Duquesne Light is proposing to operate both circuits at 138 kV until load growth or other system conditions makes it necessary to increase the voltage of the second circuit and necessary approvals are acquired. Maps of Duquesne Light's existing and proposed transmission facilities are included as CONFIDENTIAL Attachments 5a and 5b, respectively, to the Siting Application. One line diagrams of Duquesne Light's existing and proposed transmission facilities are included as Attachment 6 to the Siting Application.

The proposed Project involves the replacement of some of Duquesne Light's oldest in-service steel lattice towers which are approaching end of useful life. The proposed Project will support reliable electric service of the Bulk Electric System, increase the capacity of the transmission system, and position the transmission system for additional load growth.

This Project was reviewed by PJM stakeholders and included in PJM's Regional Transmission Expansion Plan with the project designation s0320 and s0320.1.

Attachment 3

Environmental Assessment and Line Route Siting Study

Duquesne Light Company
Brunot Island - Crescent 138 kV Transmission Line Rebuild
Allegheny County, Pennsylvania

GAI Project Number: C120473.13, Task 003
June 2018

Prepared by: GAI Consultants, Inc.
Pittsburgh Office
385 East Waterfront Drive
Homestead, Pennsylvania 15120-5005

Prepared for: Duquesne Light Company
2825 New Beaver Avenue
Pittsburgh, Pennsylvania 15233

Environmental Assessment and Line Route Siting Study

Duquesne Light Company
Brunot Island - Crescent 138 kV Transmission Line Rebuild
Allegheny County, Pennsylvania

GAI Project Number: C120473.13, Task 003

June 2018

Prepared for:
Duquesne Light Company
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1.0 Introduction

1.1 Project Overview

Duquesne Light Company (Duquesne Light or the Company Duquesne Light) proposes to rebuild and reconductor an existing double-circuit 138 kilovolt (kV) transmission line located in City of Pittsburgh, McKees Rocks Borough, Robinson Township, Moon Township, and Crescent Townships, Allegheny County, Pennsylvania (PA). The Brunot Island - Crescent 138 kV Transmission Line (Project) connects the existing Brunot Island Substation in the City of Pittsburgh (Pittsburgh) and the existing Crescent Substation in Crescent Township, approximately 14.5 miles to the northwest. In addition, the Brunot Island - Crescent 138 kV Transmission Line will tie into the existing Montour Substation along its route. The Project is designed with a typical right-of-way (ROW) of 150 feet wide, centered on the transmission line. The need for the proposed Project is further explained in Attachment 2 to the application filed with the PA Public Utility Commission (PAPUC or Commission).

1.2 Project Timeline and Overview of Regulatory Approvals

Duquesne Light initiated the transmission line siting process in 2015. Three initial potential routes were developed. Public workshops were held on February 21, 2017, February 28, 2017, and March 2, 2017 to present the three alternative routes to the public and encourage public comments. Based on this siting study, the Proposed Route was selected. Construction of the Project is scheduled to begin in June 2020 with an in service date of December 31, 2023.

The PAPUC has jurisdiction over high voltage electric transmission lines and must approve the siting of the proposed Project (52 Pa. code Chapter 57). Regulatory requirements

pertaining to the selection of a route for a new high voltage transmission line were incorporated into the study. Chapter 57, Subchapter G contains the PAPUC requirements for documenting the siting and environmental studies which must be conducted to determine potential Project impacts. This Environmental Assessment and Line Route Siting Study is being provided in compliance with section 57.72 (c) (7 through 10) of the PAPUC regulations. Specifically, this report includes a description of the corridor planning and selection methodology, and discusses the reasonable alternatives that were investigated for the selection of the Proposed Route required by the PAPUC regulations.

1.3 Goal of the Siting Study

The goal of the siting study was to select a 150-foot-wide Proposed Route between the Brunot Island Substation and the Crescent Substation that tied into the Montour Substation along the route. Furthermore, the goal was to establish alternative routes for evaluation that are environmentally sound, feasible from an engineering and economic perspective, and compliant with applicable regulations. Environmental soundness includes minimizing environmental impacts while maximizing siting opportunities (ex. paralleling an existing right-of-way). Engineering and economic feasibility includes minimizing engineering constraints, cost, and distance of the route. The analysis also sought to minimize the alternative route overlap to adhere to the PAPUC regulations (52 PA Code 57.1) that define an alternative route as "*a reasonable right-of-way which includes not more than 25 percent of the right-of-way of the applicant's proposed route.*"

To meet the goal of the siting study, the Project study area was examined for constraints and opportunities in order to develop alternative routes, analyze impacts associated with the alternative routes, and select a preferred alternative. The Proposed Route is the route that, when considering all the constraints and opportunities, best minimized the overall impacts of the Project. This report describes the alternative route identification, analysis, and selection process for the proposed Project.

2.0 Route Development and Siting Process

2.1 Route Development Process Summary/Methodology

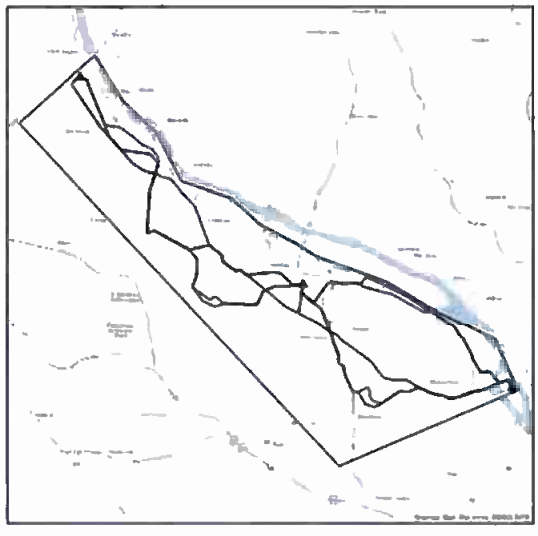
The initial step in route development is to define a Study Area which includes the Project end points (the existing Brunot Island Substation and the existing Crescent Substation), the mid route tie in (the existing Montour Substation), and a large enough area to develop alternative routes. The next step is to utilize publically available data to identify large area constraints (e.g., parks, urban areas) and opportunities (e.g., existing ROWs). The routing team then identifies, at a high level, possible alignments within the study area to develop the Preliminary Routes. The routing team then collects information to review the Preliminary Routes for viability, and modifies or eliminates Preliminary Routes until only the most suitable routes remain. These suitable routes are then compared as the Alternative Routes. The potential impacts of the Alternative Routes to land use, environmental and cultural resources, and engineering concerns are then evaluated and compared among the Alternative Routes. The Alternative Route that, on balance, best avoids or minimizes overall impacts to environmental and human/built resources and minimizes unreasonable design criteria and cost is then selected

as the Preferred Alternative. The routing steps are illustrated in Figure 1.

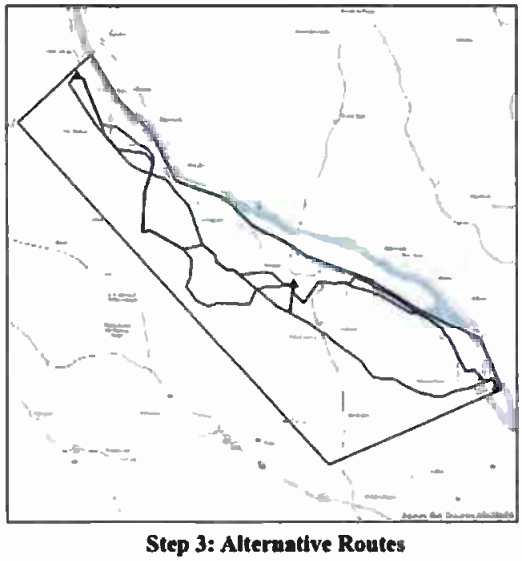
Figure 1

Routing Steps

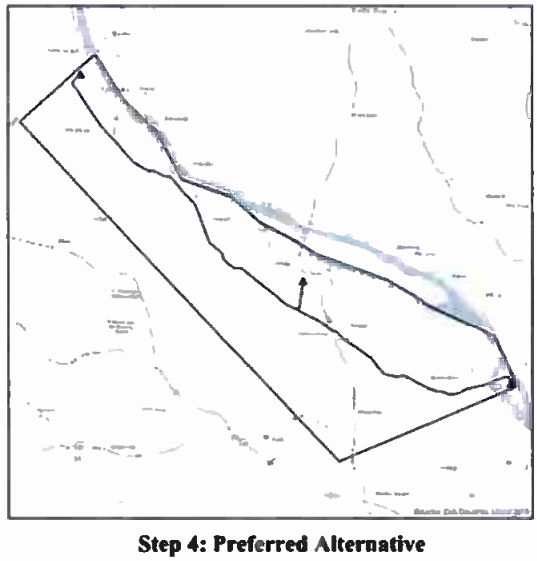
Step 1: Define Study Area



Step 2: Preliminary Routes



Step 3: Alternative Routes



Step 4: Preferred Alternative

2.2 Data Collection

2.2.1 Geographic Information System Data Collection

The route development and siting process relies heavily on publically available Geographic Information System (GIS) data from federal state and local government agencies. GIS information is an effective way to develop and inventory environmental information and characterize landscape level constraints and opportunities that can then be used to evaluate and compare the routes. A list of the GIS sources used in the route development and siting process is provided in the table below.

Table 2.2-1

GIS Data Sources

Category	Data Source
Aerial Imagery	
Aerial Imagery	Imagery was utilized from the following sources ESRI World Imagery, NAIP, 2015, Accessed 02/2017 and Google Earth.
Hydrology	
Rivers and Lakes	The National Hydrography Dataset (NHD) is a comprehensive set of digital spatial data prepared by the United States Geological Survey (USGS) and United States Environmental Protection Agency that contains information about surface water features such as lakes, ponds, streams, and rivers.
Water Quality Designations	CH 93 Designated Use, PA Department of Environmental Protection, Penn State Institutes Of The Environment, Research Triangle Institute, 2016. This information was used to evaluate exceptional value and high quality streams.

Table 2.2.1 (Continued)

Category	Data Source
Hydrology (Continued)	
Wetlands	National Wetland Inventory (NWI), United States Fish and Wildlife Service (USFWS), 2016. The NWI produces information on the characteristics, and extent of the Nation's wetlands and deep-water habitats, this information is used to review general wetland distributions.
100 Year floodplain	Data was obtained from National Flood Hazard Layer, Federal Emergency Management Agency, PA, 2016.
Conservation and Recreational Lands	
Recreational Areas	Data was digitized from ESRI Aerial Imagery and Google Earth Imagery.
State Parks, Forests, and Game Lands	Data for State parks and state forests were obtained from PA Department of Conservation and Natural Resources (PADCNR) (2015) and data for state game land was obtained from PA Game Commission (PGC) (2016).
Hiking and Biking Trails	Data was obtained from, Explore PA Trails, PADCNR, (2016).
Easements	Data was obtained from National Conservation Easement Database, United States Department of Agriculture/Natural Resource Conservation Service, 2015.
Land Trust Protected Areas	Data was obtained from Allegheny County GIS Department, 2010.
Human Environment	
Institutional structures	Hospitals, Schools, and Churches, were obtained from ESRI & Tomtom, Obtained Through ESRI ARCGIS Online, Accessed 02/2017.
Residential and commercial Buildings	Data was digitized from aerial imagery and field observations.
Parcel Boundaries and Ownership	Obtained from Allegheny County Parcel Data, Allegheny County GIS Department, 2016.

Table 2.2-1 (Continued)

Category	Data Source
Human Environment (Continued)	
Cemeteries	Data was digitized from aerial imagery and field observations.
Airfields and Heliports	Obtained Through ESRI ARCGIS Online, Accessed 02/2017.
Transportation	Obtained from World Transportation, ESRI, Delorme, Here, Mapmyindia, Tomtom, © Openstreetmap Contributors, And The GIS User Community, Obtained Through ESRI ARC GIS Online, Accessed 02/2017.
Existing Transmission Lines and Substations	Existing Transmission Line and Substation information provided by Duquesne Light and digitized based on aerial imagery.
Cultural Resources	
Architectural, Historical, and Archeological Sites and Districts	Obtained from the Cultural Resources Geographic Information System map-based inventory of the historic and archaeological sites and surveys stored in the files of the PA State Historic Preservation Office, Accessed 05/2015.
Land Use	
Land Use and Cover	Data was digitized from aerial imagery and field observations
Sensitive Species	
Rare, Threatened, and Endangered Habitat	Digitized From The PA Natural Heritage Program, Conservation Explorer Web Map, Accessed 2016.
Geology	
Steep slope	Steep slope was calculated in GIS using Digital Elevation Modeling downloaded from PA State Data Access 2016
Landslide Prone area	Obtained from Allegheny County GIS Department, 2016.

2.2.2 Field Reviews

Routing team members conducted field reconnaissance in May and June of 2015 to update data available for resources in the vicinity of each of the Alternative Routes. The field reconnaissance was limited to publicly accessible areas such as road crossings and public lands. Once the Proposed Route was selected, a detailed field review was conducted in 2016 and 2017 and included stream and wetland delineation, cultural resources study, constructability review, rare threatened and endangered species review, and coordination with property owners.

2.2.3 Federal, State and Local Government Coordination

The routing team contacted various federal, state, and local agencies to inform them of the Project and requested information to be used during the route development and siting process.

The PA Historical and Museum Commission's (PHMC) [also referred to as the PA State Historic Preservation Office (SHPO)] Cultural Resources Geographic Information System (CRGIS) database was reviewed for previously recorded cultural resources, including National Register of Historic Places (NRHP)-listed historic properties, previously recorded archaeological sites, and previously recorded architectural and historical resources mapped within two miles of the Project area. Furthermore, the PHMC was contacted in December 2015, and asked to review the Proposed Route for impacts to known historic and/or archeological resources. PHMC responded that the potential routes had the potential to impact archaeological and

historical resources and requested a Phase 1 archaeological survey and preliminary review of historic buildings, structures, and districts before the project was finalized.

The Online PA Natural Diversity Index (PNDI) Online Map Explorer was used to review the USFWS, PADCNR, PGC, and PA Fish and Boat Commission (PFBC) databases for potential impacts to RTE species. Consultation letters were sent to USFWS, PADCNR, PGC, and PFBC in October of 2015 for review of the Proposed Route. The PADCNR requested surveys for two plant species, Short's Sedge (*Carex shortiana*) and rock skullcap (*Scutellaria saxatilis*) along the Proposed Route. USFWS requested evaluation of the impact of the Proposed Route on a known bald eagle nest site.

Meetings and coordination with local municipalities were conducted by Duquesne Light during the route siting process.

2.3 Siting Guidelines

The siting guidelines were developed based upon the Commission regulations, public input, the resource agency permitting requirements, engineering requirements and economic feasibility. The siting guidelines include both siting opportunities and siting constraints. Siting opportunities are locations representing land use and environmental resources, which are compatible with the safe, economical, and reliable construction and operation of a 138 kV transmission line. Constraint areas represent locations where a 138 kV transmission line might have a potential adverse impact on sensitive resources or locations where conditions might affect reliable and safe operation or economical construction of the line. The siting guidelines

are presented in Table 2.3-1. The siting guidelines are reflected in the resource criteria used to compare alternative routes, which are described in more detail in Section 4.

Table 2.3-1

Siting Opportunities and Constraints

Siting Opportunities	Siting Constraints
• Parallels existing electric transmission line ROW • Parallel pipeline ROW • Parallel railroad ROW • Open, uninhibited privately owned terrain, including farmland • Short, direct routes	• High density population areas, including commercial, residential, and institutional areas • Recreational lands including: State Parks, Local recreational Areas, and Hiking and Biking Trails • Conservation Areas including: State Forest, State Game Land, National Natural Landmarks, Designated Natural Areas, Wilderness Areas, Core Rare, Threatened, and Endangered (RTE) Habitats, Land Trust Protected Areas, and Unique Geological Resources • Sensitive Natural Areas including: Designated Scenic Areas, National Wild and Scenic Rivers, Exceptional Value Stream, State Scenic Rivers, Streams, and Wetlands • Cultural Resources including: Historic Sites, Cemeteries, and Archaeological Sites • Engineering constraints including: highway, railroad and road crossings, steep terrain, and landslide-prone areas • Airports • Forest land

2.4 Public Involvement in Siting Process

Three public workshops were held to present the three alternative routes to the public and encourage public comments. An advertisement was run in the Post Gazette and letters

were mailed to the property owners that could be affected by the routes and to local government officials of communities where the Project is located. The public workshops were held on February 21, 2017, February 28, 2017, and March 2, 2017 and attendees were encouraged to fill out comment cards. The public workshops received a total of 36 attendees, and 15 comments were received at the public workshops. Most comments were in regards to alignment changes to minimize the impact to those individual's property; one comment card was received at the workshop with concerns for the effect of the transmission line on the resale value of their home and health effects. In addition to the public workshop notification, the newspaper add encouraged those that could not attend to contact DLC via email or mail with comments or concerns regarding the Project. A website was also set up with Project information and targeted internet ads were used to notify individuals potentially impacted by the project. On the website, the public was also encouraged to provide comments or concerns regarding the Project. DLC received comments from the website, largely regarding vegetation management practices and property use during construction.

Furthermore, during the siting process Duquesne Light has worked with individual property owners to accommodate the property owners' requests to the extent practical.

3.0 Alternative Route Identification

3.1 Project Study Area Description

The initial step in the route development process involved the identification of a study area boundary. This was established to include the existing substations, existing Duquesne Light transmission line corridors to allow for opportunities to parallel existing ROWs, and the

intervening areas. The northern limits of this study area were defined to avoid the Ohio River. The southern limits of the study area were defined to avoid close proximity to the Pittsburgh International Airport. The eastern limit and western limit of the study area were defined based on the location of the existing Brunot Island Substation and existing Crescent Substation, respectively. This study area, as shown on Figure 2, incorporates an approximately 34.1-square-mile area in Allegheny County, PA.

3.2 Constraints and Opportunities

Resource Evaluation Criteria were developed in order to compare the suitability of the alternative routes. These criteria consist of 30 resource categories. The resource categories were chosen based on federal and state requirements, their sensitivity to impact by electric transmission lines, and sources of data available.

The resource categories were evaluated at multiple distances from the alternative route centerlines depending on the level of sensitivity. Evaluations include the proposed alternative ROW; the area adjacent to the proposed ROW (including sensitive resources that are in view); and a four-mile-wide corridor including the area two miles on either side of the centerline of each ROW. The four-mile corridor was used to evaluate potential impacts on archaeological and historic resources, scenic areas, unique geologic areas, wilderness areas and airports. GAI examined 30 environmental and human/built resource criteria to determine impacts for the three alternatives. The 30 resource criteria were based on PAPUC regulations as well as traditional environmental impact assessment criteria. The 30 resource criteria used in the evaluation to select the preferred alternative are briefly described as follows:

- **State Park.** These areas are multiple-use lands owned and maintained by the PADCNR.
- **State Forests.** These areas offer recreational opportunities and are protected by the PADCNR.
- **State Game Lands.** These areas are set aside for public hunting and game propagation and are protected by the PGC.
- **Other Recreational Areas.** These areas include county and local parks, as well as golf courses, playgrounds, and athletic fields that were not associated with a school or other institutional complex that could be identified from Google Earth, USGS maps, and aerial photography.
- **National Natural Landmarks.** These areas are listed on the National Registry of Natural Landmarks maintained by the National Park Service and represent outstanding natural areas or geologic features.
- **Designated Natural Areas/Wilderness Areas.** Designated Natural Areas are areas recognized for their special natural features and are identified and/or protected by the PADCNR or by non-profit conservation organizations. Wilderness areas are federal lands protected by the Wilderness Act.
- **Core RTE Habitat.** These areas, identified by the PADCNR, are most closely associated with the habitat of a species of concern. These areas can support little disturbance without adversely affecting the habitat of the species of concern. Species of concern include those species listed as endangered,

threatened, candidate, and extirpated.

- **Land Trust Protected.** These areas are set aside for conservation and protected by a conservation easement.
- **Unique Geologic Resources.** These features offer outstanding scenic, educational, or scientific resources and are identified in several publications of the PADCNR and by the PA Natural Heritage Inventory.
- **Historic Sites.** These sites include previously recorded National Register of Historic Places (NRHP)-listed, eligible, and unevaluated architectural resources identified through review of the PA State Historic Preservation Office's online cultural resources GIS system.
- **Cemeteries.** These areas were identified from Google Earth and aerial photography.
- **Designated Scenic Areas.** Although not necessarily protected, these areas have scenic and natural significance, and are listed in a variety of publications. Some areas are located in state parks.
- **National Wild and Scenic Rivers/Exceptional Value Stream.** National Wild and Scenic Rivers have received national recognition as components of the National Wild and Scenic Rivers System for their recreational and scenic value. Exceptional Value Streams have elevated water quality protection criteria due to the excellent water quality found within them. These streams have additional permitting or construction conditions for activities conducted in these locations.

- **State Scenic Rivers.** These streams are components of the PA Scenic Rivers Program administered by the PADCNR.
- **Exceptional Value Streams.** These streams have elevated water quality protection criteria due to the excellent water quality found within them. These streams typically have additional permitting or construction conditions for activities conducted in these locations.
- **Hiking and Biking Trails.** Includes trails officially recognized by federal, state, or local government agencies, or recognized in published guidebooks. Although these are linear resources that can easily be spanned by the transmission line, they also have scenic value.
- **Airports.** Electric transmission lines can potentially present physical obstructions; the safety zone depends upon terrain and runway configuration. The Federal Aviation Administration protects airports.
- **Steep Terrain.** These areas were identified from USGS topographic mapping. Steep terrain was defined as slopes greater than 20 percent.
- **Landslide-Prone Areas.** As designated by the Allegheny County Planning Department based on slope stability, slope steepness and sources of water.
- **Streams.** Only crossings of perennial streams were used in the evaluation. Perennial streams were identified from USGS National Hydrography Dataset.
- **Archaeological Sites.** These areas include previously recorded archaeological

sites identified in the CR-GIS database maintained by the PA SHPO.

- **Commercial/Industrial Areas**. These areas are defined by industrial or commercial development, and were identified from aerial photography.
- **Residential Areas**. These areas are characterized by suburban and scattered residential development and were identified from aerial photography.
    - Houses (within 100 feet of Alternative Centerlines)
    - Apartments (within 100 feet of Alternative Centerlines)
- **Highway, Railroad, and Road Crossings**. These were identified from highway mapping and aerial photography.
- **Institutional Complexes**. These areas include schools, churches, nursing homes, municipal building, hospitals, or other places of public gathering.
- **Agricultural Land.** This represents areas that are actively being used for agriculture. Agricultural Land was identified from aerial photography.
- **Forested Land Cleared**. This represents areas that are presently tree covered that will be cleared for construction and maintained as rangeland. Forest land includes plant and wildlife habitat that is valuable for food and cover, and is a habitat type that is generally declining in the study area. Forested land was identified form aerial photography.
- **Wetland Impacts**. Wetlands are vital components of the ecosystem. This parameter assesses forested wetland areas that would be cleared for construction and maintained as emergent wetland.

- **Non-Existing ROW.** These include all undisturbed land required for transmission line construction and operation that does not follow or parallel an existing electrical transmission line ROW.
- **ROW length.** This includes the total length of the ROW in which the transmission line would be constructed.

Figure 3 and Figure 4 identify the approximate 34.1-square-mile study area and the three alternatives with nearby resources on aerial photography and topographic background, respectively.

Depending on the sensitivity of the resource and PAPUC requirements, varying distances from the alternative centerline were used to calculate impacts. All resource impacts were calculated within the 200-foot-wide corridor. However, State Forests, State Parks, State Game Lands, National Natural Landmarks, Designated Natural/Wilderness Areas, Unique Geological Resources, Historic Sites, Designated Scenic Areas, Hiking and Biking Trails, Airports, and Archaeological Sites impacts were also calculated within a two-mile buffer from the alternative centerline. Additionally, Other Recreational Areas, Residences, Apartment Buildings, Institutional Complexes, and Cemeteries impacts were calculated within 1,000-foot corridor centered on the alternative centerline. The potential impacts to resource criteria for each alternative are summarized in Section 4 and Appendix A.

The 30 resources were quantified by the following parameters: linear distance adjacent (miles), number within a specified distance, acres impacted within the ROW, and linear

distance within two miles for the Airport impact calculation.

Following data acquisition, it was found that 9 of the criteria to be used for comparing the alternatives did not occur on or in proximity to any of the alternatives. These 9 criteria were:

- State forests;
- State Park;
- State Game Lands;
- National Natural Landmarks;
- Designated Natural Areas/Wilderness Areas;
- Unique Geologic Resources;
- Designated Scenic Areas;
- National Wild and Scenic Rivers/Exceptional Value Stream; and
- State Scenic Rivers;

3.3 Alternative Route Development

Duquesne Light retained GAI Consultants, Inc. (GAI) to prepare this Environmental Assessment and Line Routing Study to identify and evaluate feasible alternative transmission line routes. GAI assembled a team consisting of land use planners, environmental specialists, design engineers, geologists, historians and archaeologists to prepare this environmental assessment and line route study.

Following establishment of the study area, GAI utilized recent aerial photography (2015), USGS topographic mapping, agency coordination, and published data to compile a GIS-based constraints map of the study area. This map identified sensitive natural and human/built resources in the study area. GAI used this information to develop preliminary transmission line routes for further analysis to avoid major constraints to the extent feasible.

Field reconnaissance was conducted to update data available for resources in the vicinity of each of the preliminary routes. Route locations were then eliminated, or refined as necessary based upon environmental and human/built constraints. Three routes that minimize impacts to environmental and human/built constraints were retained for further analysis.

3.4 Alternative Routes

3.4.1 Existing Alternative

The Proposed Route is 14.5 miles long and utilizes existing ROW for its entire length. The Proposed Route exits the Brunot Island Substation to the west crossing the Ohio River. It then travels west roughly paralleling Chartiers Creek for approximately two miles in an undeveloped area bordered by an industrial area to the north of Chartiers Creek and residential areas to the south of Chartiers Creek. Once crossing Chartiers Creek for the final time the Proposed Route proceeds west-northwest following an existing ROW through an forested area for approximately 1 mile. The Proposed Route then turns north northwest and precedes for approximately 0.5 miles, where it crosses a subdivision located between McKees Rocks Road and Clever Road and then passes into a forested area that parallels Fairhaven Park. Once past Fairhaven Park the Proposed Route turns northwest and continues for approximately one mile, where it crosses residential areas intermingled with forested areas. The Proposed Route then crosses Interstate 79 and continues for approximately a mile in a northwest direction crossing residential areas intermingled with forested areas. The Proposed Route then turns north to enter and exit the Montour Substation, which involves approximately 0.70 miles of combined ROW. The Proposed Route then continues in a generally northwest direction for

approximately eight miles crossing residential areas intermingled with forested areas. In this eight-mile stretch the Proposed Route crosses numerous residential streets, Thorn Run Road, University Boulevard, Flaugherty Run Road, Spring Run Road, and Bocktown Road before entering the Crescent Substation. The estimated cost to implement the Proposed Route is approximately $95 and $115 million.

3.4.2 Alternative Route 1

Alternative 1 is 15.3 miles long and utilizes 2.3 miles of existing ROW. Alternative 1 exits the Brunot Island Substation to the north crossing the Ohio River and enters an industrial portion of McKees Rocks. Alternative 1 roughly parallels railroad ROW for approximately two miles, in a north-northwest direction. When it crosses over the McKees Rocks Bridge, Alternative 1 leaves the railroad ROW and crosses over Route 51. The route then roughly parallels Route 51 on a largely forested hill slope for 2.3 miles. Alternative 1 then crosses Interstate 79 and turns to the south for approximately 0.70 miles before turning northwest for 0.6 miles to enter the Montour Substation. Between Interstate 79 and the Montour Substation, Alternative 1 passes through forested areas. Alternative 1 leaves the Montour Substation in a westward direction passing through forested area for approximately 1.4 miles. At this point Alternative 1 meets and overlaps the Proposed Route and utilizes existing ROW. Alternative 1 continues along the existing ROW to the northwest for approximately 1.2 miles. Alternative 1 then deviates to the west passing through forested area for approximately 1.5 miles and crossing Thorn Run Road. Alternative 1 then turns north staying in forested area and continues for approximately 1.6 miles. Alternative 1 then crosses Route 51 and turns to the

northwest were it continues for approximately three miles passing through mostly forested areas with some residential and industrial areas before it enters the Crescent Substation. The estimated cost to implement Alternative 1 is approximately $125 million to $135 million.

3.4.3 Alternative Route 2

Alternative 2 is 16.2 miles long and utilizes 1.2 miles of existing ROW. Alternative 2 exits the Brunot Island Substation to the north crossing the Ohio River and enters an industrial portion of McKees Rocks. Alternative 2 roughly parallels railroad ROW for approximately 3.8 miles, in a north-northwest direction. When it crosses over the McKees Rocks Bridge, Alternative 2 leaves the railroad ROW, making several deviations to the south and west, crossing over Route 51 and Interstate 79, and staying within largely forested areas before entering the Montour Substation. Alternative 2 leaves the Montour Substation in a western direction and is located in a forested area while it skirts a large residential area for approximately three miles. Once past the residential area, Alternative 2 turns north for approximately 0.7 miles, and then turns northwest for approximately 1.4 miles, crossing over Thorn Run Road, and staying in forested areas. Alternative 2 then turns north for approximately 1.6 miles, where it is located in forested area that is situated between two residential areas. Alternative 2 then turns to the west and continues for approximately one mile through forested area before meeting the Proposed Route. Alternative 2 then turns northwest and continues along existing ROW for approximately 0.5 miles before diverging to the north-northwest to avoid several residential areas. Alternative 2 continues to the north-northwest for approximately 1.6 miles before entering the Crescent Substation. The estimated cost to

implement Alternative 2 is approximately $135 million to $150 million.

4.0 Alternative Route Comparison

To quantitatively analyze the three routes, the resource categories were converted to a relative scale, weighted and combined to produce a final impact score of each route.

In order to put resource measurements on a relative scale (acres, number, feet) and to obtain an impact score that could be compared across the different alternatives, the data were mathematically proportioned to a scale of 1 to 10. In this procedure, the alternative with the highest value (worst) for individual resources receives a relative score of 10; that with the lowest value (best) receives a relative score of 1. (Note: If all three alternatives have an impact value of zero for a specific resource criterion, then the weighted value is equal to zero). Thus, the raw data values are transformed to a relative scale from 1 to 10 to obtain Relative Scores for each Resource Evaluation Criterion impacted. Using the relative position of the alternative in comparison to the values for all alternatives provided an indication of how the alternative compares overall. This process is based on a methodology suggested by Gaige, et al. (1991).

In order to determine the most suitable alternative, the relative scores for each criterion for each alternative need to be totaled. Criteria weights established by the Siting Criteria Council (SCC) were used. The SCC was created for the GPU-DQE 500 kV Transmission Line siting that included over 500 miles of line and a study area of 20,000 square miles. The SCC consisted of individuals representing diverse backgrounds and interests. The SCC included professors of ecology and history, city, county and regional planners, a school superintendent,

a member of the League of Women Voters, farmers, a business woman, a health professional, a conservation organization member, and an employee of a business association.

The purpose of the SCC was to aid in the selection of the natural and manmade resource criteria that would be used to evaluate impacts along alternative routes. In addition, the SCC was asked to weigh these resource criteria. The SCC was given an overview of the siting and route evaluation process. Then, the SCC assisted in the selection and definition of Resource Evaluation Criteria. Finally, the SCC assigned weights to the Resource Evaluation Criteria, using a nominal group technique that encourages contributions from all members. The weighting session consisted of four interactive rounds of discussion and weighting. Each member was asked to weigh each Resource Evaluation Criteria. After each round of weighting, each SCC member was given a weighting summary sheet that displayed their last vote and the mean for all the votes for each Resource Evaluation Criteria. Each member was given the opportunity during each round of voting to express their views on the weighting scores in an attempt to influence the next round of voting. The results of the SCC's fourth round of weighting are included in the Table 4.0. At the conclusion of round four the SCC was satisfied with the results and voted to adopt the mean weights for each of the Resource Evaluation Criteria when routing decisions needed to be made and choices had to be made as to which resources were to be impacted. The weights established by the SCC are considered an industry standard.

SCC weights were used for 22 of the 30 resource criteria. GAI further augmented these with an additional eight resource criteria (Land Trust Protected Area, Cemeteries, Exceptional

Value Streams, Landslide Prone Area, Commercial/Industrial Areas, Forest Land Cleared, Non-existing ROW, and Length of ROW) to reflect items of local significance and current regulatory concerns. Weights for these eight resources were assigned by a group of environmental, planning and engineering professionals at GAI that have extensive experience siting and evaluating the impacts of projects in similar areas. The weights were determined by considering the relative importance of these resources and the weights assigned to related resources by the SCC. The weights used for the evaluation of the alternatives are shown in Table 4.0.

The relative scores achieved by each alternative for each criterion were then multiplied by the criteria weights to obtain the impact scores shown in Appendix A. The impact scores were totaled to obtain an overall impact score for each alternative.

Table 4.0

Resource Evaluation Criteria and Weights Assigned

Resource Evaluation Criteria	Weights
Apartments and houses within 100 feet of centerline	88.8
Institutional Complexes	83.1
National Natural Landmarks	78
Commercial/Industrial Areas	76.9
Historic Sites	76.8
Cemeteries	76.8
Designated Natural/Wilderness Areas	73.2
Scenic Rivers Crossed	72
Core RTE habitat acres	71.9
Land Trust Protected acres	71.9
Designated Scenic Areas	71.3
State Parks	69.2
Other Recreational Areas	67.3

Wetland Cleared	66.2
Unique Geological Resources	59.2

Table 4.0 (Continued)

Resource Evaluation Criteria	Weights
EV streams Crossed	58
Archaeological Sites	54
Landslide-Prone Areas	53.7
Airports	52.5
Agricultural Land	44
State Forests	43.4
Perennial Streams	43
Hiking and Bike Trails	42.8
Steep Terrain	40.9
State Game Lands	33.4
Forest Land Cleared	33
Highway, Railroad and Road Crossings	33.1
Non-existing ROW	31.1
ROW length	28.8

4.1 Land Uses

Current land use described in this section is within and adjacent to the alternatives, as well as the changes to land uses which will occur as a result of construction of any of the three alternatives for the transmission line. Impacts have been considered within the proposed ROW and for urban development within 100 feet of the ROW centerline. Land use/cover types within and adjacent to the ROWs of each of the Alternatives were classified according to criteria developed in A Land Use and Land Cover Classification System for Use with Remote Sensor Data (Anderson, et al., 1976).

A GIS-based Anderson Level II evaluation was conducted for each of the Alternatives. Table 4.1.1 presents a description of land use classifications used in this analysis. Present land use patterns were identified from recent aerial photography (2015) and from field reconnaissance. Lands to be affected by the Project were determined based on aerial photographs, field visits, and augmented data from USGS maps for stream, pond, road and utility crossings.

Table 4.1-1

Land Use Classifications

Classification	Description
Residential	Areas dominated by single or multi-family housing units.
Commercial/ Industrial	Includes human-dominated land uses, with the exception of residential. Typically includes industrial and/or commercial areas with much of the land covered by structures, or parking lots.
Agricultural	Broadly defined as land devoted primarily to the production of food and fiber. Includes cropland, pastureland, and orchards, as well as farm associated structures.
Forest	Those areas having an aerial tree-crown density of 10 percent or more. Includes both deciduous and coniferous woodlands.
Open	Areas dominated by low vegetation such as range land or grass land.
Municipal/ Institutional	Areas used by municipalities for parks, waste treatment, water/salt storage, etc.; or institutional uses such as churches, schools, hospitals, etc.
Barren	Area where plant growth may be sparse, stunted, and/or contain limited biodiversity. Environmental conditions such as toxic or infertile soil are often key factors in poor plant growth and development.

Source: Anderson, et al., 1976.

The following land use descriptions of the areas crossed by each alternative proceed from east to west, beginning at the Brunot Island Substation and continuing to Crescent

Substation. Figures 3 and 4 show the alternative routes with nearby resources on aerial photography and on topographical mapping, respectively.

Proposed Route

The Proposed Route exits the Brunot Island Substation crossing the Ohio River and proceeds through an open area alongside Chartiers Creek for approximately 1.7 miles. The Proposed Route parallels an existing railroad line for 0.1-mile. The Proposed Route crosses the existing railroad line, the Chartiers Creek, and then utilizes an existing cleared right-of-way in a forested area (ROW) for 1.5 miles until reaching McKees Rocks Road. The proposed route passes a residential area for approximately 0.2 miles until it crosses Clever Road. Between Clever Road and the crossing of Interstate 79, the Proposed Route switches between passing through forested areas and residential areas, crossing approximately 0.7 miles of forested area and 0.7 miles of residential area. Between Interstate 79 and entering the Montour Substation the Proposed Route again alternates between passing through forested areas and residential areas, crossing approximately one mile of forested area and 0.6 miles of residential area.

After entering and exiting the Montour Substation, the Proposed Route passes through approximately 0.3 miles of residential area before entering a 0.6 mile stretch of forested area. The Proposed Route briefly crosses a residential area associated with Coketown Road before entering another approximately 0.5 mile stretch of forested area. The Proposed Route crosses approximately 0.1 miles of open area along Montour Street Extension. Between Montour Street Extension and Maple Street Extension, the Proposed Route switches between passing through forested areas and residential areas, crossing approximately 0.3 miles of forested area

and 0.4 miles of residential area. After crossing Maple Street Extension, the Proposed Route crosses approximately 1.1 miles of forested area before briefly passing

through a commercial industrial area along Thorn Run Road. Between Thorn Run Road and University Boulevard, the Proposed Route crosses mostly forested area, approximately 1.3 miles, and some residential area, approximately 0.2 miles. Between University Boulevard and right before entering the Crescent Substation the Proposed Route alternates between passing through forested areas and residential areas, crossing approximately 2.2 miles of forested area and 0.6 miles of residential area. The Proposed Route crosses a Commercial/Industrial area briefly along Flaugherty Run Road. Before entering the Crescent Substation, the Proposed Route crosses approximately 0.3 miles of open area.

The Proposed Route utilizes existing ROW for its entire length. The Proposed Route has 102 residences, 11 apartment buildings, and four commercial/industrial buildings crossed by the proposed ROW. Four schools and four churches are located within 1000 feet of the Proposed Route, but no institutional complexes are located within the proposed ROW. While no cemeteries are crossed by the proposed ROW of the Proposed Route, five cemeteries are within 1000 feet of the Proposed Route. The Proposed Route Crosses 73.7 acres of forested area and no agricultural areas. Compared to the other alternatives the Proposed Route has the least impact to forested land by a large margin. The results of all the Land Use Criteria calculated are provided in Table 4.1-2.

The Proposed Route crosses the most residential areas compared to the other alternatives. However, because the Proposed Route will be utilizing existing ROW, impacts to

residential land use is expected to be minimal, with most impacts being temporary during construction. Construction of this alternative will require converting approximately 73.7 acres of forest to open land. Compared to the other alternatives the Proposed Route has the least impact to forested land by a large margin. The ROW of the Proposed Route does not cross any schools, churches, hospitals, or cemeteries, visual impacts or noise impacts during construction could cause minor and largely temporary impact to institutional complexes..

Alternative 1

Alternative 1 exits the Brunot Island Substation crossing the Ohio River into an industrial commercial area for approximately 0.2 miles. Alternative 1 then transitions to a barren area for approximately 1.9 miles before crossing Neville Road and Route 51, approximately 16.3 acres of this barren land crossed is designated for future industrial development. Between Route 51 and Ewing Road, Alternative 1 passes into a forested area for approximately 0.8 miles and approximately 0.1 miles of commercial/industrial area. Between Ewing Road and Old Fleming Road (Route 51), Alternative 1 crosses approximately 0.2 miles of open area, 0.1 miles of barren area, and 0.2 miles of forested area. Between Old Fleming Road (Route 51) and Interstate 79, Alternative 1 crosses 0.8 miles of forested area. After crossing Interstate 79, Alternative 1 crosses approximately one mile of forested land and 0.2 miles of open area before entering the Montour Substation.

After leaving the Montour Substation, Alternative 1 crosses approximately 1.3 miles of forested area and 0.2 miles of open area before crossing Montour Street Extension. Between Montour Street Extension and Maple Street Extension, Alternative 1 switches between passing

through forested areas and residential areas, crossing approximately 0.4 miles of forested area and 0.6 miles of residential area. After crossing Maple Street Extension, Alternative 1 crosses approximately 3.6 miles of forested area before crossing Route 51 and passing through a residential area for approximately 0.4 miles. Alternative 1 passes back into forested area for approximately 0.7 miles before briefly crossing a residential area and commercial/industrial area as it crosses Route 51. Alternative 1 then returns to forested area for the remaining approximate 1.4 miles to the Crescent Substation, with the exception of two small residential areas, one along Spring Run Road and the other along Harper Road.

Alternative 1 is the second longest alternative at 15.3 miles and would require 12.8 miles of new ROW. Alternative 1 has 24 residences, one apartment building, and nine commercial/industrial buildings crossed by the proposed ROW. Two schools and four churches are located within 1000 feet of Alternative 1, but no institutional complexes are located within the proposed ROW. While no cemeteries are crossed by the proposed ROW of Alternative 1, three cemeteries are within 1000 feet of Alternative 1. Alternative 1 Crosses 200.70 acres of forested area and no agricultural areas. The results of all the Land Use Criteria calculated are provided in Table 4.1-2.

The Alternative 1 crosses minimal residential areas, and a number of the residential areas are located where Alternative 1 is paralleling existing ROW. In these areas impacts to residential land use is expected to be minimal, with most impacts being temporary during construction. However, 10 residences are located in areas that would require new ROW and significant long-term impacts would be expected to the residences located in new ROW.

Construction of Alternative 1 will require converting approximately 200.70 acres of forest to open land. The ROW of Alternative 1 does not cross any schools, churches, hospitals, or cemeteries, however, nearby institutional complexes could have minor visual impacts and temporary noise impacts during construction. Additionally, 16.3 acres of the proposed ROW located in an industrial area of McKees Rocks may be in conflict with future industrial development in that area.

Alternative 2

Alternative 2 exits the Brunot Island Substation crossing the Ohio River into an industrial/commercial area for approximately 0.2 miles. Alternative 2 then transitions to a barren area for approximately 1.9 miles before crossing Neville Road, approximately 16.3 acres of this barren land crossed is designated for future industrial development. Between Neville Road and Interstate 79, Alternative 2 passes through forested area for 2.3 miles. Between Route 51 and Ewing Road, the Alternative passes into a forested area for approximately 0.8 miles and over approximately 0.1 miles of commercial/industrial area. Between Ewing Road and Old Fleming Road (Route 51) Alternative 2 crosses approximately 0.2 miles of open area, 0.1 miles of barren area, and 0.2 miles of forested area. Between Old Fleming Road (Route 51) and Interstate 79 Alternative 2 crosses 0.8 miles of forested area. After crossing Interstate 79, Alternative 2 crosses approximately one mile of forested land and 0.2 miles of open area before entering the Montour Substation.

For the approximately 9.6 miles between the Montour Substation and the Crescent Substation, Alternative 2 passes through almost entirely forested area. Small residential areas

are crossed at Downing Drive, Coraopolis Heights Road, Spring Run Road, and Harper Road. A small commercial/industrial area is crossed at the intersection of Stoop Ferry Road (Route 51) and Flaugherty Run Road.

Alternative 2 is 16.2 miles long and would require 15.0 miles of new ROW. Alternative 2 has eight residences, one apartment building, and six commercial/industrial buildings crossed by the proposed ROW. One schools and five churches are located within 1000 feet of Alternative 2, but no institutional complexes are located within the proposed ROW. While no cemeteries are crossed by the proposed ROW of Alternative 2, one cemetery is within 1000 feet. Alternative 2 Crosses 230.2 acres of forested area and no agricultural areas. The results of all the Land Use Criteria calculated are provided in Table 4.1-2.

The Alternative 2 crosses minimal residential areas, however, these residences are located in areas that would require new ROW and significant long term impacts would be expected to the residences. Construction of Alternative 2 will require converting approximately 230.2 acres of forest to open land. The ROW of Alternative 2 does not cross any schools, churches, hospitals, or cemeteries, however, nearby institutional complexes could have minor visual impacts and temporary noise impacts during construction. Additionally, 16.3 acres of the proposed ROW located in an industrial area of McKees Rocks may be in conflict with future industrial development in that area.

Table 4.1-2

Land Use and Land Cover

Criteria[1]	Weight	Existing	Alternative Routes 1	2
Commercial/Industrial Areas				
# Structures within 100 feet of Centerline		4	9	6
Score[2]	**76.9**	76.9	769.0	353.7
Residential Areas				
Score[2]	**88.8**	888.0	211.8	88.8
# Houses within 100 feet of Centerline		102	24	8
# Apartment within 100 feet of Centerline		11	1	1
Cemeteries				
Number within 100 feet of Centerline		0	0	0
Score[2]	**76.8**	0	0	0
Number adjacent (1,000 feet of centerline)[1]		5	3	4
Railroad and Highway/Road Crossings				
Score[2]	**33.1**	331.0	182.1	33.1
Number of Highway/Road Crossings		47	33	25
Number of Railroad Crossings		5	11	11
Institutional Complexes (schools, churches, hospitals, nursing homes, recreational areas)				
Number Adjacent/Crossed (1000-foot corridor)		8	6	6
Score[2]	**83.1**	831.0	83.1	83.1

Table 4.1-2 (Continued)

Criteria[1]	Weight	Alternative Routes Existing	1	2
Agricultural Land				
Active Agricultural Land Acres within 100 feet of Centerline		0	0	0
Score[2]	**44.0**	0	0	0
Non-Paralleling ROW				
Miles Required		0	12.8	15.0
Score[2]	**31.1**	31.1	270.7	311.0
Length				
Miles		14.5	15.3	16.2
Score[2]	**28.8**	28.8	125.8	288.0
Land Cover				
Forested Land within 100 feet of Centerline (acres)		73.75	200.70	230.2
Score[2]	**33.0**	33.0	274.0	330.0

Notes:

1 Not all criteria that were counted or calculated in the review of the alternatives were used in the scoring process. This is because some criteria were counted using multiple parameters and should not be double counted in the scoring process. Additionally, some of the counted or calculated criteria are not considered negative constraints and should not be include in the scoring process.

2 Scores are calculated by converting the raw data found to a relative scale of 1-10 as described in Section 4.0. The value in the relative scale is then multiplied by the weight to obtain the score. The Raw data, relative scaling, and final score for each criteria scored are provided in Appendix A.

The Proposed Route is the shortest route and requires the least amount of new ROW. The Proposed Route crosses the least amount of forested land, and would require far less tree clearing than any other Alternative. The Proposed Route crosses the most residential area and is adjacent to the most institutional complexes. However, because the Proposed Route will be utilizing existing ROW minimal new impacts are anticipated, with most impacts being temporary during construction. Alternatives 1 and 2 were located to minimize proximity to residential areas. However, where new ROW crosses residential areas, significant long term impacts would be expected. Additionally, Alternatives 1 and 2 would require far more forested area conversion than the Proposed Route. Therefore, from a land use and land cover perspective, the Proposed Route has the least impact.

4.2 Hydrology

Wetlands in the study area were identified through a review of USFWS and NWI maps. The NWI maps identify numerous palustrine wetlands in the study area. The Proposed Route crosses 0.41 acres of Forested wetland and 18.47 acres of non-forested wetlands. The non-forested wetlands and forested wetlands that are crossed by the Proposed Route, are located along Chartiers Creek. Alternative 1 crosses no forested wetland and 4.41 acres of non-forested wetlands. Alternative 2 crosses no forested wetland and 4.48 acres of non-forested wetlands.

The study area is located in two watersheds, Chartiers Creek and Montour Run, both of which flow into the Ohio River. All the Alternatives cross a portion of the Ohio River as they exit the Brunot Island Substation. The Ohio River is classified as navigable (PA Code 2016).

Streams traversed by Alternative Routes are included in Table 4.2-1. The primary sub-watersheds in the study area are those of Kilbuck Run, Lower Chartiers Creek, Montour Run, McCabe Run, and Flaugherty Run. The principal named streams crossed by Project alternatives include the Ohio River, Chartiers Creek, Moon Run, Montour Run, McCabe Run, Thorn Run, Flaugherty Run, Spring Run, Shouse Run and Meeks Run.

Table 4.2-1

Perennial Stream Crossings

Alternative Route	Stream
Proposed Route	Ohio River
	Chartiers Creek
	UNT to Chartiers Creek
	UNT to Chartiers Creek
	UNT to Moon Run
	UNT to Moon Run
	UNT to Moon Run
	Moon Run
	UNT to Montour Run
	Montour Run
	McCabe Run
	UNT to McCabe Run
	Thorn Run
	UNT to the Ohio River
	Flaugherty Run
	Spring Run
	Shouse Run

Table 4.2-1 (Continued)

Alternative Route	Stream
Alternative 1	Ohio River
	UNT to the Ohio River
	UNT to the Ohio River
	UNT to the Ohio River
	UNT to the Ohio River
	UNT to the Ohio River
	UNT to the Ohio River
	UNT to Moon Run
	Moon Run
	UNT to Montour Run
	Montour Run
	McCabe Run
	UNT to McCabe Run
	Thorn Run
	UNT to Thorn Run
	UNT to the Ohio River
	Flaugherty Run
	Spring Run
	Shouse Run
Alternative 2	Ohio River
	UNT to the Ohio River
	UNT to the Ohio River
	UNT to the Ohio River
	UNT to the Ohio River
	UNT to the Ohio River
	UNT to the Ohio River
	UNT to Moon Run
	Moon Run
	UNT to Montour Run
	Montour Run

Table 4.2-1 (Continued)

Alternative Route	Stream
Alternative 2	Meeks Run
	UNT to Thorn Run
	Thorn Run
	UNT to Thorn Run
	UNT to the Ohio River
	Flaugherty Run
	Spring Run
	Shouse Run

*Source: Chapter 93 Designated Use Streams.

*Note: some streams may be crossed more than once by an Alternative

The PA Department of Environmental Protection classifies and establishes water quality standards and criteria for all surface waters within the state. These standards include general water use categories and corresponding water quality standards. According to these standards, Montour Run, Meeks Run, and their tributaries are classified as trout stocked fisheries. Ohio River, Chartiers Creek, Moon Run, McCabe Run, Thorn Run, Flaugherty Run, Spring Run, Shouse Run, and their tributaries are classified as warm water fisheries. None of the streams crossed by the three Alternative Routes are classified as Exceptional Value (EV).

Table 4.2-2

Hydrology

Criteria	Weight	Alternative Routes		
		Existing	1	2
NWI Wetlands				
Acres (200-foot ROW)		18.9	4.4	4.5
Score[1]	**66.2**	662.0	66.2	69.9
Streams				
Number of Perennial Crossings		20.0	22.0	22.0
Score[1]	**43.0**	43.0	430.0	430.0
Number of EV Streams Crossed		0.0	0.0	0.0
Score[1]	**58.0**	0.0	0.0	0.0

Notes:

[1] Scores are calculated by converting the raw data found to a relative scale of 1-10 as described in Section 4.0. The value in the relative scale is then multiplied by the weight to obtain the score. The Raw data, relative scaling, and final score for each criteria scored are provided in Appendix A.

None of the Alternatives will impact exceptional value streams. The Proposed Route has the least perennial streams crossed. However, Alternative 1 and Alternative 2 have the least Impacts to wetlands. Because, impacts to wetlands are weighted higher Alternative 1 and 2 would have the least impact from an overall hydrological perspective.

4.3 Scenic and Recreational Areas

The Outstanding Scenic Geologic Features of Pennsylvania, Parts 1 and 2 (Geyer and Bolles, 1979 and 1987) and USGS 1:24,000 topographic maps were used to identify scenic areas in and near the proposed Project area. Scenic areas identified in these sources represent some of the most notable scenic geologic features of the Commonwealth. No recognized

scenic areas are located in the Project Area. Aerial mapping was also used to identify any notable resources.

Recreational areas include those lands managed to provide and enhance a wide variety of both active and passive recreational opportunities. These areas include state parks, county and municipal parks, public hunting and fishing areas, playgrounds, athletic fields, golf courses and reservoirs maintained by the United States Army Corps of Engineers. Recreational areas within the study area were identified using GIS data sources, municipal planning documents, property owner data, and aerial mapping. There are no federal or state parks, state forests, state game lands, designated scenic area, natural, wild and scenic/state rivers located in the vicinity of the Project area. Additionally, there are no unique geologic resources crossed or adjacent to any of the three alternatives (Geyer and Bolles, 1979 and 1987).

There are numerous local parks located near the alternatives.

- Sheraden Park is a large urban park that consists of wooded area and sports fields. It is located approximately 400 feet south of the Proposed Route.
- McGonigle Park is a Neighborhood park that consists of playground, sports fields and wooded area. It is located approximately 300 feet south of the Proposed Route.
- Fairhaven Park is a large urban park that consists of wooded area and sports fields. The Proposed Route crosses it in the wooded area.
- Montour Trail is a bike trail. All Alternatives cross over the trail.

- Moon Township Park is a large urban park that consists of wooded area, playgrounds, and sports fields. Alternative 2 crosses the park in the wooded area.
- Montour Heights Country Club is a golf course. It is located approximately 200 feet south of Alternative 1and Alternative 2.
- Robin Hill Park is a large urban park that consists of a historic structure and wooded area. Alternative 1and Alternative 2 cross a corner of the park in a wooded area.
- A Moon Township municipal park that consists of a wooded area is located approximately 300 feet west of the Proposed Route.
- Mooncrest Neighborhood Center consists of sports fields and a wooded area. The Proposed Route crosses the edge of this park.
- Davis Park in a mini-park that consists of a basketball court it is located approximately 800 feet south of Alternative 1 and Alternative 2.
- Preston Park in a mini-park that consists of an open space it is located approximately 800 feet north of Alternative 1 and Alternative 2.
- Harriet Street Parklet consists of a playground and is located approximately 300 feet west of Alternative 1 and Alternative 2.
- Rangers Field consists of sports fields and is located approximately 700 feet north of Alternative 1 and Alternative 2.

The Proposed Route crosses near Sheraden Park and McGonigle Park however, due to tree cover and terrain between the parks and the alternative impacts to these parks are not

anticipated. The Proposed Route is within an existing ROW while crossing Fairhaven Park. Impacts to Fairhaven parks are expected to be minimal and temporary during construction. The Proposed Route crosses over the Montour Trail following existing ROW. Additionally, the Montour Trail is located in a valley and the Proposed Route would likely span from ridgetop to ridgetop resulting in minimal impact to the trail. The Proposed Route crosses near a Moon Township municipal park, however, due to tree cover and terrain between the parks and the alternative impacts to these parks are not anticipated. The Proposed Route crosses the edge of Mooncrest Neighborhood Center, the Proposed Route is located in an existing ROW that is buffered by trees, and impacts to Mooncrest Neighborhood Center are expected to be minimal and temporary during construction.

Alternative 1 passes near Davis Park, Preston Park, Harriet Street Parklet, and Rangers Filed these parks are all located within the urban backdrop of McKees Rocks, therefore the construction of a transmission line in their vicinity would have little visual impact. Alternative 1 crosses the Montour Trail in an alignment that would require a turning structure immediately adjacent to the trail causing moderate impact during construction. However, existing transmission lines structures are already in this area so long term visual impacts are not expected. Alternative 1 passes near Montour Heights County Club, however due to tree cover and terrain between the country club and the Alternative impacts are expected to be minimal. Alternative 1 passes through the corner of Robin Hill Park which would cause moderate impacts to the park as trees would have to be cleared to accommodate a new ROW, additionally the transmission line ROW would be in a visible area from the historic structure that is the key feature of the park.

Alternative 2 passes near Davis Park, Preston Park, Harriet Street Parklet, and Rangers Field these parks are all located within the urban backdrop of McKees Rocks, therefore the construction of a transmission line in their vicinity would have little visual impact. Alternative 2 crosses over the Montour Trail. The Montour Trail is located in a valley and Alternative 2 would likely span from ridgetop to ridgetop resulting in minimal impact to the trail. Alternative 2 passes thru Moon Township Park, which would cause moderate impacts to the park as trees would have to be cleared to accommodate a new ROW. Alternative 2 passes near Montour Heights County Club, however due to tree cover and terrain between the country club and the Alternative, impacts are expected to be minimal. Alternative 2 passes through the corner of Robin Hill Park which would cause moderate impacts to the park as trees would have to be cleared to accommodate a new ROW, additionally the transmission line ROW would be in a visible area from the historic structure that is the key feature of the park.

Table 4.3-1

Scenic and Recreational Areas

Criteria[1]	Weight	Alternative Routes		
		Existing	1	2
State Forest				
Linear Distance Adjacent (miles)		0	0	0
Score[2]	**43.4**	0	0	0
Number within two miles		0	0	0
State Parks				
Linear Distance Adjacent (miles)		0	0	0
Score[2]	**69.2**	0	0	0
Number within two miles		0	0	0

Table 4.3-1 (Continued)

Criteria[1]		Alternative Routes Existing	1	2
State Game Lands				
Linear Distance Adjacent (miles)		0	0	0
Score[2]	**33.4**	0	0	0
Number within two miles		0	0	0
Recreational Areas (including local parks and golf courses)				
Number Adjacent or crossed (1000-foot Corridor)		3	1	3
Score[2]	**67.3**	673.0	67.3	673.0
Acres of recreational Area (1,000 feet of new ROW)		0	610	174
Hiking and Biking Trails (excluding parks)				
Number Crossed (200-foot ROW)		1.0	1.0	2.0
Score[2]	**42.8**	42.8	42.8	428.0
Designated Scenic Areas				
Number Adjacent/Crossed (200-foot ROW)		0.0	0.0	0.0
Score[2]	**71.3**	0.0	0.0	0.0
Number within two miles		0.0	0.0	0.0
Natural Wild & Scenic/State Scenic Rivers				
# Scenic Rivers Crossed (200-foot ROW)		0.0	0.0	0.0
Score[2]	**72.0**	0.0	0.0	0.0
Unique Geological Resources				
Number Adjacent/Crossed (200-foot ROW)		0.0	0.0	0.0
Score[2]	**59.2**	0.0	0.0	0.0
Number within two miles		0.0	0.0	0.0

Table 4.3-1 (Continued)

Notes:

1 Not all criteria that were counted or calculated in the review of the alternatives were used in the scoring process. This is because some criteria were counted using multiple parameters and should not be double counted in the scoring process.

2 Scores are calculated by converting the raw data found to a relative scale of 1-10 as described in Section 4.0. The value in the relative scale is then multiplied by the weight to obtain the score. The Raw data, relative scaling, and final score for each criteria scored are provided in Appendix A.

With the exception of local recreation areas and hiking and biking trails the alternatives did not impact any of the criteria examined in this section. While the three alternatives cross roughly the same number of local recreational areas, the degree in which they impact these areas varies. Alterative 2 would have the most impact on recreational areas as new ROW would be required through two parks. Alternatives 1would require new ROW through one park. While the Proposed Route crosses one park and is adjacent to another, no new ROW will be created and impacts will be minimal and temporary during construction. Therefore, the Proposed Route would have the least impact from a scenic and recreational perspective.

4.4 Natural Areas and Rare Threatened and Endangered Species

Natural areas fall under three general classifications: designated natural/wilderness areas, national natural landmarks, and other natural areas (land trust areas and core RTE habitat areas).

No designated natural/wilderness areas designated by the Wilderness Act (16 United States Code, Section 1172) are located in the study area.

National natural landmarks have been recognized by the National Park Service as areas of outstanding biologic or geologic importance. No national natural landmarks are located in the study area (National Park Service, 2016).

Other natural areas with land trust protection include sites maintained as green space areas by governmental agencies or private organizations, these areas include all the parks mentioned in Section 4.3 with the exception of Davis Park, Preston Park, Harriet Street Parklet, and Rangers Field

In addition to the land trusts associated with the recreational areas described in section 4.3 there are three land trust protected areas that are held in trust by Hollow Oaks land trust. The three trusts are Hollow Oaks-Coraopolis Road, Hollow Oaks-Petrie Road, and Hollow Oaks-Montour Woods. These land trusts consist of large wooded area.

The Proposed Route does not cross any of the Hollow Oaks land trust protected areas.

Alternative 1 crosses the edge of Hollow Oaks Land Trust-Coraopolis Road which would cause moderate impacts to the land trust as trees would have to be cleared to accommodate a new ROW. Additionally, Alternative 1 passes near the Hollow Oak Land Trust-Petrie Road, however existing transmission line ROW's in the area and a tree cover buffer would minimize impacts to the land trust.

Alternative 2 crosses the edge of Hollow Oaks Land Trust-Coraopolis Road which would cause moderate impacts to the land trust as trees would have to be cleared to accommodate a new ROW. Additionally, Alternative 2 crosses the of Hollow Oaks Land Trust-Montour

Woods, which would cause moderate impacts to the land trust as trees would have to be cleared to accommodate a new ROW.

The PA Natural Heritage Program (PNHP) Conservation Explorer interactive map was reviewed for potential occurrence of endangered, threatened, and rare species within the study area. The interactive map is a collection of information from USFWS, PFBC, PGC, and PADCNR. A threatened or endangered species under the jurisdiction of the PFBC is located in the Ohio River and in the mouths of some of the larger tributaries near Coraopolis. None of the Alternatives will impact this species. A species of special concern is located in the Ohio River and in the mouths of some of the larger tributaries starting at Neville Island and continuing downstream through the rest of the study area. All Alternatives cross portions of streams where this species could be present. An area containing a species of special concern [rock skullcap (*Scutellaria saxatilis)*] that is under the jurisdiction of the PADCNR is located in the neighborhood of Moon Crest, just south of the Sewickley Bridge. The Proposed Route crosses this area. No RTE species under the jurisdiction of the PGC or USFWS were located in the study area.

Additionally, the Pennsylvania Natural Heritage Program has designated two Core Habitats within the study area. One is the Ohio River, which is a recovering river system that provides habitat for numerous species of concern, and the other is the Moon Run Slopes, which is a steep forested slope along the Ohio River that serves as habitat for a plant species of concern. All the Alternatives briefly cross the Ohio River core habitat as they cross from Brunot Island to McKees Rocks, the crossings will be aerial and no direct impact to this

aquatic core habitat is expected. Alternative 1 crosses the Moon Run Slopes core habitat. Tree clearing would be required to create new ROW for these alternatives, which would cause moderate impact to the core habitat area.

Table 4.4-1

Criteria[1]	Weight	Alternative Routes		
		Existing	1	3
National Natural Landmarks				
Number Adjacent/Crossed (200-foot ROW)		0	0	0
Score[2]	**78.0**	0	0	0
Number within two miles		0	0	0
Designated Natural/Wilderness Areas				
Linear Distance Adjacent (miles) (within 200-foot ROW)		0	0	0
Score[2]	**73.2**	0	0	0
Number within two miles		0	0	0
Other Natural Areas				
Core RTE habitat acres (200-foot ROW)		0.6	2.81	3.2
Score[2]	**71.9**	71.9	621.9	719.0
Land Trust Protected acres[3] (200-foot ROW)		0.00	0.10	1.30
Score[2]	**71.9**	71.9	121.7	719.0
Number of PNHP RTE species areas crossed[1]		2	6	1

Natural Areas

Table 4.4-1 (Continued)

Notes:

1. Not all criteria that were counted or calculated in the review of the alternatives were used in the scoring process. This is because some criteria were counted using multiple parameters and should not be double counted in the scoring process.
2. Scores are calculated by converting the raw data found to a relative scale of 1-10 as described in Section 4.0. The value in the relative scale is then multiplied by the weight to obtain the score. The Raw data, relative scaling, and final score for each criteria scored are provided in Appendix A.
3. Land Trust Protected area calculations does not include parks and recreation areas that were included in Section 4.3

The Proposed Route has the least impact to Core RTE habitat and Land Trust Protected areas. Alternative 2 has the least impact to the PNHP RTE species areas crossed, with the Proposed Route having the second least. From the overall natural areas perspective the Proposed Route would have the least impacts.

4.5 Terrain and Landscape

Landscape

The study area is located in the Pittsburgh Low Plateau topographic region, which is defined by a dissected upland, formed on warped sedimentary rock. The area is typified by rolling uplands dissected by deeply entrenched valleys. There are no dominant topographic features within the study area. However, one prominent man-made features on the landscape is the four-lane Interstate 79 that extends north to south through the central portion of the study area. Developments in the study area vary from dense urban industrial and high density residential developments along the Ohio River to secluded subdivisions located on the hilltops and in valleys.

Within the study area, no one terrain feature or land feature dominates the visual environment. Each land use type has an influence on the overall visual character adjacent to the alternatives. Both terrain and vegetation can influence the extent of visual impact, while the existing land use can determine the type and number of viewers that would be affected by the proposed transmission line. For example, transmission lines located on level, open terrain (such as fields and golf courses) can be seen for longer distances than transmission lines located in hilly, wooded areas.

Along the Ohio River are three towns, McKees Rocks and Coraopolis, and Neville Island with large industrial component. In addition, several railroad ROWs are located along the Ohio River adding to the overall industrial feel of the area. As the study area moves away from the Ohio River the terrain is dominated by ridge tops and valleys. Major roads with scattered homes and businesses are generally located in the valleys. Isolated subdivisions surrounded by forested slopes are generally located on the ridge tops.

For the proposed transmission line itself, the impact on the visual environment is partially related to its scale and physical design properties. The following definitions were used during the visual impact assessment:

- Minimal. Visual impact is low because the existing terrain and/or vegetation will limit the visual impact. Visual impact is also considered low when a limited number of viewers or viewpoints are involved.
- Moderate. Visual impact is moderate when the existing terrain and/or vegetation will only partially limit the visual impact, and multiple viewers

and/or viewpoints are involved.

- Severe. Visual impact is severe because the existing terrain and/or vegetation will not limit the visual impact and large numbers of viewers or viewpoints, or scenic areas are involved.

Proposed Route

Since the Proposed Route is proposed to utilize existing ROW no new visual impact is anticipated.

Alternative 1

Alternative 1 consists of approximately 15.3 miles, with 12.8 miles of the total length requiring new ROW. It will present a new transmission corridor to viewers traveling local roads, visiting parks, or form their homes and businesses. Starting at the Brunot Island Substation Alternative 1 passes through a highly industrial area while in McKees Rocks, the alternative would have minimal visual impact due to the industrial backdrop. After crossing Neville Bridge Alternative 1 transitions to a hill slope that parallels Route 51 then Interstate 79, this stretch of the alternative would have sever visual impact. Once Alternative 1 moves away from Interstate 79 it enters a forested area and avoids residential developments. In this section the visual impact would be minimal when it crosses perpendicular to roads located in the valley below. Alternative 1 then overlaps an existing ROW and crosses several residential developments, no new visual impacts would occur in this area. After leaving the existing ROW, Alternative 1 passes near a golf course, then through a park located adjacent to Thorn Run Road, before paralleling a large development on a visible side slope. Visual impacts

would be severe in this area. Alternative 1 then crosses Rout 51 where it passes in front of a townhome community, resulting in sever visual impacts. The reminder of Alternative 1 passes through forested areas only crossing roads perpendicularly with minimal visual impact to residences or roads. The overall visual impacts for Alternative 1 are judged to be moderate to severe due to the extent of new ROW and the extent roads and residential areas paralleled.

Alternative 2

Alternative 2 consists of approximately 16.2 miles, with 15.0 miles of the total length requiring new ROW. It will present a new transmission corridor to viewers traveling local roads, visiting parks, or form their homes and businesses. Starting at the Brunot Island Substation Alternative 2 passes through a highly industrial area while in McKees Rocks, the alternative would have minimal visual impact due to the industrial backdrop. After crossing Route 51 Alternative 2 transitions to a hill slope that parallels Route 51 then Interstate 79, this stretch of the alternative would have sever visual impact. Once Alternative 2 moves away from Interstate 79 it enters a forested area and avoids residential developments. In this section the visual impact would be minimal, when it crosses perpendicular to roads located in the valley below. After crossing Hassam Road Alternative 2 moves closer to developed areas. It parallels several subdivision, then passes near a golf course, and through a park located adjacent to Thorn Run Road, before paralleling another large development on a visible side slope. Visual impacts would be sever in this area. The reminder of Alternative 2 passes through forested areas only crossing roads perpendicularly with minimal visual impact to residences or roads.

The overall visual impacts for Alternative 2 are judged to be moderate to severe due to the extent of new ROW and the extent roads and residential areas paralleled.

Terrain

In the vicinity of the alternative routes, the elevation ranges from approximately 848 mean sea level (MSL) near the Ohio River to 1,638 MSL on the hilltops. Steep terrain was identified from USGS topographic mapping. Steep terrain was defined as slopes greater than 20 percent. Steep terrain may cause complications in the engineering, construction, maintenance, or operation of the transmission line. Alternative 2 has the third most terrain crossed with 12.6 mile. The Proposed Route has the least steep terrain crossed with 11 miles and Alternative 1 has the second least steep terrain crossed with 11.2 miles.

Landslide-prone areas are designated by the Allegheny County Planning Department based on slope stability, slope steepness and sources of water. Landslide-prone areas may cause complications with engineering, construction, maintenance, or operation of the transmission line. Alternative 2 crossed the most landslide prone area with 9.6 miles. The Proposed Route crosses the least landslide-prone area with 7.5 miles, and Alternative 1 crosses the second least landslide-prone area with 9.4 miles.

Table 4.5-1

Terrain and Landscape

Criteria	Weight	Alternative Routes		
		Existing	1	2
Steep Terrain (> 20%)				
Linear Distance Adjacent (miles)		11.0	11.2	12.6
Score[1]	**40.9**	40.9	77.2	409.0
Landslide-Prone Areas				
Linear Distance Adjacent (miles)		7.5	9.4	9.6
Score[1]	**53.7**	53.7	491.0	537.0

Notes:

[1] Scores are calculated by converting the raw data found to a relative scale of 1-10 as described in Section 4.0. The value in the relative scale is then multiplied by the weight to obtain the score. The Raw data, relative scaling, and final score for each criteria scored are provided in Appendix A.

Based on the qualitative analysis of visual impact the Proposed Route has the least impact on the surrounding landscape view shed as it will use existing ROW for its entire length. Additionally, the Proposed Route would be least impacted by steep terrain and landslide-prone areas. From an overall terrain and landscape perspective, the Proposed Route has the least impact.

4.6 Archaeological and Architectural/Historical Resources

Preliminary background research was conducted to identify previously recorded cultural resources that may be encountered by the Project. Background research included a review of PA Archaeological Site Survey files, PA Historic Resource Survey files, NRHP files, and pertinent cultural resource studies available through the PA SHPO online cultural resources GIS system.

Data was collected on previously recorded archaeological sites, architectural and historical resources, and National Register properties mapped within the background research study area, consisting of a two-mile radius of Project alternatives.

There are 1,006 architectural and historical resources and 46 archaeological sites within the background research study area. Of these resources, two are National Historic Landmarks (NHL), 33 have been listed in the NRHP, and 78 of the architectural and historical resource that have been determined by PA SHPO as eligible for listing the NRHP, while three of the archaeological sites have been determined by PA SHPO as eligible for listing in the NRHP. A description of the previously recorded NRHP-eligible and listed resources within two miles of the Alternative Routes is provided in Appendix B. The previously recorded NRHP-eligible and listed archaeological sites and architectural and historical resources mapped within the study area are shown on Figures 3 and 4.

The Proposed Route and Alternative 2 have nine archaeological sites located within 2,000 feet of the centerline and one site within the 200-foot-wide ROW. Alternative 1 has 12 sites mapped within 2,000 feet of the centerline, with three sites located within the ROW. Table 4.6-1 identifies the number of previously recorded archaeological sites within two miles

of each proposed alternative, as well as within the 200-foot-wide construction ROW and within approximately 2,000 feet of the centerline.

The Proposed Route has 61 architectural and historical resources located within 2,000 feet of the centerline and 34 resources within 1,000 feet of the centerline. Alternative 1 has 83 architectural and historical resources located within 2,000 feet of the centerline and 37 resources within 1,000 feet of the centerline. Alternative 2 has 62 architectural and historical resources located within 2,000 feet of the centerline and 34 resources within 1,000 feet of the centerline. Table 4.6-1 identifies the number of previously recorded architectural or historical resources within two miles of each proposed alternative, as well as within approximately 1,000 and 2,000 feet of the centerline.

Table 4.6-1

Archaeological and Architectural/Historical Resources

Criteria[1]	Weight	Alternative Routes		
		Existing	1	2
Architectural and Historic Sites				
Number Adjacent (1000 feet of centerline)		34	37	34
Score[2]	**76.8**	76.8	768.0	76.8
Number Adjacent (2,000 feet of centerline)		61	83	62
Number within two miles		1,006	1,006	1,006
Archaeological Sites				
Number Crossed (200-foot ROW)		1	3	1
Score[2]	**54.0**	54.0	540.0	54.0

Table 4.6-1 (Continued)

Number within 2,000 feet		9	12	9
Number within two miles		44	44	46

Notes:

1 Not all criteria that were counted or calculated in the review of the alternatives were used in the scoring process. This is because some criteria were counted using multiple parameters and should not be double counted in the scoring process.

2 Scores are calculated by converting the raw data found to a relative scale of 1-10 as described in Section 4.0. The value in the relative scale is then multiplied by the weight to obtain the score. The Raw data, relative scaling, and final score for each criteria scored are provided in Appendix A.

The three alternatives are relatively similar in terms of potential impacts to archaeological and architectural/historical resources. However, the Proposed Route and Alternative 2 have slightly less impact to archaeological and architectural/historical resources.

4.7 Airports

The PAPUC requires that all airports be identified within two miles of a proposed transmission line. Also, Federal Aviation Administration (FAA) regulations provide for a review process and for making a "Determination of Hazard or No Hazard" for all structures that might constitute a hazard to aeronautical operations. Moreover, FAA regulations provide for a review of all electrical structures and devices that might interfere with the navigation aids (NAVAIDS) and communication facilities for air operations. The primary NAVAIDS of concern include:

- VORTAC 360 degree directional beams
- Airport instrument landing system

The Sky Vector Aeronautical Chart (2016) was used to locate aeronautical features relevant to the proposed Project. The Pittsburgh-International Airport is located just southwest of the study area in Moon Township. This is a public airport offering numerous commercial passenger flights daily.

Air navigation directional beacons may be affected if a high voltage line is directly in the line of sight between the facility and its airborne receiver.

At the closest point, the Proposed Route is located approximately two miles northeast of a runway associated with the Pittsburgh International Airport, and approximately 0.6 miles of the alternative is within two miles of the airport. The Proposed Route runs perpendicular to several runways at the Pittsburgh International Airport. Due to the distance from the runway and the location of the Proposed Route at a lower elevation than the runway, no impact to airport operations is anticipated from the Proposed Route. Alternative 1 is at its closet point located approximately 1.7 miles northeast of the airport, and approximately 2.7 miles of this alternatives is located within two miles of the airport. Alternative 1 run perpendicular to several runways at the Pittsburgh International Airport. However, Alternative 1 is located at lower elevations than the Airport, therefore no impact to airport operations are anticipated from Alternative 1. Alternatives 2 is at its closet point located approximately 1.4 miles east of the airport, and approximately four miles of these alternatives are located within two miles of the airport. Alternative 2 runs perpendicular to several runways at the Pittsburgh International Airport. However, this alternatives is located at lower elevations than the Airport and is largely situated along hillslopes, therefore no impact to airport operations are anticipated from

Alternative 2. No impact to airport operations is anticipated from any of the alternatives, but out of an abundance of caution, this resource criterion is retained as part of the analysis of alternatives.

Table 4.7-1

Airports

Criteria		Existing	Alternative Routes 1	2
Airports				
Length of ROW within 2 Miles		0.6	2.7	4.0
Score[1]	**52.5**	52.5	344.3	525.0

Notes:

1. Scores are calculated by converting the raw data found to a relative scale of 1-10 as described in Section 4.0. The value in the relative scale is then multiplied by the weight to obtain the score. The Raw data, relative scaling, and final score for each criteria scored are provided in Appendix A.

The Proposed Route has the least amount of its route within two miles of an airport. Additionally, at its closest point, the Proposed Route is the furthest from the airport of the three alternatives. From an airport avoidance perspective, the Proposed Route has the least impact.

5.0 Identification of the Preferred Alternative

The three alternatives were qualitatively and quantitatively analyzed and compared by the routing team based on the information gathered through GIS data, field reconnaissance, public outreach, engineering considerations, and cost estimates. The three alternatives developed utilize various combinations of the two main corridors developed through the study area resulting in much overlap between alternatives. However, all alternatives are different enough from at least one other alternative that based on the PAPUC definition, whichever alternative is selected at least one other alternative would function as a "distinct alternative".

The Proposed Route, is the central and most direct alternative, and has the lowest/best final impact score of all the alternative routes. It is the best overall alternative from an environmental, human/built, cultural, and engineering perspective. The Proposed Route is the shortest and would require the least acquisition of new ROW. This alternative crosses the most human/built resources, as it has the most road crossings, crosses the most residential structures, and crosses the most institutional complexes. However, the Proposed Route will cross these human/built resources within existing ROW and no new long-term impacts are anticipated. Additionally, the Proposed Route crosses the least commercial/industrial areas. The Proposed Route is the best alternative from an engineering perspective, as it crosses the least steep terrain and landslide-prone areas, and is the farthest from the Pittsburgh International Airport. The Proposed Route is the best alternative from an environmental resources perspective. It has the least impact to most of the environmental resources including forest land cleared, core RTE habitat, land trust protected areas, and perennial streams crossed, but has the has some of the higher impact to other criteria such as wetlands crossed and

recreational areas. The Proposed Route is tied for the best alternative from a cultural resources perspective. It is tied for the least historical sites within its views shed and least archaeological sites crossed. The Proposed Route has the lowest cost estimate to acquire and construct.

Alternative 1 utilizes large stretches along the Ohio River when available. It has the second lowest/best final impact score of all the alternative routes. It is the second best overall alternative from an environmental, human/built, cultural, and engineering perspective. Alternative1 is the second shortest but would require the second most new ROW. This alternative has the second most impact on human/built resources as it is tied for the least impact to institutional complexes, has the second most road crossings, impacts the second least residential structures, but has the most impact to commercial/industrial areas. Alternative 1 is the second best alternative from an engineering perspective, as it has the second least steep terrain crossed, has the second least landslide-prone area crossed, and has the second shortest distance that is within two miles of Pittsburgh International Airport. Alternative 1 has the second least impact to environmental resources, as it crosses the least recreational areas and wetlands; impacts the second least amount of forest, land trust protected areas, and core RTE habitat; but is tied for the most perennial streams crossed. Alternative 1 is the worst alternative from a cultural resources perspective. It has the most historical sites within its views shed and the most archaeological sites crossed. Alternative 1 has the highest cost estimate to acquire and construct.

Alternative 2 uses some of the southwestern most route and some of the route by the Ohio River. It has the highest/worst final impact score, compared to all alternatives. It is the

worst overall alternative from an environmental, human/built, cultural, and engineering perspective. Alternative 2 is the longest route, and would require the most new ROW acquisition. This alternative has the least impact on human/built resources, as it has the least road crossings, has the second least impact to commercial/industrial areas, has the least impact to institutional complexes, and has the least residential structures. Alternative 2 is the worst alternative from an engineering perspective, as it has the most landslide-prone area, has the most steep terrain crossed, and has the most distance within 2 miles of the Pittsburgh International Airport. Alternative 2 has the most impact to environmental resources, as it has the most forest land impacts, crosses the most land trust protected area and core RTE habitat, is tied for the most perennial streams crossed, is tied for the most impacts to recreational areas, and has the second most impact to wetlands. Alternative 2 is tied for the best alternative from a cultural resources perspective, It is tied for the least historical sites within its views shed and tied for the least archaeological sites crossed. Alternative 2 has the second lowest cost estimate to acquire and construct.

5.1 Preferred Alternative Impacts and Mitigation

The Proposed Route was selected as the Preferred Alternative, as it is the best overall alternative from an environmental, human/built, cultural, and engineering perspective.

5.1.1 Land Use and Land Cover

The Preferred Alternative is 14.5 miles long and is located within existing ROW. The Preferred Alternative has 102 residences, 11 apartment buildings, and four

commercial/industrial buildings crossed by the proposed ROW. Four schools and four churches are located within 1,000 feet of the Preferred Alternative, but no institutional complexes are located within the proposed ROW. Five cemeteries are within 1,000 feet of the Preferred Alternative, but no cemeteries are crossed by the Preferred Alternative.

While the Preferred Alternative will utilize existing ROW, some permanent land use impacts are anticipated. Approximately 73.7 acres of forested land is expected to be cleared to expand the ROW to accommodate this route. The forestland will be converted to rangeland. Any herbaceous and/or mixed rangeland within the existing ROW would be temporarily impacted during construction, but would not result in any permanent land use change, as the land would return to an herbaceous and/or mixed rangeland state.

Construction of the Project will require the clearing and maintenance of permanent ROW up to 150 feet wide. The Preferred Alternative, as the shortest route, and located within an existing ROW, will have the least land use impacts.

The Preferred alternatives will produce temporary and secondary impacts during construction, especially in residential areas, institutional, and commercial areas. These impacts include noise and other construction-related disturbances, including disruptions to vehicular traffic. The most substantial land use effects associated with construction of the proposed line include a reduction in woodland and visual effects in residential areas. Total rangeland area will be increased as a result of construction,

although a temporary reduction in this land use will occur during the construction phase until vegetation becomes re-established. New access roads may also be required to access certain areas of the transmission line.

Land can continue to be used by the property owner as desired provided it does not interfere with operation or maintenance of the transmission line, access to the transmission line, or specific ROW agreements.

All landowners whose access to their property could be potentially impacted will be notified in writing of the possible use of their land for an Access Easement consistent with the construction, maintenance, repair, renewal, use, or operation of said system. Duquesne Light has the right to trim or remove, and control the growth of, by any means selected by Duquesne Light, any trees, brush or shrubbery, and to remove obstructions, which at any time interfere with or threaten to interfere with the access of this easement. Duquesne Light agrees to pay for all damage to fences, crops, and other personal property caused by construction, operation, maintenance, rebuilding, or removal of the transmission line.

During Clearing of the ROW some loss of individual animals may be incurred within the ROW, it is anticipated that most animals can relocate to suitable adjacent habitat during construction. Depending on the habitat type in question, these displaced animals may be able to re-establish in the maintained ROW following construction. Although some wildlife population decreases may be experienced in response to limits upon carrying capacity of adjacent habitats, these decreases should be minimal due to

the small area of disturbance. Additional rangeland may provide foraging areas for numerous wildlife species.

The maintenance of ROW, including tree trimming and brush clearing, may have an effect upon terrestrial animal species occurring in the area. Maintenance may destroy the nests and young of some species if it coincides with the breeding season; driving over the ROW for inspection purpose can also destroy nests and young. However, these impacts should be minimal and should not have any adverse effect upon wildlife populations, as they are infrequent.

Vegetation management practices that will be used by Duquesne Light to minimize impacts to vegetation and wildlife include, but are not limited to:

- Plant cover in the in the center of the ROW will be maintained as a low shrub-herb-fern-grass community.
- Implement selective clearing, based on stem density, on the edges of the ROW and allow compatible herbaceous and shrub species to grow. Use selective herbicide applications to manage undesirable vegetation in and along the ROW corridor. Specific herbicides designed for wetland use may also be utilized to promote best practices.
- Considering span length, allow tree growth in deep valleys and ravines where the conductor height exceeds the mature height of the surrounding trees factoring for minimum allowable electrical safety clearance requirements.

- All disturbed areas will be restored to their original contours. Seeding and mulching will immediately follow seedbed preparation.
- All cutting in and along the ROW less than five inches in diameter, other than buffer areas, will be piled and crushed or disposed of by chipping or shredding. Cutting larger than five inches in diameter will be stacked behind the edge of the ROW or removed, as directed by the landowner.
- Tree pruning and removal and wood disposal efforts in and along the ROW edge will be performed in such a manner as to minimize, as much as possible, damage to desirable plant species.

An Erosion and Sedimentation (E&S) Control Plan will be executed during the construction phase of the Preferred Alternative, minimizing impacts from erosion and resulting sedimentation.

5.1.2 Hydrology

The Preferred Alternative crosses 20 perennial streams and 18.9 acres of NWI wetlands.

A detailed wetland delineations would be required in the field in order to thoroughly define potential wetland impacts of the Preferred Alternative. It is likely that additional wetlands may be identified during wetland delineations conducted.

Wetlands provide a number of significant benefits to the environment. With the exception of forested wetlands, transmission line construction, operation and maintenance do not change the wetlands' basic ecological function; any unavoidable

effects would be minimal and temporary. It is anticipated that no structures would be located in wetlands for any of the alternative routes. Therefore, no permanent loss of wetlands is expected.

None of the streams crossed by the Preferred Alternative are expected to be affected by the placement of poles. However, all streams may be crossed by temporary access roads within the ROW. Temporary equipment crossings will be installed to minimize impacts and will be removed following construction. Temporary equipment crossings will result in a temporary impact to the riparian buffer. The riparian buffers will be replanted following construction and vegetation that is compatible with the transmission line will be allowed to grow. Therefore, no long term impacts to surface waters are anticipated from any of the alternatives. The potential for construction impacts on water quality during construction will be minimized by implementation of the E&S Control Plan.

It is anticipated that crossings of waterbodies for construction of the Project will require a General Permit 5 (GP-5) for Utility Line Stream Crossings and a GP-8 for Temporary Access Roads from the PaDEP, as well as a PA State Programmatic General Permit from the United States Army Corps of Engineers.

Among the protection measures that will be incorporated in this plan are:

- Stream or wetland crossings by vehicles will be restricted to temporary equipment crossings. Access to structures will be gained from upland locations wherever possible.

- Temporary stream and wetland crossings will be used as needed, consisting of equipment pads. If needed, culverts will be constructed in streams with clean stone and gravel fill.
- Any required construction access roads will be laid out to prevent sediments from reaching streams and wetlands. A strip of undisturbed land will be left between the construction road and the stream (filter strip). The width of the filter strip will be greater in steep slope areas than on level areas.
- Best management practices will be used along the stream banks and wetlands to prevent entry of sediment into the stream.
- During construction, drainage ditches, creeks and waterways will be kept free of obstructions.
- Where available, existing access roads will be used to avoid the crossing of streams.
- Appropriate controls will be used at structure locations to prevent sediments from discharging from the area of disturbance.

5.1.3 Scenic and Recreational Areas

The Preferred Alternative cross an undeveloped portion of Fairhaven Park within an existing ROW. Impacts to Fairhaven parks are expected to be minimal and temporary during construction. The Preferred Alternative crosses over the Montour Trail following existing ROW, the Montour Trail is located in a valley and the Preferred Alternative would likely span from ridgetop to ridgetop resulting in minimal

impact to the trail. The Preferred Alternative crosses the edge of Mooncrest Neighborhood Center; the Preferred Alternative is located in an existing ROW that is buffered by trees, and impacts are expected to be minimal and temporary during construction. The Preferred Alternative passes near several other parks. But, due to the use of existing ROW, abundant tree cover and topography, impacts to these parks are not anticipated. The Preferred Alternative is not anticipated to impact the function of any park crossed or adjacent.

5.1.4 Natural Areas and Rare Threatened and Endangered Species

The Preferred Alternative does not impact designated natural/wilderness areas or national natural landmarks.

The Core RTE habitat crossed by the Preferred Alternative is for the Ohio River, which is a recovering river system that provides habitat for numerous species of concern. The Preferred Alternative will cross the Ohio River core habitat as it crosses from Brunot Island to McKees Rocks, the crossings will be aerial and no direct impact to this aquatic core habitat is expected. Any indirect impacts on water quality will be minimized by implementation of the E&S Control Plan during construction.

The Preferred Alternative crosses an area containing a species of special concern [rock skullcap (*Scutellaria saxatilis)*] that is under the jurisdiction of the PADCNR, located in the neighborhood of Moon Crest, just south of the Sewickley Bridge. Surveys for the rock skullcap will be performed in coordination with the PADCNR, and impacts to rock skullcap will be minimized or avoided to the extent

practical.

With the exception of the parks discussed in section 5.1.3, the Preferred Alternative does not crosses a Land Trust Protected areas.

5.1.5 Terrain and Landscape

As the Preferred Alternative will be along existing ROW it will have a minimal visual impact on the surrounding view shed.

The Preferred Alternative crosses 11.0 miles of steep terrain and 7.5 miles of landslide-prone area. These areas will be take into consideration for the final design and construction of the Project.

5.1.6 Archaeological and Architectural/Historical Resources

Additional investigations will be conducted, as necessary, during final design and permitting of the Preferred Alternative to determine the presence, extent, and eligibility of architectural and historical resources that could be affected by the Project. These efforts will be coordinated with the PA SHPO.

5.1.7 Airports

The Preferred Alternative, at its closet point is approximately two miles northeast of the Pittsburgh International Airport. Approximately 0.6 miles of the Preferred Alternative is within two miles of the Pittsburgh international Airport. Duquesne Light will coordinate with the FAA and will provide markers or beacons as required.

6.0 Permits and Zoning

6.1 Anticipated Agency Requirements and Permits

The anticipated agency requirements and permits for the Preferred Alternative are provided in Table 6.1.

Table 6.1

Agency Requirements and Permits

Agency	Requirement	Permit Status	Date of Submission	Date of Approval
Federal Agencies				
United States Army Corps of Engineers	Pennsylvania State Programmatic General Permit 5	Application to be Submitted	November 12, 2018 (anticipated)	May 21. 2019 (anticipated)
United States Fish and Wildlife Service	Rare Threatened and Endangered Species Consultation	Approval Granted (expires after two years[1])	October 15, 2015	November 13, 2015
Federal Aviation Administration	Notice of Proposed Construction or Alteration (Form 7460-1)	Application to be Submitted	December 7, 2018 (anticipated)	February 7, 2019 (anticipated)
Land and Water Conservation Fund	PADCNR Consultation for anti-conversion	Application to be Submitted	October 12, 2018 (anticipated)	November 12, 2018 (anticipated)
State Agencies				
Pennsylvania Department of Environmental Protection	Chapter 105, GP-5 for Utility Line Stream Crossings and a GP-8 for Temporary Access Roads	Application to be Submitted	November 12, 2018 (anticipated)	May 13, 2019 (anticipated)
Pennsylvania Game Commission	Rare Threatened and Endangered Species Consultation	Approval Granted (expires after two years[1])	October 15, 2015	November 5, 2015

Pennsylvania Department of Conservation and Natural Resources	Rare Threatened and Endangered Species Consultation	Consultation ongoing	October 15, 2015	November 18, 2018
Pennsylvania Fish and Boat Commission	Rare Threatened and Endangered Species Consultation	Approval Granted (expires after two years[1])	October 15, 2015	November 5, 2015

Table 6.1 (Continued)

Agency	Requirement	Permit Status	Date of Submission	Date of Approval
State Agencies (Continued)				
Pennsylvania State Historic Preservation Office	Cultural Resources Consultation	Application to be Submitted	November 12, 2018 (anticipated)	February 8, 2019 (anticipated)
Pennsylvania Department of Transportation	Highway Occupancy Permit, Driveway Permit, Excessive Maintenance Agreement	Application to be Submitted (expires after one year)	November 13, 2018 (anticipated)	March 22, 2019 (anticipated)
Local Agencies				
Allegheny County Conservation District	General (PAG-02) National Pollutant Discharge Elimination System (NPDES) Permit	Application to be Submitted	November 13, 2018 (anticipated)	February 26, 2019 (anticipated)
Allegheny County	Hauling Agreement and Drive Way Permits	Application to be Submitted (expires after one year[2])	November 13, 2018 (anticipated)	March 22, 2019 (anticipated)
City of Pittsburgh	Grading Permit	Application to be Submitted	November 12, 2018 (anticipated)	January 11, 2019 (anticipated)
	Floodplain Permit	Application to be Submitted	November 12, 2018 (anticipated)	January 11, 2019 (anticipated)

	Driveway Permit and Excessive Maintenance Agreement	Application to be Submitted (expires after one year2)	November 13, 2018 (anticipated)	March 22, 2019 (anticipated)

Table 6.1 (Continued)

Agency	Requirement	Permit Status	Date of Submission	Date of Approval
Local Agencies (Continued)				
McKees Rock Borough	Grading Permit	Application to be Submitted	November 12, 2018 (anticipated)	January 11, 2019 (anticipated)
	Floodplain Permit	Application to be Submitted	November 12, 2018 (anticipated)	January 11, 2019 (anticipated)
	Driveway Permit and Excessive Maintenance Agreement	Application to be Submitted (expires after one year2)	November 13, 2018 (anticipated)	March 22, 2019 (anticipated)
Moon Township	Grading Permit	Application to be Submitted	November 12, 2018 (anticipated)	January 11, 2019 (anticipated)
	Floodplain Permit	Application to be Submitted	November 12, 2018 (anticipated)	January 11, 2019 (anticipated)
	Driveway Permit and Excessive Maintenance Agreement	Application to be Submitted (expires after one year2)	November 13, 2018 (anticipated)	March 22, 2019 (anticipated)
Robinson Township	Grading Permit	Application to be Submitted	November 12, 2018 (anticipated)	January 11, 2019 (anticipated)
	Floodplain Permit	Application to be Submitted	November 12, 2018 (anticipated)	January 11, 2019 (anticipated)
	Driveway Permit and Excessive Maintenance Agreement	Application to be Submitted (expires after one year2)	November 13, 2018 (anticipated)	March 22, 2019 (anticipated)

Table 6.1 (Continued)

Agency	Requirement	Permit Status	Date of Submission	Date of Approval
Crescent Township	Grading Permit	Application to be Submitted	November 12, 2018 (anticipated)	January 11, 2019 (anticipated)
	Floodplain Permit	Application to be Submitted	November 12, 2018 (anticipated)	January 11, 2019 (anticipated)
	Driveway Permit and Excessive Maintenance Agreement	Application to be Submitted (expires after one year2)	November 13, 2018 (anticipated)	March 22, 2019 (anticipated)
Kennedy Township	Grading Permit	Application to be Submitted	November 12, 2018 (anticipated)	January 11, 2019 (anticipated)
	Floodplain Permit	Application to be Submitted	November 12, 2018 (anticipated)	January 11, 2019 (anticipated)
	Driveway Permit and Excessive Maintenance Agreement	Application to be Submitted (expires after one year2)	November 13, 2018 (anticipated)	March 22, 2019 (anticipated)
Pittsburgh and Ohio Central Railroad	Railroad Crossing Permit	Application to be Submitted	May 2, 2018 (anticipated)	April 11, 2019 (anticipated)

Notes:

1. RTE consultation expiring before permit approval will be updated as needed.
2. PennDOT and local road permits or agreements expiring before the completion of the project will be updated.

6.2 Review of County Comprehensive Plans and Municipal Level Zoning

The proposed reconstruction and operation of the existing 138 kV transmission line circuits was evaluated for general compliance with the local Comprehensive Plans located in the Allegheny County Comprehensive Plan (Allegheny County, 2008), McKees Rocks and Stowe Township Multi-Municipal Comprehensive Plan (Char-West, 2011), Moon Township

Comprehensive Plan (Moon Township, 2015), Robinson Township Comprehensive Plan (Robinson Township, 2016), Crescent Township Comprehensive Plan (Crescent Township 1971), and Pittsburgh's Comprehensive Planning Open Space, Parks, and Recreation Plan (Pittsburgh, 2013). A comprehensive plan was not available for the Kennedy Township.

The plans purpose is to help guide local planning for the communities and set short term as well as long-term goals and objectives for all activities that affect the community. Review of the Comprehensive Plans and other associated documentation in relation to the proposed project activities considered the compatibility with local land use, proposed housing developments, future growth areas, community facilities and environmentally sensitive areas.

The available comprehensive plans were reviewed to identify issues specific to the local communities as well as any potential fatal flaws. Mitigation of any potential impacts may include modifying the route, engineering design, locating the corridor in relationship to existing utility infrastructure, and coordinating with individual property owners and municipal governments.

Allegheny County

According to the Allegheny County Comprehensive Plan (Allegheny County, 2008) the portion of the county in the Study Area is largely residential with small areas of Commercial, Industrial, Community Facilities, and Recreation/Conservation land uses. The plan's goals that relate to the Project include redeveloping existing areas, providing efficient infrastructure, and creating and maintaining extensive greenways such as parks, trails, riverfronts. The entire of the Project is located in Allegheny County, PA.

McKees Rocks Borough

The Char-West Multi-Municipal Comprehensive Plan includes plans for McKees Rocks, Neville Township, and Stowe Township collectively. Objectives of this plan that could relate to the construction of a transmission line include the intention to redevelop existing industrial and commercial spaces. In addition, a goal of this plan is to create a Chartiers Creek Greenway, which restores riparian buffers to Chartiers Creek. The Project spans Chartiers Creek at four different sections for approximately 1.1 miles.

McKees Rocks Borough is located at the eastern edge of the Study Area. McKees Rock Borough is highly developed with heavy industry adjacent to the Ohio River and Chartiers Creek. The remainder of McKees Rocks Borough is largely single family residential. The major roadway through the Study Area in the McKees Rock Borough is Route 51. Additionally, several railroads are located in the in the Study Area in McKees Rock Borough, including Pennsylvania Railroad and Pittsburgh Chartiers and Youghiogheny Railroad. According to the Char-West Multi-Municipal Comprehensive Plan Generalized Existing Land Use Map, 0.15 miles of the Project is located in industrial zoning. The Future Land Use and Housing Plan map also show most of the Project in Industrial Zones, and a 0.05-mile section in a Community Oriented Commercial zone.

Moon Township

The Moon Township Comprehensive Plan's objectives state that the township is interested in encouraging high-quality development in the area, while preserving the Township's historic and cultural resources. The Township aims to incentivize sustainable, yet simple development, and promote use of redevelopment. The Township also plans to maintain

the Landscape Conservation Areas, located in the southwest portion of the Township. The Project exists in approximately 0.5 miles of this designated area.

Moon Township is located at the western end of the Study Area. The Study Area only encompasses the northeastern portion of Moon Township. This portion of the Township is dominated by residential neighborhoods, with several parks and a commercial district located along University Boulevard. Large areas of land remain undeveloped in Moon Township. Major roadways through the Study Area in Moon Township are Route 51, Hassam Road, Maple Street, Coraopolis heights, Thorn Run Road, University Boulevard, Beaver Grade Road, Stoops Ferry, Broadhead Road, and Flaugherty Run Road. One railroad owned by Pittsburgh and Lake Erie Railroad is located along the Ohio River. Additionally, part of the Montour Run Rail Trail is located in Moon Township. According to the Township of Moon Official Zoning Map, approximately 0.4 miles is located in an Industrial zone (M-1), 0.2 miles is located in Commercial (C-2), 0.4 miles in Educational (ED) and 4 miles in Residential (R-1, R-2, R-3, R-4, R-5). The total length of the Project that occurs in Moon Township is approximately 5 miles.

Robinson Township

The Robinson Township Comprehensive Plan states that as land becomes scarce in the Township, they recognize the need to preserve environmentally friendly greenspaces, terrain subject to abandoned mine drainage issues, red bed soil complexes, impaired streams, previously mined areas, and recreational areas. They also wish to implement a Land Trust of their own, or join another trust, such as the Allegheny Land Trust, to help identify stated areas of concern.

Robinson Township is located in the center of the Study Area. Robinson Township is largely residential with small pockets of commercial and institutional land use. Large areas of land remain undeveloped in Robinson Township. The major roadway through the Study Area in the Robinson Township are Route 51, Interstate 79, Forest Grove Road, Clever Road, North Silver Lane, and Ewings Mill Road. One railroad, owned by Pittsburgh Chartiers and Youghiogheny Railroads, is located along the Ohio River. Additionally, part of the Montour Run Rail Trail is located in Robinson Township. According to the Official Zoning Map of the Township of Robinson, 1.75 miles of the Project that occurs in Robinson Township exists in Residential zoning (R-1, R-2, R-3). In the area of the Project, the Future Land Use Map, located in the Comprehensive Plan, shows no change from the current zoning map.

Crescent Township

The Comprehensive Plan's objective states that land use activities, such as major utility wires, should be designed, arranged, or screened in a manner that will keep the surrounding environment from being adversely affected. The Future Land Use Plan is the basis for municipal zoning policies, hence, there are few differences from the Current Land Use Plan zoning policies and the future plans.

According to the Crescent Township Comprehensive Plan (Crescent Township 1971), the Proposed Route passes through approximately 1.274 miles of Agriculture/Conservation (A-1), 0.326 miles of Residential (R-1, R-2), and .010 miles of Commercial (B-2). Crescent Township is located at the northwest edge of the Study Area. Crescent Township is largely undeveloped with pockets of residential areas. Commercial and industrial districts are located along Route 51 and the Ohio River. Major roadways include Route 51, Spring Run Road,

Bocktown Road, and Harper Road. One railroad owned by Pittsburgh and Lake Erie Railroad is located along the Ohio River.

Pittsburgh

A small eastern portion of the Study Area is located within the City of Pittsburgh. The goals of Pittsburgh's Comprehensive Planning Open Space, Parks, and Recreation Plan (Pittsburgh, 2013), relating to this Project, include respecting and enhancing the relationship between nature and the built environment, and finding viable interim uses for vacant and distressed properties. Specifically, protecting hillslopes and tree canopy, and repurposing abandoned industrial or vacant sites.

The land use within Pittsburgh city limits encompassed by the Study Area is largely comprised of open green space and industry, and a single family residence neighborhood. The major roadway through the Study Area in the City of Pittsburgh is Route 51. Additionally, several railroads are located in the in the Study Area in the City of Pittsburgh, including Pittsburgh and Lake Erie Railroad, Ohio Railroad, Pittsburgh and Ohio Central Pittsburgh Industrial Railroad, and Pittsburgh Chartiers and Youghiogheny Railroad. The Proposed Route for the Project will occur along existing ROW near Chartiers Playground and Sheraden Park, but does affect them. This 2 mile section of the Project falls within the General Industry (GI) zone in Pittsburgh.

Kennedy Township

While a Municipal Comprehensive Plan was not available for Kennedy Township, the zoning map was reviewed. The Zoning District Map for the Township of Kennedy indicated that the project crossed areas zoned residential including approximately 0.43 miles in R5

(mobile home parks), 0.15 miles in R3 (multiple family residential), and 1.13 miles in R1 (single family residential). Additionally, the project crosses approximately 0.65 miles of C-3 (highway commercial district) and 0.32 miles of Fairhaven Park.

7.0 References

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APPENDIX A
Resource Criteria Score Calculations

Table A-1.

Land Use and Land Cover Criteria Score Calculations

Criteria	Weight	Alternative Routes Existing	1	2
Commercial/Industrial Areas: within 100 feet of Centerline				
Raw Data		4	9	6
Relative Score		1.00	10.00	4.60
Score	76.9	76.9	769.0	353.7
Residential Areas: within 100 feet of Centerline				
Raw Data		113	25	9
Relative Score		10.00	2.38	1.00
Score	88.8	888.0	211.8	88.8
Cemeteries: Number within 125-foot ROW				
Raw Data		0	0	0
Relative Score		0.00	0.00	0.00
Score	76.8	0.0	0.0	0.0
Railroad and Highway/Road Crossings: Number of Crossings				
Raw Data		52	44	36
Relative Score		10.00	5.50	1.00
Score	**33.1**	331.0	182.1	33.1
Institutional Complexes: Number Adjacent/Crossed (200-foot ROW)				
Raw Data		8	6	6
Relative Score		10.00	1.00	1.00
Score	**83.1**	831.0	83.1	83.1
Agricultural Land: Active Agricultural Land Acres (200-foot ROW)				
Raw Data		0.0	0.0	0.0
Relative Score		0.00	0.00	0.00
Score	**44.0**	0.0	0.0	0.0
Non-Paralleling ROW: Miles Required				
Raw Data		0.0	12.8	15.0
Relative Score		1.00	8.70	10.00
Score	**31.1**	31.1	270.7	311.0

Table A-1 (Continued)

Criteria	Weight	Existing	Alternative Routes 1	2
Length: Miles				
Raw Data		14.5	15.3	16.2
Relative Score		1.00	4.37	10.00
Score	**28.8**	28.8	125.8	288.0
Forested Land: 125-foot ROW (Acres)				
Raw Data		73.75	200.70	230.2
Relative Score		1.00	8.30	10.00
Score	**33.0**	33.0	274.0	330.0

Table A-2

Hydrology Criteria Score Calculations

Criteria	Weight	Alternative Routes		
		Existing	1	2
NWI Wetlands: Acres (200-foot ROW)				
Raw Data		18.9	4.4	4.5
Relative Score		10.00	1.00	1.06
Score	**66.2**	662.0	66.2	69.9
Streams				
Number of Perennial Crossings				
Raw Data		20.0	22.0	22.0
Relative Score		1.00	10.00	10.00
Score	**43.0**	43.0	430.0	430.0
EV Streams Crossed				
Raw Data		0.0	0.0	0.0
Relative Score		0.00	0.00	0.00
Score	**58.0**	0.0	0.0	0.0

Table A-3

Scenic and Recreational Area Criteria Score Calculations

Criteria	Weight	Existing	Alternative Routes 1	2
State Forest: Linear Distance Adjacent (miles)				
Raw Data		0	0	0
Relative Score		0.00	0.00	0.00
Score	**43.4**	0	0	0
State Parks: Linear Distance Adjacent (miles)				
Raw Data		0	0	0
Relative Score		0.00	0.00	0.00
Score	**69.2**	0	0	0
State Game Lands: Linear Distance Adjacent (miles)				
Raw Data		0	0	0
Relative Score		0.00	0.00	0.00
Score	**33.4**	0	0	0
Recreational Areas (including local parks and golf courses): Number (200-foot ROW)				
Raw Data		3.0	1.0	3.0
Relative Score		10.00	1.00	10.00
Score	**67.3**	673.0	67.3	673.0
Hiking and Biking Trails (excluding parks): Number Crossed (200-foot ROW)				
Raw Data		1.0	1.0	2.0
Relative Score		1.00	1.00	10.00
Score	**42.8**	42.8	42.8	428.0
Designated Scenic Areas: Number Adjacent/Crossed (200-foot ROW)				
Raw Data		0	0	0
Relative Score		0.00	0.00	0.00
Score	**71.3**	0	0	0
Natural Wild & Scenic/State Scenic Rivers: # Scenic Rivers Crossed (200-foot ROW)				
Raw Data		0	0	0
Relative Score		0.00	0.00	0.00
Score	**72.0**	0	0	0
Unique Geological Resources: Number Adjacent/Crossed (200-foot ROW)				
Raw Data		0	0	0
Relative Score		0.00	0.00	0.00
Score	**59.2**	0	0	0

Table A-4

Criteria	Weight	Alternative Routes		
		Existing	1	2
National Natural Landmarks: Number Adjacent/Crossed (200-foot ROW)				
Raw Data		0	0	0
Relative Score		0.00	0.00	0.00
Score	**78.0**	0	0	0
Designated Natural/Wilderness Areas: Linear Distance Adjacent (miles) (within 200-foot ROW)				
Raw Data		0	0	0
Relative Score		0.00	0.00	0.00
Score	**73.2**	0	0	0
Other Natural Areas				
Core RTE habitat acres (200-foot ROW)				
Raw Data		0.6	2.81	3.2
Relative Score		1.00	8.65	10.00
Score	**71.9**	71.9	621.9	719.0
Land Trust Protected acres (200-foot ROW)				
Raw Data		0.00	0.10	1.30
Relative Score		1.00	1.69	10.00
Score	**71.9**	71.9	121.7	719.0

Natural Areas Resources Criteria Score Calculations

Table A-5

Terrain and Landscape Criteria Score Calculations

Criteria	Weight	Alternative Routes		
		Existing	1	2
Steep Terrain (> 20%): Linear Distance Adjacent (miles)				
Raw Data		11.0	11.2	12.6
Relative Score		1.00	1.89	10.00
Score	**40.9**	40.9	77.2	409.0
Landslide-Prone Areas: Linear Distance Adjacent (miles)				
Raw Data		7.5	9.4	9.6
Relative Score		1.00	9.14	10.00
Score	**53.7**	53.7	491.0	537.0

Table A-6

Archaeological and Architectural/Historical Resources Criteria Score Calculations

Criteria	Weight	Alternative Routes		
		Existing	1	2
Architectural and Historic Sites: Number Crossed (200-foot ROW)				
Raw Data		34	37	34
Relative Score		1.00	10.00	1.00
Score	**76.8**	76.8	768.0	76.8
Archaeological Sites: Number Crossed (200-foot ROW)				
Raw Data		1	3	1
Relative Score		1.00	10.00	1.00
Score	**54.0**	54.0	540.0	54.0

Table A-7

Airport Criteria Score Calculations

Criteria	Weight	Alternative Routes		
		Existing	1	2
Airports: Length of ROW within 2 Miles				
Raw Data		0.6	2.7	4.0
Relative Score		1.00	6.56	10.00
Score	**52.5**	52.5	344.3	525.0

APPENDIX B
Description of Previously Recorded Architectural, Historical, and Archaeological Resources within Two Miles of Project Alternatives

Description of Previously Recorded Architectural and Historical Resources within Two Miles of Project Alternatives

Key #	County	Municipality	Historic Name	Resource Category	Address	National Register Status
679	Allegheny	Thornburg Borough	Thornburg Historic District	District		Listed
1269	Beaver	Ambridge Borough	Old Economy National Historic Landmark	District	270 Sixteenth Street	NHL
1717	Allegheny	Pittsburgh City	Allegheny Observatory	Building	159 Riverview Ave.	Listed
1719	Allegheny	Pittsburgh City	Allegheny West Historic District	District		Listed
1726	Allegheny	Pittsburgh City	Byers-Lyons House	Building	901 Ridge Ave.	Listed
1733	Allegheny	Coraopolis Borough	Coraopolis Railroad Station	Building	Neville Ave.	Listed
1734	Allegheny		Davis Island Lock & Dam Site	Site		Listed
1738	Allegheny	Pittsburgh City	Emmanuel Episcopal Church	Building		NHL
1753	Allegheny	Pittsburgh City	Manchester Historic District	District		Listed
1754	Allegheny	Pittsburgh City	Mexican War Streets Historic District	District		Listed
1759	Allegheny	Edgeworth Borough	Shields, David, House	Building	Shield's Ln.	Listed
1779	Allegheny	Pittsburgh City	Snyder, William Penn, House	Building	852 Ridge Ave.	Listed

Key #	County	Municipality	Historic Name	Resource Category	Address	National Register Status
1785	Allegheny	Edgeworth Borough	Way, Nicholas, House	Building	108 Beaver Rd.	Listed
1786	Allegheny	Pittsburgh City	West End-North Side Bridge	Structure		Listed
4005	Allegheny	Pittsburgh City	Morrow, John, Elementary School	Building	1611 Davis Ave.	Listed
4023	Allegheny	Pittsburgh City	Allegheny City Stables	Building	836 West North Avenue	SHPO: Eligible
4026	Allegheny	Pittsburgh City	Lasalle Electric Supply Company	Building	1415 Brighton Pl.	SHPO: Eligible
4041	Allegheny	Pittsburgh City	National Casket Company	Building		SHPO: Eligible
5529	Allegheny	Pittsburgh City	Conroy, John M., School	Building	Page St.	Listed
5868	Allegheny	Pittsburgh City	Oliver, David P., High School	Building		Listed
7766	Allegheny	Pittsburgh City	Langley High School	Building	Sheraden Blvd.	Listed
7819	Allegheny	Avalon Borough		Building	640 California Ave.	SHPO: Eligible
7900	Allegheny	Bellevue Borough	Rousseau, Marius, House	Building	100 Watkins Ave.	SHPO: Eligible
7906	Allegheny	Ben Avon Borough		Building	7101 Church Ave.	SHPO: Eligible
8715	Allegheny	Emsworth Borough	Emsworth Locks & Dams	Structure	Western Ave.	SHPO: Eligible

Key #	County	Municipality	Historic Name	Resource Category	Address	National Register Status
8716	Allegheny	Emsworth Borough	Ohio River Boulevard Bridge & Commemorative Pillars	Structure	Ohio River Blvd.	SHPO: Eligible
8718	Allegheny	Emsworth Borough	Roper, W.A., Property	Building	8100 Ohio River Blvd.	SHPO: Eligible
9595	Allegheny	Pittsburgh City	Western State Penitentiary	Building	Doerr St.	SHPO: Eligible
9648	Allegheny	Pittsburgh City	Brashear, John Alfred, House & Factory	Building	1954 Perrysville Ave.	Listed
9787	Allegheny	Sewickley Borough	Flatiron Building	Building	514 Beaver Rd.	SHPO: Eligible
9799	Allegheny	Sewickley Borough	Sewickley Methodist Episcopal Church	Building	Broad St.	SHPO: Eligible
9804	Allegheny	Sewickley Borough	Pennsylvania Railroad: Station (Sewickley)	Building	Chadwick St.	SHPO: Eligible
9831	Allegheny	Sewickley Borough	Sewickley Public Library	Building	Thorn St.	SHPO: Eligible
9906	Allegheny	Sewickley Borough	Sewickley Presbyterian Church	Building	414 Grant St.	SHPO: Eligible
9979	Allegheny	Sewickley Heights Borough	Franklin Farm Watertower	Structure	Blackburn Rd.	SHPO: Eligible
10133	Allegheny	Stowe Township		Building	Charles Ave.	SHPO: Eligible
10516	Allegheny		Coraopolis Bridge	Structure	Ferree St.	Listed

Key #	County	Municipality	Historic Name	Resource Category	Address	National Register Status
10547	Allegheny	Crafton Borough	Campbell Building	Building	60 E Crafton Ave.	Listed
10548	Allegheny	Crafton Borough	Creighton House	Building	51 Noble Ave.	SHPO: Eligible
10559	Allegheny	Crafton Borough	Crafton National Bank	Building	142 Noble Ave.	SHPO: Eligible
10731	Allegheny	Edgeworth Borough	Singer, William H., Sr., Estate Outbuildings	Building	753 Chestnut Rd.	SHPO: Eligible
10778	Allegheny		Muottas	Building	21 Little Sewickley Creek Rd.	SHPO: Eligible
10779	Allegheny	Edgeworth Borough	Edgeworth Bridge	Structure		SHPO: Eligible
19685	Allegheny	Leet Township	Watson, D.T. Summer Estate Sunny Hill""	Building	Camp Meeting Rd.	SHPO: Eligible
19690	Allegheny	Leetsdale Borough	Elmridge	Building	Beaver Rd.	Listed
19700	Allegheny	Leetsdale Borough	Lark Inn (Halfway House")"	Building	634 Beaver Rd.	SHPO: Eligible
19850	Allegheny	Mckees Rocks Borough	Saint Mary's Roman Catholic Church Complex	Building	St. John St.	SHPO: Eligible
19851	Allegheny	Mckees Rocks Borough	Mann's Hotel	Building	23 Singer Ave.	SHPO: Eligible
19868	Allegheny	Mckees Rocks Borough	Pittsburgh & Lake Erie Railroad: Yard Complex	Building		SHPO: Eligible

Key #	County	Municipality	Historic Name	Resource Category	Address	National Register Status
43509	Allegheny	Pittsburgh City	Hoene-Werle House	Building	1313 Allegheny Ave.	Listed
50658	Allegheny	Pittsburgh City	Deutschtown Historic District	District		Listed
64370	Allegheny	Pittsburgh City	Old Allegheny Rows Historic District	District		Listed
76787	Allegheny	Crescent Township	Shouse, Peter, House	Building	Main St.	SHPO: Eligible
77378	Allegheny	Neville Township	Repair Facility Lock No. 2	Building	River Rd.	SHPO: Eligible
77414	Beaver	Ambridge Borough	Laughlin Memorial Free Library	Building		SHPO: Eligible
77415	Beaver	Ambridge Borough	Ambridge U.S. Post Office	Building	1020 Merchant St.	SHPO: Eligible
78856	Beaver	Ambridge Borough	Economy Historic District	Building		Listed
79659	Allegheny	Pittsburgh City	Brightridge Street Rowhouse Historic District	District	838 Brightridge St.	Listed
79660	Allegheny	Pittsburgh City	Charles Street Rowhouse Historic District	District	2501 Charles St.	Listed
79931	Allegheny	Stowe Township	Apartment Building	Building	908 and 916 Dohrman St.	SHPO: Eligible
82565	Allegheny	Sewickley Borough	United States Post Office--Sewickley Branch	Building	200 Broad St.	Listed

Key #	County	Municipality	Historic Name	Resource Category	Address	National Register Status
82589	Allegheny	Pittsburgh City	Westlake Public School	Building	900 Lorenz Ave.	SHPO: Eligible
82597	Allegheny	Pittsburgh City	Calvary Methodist Episcopal Church	Building		SHPO: Eligible
82601	Allegheny	Pittsburgh City	Mexican War Streets Historic District (Boundary Increase)	District		Listed
82614	Allegheny	Pittsburgh City	200 W. North Avenue	Building	200 W North Ave.	Listed
86811	Allegheny	Pittsburgh City	Allegheny Commons	Site		Listed
86878	Allegheny	Pittsburgh City	Manchester Historic District Boundary Increase Area	District		SHPO: Eligible
96119	Allegheny	Bellevue Borough	Northgate Grant School		Grant Ave.	SHPO: Eligible
96456	Allegheny	Coraopolis Borough	Coraopolis Armory	Building	835 5th Ave.	Listed
96518	Allegheny	Sewickley Heights Borough	Robinson-Laughlin Party House	Building	Blackburn Rd.	SHPO: Eligible
96654	Allegheny		McKees Rocks Bridge	Structure		Listed
96831	Allegheny	Coraopolis Borough	Montour Railroad Company: Shops	Building		SHPO: Eligible
97246	Allegheny	Pittsburgh City	Pittsburgh & Lake Erie Railroad: Bridge No. 3.36	Structure		SHPO: Eligible

Key #	County	Municipality	Historic Name	Resource Category	Address	National Register Status
97247	Allegheny	Coraopolis Borough	Pittsburgh & Lake Erie Railroad: Mr. Tower CP-10	Building		SHPO: Eligible
97496	Allegheny		Western Pennsylvania Railroad (Pittsburgh to Freeport)	District		SHPO: Eligible
97622			Montour Railroad	District		SHPO: Eligible
100102	Allegheny		Crafton Historic District	District		SHPO: Eligible
100104	Allegheny		Ingram Historic District	District		SHPO: Eligible
100105	Washington	Buffalo Township	Pittsburgh & Steubenville Railroad (Pittsburgh to WV line)	District		SHPO: Eligible
100109	Allegheny	Pittsburgh City	Corliss Street Tunnel	Structure	Corliss St.	SHPO: Eligible
100639	Allegheny	Sewickley Borough	02 1 0 0652 0 060887		Ohio River Blvd.	SHPO: Eligible
101760	Allegheny	Pittsburgh City	West End Valley Historic District	District		SHPO: Eligible
101761	Allegheny	Pittsburgh City	Horix Company	Building	2609 Chartiers Ave.	SHPO: Eligible
101775	Allegheny	Bellevue Borough	Bellevue Borough Hall	Building		SHPO: Eligible

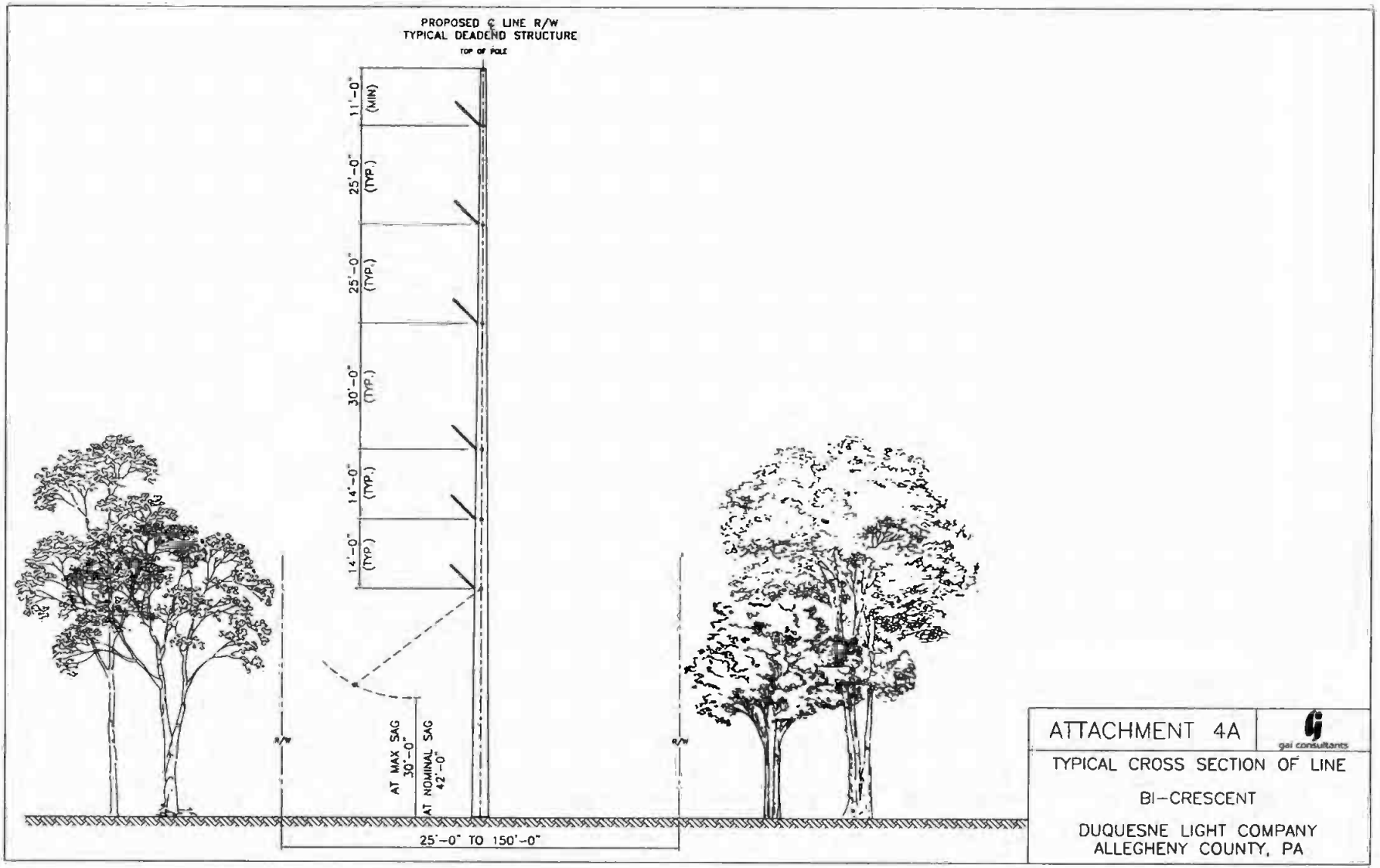
Key #	County	Municipality	Historic Name	Resource Category	Address	National Register Status
102240	Allegheny	Leetsdale Borough	Riter-Conley Manufacturing Company	District	Ohio River Blvd.	SHPO: Eligible
102408	Allegheny	Mckees Rocks Borough		Building	1000 Chartiers Ave.	SHPO: Eligible
102885	Allegheny	Leetsdale Borough	Leetsdale Borough Building	Building	85 Broad St.	SHPO: Eligible
106200	Allegheny	Pittsburgh City	Saint John's Hospital	Building	339 McClure Avenue	SHPO: Eligible
106684	Allegheny	Sewickley Borough	Saint Matthews African Methodist Episcopal Zion Church	Building	345 Thorn St.	SHPO: Eligible
110462	Allegheny	Robinson Township	Bridge over Montour Run	Structure		SHPO: Eligible
111288	Allegheny	Sewickley Borough	Boundary - Beaver Streets Historic District	District		SHPO: Eligible
111869	Allegheny	Sewickley Borough	Old Thorn Farm-Broad Street Historic District	District		SHPO: Eligible
112369			Pennsylvania Railroad: Main Line (Harrisburg to Pittsburgh)	District		SHPO: Eligible
112372			Pennsylvania Railroad: Main Line (Pittsburgh to Ohio State Line)	District		SHPO: Eligible
112503	Allegheny	Ben Avon Borough	Ben Avon Historic District	District		SHPO: Eligible

Key #	County	Municipality	Historic Name	Resource Category	Address	National Register Status
114795	Allegheny	Leetsdale Borough	Seaman House	Building	72 Ohio River Blvd.	SHPO: Eligible
114798	Allegheny	Leetsdale Borough	Leet Street Bridge	Structure	LEET ST	SHPO: Eligible
114800	Allegheny	Leetsdale Borough	Riter-Conway Steel Company Historic District	District	Washington	SHPO: Eligible
116800			Pittsburgh & Lake Erie Railroad (Mahoning Twp. Lawrence Co. to Brownsville Fayette Co. and Connellsville Fayette Co.)	District		SHPO: Eligible
120239	Allegheny	Robinson Township	Oil Extraction Facility No. 1	Site	12 Winter Rd.	SHPO: Eligible
120243	Allegheny	Robinson Township	Oil Extraction Facility No. 2	Structure	Elliot Dr.	SHPO: Eligible
120247	Allegheny	Moon Township	Panner, John, Farm	Structure		SHPO: Eligible
120259	Allegheny	Mckees Rocks Borough	McKay, James & Company Chain Works	Building	1107 Thompson Ave.	SHPO: Eligible
120267	Allegheny	Mckees Rocks Borough	Chartier Trust Company	Building	701 Chartiers Ave.	SHPO: Eligible
125935	Allegheny	Moon Township	Mooncrest Historic District	District		Listed
127092	Allegheny		Oakdale Army Air Defense Base; Oakdale	District		SHPO: Eligible

Key #	County	Municipality	Historic Name	Resource Category	Address	National Register Status
			Nike Missile Site Historic			
128728	Beaver	Ambridge Borough	Ambridge Area Senior High School	Building	909 Duss Ave.	SHPO: Eligible
129447	Allegheny	Ben Avon Borough		Structure	SR 65	SHPO: Eligible
129743	Allegheny	Pittsburgh City	Robert Mcaffee Bridge	Structure	SR 7301	SHPO: Eligible
129802	Allegheny	Pittsburgh City	Jack's Run Bridge No 1	Structure	SR 7301	SHPO: Eligible
130150	Beaver	Ambridge Borough	Ambridge-woodbridge Bridge	Structure	SR 7402	SHPO: Eligible
206320	Allegheny	Pittsburgh City	USS Requin	Structure	1 Allegheny Avenue	SHPO: Eligible
206485	Beaver	Ambridge Borough	Ambridge Commercial Historic District	District	Merchant Street	SHPO: Eligible

Site #	Site Name	Site Type	Topographic Setting	National Register Status
36AL0016	McKees Rock Mound Village	Village	Rise in Floodplain	SHPO: Eligible
36AL0356	Steuben Street Site	Historic Domestic Site	Middle Slopes	SHPO: Eligible
36AL0591	Portman Row	Historic and Pre-Contact	Terrace	SHPO: Eligible

Attachment 4



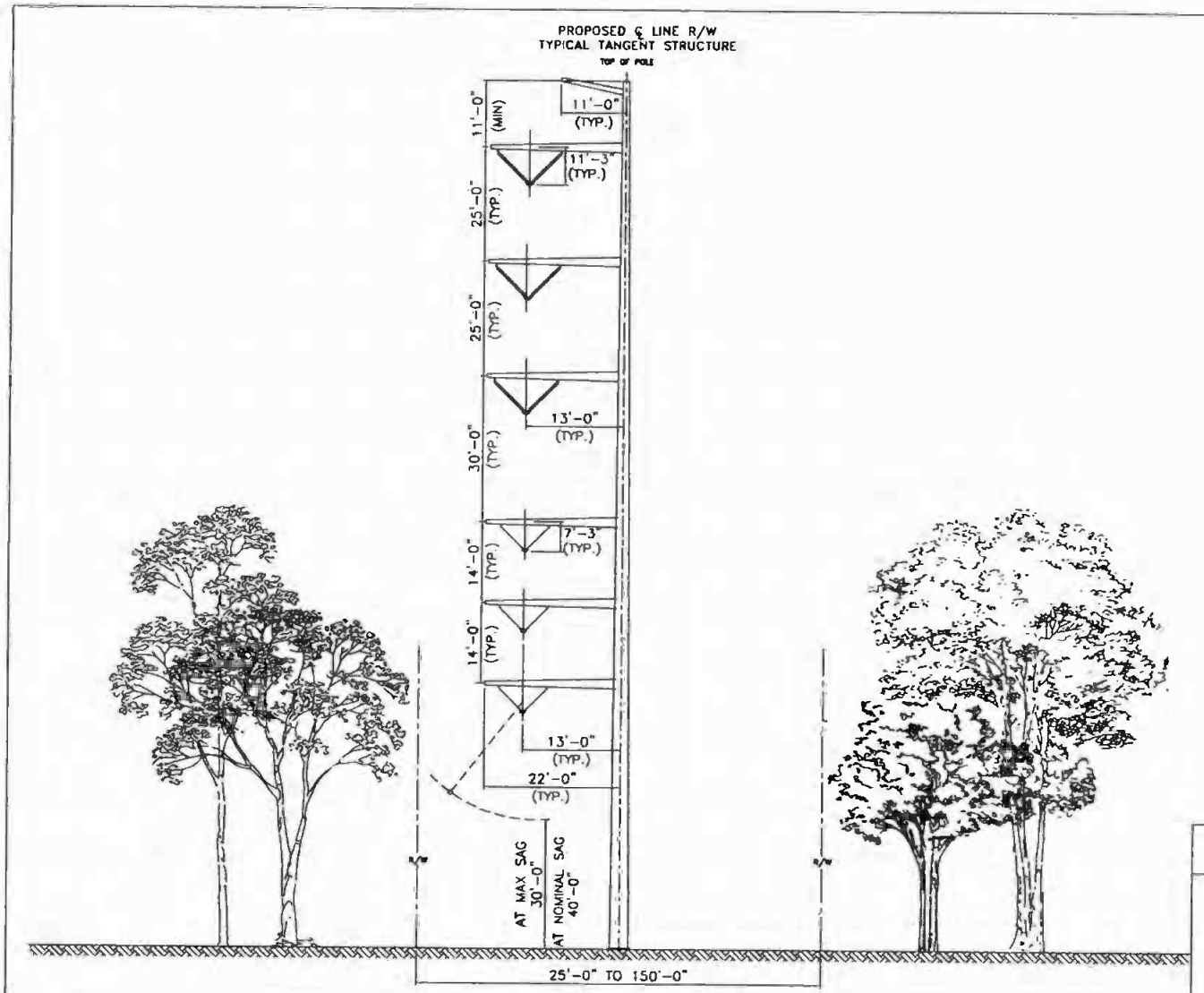
ATTACHMENT 4A

gai consultants

TYPICAL CROSS SECTION OF LINE

BI-CRESCENT

DUQUESNE LIGHT COMPANY
ALLEGHENY COUNTY, PA



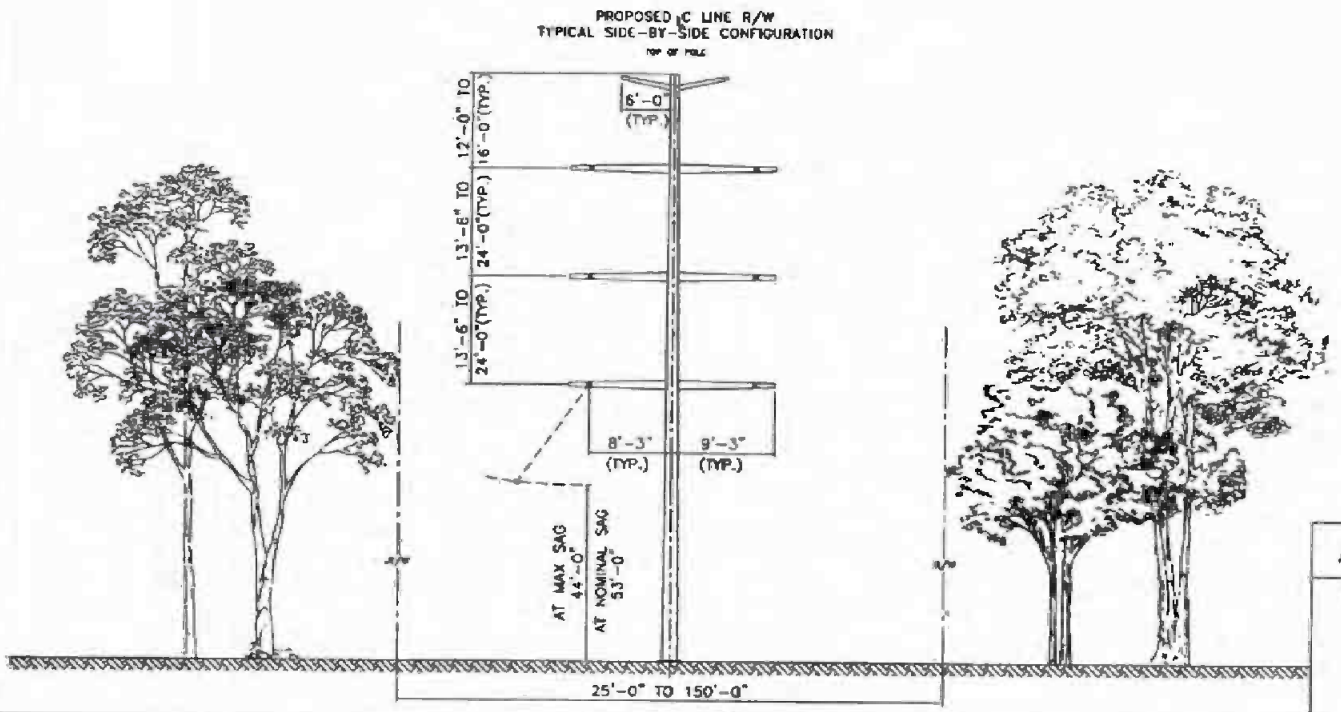
ATTACHMENT 4B

gai consultants

TYPICAL CROSS SECTION OF LINE

BI-CRESCENT

DUQUESNE LIGHT COMPANY
ALLEGHENY COUNTY, PA



ATTACHMENT 4C

TYPICAL CROSS SECTION OF LINE

BI-CRESCENT

DUQUESNE LIGHT COMPANY
ALLEGHENY COUNTY, PA

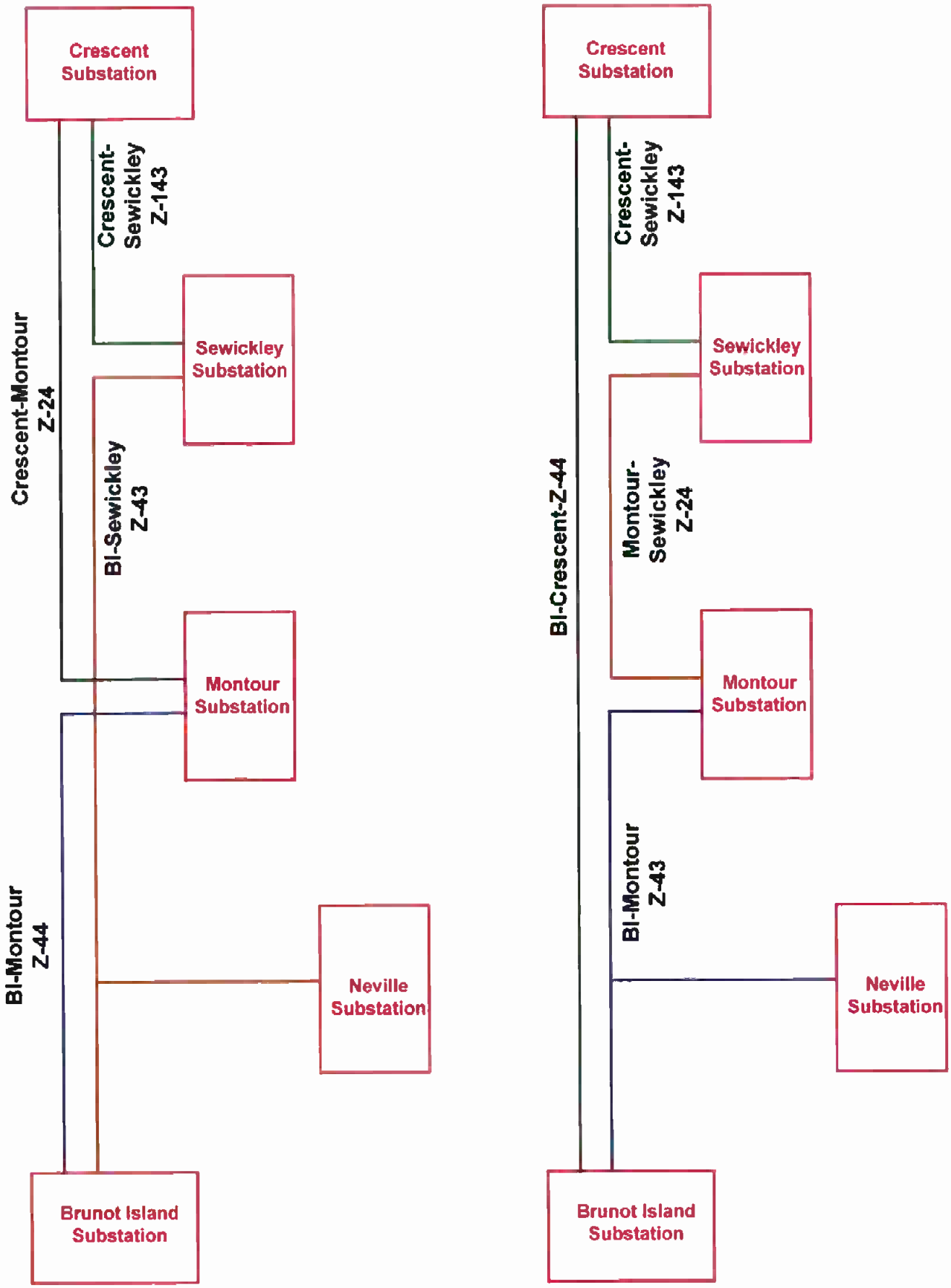
CONFIDENTIAL Attachment 5a

(No Public Version Available)

CONFIDENTIAL Attachment 5b

(No Public Version Available)

Attachment 6



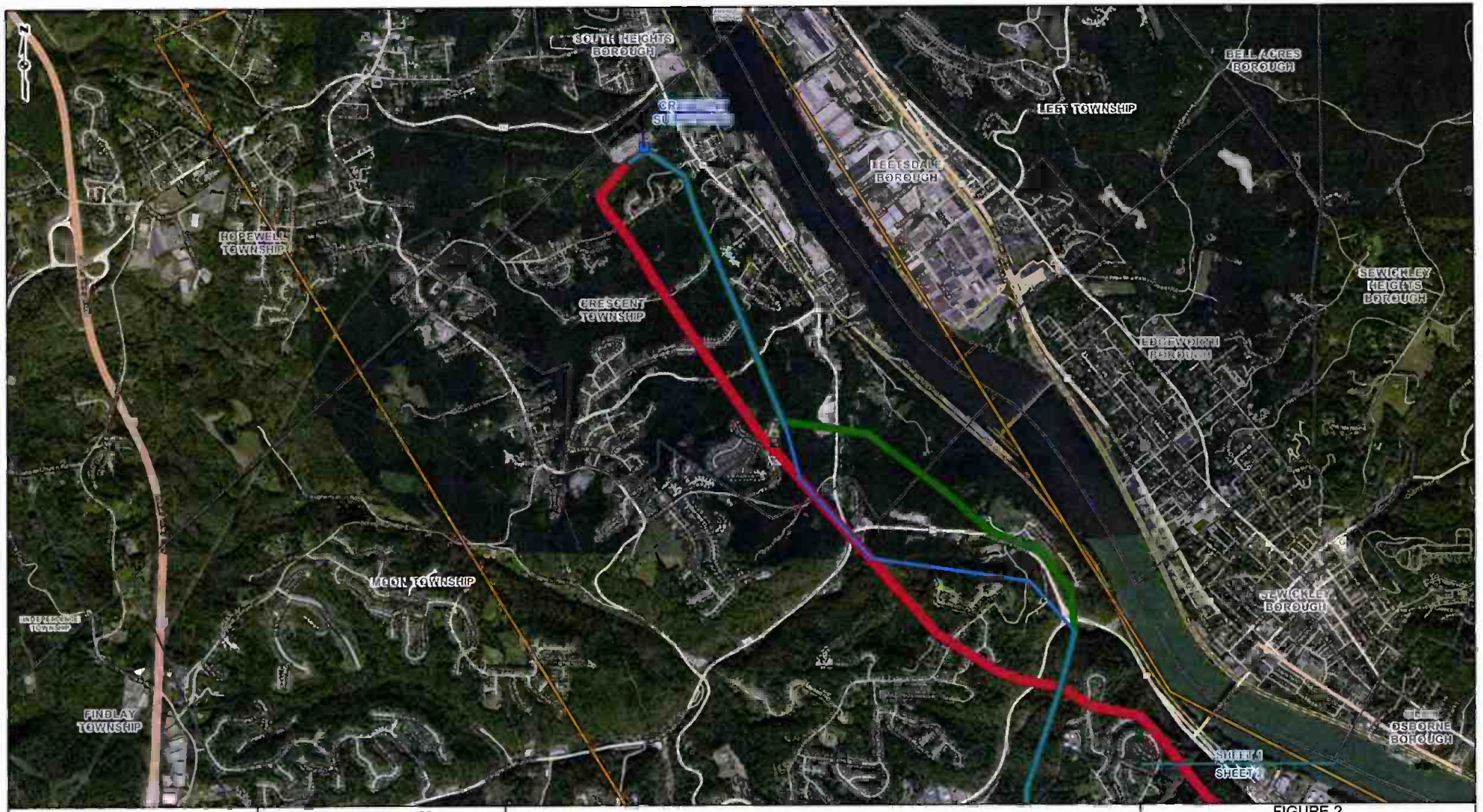
Present

Proposed

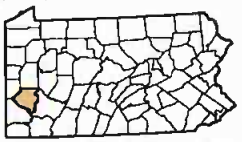
Bl-Crescent Reconductor

Circuit Arrangement

Attachment 7



PROJECT LOCATION



ALLEGHENY COUNTY, PENNSYLVANIA

REFERENCES: ESRI WORLD IMAGERY, DIGITALGLOBE, 2015, ACCESSED 02/2019. ESRI TRANSPORTATION, MICROSOFT, 02/2019, ACCESSED 02/2019.

LEGEND

- EXISTING SUBSTATION
- PROPOSED ROUTE
- ALTERNATIVE 1
- ALTERNATIVE 2
- STUDY AREA
- MUNICIPAL BOUNDARY

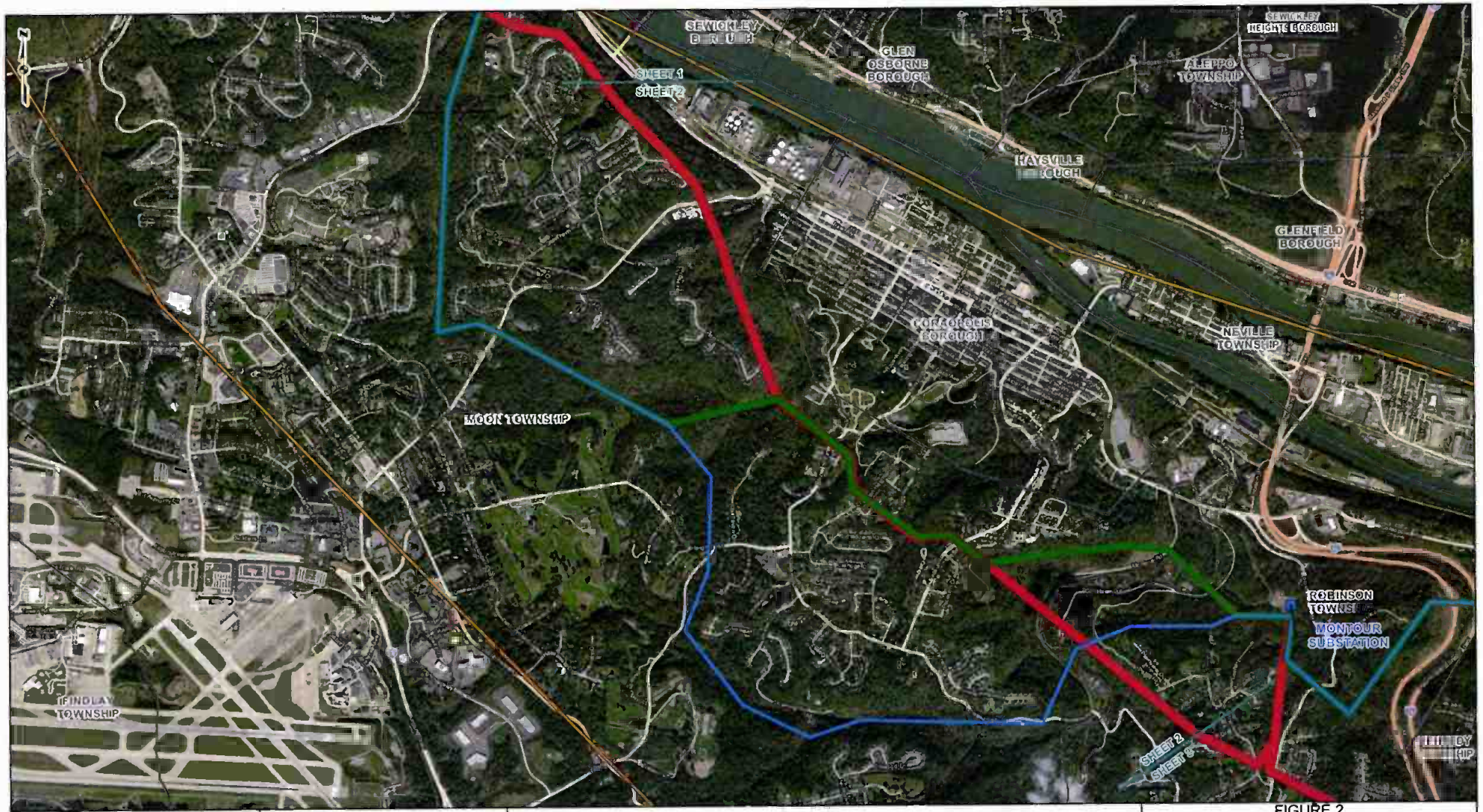
0 1,000 2,000 4,000 Feet

FIGURE 2
STUDY AREA AND ALTERNATIVE ROUTES
SHEET 1 OF 3

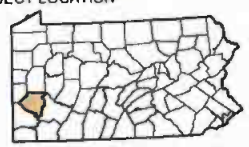
BRUNOT ISLAND - CRESCENT
138 kV TRANSMISSION LINE REBUILD PROJECT
DUQUESNE LIGHT COMPANY

DRAWN BY: AEK DATE: 2/15/2019
CHECKED: EFJ APPROVED: AMK

\\SRVWPITFS16.GAICONSULTANTS.LOCAL\BUProjects\GIS.Projects\C120473.13 - GIS\MXD\Constraints\Fig_2_Alternative_Routes_2018_06_15.mxd



PROJECT LOCATION



ALLEGHENY COUNTY, PENNSYLVANIA

REFERENCES: ESRI WORLD IMAGERY, DIGITALGLOBE, 2015, ACCESSED 02/2019. ESRI TRANSPORTATION, MICROSOFT, 02/2019, ACCESSED 02/2019.

LEGEND

- EXISTING SUBSTATION
- PROPOSED ROUTE
- ALTERNATIVE 1
- ALTERNATIVE 2
- STUDY AREA
- MUNICIPAL BOUNDARY

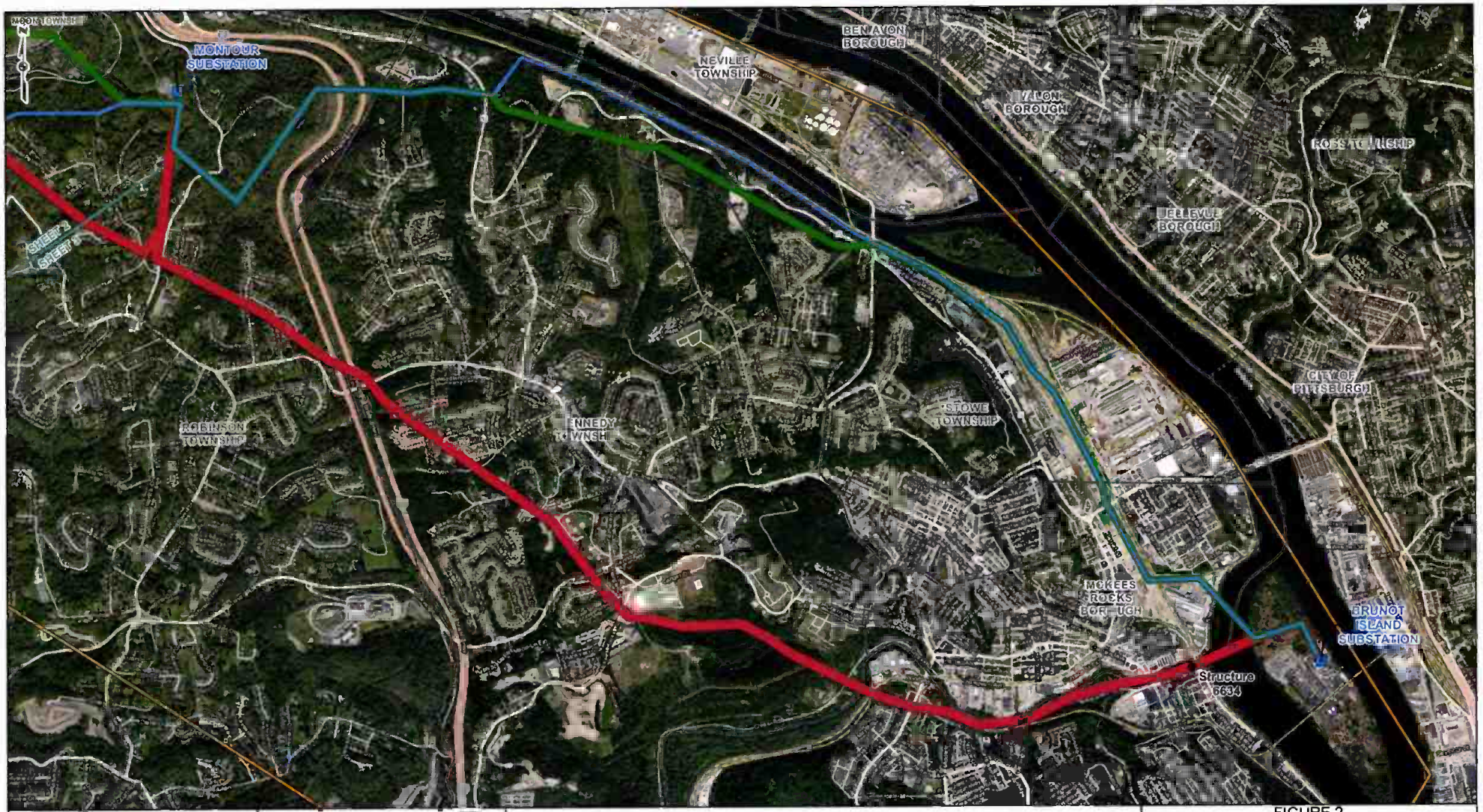
0 1,000 2,000 4,000 Feet

FIGURE 2
STUDY AREA AND ALTERNATIVE ROUTES
SHEET 2 OF 3

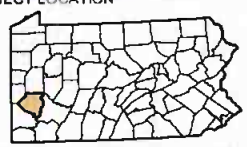
BRUNOT ISLAND - CRESCENT
138 kV TRANSMISSION LINE REBUILD PROJECT
DUQUESNE LIGHT COMPANY

DRAWN BY: AEK DATE: 2/15/2019
CHECKED: EFJ APPROVED: AMK

\\SRVWP\TFS16.GAICONSULTANTS.LOCAL\BUProjects\GIS.Projects\C120473.13 - GIS\MXD\Constraints\Fig_2_Alternative_Routes_2018_06_15.mxd



PROJECT LOCATION



ALLEGHENY COUNTY, PENNSYLVANIA

REFERENCES: ESRI WORLD IMAGERY, DIGITALGLOBE, 2015, ACCESSED 02/2019. ESRI TRANSPORTATION, MICROSOFT, 02/2019. ACCESSED 02/2019.

LEGEND

- EXISTING SUBSTATION
- PROPOSED ROUTE
- ALTERNATIVE 1
- ALTERNATIVE 2
- STUDY AREA
- MUNICIPAL BOUNDARY

0 1,000 2,000 4,000 Feet

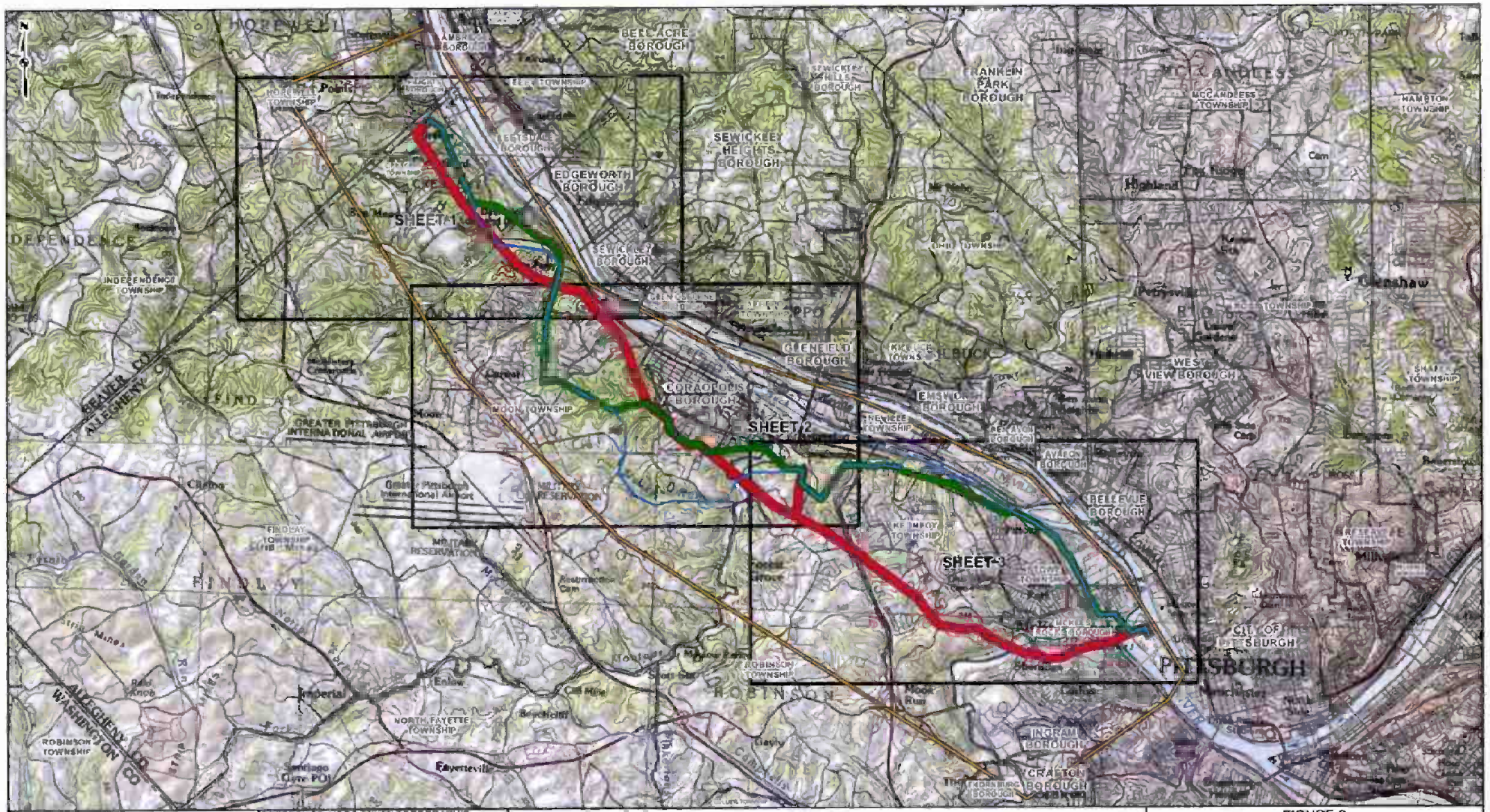
FIGURE 2
STUDY AREA AND ALTERNATIVE ROUTES
SHEET 3 OF 3

BRUNOT ISLAND - CRESCENT
138 kV TRANSMISSION LINE REBUILD PROJECT
DUQUESNE LIGHT COMPANY

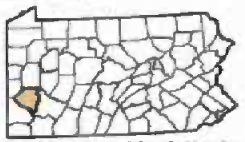
DRAWN BY: AEK	DATE: 2/15/2019
CHECKED: EFJ	APPROVED: AMK

\\SRVWPITFS16.GAICONSULTANTS.LOCAL\BUProjects\GIS.Projects\C120473.13 - GIS\MXD\Constraints\Fig_2_Alternative_Routes_2018_06_15.mxd

Attachment 8



PROJECT LOCATION



ALLEGHENY COUNTY, PENNSYLVANIA

REFERENCE: USGS 30'X60' TOPOGRAPHIC QUADRANGLES, EAST LIVERPOOL (1986) AND PITTSBURGH WEST (1986), PENNSYLVANIA, OBTAINED THROUGH ESRI USA TOPO MAPS, NATIONAL GEOGRAPHIC TOPO AND USGS. ACCESSED 02/2019.

LEGEND

- PROPOSED ROUTE
- ALTERNATIVE 1
- ALTERNATIVE 2
- STUDY AREA
- SHEET INDEX
- MUNICIPAL BOUNDARY

0 0.625 1.25 2.5 Miles

FIGURE 2
STUDY AREA AND ALTERNATIVE ROUTES SHEET INDEX

BRUNOT ISLAND - CRESCENT
138 kV TRANSMISSION LINE REBUILD PROJECT
DUQUESNE LIGHT COMPANY

DRAWN BY: AEK DATE: 2/15/2019
CHECKED: EFJ APPROVED: AMK

\\SRVWPITFS16.GAICONSULTANTS.LOCAL\BUProjects\GIS Projects\C120473.13 - GIS\MXD\Constraints\Fig_2_Alternative_Routes_Index_2018_05_15.mxd

Attachment 9

LABEL	OWNER NAME
1	MATTHEW & GEORGINA WAIBEL
2	JOSEPH & KAREN GERY

NOTE:
THE EASEMENT IS VARIABLE IN WIDTH AND IS NOT REPRESENTATIVE ON THE PARCEL.

NORTH

LEGEND

- △ SUBSTATION
- PROPOSED ROUTE
- ROW
- PARCEL WITHIN ROW
- GIS PARCEL BOUNDARY

SOURCES: PENNSYLVANIA SPATIAL DATA ACCESS (PASDA)
PROJECTED COORDINATE SYSTEM: PA STATE PLANE SOUTH
DATUM: NORTH AMERICAN DATUM OF 1983 (NAD83)
PROJECTION: LAMBERT CONFORMAL CONIC
LINEAR UNIT: FEET
ELLIPSOID: GEODETIC REFERENCE SYSTEM 80

DUQUESNE LIGHT COMPANY

REAL ESTATE DEPT.-SURVEYING PITTSBURGH,PA.

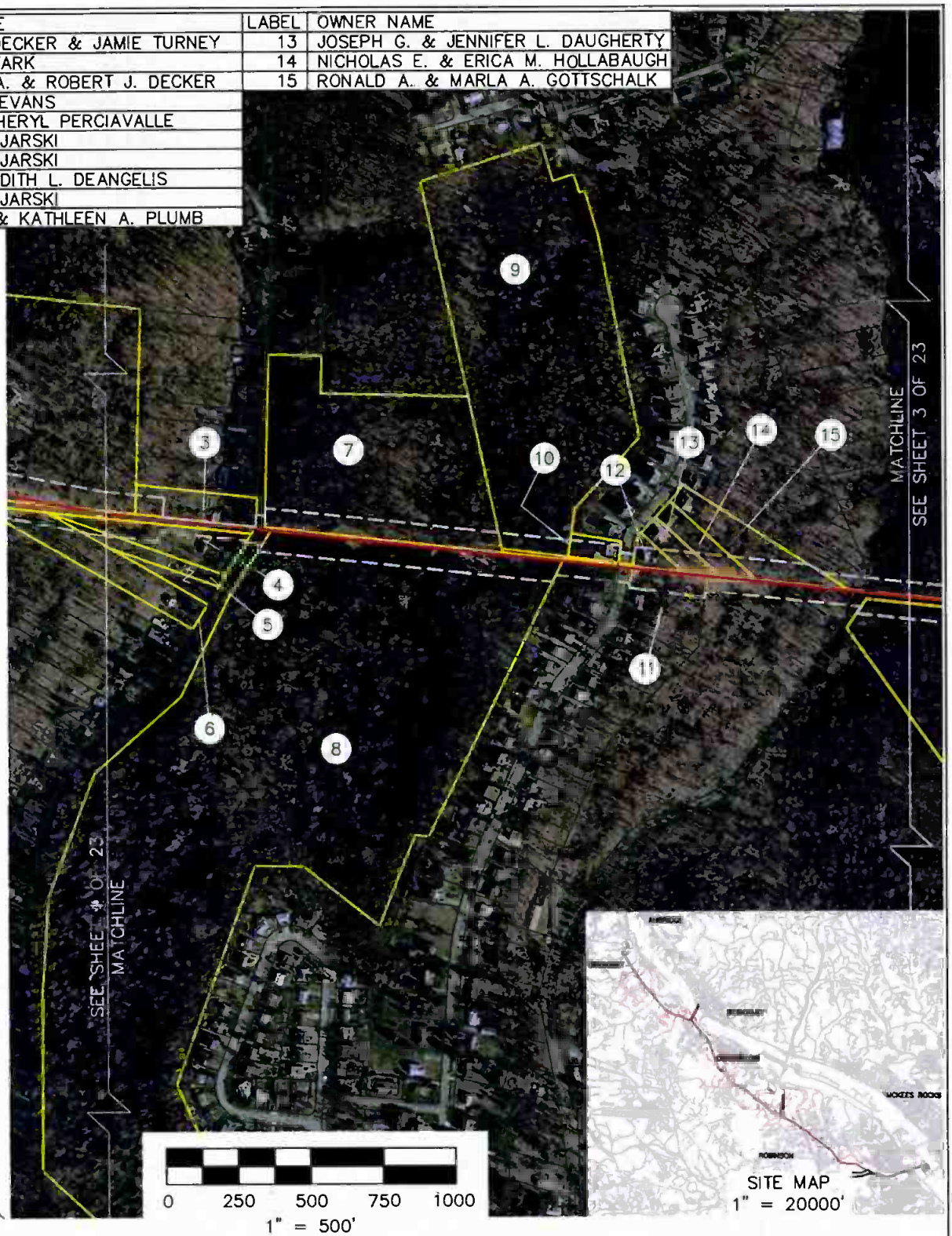
B.I. – CRESCENT
AERIAL EXHIBIT

BEAVER COUNTY/ALLEGHENY COUNTY
CRESCENT TWP.
SHEET 1 OF 23

SCALE AS SHOWN	DATE 3/04/19	ARCH. APP.	
	DRAWN JLS	ELECT. APP.	
	CHECKED MEH	MECH. APP.	
	INSP.	STRUCT. APP.	

APP. COMPLETE WHEN INITIALED HERE	O.F.E.	L	NO. 8790
	C.O.		

LABEL	OWNER NAME
3	ROBERT J. DECKER & JAMIE TURNEY
4	VICKIE D. STARK
5	CATHERINE A. & ROBERT J. DECKER
6	MICHAEL S. EVANS
7	DANIEL & CHERYL PERCIAVALLE
8	LOUIS A. BOJARSKI
9	LOUIS A. BOJARSKI
10	JAMES & JUDITH L. DEANGELIS
11	LOUIS A. BOJARSKI
12	JOSEPH W. & KATHLEEN A. PLUMB
13	JOSEPH G. & JENNIFER L. DAUGHERTY
14	NICHOLAS E. & ERICA M. HOLLABAUGH
15	RONALD A. & MARLA A. GOTTSCHALK



NOTE:
THE EASEMENT IS VARIABLE IN WIDTH AND IS NOT REPRESENTATIVE ON THE PARCEL.

NORTH

0 250 500 750 1000
1" = 500'

LEGEND

- △ SUBSTATION
- PROPOSED ROUTE
- ROW
- PARCEL WITHIN ROW
- GIS PARCEL BOUNDARY

SOURCES: PENNSYLVANIA SPATIAL DATA ACCESS (PASDA)
PROJECTED COORDINATE SYSTEM: PA STATE PLANE SOUTH
DATUM: NORTH AMERICAN DATUM OF 1983 (NAD83)
PROJECTION: LAMBERT CONFORMAL CONIC.
LINEAR UNIT: FEET
ELLIPSOID: GEODETIC REFERENCE SYSTEM 80

DUQUESNE LIGHT COMPANY

REAL ESTATE DEPT.-SURVEYING PITTSBURGH,PA.

B.I. – CRESCENT
AERIAL EXHIBIT

SCALE AS SHOWN	DATE 3/04/19	ARCH. APP.	
	DRAWN JLS	ELECT. APP.	
	CHECKED MEH	MECH. APP.	
	INSP.	STRUCT. APP.	

ALLEGHENY COUNTY
CRESCENT TWP.
SHEET 2 OF 23

APP. COMPLETE WHEN INITIALED HERE: O.F.E. / C.O.

L NO. 8790

LABEL	OWNER NAME
16	ROBERT J. & NANCY J. KERNICK

NOTE:
THE EASEMENT IS VARIABLE IN WIDTH AND IS NOT REPRESENTATIVE ON THE PARCEL.

NORTH

0 250 500 750 1000
1" = 500'

SITE MAP
1" = 20000'

LEGEND

- △ SUBSTATION
- PROPOSED ROUTE
- ROW
- PARCEL WITHIN ROW
- GIS PARCEL BOUNDARY

SOURCES: PENNSYLVANIA SPATIAL DATA ACCESS (PASDA)
PROJECTED COORDINATE SYSTEM: PA STATE PLANE SOUTH
DATUM: NORTH AMERICAN DATUM OF 1983 (NAD83)
PROJECTION: LAMBERT CONFORMAL CONIC.
LINEAR UNIT: FEET
ELLIPSOID: GEODETIC REFERENCE SYSTEM 80

DUQUESNE LIGHT COMPANY

REAL ESTATE DEPT.–SURVEYING PITTSBURGH,PA.

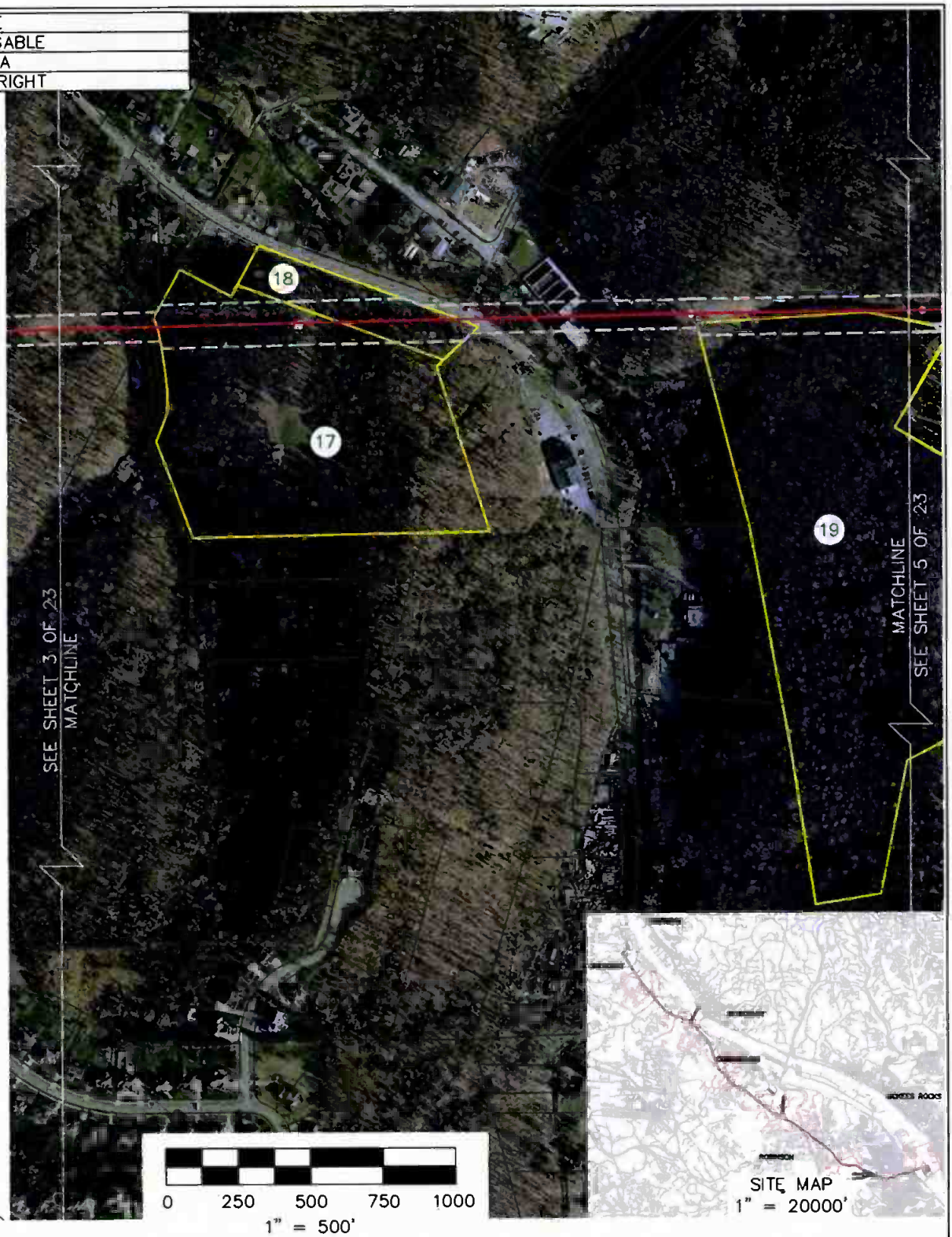
B.I. – CRESCENT AERIAL EXHIBIT

SCALE AS SHOWN	DATE 3/04/19	ARCH. APP.
	DRAWN JLS	ELECT. APP.
	CHECKED MEH	MECH. APP.
	INSP.	STRUCT. APP.

ALLEGHENY COUNTY
CRESCENT TWP.
SHEET 3 OF 23

APP. COMPLETE WHEN INITIALED HERE	O.F.E.	L	NO. 8790
	C.O.		

LABEL	OWNER NAME
17	RICHARD I. GABLE
18	MARTIN MEDIA
19	DANIEL C. WRIGHT



NOTE:
THE EASEMENT IS VARIABLE IN WIDTH AND IS NOT REPRESENTATIVE ON THE PARCEL.

NORTH

0 250 500 750 1000
1" = 500'

LEGEND

- △ SUBSTATION
- PROPOSED ROUTE
- ROW
- PARCEL WITHIN ROW
- GIS PARCEL BOUNDARY

SOURCES: PENNSYLVANIA SPATIAL DATa ACCESS (PASDA)
PROJECTED COORDINATE SYSTEM: PA STATE PLANE SOUTH
DATUM: NORTH AMERICAN DATUM OF 1983 (NAD83)
PROJECTION: LAMBERT CONFORMAL CONIC
LINEAR UNIT: FEET
ELLIPSOID: GEODETIC REFERENCE SYSTEM 80

DUQUESNE LIGHT COMPANY

REAL ESTATE DEPT.–SURVEYING PITTSBURGH,PA.

B.I. – CRESCENT
AERIAL EXHIBIT

SCALE AS SHOWN	DATE 3/04/19	ARCH. APP.
	DRAWN JLS	ELECT. APP.
	CHECKED MEH	MECH. APP.
	INSP.	STRUCT. APP.

ALLEGHENY COUNTY
MOON TWP.
SHEET 4 OF 23

APP. COMPLETE WHEN INITIALED HERE	O.F.E.	L	NO. 8790
	C.O.		

LABEL	OWNER NAME
20	MICHAEL R. NOVAK
21	GEOFFREY W. & MEGAN A. HATTON
22	CHRISTINA M. COLAROSSI

NOTE:
THE EASEMENT IS VARIABLE IN WIDTH AND IS NOT REPRESENTATIVE ON THE PARCEL.

NORTH

0 250 500 750 1000
1" = 500'

SITE MAP
1" = 20000'

LEGEND

- △ SUBSTATION
- PROPOSED ROUTE
- ROW
- PARCEL WITHIN ROW
- GIS PARCEL BOUNDARY

SOURCES: PENNSYLVANIA SPATIAL DATA ACCESS (PASDA)
PROJECTION: COORDINATE SYSTEM: PA STATE PLANE SOUTH
DATUM: NORTH AMERICAN DATUM OF 1983 (NAD83)
PROJECTION: LAMBERT CONFORMAL CONIC
LINEAR UNIT: FEET
ELLIPSOID: GEODETIC REFERENCE SYSTEM 80

DUQUESNE LIGHT COMPANY

REAL ESTATE DEPT.-SURVEYING PITTSBURGH,PA.

SCALE AS SHOWN	DATE 3/04/19	ARCH. APP.
	DRAWN JLS	ELECT. APP.
	CHECKED MEH	MECH. APP.
	INSP.	STRUCT. APP.

B.I. – CRESCENT AERIAL EXHIBIT

ALLEGHENY COUNTY
MOON TWP.
SHEET 5 OF 23

APP. COMPLETE WHEN INITIALED HERE	O.F.E.	L	NO. 8790
	C.O.		

LABEL	OWNER NAME
23	MORRISON FARMS (CINDRAN INC.)

NOTE:
THE EASEMENT IS VARIABLE IN WIDTH AND IS NOT REPRESENTATIVE ON THE PARCEL.

NORTH

0 250 500 750 1000
1" = 500'

SITE MAP
1" = 20000'

LEGEND

- △ SUBSTATION
- PROPOSED ROUTE
- ROW
- PARCEL WITHIN ROW
- GIS PARCEL BOUNDARY

SOURCES: PENNSYLVANIA SPATIAL DATA ACCESS (PASDA)
PROJECTED COORDINATE SYSTEM: PA STATE PLANE SOUTH
DATUM: NORTH AMERICAN DATUM OF 1983 (NAD83)
PROJECTION: LAMBERT CONFORMAL CONIC
LINEAR UNITS: FEET
ELLIPSOID: GEODETIC REFERENCE SYSTEM 80

DUQUESNE LIGHT COMPANY

REAL ESTATE DEPT.–SURVEYING PITTSBURGH,PA.

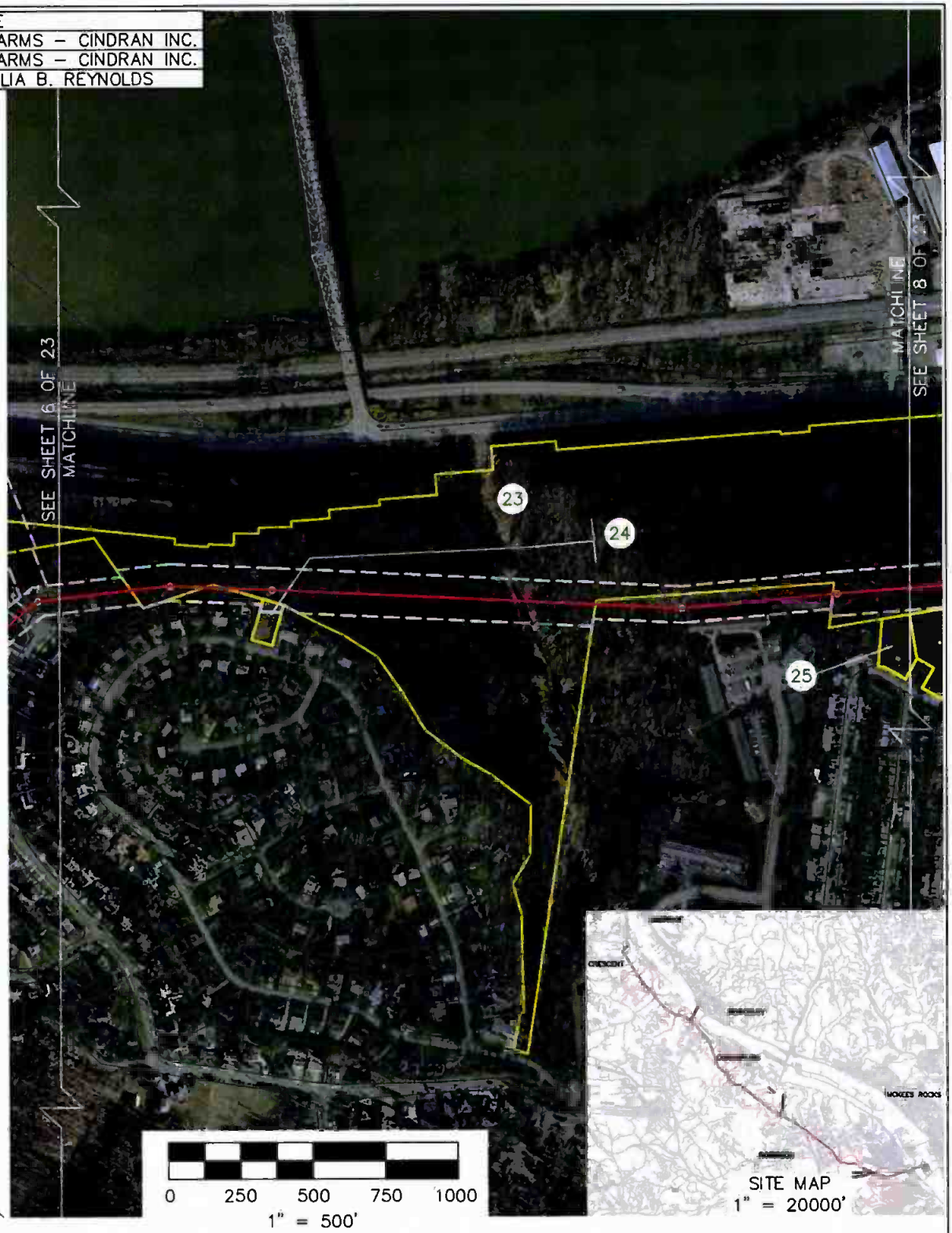
B.I. – CRESCENT
AERIAL EXHIBIT

SCALE AS SHOWN	DATE 3/04/19	ARCH. APP.
	DRAWN JLS	ELECT. APP.
	CHECKED MEH	MECH. APP.
	INSP.	STRUCT. APP.

ALLEGHENY COUNTY
MOON TWP.
SHEET 6 OF 23

APP. COMPLETE WHEN INITIALED HERE	O.F.E.	L	NO. 8790
	C.O.		

LABEL	OWNER NAME
23	MORRISON FARMS – CINDRAN INC.
24	MORRISON FARMS – CINDRAN INC.
25	HENRY & JULIA B. REYNOLDS



NOTE:
THE EASEMENT IS VARIABLE IN WIDTH AND IS NOT REPRESENTATIVE ON THE PARCEL.

NORTH

LEGEND

- △ SUBSTATION
- PROPOSED ROUTE
- ROW
- PARCEL WITHIN ROW
- GIS PARCEL BOUNDARY

SOURCES: PENNSYLVANIA SPATIAL DATA ACCESS (PASDA)
PROJECTED COORDINATE SYSTEM: PA STATE PLANE SOUTH
DATUM: NORTH AMERICAN DATUM OF 1983 (NAD83)
PROJECTION: LAMBERT CONFORMAL CONIC
LINEAR UNITS: FEET
ELLIPSOID: GEODETIC REFERENCE SYSTEM 80

DUQUESNE LIGHT COMPANY

REAL ESTATE DEPT.–SURVEYING PITTSBURGH,PA.

B.I. – CRESCENT
AERIAL EXHIBIT

SCALE AS SHOWN	DATE 3/04/19	ARCH. APP.
	DRAWN JLS	ELECT. APP.
	CHECKED MEH	MECH. APP.
	INSP.	STRUCT. APP.

ALLEGHENY COUNTY
MOON TWP.
SHEET 7 OF 23

APP. COMPLETE WHEN INITIALED HERE	O.F.E.	L	NO. 8790
	C.O.		

LABEL	OWNER NAME
26	MOON TOWNSHIP
27	KIM E. & LORI E. SHANNON
28	KIM E. & LORI E. SHANNON
29	JOHN CAMARDESE
30	BANKERS TRUST CO. OF CALIFORNIA
31	CAROLYN MARIE MATLAK
32	ERIC & HEIDI J. USSELMAN
33	ERIC & HEIDI J. USSELMAN
34	MATTHEW EDWARD COPPOLA
35	TWOTUTS PROPERTIES LLC
36	CHARLES J. CLEIS SR.
37	JOLA REALTY LLC
38	JON S. DOMENICO
39	MORGAN MIHOK
40	MICHAEL FERRARA & LYNDSIE N. SCHANTZ

NOTE:
THE EASEMENT IS VARIABLE IN WIDTH AND IS NOT REPRESENTATIVE ON THE PARCEL.

NORTH

LEGEND

- △ SUBSTATION
- PROPOSED ROUTE
- ROW
- PARCEL WITHIN ROW
- GIS PARCEL BOUNDARY

SOURCES: PENNSYLVANIA SPATIAL DATA ACCESS (PASDA)
PROJECTED COORDINATE SYSTEM: PA STATE PLANE SOUTH
DATUM: NORTH AMERICAN DATUM OF 1983 (NAD83)
PROJECTION: LAMBERT CONFORMAL CONIC
LINEAR UNIT: FEET
ELLIPSOID: GEODETIC REFERENCE SYSTEM 80

DUQUESNE LIGHT COMPANY

REAL ESTATE DEPT.–SURVEYING PITTSBURGH,PA.

B.I. – CRESCENT
AERIAL EXHIBIT

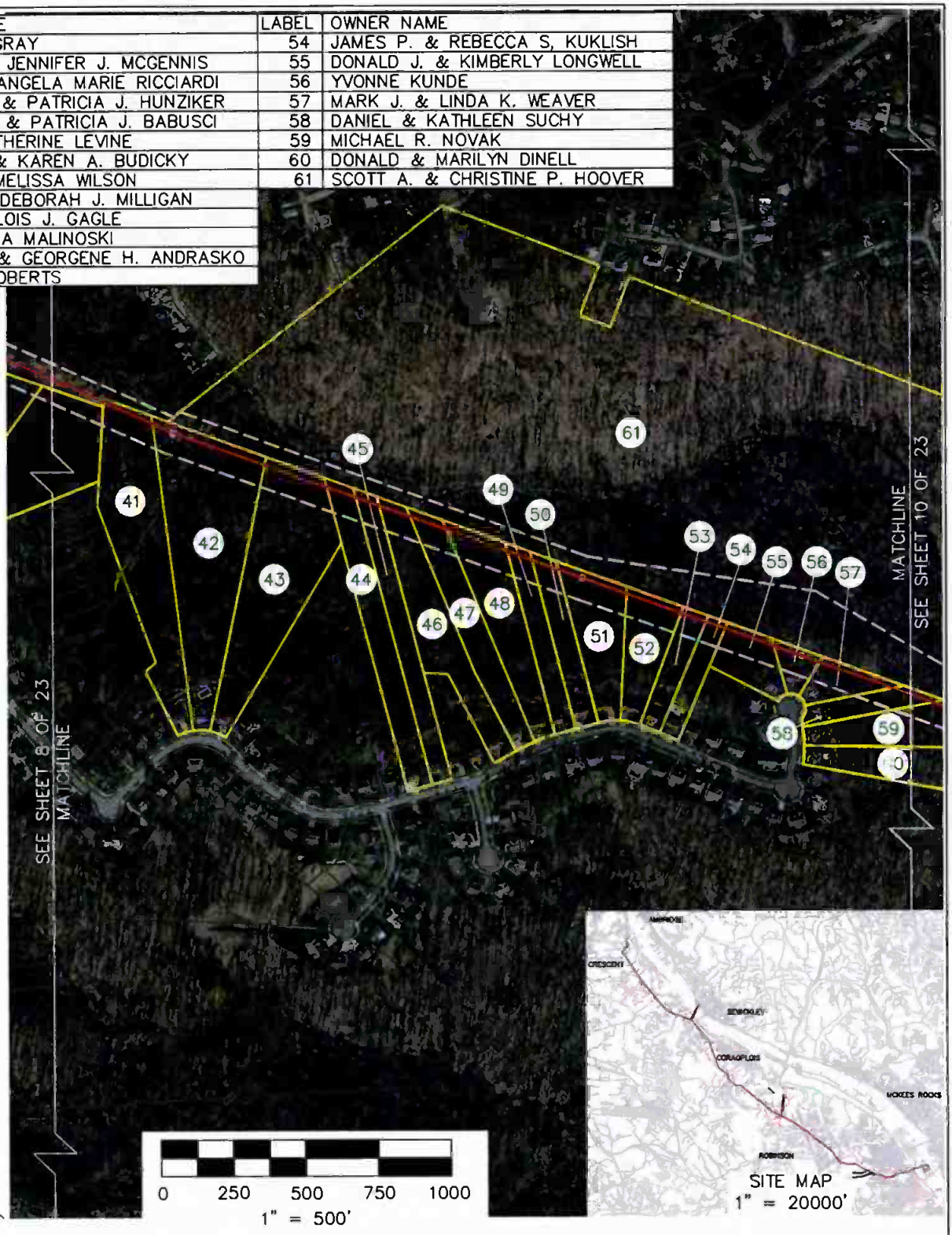
SCALE AS SHOWN	DATE 3/04/19	ARCH. APP.
	DRAWN JLS	ELECT. APP.
	CHECKED MEH	MECH. APP.
	INSP.	STRUCT. APP.

ALLEGHENY COUNTY
MOON TWP.
SHEET 8 OF 23

APP. COMPLETE WHEN INITIALED HERE	O.F.E.	L	NO. 8790
	C.O.		

LABEL	OWNER NAME
41	WILLIAM E. GRAY
42	BRETT W. & JENNIFER J. MCGENNIS
43	VINCENT & ANGELA MARIE RICCIARDI
44	RICHARD A. & PATRICIA J. HUNZIKER
45	ANTHONY J. & PATRICIA J. BABUSCI
46	JOHN & CATHERINE LEVINE
47	RONALD J. & KAREN A. BUDICKY
48	BRANDT & MELISSA WILSON
49	OWEN R. & DEBORAH J. MILLIGAN
50	TODD J. & LOIS J. GAGLE
51	KEITH & DINA MALINOSKI
52	RONALD A. & GEORGENE H. ANDRASKO
53	DEREK C. ROBERTS

LABEL	OWNER NAME
54	JAMES P. & REBECCA S, KUKLISH
55	DONALD J. & KIMBERLY LONGWELL
56	YVONNE KUNDE
57	MARK J. & LINDA K. WEAVER
58	DANIEL & KATHLEEN SUCHY
59	MICHAEL R. NOVAK
60	DONALD & MARILYN DINELL
61	SCOTT A. & CHRISTINE P. HOOVER



NOTE:
THE EASEMENT IS VARIABLE IN WIDTH AND IS NOT REPRESENTATIVE ON THE PARCEL.

LEGEND

- △ SUBSTATION
- PROPOSED ROUTE
- ROW
- PARCEL WITHIN ROW
- GIS PARCEL BOUNDARY

SOURCES: PENNSYLVANIA SPATIAL DATA ACCESS (PASDA)
PROJECTED COORDINATE SYSTEM: PA STATE PLANE SOUTH
DATUM: NORTH AMERICAN DATUM OF 1983 (NAD83)
PROJECTION: LAMBERT CONFORMAL CONIC
LINEAR UNITS: FEET
ELLIPSOID: GEODETIC REFERENCE SYSTEM 80

DUQUESNE LIGHT COMPANY

REAL ESTATE DEPT.–SURVEYING PITTSBURGH,PA.

B.I. – CRESCENT
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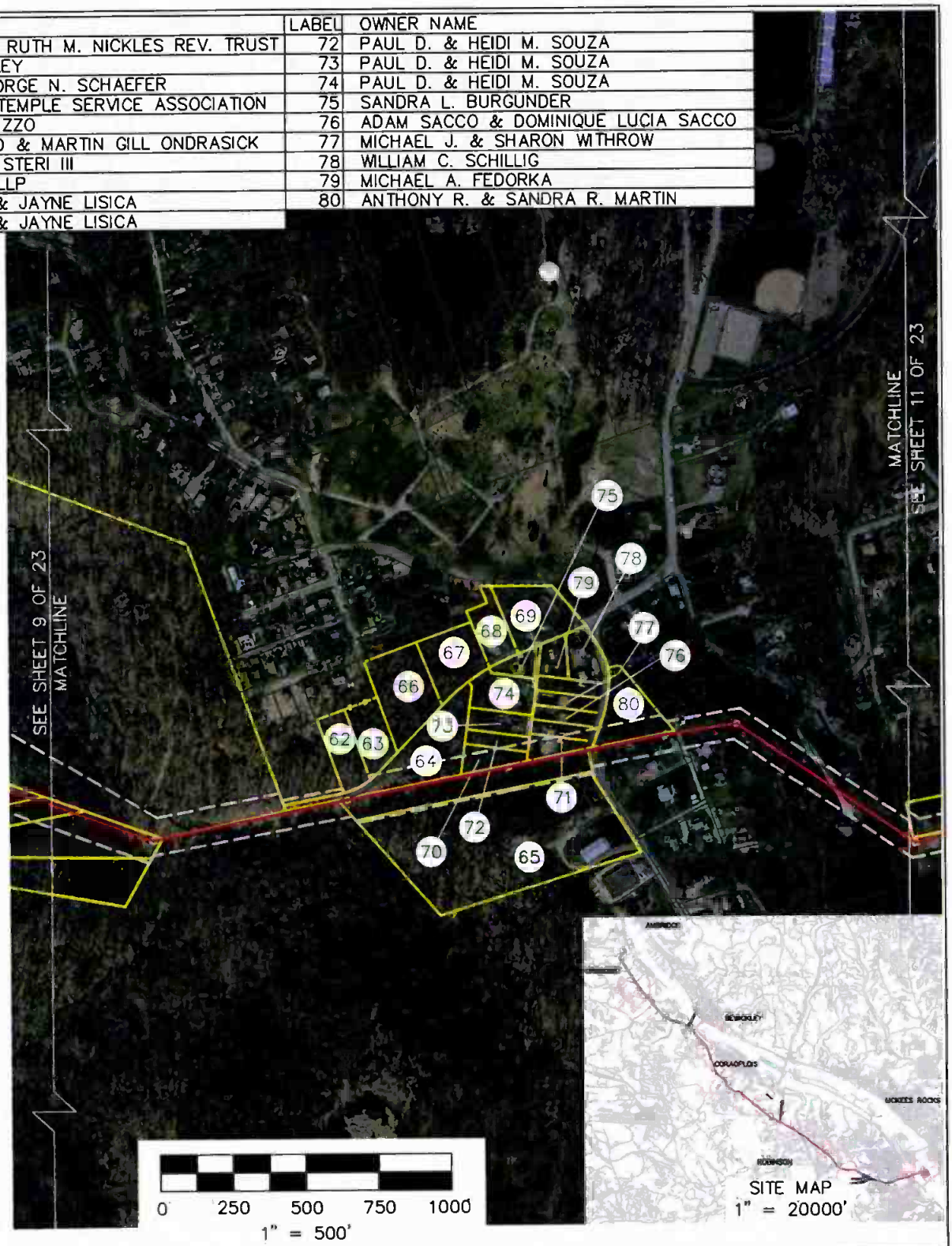
	INSP.	STRUCT. APP.

ALLEGHENY COUNTY
MOON TWP.
SHEET 9 OF 23

APP. COMPLETE WHEN INITIALED HERE	O.F.E.	L	NO. 8790
	C.O.		

LABEL	OWNER NAME
62	JOSEPH A. & RUTH M. NICKLES REV. TRUST
63	LYNNE J. BOLEY
64	HEIRS OF GEORGE N. SCHAEFER
65	CORAOPOLIS TEMPLE SERVICE ASSOCIATION
66	CHRISTIAN GUZZO
67	WILLIAM DAVID & MARTIN GILL ONDRASICK
68	NICHOLAS M. STERI III
69	FREESTONE LLLP
70	CHARLES E. & JAYNE LISICA
71	CHARLES E. & JAYNE LISICA

LABEL	OWNER NAME
72	PAUL D. & HEIDI M. SOUZA
73	PAUL D. & HEIDI M. SOUZA
74	PAUL D. & HEIDI M. SOUZA
75	SANDRA L. BURGUNDER
76	ADAM SACCO & DOMINIQUE LUCIA SACCO
77	MICHAEL J. & SHARON WITHROW
78	WILLIAM C. SCHILLIG
79	MICHAEL A. FEDORKA
80	ANTHONY R. & SANDRA R. MARTIN



NOTE:
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NORTH

0 250 500 750 1000
1" = 500'

SITE MAP
1" = 20000'

LEGEND

- △ SUBSTATION
- PROPOSED ROUTE
- ROW
- PARCEL WITHIN ROW
- GIS PARCEL BOUNDARY

SOURCES: PENNSYLVANIA SPATIAL DATA ACCESS (PASDA)
PROJECTED COORDINATE SYSTEM: PA STATE PLANE SOUTH
DATUM: NORTH AMERICAN DATUM OF 1983 (NAD83)
PROJECTION: LAMBERT CONFORMAL CONIC
LINEAR UNIT: FEET
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DUQUESNE LIGHT COMPANY

REAL ESTATE DEPT.–SURVEYING PITTSBURGH,PA.

B.I. – CRESCENT
AERIAL EXHIBIT

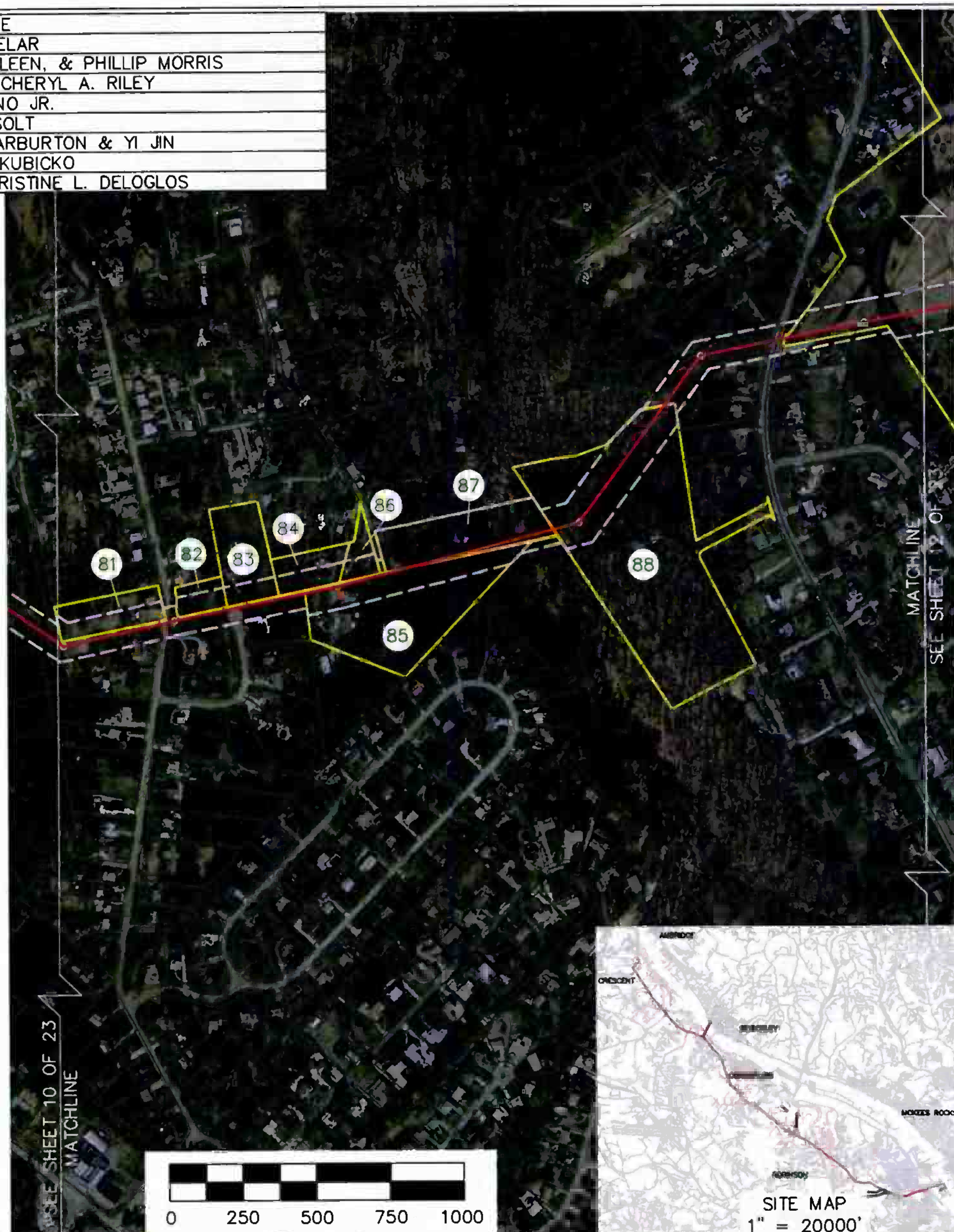
SCALE AS SHOWN	DATE 3/04/19	ARCH. APP.
	DRAWN JLS	ELECT. APP.
	CHECKED MEH	MECH. APP.
	INSP.	STRUCT. APP.

ALLEGHENY COUNTY
MOON TWP.
SHEET 10 OF 23

APP. COMPLETE WHEN INITIALED HERE	O.F.E.
	C.O.

L. NO. 8790

LABEL	OWNER NAME
81	MARISSA KIELAR
82	JASON, COLLEEN, & PHILLIP MORRIS
83	JOHN F. & CHERYL A. RILEY
84	JOSEPH VANO JR.
85	DENNIS J. SOLT
86	RICHARD WARBURTON & YI JIN
87	ROBERT S. KUBICKO
88	GUST & CHRISTINE L. DELOGLOS



NOTE:
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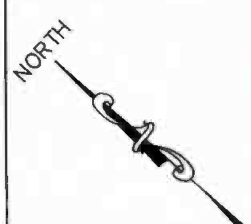

LEGEND

- △ SUBSTATION
- PROPOSED ROUTE
- ROW
- PARCEL WITHIN ROW
- GIS PARCEL BOUNDARY

SOURCES: PENNSYLVANIA SPATIAL DATA ACCESS (PASDA)
PROJECTED COORDINATE SYSTEM: PA STATE PLANE SOUTH
DATUM: NORTH AMERICAN DATUM OF 1983 (NAD83)
PROJECTION: LAMBERT CONFORMAL CONIC
LINEAR UNIT: FEET
ELLIPSOID: GEODETIC REFERENCE SYSTEM 80

DUQUESNE LIGHT COMPANY

REAL ESTATE DEPT.–SURVEYING PITTSBURGH, PA.

B.I. – CRESCENT
AERIAL EXHIBIT

ALLEGHENY COUNTY
MOON TWP.
SHEET 11 OF 23

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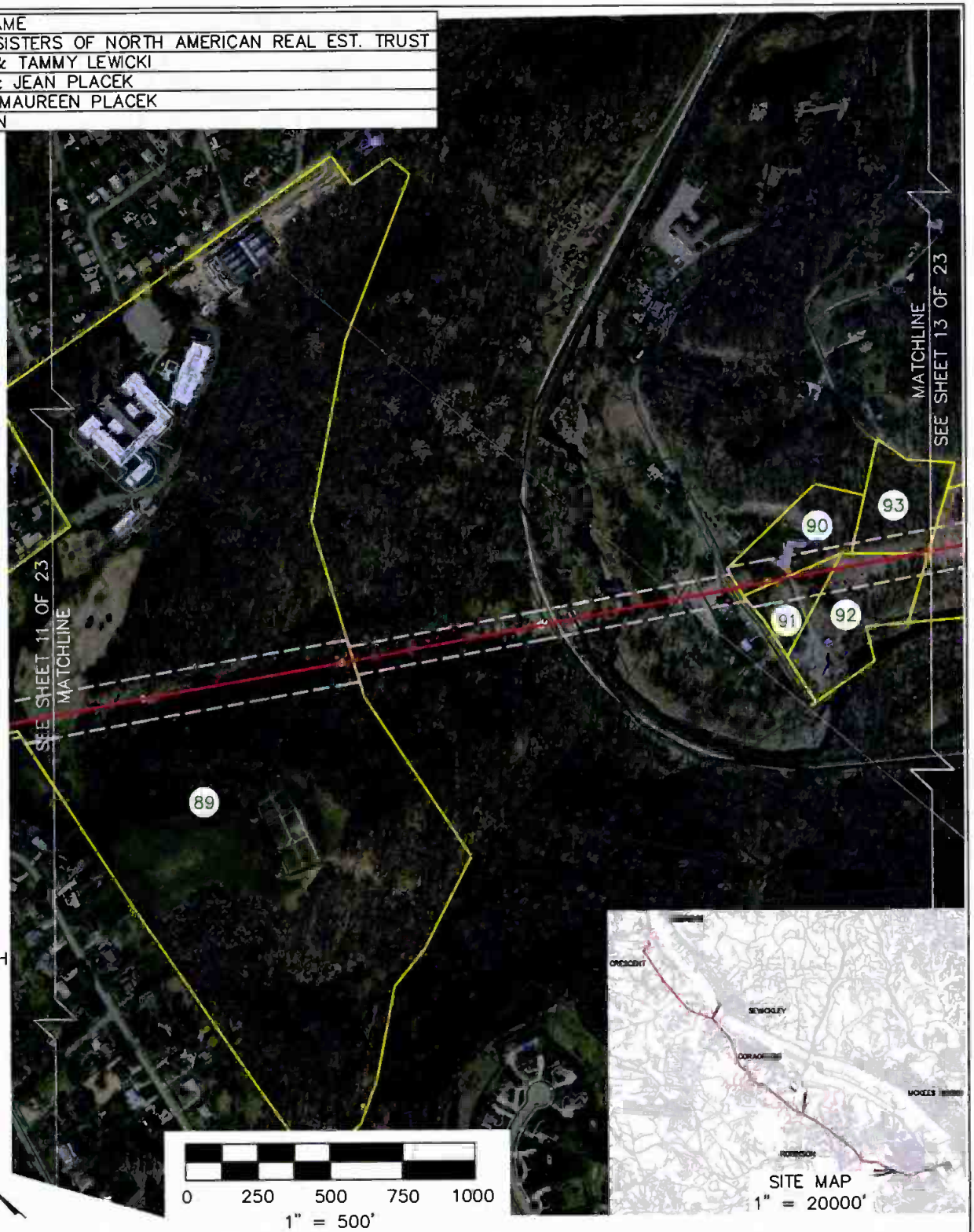
	DRAWN JLS	ELECT. APP.
	CHECKED MEH	MECH. APP.
	INSP.	STRUCT. APP.

APP. COMPLETE WHEN INITIALED HERE	O.F.E.	L	NO. 8790
	C.O.		

LABEL	OWNER NAME
89	FELICIAN SISTERS OF NORTH AMERICAN REAL EST. TRUST
90	MICHAEL & TAMMY LEWICKI
91	ADOLPH & JEAN PLACEK
92	TERRY & MAUREEN PLACEK
93	COY ALLEN



NOTE:
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LEGEND

- △ SUBSTATION
- PROPOSED ROUTE
- ROW
- PARCEL WITHIN ROW
- GIS PARCEL BOUNDARY

SOURCES: PENNSYLVANIA SPATIAL DATA ACCESS (PASDA)
PROJECTED COORDINATE SYSTEM: PA STATE PLANE SOUTH
DATUM: NORTH AMERICAN DATUM OF 1983 (NAD83)
PROJECTION: LAMBERT CONFORMAL CONIC
LINEAR UNIT: FEET
ELLIPSOID: GEODETIC REFERENCE SYSTEM 80

DUQUESNE LIGHT COMPANY

REAL ESTATE DEPT.-SURVEYING PITTSBURGH,PA.

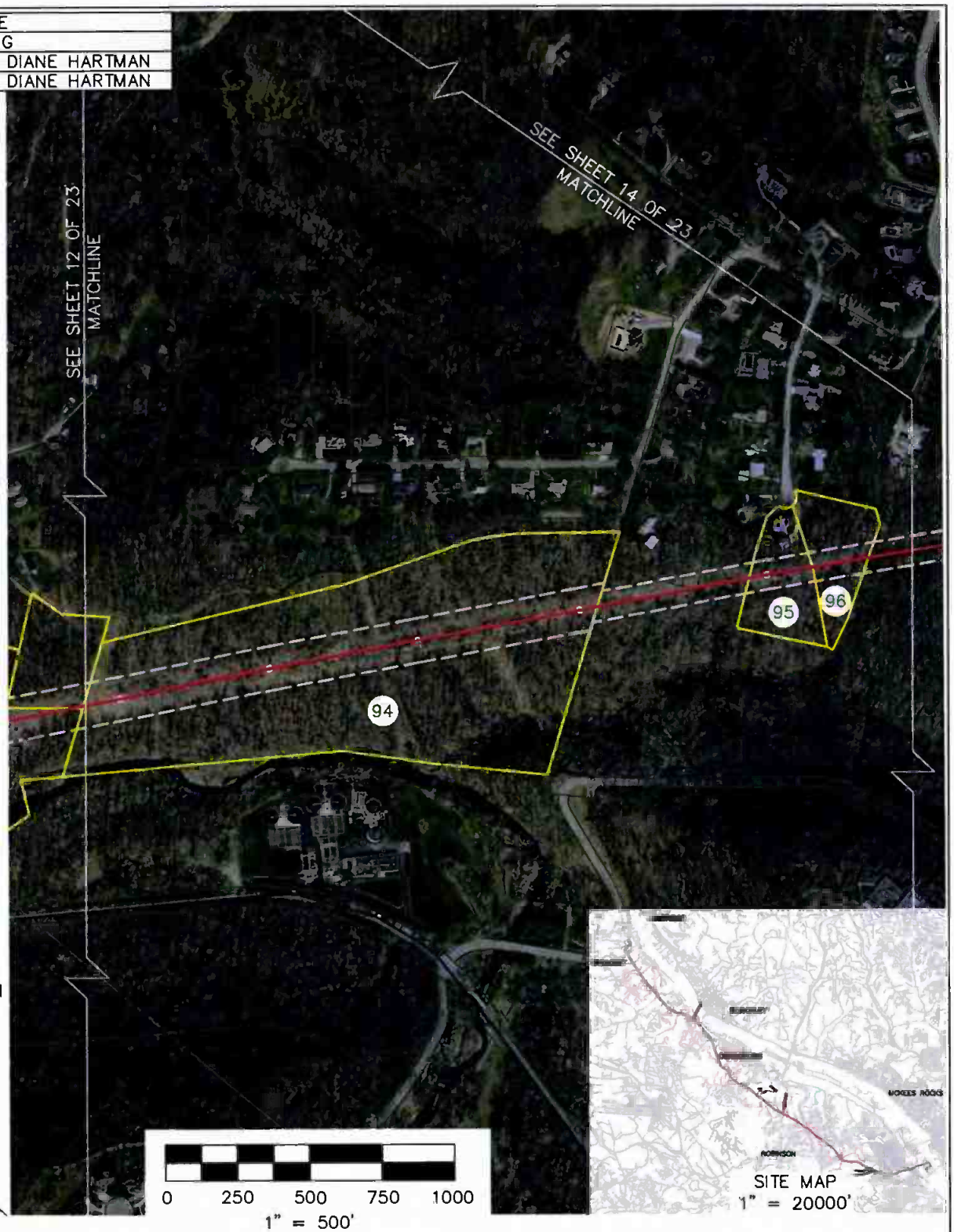
B.I. – CRESCENT
AERIAL EXHIBIT

SCALE AS SHOWN	DATE 3/04/19	ARCH. APP.
	DRAWN JLS	ELECT. APP.
	CHECKED MEH	MECH. APP.
	INSP.	STRUCT. APP.

ALLEGHENY COUNTY
MOON TWP. & ROBINSON TWP.
SHEET 12 OF 23

APP. COMPLETE WHEN INITIALED HERE	O.F.E.	L	NO. 8790
	C.O.		

LABEL	OWNER NAME
94	UTA COLBERG
95	JAMES F. & DIANE HARTMAN
96	JAMES F. & DIANE HARTMAN



NOTE:
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NORTH

0 250 500 750 1000
1" = 500'

SITE MAP
1" = 20000'

LEGEND

- △ SUBSTATION
- PROPOSED ROUTE
- ROW
- PARCEL WITHIN ROW
- GIS PARCEL BOUNDARY

SOURCES: PENNSYLVANIA SPATIAL DATA ACCESS (PASDA)
PROJECTION: GEOGRAPHIC (LATITUDE, LONGITUDE)
DATUM: NORTH AMERICAN DATUM OF 1983 (NAD83)
PROJECTION: LAMBERT CONFORMAL CONIC
LINEAR UNIT: FEET
ELLIPSOID: GEODETIC REFERENCE SYSTEM 80

DUQUESNE LIGHT COMPANY

REAL ESTATE DEPT.-SURVEYING PITTSBURGH,PA.

B.I. – CRESCENT AERIAL EXHIBIT

SCALE AS SHOWN	DATE 3/04/19	ARCH. APP.
	DRAWN JLS	ELECT. APP.
	CHECKED MEH	MECH. APP.
	INSP.	STRUCT. APP.

ALLEGHENY COUNTY
ROBINSON TWP.
SHEET 13 OF 23

APP. COMPLETE WHEN INITIALED HERE	O.F.E.	L	NO. 8790
	C.O.		

NOTE:
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LEGEND

- △ SUBSTATION
- PROPOSED ROUTE
- ROW
- PARCEL WITHIN ROW
- GIS PARCEL BOUNDARY

SOURCES: PENNSYLVANIA SPATIAL DATA ACCESS (PASDA)
PROJECTED COORDINATE SYSTEMS: PA STATE PLANE SOUTH
DATUM: NORTH AMERICAN DATUM OF 1983 (NAD83)
PROJECTION: LAMBERT CONFORMAL CONIC
LINEAR UNITS: FEET
ELLIPSOID: GEODETIC REFERENCE SYSTEM 80

DUQUESNE LIGHT COMPANY

REAL ESTATE DEPT.–SURVEYING PITTSBURGH,PA.

B.I. – CRESCENT AERIAL EXHIBIT

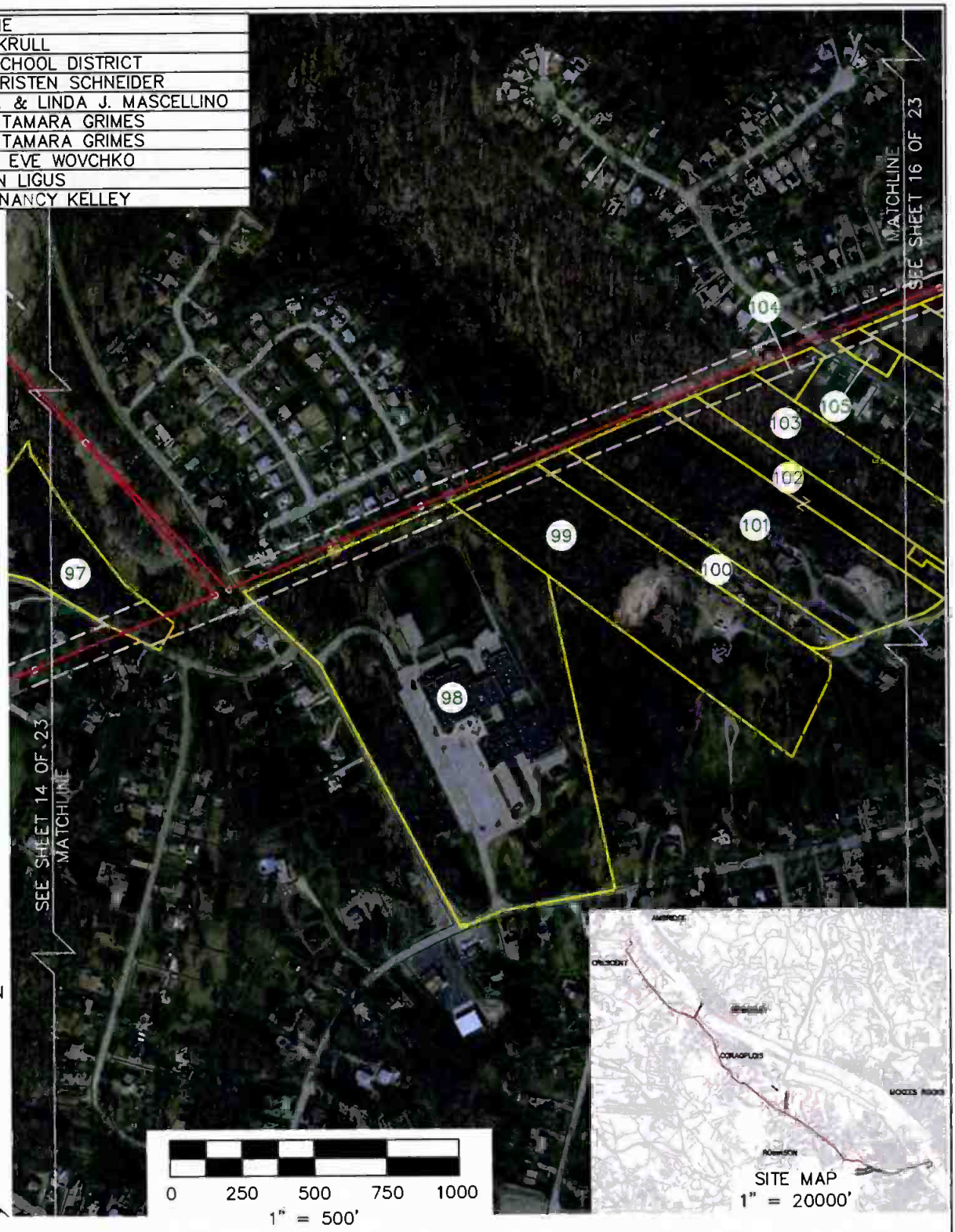
SCALE AS SHOWN	DATE 3/04/19	ARCH. APP.	
	DRAWN JLS	ELECT. APP.	
	CHECKED MEH	MECH. APP.	
	INSP.	STRUCT. APP.	

ALLEGHENY COUNTY
ROBINSON TWP.
SHEET 14 OF 23

APP. COMPLETE WHEN INITIALED HERE: O.F.E. / C.O.

L NO. 8790

LABEL	OWNER NAME
97	WILLIAM J. KRULL
98	MONTOUR SCHOOL DISTRICT
99	FRANK & KRISTEN SCHNEIDER
100	CHARLES M. & LINDA J. MASCELLINO
101	DWAYNE & TAMARA GRIMES
102	DWAYNE & TAMARA GRIMES
103	CHARLES & EVE WOVCHKO
104	PAULA JEAN LIGUS
105	ROBERT & NANCY KELLEY



NOTE:
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NORTH

0 250 500 750 1000
1" = 500'

SITE MAP
1" = 20000'

LEGEND

- △ SUBSTATION
- PROPOSED ROUTE
- ROW
- PARCEL WITHIN ROW
- GIS PARCEL BOUNDARY

SOURCES: PENNSYLVANIA SPATIAL DATA ACCESS (PASDA)
PROJECTION: COORDINATE SYSTEM: PA STATE PLANE SOUTH
DATUM: NORTH AMERICAN DATUM OF 1983 (NAD83)
PROJECTION: LAMBERT CONFORMAL CONIC.
LINEAR UNIT: FEET
ELLIPSOID: GEODETIC REFERENCE SYSTEM 80

DUQUESNE LIGHT COMPANY

REAL ESTATE DEPT.–SURVEYING PITTSBURGH,PA.

B.I. – CRESCENT AERIAL EXHIBIT

SCALE AS SHOWN	DATE 3/04/19	ARCH. APP.
	DRAWN JLS	ELECT. APP.
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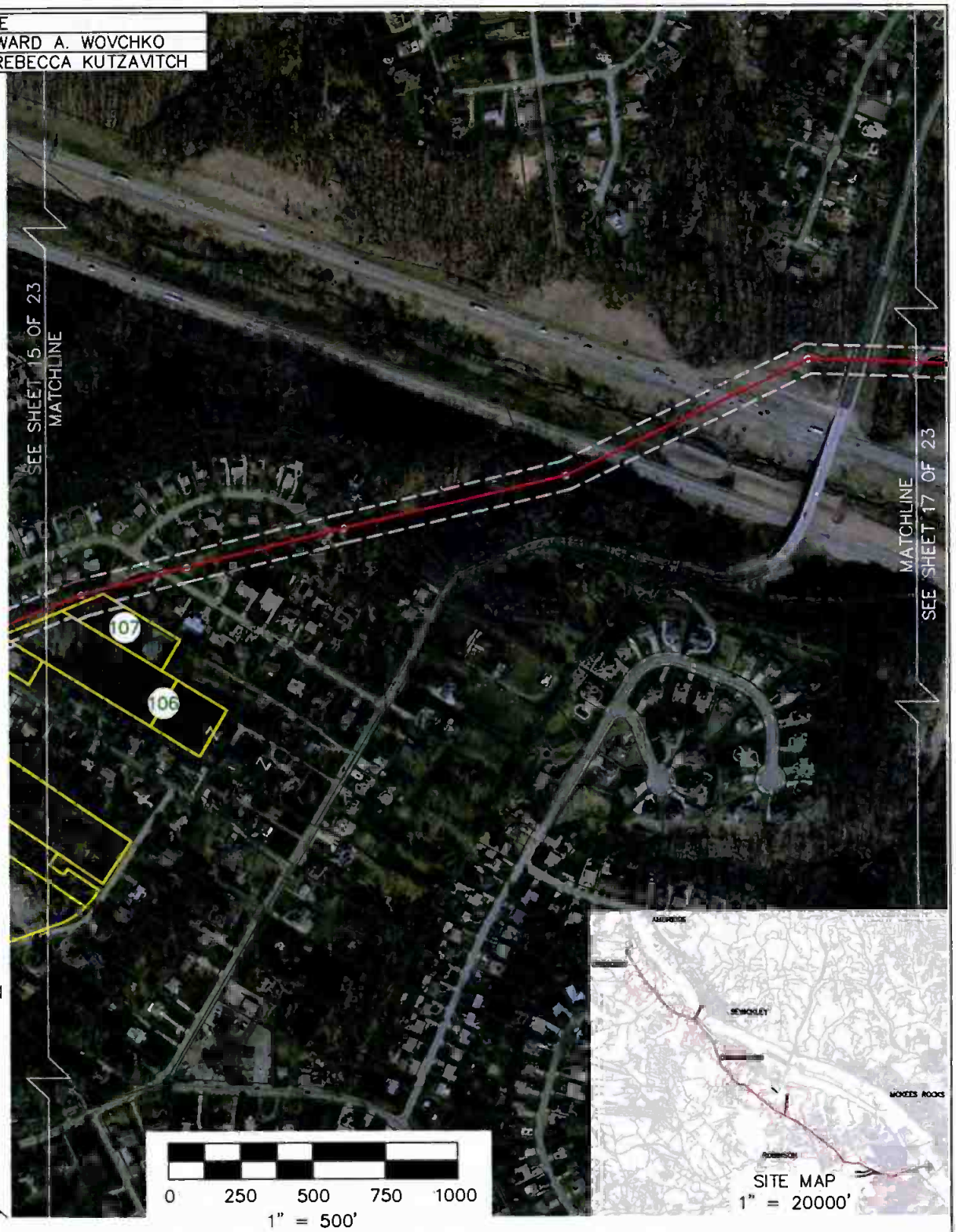
	INSP.	STRUCT. APP.

ALLEGHENY COUNTY
ROBINSON TWP.
SHEET 15 OF 23

APP. COMPLETE WHEN INITIALED HERE	O.F.E.	L	NO. 8790
	C.O.		

LABEL	OWNER NAME
106	JOHN & EDWARD A. WOVCHKO
107	WILLIAM & REBECCA KUTZAVITCH



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NORTH

LEGEND

- △ SUBSTATION
- PROPOSED ROUTE
- ROW
- PARCEL WITHIN ROW
- GIS PARCEL BOUNDARY

SOURCES: PENNSYLVANIA SPATIAL DATA ACCESS (PASDA)
PROJECTED COORDINATE SYSTEM: PA STATE PLANE SOUTH
DATUM: NORTH AMERICAN DATUM OF 1983 (NAD83)
PROJECTION: LAMBERT CONFORMAL CONIC
LINEAR UNITS: FEET
ELLIPSOID: GEODETIC REFERENCE SYSTEM 80

DUQUESNE LIGHT COMPANY

REAL ESTATE DEPT.–SURVEYING PITTSBURGH,PA.

B.I. – CRESCENT
AERIAL EXHIBIT

SCALE AS SHOWN	DATE 3/04/19	ARCH. APP.
	DRAWN JLS	ELECT. APP.
	CHECKED MEH	MECH. APP.
	INSP.	STRUCT. APP.

ALLEGHENY COUNTY
ROBINSON TWP.
SHEET 16 OF 23

APP. COMPLETE WHEN INITIALED HERE	O.F.E.	L	NO. 8790
	C.O.		

NOTE:
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NORTH

0 250 500 750 1000
1" = 500'

SITE MAP
1" = 20000'

LEGEND

- △ SUBSTATION
- PROPOSED ROUTE
- ROW
- PARCEL WITHIN ROW
- GIS PARCEL BOUNDARY

SOURCES: PENNSYLVANIA SPATIAL DATA ACCESS (PASDA)
PROJECTED COORDINATE SYSTEM: PA STATE PLANE SOUTH
DATUM: NORTH AMERICAN DATUM OF 1983 (NAD83)
PROJECTION: LAMBERT CONFORMAL CONIC
LINEAR UNITS: FEET
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DUQUESNE LIGHT COMPANY

REAL ESTATE DEPT.-SURVEYING PITTSBURGH,PA.

B.I. – CRESCENT
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SCALE			
AS SHOWN	DATE 3/04/19	ARCH. APP.	
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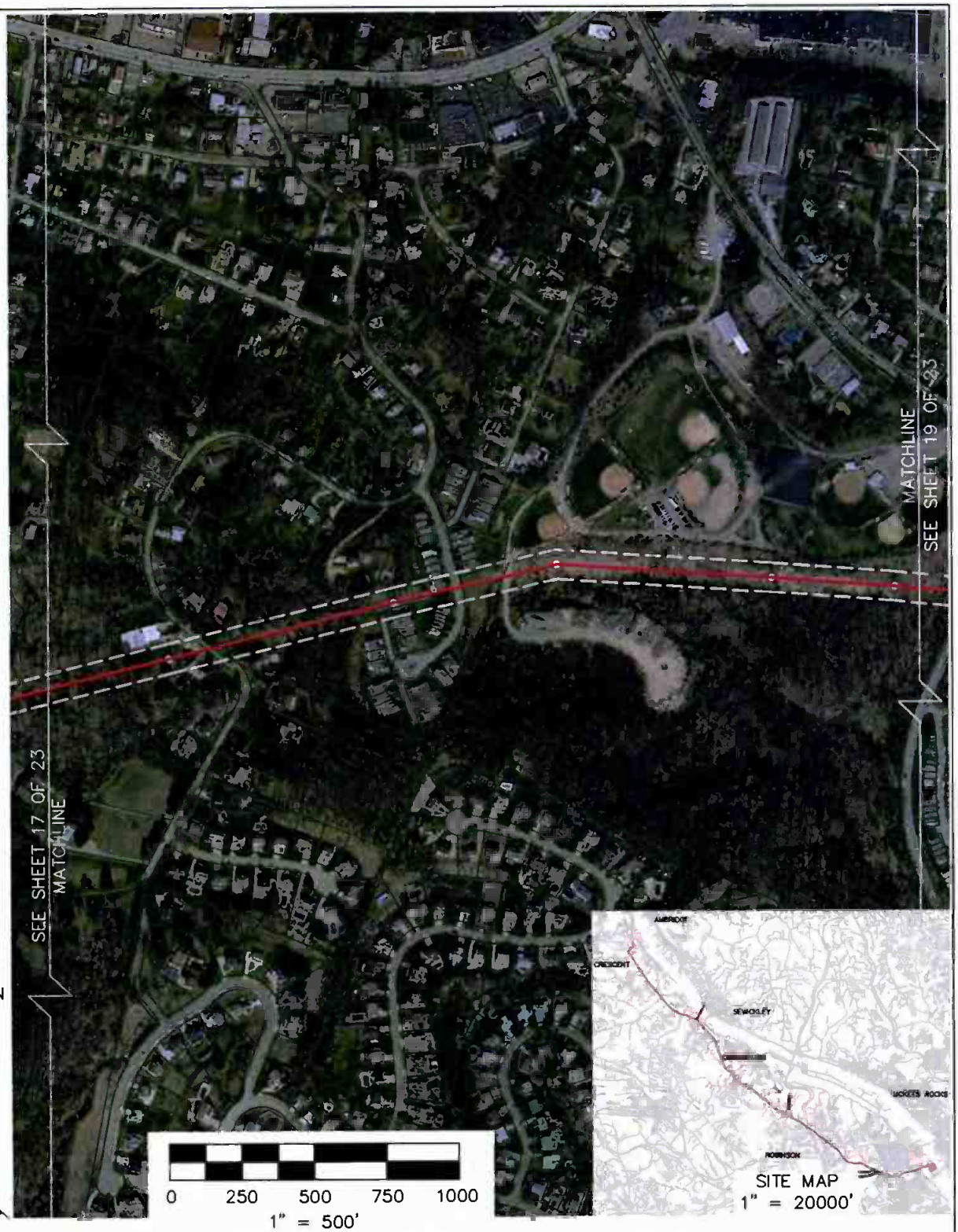
ALLEGHENY COUNTY
KENNEDY TWP.
SHEET 17 OF 23

APP. COMPLETE WHEN INITIALED HERE: O.F.E. / C.O.

L NO. 8790



NOTE:
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NORTH

0 250 500 750 1000
1" = 500'

SITE MAP
1" = 20000'

LEGEND

- △ SUBSTATION
- PROPOSED ROUTE
- ROW
- PARCEL WITHIN ROW
- GIS PARCEL BOUNDARY

SOURCES: PENNSYLVANIA SPATIAL DATA ACCESS (PASDA)
PROJECTION, COORDINATE SYSTEMS: PA STATE PLANE SOUTH
DATUM: NORTH AMERICAN DATUM OF 1983 (NAD83)
PROJECTION: LAMBERT CONFORMAL CONIC
LINEAR UNIT: FEET
ELLIPSOID: GEODETIC REFERENCE SYSTEM 80

DUQUESNE LIGHT COMPANY

REAL ESTATE DEPT.–SURVEYING PITTSBURGH,PA.

B.I. – CRESCENT AERIAL EXHIBIT

SCALE AS SHOWN	DATE 3/04/19	ARCH. APP.	
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	INSP.	STRUCT. APP.	

ALLEGHENY COUNTY
KENNEDY TWP.
SHEET 18 OF 23

APP. COMPLETE WHEN INITIALED HERE: O.F.E. / C.O.

L NO. 8790

NOTE:
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NORTH

0 250 500 750 1000
1" = 500'

SITE MAP
1" = 20000'

LEGEND

- △ SUBSTATION
- PROPOSED ROUTE
- ROW
- PARCEL WITHIN ROW
- GIS PARCEL BOUNDARY

SOURCES: PENNSYLVANIA SPATIAL DATA ACCESS (PASDA)
PROJECTION: COORDINATE_SYSTEM: PA STATE PLANE SOUTH
DATUM: NORTH AMERICAN DATUM OF 1983 (NAD83)
PROJECTION: LAMBERT CONFORMAL CONIC
LINEAR UNIT: FEET
ELLIPSOID: GEODETIC REFERENCE SYSTEM 80

DUQUESNE LIGHT COMPANY

REAL ESTATE DEPT.-SURVEYING PITTSBURGH,PA.

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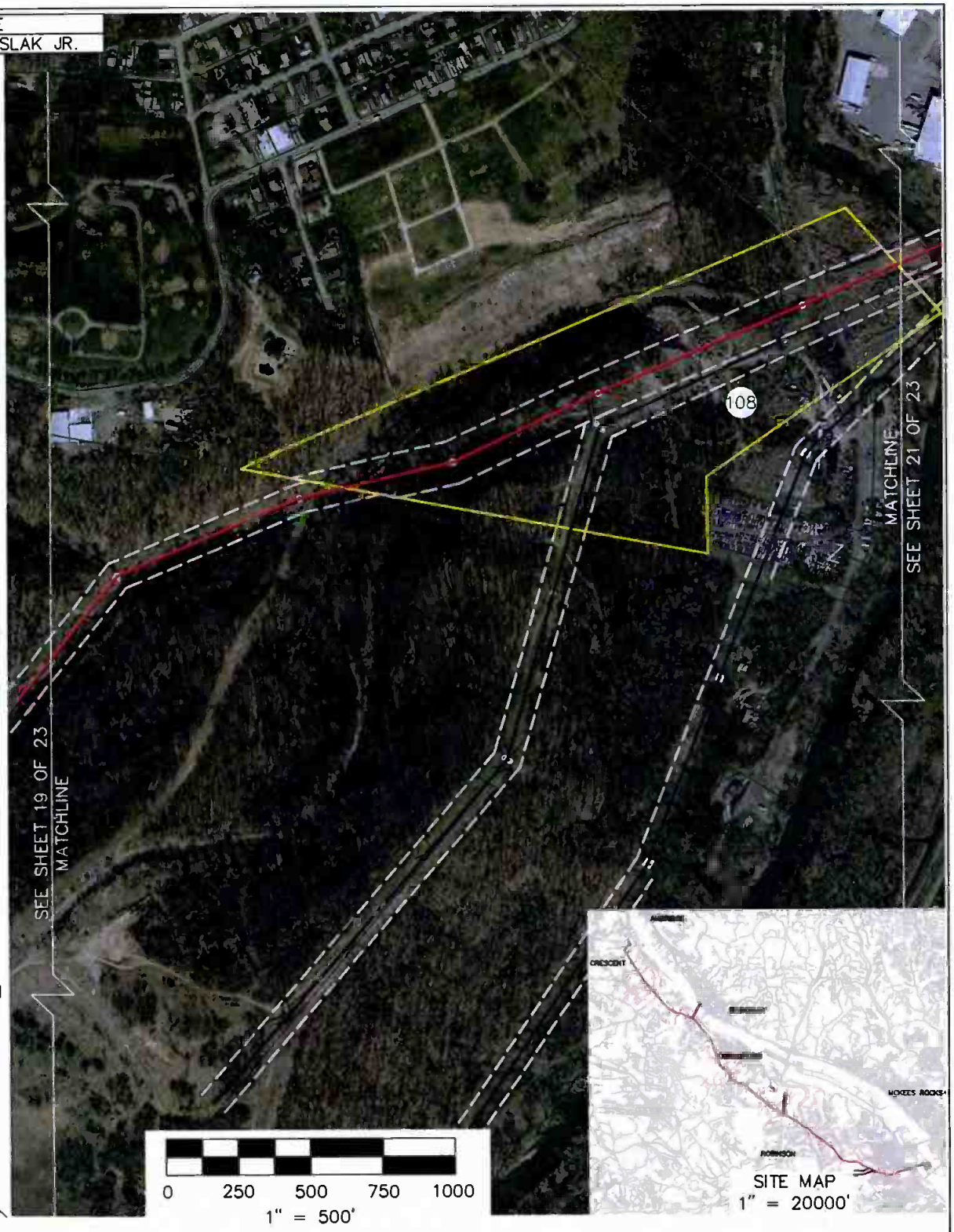
	INSP.	STRUCT. APP.	

ALLEGHENY COUNTY
KENNEDY TWP.
SHEET 19 OF 23

APP. COMPLETE WHEN INITIALED HERE	O.F.E.	L	NO. 8790
	C.O.		

LABEL	OWNER NAME
108	STANLEY CIESLAK JR.



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NORTH

0 250 500 750 1000
1" = 500'

SITE MAP
1" = 20000'

LEGEND

- △ SUBSTATION
- PROPOSED ROUTE
- ROW
- PARCEL WITHIN ROW
- GIS PARCEL BOUNDARY

SOURCES: PENNSYLVANIA SPATIAL DATA ACCESS (PASDA)
PROJECTION: COORDINATE SYSTEM: PA STATE PLANE SOUTH
DATUM: NORTH AMERICAN DATUM OF 1983 (NAD83)
PROJECTION: LAMBERT CONFORMAL CONIC
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DUQUESNE LIGHT COMPANY

REAL ESTATE DEPT.–SURVEYING PITTSBURGH,PA.

B.I. – CRESCENT
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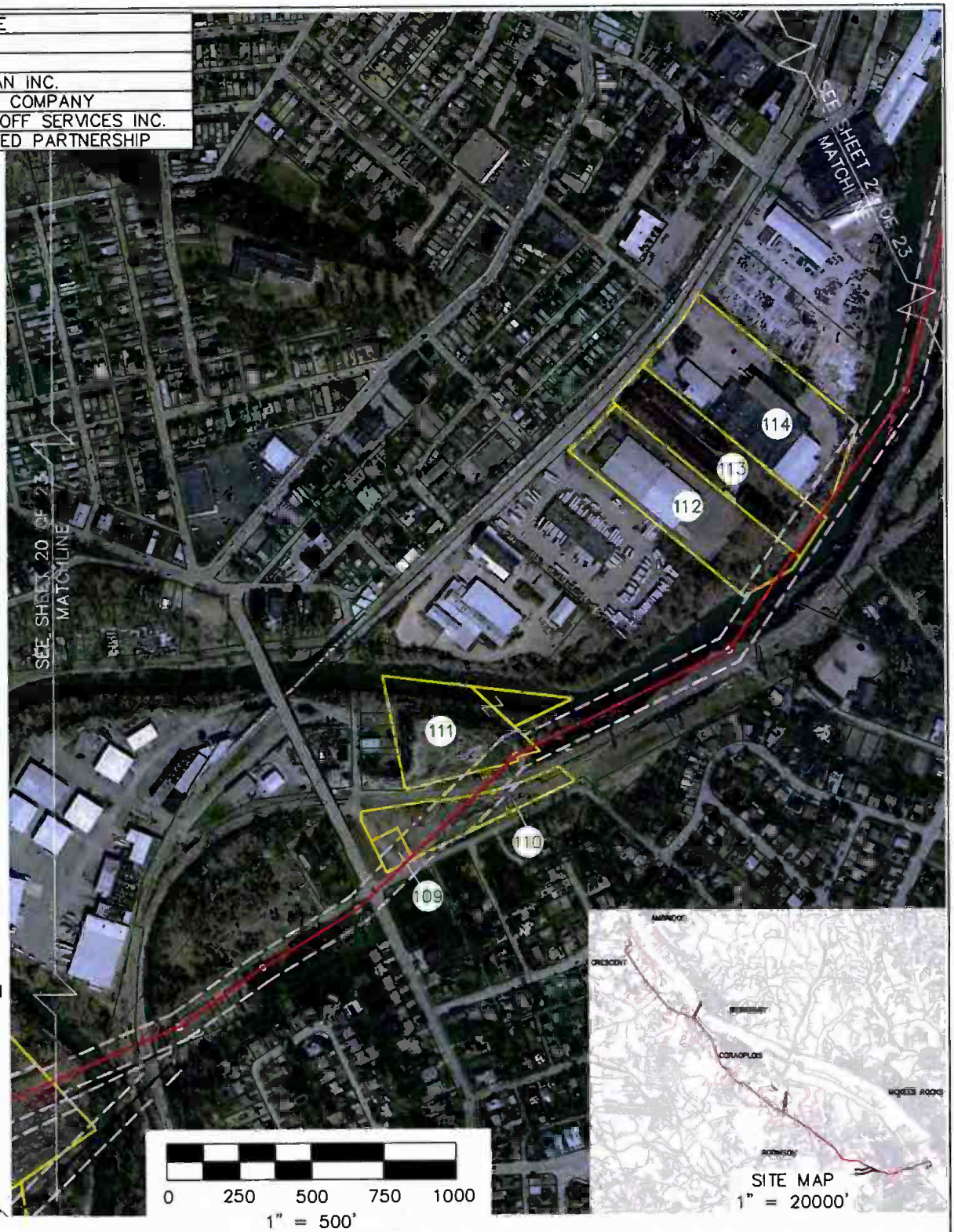
ALLEGHENY COUNTY
KENNEDY TWP.
SHEET 20 OF 23

APP. COMPLETE WHEN INITIALED HERE	O.F.E.	L	NO. 8790
	C.O.		

LABEL	OWNER NAME
109	PENNDOT
110	PENNDOT
111	FRANK BRYAN INC.
112	R&L REALTY COMPANY
113	BOYD ROLL OFF SERVICES INC.
114	AGGCO LIMITED PARTNERSHIP



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NORTH

LEGEND

- △ SUBSTATION
- PROPOSED ROUTE
- ROW
- PARCEL WITHIN ROW
- GIS PARCEL BOUNDARY

SOURCES: PENNSYLVANIA SPATIAL DATA ACCESS (PASDA)
PROJECTION COORDINATE SYSTEM: PA STATE PLANE SOUTH
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DUQUESNE LIGHT COMPANY

REAL ESTATE DEPT.-SURVEYING PITTSBURGH,PA.

B.I. – CRESCENT AERIAL EXHIBIT

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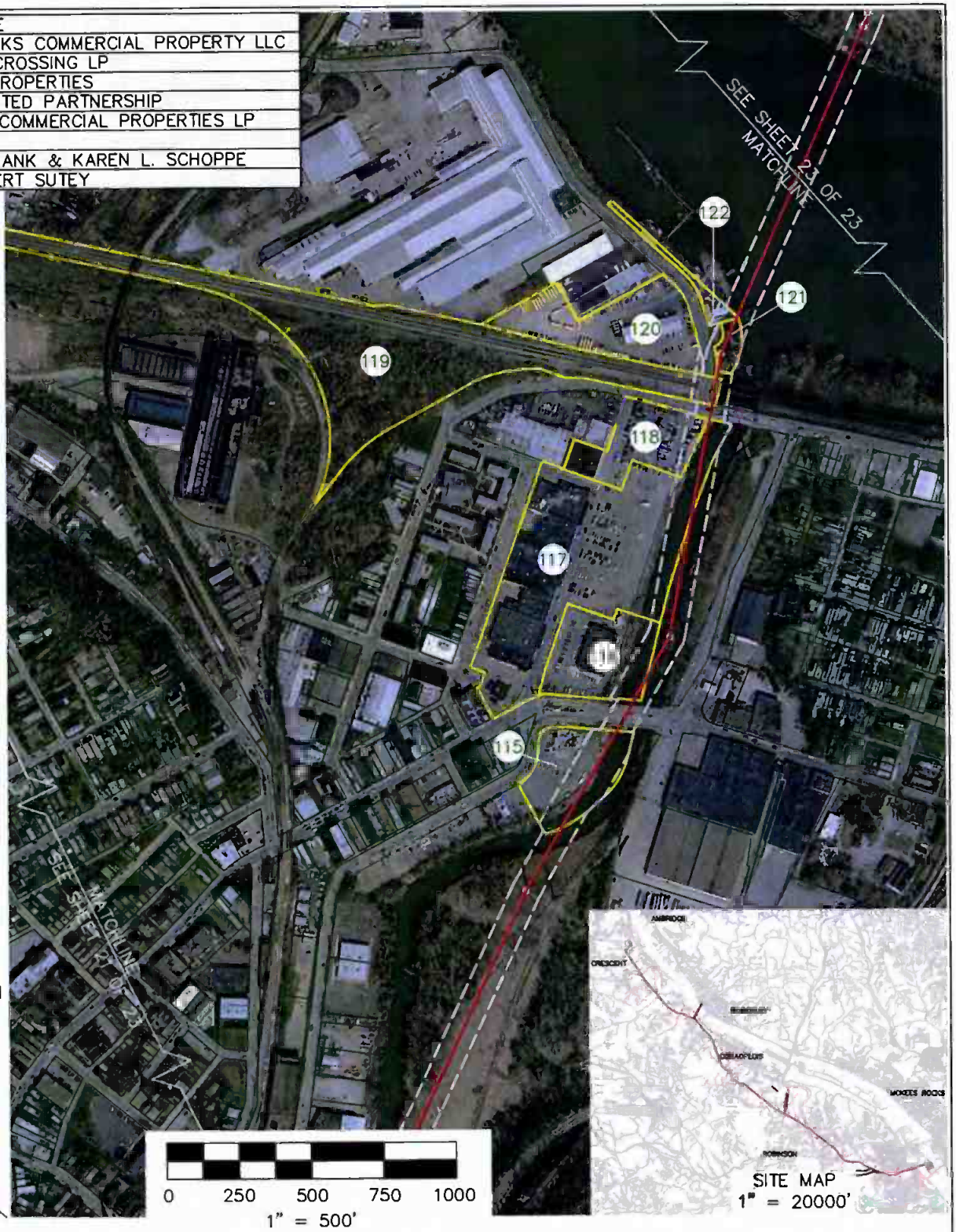
	INSP.	STRUCT. APP.

ALLEGHENY COUNTY
CITY OF PITTSBURGH & MCKEES ROCKS BORO
SHEET 21 OF 23

APP. COMPLETE WHEN INITIALED HERE	O.F.E.	L	NO. 8790
	C.O.		

LABEL	OWNER NAME
115	MCKEES ROCKS COMMERCIAL PROPERTY LLC
116	CHARTIERS CROSSING LP
117	OLD TOWN PROPERTIES
118	CRIVELLI LIMITED PARTNERSHIP
119	GREENVILLE COMMERCIAL PROPERTIES LP
120	CMC REALTY
121	JAMES F. FRANK & KAREN L. SCHOPPE
122	VICTOR ALBERT SUTEY



NOTE:
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NORTH

0 250 500 750 1000
1" = 500'

SITE MAP
1" = 20000'

LEGEND

- △ SUBSTATION
- PROPOSED ROUTE
- ROW
- PARCEL WITHIN ROW
- GIS PARCEL BOUNDARY

SOURCES: PENNSYLVANIA SPATIAL DATA ACCESS (PASDA)
PROJECTED COORDINATE SYSTEM: PA STATE PLANE SOUTH
DATUM: NORTH AMERICAN DATUM OF 1983 (NAD83)
PROJECTION: LAMBERT CONFORMAL CONIC
LINEAR UNITS: FEET
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DUQUESNE LIGHT COMPANY

REAL ESTATE DEPT.–SURVEYING PITTSBURGH,PA.

B.I. – CRESCENT
AERIAL EXHIBIT

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	CHECKED MEH	MECH. APP.
	INSP.	STRUCT. APP.

ALLEGHENY COUNTY
CITY OF PITTSBURGH & MCKEES ROCKS BORO
SHEET 22 OF 23

APP. COMPLETE WHEN INITIALED HERE	O.F.E.	L	NO. 8790
	C.O.		

NOTE:
THE EASEMENT IS VARIABLE IN WIDTH AND IS NOT REPRESENTATIVE ON THE PARCEL.

LEGEND

- △ SUBSTATION
- PROPOSED ROUTE
- ROW
- PARCEL WITHIN ROW
- GIS PARCEL BOUNDARY

SOURCES: PENNSYLVANIA SPATIAL DATA ACCESS (PASDA)
PROJECTED COORDINATE SYSTEM: PA STATE PLANE SOUTH
DATUM: NORTH AMERICAN DATUM OF 1983 (NAD83)
PROJECTION: LAMBERT CONFORMAL CONIC
LINEAR UNITS: FEET
ELLIPSOID: GEODETIC REFERENCE SYSTEM 80

DUQUESNE LIGHT COMPANY

REAL ESTATE DEPT.–SURVEYING PITTSBURGH,PA.

B.I. – CRESCENT AERIAL EXHIBIT

ALLEGHENY COUNTY
CITY OF PITTSBURGH & MCKEES ROCKS BORO
SHEET 23 OF 23

SCALE AS SHOWN	DATE 3/04/19	ARCH. APP.	
	DRAWN JLS	ELECT. APP.	
	CHECKED MEH	MECH. APP.	
	INSP.	STRUCT. APP.	

APP. COMPLETE WHEN INITIALED HERE	O.F.E.	L	NO. 8790
	C.O.		

Attachment 10

Attachment 10

Owners of Property Along the Route Selected for the Proposed Project

LINE NUMBER	MAB BLOCK LOT NUMBER	PARCEL ID	OWNER	TAX MAILING ADDRESS
1	21-L-1	0021L00001000000	ORION POWER MIDWEST LP	PO BOX 1410 HOUSTON TX 77251
2	74-K-250-0-1	0074K00250000001	PITTSBURGH & LAKE ERIE RAILROAD COMPANY	4 STATION SQ PITTSBURGH PA 15219
3	43-M-30	0043M00030000000	VICTOR ALBERT SUTEY	1 RIVER RD MCKEES ROCKS PA 15136
4	43-M-25	0043M00025000000	JAMES F & KAREN L FRANK; SCHOPPE-FRANK TRUSTEES, BENEFIT OF JAMES L FRANK & KAREN L SCHOPPE-FRANK	C/O Mariah Venture Capital 98 Glenbury Street Pittsburgh, PA 15234
5	43-M-1	0043M00001000000	GREENVILLE COMMERCIAL PROPERTIES LP	1 ATLANTIC AVE PITTSBURGH PA 15202
6	43-M-375-9	0043M00375000900	CSX TRANSPORTATION INC	500 WATER ST JACKSONVILLE FL 32202
7	43-L-130	0043L00130000000	CRIVELLI LIMITED PARTNERSHIP	108 MC KEES ROCKS PLAZA MCKEES ROCKS PA 15136
8	43-L-100	0043L00100000000	OLD TOWN PROPERTIES LP	1 ATLANTIC AVE PITTSBURGH PA 15202
9	43-R-350	0043R00350000000	DUQUESNE LIGHT COMPANY	1800 SEYMOUR ST PITTSBURGH PA 15233
10	43-R-10	0043R00010000000	CHARTIERS CROSSING LP	1 ATLANTIC AVE PITTSBURGH PA 15202
11	43-P-56	0043P00056000000	MC KEES ROCKS COMMERCIAL PROPERTIES LLC	1 ATLANTIC AVE PITTSBURGH PA 15202
12	43-P-1-0-1	0043P00001000001	ALLEGHENY COUNTY SANITARY AUTHORITY	3300 PREBLE AVE PITTSBURGH PA 15233
13	43-P-64	0043P00064000000	MC KEES ROCKS COMMUNITY DEVELOPMENT CORPORATION	611 CHARTIERS AVE MCKEES ROCKS PA 15136
14	43-N-186	0043N00186000000	23 FURNACE STREET ASSOCIATES	23 FURNACE ST EXT MCKEES ROCKS PA 15136
15	72-S-205	0072S00205000000	FRANK BRYAN INC	1263 CHARTIERS AVE MCKEES ROCKS PA 15136
16	72-S-220	0072S00220000000	FRANK BRYAN INC	1263 CHARTIERS AVE MCKEES ROCKS PA 15136
17	72-S-240	0072S00240000000	AGGCO LIMITED PARTNERSHIP	1101 THOMPSON AVE MCKEES ROCKS PA 15136
18	21-K-66	0021K00066000000	CONRAIL	110 FRANKLIN RD SE PROPERTY TAX DEPT ROANOKE VA 24042
19	72-S-250-0-1	0072S00250000001	BOYD ROLL OFF SERVICES INC	300 FOURTH AVE PITTSBURGH PA 15222

LINE NUMBER	MAB BLOCK LOT NUMBER	PARCEL ID	OWNER	TAX MAILING ADDRESS
20	72-S-260	0072S00260000000	R& L REALTY COMPANY PENNA	1105 THOMPSON AVE MCKEES ROCKS PA 15136
21	71-D-25	0071D00025000000	CITY OF PITTSBURGH	414 GRANT ST RM 200 CITY-COUNTY BUILDING PITTSBURGH PA 15219
22	71-C-200	0071C00200000000	FRANK BYRAN INC	1263 CHARTIERS AVE MCKEES ROCKS PA 15136
23	71-B-52	0071B00052000000	CITY OF PITTSBURGH	414 GRANT ST RM 200 CITY-COUNTY BUILDING PITTSBURGH PA 15219
24	71-B-94	0071B00094000000	DUQUESNE LIGHT COMPANY	1800 SEYMOUR ST PITTSBURGH PA 15233
25	71-B-48	0071B00048000000	CITY OF PITTSBURGH	414 GRANT ST RM 200 CITY-COUNTY BUILDING PITTSBURGH PA 15219
26	71-B-48	0071B00048000000	PENNSYLVANIA DEPARTMENT OF TRANSPORTATION	45 THOMS RUN ROAD BRIDGEVILLE PA 15107
27	71-B-140	0071B00140000000	DUQUESNE LIGHT COMPANY	1800 SEYMOUR ST PITTSBURGH PA 15233
28	71-B-138	0071B0013800000	DUQUESNE LIGHT COMPANY	1800 SEYMOUR ST PITTSBURGH PA 15233
29	71-B-146	0071B00146000000	DUQUESNE LIGHT COMPANY	1800 SEYMOUR ST PITTSBURGH PA 15233
30	71-B-46	0071B00046000000	DUQUESNE LIGHT COMPANY	1800 SEYMOUR ST PITTSBURGH PA 15233
31	71-B-181	0071B00181000000	DUQUESNE LIGHT COMPANY	1800 SEYMOUR ST PITTSBURGH PA 15233
32	72-P-200-0-2	0072P00200000002	COMMONWEALTH OF PENNSYLVANIA	300 LIBERTY AVE PITTSBURGH PA 15222
33	71-B-180-0-2	0071B00180000002	DUQUESNE LIGHT COMPANY	1800 SEYMOUR ST PITTSBURGH PA 15233
34	71-B-180-0-1	0071B00180000001	DUQUESNE LIGHT COMPANY	1800 SEYMOUR ST PITTSBURGH PA 15233
35	71-B-204-0-2	0071B00204000002	DUQUESNE LIGHT COMPANY	1800 SEYMOUR ST PITTSBURGH PA 15233
36	71-B-204-0-1	0071B00204000001	DUQUESNE LIGHT COMPANY	1800 SEYMOUR ST PITTSBURGH PA 15233
37	71-B-214-0-2	0071B00214000002	DUQUESNE LIGHT COMPANY	1800 SEYMOUR ST PITTSBURGH PA 15233
38	71-B-214-0-1	0071B00214000001	DUQUESNE LIGHT COMPANY	1800 SEYMOUR ST PITTSBURGH PA 15233
39	71-B-230-0-1	0071B00230000001	DUQUESNE LIGHT COMPANY	1800 SEYMOUR ST PITTSBURGH PA 15233

LINE NUMBER	MAB BLOCK LOT NUMBER	PARCEL ID	OWNER	TAX MAILING ADDRESS
40	71-B-230-0-2	0071B00230000002	DUQUESNE LIGHT COMPANY	1800 SEYMOUR ST PITTSBURGH PA 15233
41	71-A-90	0071A00090000000	URBAN REDEVELOPMENT AUTHORITY OF PITTSBURGH	200 ROSS ST FL 10 PITTSBURGH PA 15219
42	72-P-200-0-3	0072P00200000003	PITTSBURGH & OHIO CENTRAL RR CO	47849 PAPERMILL RD COSHOCTON OH 43812
43	72-N-50	0072N00050000000	WINDGAP ENTERPRISES INC	6104 GRAND AVE STE A PITTSBURGH PA 15225
44	72-P-10	0072P00010000000	WINDGAP ENTERPRISES INC	6104 GRAND AVE STE A PITTSBURGH PA 15225
45	72-N-180	0072N00180000000	STANLEY CIESLAK JR	103 CREEK RD MCKEES ROCKS PA 15136
46	108-B-275	0108B00275000000	RICHARD LANG E	1801 MC KEES ROCKS RD MCKEES ROCKS PA 15136
47	109-F-61	0109F00061000000	UIRC GSA V MC KEES ROCKS PA LLC	1570 103rd STREET LEMONT, IL 60439-9610
48	109-F-21	0109F00021000000	PENNSYLVANIA ADULT LIVING II, LLC	625 LIBERTY AVE, STE 3110 PITTSBURGH, PA 15222
49	109-E-197	0109E00197000000	CLEVER ROAD ASSOCIATES	560 EPSILON DRIVE PITTSBURGH, PA 15238
50	109-E-195	0109E00195000000	CHRISTOPHER M LANG & (TRUSTEE)	1801 MC KEES ROCKS RD MCKEES ROCKS PA 15136
51	109-J-11	0109J00011000000	DUQUESNE LIGHT COMPANY	1800 SEYMOUR ST PITTSBURGH PA 15233
52	109-J-19	0109J00019000000	RAYMOND HELLMANN JR AND RAYMOND HELLMANN SR	731 1/2 CHARTIERS AVE PITTSBURGH PA 15220
53	109-J-43	0109J00043000000	ZAGARI JOHN J & PAMELA (W)	1929 MCKEES ROCKS RD MC KEES ROCKS PA 15136-1611
54	109-J-109	0109J00109000000	KENNEDY HIGHLANDS ASSOCIATES LP	310 SEVEN FIELDS BLVD STE 350 MARS PA 16046
55	109-E-17	0109E00017000000	MICHELLE L MASSUCCI	100 CONNIE PARK DR MCKEES ROCKS PA 15136
56	154-H-323	0154H00323000000	LINDA MARIE OSMAN	102 CONNIE PARK DR MCKEES ROCKS PA 15136
57	154-H-317	0154H00317000000	JACQUELINE MCKENZIE AND KENNETH L SALTERS	104 CONNIE PARK DR MCKEES ROCKS PA 15136
58	154-H-253	0154H00253000000	RONALD BRUNI	31 LONGVIEW DR MCKEES ROCKS PA 15136
59	154-H-258	0154H00258000000	JAY MICHAEL MICHEL, ALYSSA SUSAN PETRELLA	103 CONNIE PARK DR MCKEES ROCKS PA 15136-1647
60	154-H-240	0154H00240000000	TONI L MASON	191 PATRICIA PARK DR MCKEES ROCKS PA 15136

LINE NUMBER	MAB BLOCK LOT NUMBER	PARCEL ID	OWNER	TAX MAILING ADDRESS
61	154-H-357	0154H00357000000	CHRISTOPHER J STARR & JUDITH L (W)	200 PATRICIA PARK DR MCKEES ROCKS PA 15136
62	154-H-101	0154H00101000000	MICHAEL L PAPPATERRI & AMY L VICE PAPPATERRI (W)	180 CONNIE PARK DR MCKEES ROCKS PA 15136
63	154-H-98	0154H00098000000	PRESTIGE WORLDWIDE ENTERPRISE LLC	1283 SILVER LN MC KEES ROCKS PA 15136
64	154-H-96	0154H00096000000	WILLIAM J RUST	139 FIELD CLUB DR MCKEES ROCKS PA 15136
65	154-H-99	0154H0009900000	CORTLAND PROPERTIES	3010 MELLON BANK BUILDING 525 WILLIAM PENN PLACE PITTSBURGH, PA 15219
66	154-H-363	0154H00363000000	KENMAWR CARWASH INC	101 CLEVER RD MCKEES ROCKS PA 15136
67	154-H-99	0154H0009900000	CORTLAND PROPERTIES	3010 MELLON BANK BUILDING 525 WILLIAM PENN PLACE PITTSBURGH, PA 15219
68	154-H-25	0154H00025000000	ROBERT A MUHA JR & KIMBERLY A (W)	111 JULIANNA DR CORAOPOLIS PA 15108
69	154-H-27	0154H00027000000	ROBERT A MUHA JR & KIMBERLY A (W)	111 JULIANNE DR CORAOPOLIS PA 15108
70	154-H-29	0154H00029000000	ROBERT A MUHA JR & KIMBERLY A (W)	111 JULIANNA DR CORAOPOLIS PA 15108
71	154-H-31	0154H00031000000	ROBERT A MUHA JR & KIMBERLY A (W)	111 JULIANNA DR CORAOPOLIS PA 15108
72	155-S-368	0155S00368000000	TOWNSHIP OF KENNEDY	340 FOREST GROVE RD CORAPOLIS PA 15108
73	155-R-225	0155R00225000000	PRESTIGE LAND DEVELOPMENT	1789 PINE HOLLOW RD MCKEES ROCKS PA 15136
74	155-R-175	0155R00175000000	PARK PLACE ESTATES HOMEOWNERS ASSOCIATION, INC	1752 PINE HOLLOW RD MCKEES ROCKS PA 15136
75	155-R-132	0155R00132000000	KIERSTEN F. LAREN	107 PARK PLACE MCKEES ROCKS PA 15136
76	155-R-180	0155R00180000000	CHARLENE A CHEROKE	128 PARK PLACE MCKEES ROCKS PA 15136
77	155-R-133	0155R00133000000	ROBERT H. EGOLF IV	108 PARK PLACE MCKEES ROCKS PA 15136
78	155-R-134	0155R00134000000	JAMES M TITUS & AMANDA M (W)	109 PARK PLACE MCKEES ROCKS PA 15136
79	155-R-145	0155R00145000000	PARK PLACE ESTATES HOMEOWNERS ASSOCIATION, INC	1752 PINE HOLLOW RD MCKEES ROCKS PA 15136
80	155-R-135	0155R00135000000	SAMANTHA LYNN MOORE AND DAVID J HARRISON	110 PARK PLACE MCKEES ROCKS PA 15136

LINE NUMBER	MAB BLOCK LOT NUMBER	PARCEL ID	OWNER	TAX MAILING ADDRESS
81	155-R-136	0155R00136000000	ALYSSA M. MILLER AND JARYD HERBERT	111 PARK PLACE MCKEES ROCKS PA 15136
82	155-R-137	0155R00137000000	SARAH TURNER	112 PARK PLACE MCKEES ROCKS PA 15136
83	155-R-138	0155R00138000000	TAMMY L KELMECKIS	113 PARK PLACE MCKEES ROCKS PA 15136
84	155-R-142	0155R00142000000	CANDIDO E & SHIRLEY J NOLFI (W)	116 PARK PL MC KEES ROCKS, PA 15136-1698
85	155-R-150	0155R00150000000	PHILIP A KOSSLER & NAOMI C (W)	117 PARK PLACE MCKEES ROCKS PA 15136
86	155-R-59	0155R00059000000	SANDRA MAGLIOCCO & RANDALL LABRIE (H)	61 MIDWAY DR MCKEES ROCKS PA 15136
87	155-P-136	0155P00136000000	THOMAS M & MARY A (W) FENIO	103 MIDWAY DR MCKEES ROCKS PA 15136
88	155-K-9	0155K00009000000	ROBERT P & NICOLA A STREINER (W)	101 MIDWAY DR MCKEES ROCKS PA 15136
89	155-P-220	0155P00220000000	ANTHONY J & JUDITH L PASTELLA (W)	107 MIDWAY DR MCKEES ROCKS PA 15136
90	155-P-119	0155P00119000000	RUEBEN JEFFERSON	110 MIDWAY DR MCKEES ROCKS PA 15136
91	155-P-123	0155P00123000000	RUEBEN JEFFERSON	110 MIDWAY DR MCKEES ROCKS PA 15136
92	155-K-82	0155K00082000000	WILLIAM J & ARDUTH M CLAIR (W)	104 MIDWAY DR MCKEES ROCKS PA 15136
93	155-K-190	0155K00190000000	SARAH ELIZABETH ELLISON, JAMES ANDREW CAMPBELL	375 MIDWAY DR MCKEES ROCKS PA 15136
94	155-K-500	0155K00500000000	KENNEDY TWP	340 FOREST GROVE RD CORAOPOLIS PA 15108
95	155-K-358	0155K00358000000	MARK V & LISA A ALETTO (W)	199 WINDSOR DR CORAOPOLIS PA 15108
96	155-K-135	0155K00135000000	OTTAVIO J JR & MARGARET L PAUL (W)	2008 CANYON DR MCKEES ROCKS PA 15136
97	155-K-137	0155K00137000000	KEVIN M CHU	2010 CANYON DR MCKEES ROCKS PA 15136
98	155-K-139	0155K00139000000	HERBERT A & PATRICIA L MCCROSKEY (W)	2012 CANYON DR MCKEES ROCKS PA 15136
99	155-K-141	0155K00141000000	VERLAND HOUSING CORPORATION	212 IRIS RIDGE SEWICKLEY, PA 15143
100	155-K-145	0155K00145000000	PAUL & KIZZIE JOHNSON (W)	3114 ASHLYN ST PITTSBURGH, PA 15204-1706
101	155-K-147	0155K00147000000	WILLIAM J & NICOLE C OLIVANI (W)	2020 CANYON DR MCKEES ROCKS PA 15136
102	155-J-43	0155J00043000000	GEORGE J & FRANCES M GOEHRING (W)	4004 ORCHARD CIR MCKEES ROCKS PA 15136

LINE NUMBER	MAB BLOCK LOT NUMBER	PARCEL ID	OWNER	TAX MAILING ADDRESS
103	155-J-45	0155J00045000000	ROBERT D & ALMERENTEA M HULL (W)	4002 ORCHARD CIR MCKEES ROCKS PA 15136
104	155-J-47	0155J00047000000	GINGER N KUTSCHBACH	3012 TIMBERCREEK DR MCKEES ROCKS PA 15136
105	155-K-149	0155K00149000000	MICHELLE MITCHELL	2022 CANYON DR MCKEES ROCKS PA 15136
106	155-J-29	0155J00029000000	RICHARD & KAREN L OSHEA (W)	3014 TIMBERCREEK DR MCKEES ROCKS PA 15136
107	155-J-100	0155J00100000000	T A WARD	1405 MCLAUGHLIN RUN RD PITTSBURGH PA 15241
108	155-E-205	0155E00205000000	JUDITH A BURROUGHS	3019 TIMBERCREEK DR MCKEES ROCKS PA 15136
109	155-E-207	0155E00207000000	LOGAN E. WEIGLE AND CELESTE N DONATUCCI	3021 TIMBERCREEK DR MCKEES ROCKS PA 15136
110	155-E-211	0155E00211000000	NGO AND HUONG TRINH HOA	506 OVERBROOK BLVD PITTSBURGH PA 15210
111	155-J-1	0155J00001000000	BRIAN J & KELLY M SMARRA (W)	3027 TIMBERCREEK DR MCKEES ROCKS PA 15136
112	155-E-12	0155E00012000000	GEOFFREY P & MARY JO METZLER (W)	4026 FIRETHORN DR MCKEES ROCKS PA 15136
113	155-E-14	0155E00014000000	MICHAEL R CESSNA	4028 FIRETHORN DR MCKEES ROCKS PA 15136
114	155-E-16	0155E00016000000	DANIEL W RYAN AND MARY JEAN H STEINER	4030 FIRETHORN DR MCKEES ROCKS PA 15136
115	155-E-18	0155E00018000000	DAVID C & CHARLENE E KRAUTH (W)	4032 FIRETHORN DR MCKEES ROCKS PA 15136
116	155-E-22	0155E00022000000	ROBERT J & VIRGINIA A BADINI (W)	2039 CANYON DR EXT MCKEES ROCKS PA 15136
117	155-E-40	0155E00040000000	JOSEPH JR & SANDRA A JAWORSKI (W)	4035 FIRETHORN DR MCKEES ROCKS PA 15136
118	155-E-42	0155E00042000000	MARK F & JODY M VATER (W)	4037 FIRETHORN DR MCKEES ROCKS PA 15136
119	155-E-44	0155E00044000000	FRANK & ABBY CHYNOWETH	4039 FIRETHORN DR MCKEES ROCKS PA 15136
120	155-E-46	0155E00046000000	OLEH M & MOTRIA M HODOWANEC (W)	5040 WINDRIVER DR MCKEES ROCKS PA 15136
121	155-E-130	0155E00130000000	ALBERT M SOROKIS JR	5072 WINDRIVER DR MCKEES ROCKS PA 15136
122	155-E-100	0155E00100000000	SHAWN T & JILL JONES (W)	5042 WINDRIVER DR MCKEES ROCKS PA 15136
123	155-E-102	0155E00102000000	JAMES C & MAUREEN B CARLINS (W)	5044 WINDRIVER DR MCKEES ROCKS PA 15136
124	155-E-104	0155E00104000000	KENNETH E & MARY ANN S SCHNELBACH (W)	5046 WINDRIVER DR MCKEES ROCKS PA 15136

LINE NUMBER	MAB BLOCK LOT NUMBER	PARCEL ID	OWNER	TAX MAILING ADDRESS
125	155-E-98	0155E00098000000	STEPHEN H & PATRICIA C JASENAK (W)	5047 WINDRIVER DR MCKEES ROCKS PA 15136
126	155-E-131	0155E00131000000	TERRY J & BERNADINE GENSEL (W)	5049 WINDRIVER DR MCKEES ROCKS PA 15136
127	155-E-150	0155E00150000000	DAVID R & PAULETTE PASS (W)	5053 WINDRIVER DR MCKEES ROCKS PA 15136
128	155-E-135	0155E00135000000	DAVID R & PAULETTE PASS (W)	5053 WINDRIVER DR MCKEES ROCKS PA 15136
129	155-E-137	0155E00137000000	MARK J & NANCY B JAROCKI (W)	5055 WINDRIVER DR MCKEES ROCKS PA 15136
130	155-E-141	0155E00141000000	ROBERT A MUHA JR & KIMBERLY A (W)	111 JULIANNA DR CORAOPOLIS PA 15108
131	155-E-143	0155E00143000000	KEVIN S & JENNIFER L SHERMAN (W)	110 JULIANNA DR CORAOPOLIS PA 15108
132	208-H-56	0208H00056000000	ROBERT W SIDICK JR & VANESSA A (W)	109 JULIANNA DR CORAOPOLIS PA 15108
133	208-H-58	0208H00058000000	EDWARD J & JOYCE G CHEZOSKY (W)	108 JULIANNA DR CORAOPOLIS PA 15108
134	208-H-60	0208H00060000000	DAVID C GALLAGHER	107 JULIANNA DR CORAOPOLIS PA 15108
135	208-D-134	0208D00134000000	MELLON BANK N A (TRUSTEE) FOR TYLER HUDSON	525 WILLIAM PENN PL RM 153-1315 ATTN: JEFF LICHVAR PITTSBURGH PA 15259
136	208-D-132	0208D00132000000	PAUL F CHICHIN	10 ROSE AVE CORAOPOLIS PA 15108
137	209-S-56	0209S00056000000	MARK R & KATHLEEN A PANIZZI (W)	36 SUNSET DR CORAOPOLIS PA 15108
138	209-S-61	0209S00061000000	MARK R & KATHLEEN A PANIZZI (W)	36 SUNSET DR CORAOPOLIS PA 15108
139	208-C-225	0208C00225000000	MJH DEVELOPMENT COMPANY INC	44 PETRIE RD CORAOPOLIS PA 15108
140	209-R-97	0209R00097000000	GEORGE A & LEONA E DOUGLASS	9 WOODLAND RD PITTSBURGH PA 15228
141	209-P-380	0209P00380000000	GEORGE A JR & JANYCE DOUGLAS (W)	125 FAIRLAMB DR CORAOPOLIS PA 15108
142	209-P-342	0209P00342000000	DONALD J & GRACE B DEVENZIO	8 DENDRON RD CORAOPOLIS PA 15108
143	209-P-333	0209P00333000000	PAUL F & RUTH A GERGER (W)	108 FAIRLAMB DR CORAOPOLIS PA 15108
144	209-K-5	0209K00005000000	RICHARD H & NANCY M ANTANTIS	106 FAIRLAMB DR CORAOPOLIS PA 15108
145	209-K-9	0209K00009000000	FRED A. IORIO & HEATHER R NIEWIERSKI	104 FAIRLAMB DR CORAOPOLIS PA 15108

LINE NUMBER	MAB BLOCK LOT NUMBER	PARCEL ID	OWNER	TAX MAILING ADDRESS
146	209-K-15	0209K00015000000	ALDO & CHRISTINE A MITRI (W)	102 FAIRLAMB DR CORAOPOLIS PA 15108
147	209-K-23	0209K00023000000	MICHAEL FRANCIS & NICOLE MARIE CONTI (W)	530 DENDRON DR CORAOPOLIS PA 15108
148	209-P-304	0209P00304000000	JOSEPH & DOLORES PERRI	10 DENDRON DR CORAOPOLIS PA 15108
149	209-P-313	0209P00313000000	MICHAEL A & MIA CALA (W)	12 DENDRON DR CORAOPOLIS PA 15108
150	209-P-319	0209P00319000000	KRISTIN MARY BRANDL & STEVEN BRANDL III (H)	14 DENDRON DR CORAOPOLIS PA 15108
151	209-P-327	0209P00327000000	KRISTIN MARY BRANDL & STEVEN BRANDL III (H)	14 DENDRON DR CORAOPOLIS PA 15108
152	209-P-108	0209P00108000000	SPIOTTA FAMILY TRUST (THE)	13 DENDRON DR CORAOPOLIS PA 15108
153	209-K-75	0209K00075000000	BRUCE & PATRICIA COWAN (W)	15 DENDRON DR CORAOPOLIS PA 15108
154	209-K-81	0209K00081000000	EQUITABLE GAS COMPANY	PO BOX 6135 PITTSBURGH PA 15212
155	209-K-86	0209K00086000000	FRANK A & AUDREY MCBURNEY	537 DENDRON DR CORAOPOLIS PA 15108
156	209-P-98	0209P00098000000	WILLIAM A JR & REBECCA J KUTZAVITCH (W)	89 FOREST GROVE RD CORAOPOLIS PA 15108
157	209-K-89	0209K00089000000	SEAN J & HAYLEE C BURKE (W)	539 DENDRON DR CORAOPOLIS PA 15108
158	209-K-93	0209K00093000000	LEONARD R & KATHLEEN A RIDER (W)	541 DENDRON DR CORAOPOLIS PA 15108
159	209-K-97	0209K00097000000	DORIS A GLANCE	543 DENDRON DR CORAOPOLIS PA 15108
160	209-P-56	0209P00056000000	JOHN WOVCHKO & EDWARD A WOVCHKO	85 FOREST GROVE RD CORAOPOLIS PA 15108
161	209-K-101	0209K00101000000	H WAYNE & LUCILLE A MILLER	545 DENDRON DR CORAOPOLIS PA 15108
162	209-K-105	0209K00105000000	KENNETH J & CAROLYN L RIEDER	547 DENDRON DR CORAOPOLIS PA 15108
163	209-K-109	0209K00109000000	THOMAS C & KAREN A BAYER (W)	549 DENDRON DR CORAOPOLIS PA 15108
164	209-K-113	0209K00113000000	ANTHONY S & AUDREY TARQUINIO	551 DENDRON DR CORAOPOLIS PA 15108
165	209-J-16	0209J00016000000	TIMOTHY M & CRYSTAL L LISOWSKI (W)	630 MAGNUS LN CORAOPOLIS PA 15108
166	209-J-16-1	0209J00016000100	ANTHONY & AUDREY TARQUINIO (W)	551 DENRON DR CORAOPOLIS PA 15108
167	209-J-20	0209J00020000000	ROBERT G & NANCY B KELLEY (W)	628 MAGNUS LN CORAOPOLIS PA 15108

LINE NUMBER	MAB BLOCK LOT NUMBER	PARCEL ID	OWNER	TAX MAILING ADDRESS
168	209-J-48	0209J00048000000	JOHN A BIEDRZYCKI JR & BETTE JEAN (W)	625 MAGNUS LN CORAOPOLIS PA 15108
169	209-J-50	0209J00050000000	PAULA JEAN LIGUS	625 MAGNUS LN # B CORAOPOLIS PA 15108
170	209-J-82	0209J00082000000	LEONA V WARREN AND NANCY L JOHNSTON AND KAREN A SCHULMEISTER	627 MAGNUS LN CORAOPOLIS PA 15108
171	209-J-88	0209J00088000000	TINA R DOPUDJA	629 MAGNUS LN CORAOPOLIS PA 15108
172	209-F-273	0209F00273000000	TOWNSHIP OF ROBINSON	1000 CHURCH HILL RD PITTSBURGH PA 15205
173	209-N-155	0209N00155000000	CHARLES J & EVE M WOVCHKO (W)	13 HAWTORNE AVE PITTSBURGH PA 15205
174	209-N-163	0209N00163000000	DWAYNE & TAMARA GRIMES (W)	11 STRAWBERRY LN CORAOPOLIS PA 15108
175	209-N-198	0209N00198000000	DWAYNE & TAMARA GRIMES (W)	11 STRAWBERRY LN CORAOPOLIS PA 15108
176	209-N-207	0209N00207000000	FRANK & KRISTEN MARIA SCHNEIDER (W)	15 STRAWBERRY LN CORAOPOLIS PA 15108
177	209-A-89	0209A00089000000	JOHN P & JENNIFER A CROWE (W)	1123 JUANITA DR CORAOPOLIS PA 15108
178	270-H-261	0270H00261000000	CATHY A JAMIOLKOWSKI	1120 ZENOBIA DR CORAOPOLIS PA 15108
179	270-H-272	0270H00272000000	CATHY A JAMIOLKOWSKI	1120 ZENOBIA DR CORAOPOLIS PA 15108
180	270-H-277	0270H00277000000	JAMES A KRIVANEK JR & DENISE M BROOKS & BECKY M TAYLOR & SANDRA M LASCOLA & JENNIFER M CLEGG	192 BARNETT ST WASHINGTON PA 15301
181	270-H-282	0270H00282000000	AMY LYNN KANTZ	1116 ZENOBIA DR CORAOPOLIS PA 15108
182	270-H-287	0270H00287000000	GERALD D & CHARLOTTE A TOMASZEWSKI	1114 ZENOBIA DR CORAOPOLIS PA 15108
183	270-H-292	0270H00292000000	ANTHONY L YAKEMOWICZ	1112 ZENOBIA DR CORAOPOLIS PA 15108
184	270-H-297	0270H00297000000	BRIAN J & ELIZABETH A EISEL (W)	1110 ZENOBIA DR CORAOPOLIS PA 15108
185	270-H-302	0270H00302000000	DANTE AND EMILY PLASSIO M BYROM	1108 ZENOBIA DR CORAOPOLIS PA 15108
186	270-H-307	0270H00307000000	DANIEL & LUCINE A DABECCO (W)	1106 ZENOBIA DR CORAOPOLIS PA 15108
187	270-H-312	0270H00312000000	ROBERT & NOEL ZYCHOWSKI (W)	1104 ZENOBIA DR CORAOPOLIS PA 15108
188	270-H-317	0270H00317000000	MARJORIE C (W) AND ROBERT A PERRONE JR	2301 FOREST GROVE RD CORAOPOLIS PA 15108

LINE NUMBER	MAB BLOCK LOT NUMBER	PARCEL ID	OWNER	TAX MAILING ADDRESS
189	270-H-326	0270H00326000000	MARJORIE C (W) AND ROBERT A PERRONE JR	2301 FOREST GROVE RD CORAOPOLIS PA 15108
190	270-L-34	0270L00034000000	MONTOUR SCHOOL DISTRICT	223 CLEVER RD MCKEES ROCKS PA 15136
191	270-H-24	0270H00024000000	CYNTHIA A ELLEK	2308 FOREST GROVE RD CORAOPOLIS PA 15108
192	270-D-231	0270D00231000000	DUQUESNE LIGHT COMPANY	1800 SEYMOUR ST PITTSBURGH PA 15233
193	270-G-80	0270G00080000000	E N & BERNICE VIRGINIA SCHULER (W)	DECEASED NO KNOWN HEIRS OF RECORD
194	270-C-283	0270C00283000000	WILLIAM J KRULL	39 S PETRIE RD CORAOPOLIS PA 15108
195	270-D-379	0270D00379000000	MUNICIPAL AUTH TWP OF ROBINSON (THE)	PO BOX 15539 PITTSBURGH PA 15244
196	271-S-165	0271S00165000000	ALYSSA M KRAMER, WILLIAM A GRAFF (H)	2100 FOREST GROVE RD CORAOPOLIS, PA 15108-3352
197	270-C-235	0270C00235000000	ROBIN L HOUCK	55 S PETRIE RD CORAOPOLIS PA 15108
198	271-S-35	0271S00035000000	KING HENRY'S COURT HOMEOWNERS ASSOCIATION (THE)	317 2ND AVE CARNEGIE PA 15106
199	271-R-28	0271R00028000000	MICHAEL E & CHRISTINE A CRUNY (W)	3 WINDSOR WAY CORAOPOLIS PA 15108
200	271-R-145	0271R00145000000	HENRY D DUCKSTEIN	627 CHARTIERS AVE MCKEES ROCKS PA 15136
201	271-S-25	0271S00025000000	PATRICK M & MARY BETH ROGERS (W)	137 CAMELOT CIR CORAOPOLIS PA 15108
202	271-S-27	0271S00027000000	WILLIAM P & DIANA M MUDRYK (W)	135 CAMELOT CIR CORAOPOLIS PA 15108
203	271-S-29	0271S00029000000	KENNETH P & ELIZABETH M DURBIN (W)	133 CAMELOT CIR CORAOPOLIS PA 15108
204	271-S-31	0271S00031000000	ROBERT M AND BERG SUSAN M BERG	2 LANCELOT LN CORAOPOLIS PA 15108
205	271-S-33	0271S00033000000	CRAIG & LAUNETTE WEBER (W)	4 LANCELOT LN CORAOPOLIS PA 15108
206	271-M-25	0271M00025000000	BRIAN T & LISA M DANKE (W)	3 LANCELOT LN CORAOPOLIS PA 15108
207	271-L-10	0271L00010000000	KING HENRY'S COURT HOMEOWNERS ASSOCIATIO N (THE)	317 2ND AVE CARNEGIE PA 15106
208	271-H-62	0271H00062000000	DUQUESNE LIGHT COMPANY	1800 SEYMOUR ST PITTSBURGH PA 15233
209	270-G-140	0270G00140000000	JAMES E & GEORGINE MASON (W)	14 S PETRIE RD CORAOPOLIS PA 15108

LINE NUMBER	MAB BLOCK LOT NUMBER	PARCEL ID	OWNER	TAX MAILING ADDRESS
210	270-G-124	0270G00124000000	DANIELLE TERPACK	30 S PETRIE RD CORAOPOLIS PA 15108
211	270-G-122	0270G00122000000	FRANK W HANDLOVITCH & AMELIA S REVOCABLE LIVING	34 S PETRIE RD CORAOPOLIS PA 15108
212	270-C-62	0270C00062000000	JEFFREY T & PATRICIA A CATANZARITE (W)	36 S PETRIE RD CORAOPOLIS PA 15108
213	270-G-120	0270G00120000000	THOMAS P & AMY C HANDLOVITCH (W)	32 S PETRIE RD CORAOPOLIS PA 15108
214	270-C-91	0270C00091000000	MJH DEVELOPMENT CO	44 S PETRIE RD CORAOPOLIS PA 15108
215	270-C-59	0270C00059000000	FRANK W HANDLOVITCH & AMELIA S REVOCABLE LIVING TRUST (THE)	34 S PETRIE RD CORAOPOLIS PA 15108
216	270-G-128	0270G00128000000	MICHAEL P & MICHELLE G LUCAS (W)	39 JEFF DR CORAOPOLIS PA 15108
217	270-B-141	0270B00141000000	JOSEPH & TERESA M NOVAKOWSKI (W)	37 JEFF DR CORAOPOLIS PA 15108
218	270-C-85	0270C00085000000	MARTIN & TERRI LYNN SCANLON (W)	21 JEFF DR CORAOPOLIS PA 15108
219	270-B-123	0270B00123000000	KEVIN J & MICHELE R (GOSS W)	31 JEFF DR CORAOPOLIS PA 15108
220	270-B-129	0270B00129000000	CHERYL A SOWERS	30 JEFF DR CORAOPOLIS PA 15108
221	270-B-127	0270B00127000000	STEPHEN J & NEYRCHEL D LUDWICK (W)	28 JEFF DR CORAOPOLIS PA 15108
222	270-B-125	0270B00125000000	CHARLES W III & CYNTHIA L EISEL (W)	26 JEFF DR CORAOPOLIS PA 15108
223	270-B-131	0270B00131000000	SILVIA L BRAIDIC	112 AMY JO LN CORAOPOLIS PA 15108
224	270-B-133	0270B00133000000	MARK & CHRISTINE FERA (W)	114 AMY JO LN .CORAOPOLIS PA 15108
225	270-B-150	0270B00150000000	ROBERT AND ZHOU JIANJUN ALLSOP	116 AMY JO LN CORAOPOLIS PA 15108
226	270-B-152	0270B00152000000	MARK & CHRISTINE FERA (W)	114 AMY JO LN CORAOPOLIS PA 15108
227	270-B-128	0270B00128000000	STEPHEN J & NEYRCHEL D LUDWICK (W)	28 JEFF DR CORAOPOLIS PA 15108
228	270-C-181	0270C00181000000	JUNE C PETERS	56 S PETRIE RD CORAOPOLIS PA 15108
229	270-C-193	0270C00193000000	LEONARD J & BRENDA L JONES (W)	58 S PETRIE RD CORAOPOLIS PA 15108
230	270-B-122	0270B00122000000	STEPHEN L JR & NANCY A PAWLISH	62 S PETRIE RD CORAOPOLIS PA 15108

LINE NUMBER	MAB BLOCK LOT NUMBER	PARCEL ID	OWNER	TAX MAILING ADDRESS
231	270-B-50	0270B00050000000	JAMES F & DIANE R HARTMAN (W)	12 BURATTI DR CORAOPOLIS PA 15108
232	270-B-25	0270B00025000000	JAMES F & DIANE R HARTMAN (W)	12 BURATTI DR CORAOPOLIS PA 15108
233	270-A-125	0270A00125000000	FOREST GROVE SPORTSMENS ASSOCIATION	20 HICKMAN RD CORAOPOLIS PA 15108
234	271-P-109	0271P00109000000	SCOTT M & SUSAN F LOCKRIDGE (W)	10 BURATTI DR CORAOPOLIS PA 15108
235	271-P-282	0271P00282000000	EDWARD & MARGARET VIETMEIER (W)	2606 COUNTRY CLUB RD PITTSBURGH PA 15205
236	271-N-389	0271N00389000000	EDWARD & MARGARET VIETMEIER (W)	2606 COUNTRY CLUB DR PITTSBURGH PA 15205
237	271-N-115	0271N00115000000	UTA COLBERG	87 S. PETRIE RD COROAPOLIS, PA 15108
238	340-M-135	0340M00135000000	COY ALLEN	N. PETRIE RD COROAPOLIS, PA 15108
239	340-M-331	0340M00331000000	TERRY F & MAUREEN PLACEK (W)	10 REGINA DR MCKEES ROCKS PA 15136
240	340-M-380	0340M00380000000	ADOLPH & JEAN PLACEK (W)	175 COKETOWN RD CORAOPOLIS PA 15108
241	340-M-382	0340M00382000000	MICHAEL & TAMMY LEWICKI (W)	173 COKETOWN RD CORAOPOLIS PA 15108
242	340-H-380	0340H00380000000	TAMMIE S WEBB	171 COKETOWN RD CORAOPOLIS PA 15108
243	340-H-398	0340H00398000000	NOCK TAYLOR ASHLEY NICOLE	172 COKETOWN RD CORAOPOLIS PA 15108
244	340-G-21	0340G00021000000	HAUDENSHIELD REALTY CO	3207 EANES CIRCLE, UNIT A AUSTIN, TX 78746
245	340-H-387	0340H00387000000	VICKI J JONES	160 COKETOWN RD CORAOPOLIS PA 15108
246	498-M-396-0-2	0498M00396000002	MONTOUR TRAIL COUNCIL	304 HICKMAN ST BRIDGEVILLE PA 15017
247	498-M-396-0-1	0498M00396000001	MONTOUR TRAIL COUNCIL	304 HICKMAN ST BRIDGEVILLE PA 15017
248	340-G-114	0340G00114000000	HAUDENSHIELD REALTY CO	3207 EANES CIRCLE, UNIT A AUSTIN, TX 78746
249	341-R-126	0341R00126000000	FELICIAN SISTERS OF NORTH AMERICA REAL ESTATE TRUST	871 MERCER RD BEAVERS FALLS PA 15010
250	340-B-102	0340B00102000000	CHARLES BOBURKA	2107 POCOCEN DR CORAOPLIS PA 15108
251	340-B-62	0340B00062000000	RONALD A & KIMBERLY WISNESKY E (W)	2039 MONTOUR ST EXT CORAOPOLIS PA 15108
252	341-P-112	0341P00112000000	JOSEPH S & NANCY C STEINER (W)	2037 MONTOUR ST CORAOPOLIS PA 15108

LINE NUMBER	MAB BLOCK LOT NUMBER	PARCEL ID	OWNER	TAX MAILING ADDRESS
253	341-P-114	0341P00114000000	RICHARD J JR & GEORGETTE E ARENA (W)	231 STREAMSIDE PL MOORESVILLE NC 28115
254	341-P-2	0341P00002000000	NADINE R & RICHARD DANIELS E (H)	2044 MONTOUR ST CORAOPOLIS PA 15108
255	341-J-366	0341J00366000000	SUSAN D LIVINGSTON (C0-TRUSTEE) AND LORRAINE M GORMLEY (C0-TRUSTEE)	1130 GREENTREE RD PITTSBURGH PA 15220
256	340-A-83	0340A00083000000	WILLIAM D MORROW JR & CYNTHIA S (W)	2046 MONTOUR ST CORAOPOLIS PA 15108
257	340-A-103	0340A00103000000	GUST & CHRISTINE L DELOGLOS	115 CRAIGWOOD DR CORAOPOLIS PA 15108
258	418-S-87	0418S00087000000	HAYWARD V & ELAINE MCINTOSH	LANDSDOWNE DR CORAOPOLIS PA 15108
259	418-S-187	0418S00187000000	DENNIS J SOLT	1626 RIDGE ST CORAOPOLIS PA 15108
260	418-S-135	0418S00135000000	DUQUESNE LIGHT COMPANY	1800 SEYMOUR ST PITTSBURGH, PA 15233
261	418-S-186	0418S00186000000	RICHARD P & YI JIN WARBURTON	1619 RIDGE ST CORAOPOLIS PA 15108
262	418-S-183	0418S00183000000	JOSEPH JR VANO	1620 RIDGE ST CORAOPOLIS PA 15108
263	418-S-333	0418S00333000000	JOHN A LOUNDER	117 SANDRALAYNE RD CORAOPOLIS PA 15108
264	418-S-334	0418S00334000000	JOHN F & CHERYL A (W)RILEY	121 SANDRALAYNE DR CORAOPOLIS PA 15108
265	418-M-274	0418M00274000000	JASON N MORRIS AND COLLEEN A MORRIS AND PHILIP W MORRIS	1621 CHARLTON HEIGHTS RD CORAOPOLIS PA 15108
266	418-S-361	0418S00361000000	ROBERT T BEST	1627 CHARLTON HEIGHTS RD CORAOPOLIS PA 15108
267	418-S-367	0418S00367000000	ROBERT T BEST	1627 CHARLTON HEIGHTS RD CORAOPOLIS PA 15108
268	418-M-260	0418M00260000000	MARISSA KIELAR	1620 CHARLTON HEIGHTS RD CORAOPOLIS PA 15108
269	418-M-269	0418M00269000000	WILLIAM A & MARGARET BREEDLOVE	1626 CHARLTON HEIGHTS RD CORAOPOLIS PA 15108
270	418-L-86	0418L00086000000	DARRELL J & MARY ANN PAPINCHAK (W)	1203 MAPLE ST EXT CORAOPOLIS PA 15108
271	418-M-64	0418M00064000000	MICHAEL J & VIKKI A RICHARDS (W)	1424 CHARLTON HEIGHTS RD CORAOPOLIS PA 15108
272	418-M-30	0418M00030000000	ORVILLE A III & GAYLE A ANTRAM (W)	1426 CHARLTON HEIGHTS RD CORAOPOLIS PA 15108
273	418-L-385	0418L00385000000	ROBERT G & TERRY L CHESKY (W)	1422 CHARLTON HEIGHTS RD CORAOPOLIS PA 15108

LINE NUMBER	MAB BLOCK LOT NUMBER	PARCEL ID	OWNER	TAX MAILING ADDRESS
274	418-G-4	0418G00004000000	SAYLOR DAVID K & DORIS M PEREZ (W)	107 SEIBERT RD CORAOPOLIS PA 15108
275	418-G-9	0418G00009000000	MARY E & NICHOLAS J JOY (H)	105 SEIBERT RD CORAOPOLIS PA 15108
276	418-G-24	0418G00024000000	DAVRONBEK P KUDRATULLAEV & MICHELLE L CIARAMELLA (W)	101 SEIBERT RD CORAOPOLIS PA 15108
277	418-G-59	0418G00059000000	ANTHONY R & SANDRA R MARTIN (W)	1133 MAPLE ST EXT CORAOPOLIS PA 15108
278	418-G-68	0418G00068000000	MICHAEL A & APRIL M CRAWFORD (W)	1137 MAPLE ST EXT CORAOPOLIS PA 15108
279	418-G-77	0418G00077000000	CHRISTEN & JOLENE L WILLIAMS (W)	104 SEIBERT RD CORAOPOLIS PA 15108
280	418-G-183	0418G00183000000	CHARLES E & JAYNE LISICA	1140 MAPLE ST EXT CORAOPOLIS PA 15108
281	418-G-145	0418G00145000000	DUQUESNE LIGHT COMPANY	1800 SEYMOUR ST PITTSBURGH PA 15233
282	418-G-118	0418G00118000000	CORAOPOLIS TEMPLE SERVICE ASSOCIATION	PO BOX 41 CORAOPOLIS PA 15108
283	418-G-201	0418G00201000000	PAUL D & HEIDI M SOUZA (W)	224 ABBOTT ST CORAOPOLIS PA 15108
284	418-G-195	0418G00195000000	CHARLES E & JAYNE LISICA	1140 MAPLE ST EXT CORAOPOLIS PA 15108
285	418-C-122	0418C00122000000	GEORGE N SCHAEFER	DECEASED NO KNOWN HEIRS OF RECORD
286	418-C-147	0418C00147000000	DUQUESNE LIGHT COMPANY	1800 SEYMOUR ST PITTSBURGH PA 15233
287	418-C-135	0418C00135000000	GEORGE A JELLISON AND GEORGE A JELLISON JR AND LYNNE BOLEY AND BONITA L JELLISON	834 ROYAL AVE CORAOPOLIS PA 15108
288	418-C-183	0418C00183000000	LAWSON REALTY COMPANY	8 DEL MAR CT DELMONT PA 15626
289	418-F-49	0418F00049000000	KARL M & OLGA D FLORENCE (W)	132 LAKEVIEW DR MCKEES ROCK PA 15136
290	419-P-29	0419P00029000000	DONALD & MARILYN DINELL (W)	373 INDIAN RIDGE DR CORAOPOLIS PA 15108
291	418-B-192	0418B00192000000	SCOTT A & CHRISTINE P HOOVER (W)	526 SOUTHERN AVE CORAOPOLIS PA 15108
292	419-P-27	0419P00027000000	SILVIYA N NOVAK	375 INDIAN RIDGE DR CORAOPOLIS PA 15108
293	419-P-25	0419P00025000000	DANIEL A & KATHLEEN M SUCHY (W)	377 INDIAN RIDGE DR CORAOPOLIS PA 15108
294	419-P-23	0419P00023000000	MARK J & LINDA K WEAVER (W)	379 INDIAN RIDGE DR CORAOPOLIS PA 15108

LINE NUMBER	MAB BLOCK LOT NUMBER	PARCEL ID	OWNER	TAX MAILING ADDRESS
295	419-P-21	0419P00021000000	YVONNE KUNDE	378 INDIAN RIDGE DR CORAOPOLIS PA 15108
296	419-P-19	0419P00019000000	DONALD J & KIMBERLY LONGWELL (W)	376 INDIAN RIDGE DR CORAOPOLIS PA 15108
297	419-P-5	0419P00005000000	JAMES P & REBECCA S KUKLISH (W)	354 INDIAN RIDGE DR CORAOPOLIS PA 15108
298	419-P-3	0419P00003000000	AARON J & ELISA A BOOTH (W)	352 INDIAN RIDGE DR CORAOPOLIS PA 15108
299	419-P-1	0419P00001000000	RONALD A & GEORGENE H ANDRASKO (W)	350 INDIAN RIDGE DR CORAOPOLIS PA 15108
300	419-N-4	0419N00004000000	KEITH M & DINA L MALINOSKI (W)	348 INDIAN RIDGE DR CORAOPOLIS PA 15108
301	419-N-2	0419N00002000000	TODD J & LOIS J GAGLE (W)	346 INDIAN RIDGE DR CORAOPOLIS PA 15108
302	419-J-73	0419J00073000000	OWEN R & DEBORAH J MILLIGAN (W)	344 INDIAN RIDGE DR CORAOPOLIS PA 15108
303	419-J-71	0419J00071000000	BRANDT & MELISSA WILSON (W)	342 INDIAN RIDGE DR CORAOPOLIS PA 15108
304	419-J-69	0419J00069000000	RONALD J & KAREN A BUDICKY (W)	340 INDIAN RIDGE DR CORAOPOLIS PA 15108
305	419-J-67	0419J00067000000	JOHN & CATHERINE B LEVINE (W)	338 INDIAN RIDGE DR CORAOPOLIS PA 15108
306	419-J-61	0419J00061000000	ANTHONY J & PATRICIA J BABUSCI (W)	332 INDIAN RIDGE DR CORAOPOLIS PA 15108
307	419-J-59	0419J00059000000	RICHARD J & PATRICIA A HUNZIKER (W)	330 INDIAN RIDGE DR CORAOPOLIS PA 15108
308	419-J-41	0419J00041000000	VINCENT & ANGELA MARIE RICCIARDI (W)	312 INDIAN RIDGE DR CORAOPOLIS PA 15108
309	419-E-152	0419E00152000000	BRETT W & JENNIFER J MCGENNIS (W)	310 INDIAN RIDGE DR CORAOPOLIS PA 15108
310	419-E-151	0419E00151000000	JUSTIN & BRETLYNN STARK	308 INDIAN RIDGE DR CORAOPOLIS PA 15108
311	420-P-303	0420P00303000000	400 FIFTH AVENUE LIMITED PARTNERSHIP	400 5TH AVE CORAOPOLIS PA 15108
312	419-A-162	0419A00162000000	MICHAEL J FERRARA AND LYNDSIE N SCHANTZ	136 TIFFANY RIDGE DR CORAOPOLIS PA 15108
313	419-A-160	0419A00160000000	MORGAN MIHOK	134 TIFFANY RIDGE DR CORAOPOLIS PA 15108
314	420-N-114	0420N00114000000	MOON LAND CO	8 DEL MAR CT DELMONT PA 15626
315	504-D-29	0504D00029000000	PHIL PATTON	132 TIFFANY RIDGE DR CORAOPOLIS PA 15108
316	420-N-99	0420N00099000000	CURTIS JORDAN JR	110 LANSDOWNE DR CORAOPOLIS PA 15108

LINE NUMBER	MAB BLOCK LOT NUMBER	PARCEL ID	OWNER	TAX MAILING ADDRESS
317	505-S-348	0505S00348000000	STEVE & THERESA BABIK	THORON RUN RD CORAOPOLIS PA 15108
318	420-N-331	0420N00331000000	ROBERT J & SHARON M RUSH (W)	520 THORN RUN RD CORAOPOLIS PA 15108
319	505-F-217	0505F00217000000	MORRISON FARMS	745 LINCOLN AVE BENTLEYVILLE PA 15314
320	505-S-307	0505S00307000000	BEE'S REAL ESTATE LP	3273 RALEIGH AVE STE L PITTSBURGH, PA 15216
321	505-S-314	0505S00314000000	JON S DOMENICO	424 AMHERST AVE CORAOPOLIS PA 15108
322	505-M-161	0505M00161000000	JOLA REALTY LLC	227 MCCARTNEY DR CORAOPOLIS PA 15108
323	505-M-156	0505M00156000000	CHARLES J SR AND MARY CLEIS	392 CEDAR DR CORAOPOLIS PA 15108
324	505-M-149	0505M00149000000	TWOTUTS PROPERTIES LLC	828 OLD THORN RUN RD CORAOPOLIS PA 15108
325	505-M-142	0505M00142000000	MATTHEW EDWARD COPPOLA	640 7TH AVE CORAOPOLIS PA 15108
326	505-M-136	0505M00136000000	ERIC & HEIDI USSELMAN	207 PATTON DR CORAOPOLIS PA 15108
327	505-M-135	0505M00135000000	ERIC & HEIDI USSELMAN	207 PATTON DR CORAOPOLIS PA 15108
328	505-M-134	0505M00134000000	CAROLYN MARIE MATLAK	199 PARSON LB ALIQUIPPA PA 15001
329	505-M-133	0505M00133000000	BANKERS TRUST COMPANY OF CALIFORNIA NA (TRUSTEE)	360 HEMLOCK DR CORAOPOLIS PA 15108
330	505-M-131	0505M00131000000	JOHN CAMARDESE	2 MCGOVERN BLVD CRESCENT PA 15046
331	505-M-129	0505M00129000000	KIM E & LORI E SHANNON (W)	354 HEMLOCK DR CORAOPOLIS PA 15108
332	505-M-128	0505M00128000000	KIM E & LORI E SHANNON (W)	354 HEMLOCK DR CORAOPOLIS PA 15108
333	505-M-127	0505M00127000000	JOSEPH ANTHONY & BEVERLY SUE WEBER (W)	352 HEMLOCK DR CORAOPOLIS PA 15108
334	505-L-295	0505L00295000000	MOON TOWNSHIP	1000 BEAVER GRADE RD CORAOPOLIS PA 15108
335	505-L-278	0505L00278000000	HENRY & JULIA B REYNOLDS (W)	1209 ROBINA DR PITTSBURGH PA 15221
336	505-G-17	0505G00017000000	RONALD J AND CONLEY STELLA RENNICH	284 OAK DR CORAOPOLIS PA 15108
337	505-G-300	0505G00300000000	LMS THORN RUN LP	ATTN CASEY STEINER 121 EDGEWOOD AVE PITTSBURGH, PA 15218-1593

LINE NUMBER	MAB BLOCK LOT NUMBER	PARCEL ID	OWNER	TAX MAILING ADDRESS
338	505-G-38	0505G00038000000	MERRIT COMMONS LLC	112 PORT VUE DR CORAPOLIS PA 15108
339	505-G-38-1	0505G00038000100	MERRIT COMMONS LLC	112 PORT VUE DR CORAPOLIS PA 15108
340	505-B-72	0505B00072000000	BUTTON PETER M & LISA L (W)	128 RIVERCREST DR CORAOPOLIS PA 15108
341	505-B-68	0505B00068000000	CINDRAN INC	745 LINCOLN AVE BENTLEYVILLE PA 15314
342	505-B-64	0505B00064000000	LISA G DOMENICK	132 RIVERCREST DR CORAOPOLIS PA 15108
343	505-B-62	0505B00062000000	PATRICIA ANN WALTER & ANTHONY MARIANO (TRUST)	134 RIVERCREST DR CORAOPOLIS PA 15108
344	506-P-31	0506P00031000000	ROBERT M & SHAYLA M HOFF	136 RIVERCREST DR CORAOPOLIS PA 15108
345	506-P-35	0506P00035000000	KEITH A MARSHALL	138 RIVERCREST DR CORAOPOLIS PA 15108
346	506-P-39	0506P00039000000	TRICIA JO CARTISANO	140 RIVERCREST DR CORAOPOLIS PA 15108
347	506-P-43	0506P00043000000	RICHARD L & JOYCE M KRANE (W)	142 RIVERCREST DR CORAOPOLIS PA 15108
348	506-P-85	0506P00085000000	JOSEPH R & MARGARET G MANUEL (W)	144 JAROD DR CORAOPOLIS PA 15108
349	506-P-87	0506P00087000000	PETER J & MELISSA R NOSSAL (W)	143 JAROD DR CORAOPOLIS PA 15108
350	506-P-88	0506P00088000000	ARTHUR & SUZANNE LANGUILLI (W)	141 JAROD DR CORAOPOLIS PA 15108
351	506-P-89	0506P00089000000	DAVID L & ABBY J JACKSON	139 JAROD DR CORAOPOLIS PA 15108
352	506-P-91	0506P00091000000	DONALD RAY III & RACHEL DAWN MOORE (W)	137 JAROD DR CORAOPOLIS PA 15108
353	506-P-93	0506P00093000000	CYNTHIA N GALISH	135 JAROD DR CORAOPOLIS PA 15108
354	506-N-13	0506N00013000000	LUKE M & MICHELLE C DIXON (W)	133 JAROD DR CORAOPOLIS PA 15108
355	506-N-11	0506N00011000000	JOHN L & SALLY C PRONESTI (W)	131 JAROD DR CORAOPOLIS PA 15108
356	506-N-201	0506N00201000000	PENN SHERMAN CORP	6171 BETHEL RD ALEXANDRIA PA 16611
357	506-N-117	0506N00117000000	JOSE G & GRISEL C CAMPOS MARTIN (W)	283 RANDY LN CORAOPOLIS PA 15108
358	506-N-115	0506N00115000000	AUSTIN C & AMANDA RUSSIAN	285 RANDY LN CORAOPOLIS PA 15108
359	506-N-113	0506N00113000000	NANCI E RICH	287 RANDY DR CORAOPOLIS PA 15108

LINE NUMBER	MAB BLOCK LOT NUMBER	PARCEL ID	OWNER	TAX MAILING ADDRESS
360	506-N-127	0506N00127000000	DAVID T POST	288 RANDY LN CORAOPOLIS PA 15108
361	506-N-129	0506N00129000000	CHRIS J & ALYSON R PATSILEVAS (W)	230 RANDY LN CORAOPOLIS PA 15108
362	506-J-68	0506J00068000000	SEETHALER WILLIAM L & LYNN L LIVING TRUST	237 RANDY LN CORAOPOLIS PA 15108
363	506-N-107	0506N00107000000	MILISSA A & SIDNEY F MOORE	229 RANDY LN CORAOPOLIS PA 15108
364	599-M-200	0599M00200000000	PITTSBURGH AIRPORT PROPERTY INC	5596 23RD W TER BOCA RATON FL 33496
365	599-R-115	0599R00115000000	MOON TOWNSHIP	1000 BEAVER GRADE RD CORAOPOLIS PA 15108
366	599-L-292	0599L00292000000	AARON SIGEL AND REBECCA BRAUND	110 WYNVIEW RD CORAOPOLIS PA 15108
367	599-L-286	0599L00286000000	DENNIS J & JEANNE M ZONA (W)	108 WYNVIEW DR CORAOPOLIS PA 15108
368	599-L-277	0599L00277000000	CAROL A GORDON ASSET PROTECTION TRUST	106 WYNVIEW DR CORAOPOLIS PA 15108
369	599-L-227	0599L00227000000	HANS H NAM & WON JI (W)	110 WESTBURY DR CORAOPOLIS PA 15108
370	599-L-237	0599L00237000000	CYNTHIA L WOOLLETT	112 WESTBURY DR CORAOPOLIS PA 15108
371	599-L-268	0599L00268000000	JOSEPH G & SUZANNE L RABOSKY (W)	104 WYNVIEW DR CORAOPOLIS PA 15108
372	599-L-260	0599L00260000000	RONALD W & MARLANE J MCGINNIS (W)	102 WYNVIEW DR CORAOPOLIS PA 15108
373	599-L-246	0599L00246000000	RANJAN & MEENA BHANDARI (W)	226 LAKEVIEW DR CORAOPOLIS PA 15108
374	599-G-136	0599G00136000000	VALJEAN C ECKERT	116 WESTBURY DR CORAOPOLIS PA 15108
375	599-G-124	0599G00124000000	DONALD E & TILLIE J MUELLER (W)	115 WESTBURY DR CORAOPOLIS PA 15108
376	599-G-127	0599G00127000000	CARLTON T & PATRICIA A MILLER	113 WESTBURY DR CORAOPOLIS PA 15108
377	599-L-352	0599L00352000000	JAMES W & ETHEL W JACOBS (W)	111 WESTBURY DR CORAOPOLIS PA 15108
378	599-F-53	0599F00053000000	ANDREW P & CAROL ANN KOSARIK (W)	280 SHAFER RD CORAOPOLIS PA 15108
379	599-F-41	0599F00041000000	VINCENT & MARIA DINUNNO (W)	278 SHAFER RD CORAOPOLIS PA 15108
380	599-F-27	0599F00027000000	ZACHARY C & GEORGIANA R SMITH (W)	274 SHAFER RD CORAOPOLIS PA 15108
381	599-F-7	0599F00007000000	JAMES T & GAIL E HOLMES (W)	272 SHAFER RD CORAOPOLIS PA 15108

LINE NUMBER	MAB BLOCK LOT NUMBER	PARCEL ID	OWNER	TAX MAILING ADDRESS
382	599-F-91	0599F00091000000	DARREN J & CORINNE M MILLER	279 SHAFER RD CORAOPOLIS PA 15108
383	599-F-92	0599F00092000000	BARRETT KLAAS	271 SHAFER RD CORAOPOLIS PA 15108
384	599-F-70	0599F00070000000	BARRETT KLAAS	271 SHAFER RD CORAOPOLIS PA 15108
385	599-F-97	0599F00097000000	WILLIAM F & HELEN L SUTTON (W)	101 CRABTREE DR CORAOPOLIS PA 15108
386	599-F-98	0599F00098000000	WILLIAM F & HELEN L SUTTON (W)	101 CRABTREE DR CORAOPOLIS PA 15108
387	599-F-124	0599F00124000000	CHARLES S & PATRICIA C DEMME	103 CRABTREE LN CORAOPOLIS PA 15108
388	599-F-122	0599F00122000000	MARK C & CHARLYN D MULKEY (W)	105 CRABTREE DR CORAOPOLIS PA 15108
389	599-F-120	0599F00120000000	CHRISTOPHER D & ERIN MARIE MANNA (W)	107 CRABTREE DR CORAOPOLIS PA 15108
390	599-F-118	0599F00118000000	JOSEPH P FAULK	109 CRABTREE DR CORAOPOLIS PA 15108
391	599-F-112	0599F00112000000	GREGORY C & LISA D MCVAY (W)	110 CRABTREE DR CORAOPOLIS PA 15108
392	599-F-109	0599F00109000000	KEITH R STUCKEMAN, LENA M LENGYEL-BEADLING	310 WESTBURY DR CORAOPOLIS PA 15108
393	599-B-111	0599B00111000000	GEOFFREY W HATTON AND MEGAN A HATTON	312 WESTBURY DR CORAOPOLIS PA 15108
394	599-B-113	0599B00113000000	MICHAEL R NOVAK	314 WESTBURY DR CORAOPOLIS PA 15108
395	600-K-14	0600K00014000000	WEST PENN LACO INC	331 OHIO ST PITTSBURGH PA 15209
396	600-J-32	0600J00032000000	B P O E ELKS CLUB CORAOPOLIS LODGE 1090	PO BOX 1091 CORAOPOLIS PA 15108
397	700-H-324	0700H00324000000	D & K WRIGHT LLC	113 HELDON DR CORAOPOLIS PA 1510
398	701-S-46	0701S00046000000	MOON TOWNSHIP MUNICIPAL AUTHORITY	1700 BEAVER GRADE RD CORAOPOLIS PA 15108
399	701-S-102	0701S00102000000	MOON TOWNSHIP MUNICIPAL AUTHORITY	1700 BEAVER GRADE RD CORAOPOLIS PA 15108
400	701-S-221	0701S00221000000	MARK H & JUDITH C MILLER (W)	459 WATTERS STATION EVANS CITY PA 16033
401	701-M-178	0701M00178000000	MARTIN MEDIA	740 TRUMBULL DR PITTSBURGH PA 15205-4363
402	701-L-116	0701L00116000000	RICHARD I GABLE	126 FLAUGHERTY RUN RD CORAOPOLIS PA 15108
403	701-L-28	0701L00028000000	MARLENE LUDMAN, MARK LUDMAN	206 PURDY RD CORAOPOLIS PA 15108

LINE NUMBER	MAB BLOCK LOT NUMBER	PARCEL ID	OWNER	TAX MAILING ADDRESS
404	701-H-296	0701H00296000000	JAMES A STOKES	5 MCGOVERN BLVD CRESCENT PA 15046
405	701-H-286	0701H00286000000	ZACHARIAH R NAVE	PO BOX 524 CLARION PA 16214
406	701-H-255	0701H00255000000	CYNTHIA A CHAMBERLIN AND PATRICK L WILSON	9 MCGOVERN BLVD CRESCENT PA 15046
407	701-D-304	0701D00304000000	RANDY J INCHES	1582 SPRING RUN RD EXT CORAOPOLIS PA 15108
408	701-C-100	0701C00100000000	PAUL M SCHREIBER	1215 MAPLE ST EXT CORAOPOLIS PA 15108
409	701-G-31	0701G00031000000	ALLEN M & JANE L NEMETZ W)	1510 LAUREL RIDGE DR CRESCENT PA 15046
410	701-G-29	0701G00029000000	KIERSTEN & GEORGE E CROSBY (H)	1512 LAUREL RIDGE DR CRESCENT PA 15046
411	701-G-27	0701G00027000000	DAVID L & BARBARA A ROSS (W)	1514 LAUREL RIDGE DR CRESCENT PA 15046
412	701-G-25	0701G00025000000	LOUIS GLUMAC JR AND DENISE THOMAS	1516 LAUREL RIDGE DR CRESCENT PA 15046
413	701-G-23	0701G00023000000	ZACHARY J BYRD & MEGAN T DELISLE	1518 LAUREL RIDGE DR CRESCENT PA 15046
414	701-C-121	0701C00121000000	ZOKAITES PROPERTIES LP	375 GOLFSIDE DR WEXFORD PA 15090
415	701-C-46	0701C00046000000	30 BEAVER LP	3000 WASHINGTON PIKE BRIDGEVILLE PA 15017
416	701-C-48	0701C00048000000	TERRY A DEZORT	1522 PARKWOOD POINTE DR UNIT 604 CRESCENT PA 15046
417	701-C-44	0701C00044000000	BONNY J FOX	1528 PARKWOOD POINTE DR CRESCET PA 15046
418	701-C-42	0701C00042000000	30 BEAVER LP	3000 WASHINGTON PIKE BRIDGEVILLE PA 15017
419	701-C-40	0701C00040000000	LOUIS E. & MARILYN E SMOLENSKI (W)	1530 PARKWOOD POINT DR UNIT 504 CRESCENT, PA 15046
420	701-C-3	0701C00003000000	ZOKAITES PROPERTIES LP	375 GOLFSIDE DR WEXFORD PA 15090
421	701-C-120	0701C00120000000	ZOKAITES PROPERTIES LP	375 GOLFSIDE DR WEXFORD PA 15090
422	701-C-120-701	0701C00120070100	ZOKAITES PROPERTIES LP	375 GOLFSIDE DR WEXFORD PA 15090
423	701-C-120-704	0701C00120070400	ZOKAITES PROPERTIES LP	375 GOLFSIDE DR WEXFORD PA 15090
424	701-C-120-703	0701C00120070300	ZOKAITES PROPERTIES LP	375 GOLFSIDE DR WEXFORD PA 15090
425	701-C-120-702	0701C00120070200	ZOKAITES PROPERTIES LP	375 GOLFSIDE DR WEXFORD PA 15090

LINE NUMBER	MAB BLOCK LOT NUMBER	PARCEL ID	OWNER	TAX MAILING ADDRESS
426	701-C-2	0701C00002000000	CHARLOTTE L MUIA	1531 PARKWOOD POINTE DR CRESCENT PA 15046
427	701-C-8	0701C00008000000	BUNDY FAMILY TRUST	33 MCCOVERN BLVD CRESCENT PA 15046
428	701-B-4	0701B00004000000	CHRISTOPHER J & HEIDI L GARITI (W)	1601 CLOVERDALE LN CRESCENT PA 15046
429	701-B-6	0701B00006000000	ADAM W ZUREK	1602 CLOVERDALE LN CRESCENT PA 15046
430	701-B-200	0701B00200000000	PAUL M SCHREIBER	1215 MAPLE ST EXT CORAOPOLIS PA 15108
431	702-P-236	0702P00236000000	ROBERT J & NANCY J KERNICK (W)	259 SPRING RUN RD CRESCENT PA 15046
432	702-P-252	0702P00252000000	DUQUESNE LIGHT COMPANY	1800 SEYMOUR ST PITTSBURGH PA 15233
433	702-P-257	0702P00257000000	HENRY K & MARILYN G WHITE (W)	248 SPRING RUN RD CRESCENT PA 15046
434	702-P-363	0702P00363000000	JUSTIN T SMITH	258 SPRING RUN RD CRESCENT PA 15046
435	702-K-16	0702K00016000000	STEVEN M & CAROLINE S DOTTERER	1208 CRESCENT BLVD EXT CRESCENT PA 15046
436	702-K-18	0702K00018000000	RONALD A GOTTSCHALK AND MARLA A GOTTSCHALK	1206 CRESCENT BLVD EXT CRESCENT PA 15046
437	702-N-398	0702N00398000000	IAN & CHRISTIE HOUSTON	470 CRESCENT BLVD CRESCENT PA 15046
438	702-J-149	0702J00149000000	NICHOLAS E & ERICA M HOLLABAUGH (W)	1204 CRESCENT BLVD EXT CRESCENT PA 15046
439	702-J-147	0702J00147000000	JOSEPH G & JENNIFER L DAUGHERTY (W)	1202 CRESCENT BLVD EXT CRESCENT PA 15046
440	702-J-143	0702J00143000000	LOUIS A BOJARSKI	648 MAGNUS LN CORAOPOLIS PA 15108
441	702-J-135	0702J00135000000	JEAN BUBENHEIM & BARBARA HUSUAR	524 CRESCENT BLVD EXT CRESCENT PA 15046
442	702-J-145	0702J00145000000	JOSEPH W & KATHLEEN A PLUMB (W)	1200 CRESCENT BLVD EXT CRESCENT PA 15046
443	702-J-158	0702J00158000000	JAMES & JUDITH L DEANGELIS (W)	1201 CRESCENT BLVD EXT CRESCENT PA 15046
444	702-J-156	0702J00156000000	PATRICK E HAYES	223 N GUADALUPE ST UNIT #218 SANTA FE NM 87501
445	702-J-165	0702J00165000000	NORMAN P & BARBARA J BONAZZA (W)	200 GLENGARRY DR CORAOPOLIS PA 15108
446	702-P-371	0702P00371000000	LOUIS A BOJARSKI	648 MAGNUS LN CORAOPOLIS PA 15108
447	811-R-129	0811R00129000000	LOUIS A BOJARSKI	648 MAGNUS LN CORAOPOLIS PA 15108

LINE NUMBER	MAB BLOCK LOT NUMBER	PARCEL ID	OWNER	TAX MAILING ADDRESS
448	702-E-293	0702E00293000000	DANIEL & CHERYL L PERCIAVALLE (W)	815 BOCKTOWN RD CRESCENT PA 15046
449	702-E-377	0702E00377000000	ROBERT J DECKER & JAMIE TURNEY	826 BOCKTOWN RD CRESCENT PA 15046
450	702-E-381	0702E00381000000	DUQUESNE LIGHT COMPANY	1800 SEYMOUR ST PITTSBURGH PA 15233
451	811-H-346	0811H00346000000	VICKIE D STARK	828 BOCKTOWN RD CRESCENT PA 15046
452	811-H-341	0811H00341000000	CATHERINE A DECKER AND ROBERT J DECKER	830 BOCKTOWN RD CRESCENT PA 15046
453	811-H-326	0811H00326000000	MICHAEL S EVANS	834 BOCKTOWN RD CRESCENT PA 15046
454	811-H-321	0811H00321000000	DONNA ABBOTT	117 COLONIAL DR CLINTON PA 15026
455	812-S-226	0812S00226000000	MATTHEW WAIBEL & MARIA GEORGINA (W)	923 HARPER RD CRESCENT PA 15046
456	812-S-129	0812S00129000000	JOSEPH & KAREN GERY (W)	1040 CHANTICLEER DR CRESCENT PA 15046
457	812-S-354	0812S00354000000	CRESWELL HEIGHTS JOINT AUTHORITY	PO BOX 301 SOUTH HEIGHTS PA 15081
458	812-R-128	0812R00128000000	DAVID J & ELIZABETH L VREDENBURG (W)	932 HARPER RD CRESCENT PA 15046
459	812-M-107	0812M00107000000	DUQUESNE LIGHT COMPANY	1800 SEYMOUR ST PITTSBURGH PA 15233
460	703-A-395-0-1	0703A00395000001	DUQUESNE LIGHT COMPANY	1800 SEYMOUR ST PITTSBURGH PA 15233
461	703-A-395	0703A00395000000	DUQUESNE LIGHT COMPANY	1800 SEYMOUR ST PITTSBURGH PA 15233

Attachment 11

ATTACHMENT 11
BRUNOT ISLAND-CRESCENT PROJECT
DUQUESNE LIGHT COMPANY DESIGN CRITERIA, ELECTROMAGNETIC FIELD POLICY AND APPLICATION, AND SAFETY PRACTICES

The National Electrical Safety Code (NESC) is a set of rules to safeguard people during the installation, operation, and maintenance of electric power lines. The NESC contains the basic provisions considered necessary for the safety of employees and the public. Although it is not intended as a design specification, its provisions establish minimum design requirements. Duquesne Light Company ("Duquesne Light") has developed design specifications and safety rules which meet or surpass all provisions specified by the NESC.

Engineering Design Criteria and Parameters

The NESC includes loading requirements and clearances for the design, construction, and operation of power lines. The "loads" on conductors and supporting structures are the forces that develop from the weight of the conductors, the weight of ice on the conductors, plus wind pressure on the conductors and supporting structures. Loading requirements are the loads on the conductors and structures that are anticipated assuming certain ice and wind conditions. Loading requirements always contain "safety factors" to allow for unknown or unanticipated contingencies. The clearances and loading requirements contained in the NESC were developed to ensure public safety and welfare.

Duquesne Light transmission line design standards meet or surpass the NESC standards. For example, the relative order of grades of construction for conductors and supporting structures is B, C, and N; Grade B being the highest. According to the NESC standards, construction Grades B, C, or N may be used for transmission lines (except at crossings of railroad tracks and limited access highways where Grade B construction is specified). However, Duquesne Light designs all of its transmission lines for Grade B construction. The use of Grade B design and construction specifies such things as larger-minimum crossarm dimensions, larger-minimum conductor size, and increased safety factors.

Duquesne Light also surpasses the NESC standards in the clearance requirements. Duquesne Light designs 138 kV and 345kV transmission lines to meet 30 feet of ground clearance under the worst-case load scenario, 9.4 feet more than the NESC minimum of 20.6 feet for new construction on 138kV transmission lines and 5.2 feet more than the NESC minimum of 24.8 feet for new construction on 345kV transmission lines. For reconductor projects and spans with new structures on 138kV and 345kV transmission lines, Duquesne Light strives to obtain either 30 feet of ground clearance or NESC+10%, modifying existing structures as necessary to meet this criteria. For all other types of clearances on new lines, NESC+10% is used.

Duquesne Light also surpasses the NESC standards in the structure overload or multiplying factors. The guideline for structural load factors for transmission structures can be found in the NESC Code. Duquesne Light applies overload factors of 1.1 for NESC 250C and NESC 250D loads compared to the NESC requirement of using 1.0 overload factors for NESC 250C and NESC 250D loads.

Electromagnetic Field Management Practices for New Transmission Lines

a. Transmission Line Planning

All electric currents, including those running within electric transmission lines, generate electric and magnetic fields (sometimes referred to jointly as electromagnetic fields or EMF). Electric and magnetic fields share some similarities, but have differences as well. Magnetic fields are directly related to the flow of electrical current in wires and devices. Electric fields are directly related to voltage, which creates the force to make electrical current flow. Both fields decrease quickly with distance from the source.

A large body of scientific evidence does not demonstrate that exposure to EMF are harmful, although guidelines have been set. The EMF exposure standard for the United States is the IEEE Standard C95.6 "Safety Levels with Respect to Human Exposure to Electromagnetic Fields, 0-3 kHz," which specifies maximum permissible exposure (MPE) limits for the general public of 9040mG (60 Hz) for magnetic fields and 10kV/m (60 Hz) for electric fields within in the right-of-way and 5 kV/m off the right-of-way. Internally, the World Health Organization does not produce an EMF standard, but recognizes the International Council on Non-Ionizing Radiation Protection (ICNIRP) standard. The 2010 ICNIRP standard "ICNIRP Guidelines for Limiting Exposure to

Time-varying Electric and Magnetic Fields (1 hZ to 100 kHz)" lists general public reference levels of 2000mG (60Hz) for magnetic fields and 4.167 kV/m (60Hz) for electric fields. Duquesne Light's transmission lines have EMF levels that are under the reference levels as indicated in these standards and guidelines. Duquesne Light also takes additional steps in its transmission line planning and design processes to identify and minimize any potential EMF impacts on the surrounding area.

Because EMF decrease significantly with distance from the source, any potential EMF emitted by a new transmission line is highly localized. Duquesne Light therefore first identifies the point(s) in a new transmission line with highest potential for EMF exposure. This point is usually a span with (i) lowest ground clearance, (ii) in densely populated neighborhoods; and (iii) in close proximity to publically-accessible areas (such as public sidewalks).

Second, because magnetic fields are a function of current, the next step is to determine the load current along that point of the transmission line. For this, Duquesne Light uses its power flow models, which are based upon projected load growth ten years into the future. Duquesne Light examines two load scenarios: (i) the "50/50" expected peak load forecast (i.e., projections indicate 50% chance the peak will be less than the scenario, and 50% chance the peak will be greater), and (ii) the "90/10" high load condition (i.e., projections indicate 90% chance the peak will be less than the scenario, and 10% the peak will be greater). These power flow studies also consider various contingencies, such as a generators being offline and other transmission lines being out of service. After evaluating the scenarios and contingencies, the greatest load currents on the transmission lines being studied are used for the EMF study. Where Duquesne Light plans to replace an existing transmission line with a new transmission line, it calculates the load in the same way for the existing transmission line as though the new line were not built, so that the net effect on the EMF levels can be determined.

Third, as part of its design process, Duquesne Light adjusts the line design to minimize the potential for exposure to EMF. For example, where a line has two 138 kV circuits, Duquesne Light balances circuit loads where practical to maximize the EMF-mitigating effects of reverse phasing.

b. Brunot Island-Crescent Project

Duquesne Light followed the above process for 138 kV transmission lines to design the Brunot Island-Crescent Project, employing several design and planning characteristics to mitigate their EMF propagation and impacts.

First, wherever possible, the lines are predominantly routed through unoccupied parcels; where the route would approach occupied areas, it would run around their edges.

Second, the above-ground lines have been designed with a minimum conductor clearance of 30 feet. This establishes a wide "buffer area" in which EMF emitted by the line will rapidly dissipate.

Periodic Maintenance Program on All Transmission Lines

Duquesne Light ensures the continued public safety from our transmission line infrastructure by implementing various maintenance and inspection programs. One program is the routine inspection of as-built conditions to meet clearance requirements described above through advanced surveying technology referred to as "LiDAR". This technology allows Duquesne Light to model its transmission system three-dimensionally to analyze clearances from the conductors to the world around them, including vegetation, homes, pools, roads, and more. This program provides Duquesne Light with accurate as-built records to ensure compliance with designs while also identifying any new or changing conditions to surrounding landscape.

Other Duquesne Light Maintenance programs for inspected towers include:

a. Ground inspections, performed by Duquesne Light mobile workers walking around the base of the structure, on approximately 350 structures annually. These inspections focus heavily on foundations, structure integrity, and failed hardware, though additional information may be noted.
b. Aerial inspections, performed by a Duquesne Light subcontractor from a helicopter on approximately 500 structures annually. These inspections focus heavily on hardware and structural defects in tower members, though additional information may be noted.

Personnel Safety Rules

Duquesne Light follows OSHA regulations to ensure safe practices. These regulations are incorporated into the Duquesne Light employee Safety Handbook. Duquesne Light safety rules and good practices include the following:

1. Only qualified employees and trainees working under their direct supervision may work on or with exposed energized lines or parts of equipment operating at 50 volts or more, and must be familiar with the minimum approach distances as indicated by OSHA regulations.

2. Before work is commenced, a job briefing will be held with all employees to orient each employee as to:
    a. The hazards associated with the job.
    b. The work procedures involved.
    c. Any special precautions to be taken.
    d. All energy source controls.
    e. Personal protective equipment required.

3. When working in elevated locations, above four feet, employees shall use appropriate fall protection systems. Each employee working from an aerial lift, bucket truck, or man lift shall use a full body harness and either a shock absorbing lanyard or self-retracting lanyard. Duquesne Light ensures that all fall protection follows the OSHA regulations.

4. Prior to climbing towers and other similar structures a documented visual inspection shall be conducted by a competent person to:
    a. Determine type or work, materials, and construction methods required.
    b. Determine whether ground access, without climbing a structure, is possible through use of access roads and bucket trucks.
    c. Determine physical condition of the structure.
    d. Contact Engineering to determine if a structural analysis has been performed to identify tie-off and anchorage points for construction activities.
    e. Tie-off and anchorage points follow the OSHA regulations, in which the anchorage points can support 5,000 lbs per employee or a twice the impact load per employee.

f. Determine the type of fall protection systems to be used, appropriate anchorage points and complete documented fall safety analysis. All work is to be inspected prior to construction to evaluate the site conditions. If there are any concerns about the integrity of a structure, Duquesne Light Engineering is engaged to perform the appropriate investigation and analysis to provide guidance for safely completing the job.

Attachment 12

ATTACHMENT 12
BRUNOT ISLAND-CRESCENT PROJECT
VEGETATION MANAGEMENT PRACTICES

This Attachment describes Duquesne Light Company's ("Duquesne Light" or the "Company") plans for managing vegetation within and around the transmission line corridor.

(1) A general description of the utility's vegetation management plan.

Duquesne Light will apply the Wire Zone/Border Zone management technique, which is recognized as an industry best practice to manage vegetation and ensure the safe and reliable delivery of electricity. Under the Wire Zone/Border Zone management technique, non-compatible species in both the Wire Zone/Border Zone areas are removed. Areas within the Wire zone are cleared of all woody vegetation leaving only grasses and other herbaceous plants. Areas within the Border Zone are cleared of vegetation that would exceed 15 feet at maturity. ROW management extends beyond the managed corridor to include "danger trees" located outside the ROW that present a hazard to, or target, a transmission line. Danger trees are those that, upon partial or complete failure, would either strike the conductors or pass within the minimum clearances required for the conductors, structures, and facilities.

(2) Factors that dictate when each method, including aerial spraying, is utilized.

Vegetation management methods are site-dependent. Duquesne Light employs a Utility Vegetation Management ("UVM") assessment of each vegetation management job to align job objectives, the characteristics and setting of the work site and vegetation thereon, and the vegetation management tools available. For example, field personnel consider species composition, stem density, and stand age to assist in the selection of management methods appropriate for the site.

Vegetation management methods are often used in combination to produce desired outcomes. Methods for consideration include, but are not limited to, the following and recognized as an Industry Best Practice and documented in the ANSI A300 Part 7, Integrated Vegetation Management:

- Manual Control: work performed with hand tools.
  - Highly selective method; can be useful in sensitive sites.
  - May be less efficient and more costly compared to other methods.
- Mechanical Control: work performed with the assistance of mechanized equipment.
  - Less selective; may result in site disturbance requiring restoration.
  - Can be highly efficient and cost-effective.
  - Application is limited by terrain and right-of-way accessibility.
- Chemical Control: application of herbicides.
  - When properly used, can be efficient and cost-effective, while minimizing site disturbance and enhancing plant and wildlife diversity.
  - Selection of proper herbicide and application method depend upon site and vegetation characteristics, and will be consistent with the manufacturer's label and applicable laws and regulations.
  - Selective application directly to targeted species is preferred. Non-selective aerial applications may be appropriate for less-sensitive sites that are in sparsely-populated areas, are difficult to safely access, and/or have a high stem density.

- Biological Control: encouragement of mutually beneficial interactions of naturally-occurring plant and animal species inhabiting the right-of-way .
  - Certain plants compatible with transmission line rights-of-way ("compatible species") naturally produce substances that inhibit the establishment of incompatible competing species (for example, fern allelopathy).
  - In some instances, field personnel may be able to selectively remove certain plants to encourage the growth of other, more favorable species.
  - Availability and feasibility of this method is highly dependent on site conditions, plant and animal species present at the site, and vegetation management objectives.
- Cultural Control: management of vegetation within the right-of-way to promote desired compatible plant communities (or "cultures").
  - In some instances, it can be feasible to supplement the above control methods with additional interventions to encourage the development of relatively stable communities of compatible plants within the right-of-way. For example, Duquesne Light can provide landowners with informational resources to aid them in the cultivation and management of desirable, compatible plant species in the right-of-way.
  - Can reduce longer-term maintenance requirements and costs once plant community stability is achieved.

(3) Vegetation management practices near aquatic and other sensitive locations.

All sites, notably those that are environmentally sensitive, should only be managed using appropriate UVM control methods. Field personnel assess special site characteristics, such as

proximity to wetlands or sensitive species habitats, as part of their UVM analysis. The control methods employed are then tailored to the site conditions to minimize or mitigate impacts consistent with the desired UVM objectives. Special site conditions are then noted for routine vegetation maintenance work.

(4) Notice procedures to affected landowners regarding vegetation management practices.

Duquesne Light employs robust landowner notification procedures regarding its vegetation management practices. Duquesne Light or its representatives (referred to collectively as Duquesne Light) notify landowners of routine vegetation management, such as maintenance of the right-of-way corridor, approximately 2-8 weeks prior to the scheduled vegetation management work. Duquesne Light typically makes at least one attempt at in-person contact with each landowner, except for landowners who reside outside of Duquesne Light's service territory, whom Duquesne Light contacts via telephone, mail or email. At such initial contact, Duquesne Light provides information regarding the scheduled work, including:

- A brief explanation of what and when work will be performed;
- Why the work is necessary;
- A general location of the work and utility facilities involved;
- The extent of work and how it will be performed;
- The contractor to perform the work and crew members involved; and
- Contact information for customer questions or follow-up.

Also at these in-person visits, Duquesne Light marks trees affected with either flagging or paint (blue for those identified for removal, yellow for those identified for pruning), and requests a landowner signature on a written description of work.

Where the in-person contact attempt is unsuccessful, Duquesne Light marks trees as discussed above and leaves a door hanger explaining the nature, necessity, and anticipated date of the scheduled work, as well as contact information for customer questions or follow-up. Depending on the nature and extent of the scheduled work, Duquesne Light may also supplement this notice with other written correspondence mailed to the landowner or via telephone upon request by the landowner.

In addition to these individualized contacts, Duquesne Light provides general notice of its vegetation management practices through other outlets. Duquesne Light's website, duquesnelight.com, includes extensive information concerning the reasons, methods, and features of Duquesne Light's vegetation management practices, as well as links to other educational sites for customers who wish to learn more. Duquesne Light staff also participate in periodic public events, such as the annual Pittsburgh Home & Garden Show, where they are available to respond directly to landowner questions or concerns.

(5) Provision of a copy of a landowner maintenance agreement that describes the duties and responsibilities of landowners and the utility for vegetation management to the extent utilized.

Landowners' and Duquesne Light's respective rights and responsibilities are perpetualized in the right-of-way and easement agreements between Duquesne Light and respective landowners. In general, landowners can to continue to use the right-of-way area, so long as such use is compatible with the safe and reliable operation and maintenance of Duquesne Light facilities. Compatible uses that require no prior review or approval from the Duquesne Light include agricultural farming and gardening. Duquesne Light also allows compatible development within the right-of-way area, provided that the design and work in the area does not interfere with the safe and reliable operation and maintenance of Duquesne Light facilities. Such uses can include:

grading, installation of roadways or parking lots, and installation of underground infrastructure (such as utilities).

Attachment 13

Duquesne Light
Our Energy...Your Power®

Duquesne Light Company
411 Seventh Avenue
Pittsburgh, PA 15219
May 3, 2016

Dear Resident:

Duquesne Light is committed to maintaining a level of reliability customers have come to expect from us. In the coming months, we will be conducting land surveys and field studies to evaluate our infrastructure for future improvements. You are receiving this letter because your property is within our Right of Way under a network of transmission lines.

Duquesne Light has engaged GAI Consultants, an engineering consulting firm, to assist us with this work. Together we will be looking at Duquesne Light infrastructure and surrounding land, documenting existing conditions and conducting land surveys and field studies for vegetation and wildlife. This will occur initially in May and then again in July and August. Because of the nocturnal nature of some wildlife, some of these studies will need to be conducted at night in specific areas. Our work will be performed safely, courteously and as quickly as possible. No wildlife will be harmed in any way during these studies.

A Duquesne Light or GAI employee will notify you in advance that we will be accessing the Right of Way. The representative will show proper identification and clearly state the purpose of the visit. If no one is home, Duquesne Light will leave a door tag notice and proceed with the land survey and field study.

Should you have any concerns, please contact Duquesne Light by calling our Customer Service Center at (412) 393-7100 between 8:00 a.m. and 5:00 p.m.

Thank you for your cooperation and assistance in this matter.

Sincerely,

Duquesne Light Company

DUQUESNE LIGHT CO.

January 23, 2017

Dear Duquesne Light Customer:

As our communities continue to develop and thrive, the demand for energy is growing. As a result, Duquesne Light Company is working to maintain a level of service and reliability customers have come to expect while increasing the overall resiliency of the grid. Our dedication to improving the way energy is delivered is just one of the many ways we are working to become your next generation energy company.

Duquesne Light customers in Moon Township, Robinson Township, Kennedy Township, Crescent Township, McKees Rocks Borough, and the City of Pittsburgh are served by a network of 138-kilovolt transmission lines that were originally installed when the region looked very different than it does today. This network needs to be upgraded to better serve our customers who live or work in this part of the region. As such, we are planning to replace the transmission line that stretches from our substation in Crescent Township to our substation located on Brunot Island on the Ohio River, just west of downtown Pittsburgh. We are referring to this important effort as the Brunot Island-Crescent Transmission Reliability Project.

You are receiving this letter because, over the next few months, you may see Duquesne Light employees or associates in your neighborhood conducting field studies and soil testing. We can assure you that our studies will be performed as safely, courteously and as quickly as possible. If your property is along the transmission route, you will be receiving additional communication in the near future.

To give you and your neighbors a chance to learn more about this important project, Duquesne Light will be hosting multiple open house meetings to gather input and answer questions. Our goal is to keep you informed, to listen carefully to your comments, and to incorporate your input wherever we can. Please choose the date and location that is most convenient for you. Upcoming open houses include:

- *Crescent Township Municipal Building*, 225 Spring Run Road, Crescent, Pa 15046, on February 21, 2017 from 4 p.m. to 7 p.m.
- *VFW Post 418 Hall*, 1242 Chartiers Ave., McKees Rocks, Pa 15136, on February 28, 2017 from 2 p.m. to 7 p.m.
- *Kennedy Township Independent Volunteer Fire Company*, 1796 Pine Hollow Road, McKees Rocks, Pa 15136, on March 2, 2017 from 4 p.m. to 7 p.m.

Should you have any concerns, please contact Travis Moore, Brunot Island-Crescent Transmission Reliability Project Manager at (412) 393-6500 or email BI-Crescent@duqlight.com. Additional information can be found at DuquesneLight.com/BI-Crescent. Thank you for your cooperation and assistance in this matter.

Sincerely,

Duquesne Light Company

January 30, 2017

<Address 1>
<Address 2>
<City, State, Zip>
Parcel ID: <XXX-XXX-XXX>

Dear Duquesne Light Customer:

You recently received a letter about an important project that will be occurring in your area. The Brunot Island-Crescent Transmission Reliability Project is intended to upgrade the transmission line that stretches from the our substation in Crescent Township, PA, to our substation located on Brunot Island on the Ohio River, just west of downtown Pittsburgh. This work will help us continue to maintain a level of reliability you have come to expect while increasing the overall resiliency of the grid.

You are receiving this letter because you own property in the proposed route of the transmission line. Duquesne Light has engaged GAI Consultants, an engineering consulting firm, to assist us with the work needed for this project, including field studies and soil testing. A Duquesne Light or GAI representative will show proper identification and clearly state the purpose of the visit. If no one is home, a door tag notice will be left so you are aware that someone visited your property while you were away and we will proceed with the field study. The studies will be performed safely, courteously and as quickly as possible.

Also enclosed are our Standards of Conduct guidelines, notice of eminent domain rights and Right-Of-Way maintenance practices. Duquesne Light has also engaged Burns and McDonnell, a land services company, to contact you to discuss acquiring the right of way needed to complete this project. Like GAI, a Burns and McDonnell representative will show proper identification and clearly state the purpose of the visit.

To give you and your neighbors a chance to learn more about the Brunot Island-Crescent Transmission Reliability Project, Duquesne Light is hosting multiple open house meetings to gather input and answer questions. Our goal is to keep you informed, to listen carefully to your comments, and to incorporate your input wherever we can. Please choose the date and location that is most convenient for you. Upcoming open houses include:

- *Crescent Township Municipal Building*, 225 Spring Run Road, Crescent, Pa 15046, on February 21, 2017 from 4 p.m. to 7 p.m.
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Should you have any concerns, please contact Travis Moore, Brunot Island-Crescent Transmission Reliability Project Manager at (412) 393-6500 or email BI-Crescent@duqlight.com. Additional information can be found at DuquesneLight.com/BI-Crescent. Thank you for your cooperation and assistance in this matter.

Sincerely,

Duquesne Light Company
411 Seventh Avenue
Pittsburgh, PA 15219

DUQUESNE LIGHT CO.

NOTICE
INTERNAL PRACTICES FOR DEALING WITH THE PUBLIC ON POWER LINE PROJECTS

Duquesne Light Company has a long-standing commitment to conducting business in an honest and ethical manner. Duquesne Light's employees, contractors and agents who interact with members of the public (including landowners along proposed rights-of-way) in activities such as planning; real estate and right-of-way transactions and construction of power lines and other facilities will:

- Act with integrity at all times.
- Treat people courteously and in a professional manner.
- Be forthright and honest in all actions and communications.
- Comply with applicable laws and regulations.
- Seek to avoid conflicts of interest.
- Accept responsibility for actions and decisions.
- Be responsible stewards of the environment.
- Place a high priority on the safety of the public and our representatives and employees.

— DUQUESNE LIGHT CO. —

NOTICE
EMINENT DOMAIN POWER

The Pennsylvania Public Utility Commission requires that Duquesne Light Company give you the following information:

Duquesne Light Company is presently planning to upgrade the 138 kilovolt (kV) electric transmission line from the Crescent Substation in Crescent Township, PA, to the Brunot Island Substation in the Ohio River, Pittsburgh, PA, as part of the Brunot Island-Crescent Transmission Reliability Project. Replacing this transmission line is needed to ensure reliable electric service for Allegheny and Beaver County. Although the final design of the transmission line is not complete, the line includes approximately 110 self-supporting steel monopoles on drilled pier reinforced concrete foundations. The monopoles will be less than 200 feet in height.

Since the route presently under consideration could affect your property, a representative of the utility will contact you in the near future to discuss the utility's plans as they may affect your property. In order to better prepare you for these discussions and to avoid possible misunderstandings, we want to take this opportunity to inform you of your legal rights and the legal rights and duties of Duquesne Light Company with regard to this project.

You have the right to have legal counsel represent you in these negotiations. You do not have to sign any agreement without the advice of counsel. If you do not know an attorney, you may contact your local bar association.

MUST YOU ACCEPT ANY OFFER MADE BY THE UTILITY FOR YOUR PROPERTY?

No. You may refuse to accept it. However, the utility has the power to take property by eminent domain, subject to the approval of the Public Utility Commission, for the construction of transmission lines if the utility is unable to negotiate an agreement to buy a right-of-way. If your property is condemned, you must be paid "just compensation." "Just compensation" has been defined by the courts in Pennsylvania as the difference between the fair market value of your property before condemnation, unaffected by the condemnation, and the fair market value of your remaining property after condemnation, as affected by the condemnation.

CAN THE UTILITY CONDEMN YOUR HOUSE?

No. The company cannot condemn your house or a reasonable "curtilage" around your house. Generally, curtilage includes the land or buildings within 300 feet of your house which are used for your domestic purposes. However, the 300-foot limit does not automatically extend beyond the homeowner's property line.

DUQUESNE LIGHT CO.

DO YOU HAVE A RIGHT TO A PUBLIC HEARING WHEN THE UTILITY SEEKS TO CONDEMN YOUR PROPERTY?

Yes. When an electric utility seeks to have your property condemned, the utility must first apply to the Pennsylvania Public Utility Commission for a certificate finding the condemnation to be necessary or proper for the service, accommodation, convenience, or safety of the public. The Commission will then hold a public hearing. As the landowner whose property may be condemned, you are a party to the proceeding and may retain counsel, present evidence, and/or testify yourself in opposition to the application for a certification. If you wish to testify at the public hearing, you should make your intention known by letter to Secretary, Pennsylvania Public Utility Commission, P.O. Box 3265, Harrisburg, Pennsylvania 17120.

If the Commission approves the utility's application for a certificate finding the condemnation in the public interest, then the utility may proceed before the local Court of Common Pleas to condemn your land. If the Commission denies the utility's application, the utility cannot condemn your land. If you retain an attorney to represent you before the Commission, you must do so at your own expense.

The Commission will not decide how much money you should receive if your land is condemned. The only issue the Commission will decide is whether the condemnation serves the public interest. If the Commission approves the utility's application for condemnation, the amount of money to which you are entitled will be determined by a local Board of View or the Court of Common Pleas. However, you may at any time make an agreement with the utility as to the amount of damages you are to be paid.

DUQUESNE LIGHT CO.

NOTICE
RIGHT OF WAY MAINTENANCE PRACTICES

The Pennsylvania Public Utility Commission requires that Duquesne Light Company give you the following information on the Right-Of-Way Maintenance Practices for the Brunot Island-Crescent Transmission Reliability Project:

If you wish further information concerning right-of-way maintenance methods, you may contact Travis Moore at (412) 393-6500 or BI-Crescent@duqlight.com. You may discuss with Mr. Moore, either before or during negotiation of the right-of-way agreement, these methods and any other questions you may have about right-of-way maintenance.

Once a utility has constructed an electric transmission line on a right-of-way across your land, the utility must maintain the right-of-way free of tall-growing trees and brush which might impair the reliability of electric service, the safety of the line, and access to the line or its towers. The utility or its contractors may remove and control tall-growing trees and brush by several methods: hand cutting of trees, limbs, and brush; mechanical cutting with chain saws, motorized cutting machines, or aerial saws; application of herbicides, either from the ground or aerially. The utility must confine its maintenance activities to the approved right-of-way across your land, except where tall-growing trees or brush or their root systems grow into the right-of-way from adjoining land and constitute a threat to the electric transmission line and its structures.

If you believe that the maintenance method(s) used by the company would raise problems with your use of your land adjacent to the right-of-way, it is your responsibility as the landowner to bring this to the attention of the utility before you sign the right-of-way agreement.

The utility company has the responsibility to maintain its right-of-way, and regular maintenance must occur. Although you as the landowner cannot determine whether or not maintenance will occur, your right-of-way agreement may specify certain conditions on the performance of the maintenance program which are important to you. These conditions can be part of the negotiations between you and the utility company for your land, since a right-of-way agreement is a legal contract between a landowner and a utility company. It is important for you to understand also that the maintenance methods used by the utility company may change over time as the costs of maintenance or the methods of performing maintenance change. You may want to specify in your right-of-way agreement that the utility company inform you of changes in its maintenance methods or in the maintenance schedule for your land.

The provisions of the right-of-way agreement are enforceable in the local Court of Common Pleas. The right-of-way agreement cannot be enforced by the Pennsylvania Public Utility Commission. Any claims for damage resulting from improper maintenance of the right-of-way must be settled with the utility, its contractors, or in the local Court of Common Pleas at your own expense. The Commission cannot award damages for violations of the right-of-way agreement.

January 30, 2017

<Address 1>
<Address 2>
<City, State, Zip>
Parcel ID: <XXX-XXX-XXX>

Dear Duquesne Light Customer:

You recently received a letter about an important project that will be occurring in your area. The Brunot Island-Crescent Transmission Reliability Project is intended to upgrade the transmission line that stretches from the our substation in Crescent Township, PA, to our substation located on Brunot Island on the Ohio River, just west of downtown Pittsburgh. This work will help us continue to maintain a level of reliability you have come to expect while increasing the overall resiliency of the grid.

You are receiving this letter because you own property in the proposed route of the transmission line. Duquesne Light has engaged GAI Consultants, an engineering consulting firm, to assist us with the work needed for this project, including field studies and soil testing, and will need to access your property for further evaluation. Enclosed is a Permission Form for your review, signature, and return.

Also enclosed are our Standards of Conduct guidelines, notice of eminent domain rights and Right-Of-Way maintenance practices. Duquesne Light has also engaged Burns and McDonnell, a land services company, to contact you to discuss acquiring the right of way needed to complete this project. Like GAI, a Burns and McDonnell representative will show proper identification and clearly state the purpose of the visit.

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No. You may refuse to accept it. However, the utility has the power to take property by eminent domain, subject to the approval of the Public Utility Commission, for the construction of transmission lines if the utility is unable to negotiate an agreement to buy a right-of-way. If your property is condemned, you must be paid "just compensation." "Just compensation" has been defined by the courts in Pennsylvania as the difference between the fair market value of your property before condemnation, unaffected by the condemnation, and the fair market value of your remaining property after condemnation, as affected by the condemnation.

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DUQUESNE LIGHT CO.

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Once a utility has constructed an electric transmission line on a right-of-way across your land, the utility must maintain the right-of-way free of tall-growing trees and brush which might impair the reliability of electric service, the safety of the line, and access to the line or its towers. The utility or its contractors may remove and control tall-growing trees and brush by several methods: hand cutting of trees, limbs, and brush; mechanical cutting with chain saws, motorized cutting machines, or aerial saws; application of herbicides, either from the ground or aerially. The utility must confine its maintenance activities to the approved right-of-way across your land, except where tall-growing trees or brush or their root systems grow into the right-of-way from adjoining land and constitute a threat to the electric transmission line and its structures.

If you believe that the maintenance method(s) used by the company would raise problems with your use of your land adjacent to the right-of-way, it is your responsibility as the landowner to bring this to the attention of the utility before you sign the right-of-way agreement.

The utility company has the responsibility to maintain its right-of-way, and regular maintenance must occur. Although you as the landowner cannot determine whether or not maintenance will occur, your right-of-way agreement may specify certain conditions on the performance of the maintenance program which are important to you. These conditions can be part of the negotiations between you and the utility company for your land, since a right-of-way agreement is a legal contract between a landowner and a utility company. It is important for you to understand also that the maintenance methods used by the utility company may change over time as the costs of maintenance or the methods of performing maintenance change. You may want to specify in your right-of-way agreement that the utility company inform you of changes in its maintenance methods or in the maintenance schedule for your land.

The provisions of the right-of-way agreement are enforceable in the local Court of Common Pleas. The right-of-way agreement cannot be enforced by the Pennsylvania Public Utility Commission. Any claims for damage resulting from improper maintenance of the right-of-way must be settled with the utility, its contractors, or in the local Court of Common Pleas at your own expense. The Commission cannot award damages for violations of the right-of-way agreement.

DUQUESNE LIGHT CO.

PERMISSION FORM

In order to complete the design of this critical infrastructure project and enhance the reliability of its services in your area, Duquesne Light Company will need to access your property to evaluate property boundaries, environmental, and archeological issues.

All representatives accessing your property under this Permission Form, including Duquesne Light Company, GAI Consultants, and Burns and McDonnell will show proper identification and clearly state the purpose of the visit. Following return of this form, If no one is home, a door tag notice will be left, and we will proceed with the evaluation.

Please sign below and return this Permission Form using the enclosed envelope as soon as possible. If you have any questions, please contact Travis Moore at (412) 393-6500 or BI-Crescent@duqlight.com .

Duquesne Light Company and/or its agents or contractors may enter onto my property for the purpose of performing the above evaluation.

Signature: _____

Printed Name: _____

Address(es): _____

_____

Parcel ID(s): _____
(listed on Page 1)

_____

Telephone Number: _____

Date: _____

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Application of Duquesne Light Company filed Pursuant to 52 Pa. Code Chapter 57, Subchapter G, for Approval of the Siting and Construction of the 138 kV Transmission Lines Associated with the Brunot Island - Crescent Project in the City of Pittsburgh, McKees Rocks Borough, Kennedy Township, Robinson Township, Moon Township, and Crescent Township, Allegheny County, Pennsylvania.	:	A-2019-3008589
Application of Duquesne Light Company under 15 Pa.C.S. § 1511(c) for a Finding and Determination That the Service to be Furnished by the Applicant through Its Proposed Exercise of the Power of Eminent Domain to Acquire a Certain Portion of the Lands of George N. Schaefer of Moon Township, Allegheny County, Pennsylvania for the Siting and Construction of Transmission Lines Associated with the Proposed Brunot Island - Crescent Project Is Necessary or Proper for the Service, Accommodation, Convenience, or Safety of the Public.	:	A-2019-3008652

AMENDED APPLICATION OF DUQUESNE LIGHT COMPANY

TO THE PENNSYLVANIA PUBLIC UTILITY COMMISSION:

Duquesne Light Company ("Duquesne Light" or the "Company") hereby files, pursuant to 52 Pa. Code § 57.72, this Amended Application requesting Pennsylvania Public Utility Commission ("Commission") approval to site and construct approximately 14.5 miles of overhead double-circuit 138 kV transmission lines in the City of Pittsburgh, McKees Rocks Borough, Kennedy Township, Robinson Township, Moon Township, and Crescent Township, Allegheny

County, Pennsylvania (Hereinafter called the "Amended BI-Crescent Project" or "Amended Project"). The proposed Amended Project is required to replace aging transmission system infrastructure. The BI – Crescent corridor has some of Duquesne Light's oldest in-service steel lattice towers. Structural evaluations have determined that the structures are approaching end of useful life. Based on current condition and structure deterioration, these structures are beyond permanent repair and require replacement. Temporary repairs have been made to ensure reliable service until new replacement structures can be installed.

The proposed Amended Project involves the rebuild of the double-circuit BI – Crescent 138 kV Transmission Line that will extend approximately 14.5 miles between the Brunot Island Substation in the City of Pittsburgh and the Crescent Substation in Crescent Township, the line will tie into the Montour, Sewickley, and Neville Substations along its route.

Through this Amended Application, Duquesne Light seeks Commission approval of the siting and construction of the proposed Amended Project. Subject to the Commission's approval, the Amended Project has a scheduled construction start date of September 2021 to meet an in-service date of May 31, 2027. In support of this Amended Application, Duquesne Light states as follows:

I. BACKGROUND

On March 15, 2019, Duquesne Light filed, pursuant to 52 Pa. Code § 57.72, a line siting application requesting Pennsylvania Public Utility Commission ("Commission") approval to site and construct approximately 14.5 miles of overhead double-circuit 138 kV transmission lines in the City of Pittsburgh, McKees Rocks Borough, Kennedy Township, Robinson Township, Moon Township, and Crescent Township, Allegheny County, Pennsylvania, at Docket No. A-2019-3008589. Duquesne Light also filed an application for eminent domain to acquire a certain portion

of the lands of George N. Schaefer of Moon Township, Allegheny County, in connection with the transmission line project, docketed at A-2019-3008652.[1]

On April 29, 2019, a Prehearing Order was issued, which directed that dockets A-2019-3008589 and A-2019-300652 be consolidated for the purposes of discovery, litigation and decision. On April 30, 2019, Duquesne Light filed Proof of Publication of Notice of the Applications in the Pittsburgh Post-Gazette.

On June 6, 2019, a Prehearing Conference was held. While no Protests and/or Petitions to Intervene had been filed as of the date of the Prehearing Conference, several affected landowners appeared and requested additional time to file Protests or Petitions to Intervene.

By Interim Order dated June 7, 2019, the deadline for filing a Protest or Petition to Intervene was extended until June 21, 2019.

On or before June 21, 2019, Protests were filed by Victoria Adams, John P. and Jennifer Crowe, Richard Gable, Folezia Marinkovic, Zachariah Nave, Joseph G. and Suzanne Rabosky, Aaron and Rebecca Siegel, Cynthia and Patrick Wilson, and Dennis J. and Jeanne Zona (collectively the "Protestants").

On July 2, 2019, a further Prehearing Conference was held, and a litigation schedule was established.

On September 10, 2019, an evidentiary hearing was held for the purpose of receiving the oral testimony of any Protestant that wished to testify.

[1] Separate but concurrently, the Company submitted the Petition of Duquesne Light Company for Waiver of Provisions of the Pennsylvania Public Utility Commission's Regulations at 52 Pa. Code § 57.71 et seq., for the Siting and Construction of Six Structures on an Existing Transmission Line, docketed at P-2019-3008604 ("Waiver Petition") to allow Duquesne Light to replace six structures on an existing high voltage transmission line that were impacted by landslides in the spring of 2018. The Waiver Petition has been assigned to the Commission's Law Bureau, and will be separately adjudicated.

In addition, Protestants were required to serve written direct testimony or an expert report for any identified experts on or before September 10, 2019. No Protestant identified an expert that would testify on their behalf and no Protestant served the written direct testimony or written report of any such expert.

On October 9, 2019, a Public Input Hearing was held. On October 10, 2019, Duquesne Light served its written rebuttal testimony. Technical evidentiary hearings were scheduled for October 29 and 30, 2019. Based upon the input Duquesne Light received from its customers through multiple channels and forums, including the feedback received at the public input hearing on October 9, 2019, Duquesne Light filed a Motion for a Continuance on October 21, 2019, to re-engineer the initial Project. The Company indicated its intent to eliminate the proposal to build one of the circuits at issue to 345 kV standards and instead rebuild both circuits at the current 138 kV design voltage.

On October 24, 2019, Administrative Law Judge Mary D. Long granted the Company's request for a continuance.

Duquesne Light hereby files this Amended Application, consistent with the represetnations made in its Motion for a Continuance.

II. INTRODUCTION

1. This Amended Application is filed by Duquesne Light, a public utility that provides electric distribution, transmission, and provider of last resort services in Pennsylvania subject to the regulatory jurisdiction of the Commission.

2. Duquesne Light's principal business address is:

Duquesne Light Company
411 Seventh Avenue
Pittsburgh, PA 15230

3. Duquesne Light's attorneys are:

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Duquesne Light's attorneys are authorized to receive all notices and communications regarding this Application.

4. Duquesne Light furnishes electric service to approximately 596,000 customers throughout its certificated service territory, which includes all or portions of Allegheny and Beaver Counties and encompasses approximately 800 square miles in western Pennsylvania. Duquesne Light is a "public utility" and an "electric distribution company" as defined in Sections 102 and 2803 of the Pennsylvania Public Utility Code, 66 Pa.C.S. §§ 102, 2803.

5. The proposed Amended Project involves the siting and rebuilding of the double-circuit BI – Crescent 138 kV Transmission Line that will extend approximately 14.5 miles between the Brunot Island Substation in the City of Pittsburgh and the Crescent Substation in Crescent Township. Duquesne Light seeks Commission approval of the siting and construction of the overhead 138 kV transmission line, as described herein, associated with the proposed Amended Project.

6. Accompanying this Application is the Statement No. 1-A, the amended direct testimony of Mr. Jason Harchick related to the need for the Amended Project; Statement No. 2-A, the amended direct testimony of Ms. Aimee Kay related to the Siting Study; Statement No. 3-

A, the amended direct testimony of Ms. Meenah Shyu related to design and safety; and Statement No. 4-A, the amended direct testimony of Ms. Lesley Gannon related to Right-of-Way acquisition of the Project. Additionally, the following Attachments, which have been amended from the initial filing as necessary, are included that provide additional detailed information regarding the proposed Amended Project:

- Amended Attachment 1 – PUC Cross-Reference Matrix
- Amended Attachment 2 – Amended Need Statement
- Amended Attachment 3 – Amended Environmental Assessment and Line Route Siting Study
- Amended Attachment 4 – Amended Cross-Sectional Diagrams of Typical Structures for the BI-Crescent Project
- CONFIDENTIAL Attachment 5a – Map of Existing DLC Facilities
- CONFIDENTIAL Attachment 5b – Map of Proposed DLC Facilities
- Attachment 6 – One Light Diagrams of Existing and Proposed DLC Facilities
- Attachment 7 – Aerial Map of Alternatives Considered
- Attachment 8 – Topographical Map of the Alternatives and Preferred Route
- Amended Attachment 9 – Map of Affected Parcels and Landowers
- Amended Attachment 10 – Amended Landowner Matrix
- Amended Attachment 11 – Amended Duquesne Light Company Design Criteria, Electromagnetic Field Policy and Application, and Safety Practices
- Attachment 12 – Duquesne Light's Vegetation Management Practices
- Attachment 13 – Public Notices Required by 52 Pa. Code § 69.3102

7. CONFIDENTIAL Attachments 5a and 5b show critical energy infrastructure information regarding the bulk transmission system of Duquesne Light located within their certificated territory in Pennsylvania. Duquesne Light believes the transmission system data set forth in Attachments 5a and 5b include sensitive information about critical energy infrastructure that should not be publicly accessible. Accordingly, Duquesne Light is submitting CONFIDENTIAL versions of Attachments 5a and 5b.

8. This Amended Application, including the accompanying Attachments and Statements, which are incorporated herein by reference, contains all of the information required by 52 Pa. Code §§ 57.72(c), 69.1101, 69.3102 – 69.3107.

III. NEED FOR THE AMENDED PROJECT

A. SYSTEM PLANNING

9. System planning is the process which assures that transmission and distribution systems can supply electricity to all customer loads reliably and economically. The reliable and economical operation of transmission systems requires planning guidelines for system expansion and reinforcement.

10. PJM Interconnection, L.L.C. ("PJM") is a Federal Energy Regulatory Commission ("FERC") approved Regional Transmission Organization ("RTO") charged with ensuring the reliability of the electric transmission system under its functional control and coordinating the movement of electricity in all or parts of Delaware, Illinois, Indiana, Kentucky, Maryland, Michigan, New Jersey, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia and the District of Columbia. Duquesne Light, an owner of transmission facilities in Pennsylvania, is a member of PJM and actively participates in the PJM transmission planning process.

11. In order to ensure reliable transmission service, PJM prepares an annual Regional Transmission Expansion Plan ("RTEP") to ensure power continues to flow reliably to customers. The North American Electric Reliability Corporation ("NERC"), PJM, and transmission owner reliability criteria are used by PJM and the transmission owners to analyze the system and determine if specific transmission upgrade projects are needed to ensure long-term reliable electric service to customers.

12. Duquesne Light has adopted reliability and planning standards to ensure adequate levels of electric service to its customers consistent with good utility practice. The Duquesne Light Transmission Planning Criteria were developed from and are consistent with the NERC and PJM planning and reliability standards.[2]

13. In accordance with the Duquesne Light Transmission Planning Criteria, Duquesne Light's transmission system is planned so that it can be operated at all projected load levels and during normal scheduled outages to withstand specific unscheduled contingencies without exceeding the equipment capability, causing system instability or cascade tripping, or exceeding voltage tolerances. The transmission system is required to have adequate capability so that it can be operated normally and can withstand unscheduled contingencies and other system conditions.

B. PLANNING AND RELIABILITY ISSUES

14. Duquesne Light's transmission system primarily consists of 69 kV, 138 kV, and 345 kV facilities that currently form a loop around the City of Pittsburgh and its suburbs.

15. A map of the relevant portion of Duquesne Light's existing system is provided in CONFIDENTIAL Attachment 5a to this Application.

16. The BI – Crescent corridor has some of Duquesne Light's oldest in-service steel lattice towers. Duquesne Light has performed structural evaluations and determined that the structures are approaching end of useful life. Based on current condition and structure deterioration, these structures are beyond permanent repair and require replacement. Temporary repairs have been made to certain facilities to ensure reliable service until new replacement structures can be installed.

[2] Duquesne Light's reliability and planning standards are set forth in its Federal Energy Regulatory Commission Form No. 715 annual report.

IV. DESCRIPTION OF THE PROPOSED TRANSMISSION LINE

A. OVERVIEW OF THE PROPOSED AMENDED PROJECT

17. To address the aging infrastructure, Duquesne Light proposes to rebuild the double-circuit BI – Crescent 138 kV Transmission Line. The proposed double-circuit BI – Crescent 138 kV Transmission Line will extend approximately 14.5 miles between the Brunot Island Substation in the City of Pittsburgh and the Crescent Substation in Crescent Township.

18. The entire Amended Project will be located in Allegheny County. Approximately 2.0 miles of the Amended Project will be located within the City of Pittsburgh, approximately 2.6 miles will be located within Kennedy Township, approximately 3.1 miles will be located within Robinson Township, approximately 5.0 miles will be located within Moon Township, and approximately 1.8 miles will be located within Crescent Township.

19. An aerial photograph map showing the location of the proposed double-circuit Brunot Island – Crescent 138 kV Transmission Line is provided in CONFIDENTIAL Attachment 5b and Attachments 7 and 8 to this Application.

20. The proposed Amended Project will replace aging transmission system infrastructure to meet safety and reliability standards. Consistent with Duquesne Light's representations in its Motion for a Continuance dated October 21, 2019, both circuit positions on the transmission structures will be designed, constructed, and operated at 138 kV.

21. The proposed Amended Project was reviewed by PJM stakeholders and included in PJM's RTEP as project s0320 and s0320.1.

B. ENGINEERING DESCRIPTION

22. The proposed BI – Crescent 138 kV Transmission Line will be designed, constructed, and operated as a double-circuit 138 kV transmission line. This proposed rebuild will also accommodate connections to Montour, Neville, and Sewickley Substations. The existing 138

kV circuits that are supported by the line structures are Crescent – Montour (Z-24), Brunot Island – Sewickley (Z-43), Brunot Island – Montour (Z-44) and Crescent – Sewickley (Z-143). The proposed 138 kV circuits that will be supported by the line structures are Montour – Sewickley (Z-24), Brunot Island – Montour (Z-43), Brunot Island – Crescent (Z-44) and Crescent – Sewickley (Z-143). A short portion of a 138 kV single circuit Findlay-Montour (Z-45) 138 kV line will also be rerouted to a new termination bay within the Montour Substation.[3]

23. Based on preliminary engineering, the new BI – Crescent transmission line will require approximately 99 new double-circuit support structures, which will consist of self-supporting weathering steel single poles on drilled concrete pier foundations.

24. The new steel structures will largely consist of tubular steel monopole structures that will range from 100 to 199 feet in height, with an average height of approximately 155 feet. The existing steel structures are primarily steel lattice towers ranging in height from 75 to 145 feet in height, with an average height of approximately 93 feet.[4] All steel poles will be placed on drilled concrete shaft foundations. The average span between these structures will be approximately 800 feet. The longest span is approximately 2,300 feet across the Ohio River.

25. Cross-sectional diagrams showing the typical placement of the support structures are provided in Attachment 4 of this Application.

26. The two (2) overhead 138 kV circuits will utilize three (3) single conductors per circuit, one for each of three (3) phases. The power conductors utilized for this project will be

[3] Duquesne Light submitted a separate LON seeking approval for the work associated with this relocation. The LON was approved by the Commission on October 4, 2018 at Docket No. A-2018-3002896.
[4] One of the two monopoles Duquesne Light proposes to install to replace structure 6634, as discussed below, was not used in the calculation of total structure count or pole height.

795 kcmil,[5] 20/7 ACSS-TW-HS[6] (Drake) conductors. The sole shield wire will primarily be fiber optic ground wire and will provide lightning protection and a communication path between the substations. This communication path could be used for communication between the protective relays at the stations to operate circuit breakers in order to remove the line from service should a fault on the line be detected.

27. Duquesne Light structure 6634, located in the City of Pittsburgh, is one of the structures which supports the transmission lines in the BI – Crescent transmission corridor. In addition to supporting the present BI – Montour (Z-44) 138 kV transmission circuit and the present BI – Sewickley (Z-43) 138 kV transmission circuit, the structure also supports the existing BI – Collier (304) 345 kV transmission circuit and existing BI – Crescent (331) 345 kV transmission circuit. In order to safely perform maintenance on this structure, all four (4) of these transmission circuits must be removed from service. In an effort to improve Duquesne Light's ability to safely perform maintenance and eliminate the contingency consideration for loss of all four (4) transmission circuits, Duquesne Light plans to replace this structure with two (2) new self-supporting monopoles. One monopole will support the proposed BI – Montour (Z-43) 138 kV transmission circuit and the proposed BI – Crescent (Z-44) 138 kV transmission circuit. The second monopole will support the existing BI – Collier (304) 345 kV transmission circuit and existing BI – Crescent (331) 345 kV transmission circuit. Circuits 331 and 304 do not support the BI – Crescent 138 kV Transmission Line.

[5] Kcmil stands for thousand circular mils. Kcmil wire size is the equivalent cross sectional area in thousands of circular mils. A circular mil is the area of a circle with a diameter of one thousandth (0.001) of an inch.
[6] ACSS-TW-HS stands for aluminum conductor steel supported, trapezoidal-shaped aluminum strands, high strength conductors

28. The BI – Crescent Transmission Line will be designed to meet, and generally exceed, the National Electrical Safety Code ("NESC") minimum standards. This includes electrical clearance requirements to all existing structures and features.

29. The minimum conductor-to-ground clearance for the proposed Amended BI – Crescent Project Transmission Line will be 23 feet where possible under maximum electrical load and operating temperature.[7]

V. SITING ANALYSIS

A. SUMMARY OF SITING ANALYSIS

30. In accordance with the Commission's regulations at 52 Pa. Code § 57.72(c), Duquesne Light conducted an extensive, multi-faceted analysis to determine the proposed route for the Amended Project. Duquesne Light contracted with GAI Consultants, Inc. to complete a comprehensive siting study. The results of the siting study are contained in the "Environmental Assessment and Line Route Study," which is provided as Attachment 3 to this Application.

31. The goal of Duquesne Light's siting analysis for the double-circuit BI – Crescent 138 kV Transmission Line was to determine the most suitable route to interconnect the proposed transmission line with the existing Brunot Island and Crescent Substations tying into the Montour, Neville, and Sewickley Substations along the route, while minimizing the impact to the natural and human environments, avoiding unreasonable and circuitous routes, and avoiding extreme costs.

[7] The maximum operating temperature is considered to be 392 degrees Fahrenheit.

32. Many sources of information were used to develop data for the Environmental Assessment and Line Route Study. These sources of information are summarized in Amended Attachment 3 to this Amended Application.

33. The route development process is inherently iterative with modifications made throughout the siting analysis as a result of the identification of new constraints, input from agencies, landowners, and other stakeholders, periodic re-assessment of routes, and adjustments to the overall route to develop feasible alternative routes.

34. Once the alternative routes were identified, the siting team undertook an analysis of potential impacts of each alternative route to human/build environment, the natural environment, and engineering considerations. The alternative routes were reviewed in detail and compared using a combination of information collected in the field, Geographic Information System data sources, public and agency input, engineering and constructability considerations, and the collective knowledge and experience of the siting team.

35. Using the analysis described above, the siting team selected a proposed route that, on balance, best minimized the overall impacts of the Amended Project. The rationale for selecting the proposed route was derived from the accumulation of the siting decisions made throughout the process, the knowledge and experience of the siting team, comments from the public and regulatory agencies, and the comparative analysis of potential impacts of each alternative route.

36. A detailed description of the process used to select the proposed route for the Amended Project is provided in Amended Attachment 3 to this Amended Application.

B. SELECTION OF PROPOSED LINE

37. Using the siting analysis described above, Duquesne Light identified three (3) alternative routes for the rebuild of the double-circuit BI – Crescent 138 kV Transmission Line: the Proposed Route, which extends approximately 14.5 miles and utilized existing Right-of-Way

("ROW") over its entire length; Alternative 1, which extends approximately 15.1 miles and utilizes 2.3 miles of existing ROW; and Alternative 2 which extends approximately 16.1 miles and utilizes 1.2 miles of existing ROW.

38. Duquesne Light, in conjunction with its siting consultants, undertook a detailed comparison of each Alternative. A detailed explanation of the analysis and comparison of the Alternatives is provided in Attachment 3 to this Amended Application.

39. Duquesne Light held three (3) public open houses in February and March of 2017 and invited impacted landowners along the proposed route, advertising in local newspapers the time and location of the open house as well as using targeted internet ads. During the open house events, multiple subject matter experts from Duquesne Light and its consultants were available to explain the scope of the initial proposal, its potential impact, and the proposed schedule.

40. In lieu of a public meeting in light of the COVID-19 pandemic, Duquesne Light directed affected landowners and the community to the Amended Project webpage on Duquesne Light's website. Duquesne Light created a video to further explain the Amended Project and uploaded answers to frequently asked questions. The website also invites customers to contact the Company for additional information.

41. The Alternatives were compared and the Proposed Route was selected based upon a detailed analysis and balance of potential impacts on the human/built environment, natural environmental, and engineering and constructability considerations.

42. The Proposed Route extends approximately 14.5 miles and is primarily located in existing ROW. A general description of the proposed route is provided below:

- The route begins at the Brunot Island Substation traveling west roughly paralleling Chartiers Creek for approximately two (2) miles in a highly developed area.

- Once out of the highly developed area the route continues approximately 3.8 miles in a northwest path along an existing ROW through several residential developments.
- The route then turns to the north for approximately 0.7 miles to enter the Montour Substation the route backtracks the same 0.7-mile alignment when exiting the Montour Substation.
- The route then continues in a relatively direct northwest course along an existing ROW for approximately eight (8) miles until it reaches the Crescent Substation.

43. The Proposed Route is the shortest route and utilizes the existing ROW thereby minimizing overall impacts and having the least environmental impact as compared to the other viable alternatives. Details of these overall impacts can be found in Attachment 3 of this Application.

44. By utilizing existing ROW, the Proposed Route minimizes the extent of tree clearing, habitat fragmentation, land use conversion, and other impacts associated with constructing a new ROW. In addition, the presence of the existing transmission structures and cleared ROW minimizes the potential for additional visual impacts associated with the construction of the new line.

45. All work areas associated with the construction of the double-circuit BI – Crescent 138 kV Transmission Line will be studied for waterbody and wetland features prior to the start of any construction.

46. Duquesne Light will obtain all necessary permits from the United States Army Corps of Engineers or the Pennsylvania Department of Environmental Protection and will comply with all of the terms and conditions placed on any permits required.

47. Further, Duquesne Light will acquire any required soil erosion and sedimentation control permits and will comply with any conditions placed on those permits. The final design, erosion and sedimentation control measures, and construction of the double-circuit BI – Crescent

138 kV Transmission Line will minimize impacts to waterbody and wetland features to the extent feasible.

48. Duquesne Light contacted the United States Fish and Wildlife Service ("USFWS"), Pennsylvania Fish and Boat Commission ("PFBC"), Pennsylvania Game Commission ("PGC"), and Pennsylvania Department of Conservation and Natural Resources ("PADCNR") to review the proposed double-circuit BI – Crescent 138 kV Transmission Line for potential rare threatened or endangered species impacts. After reviewing the project USFWS, PGC, and PFBC reported that the project will not impact any threatened and endangered species, or special concern species and resources located within the project area. The PADCNR requested surveys for two (2) plant species, Short's Sedge (Carex shortiana) and rock skullcap (Scutellaria saxatilis) along the Preferred Route. Surveys for the two (2) plant species and coordination with the PADCNR is ongoing. The final design and construction will minimize and avoid impacts to these plant to the extent feasible.

49. Architectural and archeological consultation with the Pennsylvania State Historic Preservation Office and surveys are ongoing. The final design and construction will minimize and avoid impacts to architectural and archeological resources to the extent feasible.

50. A list of the Local, State and Federal governmental agencies and their requirements in connection with the construction or maintenance of the proposed double-circuit Brunot Island – Crescent 138 kV Transmission Line is provided in Attachment 3 to this Amended Application.

51. Duquesne Light determined that the cumulative environmental, human/built, engineering, and constructability impacts associated with the proposed route, the Existing Alternative, will be significantly less than the other alternatives. A detailed explanation of the selection of the preferred route is provided in Attachment 3 to this Amended Application.

VI. RIGHTS-OF-WAY

52. The ROW width is generally determined by the structure type, design tensions, span length, and conductor "blowout" (the distance the wires are moved by a crosswind).

53. The ROW for the proposed double-circuit BI – Crescent 138 kV Transmission Line will be variable in width. Duquesne Light will design and construct the line to fit within the existing ROW while maintaining all necessary clearances.

54. The names and addresses of all known persons, corporations and other entities of record owning property along the route selected for the proposed double-circuit Brunot Island – Crescent 138 kV Transmission Line are provided in Attachment 10 to this Application.

55. There are a total of 461 deeded properties along the Proposed Route, owned by a total of 391 property owners. The Company required additional easements from 118 property owners for this Project. One hundred and twenty (116) of these easements have been obtained. At the time of this filing, new ROWs and easements are needed from several property owners.

56. Although negotiations continue with all remaining property owners, Duquesne Light separately filed one (1) condemnation application, pursuant to 15 Pa.C.S. §1511(c), for a finding and determination that the service to be furnished through its proposed exercise of the power of eminent domain to acquire the tracts of land for the proposed Amended Project is necessary or proper for the service, accommodation, convenience, or safety of the public. This condemnation application remains pending before the Commission at Docket No. A-2019-3008652 and was previously consolidated with the BI – Crescent Project Docket. Duquesne Light is also proceeding with negotiations regarding the acquisition by tax sale of the property traversed by the one remaining ROW.

VII. HEALTH AND SAFETY

57. The proposed Amended Project will not create any unreasonable risk of danger to the public health or safety. The Amended Project will be designed, constructed, operated, and maintained in a manner that meets or surpasses all applicable NESC minimum standards and all applicable legal requirements.

58. Descriptions of Duquesne Light's construction, operation, maintenance and safety standards and procedures for transmission and distribution lines are provided in Attachment 11 to this Amended Application. These standards meet or exceed all relevant NESC standards and all standards of the Federal Occupational Safety and Health Administration.

59. The project is being completed within an existing transmission line corridor. Duquesne Light will apply the Wire Zone/Border Zone management technique, which is recognized as an industry best practice to manage vegetation and ensure the safe and reliable delivery of electricity. A further description of Duquesne Light's vegetation management practices are provided in Attachment 12 to this Amended Application.

60. Duquesne Light performed an electromagnetic field study for the proposed transmission line. A further description of Duquesne Light's electromagnetic field practices and policies are provided in Attachment 11 to this Amended Application.

61. Duquesne Light will not impact communication towers and will work to minimize the impact to other utilities affected by the proposed Project.

62. Several major roadways, including Route 51 and Interstate I-79, will be spanned by the various segments of the Amended Project. Pennsylvania Department of Transportation Highway Occupancy Permits or equivalent type permits will be acquired by Duquesne Light for these major highways and all other state roads prior to construction.

63. Aviation coordination will be conducted through the Federal Aviation Association ("FAA"). Duquesne Light will assure that that the pole locations and heights are properly submitted to the FAA. Duquesne Light will comply with any additional lighting or other visual aids that may be required by these agencies to assure aviation safety in the region.

64. A further description of the safety considerations which will be incorporated into the design, construction and maintenance of the proposed Amended Project are provided in Attachment 11 to this Amended Application.

VIII. CONSTRUCTION COST AND IN-SERVICE DATE

65. Duquesne Light will own, operate, and maintain the transmission lines associated with the proposed Amended Project. The costs for the proposed Amended Project will be paid for by Duquesne Light.[8]

66. The estimated cost to design and construct the proposed Amended Project using the preferred route is approximately in the range of $130 to $160 million.

67. The estimated cost for the proposed Amended Project is an order-of-magnitude estimate developed using averages of recent costs for similar projects and without an in-depth analysis or field investigation. The estimated cost is subject to change as the constructability of the project, sequence of construction, and other factors that may affect cost are identified and analyzed as the project progresses.

68. The proposed Amended Project has a scheduled construction start date of September 2021 to meet an in-service date in May 31, 2027.

[8] The costs and cost recovery of this Project are subject to the regulatory jurisdiction of the Federal Energy Regulatory Commission.

IX. NOTICE AND SERVICE

69. Duquesne Light has provided public notices in accordance with Section 69.3102 of the Commission's Interim Siting Guidelines, 52 Pa. Code § 69.3102. The public notices for this Amended Project are provided in Attachment 13 to this Amended Application.

70. Copies of this Amended Application and the Notice of Filing are being served in accordance with the provisions of Section 57.74 of the Commission's regulations, 52 Pa. Code § 57.74.

71. A copy of this Amended Application is available for public examination on Duquesne Light's website and in-person during ordinary business hours at Duquesne Light Company, 411 Seventh Avenue, Pittsburgh, PA 15320-1930, depending on COVID-19 precautions in effect at the time of filing.

72. Duquesne Light is also making arrangements with the Robinson Township Library, located at 1000 Church Hill Road. Pittsburgh, PA 15205, and the Moon Township Library, located at 700 Beaver Grade Road, Suite 100, Moon Township, PA 15108 to make this Amended Application available for public examination either in-person or online, depending on COVID-19 precautions in effect at the time of filing.

73. As soon as practicable after the filing of this Amended Application, Duquesne Light will publish notice in newspaper(s) of general circulation in the area of the Brunot Island – Crescent 138 kV Transmission Line. This notice will: (a) note the filing with the Commission; (b) provide brief description of the Amended Project and its location; (c) provide locations where the complete application may be reviewed by the public; and (d) provide any additional information as directed by the Commission.

74. Duquesne Light also requests that the Commission publish notice of this Amended Application in the Pennsylvania Bulletin.

X. RELATED PROCEEDINGS

75. As noted above, simultaneous with the filing of the original Application, Duquesne Light filed one (1) Condemnation Application pursuant to 15 Pa. C.S. § 1511(c) at Docket No. A-2019-3008652 for a finding and determination by the Commission that the service to be furnished by the Duquesne Light through its proposed exercise of the power of eminent domain for the siting and construction of the 138 kV transmission lines associated with the BI – Crescent Project is necessary or proper for the service, accommodation, convenience or safety of the public. Issues relating to the need for the Condemnation Application are interrelated with this Amended Application.

76. On April 29, 2019, this matter was consolidated with the Condemnation Application for the purposes of discovery, litigation and decision. Duquesne Light requests that this related proceeding remain consolidated for hearings, if necessary, and decision.

XI. CONCLUSION

WHEREFORE, Duquesne Light Company respectfully requests that the Pennsylvania Public Utility Commission approve the siting and constructing of the approximately 14.5 miles of overhead 138 kV transmission lines associated with the Amended Brunot Island – Crescent Project in the City of Pittsburgh, McKees Rocks Borough, Kennedy Township, Robinson Township, Moon Township, and Crescent Township, Allegheny County, Pennsylvania as explained above and in the Attachments to this Amended Application.

Respectfully submitted,

_____

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Date: August 10, 2020

Attorneys for Duquesne Light Company

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY
COMMISSION

Application of Duquesne Light Company filed Pursuant to 52 Pa. Code Chapter 57, Subchapter G, for Approval of the Siting and Construction of the 138 kV Transmission Lines Associated with the **Brunot Island – Crescent Project** in the City of Pittsburgh, McKees Rocks Borough, Kennedy Township, Robinson Township, Moon Township, and Crescent Township, Allegheny County, Pennsylvania	:	Docket No. A-2019-3008589 Docket No. A-2019-3008652

VERIFICATION

I, Meenah Shyu, being the Manager of Civil Transmission Line Engineering at Duquesne Light Company hereby state that the facts set forth above are true and correct to the best of my knowledge, information and belief, and that I expect Duquesne Light Company to be able to prove the same at a hearing held in this matter. I understand that the statements herein are made subject to the penalties of 18 Pa.C.S. § 4904 (relating to unsworn falsification to authorities).

Meenah Shyu, P.E., P.M.P.
Manager of Civil Transmission Line Engineering

Date: 08/10/2020

Amended Attachment 1

AMENDED ATTACHMENT 1
BI-CRESCENT PROJECT
PUC REGULATION CROSS-REFERENCE MATRIX

Administrative Code Section or Statute	PUC Regulation Requirement	Location In Filing
57.72	Form and content of application	
57.72(a)	Applications shall be in conformity with Section 1.31 (relating to form of documentary filings generally). Supporting exhibits such as maps, photographs and other engineering materials may be on paper not exceeding 28 inches by 40 inches.	Attachments 1 – 15 CONFIDENTIAL Attachment 5a – Map of Existing Facilities CONFIDENTIAL Attachment 5b – Map of Proposed Facilities Attachment 8 – Aerial Map of the Preferred Route and Alternatives Considered Attachment 8 – Topographical Map of the Preferred Route and Alternatives Considered Attachment 9 – Map of Affected Parcels and Landowners
57.72(b)	The application shall be signed by a person having authority with respect thereto and having knowledge of the matters herein set forth and shall be verified under oath.	Siting Application
57.72(c)	An application shall contain:	
57.72(c)(1)	The name of the applicant and the address of its principal business office	Siting Application
57.72(c)(2)	The name, title and business address of the attorney of the applicant and the person authorized to receive notice and communications with respect to the application if other than the attorney of the applicant.	Siting Application
57.72(c)(3)	A general description – not a legal or metes and bounds description – of the proposed route of the HV line, to include the number of route miles, the right-	Siting Application Attachment 3 – Section

Administrative Code Section or Statute	PUC Regulation Requirement	Location In Filing
	of-way width and the location of the proposed HV line within each city, borough, town and township traversed.	3.4.1 Attachment 9 Duquesne Light Stmt. No. 2-A
57.72(c)(4)	The names and addresses of known persons, corporations and other entities of record owning property within the proposed right-of-way, together with an indication of HV line rights-of-way acquired by the applicant.	Attachment 9 – Map of Affected Parcels and Landowners Attachment 10 – Landowner Matrix
57.72(c)(5)	A general statement of the need for the proposed HV line in meeting identified present and future demands for service, of how the proposed HV line will meet that need and of the engineering justifications for the proposed HV line.	Attachment 2
57.72(c)(6)	A statement of the safety considerations which will be incorporated into the design, construction and maintenance of the proposed HV line.	Attachment 11
57.72(c)(7)	A description of studies which had been made as to the projected environmental impact of the HV line as proposed and of the efforts which have been and which will be made to minimize the impact of the HV line upon the environmental and upon scenic and historic areas, including but not limited to impacts, where applicable, upon land use, soil and sedimentation, plant and wildlife habitats, terrain, hydrology and landscape.	Siting Application Attachment 3
52.72(c)(8)	A description of the efforts of the applicant to locate and identify archaeologic, geologic, historic, scenic or wilderness areas of significance within 2 miles of the proposed right-of-way and the location and identity of the areas discovered by the applicant.	Attachment 3
57.72(c)(9)	The location and identity of airports within 2 miles of the nearest limit of the right-of-way of the proposed HV line.	Attachment 3 – Section 4.7
57.72(c)(10)	A general description of reasonable alternative routes to the proposed HV line, including a description of the corridor planning methodology, a comparison of the merit and detriments of each route, and a statement of	Attachment 3 – Sections 3.4.1-3.4.3 and 4

	the reasons for selecting the proposed HV line route.	
57.72(c)(11)	A list of the local, State and Federal governmental agencies which have requirements which shall be met in connection with the construction or maintenance of the proposed HV line and a list of documents which have been or are required to be filed with those agencies in connection with the siting and construction of the proposed HV line.	Attachment 3 – Section 6.1
57.72(c)(12)	The estimated cost of construction of the proposed HV line, and the projected date for completion.	Siting Application Attachment 3 – Section 1.2 and 3.4.1
57.72(c)(13)	The following exhibits:	
57.72(c)(13)(i)	A depiction of the proposed route on aerial photographs and topographic maps of suitable detail.	Attachment 7 Attachment 8
57.72(c)(13)(ii)	A description of the proposed HV line, including the length of the line, the design voltage, the size, number and materials of conductors, the design of the supporting structures and their height, configuration and materials of construction, the average distance between supporting structures, the number of supporting structures, the line to structure clearances and the minimum conductor to ground clearances at mid-span under normal load and average weather conditions and under predicted extreme load and weather conditions.	Siting Application Attachment 11 Duquesne Light Stmt. No. 3-A
57.72(c)(13)(iii)	A simple drawing of a cross section of the proposed right-of-way of the HV line and any adjoining rights-of-way showing the placement of the supporting structures at typical locations, with the height and width of the structures, the width of the right-of-way and the lateral distance between the conductors and the edge of the right-of-way indicated	Attachment 4
57.72(c)(13)(iv)	A system map which shows in suitable detail the location and voltage of existing transmission lines and substations of the applicant and the location and voltage of the proposed HV line and associated substations.	CONFIDENTIAL Attachment 5a CONFIDENTIAL Attachment 5b
57.72(c)(14)	A statement identifying litigation concluded or in progress which concerns property or matter relating to the proposed HV line, right-of-way route or	Siting Application

	environmental matters.	
57.72(c)(15)	Additional information as the Commission may require.	
57.74(a)	(a) *Filing.* The applicant shall file with the Commission the original and six copies of the application. An affidavit of service showing the identity of those served under subsections (b) and (c) shall accompany the original and the copies of the application filed with the Commission.	Notice of Filing Certificate of Service
57.74(b)	(b) *Copies.* At the time of filing, the applicant shall serve a copy of the application by registered or certified mail, return receipt requested, upon the following: (1) The chief executive officer, the governing body and the body charged with the duty of planning land use in each city, borough, town, township and county in which any portion of the HV line is proposed to be located. (2) The president of the public utility, other than the applicant, in whose service territory any portion of the HV line is proposed to be located. (3) The Department of Environmental Resources, Attention: Bureau of Environmental Planning; Post Office Box 2357, 101 S. Second Street, Harrisburg, Pennsylvania, 17120. (NOTE: now Department of Environmental Protection at different Harrisburg office).	Certificate of Service
57.74(c)	(c) *Notice.* (1) At the time of filing, the applicant shall serve a notice of filing and a map of suitable detail showing the proposed route of the proposed facility by registered or certified mail, return receipt requested, upon the following: (i) The Secretary of the Department of Transportation, Room 1200 Transportation and Safety Building, Harrisburg, Pennsylvania 17120. (ii) The Chairman of the Historical and Museum Commission, Post Office Box 1026, Harrisburg, Pennsylvania 17120. (iii) Other local, State or Federal agencies designated in § 57.72 (c)(11)(relating to form and content of application). (iv) The persons, corporations, and other entities designated in § 57.72(c)(4), unless they are served with a copy of the application under § 57.75(i) (relating to hearing and notice).	Notice of Filing Attachment 10 Certificate of Service

57.74(c)	(2) The notice of filing shall contain a statement identifying the filing, the date on which the filing was or is to be made, a description of the proposed line, the design voltage, the number of route miles, the right-of-way width and the location of the proposed HV line within each township traversed and a statement that a copy of the application is available for public examination as provided in subsection (d).	Notice of Filing Siting Application Attachment 9
57.74(d)	(d) *Examination.* On the day of filing of the application, the applicant shall make a copy of the application available for public examination during ordinary business hours at a convenient location within a county in which any part of the proposed HV will be located.	Siting Application Notice of Filing
57.74(e)	(e) *Additional notice.* The applicant shall provide an additional notice and shall serve such additional copies of the application without cost as the Commission may require.	N/A
69.1101	To further the State's goal of making State agency actions consistent with sound land-use planning, and under the act of June 22, 2000 (P. L. 483, No. 67) and the act of June 23, 2000 (P. L. 495, No. 68), the Commission will consider the impact of its decisions upon local comprehensive plans and zoning ordinances. This will include reviewing applications for: (1) Certificates of public convenience. (2) Siting electric transmission lines. (3) Siting a public utility ''building'' under section 619 of the Municipalities Planning Code (53 P. S. § 10619). (4) Other Commission decisions.	Attachment 3 Duquesne Light Stmt. No. 2-A
69.3102(a)	(a) Applications for electric transmission siting authority should provide the following information with the initial application for siting approval demonstrating its efforts to fully notify landowners who are either owners of land that will be purchased for the transmission project or will be subject to right of way/easement requirements: (1) A Code of Conduct/Internal Practices governing the manner in which public utility employees or their agents interact with landowners along proposed rights	Attachment 13

	of way. (2) Copies of information provided to landowners by the public utility of any publicly disseminated notices advising landowners to contact the Commission or the Office of Consumer Advocate (OCA) in the event of improper land agent practices. (3) Copies of all notices sent under § 57.91 (relating to disclosure of eminent domain power of electric utilities).	
69.3102(b)	(b) Applicants for transmission siting authority should serve a copy of the Code of Conduct on all landowners along the proposed route whose property is to be purchased, subject to easement rights or borders the transmission corridor. The Code of Conduct should also be available on the applicant's website.	Attachment 13
69.3102(c)	(c) Applicants for transmission siting authority should provide prior notice to the Commission's Office of Communications of informational presentations to community groups by the public utility scheduled after the filing of the transmission siting application so that the Commission, OCA and other interested parties can attend meetings or obtain copies of information being disseminated at the presentations.	N/A
69.3103	Applicants for eminent domain authority should follow the following requirements and provide the following information as part of the application: (1) Applicants for transmission siting authority should file applications for all known eminent domain authority as separate filings, but simultaneously with the associated transmission siting applications. Testimonial evidence in support of an eminent domain application should be filed with the application. Subsequent eminent domain authority applications should be filed as soon as reasonably known during the course of the transmission siting application. (2) As part of an eminent domain application, the public utility applicant should present, for those properties subject to condemnation at the time the transmission siting application is filed or later in the siting proceeding, the reason for the exercise of condemnation power for each property and the precise location of the affected property. Supporting maps or	Condemnation Applications

	legal descriptions of the property to be condemned should be supplied to the extent feasible. Submission of information pursuant to this guideline should be consistent with the filing requirements for the exercise of eminent domain powers under 26 Pa.C.S. § 302(b)(5) (relating to declaration of taking). (3) A public utility transmission siting application should include a summary status report for those properties along the proposed transmission route where negotiations for either property acquisition or rights of way/easements may be ongoing. This information should be supplemented as requested by the administrative law judge or the parties during the course of the transmission siting proceeding.	
69.3104	Applications for exemption from municipal zoning requirements should provide the following information with the application: (1) Copies of comprehensive land use plans, zoning ordinances and other documentation relevant to the buildings affected by the exemption request. This information may be filed in either hard copy or electronic format. (2) Provision of metes and bounds or site maps of building sites. (3) A procedure for providing notice to affected municipalities of the request for exemption.	N/A
69.3105(1)	Applications for the siting of electric transmission lines should provide the following information as part of the § 57.72(c) (relating to form and content of application) requirements: (1) Transmission applicants should utilize a combination of transmission route evaluation procedures including high-level GIS data, traditional mapping (including United States Geological Survey data and compilation), aerial maps and analysis of physical site specific constraints raised by affected landowners.	Attachment 3 Attachment 7 Attachment 8 Attachment 9
69.3105(2)	Applications for the siting of electric transmission lines should provide the following information as part of the § 57.72(c) (relating to form and content of application) requirements:	Siting Application

	(2) Transmission applicants should summarize the status of property acquisitions (including fee simple acquisitions and rights of way/easements) as part of the application. The applicant should provide the current status and continuing updates on property acquisition litigation or settlements during the course of the siting proceeding.	
69.3105(3)	Applications for the siting of electric transmission lines should provide the following information as part of the § 57.72(c) (relating to form and content of application) requirements: (3) In providing information regarding the reasonable alternative routes, the utility actively considered in its final phase of the route selection process, and the relative merits of each, in accordance with § 57.72(c)(10), the applicant should include the following information: (i) The environmental, historical, cultural and aesthetic considerations of each route. (ii) The proximity of these alternative routes to residential and nonresidential structures. (iii) The applicant's consideration of relevant existing rights of way. (iv) The comparative construction costs associated with each route.	Attachment 3 Duquesne Light Stmt. No. 2-A
69.3106	Applications for siting of electric transmission lines should include as part of the filing requirement under § 57.72(e)(7) the following information: A matrix or list showing all expected Federal, state and local government regulatory permitting or licensing approvals that may be required for the project at the time the application is filed, the issuing agency, approximate timeline for approval and current status. The applicant should provide an update on the status of the regulatory permitting/licensing approvals as the case progresses.	Attachment 3 – Section 6.1
69.3107(a)	(a) *Interim guidelines for the use of herbicides and*	Attachment 12

	pesticides. Applicants for transmission line siting authority should provide a detailed vegetation management plan that includes the following components: (1) A general description of the utility's vegetation management plan. (2) Factors that dictate when each method, including aerial spraying, is utilized. (3) Vegetation management practices near aquatic and other sensitive locations. (4) Notice procedures to affected landowners regarding vegetation management practices. (5) Provision of a copy of a landowner maintenance agreement that describes the duties and responsibilities of landowners and the utility for vegetation management to the extent utilized.	
69.3107(b)	(b) *Interim guidelines for Electromagnetic Field (EMF) impacts.* Transmission siting applications should include the following: A description of the EMF mitigation procedures that the utility proposes to utilize along the transmission line route. This description should include a statement of policy approach for evaluating design and siting alternatives and a description of the proposed measures for mitigating EMF impacts.	Attachment 11

Amended Attachment 2

AMENDED ATTACHMENT 2
BRUNOT ISLAND-CRESCENT PROJECT
NECESSITY STATEMENT

1. Introduction

Duquesne Light Company ("Duquesne Light" or the "Company") proposes to site and rebuild the Brunot Island – Crescent 138 kV Transmission Corridor in City of Pittsburgh, McKees Rocks Borough, Kennedy Township, Robinson Township, Moon Township, and Crescent Township, Allegheny County, Pennsylvania; (collectively, the "Amended Project"). The Brunot Island – Crescent 138 kV Transmission Corridor is presently comprised of double-circuit lattice towers operating at 138 kV. There are four (4) distinct 138 kV circuits located within this corridor: Crescent – Montour (Z-24), Brunot Island – Sewickley (Z-43), Brunot Island – Montour (Z-44) and Crescent – Sewickley (Z-143). Additional details of the present and proposed configurations can be found in Attachment 6 to the Amended Siting Application. The Amended Project involves the reconstruction of approximately 14.5 miles of 138 kV transmission line between the Brunot Island Substation located in the City of Pittsburgh and the Crescent Substation located in Crescent Township. The transmission line will be reconstructed as a double-circuit 138kV transmission line.

The Amended Project is required to replace transmission equipment which is approaching end of its useful life and located in areas prone to landslides in order to maintain reliable electric service of the Bulk Electric System and for approximately 64,500 customers which receive electric service directly from the substations connected by the Amended Project. On March 31, 2018, a landslide occurred along the tower line and resulted in damage to

four (4) transmission structures, including one collapse, and an interruption to the Crescent-Montour (Z-24) and Brunot Island-Sewickley (Z-43) transmission circuits.

The estimated cost to site, design, and construct the Amended Project is in the range of $130-160 million. Subject to the Commission's approval, construction is scheduled to begin in September 2021, to support the Project's scheduled in-service date of May 31, 2027.

2. Asset Management Process

Duquesne Light's Asset Management process includes maintenance programs associated with inspection and replacement of its assets, including transmission lines. These maintenance programs ensure prudent repair and replacement of assets to maintain the reliability of the Duquesne Light system by proactively preventing equipment failures. Duquesne Light performs ground and aerial inspections of its transmission lines each on a five (5) year rotation. In 2012, Duquesne Light contracted an independent structural engineering consultant to perform a below grade inspection to determine grillage foundation member adequacy on this particular line.

3. System Planning Process

System planning is the process which assures that transmission and distribution systems can supply electricity to all customer loads reliably and economically. The reliable and economical operation of transmission and distribution systems requires planning guidelines for system expansion and reinforcement.

As a transmission owner operating in Pennsylvania, Duquesne Light is a member of PJM Interconnection, L.L.C. ("PJM"). PJM is a Federal Energy Regulatory Commission ("FERC") approved Regional Transmission Organization ("RTO") charged with ensuring the reliable and efficient operation of the electric transmission system under its functional control, and coordinating the transmission of electricity in all or parts of Delaware, Illinois, Indiana, Kentucky, Maryland, Michigan, New Jersey, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia and the District of Columbia. In order to ensure reliable transmission service, PJM prepares an annual Regional Transmission Expansion Plan ("RTEP"). The North American Electric Reliability Corporation ("NERC"), PJM, and transmission owner reliability criteria are used by PJM and the transmission owners to analyze the system and determine if specific transmission upgrade projects are needed to ensure long-term reliable electric service to customers.

PJM's RTEP process is currently set forth in Schedule 6 of PJM's Amended and Restated Operating Agreement ("Schedule 6"). The RTEP is an annual planning process that encompasses a comprehensive series of detailed analyses to ensure electric power continues to flow reliably to customers under stringent reliability planning criteria. PJM Manual 14B outlines the RTEP process and reliability criteria used for this reliability process. The Company implements PJM's reliability and planning mandates in part through the Duquesne Light Company Transmission Planning Criteria document ("Planning Criteria"), which was developed to ensure adequate and appropriate levels of electric service to its customers consistent with good utility practice. Duquesne Light's reliability and planning standards are set forth in its FERC Form No. 715 annual report.

The fundamental purpose of the Planning Criteria is to provide Duquesne Light planning engineers with a comprehensive set of planning criteria that enable them to plan for a reliable system for Duquesne Light's customers. Duquesne Light's Planning Criteria are consistent with good utility practices and with the reliability criteria and standards used by similarly situated distribution and transmission utilities. For example, the PJM and Duquesne Light Planning Criteria generally provide that the Transmission System should be designed so that:

(i) Normal operation of the system will not load any electric facility beyond its normal continuous rating.

(ii) The loss of any single transmission line, generating unit, power transformer, substation bus, circuit breaker, or double-circuit line due to the outage of a single tower or pole, does not result in any system electric facility being operated beyond its applicable emergency rating.

(iii) The loss of any single facility should not result in a voltage drop of more than 5% on the transmission system.

(iv) The Duquesne Light transmission system relies on underground cables to supply the City of Pittsburgh. Underground cable outages could be long in duration and therefore, the remainder of the system should continue to operate reliably and within its normal rating limits following such events. Duquesne Light plans transmission solutions so that no loss of load occurs following an N-2 contingency supporting the City of Pittsburgh.

(v) Once a bulk power substation exceeds or is projected to exceed 100 MVA the station will require three (3) transmission sources.

Using the Planning Criteria, Duquesne Light's transmission system is planned so that it can be operated at all projected load levels and during normal scheduled outages. The system is also planned to withstand specific unscheduled contingencies without exceeding the equipment capability, causing system instability or cascade tripping, exceeding voltage tolerances, or causing large-scale, long term or frequent interruptions to customers. The planning process begins with the development of a computer model of the future system. Once the system model is complete, comprehensive power flow simulations and contingency analyses are performed to determine the ability of the system to comply with the Duquesne Light transmission planning and reliability criteria set forth in the Planning Criteria. All conditions where the system is not in conformance with the Planning Criteria are identified, and system reinforcement alternatives are added to bring the system into compliance. Also identified are estimated costs and lead times to implement the reinforcements under consideration. Computer simulations of the system with the identified reinforcement alternatives are completed to identify the best overall reinforcement that will meet the needs of the area in a reliable and economical manner. Finally, all reinforcements are reviewed with stakeholders at either PJM's Transmission Expansion Advisory Committee ("TEAC") or Sub-Regional Transmission Expansion Plan ("SRRTEP") meetings.

4. Definition of the Problem

Structures associated with the Project were originally constructed in 1914. Duquesne Light has performed structural evaluations and determined that the structures are approaching end of their useful life. These structural evaluations were performed by an engineering

consultant with experience in transmission line design, modeling, and structural analysis. Based on current condition, below grade section losses, and Power Line Systems – Computer Aided Design and Drafting ("PLS-CADD") modeling at current design codes, all results indicate these structures are beyond permanent repair and require replacement. Temporary repairs have been made to certain facilities to ensure reliable service until new replacement structures can be installed.

On March 31, 2018, a landslide occurred along the tower line and resulted in one transmission structure to collapse, damage to adjacent transmission structures, and an interruption to the Crescent-Montour (Z-24) and Brunot Island-Sewickley (Z-43) 138 kV transmission circuits. As a result, four transmission structures were replaced with temporary emergency structures in the spring of 2018, each consisting of two (2) directly embedded galvanized steel monopoles to reenergize these transmission circuits. The Amended Project will install permanent transmission structures in place of the temporary emergency transmission structures.

5. Proposed Solution

Duquesne Light proposed to address the issues illustrated above by reconstructing approximately 14.5 miles of 138 kV transmission line between the Brunot Island Substation and the Crescent Substation. Maps of Duquesne Light's existing and proposed transmission facilities are included as CONFIDENTIAL Attachments 5a and 5b, respectively, to the Amended Siting Application. One-line diagrams of Duquesne Light's

existing and proposed transmission facilities are included as Attachment 6 to the Amended Siting Application.

The proposed Amended Project involves the replacement of some of Duquesne Light's oldest in-service steel lattice towers which are approaching end of their useful life. This project will install new monopoles with concrete foundations which will be designed to withstand potential landslides and as such will support reliable electric service of the Bulk Electric System. Additional details of the structure design can be found in Attachment 4 and the amended Direct Testimony of Meenah Shyu (Duquesne Light Statement No. 3-A).

This project was reviewed by PJM stakeholders and included in PJM's Regional Transmission Expansion Plan with the project designation s0320 and s0320.1.

Amended Attachment 3

Environmental Assessment and Line Route Siting Study

Duquesne Light Company
Brunot Island - Crescent 138 kV Transmission Line Rebuild
Allegheny County, Pennsylvania

GAI Project Number: C120473.13, Task 003
Completed June 2018, Amended April 2020

Prepared by: GAI Consultants, Inc.
Pittsburgh Office
385 East Waterfront Drive
Homestead, Pennsylvania 15120-5005

Prepared for: Duquesne Light Company
2825 New Beaver Avenue
Pittsburgh, Pennsylvania 15233

Environmental Assessment and Line Route Siting Study

Duquesne Light Company
Brunot Island - Crescent 138 kV Transmission Line Rebuild
Allegheny County, Pennsylvania

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Pittsburgh, Pennsylvania 15233

Prepared by:
GAI Consultants, Inc.
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Project Environmental Specialist

Aimee Kay
Environmental Manager

Table of Contents

1.0 Introduction

1.1 Project Overview

Duquesne Light Company (Duquesne Light or the Company Duquesne Light) proposes to rebuild and reconductor an existing double-circuit 138 kilovolt (kV) transmission line located in City of Pittsburgh, McKees Rocks Borough, Robinson Township, Moon Township, and Crescent Townships, Allegheny County, Pennsylvania (PA). The Brunot Island - Crescent 138 kV Transmission Line (Project) connects the existing Brunot Island Substation in the City of Pittsburgh (Pittsburgh) and the existing Crescent Substation in Crescent Township, approximately 14.5 miles to the northwest. In addition, the Brunot Island - Crescent 138 kV Transmission Line will tie into the existing Montour Substation along its route. The need for the proposed Project is further explained in Amended Attachment 2 to the application filed with the PA Public Utility Commission (PAPUC or Commission).

1.2 Project Timeline and Overview of Regulatory Approvals

Duquesne Light initiated the transmission line siting process in 2015. Three initial potential routes were developed. Public workshops were held on February 21, 2017, February 28, 2017, and March 2, 2017 to present the three alternative routes to the public and encourage public comments. Additionally, The Pennsylvania Public Utility Commission ("PUC" or "Commission") held a Public Input Hearing on October 9, 2019, where the Administrative Law Judge assigned to this matter took testimony on the record from the general public about the BI-Crescent Project. Based on this siting study, the Proposed Route was selected. Construction of the Project is scheduled to begin in September 2021 with an in service date of May 31, 2027.

The PAPUC has jurisdiction over high voltage electric transmission lines and must approve the siting of the proposed Project (52 Pa. code Chapter 57). Regulatory requirements pertaining to the selection of a route for a new high voltage transmission line were incorporated into the study. Chapter 57, Subchapter G contains the PAPUC requirements for documenting the siting and environmental studies which must be conducted to determine potential Project impacts. This Environmental Assessment and Line Route Siting Study is being provided in compliance with section 57.72 (c) (7 through 10) of the PAPUC regulations. Specifically, this report includes a description of the corridor planning and selection methodology, and discusses the reasonable alternatives that were investigated for the selection of the Proposed Route required by the PAPUC regulations.

1.3 Goal of the Siting Study

The goal of the siting study was to select a Proposed Route between the Brunot Island Substation and the Crescent Substation that tied into the Montour Substation along the route. Furthermore, the goal was to establish alternative routes for evaluation that are environmentally sound, feasible from an engineering and economic perspective, and compliant with applicable regulations. Environmental soundness includes minimizing environmental impacts while maximizing siting opportunities (ex. paralleling an existing right-of-way). Engineering and economic feasibility includes minimizing engineering constraints, cost, and distance of the route. The analysis also sought to minimize the alternative route overlap to adhere to the PAPUC regulations (52 PA Code 57.1) that define an alternative route as "*a reasonable right-of-way which includes not more than 25 percent of the right-of-way of the applicant's proposed route.*"

To meet the goal of the siting study, the Project study area was examined for constraints and opportunities in order to develop alternative routes, analyze impacts associated with the alternative routes, and select a preferred alternative. The Proposed Route is the route that, when considering all the constraints and opportunities, best minimized the overall impacts of the Project. This report describes the alternative route identification, analysis, and selection process for the proposed Project.

2.0 Route Development and Siting Process

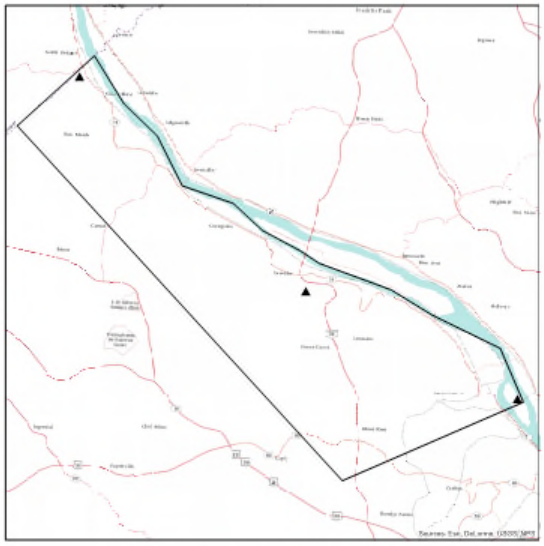
2.1 Route Development Process Summary/Methodology

The initial step in route development is to define a Study Area which includes the Project end points (the existing Brunot Island Substation and the existing Crescent Substation), the mid route tie in (the existing Montour Substation), and a large enough area to develop alternative routes. The next step is to utilize publically available data to identify large area constraints (e.g., parks, urban areas) and opportunities (e.g., existing ROWs). The routing team then identifies, at a high level, possible alignments within the study area to develop the Preliminary Routes. The routing team then collects information to review the Preliminary Routes for viability, and modifies or eliminates Preliminary Routes until only the most suitable routes remain. These suitable routes are then compared as the Alternative Routes. The potential impacts of the Alternative Routes to land use, environmental and cultural resources, and engineering concerns are then evaluated and compared among the Alternative Routes. The Alternative Route that, on balance, best avoids or minimizes overall impacts to environmental and human/built resources and minimizes unreasonable design criteria and cost is then selected as the Preferred Alternative.

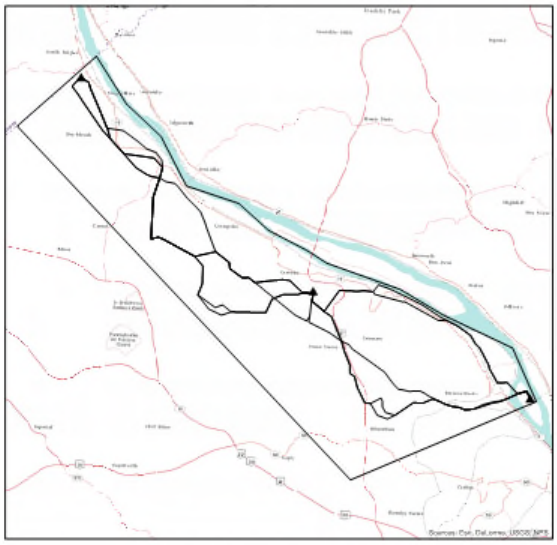
The routing steps are illustrated in Figure 1.

Figure 1

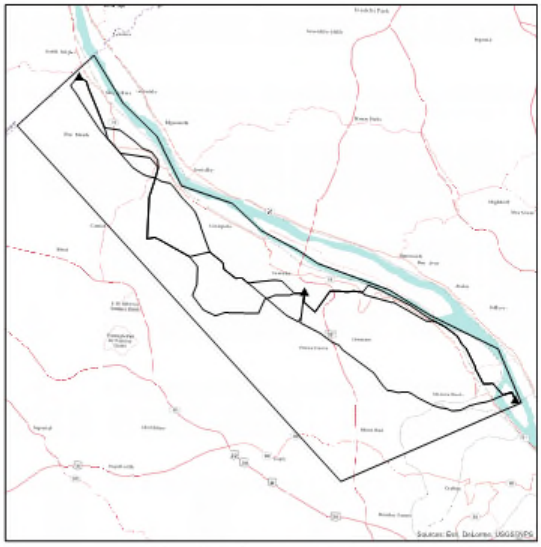
Routing Steps



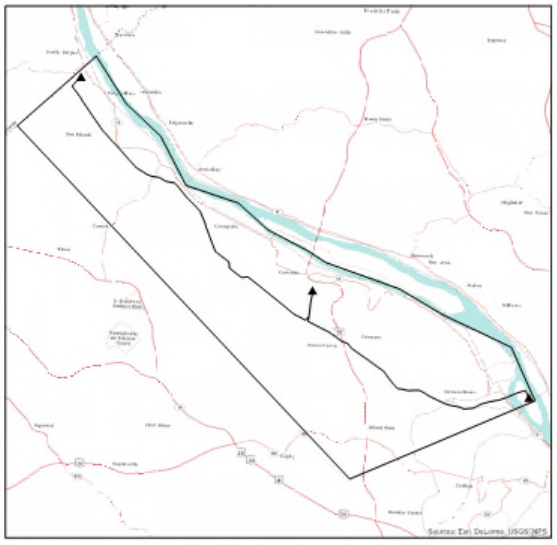
Step 1: Define Study Area



Step 2: Preliminary Routes



Step 3: Alternative Routes



Step 4: Preferred Alternative

2.2 Data Collection

2.2.1 Geographic Information System Data Collection

The route development and siting process relies heavily on publically available Geographic Information System (GIS) data from federal state and local government agencies. GIS information is an effective way to develop and inventory environmental information and characterize landscape level constraints and opportunities that can then be used to evaluate and compare the routes. A list of the GIS sources used in the route development and siting process is provided in the table below.

Table 2.2-1

GIS Data Sources

Category	Data Source
Aerial Imagery	
Aerial Imagery	Imagery was utilized from the following sources ESRI World Imagery, NAIP, 2015, Accessed 02/2017 and Google Earth.
Hydrology	
Rivers and Lakes	The National Hydrography Dataset (NHD) is a comprehensive set of digital spatial data prepared by the United States Geological Survey (USGS) and United States Environmental Protection Agency that contains information about surface water features such as lakes, ponds, streams, and rivers.
Water Quality Designations	CH 93 Designated Use, PA Department of Environmental Protection, Penn State Institutes Of The Environment, Research Triangle Institute, 2016. This information was used to evaluate exceptional value and high quality streams.

Table 2.2.1 (Continued)

Category	Data Source
Hydrology (Continued)	
Wetlands	National Wetland Inventory (NWI), United States Fish and Wildlife Service (USFWS), 2016. The NWI produces information on the characteristics, and extent of the Nation's wetlands and deep-water habitats, this information is used to review general wetland distributions.
100 Year floodplain	Data was obtained from National Flood Hazard Layer, Federal Emergency Management Agency, PA, 2016.
Conservation and Recreational Lands	
Recreational Areas	Data was digitized from ESRI Aerial Imagery and Google Earth Imagery.
State Parks, Forests, and Game Lands	Data for State parks and state forests were obtained from PA Department of Conservation and Natural Resources (PADCNR) (2015) and data for state game land was obtained from PA Game Commission (PGC) (2016).
Hiking and Biking Trails	Data was obtained from, Explore PA Trails, PADCNR, (2016).
Easements	Data was obtained from National Conservation Easement Database, United States Department of Agriculture/Natural Resource Conservation Service, 2015.
Land Trust Protected Areas	Data was obtained from Allegheny County GIS Department, 2010.
Human Environment	
Institutional structures	Hospitals, Schools, and Churches, were obtained from ESRI & Tomtom, Obtained Through ESRI ARCGIS Online, Accessed 02/2017.
Residential and commercial Buildings	Data was digitized from aerial imagery and field observations.
Parcel Boundaries and Ownership	Obtained from Allegheny County Parcel Data, Allegheny County GIS Department, 2016.

Table 2.2-1 (Continued)

Category	Data Source
Human Environment (Continued)	
Cemeteries	Data was digitized from aerial imagery and field observations.
Airfields and Heliports	Obtained Through ESRI ARCGIS Online, Accessed 02/2017.
Transportation	Obtained from World Transportation, ESRI, Delorme, Here, Mapmyindia, Tomtom, © Openstreetmap Contributors, And The GIS User Community, Obtained Through ESRI ARC GIS Online, Accessed 02/2017.
Existing Transmission Lines and Substations	Existing Transmission Line and Substation information provided by Duquesne Light and digitized based on aerial imagery.
Cultural Resources	
Architectural, Historical, and Archeological Sites and Districts	Obtained from the Cultural Resources Geographic Information System map-based inventory of the historic and archaeological sites and surveys stored in the files of the PA State Historic Preservation Office, Accessed 05/2015.
Land Use	
Land Use and Cover	Data was digitized from aerial imagery and field observations
Sensitive Species	
Rare, Threatened, and Endangered Habitat	Digitized From The PA Natural Heritage Program, Conservation Explorer Web Map, Accessed 2016.
Geology	
Steep slope	Steep slope was calculated in GIS using Digital Elevation Modeling downloaded from PA State Data Access 2016
Landslide Prone area	Obtained from Allegheny County GIS Department, 2016.

2.2.2 Field Reviews

Routing team members conducted field reconnaissance in May and June of 2015 to update data available for resources in the vicinity of each of the Alternative Routes. The field reconnaissance was limited to publicly accessible areas such as road crossings and public lands. Once the Proposed Route was selected, a detailed field review was conducted in 2016, 2017, and 2019 including stream and wetland delineation, cultural resources study, constructability review, rare threatened and endangered species review, and coordination with property owners.

2.2.3 Federal, State and Local Government Coordination

The routing team contacted various federal, state, and local agencies to inform them of the Project and requested information to be used during the route development and siting process.

The PA Historical and Museum Commission's (PHMC) [also referred to as the PA State Historic Preservation Office (SHPO)] Cultural Resources Geographic Information System (CRGIS) database was reviewed for previously recorded cultural resources, including National Register of Historic Places (NRHP)-listed historic properties, previously recorded archaeological sites, and previously recorded architectural and historical resources mapped within two miles of the Project area. Furthermore, the PHMC was contacted in December 2015, and asked to review the Proposed Route for impacts to known historic and/or archeological resources. PHMC responded that the potential routes had the potential to impact archaeological and

historical resources and requested a Phase 1 archaeological survey and preliminary review of historic buildings, structures, and districts before the project was finalized.

The Online PA Natural Diversity Index (PNDI) Online Map Explorer was used to review the USFWS, PADCNR, PGC, and PA Fish and Boat Commission (PFBC) databases for potential impacts to RTE species. Consultation letters were sent to USFWS, PADCNR, PGC, and PFBC in October of 2015 for review of the Proposed Route. The PADCNR requested surveys for two plant species, Short's Sedge (*Carex shortiana*) and rock skullcap (*Scutellaria saxatilis*) along the Proposed Route. USFWS requested evaluation of the impact of the Proposed Route on a known bald eagle nest site.

Meetings and coordination with local municipalities were conducted by Duquesne Light during the route siting process.

2.3 Siting Guidelines

The siting guidelines were developed based upon the Commission regulations, public input, the resource agency permitting requirements, engineering requirements and economic feasibility. The siting guidelines include both siting opportunities and siting constraints. Siting opportunities are locations representing land use and environmental resources, which are compatible with the safe, economical, and reliable construction and operation of a 138 kV transmission line. Constraint areas represent locations where a 138 kV transmission line might have a potential adverse impact on sensitive resources or locations where conditions might affect reliable and safe operation or economical construction of the line. The siting guidelines are

presented in Table 2.3-1. The siting guidelines are reflected in the resource criteria used to compare alternative routes, which are described in more detail in Section 4.

Table 2.3-1

Siting Opportunities and Constraints

Siting Opportunities	Siting Constraints
• Parallels existing electric transmission line ROW • Parallel pipeline ROW • Parallel railroad ROW • Open, uninhibited privately owned terrain, including farmland • Short, direct routes	• High density population areas, including commercial, residential, and institutional areas • Recreational lands including: State Parks, Local recreational Areas, and Hiking and Biking Trails • Conservation Areas including: State Forest, State Game Land, National Natural Landmarks, Designated Natural Areas, Wilderness Areas, Core Rare, Threatened, and Endangered (RTE) Habitats, Land Trust Protected Areas, and Unique Geological Resources • Sensitive Natural Areas including: Designated Scenic Areas, National Wild and Scenic Rivers, Exceptional Value Stream, State Scenic Rivers, Streams, and Wetlands • Cultural Resources including: Historic Sites, Cemeteries, and Archaeological Sites • Engineering constraints including: highway, railroad and road crossings, steep terrain, and landslide-prone areas • Airports • Forest land

2.4 Public Involvement in Siting Process

Three public workshops were held to present the three alternative routes to the public and encourage public comments. An advertisement was run in the Post Gazette and letters were

mailed to the property owners that could be affected by the routes and to local government officials of communities where the Project is located. The public workshops were held on February 21, 2017, February 28, 2017, and March 2, 2017 and attendees were encouraged to fill out comment cards. The public workshops received a total of 36 attendees, and 15 comments were received at the public workshops. Most comments were in regards to alignment changes to minimize the impact to those individual's property; one comment card was received at the workshop with concerns for the effect of the transmission line on the resale value of their home and health effects. In addition to the public workshop notification, the newspaper add encouraged those that could not attend to contact DLC via email or mail with comments or concerns regarding the Project. A website was also set up with Project information and targeted internet ads were used to notify individuals potentially impacted by the project. On the website, the public was also encouraged to provide comments or concerns regarding the Project. DLC received comments from the website, largely regarding vegetation management practices and property use during construction.

Furthermore, during the siting process Duquesne Light has worked with individual property owners to accommodate the property owners' requests to the extent practical.

3.0 Alternative Route Identification

3.1 Project Study Area Description

The initial step in the route development process involved the identification of a study area boundary. This was established to include the existing substations, existing Duquesne Light transmission line corridors to allow for opportunities to parallel existing ROWs, and the

intervening areas. The northern limits of this study area were defined to avoid the Ohio River. The southern limits of the study area were defined to avoid close proximity to the Pittsburgh International Airport. The eastern limit and western limit of the study area were defined based on the location of the existing Brunot Island Substation and existing Crescent Substation, respectively. This study area, as shown on Figure 2, incorporates an approximately 34.1-square-mile area in Allegheny County, PA.

3.2 Constraints and Opportunities

Resource Evaluation Criteria were developed in order to compare the suitability of the alternative routes. These criteria consist of 30 resource categories. The resource categories were chosen based on federal and state requirements, their sensitivity to impact by electric transmission lines, and sources of data available.

The resource categories were evaluated at multiple distances from the alternative route centerlines depending on the level of sensitivity. Evaluations include the proposed alternative ROW; the area adjacent to the proposed ROW (including sensitive resources that are in view); and a four-mile-wide corridor including the area two miles on either side of the centerline of each ROW. The four-mile corridor was used to evaluate potential impacts on archaeological and historic resources, scenic areas, unique geologic areas, wilderness areas and airports. GAI examined 30 environmental and human/built resource criteria to determine impacts for the three alternatives. The 30 resource criteria were based on PAPUC regulations as well as traditional environmental impact assessment criteria. The 30 resource criteria used in the evaluation to select the preferred alternative are briefly described as follows:

- **State Park**. These areas are multiple-use lands owned and maintained by the PADCNR.
- **State Forests**. These areas offer recreational opportunities and are protected by the PADCNR.
- **State Game Lands**. These areas are set aside for public hunting and game propagation and are protected by the PGC.
- **Other Recreational Areas**. These areas include county and local parks, as well as golf courses, playgrounds, and athletic fields that were not associated with a school or other institutional complex that could be identified from Google Earth, USGS maps, and aerial photography.
- **National Natural Landmarks**. These areas are listed on the National Registry of Natural Landmarks maintained by the National Park Service and represent outstanding natural areas or geologic features.
- **Designated Natural Areas/Wilderness Areas**. Designated Natural Areas are areas recognized for their special natural features and are identified and/or protected by the PADCNR or by non-profit conservation organizations. Wilderness areas are federal lands protected by the Wilderness Act.
- **Core RTE Habitat.** These areas, identified by the PADCNR, are most closely associated with the habitat of a species of concern. These areas can support little disturbance without adversely affecting the habitat of the species of concern. Species of concern include those species listed as endangered, threatened,

candidate, and extirpated.

- **Land Trust Protected.** These areas are set aside for conservation and protected by a conservation easement.
- **Unique Geologic Resources**. These features offer outstanding scenic, educational, or scientific resources and are identified in several publications of the PADCNR and by the PA Natural Heritage Inventory.
- **Historic Sites**. These sites include previously recorded National Register of Historic Places (NRHP)-listed, eligible, and unevaluated architectural resources identified through review of the PA State Historic Preservation Office's online cultural resources GIS system.
- **Cemeteries.** These areas were identified from Google Earth and aerial photography.
- **Designated Scenic Areas**. Although not necessarily protected, these areas have scenic and natural significance, and are listed in a variety of publications. Some areas are located in state parks.
- **National Wild and Scenic Rivers/Exceptional Value Stream.** National Wild and Scenic Rivers have received national recognition as components of the National Wild and Scenic Rivers System for their recreational and scenic value. Exceptional Value Streams have elevated water quality protection criteria due to the excellent water quality found within them. These streams have additional permitting or construction conditions for activities conducted in these locations.

- **State Scenic Rivers**. These streams are components of the PA Scenic Rivers Program administered by the PADCNR.
- **Exceptional Value Streams**. These streams have elevated water quality protection criteria due to the excellent water quality found within them. These streams typically have additional permitting or construction conditions for activities conducted in these locations.
- **Hiking and Biking Trails**. Includes trails officially recognized by federal, state, or local government agencies, or recognized in published guidebooks. Although these are linear resources that can easily be spanned by the transmission line, they also have scenic value.
- **Airports**. Electric transmission lines can potentially present physical obstructions; the safety zone depends upon terrain and runway configuration. The Federal Aviation Administration protects airports.
- **Steep Terrain**. These areas were identified from USGS topographic mapping. Steep terrain was defined as slopes greater than 20 percent.
- **Landslide-Prone Areas.** As designated by the Allegheny County Planning Department based on slope stability, slope steepness and sources of water.
- **Streams**. Only crossings of perennial streams were used in the evaluation. Perennial streams were identified from USGS National Hydrography Dataset.
- **Archaeological Sites**. These areas include previously recorded archaeological

sites identified in the CR-GIS database maintained by the PA SHPO.

- **Commercial/Industrial Areas**. These areas are defined by industrial or commercial development, and were identified from aerial photography.
- **Residential Areas**. These areas are characterized by suburban and scattered residential development and were identified from aerial photography.
  - Houses (within 100 feet of Alternative Centerlines)
  - Apartments (within 100 feet of Alternative Centerlines)
- **Highway, Railroad, and Road Crossings**. These were identified from highway mapping and aerial photography.
- **Institutional Complexes**. These areas include schools, churches, nursing homes, municipal building, hospitals, or other places of public gathering.
- **Agricultural Land.** This represents areas that are actively being used for agriculture. Agricultural Land was identified from aerial photography.
- **Forested Land Cleared**. This represents areas that are presently tree covered that will be cleared for construction and maintained as rangeland. Forest land includes plant and wildlife habitat that is valuable for food and cover, and is a habitat type that is generally declining in the study area. Forested land was identified form aerial photography.
- **Wetland Impacts**. Wetlands are vital components of the ecosystem. This parameter assesses forested wetland areas that would be cleared for construction and maintained as emergent wetland.

- **Non-Existing ROW**. These include all undisturbed land required for transmission line construction and operation that does not follow or parallel an existing electrical transmission line ROW.
- **ROW length**. This includes the total length of the ROW in which the transmission line would be constructed.

Figure 3 and Figure 4 identify the approximate 34.1-square-mile study area and the three alternatives with nearby resources on aerial photography and topographic background, respectively.

Depending on the sensitivity of the resource and PAPUC requirements, varying distances from the alternative centerline were used to calculate impacts. All resource impacts were calculated within the 100 feet of the alternative centerline. However, State Forests, State Parks, State Game Lands, National Natural Landmarks, Designated Natural/Wilderness Areas, Unique Geological Resources, Historic Sites, Designated Scenic Areas, Hiking and Biking Trails, Airports, and Archaeological Sites impacts were also calculated within a two-mile buffer from the alternative centerline. Additionally, Other Recreational Areas, Residences, Apartment Buildings, Institutional Complexes, and Cemeteries impacts were calculated within 1,000-foot buffer centered on the alternative centerline. The potential impacts to resource criteria for each alternative are summarized in Section 4 and Appendix A.

The 30 resources were quantified by the following parameters: linear distance adjacent (miles), number within a specified distance, acres impacted within 100 feet of centerline, and

linear distance within two miles for the Airport impact calculation.

Following data acquisition, it was found that 9 of the criteria to be used for comparing the alternatives did not occur on or in proximity to any of the alternatives. These 9 criteria were:

- State forests;
- State Park;
- State Game Lands;
- National Natural Landmarks;
- Designated Natural Areas/Wilderness Areas;
- Unique Geologic Resources;
- Designated Scenic Areas;
- National Wild and Scenic Rivers/Exceptional Value Stream; and
- State Scenic Rivers;

3.3 Alternative Route Development

Duquesne Light retained GAI Consultants, Inc. (GAI) to prepare this Environmental Assessment and Line Routing Study to identify and evaluate feasible alternative transmission line routes. GAI assembled a team consisting of land use planners, environmental specialists, design engineers, geologists, historians and archaeologists to prepare this environmental assessment and line route study.

Following establishment of the study area, GAI utilized recent aerial photography (2015), USGS topographic mapping, agency coordination, and published data to compile a GIS-based constraints map of the study area. This map identified sensitive natural and human/built resources in the study area. GAI used this information to develop preliminary transmission line routes for further analysis to avoid major constraints to the extent feasible.

Field reconnaissance was conducted to update data available for resources in the vicinity of each of the preliminary routes. Route locations were then eliminated, or refined as necessary based upon environmental and human/built constraints. Three routes that minimize impacts to environmental and human/built constraints were retained for further analysis.

3.4 Alternative Routes

3.4.1 Existing Alternative

The Proposed Route is 14.5 miles long and utilizes existing ROW for its entire length. The Proposed Route exits the Brunot Island Substation to the west crossing the Ohio River. It then travels west roughly paralleling Chartiers Creek for approximately two miles in an undeveloped area bordered by an industrial area to the north of Chartiers Creek and residential areas to the south of Chartiers Creek. Once crossing Chartiers Creek for the final time the Proposed Route proceeds west-northwest following an existing ROW through a forested area for approximately 1 mile. The Proposed Route then turns north northwest and precedes for approximately 0.5 miles, where it crosses a subdivision located between McKees Rocks Road and Clever Road and then passes into a forested area that parallels Fairhaven Park. Once past Fairhaven Park the Proposed Route turns northwest and continues for approximately one mile, where it crosses residential areas intermingled with forested areas. The Proposed Route then crosses Interstate 79 and continues for approximately a mile in a northwest direction crossing residential areas intermingled with forested areas. The Proposed Route then turns north to enter and exit the Montour Substation, which involves approximately 0.70 miles of combined ROW. The Proposed Route then continues in a generally northwest direction for approximately eight

miles crossing residential areas intermingled with forested areas. In this eight-mile stretch the Proposed Route crosses numerous residential streets, Thorn Run Road, University Boulevard, Flaugherty Run Road, Spring Run Road, and Bocktown Road before entering the Crescent Substation. The estimated cost to implement the Proposed Route is approximately $130 and $160 million.

3.4.2 Alternative Route 1

Alternative 1 is 15.3 miles long and utilizes 2.3 miles of existing ROW. Alternative 1 exits the Brunot Island Substation to the north crossing the Ohio River and enters an industrial portion of McKees Rocks. Alternative 1 roughly parallels railroad ROW for approximately two miles, in a north-northwest direction. When it crosses over the McKees Rocks Bridge, Alternative 1 leaves the railroad ROW and crosses over Route 51. The route then roughly parallels Route 51 on a largely forested hill slope for 2.3 miles. Alternative 1 then crosses Interstate 79 and turns to the south for approximately 0.70 miles before turning northwest for 0.6 miles to enter the Montour Substation. Between Interstate 79 and the Montour Substation, Alternative 1 passes through forested areas. Alternative 1 leaves the Montour Substation in a westward direction passing through forested area for approximately 1.4 miles. At this point Alternative 1 meets and overlaps the Proposed Route and utilizes existing ROW. Alternative 1 continues along the existing ROW to the northwest for approximately 1.2 miles. Alternative 1 then deviates to the west passing through forested area for approximately 1.5 miles and crossing Thorn Run Road. Alternative 1 then turns north staying in forested area and continues for approximately 1.6 miles. Alternative 1 then crosses Route 51 and turns to the northwest where

it continues for approximately three miles passing through mostly forested areas with some residential and industrial areas before it enters the Crescent Substation. The estimated cost to implement Alternative 1 is approximately $125 million to $135 million.

3.4.3 Alternative Route 2

Alternative 2 is 16.2 miles long and utilizes 1.2 miles of existing ROW. Alternative 2 exits the Brunot Island Substation to the north crossing the Ohio River and enters an industrial portion of McKees Rocks. Alternative 2 roughly parallels railroad ROW for approximately 3.8 miles, in a north-northwest direction. When it crosses over the McKees Rocks Bridge, Alternative 2 leaves the railroad ROW, making several deviations to the south and west, crossing over Route 51 and Interstate 79, and staying within largely forested areas before entering the Montour Substation. Alternative 2 leaves the Montour Substation in a western direction and is located in a forested area while it skirts a large residential area for approximately three miles. Once past the residential area, Alternative 2 turns north for approximately 0.7 miles, and then turns northwest for approximately 1.4 miles, crossing over Thorn Run Road, and staying in forested areas. Alternative 2 then turns north for approximately 1.6 miles, where it is located in forested area that is situated between two residential areas. Alternative 2 then turns to the west and continues for approximately one mile through forested area before meeting the Proposed Route. Alternative 2 then turns northwest and continues along existing ROW for approximately 0.5 miles before diverging to the north-northwest to avoid several residential areas. Alternative 2 continues to the north-northwest for approximately 1.6 miles before entering the Crescent Substation. The estimated cost to implement Alternative 2 is approximately $135 million to

$150 million.

4.0 Alternative Route Comparison

To quantitatively analyze the three routes, the resource categories were converted to a relative scale, weighted and combined to produce a final impact score of each route.

In order to put resource measurements on a relative scale (acres, number, feet) and to obtain an impact score that could be compared across the different alternatives, the data were mathematically proportioned to a scale of 1 to 10. In this procedure, the alternative with the highest value (worst) for individual resources receives a relative score of 10; that with the lowest value (best) receives a relative score of 1. (Note: If all three alternatives have an impact value of zero for a specific resource criterion, then the weighted value is equal to zero). Thus, the raw data values are transformed to a relative scale from 1 to 10 to obtain Relative Scores for each Resource Evaluation Criterion impacted. Using the relative position of the alternative in comparison to the values for all alternatives provided an indication of how the alternative compares overall. This process is based on a methodology suggested by Gaige, et al. (1991).

In order to determine the most suitable alternative, the relative scores for each criterion for each alternative need to be totaled. Criteria weights established by the Siting Criteria Council (SCC) were used. The SCC was created for the GPU-DQE 500 kV Transmission Line siting that included over 500 miles of line and a study area of 20,000 square miles. The SCC consisted of individuals representing diverse backgrounds and interests. The SCC included professors of ecology and history, city, county and regional planners, a school superintendent, a member of

the League of Women Voters, farmers, a business woman, a health professional, a conservation organization member, and an employee of a business association.

The purpose of the SCC was to aid in the selection of the natural and manmade resource criteria that would be used to evaluate impacts along alternative routes. In addition, the SCC was asked to weigh these resource criteria. The SCC was given an overview of the siting and route evaluation process. Then, the SCC assisted in the selection and definition of Resource Evaluation Criteria. Finally, the SCC assigned weights to the Resource Evaluation Criteria, using a nominal group technique that encourages contributions from all members. The weighting session consisted of four interactive rounds of discussion and weighting. Each member was asked to weigh each Resource Evaluation Criteria. After each round of weighting, each SCC member was given a weighting summary sheet that displayed their last vote and the mean for all the votes for each Resource Evaluation Criteria. Each member was given the opportunity during each round of voting to express their views on the weighting scores in an attempt to influence the next round of voting. The results of the SCC's fourth round of weighting are included in the Table 4.0. At the conclusion of round four the SCC was satisfied with the results and voted to adopt the mean weights for each of the Resource Evaluation Criteria when routing decisions needed to be made and choices had to be made as to which resources were to be impacted. The weights established by the SCC are considered an industry standard.

SCC weights were used for 22 of the 30 resource criteria. GAI further augmented these with an additional eight resource criteria (Land Trust Protected Area, Cemeteries, Exceptional Value Streams, Landslide Prone Area, Commercial/Industrial Areas, Forest Land Cleared, Non-

existing ROW, and Length of ROW) to reflect items of local significance and current regulatory concerns. Weights for these eight resources were assigned by a group of environmental, planning and engineering professionals at GAI that have extensive experience siting and evaluating the impacts of projects in similar areas. The weights were determined by considering the relative importance of these resources and the weights assigned to related resources by the SCC. The weights used for the evaluation of the alternatives are shown in Table 4.0.

The relative scores achieved by each alternative for each criterion were then multiplied by the criteria weights to obtain the impact scores shown in Appendix A. The impact scores were totaled to obtain an overall impact score for each alternative.

Table 4.0

Resource Evaluation Criteria and Weights Assigned

Resource Evaluation Criteria	Weights
Apartments and houses within 100 feet of centerline	88.8
Institutional Complexes	83.1
National Natural Landmarks	78
Commercial/Industrial Areas	76.9
Historic Sites	76.8
Cemeteries	76.8
Designated Natural/Wilderness Areas	73.2
Scenic Rivers Crossed	72
Core RTE habitat acres	71.9
Land Trust Protected acres	71.9
Designated Scenic Areas	71.3
State Parks	69.2
Other Recreational Areas	67.3
Wetland Cleared	66.2
Unique Geological Resources	59.2

Table 4.0 (Continued)

Resource Evaluation Criteria	Weights
EV streams Crossed	58
Archaeological Sites	54
Landslide-Prone Areas	53.7
Airports	52.5
Agricultural Land	44
State Forests	43.4
Perennial Streams	43
Hiking and Bike Trails	42.8
Steep Terrain	40.9
State Game Lands	33.4
Forest Land Cleared	33
Highway, Railroad and Road Crossings	33.1
Non-existing ROW	31.1
ROW length	28.8

4.1 Land Uses

Current land use described in this section is within and adjacent to the alternatives, as well as the changes to land uses which will occur as a result of construction of any of the three alternatives for the transmission line. Impacts have been considered within 100 feet of the centerline. Land use/cover types adjacent to the centerline of each of the Alternatives were classified according to criteria developed in A Land Use and Land Cover Classification System for Use with Remote Sensor Data (Anderson, et al., 1976).

A GIS-based Anderson Level II evaluation was conducted for each of the Alternatives. Table 4.1.1 presents a description of land use classifications used in this analysis. Present land use patterns were identified from recent aerial photography (2015) and from field reconnaissance. Lands to be affected by the Project were determined based on aerial

photographs, field visits, and augmented data from USGS maps for stream, pond, road and utility crossings.

Table 4.1-1

Land Use Classifications

Classification	Description
Residential	Areas dominated by single or multi-family housing units.
Commercial/ Industrial	Includes human-dominated land uses, with the exception of residential. Typically includes industrial and/or commercial areas with much of the land covered by structures, or parking lots.
Agricultural	Broadly defined as land devoted primarily to the production of food and fiber. Includes cropland, pastureland, and orchards, as well as farm associated structures.
Forest	Those areas having an aerial tree-crown density of 10 percent or more. Includes both deciduous and coniferous woodlands.
Open	Areas dominated by low vegetation such as range land or grass land.
Municipal/ Institutional	Areas used by municipalities for parks, waste treatment, water/salt storage, etc.; or institutional uses such as churches, schools, hospitals, etc.
Barren	Area where plant growth may be sparse, stunted, and/or contain limited biodiversity. Environmental conditions such as toxic or infertile soil are often key factors in poor plant growth and development.

Source: Anderson, et al., 1976.

The following land use descriptions of the areas crossed by each alternative proceed from east to west, beginning at the Brunot Island Substation and continuing to Crescent Substation. Figures 3 and 4 show the alternative routes with nearby resources on aerial photography and on topographical mapping, respectively.

Proposed Route

The Proposed Route exits the Brunot Island Substation crossing the Ohio River and proceeds through an open area alongside Chartiers Creek for approximately 1.7 miles. The Proposed Route parallels an existing railroad line for 0.1-mile. The Proposed Route crosses the existing railroad line, the Chartiers Creek, and then utilizes an existing cleared right-of-way in a forested area (ROW) for 1.5 miles until reaching McKees Rocks Road. The proposed route passes a residential area for approximately 0.2 miles until it crosses Clever Road. Between Clever Road and the crossing of Interstate 79, the Proposed Route switches between passing through forested areas and residential areas, crossing approximately 0.7 miles of forested area and 0.7 miles of residential area. Between Interstate 79 and entering the Montour Substation the Proposed Route again alternates between passing through forested areas and residential areas, crossing approximately one mile of forested area and 0.6 miles of residential area.

After entering and exiting the Montour Substation, the Proposed Route passes through approximately 0.3 miles of residential area before entering a 0.6 mile stretch of forested area. The Proposed Route briefly crosses a residential area associated with Coketown Road before entering another approximately 0.5 mile stretch of forested area. The Proposed Route crosses approximately 0.1 miles of open area along Montour Street Extension. Between Montour Street Extension and Maple Street Extension, the Proposed Route switches between passing through forested areas and residential areas, crossing approximately 0.3 miles of forested area and 0.4 miles of residential area. After crossing Maple Street Extension, the Proposed Route crosses approximately 1.1 miles of forested area before briefly passing

through a commercial industrial area along Thorn Run Road. Between Thorn Run Road and University Boulevard, the Proposed Route crosses mostly forested area, approximately 1.3 miles, and some residential area, approximately 0.2 miles. Between University Boulevard and right before entering the Crescent Substation the Proposed Route alternates between passing through forested areas and residential areas, crossing approximately 2.2 miles of forested area and 0.6 miles of residential area. The Proposed Route crosses a Commercial/Industrial area briefly along Flaugherty Run Road. Before entering the Crescent Substation, the Proposed Route crosses approximately 0.3 miles of open area.

The Proposed Route utilizes existing ROW for its entire length. The Proposed Route has 102 residences, 11 apartment buildings, and four commercial/industrial buildings crossed by the proposed ROW. Four schools and four churches are located within 1000 feet of the Proposed Route, but no institutional complexes are located within the proposed ROW. While no cemeteries are crossed by the proposed ROW of the Proposed Route, five cemeteries are within 1000 feet of the Proposed Route. The Proposed Route Crosses 73.7 acres of forested area and no agricultural areas. Compared to the other alternatives the Proposed Route has the least impact to forested land by a large margin. The results of all the Land Use Criteria calculated are provided in Table 4.1-2.

The Proposed Route crosses the most residential areas compared to the other alternatives. However, because the Proposed Route will be utilizing existing ROW, impacts to residential land use is expected to be minimal, with most impacts being temporary from access roads and work areas during construction. Construction of this alternative will require converting

approximately 73.7 acres of forest to open land. Compared to the other alternatives the Proposed Route has the least impact to forested land by a large margin. The ROW of the Proposed Route does not cross any schools, churches, hospitals, or cemeteries, visual impacts or noise impacts during construction could cause minor and largely temporary impact to institutional complexes.

Alternative 1

Alternative 1 exits the Brunot Island Substation crossing the Ohio River into an industrial commercial area for approximately 0.2 miles. Alternative 1 then transitions to a barren area for approximately 1.9 miles before crossing Neville Road and Route 51, approximately 16.3 acres of this barren land crossed is designated for future industrial development. Between Route 51 and Ewing Road, Alternative 1 passes into a forested area for approximately 0.8 miles and approximately 0.1 miles of commercial/industrial area. Between Ewing Road and Old Fleming Road (Route 51), Alternative 1 crosses approximately 0.2 miles of open area, 0.1 miles of barren area, and 0.2 miles of forested area. Between Old Fleming Road (Route 51) and Interstate 79, Alternative 1 crosses 0.8 miles of forested area. After crossing Interstate 79, Alternative 1 crosses approximately one mile of forested land and 0.2 miles of open area before entering the Montour Substation.

After leaving the Montour Substation, Alternative 1 crosses approximately 1.3 miles of forested area and 0.2 miles of open area before crossing Montour Street Extension. Between Montour Street Extension and Maple Street Extension, Alternative 1 switches between passing through forested areas and residential areas, crossing approximately 0.4 miles of forested area and 0.6 miles of residential area. After crossing Maple Street Extension, Alternative 1 crosses

approximately 3.6 miles of forested area before crossing Route 51 and passing through a residential area for approximately 0.4 miles. Alternative 1 passes back into forested area for approximately 0.7 miles before briefly crossing a residential area and commercial/industrial area as it crosses Route 51. Alternative 1 then returns to forested area for the remaining approximate 1.4 miles to the Crescent Substation, with the exception of two small residential areas, one along Spring Run Road and the other along Harper Road.

Alternative 1 is the second longest alternative at 15.3 miles and would require 12.8 miles of new ROW. Alternative 1 has 24 residences, one apartment building, and nine commercial/industrial buildings crossed by the proposed ROW. Two schools and four churches are located within 1000 feet of Alternative 1, but no institutional complexes are located within the proposed ROW. While no cemeteries are crossed by the proposed ROW of Alternative 1, three cemeteries are within 1000 feet of Alternative 1. Alternative 1 Crosses 200.70 acres of forested area and no agricultural areas. The results of all the Land Use Criteria calculated are provided in Table 4.1-2.

The Alternative 1 crosses minimal residential areas, and a number of the residential areas are located where Alternative 1 is paralleling existing ROW. In these areas impacts to residential land use is expected to be minimal, with most impacts being temporary during construction. However, 10 residences are located in areas that would require new ROW and significant long-term impacts would be expected to the residences located in new ROW. Construction of Alternative 1 will require converting approximately 200.70 acres of forest to open land. The ROW of Alternative 1 does not cross any schools, churches, hospitals, or cemeteries, however,

nearby institutional complexes could have minor visual impacts and temporary noise impacts during construction. Additionally, 16.3 acres of the proposed ROW located in an industrial area of McKees Rocks may be in conflict with future industrial development in that area.

Alternative 2

Alternative 2 exits the Brunot Island Substation crossing the Ohio River into an industrial/commercial area for approximately 0.2 miles. Alternative 2 then transitions to a barren area for approximately 1.9 miles before crossing Neville Road, approximately 16.3 acres of this barren land crossed is designated for future industrial development. Between Neville Road and Interstate 79, Alternative 2 passes through forested area for 2.3 miles. Between Route 51 and Ewing Road, the Alternative passes into a forested area for approximately 0.8 miles and over approximately 0.1 miles of commercial/industrial area. Between Ewing Road and Old Fleming Road (Route 51) Alternative 2 crosses approximately 0.2 miles of open area, 0.1 miles of barren area, and 0.2 miles of forested area. Between Old Fleming Road (Route 51) and Interstate 79 Alternative 2 crosses 0.8 miles of forested area. After crossing Interstate 79, Alternative 2 crosses approximately one mile of forested land and 0.2 miles of open area before entering the Montour Substation.

For the approximately 9.6 miles between the Montour Substation and the Crescent Substation, Alternative 2 passes through almost entirely forested area. Small residential areas are crossed at Downing Drive, Coraopolis Heights Road, Spring Run Road, and Harper Road. A small commercial/industrial area is crossed at the intersection of Stoop Ferry Road (Route 51) and Flaugherty Run Road.

Alternative 2 is 16.2 miles long and would require 15.0 miles of new ROW. Alternative 2 has eight residences, one apartment building, and six commercial/industrial buildings crossed by the proposed ROW. One schools and five churches are located within 1000 feet of Alternative 2, but no institutional complexes are located within the proposed ROW. While no cemeteries are crossed by the proposed ROW of Alternative 2, one cemetery is within 1000 feet. Alternative 2 Crosses 230.2 acres of forested area and no agricultural areas. The results of all the Land Use Criteria calculated are provided in Table 4.1-2.

The Alternative 2 crosses minimal residential areas, however, these residences are located in areas that would require new ROW and significant long term impacts would be expected to the residences. Construction of Alternative 2 will require converting approximately 230.2 acres of forest to open land. The ROW of Alternative 2 does not cross any schools, churches, hospitals, or cemeteries, however, nearby institutional complexes could have minor visual impacts and temporary noise impacts during construction. Additionally, 16.3 acres of the proposed ROW located in an industrial area of McKees Rocks may be in conflict with future industrial development in that area.

Table 4.1-2

Land Use and Land Cover

Criteria[1]	Weight	Alternative Routes		
		Proposed	1	2
Commercial/Industrial Areas				
# Structures within 100 feet of Centerline		4	9	6
Score[2]	**76.9**	76.9	769.0	353.7
Residential Areas				
Score[2]	**88.8**	888.0	211.8	88.8
# Houses within 100 feet of Centerline		102	24	8
# Apartment within 100 feet of Centerline		11	1	1
Cemeteries				
Number within 100 feet of Centerline		0	0	0
Score[2]	**76.8**	0	0	0
Number adjacent (1,000 feet of centerline)[1]		5	3	4
Railroad and Highway/Road Crossings				
Score[2]	**33.1**	331.0	182.1	33.1
Number of Highway/Road Crossings		47	33	25
Number of Railroad Crossings		5	11	11
Institutional Complexes (schools, churches, hospitals, nursing homes, recreational areas)				
Number Adjacent/Crossed (1000-foot corridor)		8	6	6
Score[2]	**83.1**	831.0	83.1	83.1

Table 4.1-2 (Continued)

Criteria[1]	Weight	Alternative Routes		
		Proposed	1	2
Agricultural Land				
Active Agricultural Land Acres within 100 feet of Centerline		0	0	0
Score[2]	**44.0**	0	0	0
Non-Paralleling ROW				
Miles Required		0	12.8	15.0
Score[2]	**31.1**	31.1	270.7	311.0
Length				
Miles		14.5	15.3	16.2
Score[2]	**28.8**	28.8	125.8	288.0
Land Cover				
Forested Land within 100 feet of Centerline (acres)		73.75	200.70	230.2
Score[2]	**33.0**	33.0	274.0	330.0

Notes:

1 Not all criteria that were counted or calculated in the review of the alternatives were used in the scoring process. This is because some criteria were counted using multiple parameters and should not be double counted in the scoring process. Additionally, some of the counted or calculated criteria are not considered negative constraints and should not be include in the scoring process.

2 Scores are calculated by converting the raw data found to a relative scale of 1-10 as described in Section 4.0. The value in the relative scale is then multiplied by the weight to obtain the score. The Raw data, relative scaling, and final score for each criteria scored are provided in Appendix A.

The Proposed Route is the shortest route and requires the least amount of new ROW. The Proposed Route crosses the least amount of forested land, and would require far less tree clearing than any other Alternative. The Proposed Route crosses the most residential area and is adjacent to the most institutional complexes. However, because the Proposed Route will be utilizing existing ROW minimal new impacts are anticipated, with most impacts being temporary during construction. Alternatives 1 and 2 were located to minimize proximity to residential areas. However, where new ROW crosses residential areas, significant long term impacts would be expected. Additionally, Alternatives 1 and 2 would require far more forested area conversion than the Proposed Route. Therefore, from a land use and land cover perspective, the Proposed Route has the least impact.

4.2 Hydrology

Wetlands in the study area were identified through a review of USFWS and NWI maps. The NWI maps identify numerous palustrine wetlands in the study area. The Proposed Route crosses 0.41 acres of Forested wetland and 18.47 acres of non-forested wetlands. The non-forested wetlands and forested wetlands that are crossed by the Proposed Route, are located along Chartiers Creek. Alternative 1 crosses no forested wetland and 4.41 acres of non-forested wetlands. Alternative 2 crosses no forested wetland and 4.48 acres of non-forested wetlands.

The study area is located in two watersheds, Chartiers Creek and Montour Run, both of which flow into the Ohio River. All the Alternatives cross a portion of the Ohio River as they exit the Brunot Island Substation. The Ohio River is classified as navigable (PA Code 2016). Streams traversed by Alternative Routes are included in Table 4.2-1. The primary sub-

watersheds in the study area are those of Kilbuck Run, Lower Chartiers Creek, Montour Run, McCabe Run, and Flaugherty Run. The principal named streams crossed by Project alternatives include the Ohio River, Chartiers Creek, Moon Run, Montour Run, McCabe Run, Thorn Run, Flaugherty Run, Spring Run, Shouse Run and Meeks Run.

Table 4.2-1

Perennial Stream Crossings

Alternative Route	Stream
Proposed Route	Ohio River
	Chartiers Creek
	UNT to Chartiers Creek
	UNT to Chartiers Creek
	UNT to Moon Run
	UNT to Moon Run
	UNT to Moon Run
	Moon Run
	UNT to Montour Run
	Montour Run
	McCabe Run
	UNT to McCabe Run
	Thorn Run
	UNT to the Ohio River
	Flaugherty Run
	Spring Run
	Shouse Run

Table 4.2-1 (Continued)

Alternative Route	Stream
Alternative 1	Ohio River
	UNT to the Ohio River
	UNT to the Ohio River
	UNT to the Ohio River
	UNT to the Ohio River
	UNT to the Ohio River
	UNT to the Ohio River
	UNT to Moon Run
	Moon Run
	UNT to Montour Run
	Montour Run
	McCabe Run
	UNT to McCabe Run
	Thorn Run
	UNT to Thorn Run
	UNT to the Ohio River
	Flaugherty Run
	Spring Run
	Shouse Run
Alternative 2	Ohio River
	UNT to the Ohio River
	UNT to the Ohio River
	UNT to the Ohio River
	UNT to the Ohio River
	UNT to the Ohio River
	UNT to the Ohio River
	UNT to Moon Run
	Moon Run
	UNT to Montour Run
	Montour Run

Table 4.2-1 (Continued)

Alternative Route	Stream
Alternative 2	Meeks Run
	UNT to Thorn Run
	Thorn Run
	UNT to Thorn Run
	UNT to the Ohio River
	Flaugherty Run
	Spring Run
	Shouse Run

*Source: Chapter 93 Designated Use Streams.

*Note: some streams may be crossed more than once by an Alternative

The PA Department of Environmental Protection classifies and establishes water quality standards and criteria for all surface waters within the state. These standards include general water use categories and corresponding water quality standards. According to these standards, Montour Run, Meeks Run, and their tributaries are classified as trout stocked fisheries. Ohio River, Chartiers Creek, Moon Run, McCabe Run, Thorn Run, Flaugherty Run, Spring Run, Shouse Run, and their tributaries are classified as warm water fisheries. None of the streams crossed by the three Alternative Routes are classified as Exceptional Value (EV).

Table 4.2-2

Hydrology

Criteria	Weight	Alternative Routes		
		Existing	1	2
NWI Wetlands				
Acres (within 100 feet of Centerline)		18.9	4.4	4.5
Score[1]	**66.2**	662.0	66.2	69.9
Streams				
Number of Perennial Crossings		20.0	22.0	22.0
Score[1]	**43.0**	43.0	430.0	430.0
Number of EV Streams Crossed		0.0	0.0	0.0
Score[1]	**58.0**	0.0	0.0	0.0

Notes:

[1] Scores are calculated by converting the raw data found to a relative scale of 1-10 as described in Section 4.0. The value in the relative scale is then multiplied by the weight to obtain the score. The Raw data, relative scaling, and final score for each criteria scored are provided in Appendix A.

None of the Alternatives will impact exceptional value streams. The Proposed Route has the least perennial streams crossed. However, Alternative 1 and Alternative 2 have the least Impacts to wetlands. Because, impacts to wetlands are weighted higher Alternative 1 and 2 would have the least impact from an overall hydrological perspective.

4.3 Scenic and Recreational Areas

The Outstanding Scenic Geologic Features of Pennsylvania, Parts 1 and 2 (Geyer and Bolles, 1979 and 1987) and USGS 1:24,000 topographic maps were used to identify scenic areas in and near the proposed Project area. Scenic areas identified in these sources represent some of

the most notable scenic geologic features of the Commonwealth. No recognized scenic areas are located in the Project Area. Aerial mapping was also used to identify any notable resources.

Recreational areas include those lands managed to provide and enhance a wide variety of both active and passive recreational opportunities. These areas include state parks, county and municipal parks, public hunting and fishing areas, playgrounds, athletic fields, golf courses and reservoirs maintained by the United States Army Corps of Engineers. Recreational areas within the study area were identified using GIS data sources, municipal planning documents, property owner data, and aerial mapping. There are no federal or state parks, state forests, state game lands, designated scenic area, natural, wild and scenic/state rivers located in the vicinity of the Project area. Additionally, there are no unique geologic resources crossed or adjacent to any of the three alternatives (Geyer and Bolles, 1979 and 1987).

There are numerous local parks located near the alternatives.

- Sheraden Park is a large urban park that consists of wooded area and sports fields. It is located approximately 400 feet south of the Proposed Route.
- McGonigle Park is a Neighborhood park that consists of playground, sports fields and wooded area. It is located approximately 300 feet south of the Proposed Route.
- Fairhaven Park is a large urban park that consists of wooded area and sports fields. The Proposed Route crosses it in the wooded area.
- Montour Trail is a bike trail. All Alternatives cross over the trail.

- Moon Township Park is a large urban park that consists of wooded area, playgrounds, and sports fields. Alternative 2 crosses the park in the wooded area.
- Montour Heights Country Club is a golf course. It is located approximately 200 feet south of Alternative 1and Alternative 2.
- Robin Hill Park is a large urban park that consists of a historic structure and wooded area. Alternative 1and Alternative 2 cross a corner of the park in a wooded area.
- A Moon Township municipal park that consists of a wooded area is located approximately 300 feet west of the Proposed Route.
- Mooncrest Neighborhood Center consists of sports fields and a wooded area. The Proposed Route crosses the edge of this park.
- Davis Park is a mini-park that consists of a basketball court it is located approximately 800 feet south of Alternative 1 and Alternative 2.
- Preston Park is a mini-park that consists of an open space it is located approximately 800 feet north of Alternative 1 and Alternative 2.
- Harriet Street Parklet consists of a playground and is located approximately 300 feet west of Alternative 1 and Alternative 2.
- Rangers Field consists of sports fields and is located approximately 700 feet north of Alternative 1 and Alternative 2.

The Proposed Route crosses near Sheraden Park and McGonigle Park however, due to tree cover and terrain between the parks and the alternative impacts to these parks are not

anticipated. The Proposed Route is within an existing ROW while crossing Fairhaven Park. Impacts to Fairhaven parks are expected to be minimal and temporary during construction. The Proposed Route crosses over the Montour Trail following existing ROW. Additionally, the Montour Trail is located in a valley and the Proposed Route would likely span from ridgetop to ridgetop resulting in minimal impact to the trail. The Proposed Route crosses near a Moon Township municipal park, however, due to tree cover and terrain between the parks and the alternative impacts to these parks are not anticipated. The Proposed Route crosses the edge of Mooncrest Neighborhood Center, the Proposed Route is located in an existing ROW that is buffered by trees, and impacts to Mooncrest Neighborhood Center are expected to be minimal and temporary during construction.

Alternative 1 passes near Davis Park, Preston Park, Harriet Street Parklet, and Rangers Filed these parks are all located within the urban backdrop of McKees Rocks, therefore the construction of a transmission line in their vicinity would have little visual impact. Alternative 1 crosses the Montour Trail in an alignment that would require a turning structure immediately adjacent to the trail causing moderate impact during construction. However, existing transmission lines structures are already in this area so long term visual impacts are not expected. Alternative 1 passes near Montour Heights County Club, however due to tree cover and terrain between the country club and the Alternative impacts are expected to be minimal. Alternative 1 passes through the corner of Robin Hill Park which would cause moderate impacts to the park as trees would have to be cleared to accommodate a new ROW, additionally the transmission line ROW would be in a visible area from the historic structure that is the key feature of the park.

Alternative 2 passes near Davis Park, Preston Park, Harriet Street Parklet, and Rangers Field these parks are all located within the urban backdrop of McKees Rocks, therefore the construction of a transmission line in their vicinity would have little visual impact. Alternative 2 crosses over the Montour Trail. The Montour Trail is located in a valley and Alternative 2 would likely span from ridgetop to ridgetop resulting in minimal impact to the trail. Alternative 2 passes thru Moon Township Park, which would cause moderate impacts to the park as trees would have to be cleared to accommodate a new ROW. Alternative 2 passes near Montour Heights County Club, however due to tree cover and terrain between the country club and the Alternative, impacts are expected to be minimal. Alternative 2 passes through the corner of Robin Hill Park which would cause moderate impacts to the park as trees would have to be cleared to accommodate a new ROW, additionally the transmission line ROW would be in a visible area from the historic structure that is the key feature of the park.

Table 4.3-1

Scenic and Recreational Areas

Criteria[1]	Weight	Alternative Routes		
		Proposed	1	2
State Forest				
Linear Distance Adjacent (miles)		0	0	0
Score[2]	**43.4**	0	0	0
Number within two miles		0	0	0
State Parks				
Linear Distance Adjacent (miles)		0	0	0
Score[2]	**69.2**	0	0	0
Number within two miles		0	0	0

Table 4.3-1 (Continued)

Criteria[1]		Alternative Routes Proposed	1	2
State Game Lands				
Linear Distance Adjacent (miles)		0	0	0
Score[2]	**33.4**	0	0	0
Number within two miles		0	0	0
Recreational Areas (including local parks and golf courses)				
Number Adjacent or crossed (1000-foot Corridor)		3	1	3
Score[2]	**67.3**	673.0	67.3	673.0
Acres of recreational Area (1,000 feet of new ROW)		0	610	174
Hiking and Biking Trails (excluding parks)				
Number Crossed (within 100 feet of Centerline)		1.0	1.0	2.0
Score[2]	**42.8**	42.8	42.8	428.0
Designated Scenic Areas				
Number Adjacent/Crossed (within 100 feet of Centerline)		0.0	0.0	0.0
Score[2]	**71.3**	0.0	0.0	0.0
Number within two miles		0.0	0.0	0.0
Natural Wild & Scenic/State Scenic Rivers				
# Scenic Rivers Crossed (within 100 feet of Centerline)		0.0	0.0	0.0
Score[2]	**72.0**	0.0	0.0	0.0
Unique Geological Resources				
Number Adjacent/Crossed (within 100 feet of Centerline)		0.0	0.0	0.0
Score[2]	**59.2**	0.0	0.0	0.0
Number within two miles		0.0	0.0	0.0

Table 4.3-1 (Continued)

Notes:

1 Not all criteria that were counted or calculated in the review of the alternatives were used in the scoring process. This is because some criteria were counted using multiple parameters and should not be double counted in the scoring process.

2 Scores are calculated by converting the raw data found to a relative scale of 1-10 as described in Section 4.0. The value in the relative scale is then multiplied by the weight to obtain the score. The Raw data, relative scaling, and final score for each criteria scored are provided in Appendix A.

With the exception of local recreation areas and hiking and biking trails the alternatives did not impact any of the criteria examined in this section. While the three alternatives cross roughly the same number of local recreational areas, the degree in which they impact these areas varies. Alterative 2 would have the most impact on recreational areas as new ROW would be required through two parks. Alternatives 1would require new ROW through one park. While the Proposed Route crosses one park and is adjacent to another, no new ROW will be created and impacts will be minimal and temporary during construction. Therefore, the Proposed Route would have the least impact from a scenic and recreational perspective.

4.4 Natural Areas and Rare Threatened and Endangered Species

Natural areas fall under three general classifications: designated natural/wilderness areas, national natural landmarks, and other natural areas (land trust areas and core RTE habitat areas).

No designated natural/wilderness areas designated by the Wilderness Act (16 United States Code, Section 1172) are located in the study area.

National natural landmarks have been recognized by the National Park Service as areas of outstanding biologic or geologic importance. No national natural landmarks are located in the study area (National Park Service, 2016).

Other natural areas with land trust protection include sites maintained as green space areas by governmental agencies or private organizations, these areas include all the parks mentioned in Section 4.3 with the exception of Davis Park, Preston Park, Harriet Street Parklet, and Rangers Field

In addition to the land trusts associated with the recreational areas described in section 4.3 there are three land trust protected areas that are held in trust by Hollow Oaks land trust. The three trusts are Hollow Oaks-Coraopolis Road, Hollow Oaks-Petrie Road, and Hollow Oaks-Montour Woods. These land trusts consist of large wooded area.

The Proposed Route does not cross any of the Hollow Oaks land trust protected areas.

Alternative 1 crosses the edge of Hollow Oaks Land Trust-Coraopolis Road which would cause moderate impacts to the land trust as trees would have to be cleared to accommodate a new ROW. Additionally, Alternative 1 passes near the Hollow Oak Land Trust-Petrie Road, however existing transmission line ROW’s in the area and a tree cover buffer would minimize impacts to the land trust.

Alternative 2 crosses the edge of Hollow Oaks Land Trust-Coraopolis Road which would cause moderate impacts to the land trust as trees would have to be cleared to accommodate a

new ROW. Additionally, Alternative 2 crosses the of Hollow Oaks Land Trust-Montour Woods, which would cause moderate impacts to the land trust as trees would have to be cleared to accommodate a new ROW.

The PA Natural Heritage Program (PNHP) Conservation Explorer interactive map was reviewed for potential occurrence of endangered, threatened, and rare species within the study area. The interactive map is a collection of information from USFWS, PFBC, PGC, and PADCNR. A threatened or endangered species under the jurisdiction of the PFBC is located in the Ohio River and in the mouths of some of the larger tributaries near Coraopolis. None of the Alternatives will impact this species. A species of special concern is located in the Ohio River and in the mouths of some of the larger tributaries starting at Neville Island and continuing downstream through the rest of the study area. All Alternatives cross portions of streams where this species could be present. An area containing a species of special concern [rock skullcap (*Scutellaria saxatilis)*] that is under the jurisdiction of the PADCNR is located in the neighborhood of Moon Crest, just south of the Sewickley Bridge. The Proposed Route crosses this area. No RTE species under the jurisdiction of the PGC or USFWS were located in the study area.

Additionally, the Pennsylvania Natural Heritage Program has designated two Core Habitats within the study area. One is the Ohio River, which is a recovering river system that provides habitat for numerous species of concern, and the other is the Moon Run Slopes, which is a steep forested slope along the Ohio River that serves as habitat for a plant species of concern. All the Alternatives briefly cross the Ohio River core habitat as they cross from Brunot Island

to McKees Rocks, the crossings will be aerial and no direct impact to this aquatic core habitat is expected. Alternative 1 crosses the Moon Run Slopes core habitat. Tree clearing would be required to create new ROW for these alternatives, which would cause moderate impact to the core habitat area.

Table 4.4-1

Natural Areas

Criteria[1]	Weight	Alternative Routes		
		Proposed	1	3
National Natural Landmarks				
Number Adjacent/Crossed (within 100 feet of Centerline)		0	0	0
Score[2]	**78.0**	0	0	0
Number within two miles		0	0	0
Designated Natural/Wilderness Areas				
Linear Distance Adjacent (miles) (within 100 feet of Centerline)		0	0	0
Score[2]	**73.2**	0	0	0
Number within two miles		0	0	0
Other Natural Areas				
Core RTE habitat acres (within 100 feet of Centerline)		0.6	2.81	3.2
Score[2]	**71.9**	71.9	621.9	719.0
Land Trust Protected acres[3] (within 100 feet of Centerline)		0.00	0.10	1.30
Score[2]	**71.9**	71.9	121.7	719.0
Number of PNHP RTE species areas crossed[1]		2	6	1

Table 4.4-1 (Continued)

Notes:

1 Not all criteria that were counted or calculated in the review of the alternatives were used in the scoring process. This is because some criteria were counted using multiple parameters and should not be double counted in the scoring process.

2 Scores are calculated by converting the raw data found to a relative scale of 1-10 as described in Section 4.0. The value in the relative scale is then multiplied by the weight to obtain the score. The Raw data, relative scaling, and final score for each criteria scored are provided in Appendix A.

3 Land Trust Protected area calculations does not include parks and recreation areas that were included in Section 4.3

The Proposed Route has the least impact to Core RTE habitat and Land Trust Protected areas. Alternative 2 has the least impact to the PNHP RTE species areas crossed, with the Proposed Route having the second least. From the overall natural areas perspective the Proposed Route would have the least impacts.

4.5 Terrain and Landscape

Landscape

The study area is located in the Pittsburgh Low Plateau topographic region, which is defined by a dissected upland, formed on warped sedimentary rock. The area is typified by rolling uplands dissected by deeply entrenched valleys. There are no dominant topographic features within the study area. However, one prominent man-made features on the landscape is the four-lane Interstate 79 that extends north to south through the central portion of the study area. Developments in the study area vary from dense urban industrial and high density residential developments along the Ohio River to secluded subdivisions located on the hilltops and in valleys.

Within the study area, no one terrain feature or land feature dominates the visual environment. Each land use type has an influence on the overall visual character adjacent to the alternatives. Both terrain and vegetation can influence the extent of visual impact, while the existing land use can determine the type and number of viewers that would be affected by the proposed transmission line. For example, transmission lines located on level, open terrain (such as fields and golf courses) can be seen for longer distances than transmission lines located in hilly, wooded areas.

Along the Ohio River are three towns, McKees Rocks and Coraopolis, and Neville Island with large industrial component. In addition, several railroad ROWs are located along the Ohio River adding to the overall industrial feel of the area. As the study area moves away from the Ohio River the terrain is dominated by ridge tops and valleys. Major roads with scattered homes and businesses are generally located in the valleys. Isolated subdivisions surrounded by forested slopes are generally located on the ridge tops.

For the proposed transmission line itself, the impact on the visual environment is partially related to its scale and physical design properties. The following definitions were used during the visual impact assessment:

- Minimal. Visual impact is low because the existing terrain and/or vegetation will limit the visual impact. Visual impact is also considered low when a limited number of viewers or viewpoints are involved.
- Moderate. Visual impact is moderate when the existing terrain and/or vegetation will only partially limit the visual impact, and multiple viewers and/or viewpoints

are involved.

- Severe. Visual impact is severe because the existing terrain and/or vegetation will not limit the visual impact and large numbers of viewers or viewpoints, or scenic areas are involved.

Proposed Route

Since the Proposed Route is proposed to utilize existing ROW with structures currently located upon it, no significant new visual impact is anticipated.

Alternative 1

Alternative 1 consists of approximately 15.3 miles, with 12.8 miles of the total length requiring new ROW. It will present a new transmission corridor to viewers traveling local roads, visiting parks, or form their homes and businesses. Starting at the Brunot Island Substation Alternative 1 passes through a highly industrial area while in McKees Rocks, the alternative would have minimal visual impact due to the industrial backdrop. After crossing Neville Bridge Alternative 1 transitions to a hill slope that parallels Route 51 then Interstate 79, this stretch of the alternative would have sever visual impact. Once Alternative 1 moves away from Interstate 79 it enters a forested area and avoids residential developments. In this section the visual impact would be minimal when it crosses perpendicular to roads located in the valley below. Alternative 1 then overlaps an existing ROW and crosses several residential developments, no new visual impacts would occur in this area. After leaving the existing ROW, Alternative 1 passes near a golf course, then through a park located adjacent to Thorn Run Road, before paralleling a large development on a visible side slope. Visual impacts would be severe in this area. Alternative 1

then crosses Rout 51 where it passes in front of a townhome community, resulting in sever visual impacts. The reminder of Alternative 1 passes through forested areas only crossing roads perpendicularly with minimal visual impact to residences or roads. The overall visual impacts for Alternative 1 are judged to be moderate to severe due to the extent of new ROW and the extent roads and residential areas paralleled.

Alternative 2

Alternative 2 consists of approximately 16.2 miles, with 15.0 miles of the total length requiring new ROW. It will present a new transmission corridor to viewers traveling local roads, visiting parks, or form their homes and businesses. Starting at the Brunot Island Substation Alternative 2 passes through a highly industrial area while in McKees Rocks, the alternative would have minimal visual impact due to the industrial backdrop. After crossing Route 51 Alternative 2 transitions to a hill slope that parallels Route 51 then Interstate 79, this stretch of the alternative would have sever visual impact. Once Alternative 2 moves away from Interstate 79 it enters a forested area and avoids residential developments. In this section the visual impact would be minimal, when it crosses perpendicular to roads located in the valley below. After crossing Hassam Road Alternative 2 moves closer to developed areas. It parallels several subdivision, then passes near a golf course, and through a park located adjacent to Thorn Run Road, before paralleling another large development on a visible side slope. Visual impacts would be severe in this area. The reminder of Alternative 2 passes through forested areas only crossing roads perpendicularly with minimal visual impact to residences or roads. The overall visual

impacts for Alternative 2 are judged to be moderate to severe due to the extent of new ROW and the extent roads and residential areas paralleled.

Terrain

In the vicinity of the alternative routes, the elevation ranges from approximately 848 mean sea level (MSL) near the Ohio River to 1,638 MSL on the hilltops. Steep terrain was identified from USGS topographic mapping. Steep terrain was defined as slopes greater than 20 percent. Steep terrain may cause complications in the engineering, construction, maintenance, or operation of the transmission line. Alternative 2 has the third most terrain crossed with 12.6 mile. The Proposed Route has the least steep terrain crossed with 11 miles and Alternative 1 has the second least steep terrain crossed with 11.2 miles.

Landslide-prone areas are designated by the Allegheny County Planning Department based on slope stability, slope steepness and sources of water. Landslide-prone areas may cause complications with engineering, construction, maintenance, or operation of the transmission line. Alternative 2 crossed the most landslide prone area with 9.6 miles. The Proposed Route crosses the least landslide-prone area with 7.5 miles, and Alternative 1 crosses the second least landslide-prone area with 9.4 miles.

Table 4.5-1

Terrain and Landscape

Criteria	Weight	Alternative Routes		
		Proposed	1	2
Steep Terrain (> 20%)				
Linear Distance Adjacent (miles)		11.0	11.2	12.6
Score[1]	**40.9**	40.9	77.2	409.0
Landslide-Prone Areas				
Linear Distance Adjacent (miles)		7.5	9.4	9.6
Score[1]	**53.7**	53.7	491.0	537.0

Notes:

1 Scores are calculated by converting the raw data found to a relative scale of 1-10 as described in Section 4.0. The value in the relative scale is then multiplied by the weight to obtain the score. The Raw data, relative scaling, and final score for each criteria scored are provided in Appendix A.

Based on the qualitative analysis of visual impact the Proposed Route has the least impact on the surrounding landscape view shed as it will use existing ROW for its entire length. Additionally, the Proposed Route would be least impacted by steep terrain and landslide-prone areas. From an overall terrain and landscape perspective, the Proposed Route has the least impact.

4.6 Archaeological and Architectural/Historical Resources

Preliminary background research was conducted to identify previously recorded cultural resources that may be encountered by the Project. Background research included a review of PA Archaeological Site Survey files, PA Historic Resource Survey files, NRHP files, and pertinent cultural resource studies available through the PA SHPO online cultural resources GIS system. Data was collected on previously recorded archaeological sites, architectural and historical resources, and National Register properties mapped within the background research study area, consisting of a two-mile radius of Project alternatives.

There are 1,006 architectural and historical resources and 46 archaeological sites within the background research study area. Of these resources, two are National Historic Landmarks (NHL), 33 have been listed in the NRHP, and 78 of the architectural and historical resource that have been determined by PA SHPO as eligible for listing the NRHP, while three of the archaeological sites have been determined by PA SHPO as eligible for listing in the NRHP. A description of the previously recorded NRHP-eligible and listed resources within two miles of the Alternative Routes is provided in Appendix B. The previously recorded NRHP-eligible and listed archaeological sites and architectural and historical resources mapped within the study area are shown on Figures 3 and 4.

The Proposed Route and Alternative 2 have nine archaeological sites located within 2,000 feet of the centerline and one site within 100 feet of centerline. Alternative 1 has 12 sites mapped within 2,000 feet of the centerline, with three sites located within 100 feet of centerline. Table 4.6-1 identifies the number of previously recorded archaeological sites within two miles

of each proposed alternative, as well as within 100 feet of centerline and within approximately 2,000 feet of the centerline.

The Proposed Route has 61 architectural and historical resources located within 2,000 feet of the centerline and 34 resources within 1,000 feet of the centerline. Alternative 1 has 83 architectural and historical resources located within 2,000 feet of the centerline and 37 resources within 1,000 feet of the centerline. Alternative 2 has 62 architectural and historical resources located within 2,000 feet of the centerline and 34 resources within 1,000 feet of the centerline. Table 4.6-1 identifies the number of previously recorded architectural or historical resources within two miles of each proposed alternative, as well as within approximately 1,000 and 2,000 feet of the centerline.

Table 4.6-1

Archaeological and Architectural/Historical Resources

		Alternative Routes		
Criteria[1]	**Weight**	**Proposed**	**1**	**2**
Architectural and Historic Sites				
Number Adjacent (1000 feet of centerline)		34	37	34
Score[2]	**76.8**	76.8	768.0	76.8
Number Adjacent (2,000 feet of centerline)		61	83	62
Number within two miles		1,006	1,006	1,006
Archaeological Sites				
Number Crossed (within 100 feet of centerline)		1	3	1
Score[2]	**54.0**	54.0	540.0	54.0

Table 4.6-1 (Continued)

Number within 2,000 feet		9	12	9
Number within two miles		44	44	46

Notes:

1 Not all criteria that were counted or calculated in the review of the alternatives were used in the scoring process. This is because some criteria were counted using multiple parameters and should not be double counted in the scoring process.

2 Scores are calculated by converting the raw data found to a relative scale of 1-10 as described in Section 4.0. The value in the relative scale is then multiplied by the weight to obtain the score. The Raw data, relative scaling, and final score for each criteria scored are provided in Appendix A.

The three alternatives are relatively similar in terms of potential impacts to archaeological and architectural/historical resources. However, the Proposed Route and Alternative 2 have slightly less impact to archaeological and architectural/historical resources.

4.7 Airports

The PAPUC requires that all airports be identified within two miles of a proposed transmission line. Also, Federal Aviation Administration (FAA) regulations provide for a review process and for making a "Determination of Hazard or No Hazard" for all structures that might constitute a hazard to aeronautical operations. Moreover, FAA regulations provide for a review of all electrical structures and devices that might interfere with the navigation aids (NAVAIDS) and communication facilities for air operations. The primary NAVAIDS of concern include:

- VORTAC 360 degree directional beams
- Airport instrument landing system

The Sky Vector Aeronautical Chart (2016) was used to locate aeronautical features relevant to the proposed Project. The Pittsburgh-International Airport is located just southwest of the study area in Moon Township. This is a public airport offering numerous commercial passenger flights daily.

Air navigation directional beacons may be affected if a high voltage line is directly in the line of sight between the facility and its airborne receiver.

At the closest point, the Proposed Route is located approximately two miles northeast of a runway associated with the Pittsburgh International Airport, and approximately 0.6 miles of the alternative is within two miles of the airport. The Proposed Route runs perpendicular to several runways at the Pittsburgh International Airport. Due to the distance from the runway and the location of the Proposed Route at a lower elevation than the runway, no impact to airport operations is anticipated from the Proposed Route. Alternative 1 is at its closet point located approximately 1.7 miles northeast of the airport, and approximately 2.7 miles of this alternatives is located within two miles of the airport. Alternative 1 run perpendicular to several runways at the Pittsburgh International Airport. However, Alternative 1 is located at lower elevations than the Airport, therefore no impact to airport operations are anticipated from Alternative 1. Alternatives 2 is at its closet point located approximately 1.4 miles east of the airport, and approximately four miles of these alternatives are located within two miles of the airport. Alternative 2 runs perpendicular to several runways at the Pittsburgh International Airport. However, this alternative is located at lower elevations than the Airport and is largely situated along hillslopes, therefore no impact to airport operations are anticipated from Alternative 2.

No impact to airport operations is anticipated from any of the alternatives, but out of an abundance of caution, this resource criterion is retained as part of the analysis of alternatives.

Table 4.7-1

Airports

Criteria		Alternative Routes		
		Proposed	1	2
Airports				
Length of ROW within 2 Miles		0.6	2.7	4.0
Score[1]	**52.5**	52.5	344.3	525.0

Notes:

1. Scores are calculated by converting the raw data found to a relative scale of 1-10 as described in Section 4.0. The value in the relative scale is then multiplied by the weight to obtain the score. The Raw data, relative scaling, and final score for each criteria scored are provided in Appendix A.

The Proposed Route has the least amount of its route within two miles of an airport. Additionally, at its closest point, the Proposed Route is the furthest from the airport of the three alternatives. From an airport avoidance perspective, the Proposed Route has the least impact.

5.0 Identification of the Preferred Alternative

The three alternatives were qualitatively and quantitatively analyzed and compared by the routing team based on the information gathered through GIS data, field reconnaissance, public outreach, engineering considerations, and cost estimates. The three alternatives developed utilize various combinations of the two main corridors developed through the study area resulting in much overlap between alternatives. However, all alternatives are different enough from at least one other alternative that based on the PAPUC definition, whichever alternative is selected at least one other alternative would function as a "distinct alternative".

The Proposed Route, is the central and most direct alternative, and has the lowest/best final impact score of all the alternative routes. It is the best overall alternative from an environmental, human/built, cultural, and engineering perspective. The Proposed Route is the shortest and would require the least acquisition of new ROW. This alternative crosses the most human/built resources, as it has the most road crossings, crosses the most residential structures, and crosses the most institutional complexes. However, the Proposed Route will cross these human/built resources within existing ROW and no new long-term impacts are anticipated. Additionally, the Proposed Route crosses the least commercial/industrial areas. The Proposed Route is the best alternative from an engineering perspective, as it crosses the least steep terrain and landslide-prone areas, and is the farthest from the Pittsburgh International Airport. The Proposed Route is the best alternative from an environmental resources perspective. It has the least impact to most of the environmental resources including forest land cleared, core RTE habitat, land trust protected areas, and perennial streams crossed, but has the has some of the higher impact to other criteria such as wetlands crossed and recreational areas. The Proposed

Route is tied for the best alternative from a cultural resources perspective. It is tied for the least historical sites within its views shed and least archaeological sites crossed. The Proposed Route has the lowest cost estimate to acquire and construct.

Alternative 1 utilizes large stretches along the Ohio River when available. It has the second lowest/best final impact score of all the alternative routes. It is the second best overall alternative from an environmental, human/built, cultural, and engineering perspective. Alternative1 is the second shortest but would require the second most new ROW. This alternative has the second most impact on human/built resources as it is tied for the least impact to institutional complexes, has the second most road crossings, impacts the second least residential structures, but has the most impact to commercial/industrial areas. Alternative 1 is the second best alternative from an engineering perspective, as it has the second least steep terrain crossed, has the second least landslide-prone area crossed, and has the second shortest distance that is within two miles of Pittsburgh International Airport. Alternative 1 has the second least impact to environmental resources, as it crosses the least recreational areas and wetlands; impacts the second least amount of forest, land trust protected areas, and core RTE habitat; but is tied for the most perennial streams crossed. Alternative 1 is the worst alternative from a cultural resources perspective. It has the most historical sites within its views shed and the most archaeological sites crossed. Alternative 1 has the highest cost estimate to acquire and construct.

Alternative 2 uses some of the southwestern most route and some of the route by the Ohio River. It has the highest/worst final impact score, compared to all alternatives. It is the worst overall alternative from an environmental, human/built, cultural, and engineering

perspective. Alternative 2 is the longest route, and would require the most new ROW acquisition. This alternative has the least impact on human/built resources, as it has the least road crossings, has the second least impact to commercial/industrial areas, has the least impact to institutional complexes, and has the least residential structures. Alternative 2 is the worst alternative from an engineering perspective, as it has the most landslide-prone area, has the most steep terrain crossed, and has the most distance within 2 miles of the Pittsburgh International Airport. Alternative 2 has the most impact to environmental resources, as it has the most forest land impacts, crosses the most land trust protected area and core RTE habitat, is tied for the most perennial streams crossed, is tied for the most impacts to recreational areas, and has the second most impact to wetlands. Alternative 2 is tied for the best alternative from a cultural resources perspective. It is tied for the least historical sites within its views shed and tied for the least archaeological sites crossed. Alternative 2 has the second lowest cost estimate to acquire and construct.

5.1 Proposed Route Impacts and Mitigation

The Proposed Route was selected as the Preferred Alternative, as it is the best overall alternative from an environmental, human/built, cultural, and engineering perspective.

5.1.1 Land Use and Land Cover

The Preferred Alternative is 14.5 miles long and is located within existing ROW. The Preferred Alternative has 102 residences, 11 apartment buildings, and four commercial/industrial buildings crossed by the proposed ROW. Four schools and four

churches are located within 1,000 feet of the Preferred Alternative, but no institutional complexes are located within the proposed ROW. Five cemeteries are within 1,000 feet of the Preferred Alternative, but no cemeteries are crossed by the Preferred Alternative.

While the Preferred Alternative will utilize existing ROW, some permanent land use impacts are anticipated. Approximately 73.7 acres of forested land is expected to be cleared to accommodate this route. The forestland will be converted to rangeland. Any herbaceous and/or mixed rangeland within the existing ROW would be temporarily impacted during construction, but would not result in any permanent land use change, as the land would return to an herbaceous and/or mixed rangeland state.

Construction of the Project will require the clearing and maintenance of the negotiated right-of-way. The Preferred Alternative, as the shortest route, and located within an existing ROW, will have the least land use impacts.

The Preferred alternatives will produce temporary and secondary impacts during construction, especially in residential areas, institutional, and commercial areas. These impacts include noise and other construction-related disturbances, including disruptions to vehicular traffic. The most substantial land use effects associated with construction of the proposed line include a reduction in woodland and visual effects in residential areas. Total rangeland area will be increased as a result of construction, although a temporary reduction in this land use will occur during the construction phase until vegetation becomes re-established. New access roads may also be required to access certain areas of the transmission line.

Land can continue to be used by the property owner as desired provided it does not interfere with operation or maintenance of the transmission line, access to the transmission line, or specific ROW agreements.

All landowners whose access to their property could be potentially impacted will be notified in writing of the possible use of their land for an Access Easement consistent with the construction, maintenance, repair, renewal, use, or operation of said system. Duquesne Light has the right to trim or remove, and control the growth of, by any means selected by Duquesne Light, any trees, brush or shrubbery, and to remove obstructions, which at any time interfere with or threaten to interfere with the access of this easement. Duquesne Light agrees to pay for all damage to fences, crops, and other personal property caused by construction, operation, maintenance, rebuilding, or removal of the transmission line.

During Clearing of the ROW some loss of individual animals may be incurred within the ROW, it is anticipated that most animals can relocate to suitable adjacent habitat during construction. Depending on the habitat type in question, these displaced animals may be able to re-establish in the maintained ROW following construction. Although some wildlife population decreases may be experienced in response to limits upon carrying capacity of adjacent habitats, these decreases should be minimal due to the small area of disturbance. Additional rangeland may provide foraging areas for numerous wildlife species.

The maintenance of ROW, including tree trimming and brush clearing, may have an effect upon terrestrial animal species occurring in the area. Maintenance may destroy the nests and young of some species if it coincides with the breeding season; driving over the ROW for inspection purpose can also destroy nests and young. However, these impacts should be minimal and should not have any adverse effect upon wildlife populations, as they are infrequent.

Vegetation management practices that will be used by Duquesne Light to minimize impacts to vegetation and wildlife include, but are not limited to:

- Plant cover in the in the center of the ROW will be maintained as a low shrub-herb-fern-grass community.
- Implement selective clearing, based on stem density, on the edges of the ROW and allow compatible herbaceous and shrub species to grow. Use selective herbicide applications to manage undesirable vegetation in and along the ROW corridor. Specific herbicides designed for wetland use may also be utilized to promote best practices.
- Considering span length, allow tree growth in deep valleys and ravines where the conductor height exceeds the mature height of the surrounding trees factoring for minimum allowable electrical safety clearance requirements.
- All disturbed areas will be restored to their original contours. Seeding and mulching will immediately follow seedbed preparation.
- All cutting in and along the ROW less than five inches in diameter, other than

buffer areas, will be piled and crushed or disposed of by chipping or shredding. Cutting larger than five inches in diameter will be stacked behind the edge of the ROW or removed, as directed by the landowner.

- Tree pruning and removal and wood disposal efforts in and along the ROW edge will be performed in such a manner as to minimize, as much as possible, damage to desirable plant species.

An Erosion and Sedimentation (E&S) Control Plan will be executed during the construction phase of the Preferred Alternative, minimizing impacts from erosion and resulting sedimentation.

5.1.2 Hydrology

The Preferred Alternative crosses 20 perennial streams and 18.9 acres of NWI wetlands.

A detailed wetland delineations would be required in the field in order to thoroughly define potential wetland impacts of the Preferred Alternative. It is likely that additional wetlands may be identified during wetland delineations conducted.

Wetlands provide a number of significant benefits to the environment. With the exception of forested wetlands, transmission line construction, operation and maintenance do not change the wetlands' basic ecological function; any unavoidable effects would be minimal and temporary. It is anticipated that no structures would be located in wetlands for any of the alternative routes. Therefore, no permanent loss of wetlands is expected.

None of the streams crossed by the Preferred Alternative are expected to be affected by the placement of poles. However, all streams may be crossed by temporary access roads within the ROW. Temporary equipment crossings will be installed to minimize impacts and will be removed following construction. Temporary equipment crossings will result in a temporary impact to the riparian buffer. The riparian buffers will be replanted following construction and vegetation that is compatible with the transmission line will be allowed to grow. Therefore, no long term impacts to surface waters are anticipated from any of the alternatives. The potential for construction impacts on water quality during construction will be minimized by implementation of the E&S Control Plan.

It is anticipated that crossings of waterbodies for construction of the Project will require a General Permit 5 (GP-5) for Utility Line Stream Crossings and a GP-8 for Temporary Access Roads from the PaDEP, as well as a PA State Programmatic General Permit from the United States Army Corps of Engineers.

Among the protection measures that will be incorporated in this plan are:

- Stream or wetland crossings by vehicles will be restricted to temporary equipment crossings. Access to structures will be gained from upland locations wherever possible.
- Temporary stream and wetland crossings will be used as needed, consisting of equipment pads. If needed, culverts will be constructed in streams with clean stone and gravel fill.

- Any required construction access roads will be laid out to prevent sediments from reaching streams and wetlands. A strip of undisturbed land will be left between the construction road and the stream (filter strip). The width of the filter strip will be greater in steep slope areas than on level areas.
- Best management practices will be used along the stream banks and wetlands to prevent entry of sediment into the stream.
- During construction, drainage ditches, creeks and waterways will be kept free of obstructions.
- Where available, existing access roads will be used to avoid the crossing of streams.
- Appropriate controls will be used at structure locations to prevent sediments from discharging from the area of disturbance.

5.1.3 Scenic and Recreational Areas

The Preferred Alternative cross an undeveloped portion of Fairhaven Park within an existing ROW. Impacts to Fairhaven parks are expected to be minimal and temporary during construction. The Preferred Alternative crosses over the Montour Trail following existing ROW, the Montour Trail is located in a valley and the Preferred Alternative would likely span from ridgetop to ridgetop resulting in minimal impact to the trail. The Preferred Alternative crosses the edge of Mooncrest Neighborhood Center; the Preferred Alternative is located in an existing ROW that is buffered by trees, and impacts are expected to be minimal and temporary during construction. The

Preferred Alternative passes near several other parks. But, due to the use of existing ROW, abundant tree cover and topography, impacts to these parks are not anticipated. The Preferred Alternative is not anticipated to impact the function of any park crossed or adjacent.

5.1.4 Natural Areas and Rare Threatened and Endangered Species

The Preferred Alternative does not impact designated natural/wilderness areas or national natural landmarks.

The Core RTE habitat crossed by the Preferred Alternative is for the Ohio River, which is a recovering river system that provides habitat for numerous species of concern. The Preferred Alternative will cross the Ohio River core habitat as it crosses from Brunot Island to McKees Rocks, the crossings will be aerial and no direct impact to this aquatic core habitat is expected. Any indirect impacts on water quality will be minimized by implementation of the E&S Control Plan during construction.

The Preferred Alternative crosses an area containing a species of special concern [rock skullcap (*Scutellaria saxatilis)*] that is under the jurisdiction of the PADCNR, located in the neighborhood of Moon Crest, just south of the Sewickley Bridge. Surveys for the rock skullcap will be performed in coordination with the PADCNR, and impacts to rock skullcap will be minimized or avoided to the extent practical.

With the exception of the parks discussed in section 5.1.3, the Preferred Alternative does not crosses a Land Trust Protected areas.

5.1.5 Terrain and Landscape

As the Preferred Alternative will be along existing ROW it will have a minimal visual impact on the surrounding view shed.

The Preferred Alternative crosses 11.0 miles of steep terrain and 7.5 miles of landslide-prone area. These areas will be take into consideration for the final design and construction of the Project.

5.1.6 Archaeological and Architectural/Historical Resources

Additional investigations will be conducted, as necessary, during final design and permitting of the Preferred Alternative to determine the presence, extent, and eligibility of architectural and historical resources that could be affected by the Project. These efforts will be coordinated with the PA SHPO.

5.1.7 Airports

The Preferred Alternative, at its closet point is approximately two miles northeast of the Pittsburgh International Airport. Approximately 0.6 miles of the Preferred Alternative is within two miles of the Pittsburgh international Airport. Duquesne Light will coordinate with the FAA and will provide markers or beacons as required.

6.0 Permits and Zoning

6.1 Anticipated Agency Requirements and Permits

The anticipated agency requirements and permits for the Preferred Alternative are provided in Table 6.1.

Table 6.1

Agency Requirements and Permits

Agency	Requirement	Permit Status	Date of Submission	Date of Approval
Federal Agencies				
United States Army Corps of Engineers	Joint Application for Pennsylvania Chapter 105 Water Obstruction and Encroachment Permit and U.S. Army Corps of Engineers Section 404 Permit	Application to be Submitted Phase II	January 29, 2021 (anticipated)	May 27, 2022 (anticipated)
United States Army Corps of Engineers	Clean Water Act (CWA), Section 404, Letter of Permission due to Section 10 water	Application to be Submitted Phase II	January 29, 2021 (anticipated)	May 27, 2022 (anticipated)
United States Fish and Wildlife Service	Rare Threatened and Endangered Species Consultation	Approval Granted (expires after two years[1]) Phase I	May 2, 2019	May 2, 2019
United States Fish and Wildlife Service	Rare Threatened and Endangered Species Consultation	Consultation Ongoing Phase II	August 22, 2019	December 31, 2020 (anticipated)
Federal Aviation Administration	Notice of Proposed Construction or Alteration (Form 7460-1)	Application to be Submitted	July 31, 2020 (anticipated)	October 31, 2020 (anticipated)
Land and Water Conservation Fund	PADCNR Consultation for anti-conversion	Application to be Submitted	January 29, 2021 (anticipated)	May 27, 2022 (anticipated)

Table 6.1 (Continued)

Agency Requirements and Permits

Agency	Requirement	Permit Status	Date of Submission	Date of Approval
State Agencies				
Pennsylvania Department of Environmental Protection	Chapter 105, GP-8 for Temporary Access Roads	Approval Granted (expires after 1 year from installation of crossing) Phase I	June 26, 2019	August 29, 2019
Pennsylvania Department of Environmental Protection	Chapter 102 – National Pollutant Discharge Elimination System (NPDES) Permit	Application to be Submitted Phase II	January 29, 2021 (anticipated)	May 27, 2022 (anticipated)
Pennsylvania Department of Environmental Protection	Submerged Land License Agreement	Application to be Submitted Phase II	January 29, 2021 (anticipated)	May 27, 2022 (anticipated)
Pennsylvania Game Commission	Rare Threatened and Endangered Species Consultation	Approval Granted (expires after two years[1]) Phase I	May 2, 2019	May 2, 2019
Pennsylvania Department of Conservation and Natural Resources	Rare Threatened and Endangered Species Consultation	Approval Granted (expires after two years[1]) Phase I	May 2, 2019	May 2, 2019
Pennsylvania Fish and Boat Commission	Rare Threatened and Endangered Species Consultation	Approval Granted (expires after two years[1]) Phase I	May 2, 2019	May 2, 2019

Table 6.1 (Continued)

Agency Requirements and Permits

Agency	Requirement	Permit Status	Date of Submission	Date of Approval
State Agencies (Continued)				
Pennsylvania Game Commission	Rare Threatened and Endangered Species Consultation	Approval Granted (expires after two years[1]) Phase II	August 22, 2019	October 1, 2019
Pennsylvania Department of Conservation and Natural Resources	Rare Threatened and Endangered Species Consultation	Consultation Ongoing Phase II	August 22, 2019	December 31, 2020 (anticipated)
Pennsylvania Fish and Boat Commission	Rare Threatened and Endangered Species Consultation	Consultation Ongoing Phase II	August 22, 2019	December 31, 2020 (anticipated)
Pennsylvania State Historic Preservation Office	Cultural Resources Consultation	Application to be Submitted	June 29, 2020 (anticipated)	September 25, 2020 (anticipated)
Pennsylvania Department of Transportation	Highway Occupancy Permit, Driveway Permit, Excessive Maintenance Agreement	Application to be Submitted (expires after one year)	August 7th, 2022 (anticipated)	November 7th , 2022 (anticipated)

Table 6.1 (Continued)

Agency Requirements and Permits

Agency	Requirement	Permit Status	Date of Submission	Date of Approval
Local Agencies				
Allegheny County Conservation District	General (PAG-02) National Pollutant Discharge Elimination System (NPDES) Permit	Approval Granted (expires May 30, 2023) Phase I	June 26, 2019	August 29, 2019
Allegheny County	Hauling Agreement and Drive Way Permits	Application to be Submitted (expires after one year[2])	July 1, 2021 (anticipated)	September 1, 2021(anticipated)
City of Pittsburgh	Floodplain Permit	Application to be Submitted Phase II	January 29, 2021 (anticipated)	May 27, 2022 (anticipated)
	Driveway Permit and Excessive Maintenance Agreement	Application to be Submitted (expires after one year2)	May 1, 2024 (anticipated)	September 1, 2024 (anticipated)
McKees Rock Borough	Driveway Permit and Excessive Maintenance Agreement	Application to be Submitted (expires after one year2)	May 1, 2024 (anticipated)	September 1, 2024 (anticipated)
Moon Township	Driveway Permit and Excessive Maintenance Agreement	Application to be Submitted (expires after one year2)	May 1, 2024 (anticipated)	September 1, 2024 (anticipated)
Robinson Township	Driveway Permit and Excessive Maintenance Agreement	Application to be Submitted (expires after one year2)	May 3, 2021 (anticipated)	September 3, 2021 (anticipated)
Crescent Township	Driveway Permit and Excessive Maintenance Agreement	Application to be Submitted (expires after one year2)	May 1, 2022 (anticipated)	September 1, 2022 (anticipated)

Table 6.1 (Continued)

Agency Requirements and Permits

Agency	Requirement	Permit Status	Date of Submission	Date of Approval
Local Agencies (Continued)				
Kennedy Township	Driveway Permit and Excessive Maintenance Agreement	Application to be Submitted (expires after one year2)	May 1, 2024 (anticipated)	September 1, 2024 (anticipated)
Pittsburgh and Ohio Central Railroad	Railroad Crossing Permit	Application to be Submitted	June 6, 2020 (anticipated)	September, 2020 (anticipated)

Notes:

1. RTE consultation expiring before permit approval will be updated as needed.
2. PennDOT and local road permits or agreements expiring before the completion of the project will be updated.

6.2 Review of County Comprehensive Plans and Municipal Level Zoning

The proposed reconstruction and operation of the existing 138 kV transmission line circuits was evaluated for general compliance with the local Comprehensive Plans located in the Allegheny County Comprehensive Plan (Allegheny County, 2008), McKees Rocks and Stowe Township Multi-Municipal Comprehensive Plan (Char-West, 2011), Moon Township Comprehensive Plan (Moon Township, 2015), Robinson Township Comprehensive Plan (Robinson Township, 2016), Crescent Township Comprehensive Plan (Crescent Township 1971), and Pittsburgh's Comprehensive Planning Open Space, Parks, and Recreation Plan (Pittsburgh, 2013). A comprehensive plan was not available for the Kennedy Township.

The plans purpose is to help guide local planning for the communities and set short term as well as long-term goals and objectives for all activities that affect the community. Review of the Comprehensive Plans and other associated documentation in relation to the proposed project activities considered the compatibility with local land use, proposed housing developments, future growth areas, community facilities and environmentally sensitive areas.

The available comprehensive plans were reviewed to identify issues specific to the local communities as well as any potential fatal flaws. Mitigation of any potential impacts may include modifying the route, engineering design, locating the corridor in relationship to existing utility infrastructure, and coordinating with individual property owners and municipal governments.

Allegheny County

According to the Allegheny County Comprehensive Plan (Allegheny County, 2008) the portion of the county in the Study Area is largely residential with small areas of Commercial, Industrial,

Community Facilities, and Recreation/Conservation land uses. The plan's goals that relate to the Project include redeveloping existing areas, providing efficient infrastructure, and creating and maintaining extensive greenways such as parks, trails, riverfronts. The entire of the Project is located in Allegheny County, PA.

McKees Rocks Borough

The Char-West Multi-Municipal Comprehensive Plan includes plans for McKees Rocks, Neville Township, and Stowe Township collectively. Objectives of this plan that could relate to the construction of a transmission line include the intention to redevelop existing industrial and commercial spaces. In addition, a goal of this plan is to create a Chartiers Creek Greenway, which restores riparian buffers to Chartiers Creek. The Project spans Chartiers Creek at four different sections for approximately 1.1 miles.

McKees Rocks Borough is located at the eastern edge of the Study Area. McKees Rock Borough is highly developed with heavy industry adjacent to the Ohio River and Chartiers Creek. The remainder of McKees Rocks Borough is largely single family residential. The major roadway through the Study Area in the McKees Rock Borough is Route 51. Additionally, several railroads are located in the in the Study Area in McKees Rock Borough, including Pennsylvania Railroad and Pittsburgh Chartiers and Youghiogheny Railroad. According to the Char-West Multi-Municipal Comprehensive Plan Generalized Existing Land Use Map, 0.15 miles of the Project is located in industrial zoning. The Future Land Use and Housing Plan map also show most of the Project in Industrial Zones, and a 0.05-mile section in a Community Oriented Commercial zone.

Moon Township

The Moon Township Comprehensive Plan's objectives state that the township is interested in encouraging high-quality development in the area, while preserving the Township's historic and cultural resources. The Township aims to incentivize sustainable, yet simple development, and promote use of redevelopment. The Township also plans to maintain the Landscape Conservation Areas, located in the southwest portion of the Township. The Project exists in approximately 0.5 miles of this designated area.

Moon Township is located at the western end of the Study Area. The Study Area only encompasses the northeastern portion of Moon Township. This portion of the Township is dominated by residential neighborhoods, with several parks and a commercial district located along University Boulevard. Large areas of land remain undeveloped in Moon Township. Major roadways through the Study Area in Moon Township are Route 51, Hassam Road, Maple Street, Coraopolis heights, Thorn Run Road, University Boulevard, Beaver Grade Road, Stoops Ferry, Broadhead Road, and Flaugherty Run Road. One railroad owned by Pittsburgh and Lake Erie Railroad is located along the Ohio River. Additionally, part of the Montour Run Rail Trail is located in Moon Township. According to the Township of Moon Official Zoning Map, approximately 0.4 miles is located in an Industrial zone (M-1), 0.2 miles is located in Commercial (C-2), 0.4 miles in Educational (ED) and 4 miles in Residential (R-1, R-2, R-3, R-4, R-5). The total length of the Project that occurs in Moon Township is approximately 5 miles.

Robinson Township

The Robinson Township Comprehensive Plan states that as land becomes scarce in the Township, they recognize the need to preserve environmentally friendly greenspaces, terrain subject to abandoned mine drainage issues, red bed soil complexes, impaired streams, previously

mined areas, and recreational areas. They also wish to implement a Land Trust of their own, or join another trust, such as the Allegheny Land Trust, to help identify stated areas of concern.

Robinson Township is located in the center of the Study Area. Robinson Township is largely residential with small pockets of commercial and institutional land use. Large areas of land remain undeveloped in Robinson Township. The major roadway through the Study Area in the Robinson Township are Route 51, Interstate 79, Forest Grove Road, Clever Road, North Silver Lane, and Ewings Mill Road. One railroad, owned by Pittsburgh Chartiers and Youghiogheny Railroads, is located along the Ohio River. Additionally, part of the Montour Run Rail Trail is located in Robinson Township. According to the Official Zoning Map of the Township of Robinson, 1.75 miles of the Project that occurs in Robinson Township exists in Residential zoning (R-1, R-2, R-3). In the area of the Project, the Future Land Use Map, located in the Comprehensive Plan, shows no change from the current zoning map.

Crescent Township

The Comprehensive Plan's objective states that land use activities, such as major utility wires, should be designed, arranged, or screened in a manner that will keep the surrounding environment from being adversely affected. The Future Land Use Plan is the basis for municipal zoning policies, hence, there are few differences from the Current Land Use Plan zoning policies and the future plans.

According to the Crescent Township Comprehensive Plan (Crescent Township 1971), the Proposed Route passes through approximately 1.274 miles of Agriculture/Conservation (A-1), 0.326 miles of Residential (R-1, R-2), and .010 miles of Commercial (B-2). Crescent Township is located at the northwest edge of the Study Area. Crescent Township is largely

undeveloped with pockets of residential areas. Commercial and industrial districts are located along Route 51 and the Ohio River. Major roadways include Route 51, Spring Run Road, Bocktown Road, and Harper Road. One railroad owned by Pittsburgh and Lake Erie Railroad is located along the Ohio River.

Pittsburgh

A small eastern portion of the Study Area is located within the City of Pittsburgh. The goals of Pittsburgh's Comprehensive Planning Open Space, Parks, and Recreation Plan (Pittsburgh, 2013), relating to this Project, include respecting and enhancing the relationship between nature and the built environment, and finding viable interim uses for vacant and distressed properties. Specifically, protecting hillslopes and tree canopy, and repurposing abandoned industrial or vacant sites.

The land use within Pittsburgh city limits encompassed by the Study Area is largely comprised of open green space and industry, and a single family residence neighborhood. The major roadway through the Study Area in the City of Pittsburgh is Route 51. Additionally, several railroads are located in the in the Study Area in the City of Pittsburgh, including Pittsburgh and Lake Erie Railroad, Ohio Railroad, Pittsburgh and Ohio Central Pittsburgh Industrial Railroad, and Pittsburgh Chartiers and Youghiogheny Railroad. The Proposed Route for the Project will occur along existing ROW near Chartiers Playground and Sheraden Park, but does affect them. This 2 mile section of the Project falls within the General Industry (GI) zone in Pittsburgh.

Kennedy Township

While a Municipal Comprehensive Plan was not available for Kennedy Township, the zoning map was reviewed. The Zoning District Map for the Township of Kennedy indicated that the project crossed areas zoned residential including approximately 0.43 miles in R5 (mobile home parks), 0.15 miles in R3 (multiple family residential), and 1.13 miles in R1 (single family residential). Additionally, the project crosses approximately 0.65 miles of C-3 (highway commercial district) and 0.32 miles of Fairhaven Park.

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APPENDIX A
Resource Criteria Score Calculations

Table A-1.

Land Use and Land Cover Criteria Score Calculations

		Alternative Routes		
Criteria	**Weight**	**Proposed**	**1**	**2**
Commercial/Industrial Areas: within 100 feet of Centerline				
Raw Data		4	9	6
Relative Score		1.00	10.00	4.60
Score	76.9	76.9	769.0	353.7
Residential Areas: within 100 feet of Centerline				
Raw Data		113	25	9
Relative Score		10.00	2.38	1.00
Score	88.8	888.0	211.8	88.8
Cemeteries: Number within 100 feet of Centerline				
Raw Data		0	0	0
Relative Score		0.00	0.00	0.00
Score	76.8	0.0	0.0	0.0
Railroad and Highway/Road Crossings: Number of Crossings				
Raw Data		52	44	36
Relative Score		10.00	5.50	1.00
Score	**33.1**	331.0	182.1	33.1
Institutional Complexes: Number Adjacent/Crossed (within 100 feet of Centerline)				
Raw Data		8	6	6
Relative Score		10.00	1.00	1.00
Score	**83.1**	831.0	83.1	83.1
Agricultural Land: Active Agricultural Land Acres (within 100 feet of Centerline)				
Raw Data		0.0	0.0	0.0
Relative Score		0.00	0.00	0.00
Score	**44.0**	0.0	0.0	0.0
Non-Paralleling ROW: Miles Required				
Raw Data		0.0	12.8	15.0
Relative Score		1.00	8.70	10.00
Score	**31.1**	31.1	270.7	311.0

Table A-1 (Continued)

Criteria	Weight	Alternative Routes		
		Proposed	1	2
Length: Miles				
Raw Data		14.5	15.3	16.2
Relative Score		1.00	4.37	10.00
Score	**28.8**	28.8	125.8	288.0
Forested Land: within 100 feet of Centerline (Acres)				
Raw Data		73.75	200.70	230.2
Relative Score		1.00	8.30	10.00
Score	**33.0**	33.0	274.0	330.0

Table A-2

Hydrology Criteria Score Calculations

Criteria	Weight	Existing	Alternative Routes 1	2
NWI Wetlands: Acres (within 100 feet of Centerline)				
Raw Data		18.9	4.4	4.5
Relative Score		10.00	1.00	1.06
Score	**66.2**	662.0	66.2	69.9
Streams				
Number of Perennial Crossings				
Raw Data		20.0	22.0	22.0
Relative Score		1.00	10.00	10.00
Score	**43.0**	43.0	430.0	430.0
EV Streams Crossed				
Raw Data		0.0	0.0	0.0
Relative Score		0.00	0.00	0.00
Score	**58.0**	0.0	0.0	0.0

Table A-3

Scenic and Recreational Area Criteria Score Calculations

Criteria	Weight	Alternative Routes Proposed	1	2
State Forest: Linear Distance Adjacent (miles)				
Raw Data		0	0	0
Relative Score		0.00	0.00	0.00
Score	**43.4**	0	0	0
State Parks: Linear Distance Adjacent (miles)				
Raw Data		0	0	0
Relative Score		0.00	0.00	0.00
Score	**69.2**	0	0	0
State Game Lands: Linear Distance Adjacent (miles)				
Raw Data		0	0	0
Relative Score		0.00	0.00	0.00
Score	**33.4**	0	0	0
Recreational Areas (including local parks and golf courses): Number (within 100 feet of Centerline)				
Raw Data		3.0	1.0	3.0
Relative Score		10.00	1.00	10.00
Score	**67.3**	673.0	67.3	673.0
Hiking and Biking Trails (excluding parks): Number Crossed (within 100 feet of Centerline)				
Raw Data		1.0	1.0	2.0
Relative Score		1.00	1.00	10.00
Score	**42.8**	42.8	42.8	428.0
Designated Scenic Areas: Number Adjacent/Crossed (within 100 feet of Centerline)				
Raw Data		0	0	0
Relative Score		0.00	0.00	0.00
Score	**71.3**	0	0	0
Natural Wild & Scenic/State Scenic Rivers: # Scenic Rivers Crossed (within 100 feet of Centerline)				
Raw Data		0	0	0
Relative Score		0.00	0.00	0.00
Score	**72.0**	0	0	0
Unique Geological Resources: Number Adjacent/Crossed (within 100 feet of Centerline)				

Raw Data		0	0	0
Relative Score		0.00	0.00	0.00
Score	**59.2**	0	0	0

Table A-4

Natural Areas Resources Criteria Score Calculations

		Alternative Routes		
Criteria	**Weight**	**Proposed**	**1**	**2**
National Natural Landmarks: Number Adjacent/Crossed (within 100 feet of Centerline)				
Raw Data		0	0	0
Relative Score		0.00	0.00	0.00
Score	**78.0**	0	0	0
Designated Natural/Wilderness Areas: Linear Distance Adjacent (miles) (within 100 feet of Centerline)				
Raw Data		0	0	0
Relative Score		0.00	0.00	0.00
Score	**73.2**	0	0	0
Other Natural Areas				
Core RTE habitat acres (within 100 feet of Centerline)				
Raw Data		0.6	2.81	3.2
Relative Score		1.00	8.65	10.00
Score	**71.9**	71.9	621.9	719.0
Land Trust Protected acres (within 100 feet of Centerline)				
Raw Data		0.00	0.10	1.30
Relative Score		1.00	1.69	10.00
Score	**71.9**	71.9	121.7	719.0

Table A-5

Terrain and Landscape Criteria Score Calculations

Criteria	Weight	Alternative Routes		
		Proposed	1	2
Steep Terrain (> 20%): Linear Distance Adjacent (miles)				
Raw Data		11.0	11.2	12.6
Relative Score		1.00	1.89	10.00
Score	**40.9**	40.9	77.2	409.0
Landslide-Prone Areas: Linear Distance Adjacent (miles)				
Raw Data		7.5	9.4	9.6
Relative Score		1.00	9.14	10.00
Score	**53.7**	53.7	491.0	537.0

Table A-6

Archaeological and Architectural/Historical Resources Criteria Score Calculations

Criteria	Weight	Alternative Routes		
		Proposed	1	2
Architectural and Historic Sites: Number Crossed (within 100 feet of Centerline)				
Raw Data		34	37	34
Relative Score		1.00	10.00	1.00
Score	**76.8**	76.8	768.0	76.8
Archaeological Sites: Number Crossed (within 100 feet of Centerline)				
Raw Data		1	3	1
Relative Score		1.00	10.00	1.00
Score	**54.0**	54.0	540.0	54.0

Table A-7

Airport Criteria Score Calculations

Criteria	Weight	Alternative Routes		
		Proposed	1	2
Airports: Length of ROW within 2 Miles				
Raw Data		0.6	2.7	4.0
Relative Score		1.00	6.56	10.00
Score	**52.5**	52.5	344.3	525.0

APPENDIX B
Description of Previously Recorded Architectural, Historical, and Archaeological Resources within Two Miles of Project Alternatives

Description of Previously Recorded Architectural and Historical Resources within Two Miles of Project Alternatives

Key #	County	Municipality	Historic Name	Resource Category	Address	National Register Status
679	Allegheny	Thornburg Borough	Thornburg Historic District	District		Listed
1269	Beaver	Ambridge Borough	Old Economy National Historic Landmark	District	270 Sixteenth Street	NHL
1717	Allegheny	Pittsburgh City	Allegheny Observatory	Building	159 Riverview Ave.	Listed
1719	Allegheny	Pittsburgh City	Allegheny West Historic District	District		Listed
1726	Allegheny	Pittsburgh City	Byers-Lyons House	Building	901 Ridge Ave.	Listed
1733	Allegheny	Coraopolis Borough	Coraopolis Railroad Station	Building	Neville Ave.	Listed
1734	Allegheny		Davis Island Lock & Dam Site	Site		Listed
1738	Allegheny	Pittsburgh City	Emmanuel Episcopal Church	Building		NHL
1753	Allegheny	Pittsburgh City	Manchester Historic District	District		Listed
1754	Allegheny	Pittsburgh City	Mexican War Streets Historic District	District		Listed
1759	Allegheny	Edgeworth Borough	Shields, David, House	Building	Shield's Ln.	Listed
1779	Allegheny	Pittsburgh City	Snyder, William Penn, House	Building	852 Ridge Ave.	Listed

Key #	County	Municipality	Historic Name	Resource Category	Address	National Register Status
1785	Allegheny	Edgeworth Borough	Way, Nicholas, House	Building	108 Beaver Rd.	Listed
1786	Allegheny	Pittsburgh City	West End-North Side Bridge	Structure		Listed
4005	Allegheny	Pittsburgh City	Morrow, John, Elementary School	Building	1611 Davis Ave.	Listed
4023	Allegheny	Pittsburgh City	Allegheny City Stables	Building	836 West North Avenue	SHPO: Eligible
4026	Allegheny	Pittsburgh City	Lasalle Electric Supply Company	Building	1415 Brighton Pl.	SHPO: Eligible
4041	Allegheny	Pittsburgh City	National Casket Company	Building		SHPO: Eligible
5529	Allegheny	Pittsburgh City	Conroy, John M., School	Building	Page St.	Listed
5868	Allegheny	Pittsburgh City	Oliver, David P., High School	Building		Listed
7766	Allegheny	Pittsburgh City	Langley High School	Building	Sheraden Blvd.	Listed
7819	Allegheny	Avalon Borough		Building	640 California Ave.	SHPO: Eligible
7900	Allegheny	Bellevue Borough	Rousseau, Marius, House	Building	100 Watkins Ave.	SHPO: Eligible
7906	Allegheny	Ben Avon Borough		Building	7101 Church Ave.	SHPO: Eligible
8715	Allegheny	Emsworth Borough	Emsworth Locks & Dams	Structure	Western Ave.	SHPO: Eligible

Key #	County	Municipality	Historic Name	Resource Category	Address	National Register Status
8716	Allegheny	Emsworth Borough	Ohio River Boulevard Bridge & Commemorative Pillars	Structure	Ohio River Blvd.	SHPO: Eligible
8718	Allegheny	Emsworth Borough	Roper, W.A., Property	Building	8100 Ohio River Blvd.	SHPO: Eligible
9595	Allegheny	Pittsburgh City	Western State Penitentiary	Building	Doerr St.	SHPO: Eligible
9648	Allegheny	Pittsburgh City	Brashear, John Alfred, House & Factory	Building	1954 Perrysville Ave.	Listed
9787	Allegheny	Sewickley Borough	Flatiron Building	Building	514 Beaver Rd.	SHPO: Eligible
9799	Allegheny	Sewickley Borough	Sewickley Methodist Episcopal Church	Building	Broad St.	SHPO: Eligible
9804	Allegheny	Sewickley Borough	Pennsylvania Railroad: Station (Sewickley)	Building	Chadwick St.	SHPO: Eligible
9831	Allegheny	Sewickley Borough	Sewickley Public Library	Building	Thorn St.	SHPO: Eligible
9906	Allegheny	Sewickley Borough	Sewickley Presbyterian Church	Building	414 Grant St.	SHPO: Eligible
9979	Allegheny	Sewickley Heights Borough	Franklin Farm Watertower	Structure	Blackburn Rd.	SHPO: Eligible
10133	Allegheny	Stowe Township		Building	Charles Ave.	SHPO: Eligible
10516	Allegheny		Coraopolis Bridge	Structure	Ferree St.	Listed

Key #	County	Municipality	Historic Name	Resource Category	Address	National Register Status
10547	Allegheny	Crafton Borough	Campbell Building	Building	60 E Crafton Ave.	Listed
10548	Allegheny	Crafton Borough	Creighton House	Building	51 Noble Ave.	SHPO: Eligible
10559	Allegheny	Crafton Borough	Crafton National Bank	Building	142 Noble Ave.	SHPO: Eligible
10731	Allegheny	Edgeworth Borough	Singer, William H., Sr., Estate Outbuildings	Building	753 Chestnut Rd.	SHPO: Eligible
10778	Allegheny		Muottas	Building	21 Little Sewickley Creek Rd.	SHPO: Eligible
10779	Allegheny	Edgeworth Borough	Edgeworth Bridge	Structure		SHPO: Eligible
19685	Allegheny	Leet Township	Watson, D.T. Summer Estate Sunny Hill""	Building	Camp Meeting Rd.	SHPO: Eligible
19690	Allegheny	Leetsdale Borough	Elmridge	Building	Beaver Rd.	Listed
19700	Allegheny	Leetsdale Borough	Lark Inn (Halfway House")"	Building	634 Beaver Rd.	SHPO: Eligible
19850	Allegheny	Mckees Rocks Borough	Saint Mary's Roman Catholic Church Complex	Building	St. John St.	SHPO: Eligible
19851	Allegheny	Mckees Rocks Borough	Mann's Hotel	Building	23 Singer Ave.	SHPO: Eligible
19868	Allegheny	Mckees Rocks Borough	Pittsburgh & Lake Erie Railroad: Yard Complex	Building		SHPO: Eligible

Key #	County	Municipality	Historic Name	Resource Category	Address	National Register Status
43509	Allegheny	Pittsburgh City	Hoene-Werle House	Building	1313 Allegheny Ave.	Listed
50658	Allegheny	Pittsburgh City	Deutschtown Historic District	District		Listed
64370	Allegheny	Pittsburgh City	Old Allegheny Rows Historic District	District		Listed
76787	Allegheny	Crescent Township	Shouse, Peter, House	Building	Main St.	SHPO: Eligible
77378	Allegheny	Neville Township	Repair Facility Lock No. 2	Building	River Rd.	SHPO: Eligible
77414	Beaver	Ambridge Borough	Laughlin Memorial Free Library	Building		SHPO: Eligible
77415	Beaver	Ambridge Borough	Ambridge U.S. Post Office	Building	1020 Merchant St.	SHPO: Eligible
78856	Beaver	Ambridge Borough	Economy Historic District	Building		Listed
79659	Allegheny	Pittsburgh City	Brightridge Street Rowhouse Historic District	District	838 Brightridge St.	Listed
79660	Allegheny	Pittsburgh City	Charles Street Rowhouse Historic District	District	2501 Charles St.	Listed
79931	Allegheny	Stowe Township	Apartment Building	Building	908 and 916 Dohrman St.	SHPO: Eligible
82565	Allegheny	Sewickley Borough	United States Post Office--Sewickley Branch	Building	200 Broad St.	Listed

Key #	County	Municipality	Historic Name	Resource Category	Address	National Register Status
82589	Allegheny	Pittsburgh City	Westlake Public School	Building	900 Lorenz Ave.	SHPO: Eligible
82597	Allegheny	Pittsburgh City	Calvary Methodist Episcopal Church	Building		SHPO: Eligible
82601	Allegheny	Pittsburgh City	Mexican War Streets Historic District (Boundary Increase)	District		Listed
82614	Allegheny	Pittsburgh City	200 W. North Avenue	Building	200 W North Ave.	Listed
86811	Allegheny	Pittsburgh City	Allegheny Commons	Site		Listed
86878	Allegheny	Pittsburgh City	Manchester Historic District Boundary Increase Area	District		SHPO: Eligible
96119	Allegheny	Bellevue Borough	Northgate Grant School		Grant Ave.	SHPO: Eligible
96456	Allegheny	Coraopolis Borough	Coraopolis Armory	Building	835 5th Ave.	Listed
96518	Allegheny	Sewickley Heights Borough	Robinson-Laughlin Party House	Building	Blackburn Rd.	SHPO: Eligible
96654	Allegheny		McKees Rocks Bridge	Structure		Listed
96831	Allegheny	Coraopolis Borough	Montour Railroad Company: Shops	Building		SHPO: Eligible
97246	Allegheny	Pittsburgh City	Pittsburgh & Lake Erie Railroad: Bridge No. 3.36	Structure		SHPO: Eligible

Key #	County	Municipality	Historic Name	Resource Category	Address	National Register Status
97247	Allegheny	Coraopolis Borough	Pittsburgh & Lake Erie Railroad: Mr. Tower CP-10	Building		SHPO: Eligible
97496	Allegheny		Western Pennsylvania Railroad (Pittsburgh to Freeport)	District		SHPO: Eligible
97622			Montour Railroad	District		SHPO: Eligible
100102	Allegheny		Crafton Historic District	District		SHPO: Eligible
100104	Allegheny		Ingram Historic District	District		SHPO: Eligible
100105	Washington	Buffalo Township	Pittsburgh & Steubenville Railroad (Pittsburgh to WV line)	District		SHPO: Eligible
100109	Allegheny	Pittsburgh City	Corliss Street Tunnel	Structure	Corliss St.	SHPO: Eligible
100639	Allegheny	Sewickley Borough	02 1 0 0652 0 060887		Ohio River Blvd.	SHPO: Eligible
101760	Allegheny	Pittsburgh City	West End Valley Historic District	District		SHPO: Eligible
101761	Allegheny	Pittsburgh City	Horix Company	Building	2609 Chartiers Ave.	SHPO: Eligible
101775	Allegheny	Bellevue Borough	Bellevue Borough Hall	Building		SHPO: Eligible

Key #	County	Municipality	Historic Name	Resource Category	Address	National Register Status
102240	Allegheny	Leetsdale Borough	Riter-Conley Manufacturing Company	District	Ohio River Blvd.	SHPO: Eligible
102408	Allegheny	Mckees Rocks Borough		Building	1000 Chartiers Ave.	SHPO: Eligible
102885	Allegheny	Leetsdale Borough	Leetsdale Borough Building	Building	85 Broad St.	SHPO: Eligible
106200	Allegheny	Pittsburgh City	Saint John's Hospital	Building	339 McClure Avenue	SHPO: Eligible
106684	Allegheny	Sewickley Borough	Saint Matthews African Methodist Episcopal Zion Church	Building	345 Thorn St.	SHPO: Eligible
110462	Allegheny	Robinson Township	Bridge over Montour Run	Structure		SHPO: Eligible
111288	Allegheny	Sewickley Borough	Boundary - Beaver Streets Historic District	District		SHPO: Eligible
111869	Allegheny	Sewickley Borough	Old Thorn Farm-Broad Street Historic District	District		SHPO: Eligible
112369			Pennsylvania Railroad: Main Line (Harrisburg to Pittsburgh)	District		SHPO: Eligible
112372			Pennsylvania Railroad: Main Line (Pittsburgh to Ohio State Line)	District		SHPO: Eligible
112503	Allegheny	Ben Avon Borough	Ben Avon Historic District	District		SHPO: Eligible

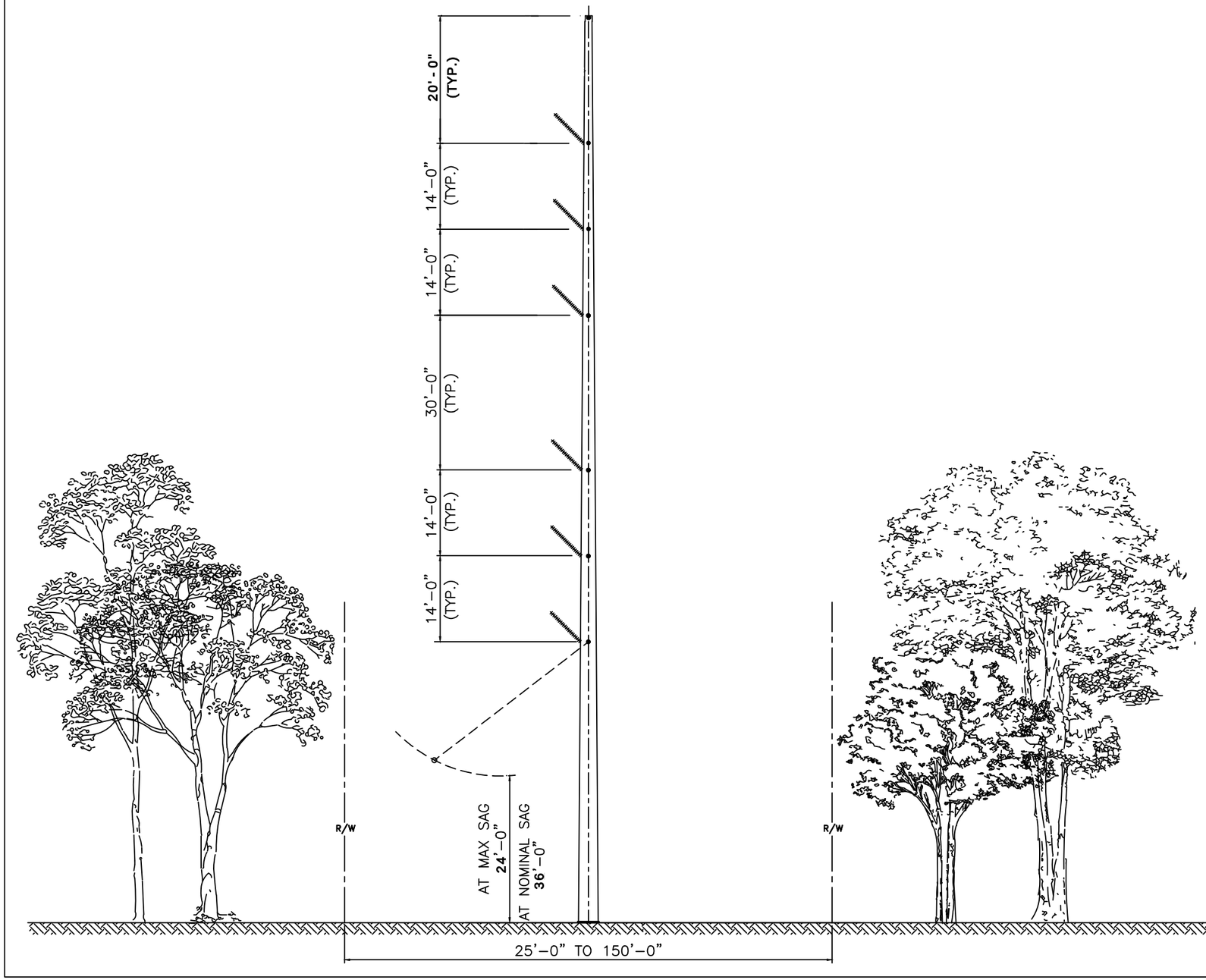
Key #	County	Municipality	Historic Name	Resource Category	Address	National Register Status
114795	Allegheny	Leetsdale Borough	Seaman House	Building	72 Ohio River Blvd.	SHPO: Eligible
114798	Allegheny	Leetsdale Borough	Leet Street Bridge	Structure	LEET ST	SHPO: Eligible
114800	Allegheny	Leetsdale Borough	Riter-Conway Steel Company Historic District	District	Washington	SHPO: Eligible
116800			Pittsburgh & Lake Erie Railroad (Mahoning Twp. Lawrence Co. to Brownsville Fayette Co. and Connellsville Fayette Co.)	District		SHPO: Eligible
120239	Allegheny	Robinson Township	Oil Extraction Facility No. 1	Site	12 Winter Rd.	SHPO: Eligible
120243	Allegheny	Robinson Township	Oil Extraction Facility No. 2	Structure	Elliot Dr.	SHPO: Eligible
120247	Allegheny	Moon Township	Panner, John, Farm	Structure		SHPO: Eligible
120259	Allegheny	Mckees Rocks Borough	McKay, James & Company Chain Works	Building	1107 Thompson Ave.	SHPO: Eligible
120267	Allegheny	Mckees Rocks Borough	Chartier Trust Company	Building	701 Chartiers Ave.	SHPO: Eligible
125935	Allegheny	Moon Township	Mooncrest Historic District	District		Listed

Key #	County	Municipality	Historic Name	Resource Category	Address	National Register Status
127092	Allegheny		Oakdale Army Air Defense Base; Oakdale Nike Missile Site Historic	District		SHPO: Eligible
128728	Beaver	Ambridge Borough	Ambridge Area Senior High School	Building	909 Duss Ave.	SHPO: Eligible
129447	Allegheny	Ben Avon Borough		Structure	SR 65	SHPO: Eligible
129743	Allegheny	Pittsburgh City	Robert Mcaffee Bridge	Structure	SR 7301	SHPO: Eligible
129802	Allegheny	Pittsburgh City	Jack's Run Bridge No 1	Structure	SR 7301	SHPO: Eligible
130150	Beaver	Ambridge Borough	Ambridge-woodbridge Bridge	Structure	SR 7402	SHPO: Eligible
206320	Allegheny	Pittsburgh City	USS Requin	Structure	1 Allegheny Avenue	SHPO: Eligible
206485	Beaver	Ambridge Borough	Ambridge Commercial Historic District	District	Merchant Street	SHPO: Eligible

Site #	Site Name	Site Type	Topographic Setting	National Register Status
36AL0016	McKees Rock Mound Village	Village	Rise in Floodplain	SHPO: Eligible
36AL0356	Steuben Street Site	Historic Domestic Site	Middle Slopes	SHPO: Eligible
36AL0591	Portman Row	Historic and Pre-Contact	Terrace	SHPO: Eligible

Amended Attachment 4

PROPOSED ℄ LINE R/W
TYPICAL DEADEND STRUCTURE



ATTACHMENT 4A

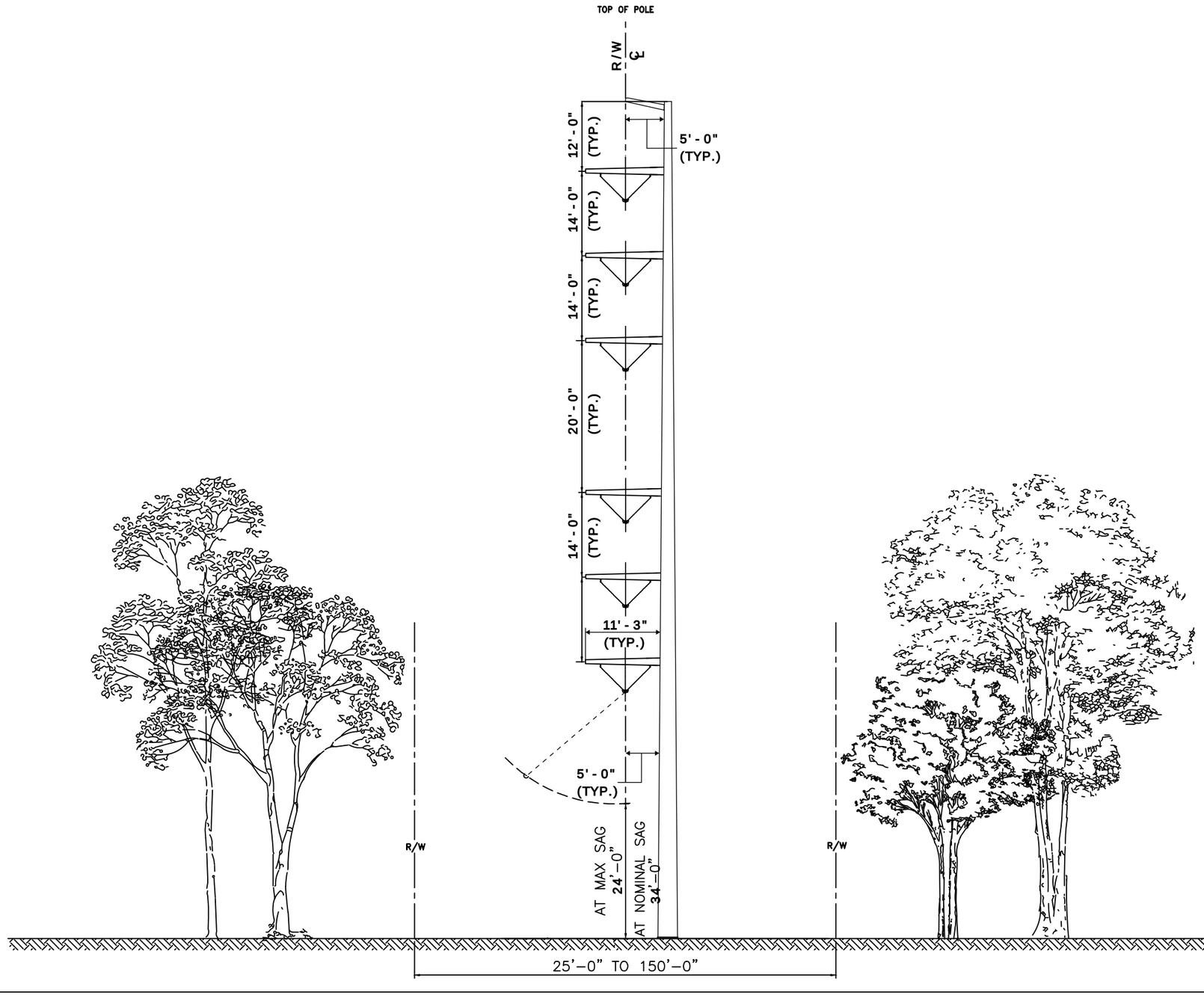
Stantec

TYPICAL CROSS SECTION OF LINE

BI-CRESCENT

DUQUESNE LIGHT COMPANY
ALLEGHENY COUNTY, PA

PROPOSED ℄ LINE R/W
TYPICAL TANGENT STRUCTURE



ATTACHMENT 4B

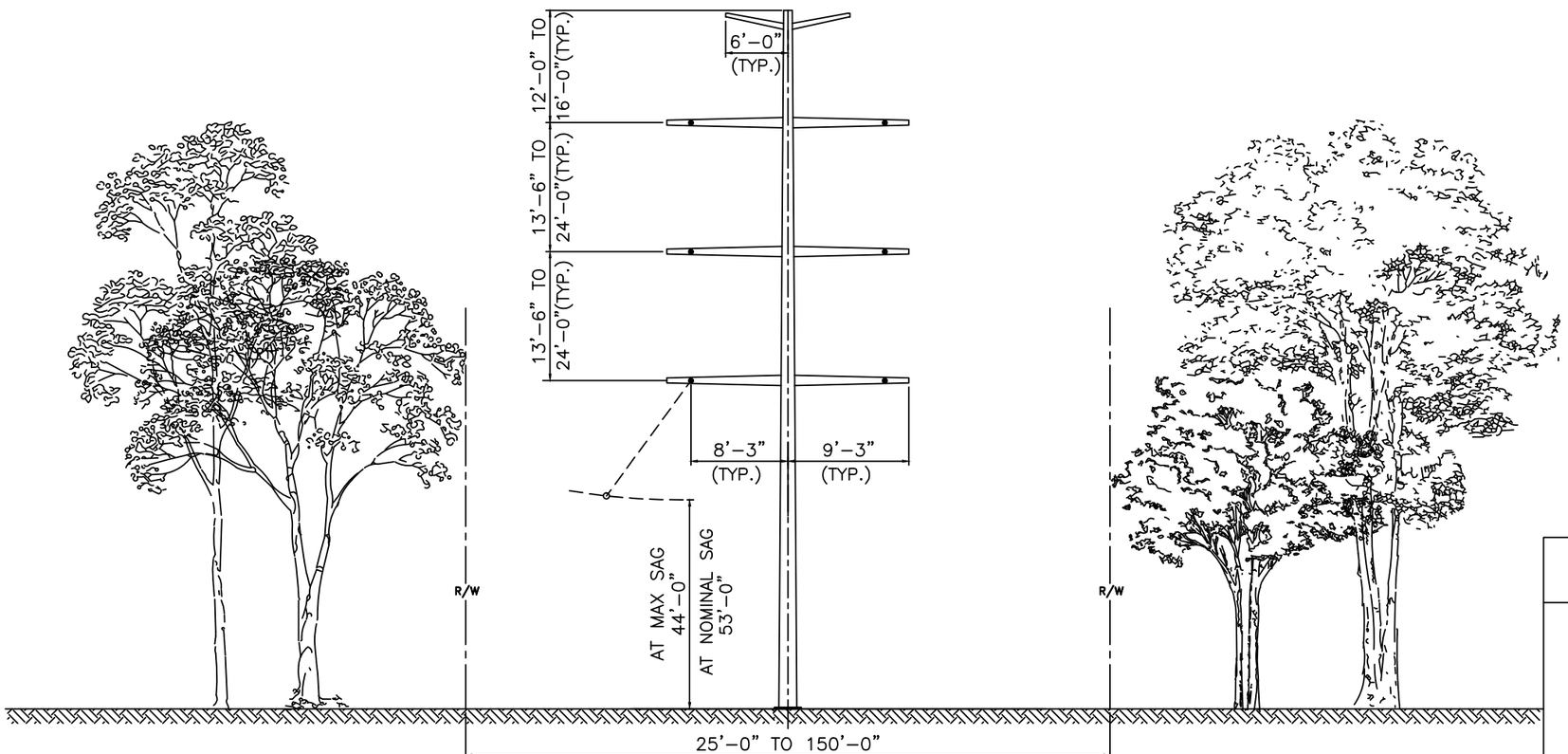
Stantec

TYPICAL CROSS SECTION OF LINE

BI-CRESCENT

DUQUESNE LIGHT COMPANY
ALLEGHENY COUNTY, PA

PROPOSED $_{L}$C LINE R/W
TYPICAL SIDE–BY–SIDE CONFIGURATION



ATTACHMENT 4C

Stantec

TYPICAL CROSS SECTION OF LINE

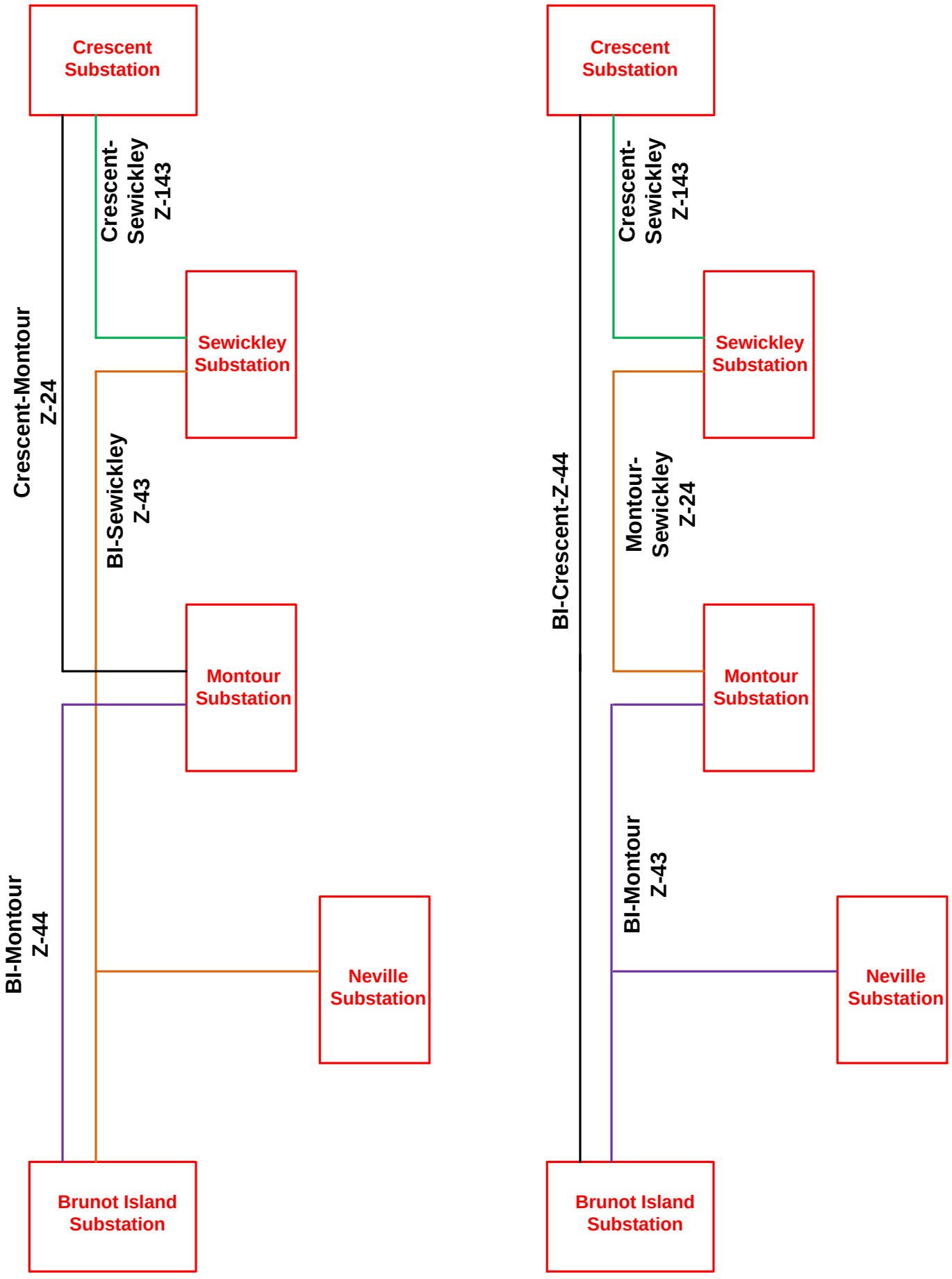
BI–CRESCENT

DUQUESNE LIGHT COMPANY
ALLEGHENY COUNTY, PA

CONFIDENTIAL Attachment 5a
(No Public Version Available)

CONFIDENTIAL Attachment 5b
(No Public Version Available)

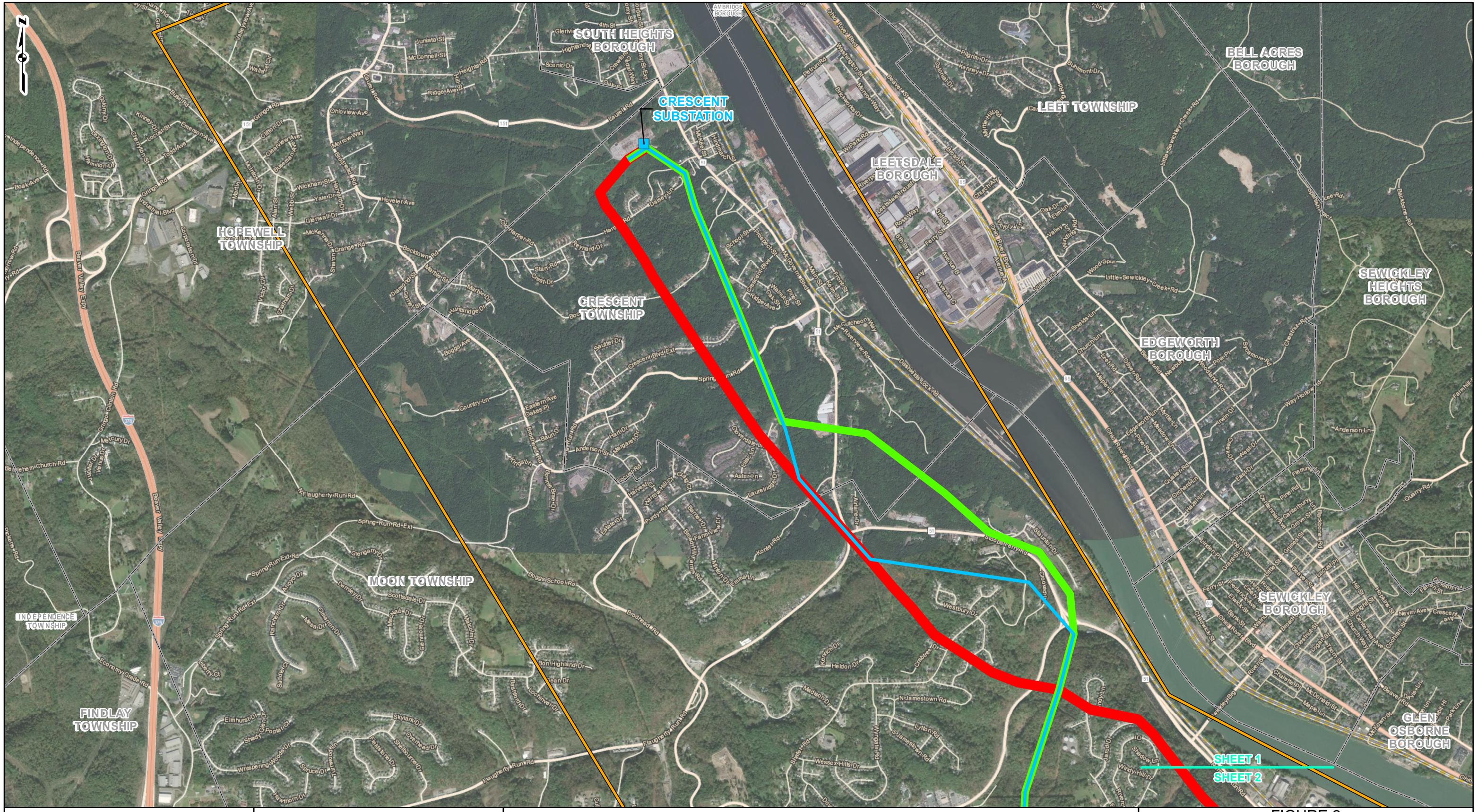
Attachment 6



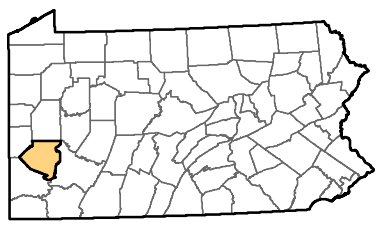
BI-Crescent Reconductor

Circuit Arrangement

Attachment 7



PROJECT LOCATION



ALLEGHENY COUNTY, PENNSYLVANIA

REFERENCES: ESRI WORLD IMAGERY, DIGITALGLOBE, 2015, ACCESSED 02/2019. ESRI TRANSPORTATION, MICROSOFT, 02/2019, ACCESSED 02/2019.

LEGEND

- EXISTING SUBSTATION
- PROPOSED ROUTE
- ALTERNATIVE 1
- ALTERNATIVE 2
- STUDY AREA
- MUNICIPAL BOUNDARY

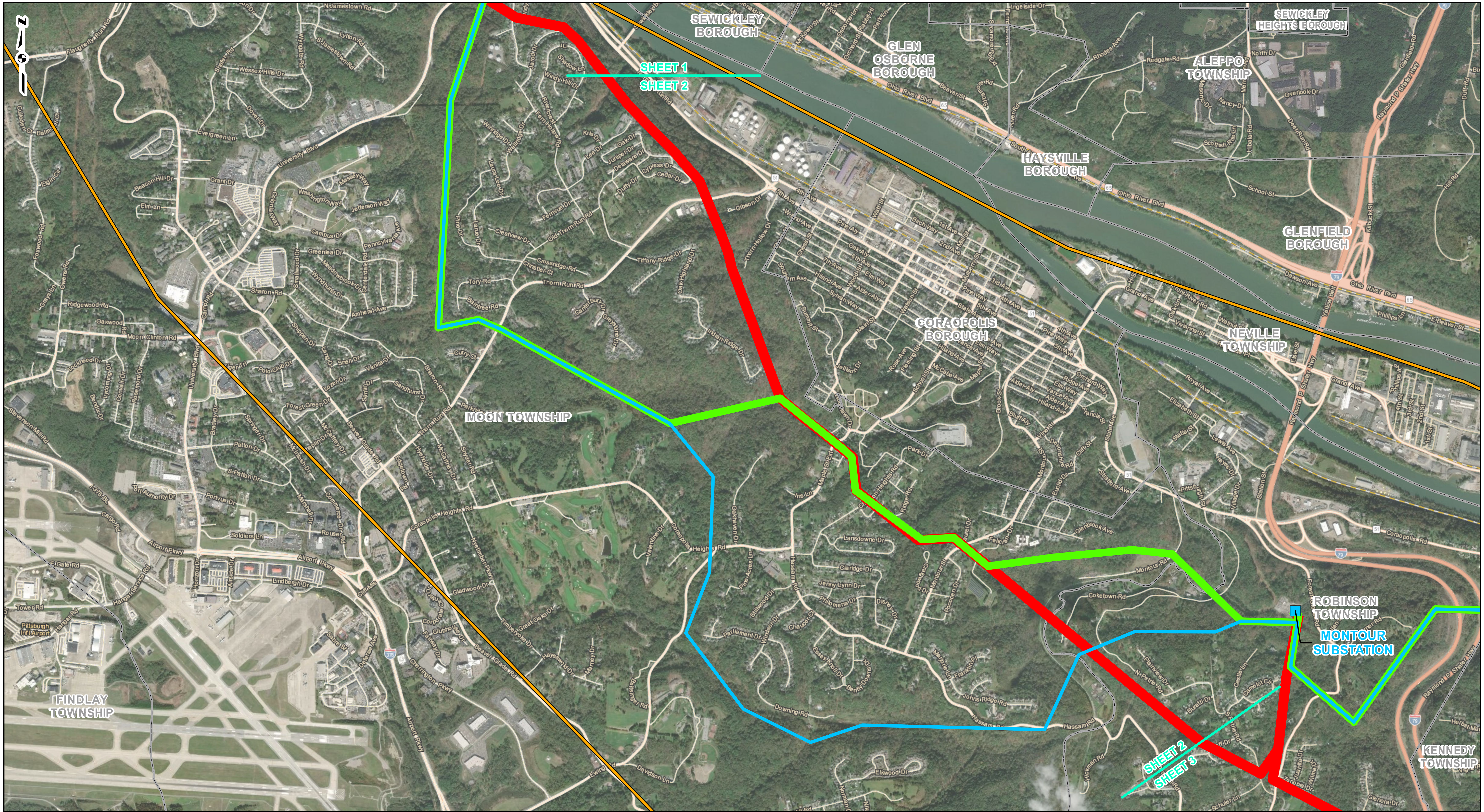
0 1,000 2,000 4,000 Feet

FIGURE 2
STUDY AREA AND ALTERNATIVE ROUTES
SHEET 1 OF 3

BRUNOT ISLAND - CRESCENT
138 kV TRANSMISSION LINE REBUILD PROJECT
DUQUESNE LIGHT COMPANY

DRAWN BY: AEK
CHECKED: EFJ
DATE: 2/15/2019
APPROVED: AMK

\\SRVWPITFS16.GAICONSULTANTS.LOCAL\BUProjects\GIS.Projects\C120473.13 - GIS\MXD\Constraints\Fig_2_Alternative_Routes_2018_06_15.mxd



PROJECT LOCATION

ALLEGHENY COUNTY, PENNSYLVANIA

REFERENCES: ESRI WORLD IMAGERY, DIGITALGLOBE, 2015, ACCESSED 02/2019. ESRI TRANSPORTATION, MICROSOFT, 02/2019, ACCESSED 02/2019.

LEGEND

EXISTING SUBSTATION	STUDY AREA
PROPOSED ROUTE	MUNICIPAL BOUNDARY
ALTERNATIVE 1	
ALTERNATIVE 2	

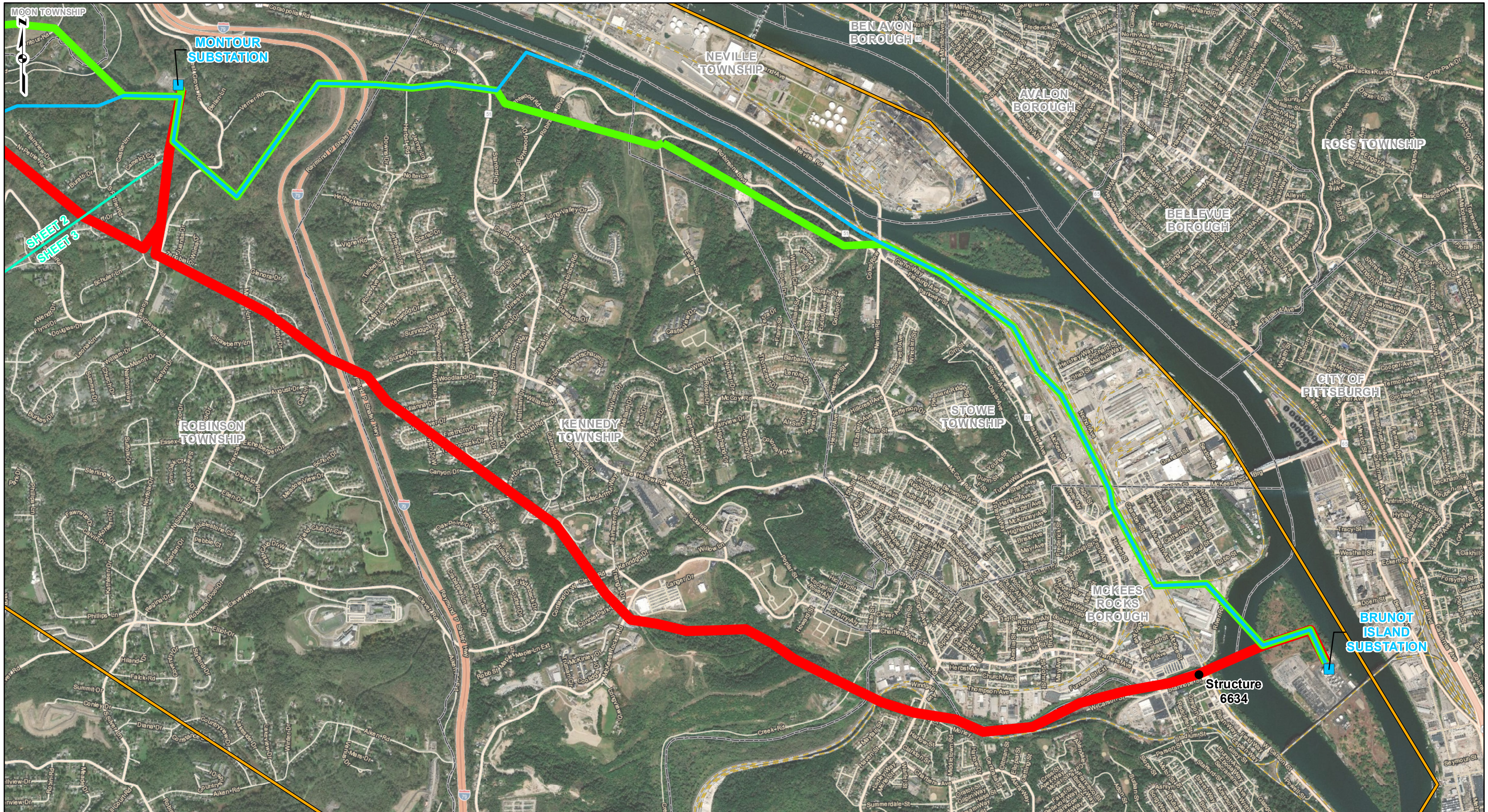
0 1,000 2,000 4,000 Feet

FIGURE 2
STUDY AREA AND ALTERNATIVE ROUTES
SHEET 2 OF 3

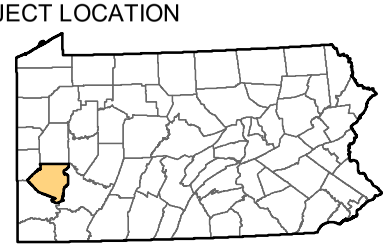
BRUNOT ISLAND - CRESCENT
138 kV TRANSMISSION LINE REBUILD PROJECT
DUQUESNE LIGHT COMPANY

DRAWN BY: AEK | DATE: 2/15/2019
CHECKED: EFJ | APPROVED: AMK

\\SRVWPITFS16.GAICONSULTANTS.LOCAL\BUProjects\GIS.Projects\C120473.13 - GIS\MXD\Constraints\Fig_2_Alternative_Routes_2018_06_15.mxd



PROJECT LOCATION



ALLEGHENY COUNTY, PENNSYLVANIA

REFERENCES: ESRI WORLD IMAGERY, DIGITALGLOBE, 2015, ACCESSED 02/2019. ESRI TRANSPORTATION, MICROSOFT, 02/2019, ACCESSED 02/2019.

LEGEND

- EXISTING SUBSTATION
- PROPOSED ROUTE
- ALTERNATIVE 1
- ALTERNATIVE 2
- STUDY AREA
- MUNICIPAL BOUNDARY

0 1,000 2,000 4,000 Feet

FIGURE 2
STUDY AREA AND ALTERNATIVE ROUTES SHEET 3 OF 3

BRUNOT ISLAND - CRESCENT
138 kV TRANSMISSION LINE REBUILD PROJECT
DUQUESNE LIGHT COMPANY

DRAWN BY: AEK DATE: 2/15/2019
CHECKED: EFJ APPROVED: AMK

\\SRVWPITFS16.GAICONSULTANTS.LOCAL\BUProjects\GIS.Projects\C120473.13 - GIS\MXD\Constraints\Fig_2_Alternative_Routes_2018_06_15.mxd

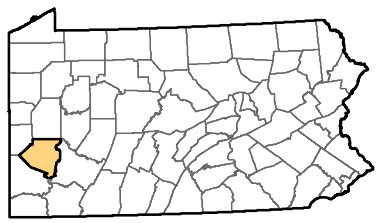
Attachment 8

SHEET 1

SHEET 2

SHEET 3

PROJECT LOCATION



ALLEGHENY COUNTY, PENNSYLVANIA

REFERENCE: USGS 30'X60' TOPOGRAPHIC QUADRANGLES: EAST LIVERPOOL (1986) AND PITTSBURGH WEST(1986), PENNSYLVANIA, OBTAINED THROUGH ESRI USA TOPO MAPS, NATIONAL GEOGRAPHIC TOPO AND USGS, ACCESSED 02/2019.

LEGEND

- PROPOSED ROUTE
- ALTERNATIVE 1
- ALTERNATIVE 2
- STUDY AREA
- SHEET INDEX
- MUNICIPAL BOUNDARY

0 0.625 1.25 2.5 Miles

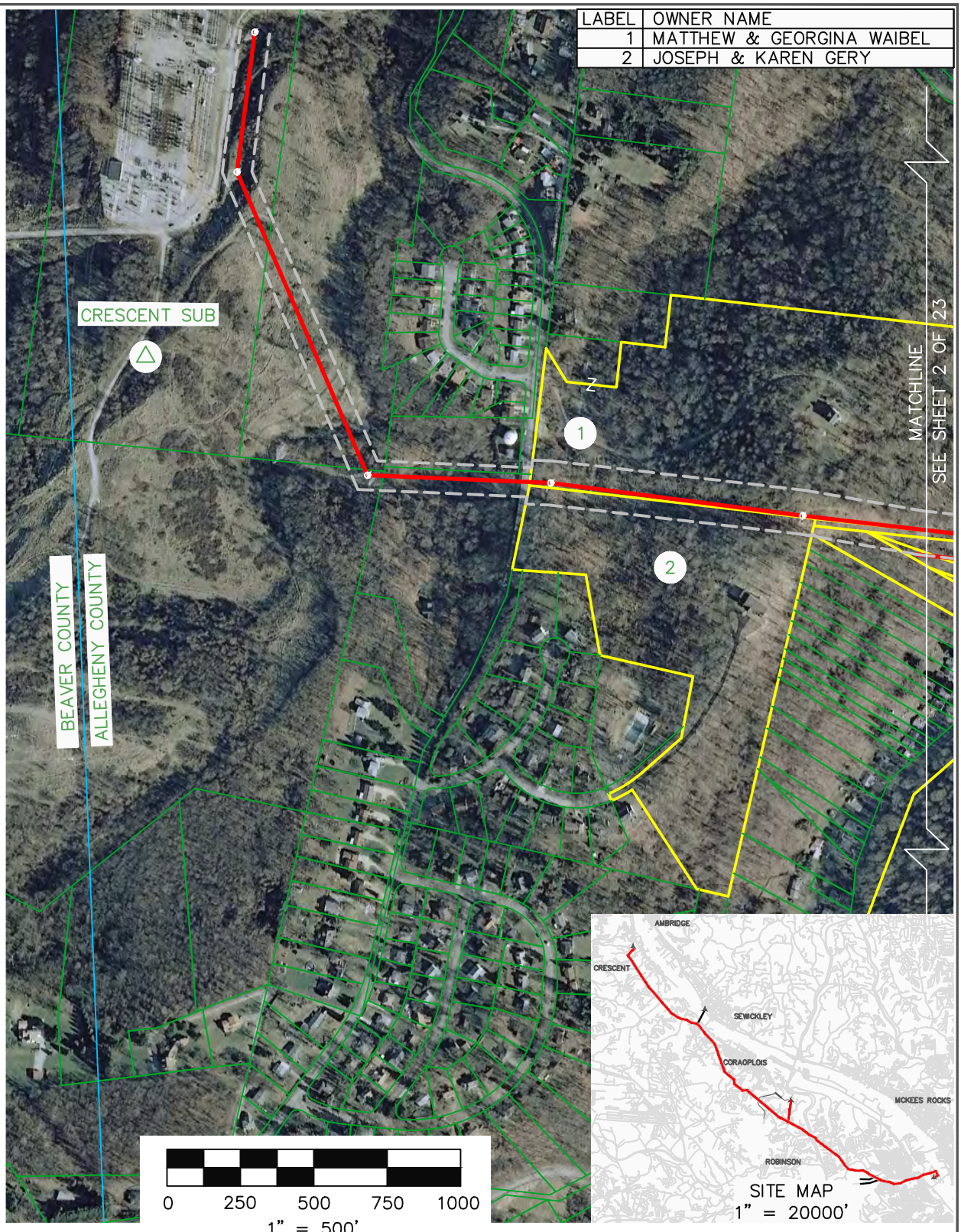
FIGURE 2
STUDY AREA AND ALTERNATIVE ROUTES
SHEET INDEX

BRUNOT ISLAND - CRESCENT
138 kV TRANSMISSION LINE REBUILD PROJECT
DUQUESNE LIGHT COMPANY

DRAWN BY: AEK
CHECKED: EFJ
DATE: 2/15/2019
APPROVED: AMK

\\SRVWPITFS16.GAICONSULTANTS.LOCAL\BUProjects\GIS.Projects\C120473.13 - GIS\MXD\Constraints\Fig_2_Alternative_Routes_Index_2018_06_15.mxd

Amended Attachment 9



LABEL	OWNER NAME
1	MATTHEW & GEORGINA WAIBEL
2	JOSEPH & KAREN GERY

NOTE:
THE RIGHT OF WAY IS VARIABLE IN WIDTH AND IS NOT REPRESENTATIVE ON THE PARCEL.

NORTH

LEGEND

- △ SUBSTATION
- PROPOSED ROUTE
- ROW
- PARCEL WITHIN ROW
- GIS PARCEL BOUNDARY

SOURCES: PENNSYLVANIA SPATIAL DATA ACCESS (PASDA)
PROJECTED COORDINATE SYSTEM: PA STATE PLANE SOUTH
DATUM: NORTH AMERICAN DATUM OF 1983 (NAD83)
PROJECTION: LAMBERT CONFORMAL CONIC.
LINEAR UNIT: FEET
ELLIPSOID: GEODETIC REFERENCE SYSTEM 80

DUQUESNE LIGHT COMPANY

REAL ESTATE DEPT.–SURVEYING PITTSBURGH,PA.

B.I. – CRESCENT AERIAL EXHIBIT

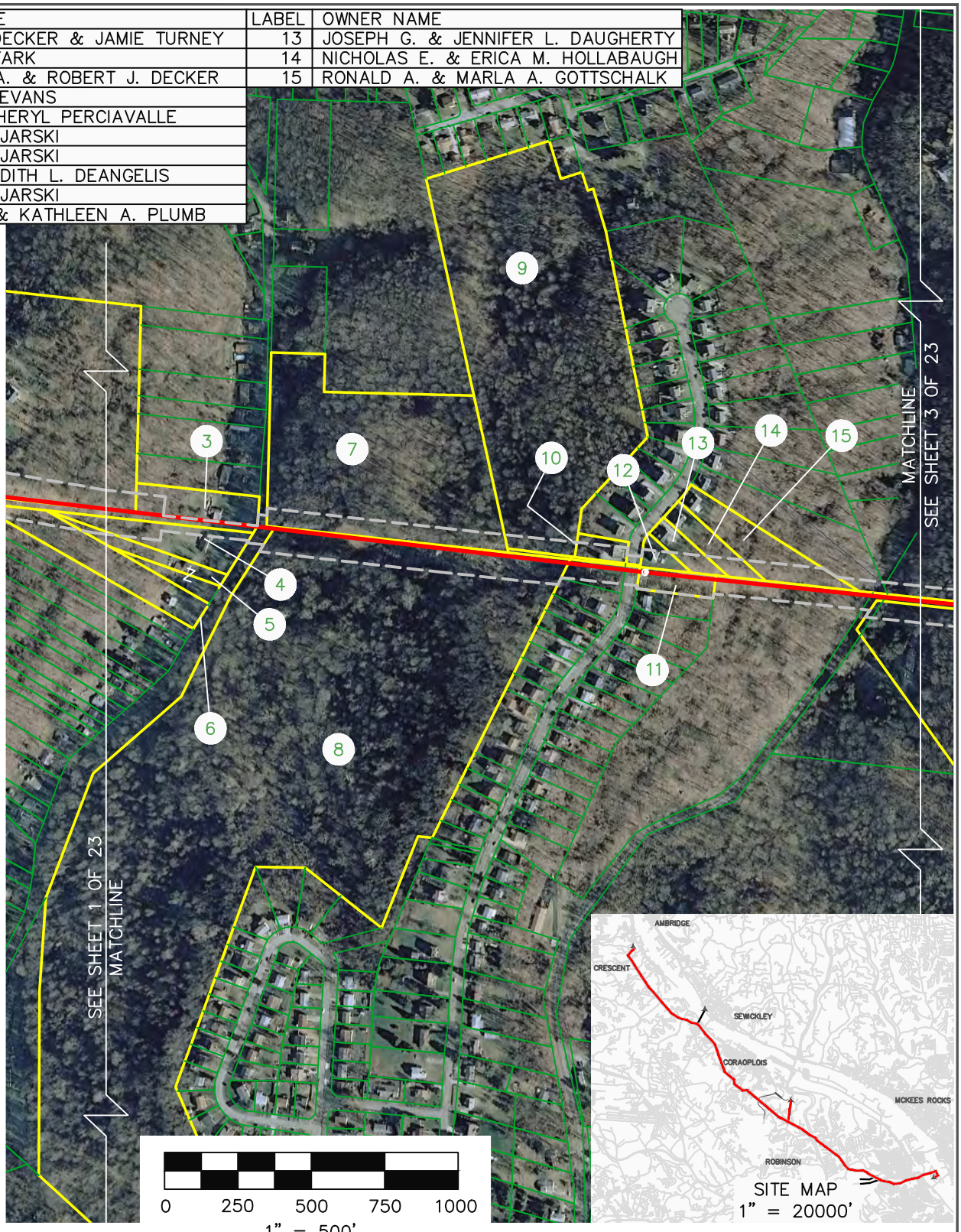
SCALE AS SHOWN	DATE 7/17/20	ARCH. APP.
	DRAWN JLS	ELECT. APP.
	CHECKED LAT	MECH. APP.
	INSP.	STRUCT. APP.

BEAVER COUNTY/ALLEGHENY COUNTY
CRESCENT TWP.
SHEET 1 OF 23

APP. COMPLETE WHEN INITIALED HERE	O.F.E.	L	NO. 8790
	C.O.		

LABEL	OWNER NAME
3	ROBERT J. DECKER & JAMIE TURNEY
4	VICKIE D. STARK
5	CATHERINE A. & ROBERT J. DECKER
6	MICHAEL S. EVANS
7	DANIEL & CHERYL PERCIAVALLE
8	LOUIS A. BOJARSKI
9	LOUIS A. BOJARSKI
10	JAMES & JUDITH L. DEANGELIS
11	LOUIS A. BOJARSKI
12	JOSEPH W. & KATHLEEN A. PLUMB

LABEL	OWNER NAME
13	JOSEPH G. & JENNIFER L. DAUGHERTY
14	NICHOLAS E. & ERICA M. HOLLABAUGH
15	RONALD A. & MARLA A. GOTTSCHALK



NOTE:
THE RIGHT OF WAY IS VARIABLE IN WIDTH AND IS NOT REPRESENTATIVE ON THE PARCEL.

NORTH

0 250 500 750 1000
1" = 500'

SITE MAP
1" = 20000'

LEGEND

- △ SUBSTATION
- PROPOSED ROUTE
- ROW
- PARCEL WITHIN ROW
- GIS PARCEL BOUNDARY

SOURCES: PENNSYLVANIA SPATIAL DATA ACCESS (PASDA)
PROJECTED COORDINATE SYSTEM: PA STATE PLANE SOUTH
DATUM: NORTH AMERICAN DATUM OF 1983 (NAD83)
PROJECTION: LAMBERT CONFORMAL CONIC.
LINEAR UNIT: FEET
ELLIPSOID: GEODETIC REFERENCE SYSTEM 80

DUQUESNE LIGHT COMPANY

REAL ESTATE DEPT.–SURVEYING PITTSBURGH,PA.

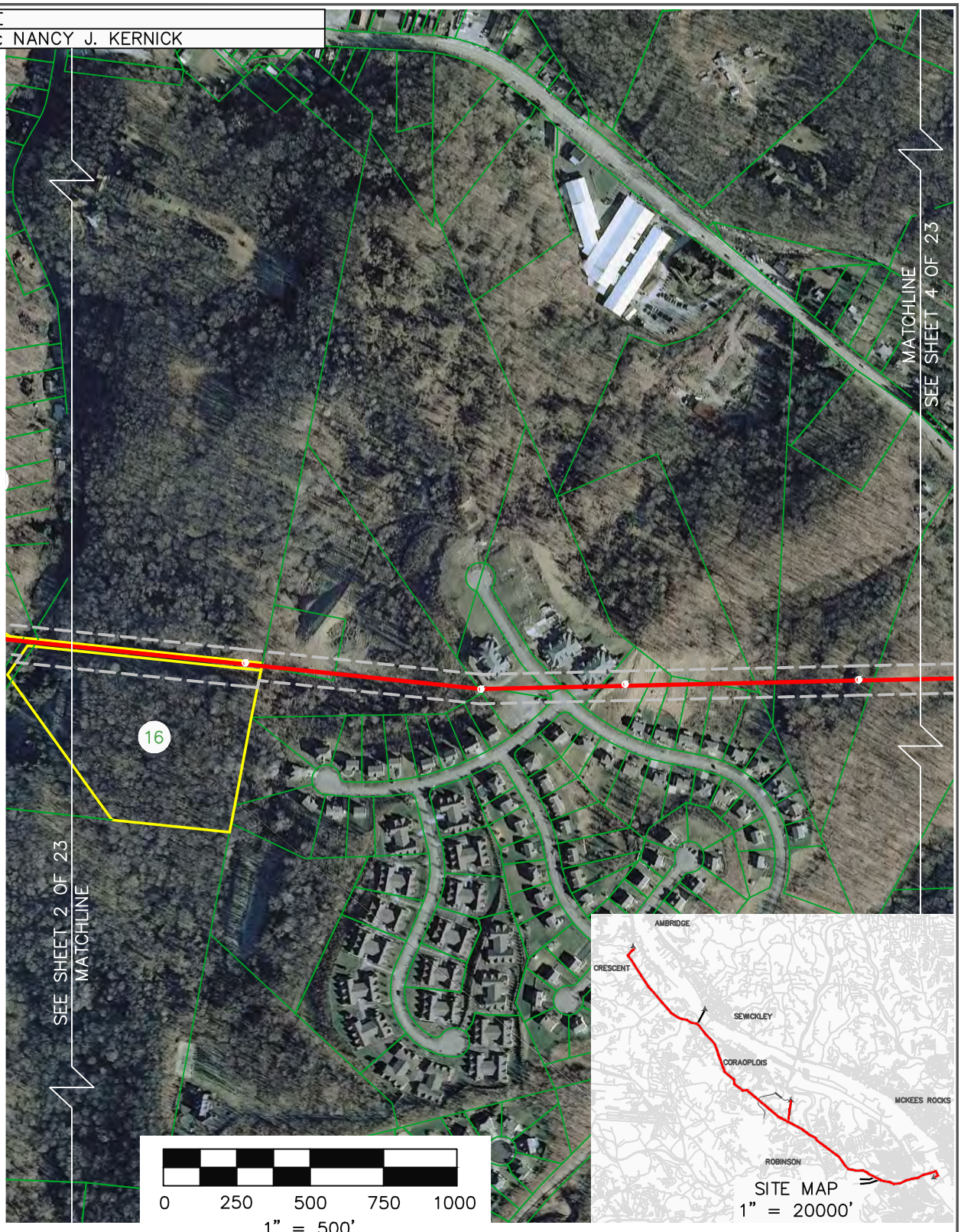
B.I. – CRESCENT AERIAL EXHIBIT

SCALE AS SHOWN	DATE 7/17/20	ARCH. APP.
	DRAWN JLS	ELECT. APP.
	CHECKED LAT	MECH. APP.
	INSP.	STRUCT. APP.

ALLEGHENY COUNTY
CRESCENT TWP.
SHEET 2 OF 23

APP. COMPLETE WHEN INITIALED HERE	O.F.E.	L	NO. 8790
	C.O.		

LABEL	OWNER NAME
16	ROBERT J. & NANCY J. KERNICK



NOTE:
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NORTH

0 250 500 750 1000
1" = 500'

SITE MAP
1" = 20000'

LEGEND

- △ SUBSTATION
- PROPOSED ROUTE
- ROW
- PARCEL WITHIN ROW
- GIS PARCEL BOUNDARY

SOURCES: PENNSYLVANIA SPATIAL DATA ACCESS (PASDA)
PROJECTED COORDINATE SYSTEM: PA STATE PLANE SOUTH
DATUM: NORTH AMERICAN DATUM OF 1983 (NAD83)
PROJECTION: LAMBERT CONFORMAL CONIC.
LINEAR UNIT: FEET
ELLIPSOID: GEODETIC REFERENCE SYSTEM 80

DUQUESNE LIGHT COMPANY

REAL ESTATE DEPT.–SURVEYING PITTSBURGH,PA.

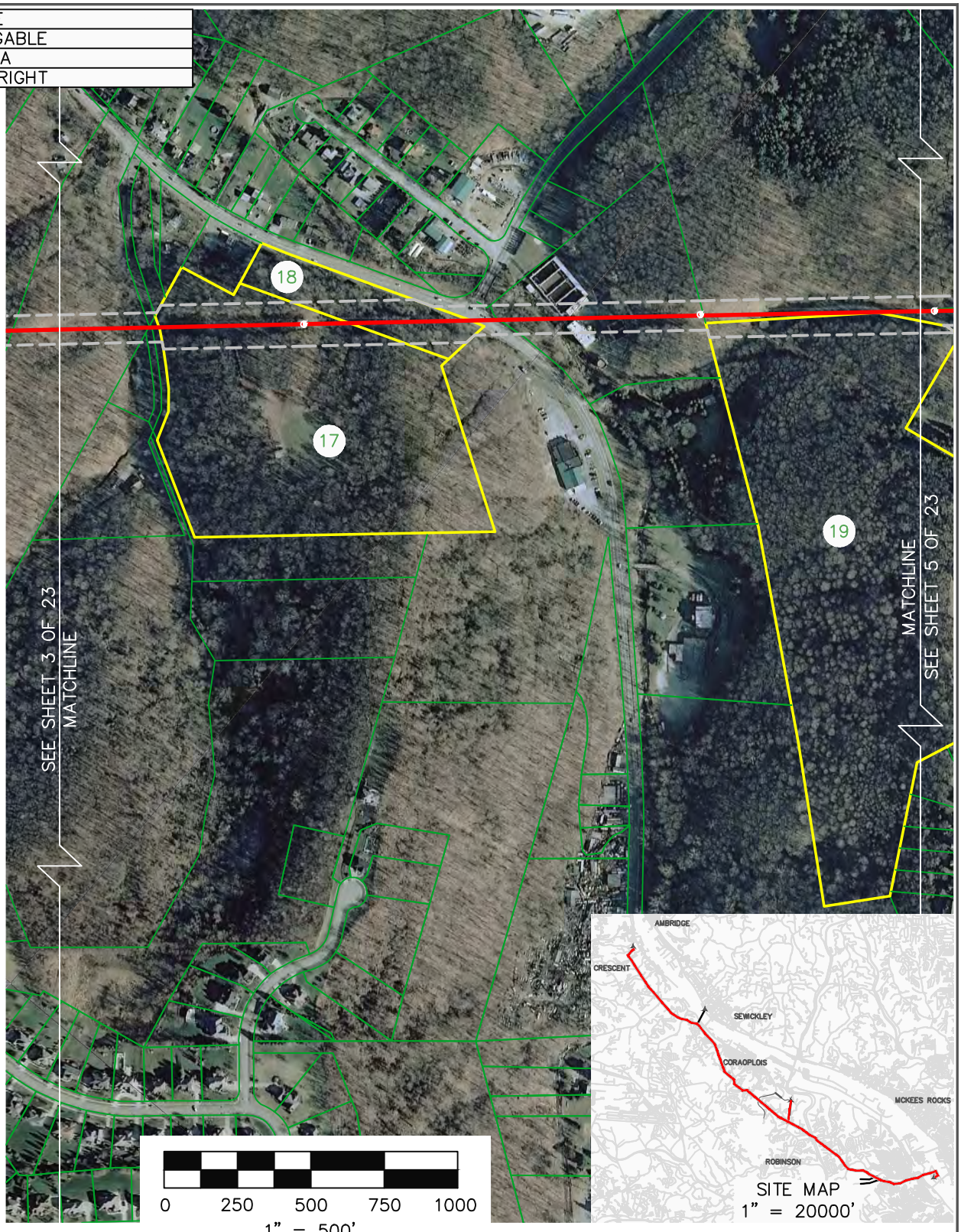
B.I. – CRESCENT
AERIAL EXHIBIT

SCALE AS SHOWN	DATE 7/17/20	ARCH. APP.
	DRAWN JLS	ELECT. APP.
	CHECKED LAT	MECH. APP.
	INSP.	STRUCT. APP.

ALLEGHENY COUNTY
CRESCENT TWP.
SHEET 3 OF 23

APP. COMPLETE WHEN INITIALED HERE	O.F.E.	L	NO. 8790
	C.O.		

LABEL	OWNER NAME
17	RICHARD I. GABLE
18	MARTIN MEDIA
19	DANIEL C. WRIGHT



NOTE:
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NORTH

0 250 500 750 1000
1" = 500'

SITE MAP
1" = 20000'

LEGEND

- △ SUBSTATION
- PROPOSED ROUTE
- ROW
- PARCEL WITHIN ROW
- GIS PARCEL BOUNDARY

SOURCES: PENNSYLVANIA SPATIAL DATA ACCESS (PASDA)
PROJECTED COORDINATE SYSTEM: PA STATE PLANE SOUTH
DATUM: NORTH AMERICAN DATUM OF 1983 (NAD83)
PROJECTION: LAMBERT CONFORMAL CONIC.
LINEAR UNIT: FEET
ELLIPSOID: GEODETIC REFERENCE SYSTEM 80

DUQUESNE LIGHT COMPANY

REAL ESTATE DEPT.–SURVEYING PITTSBURGH,PA.

B.I. – CRESCENT
AERIAL EXHIBIT

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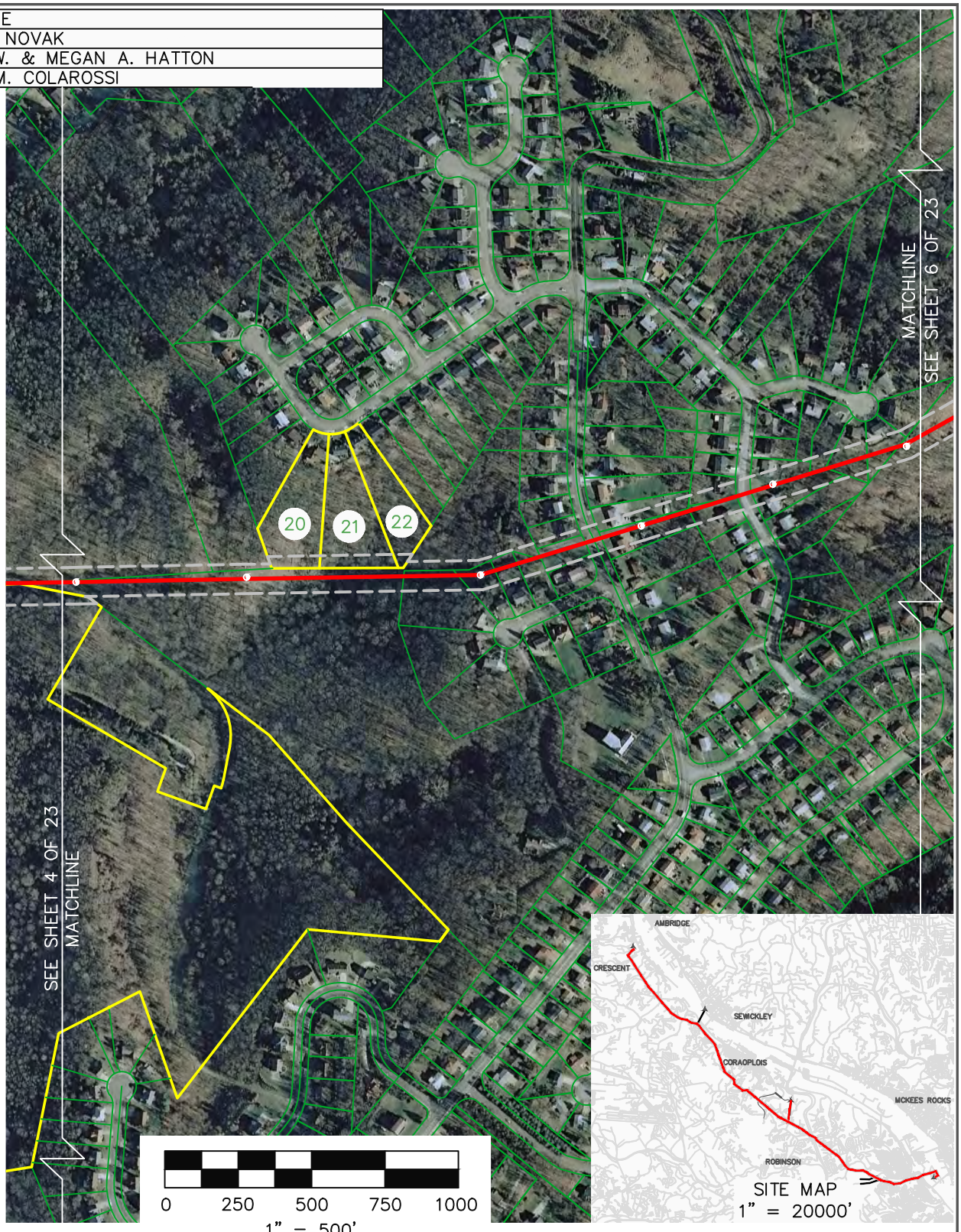
	DRAWN JLS	ELECT. APP.
	CHECKED LAT	MECH. APP.
	INSP.	STRUCT. APP.

ALLEGHENY COUNTY
MOON TWP.
SHEET 4 OF 23

APP. COMPLETE WHEN INITIALED HERE	O.F.E.	L	NO. 8790
	C.O.		

LABEL	OWNER NAME
20	MICHAEL R. NOVAK
21	GEOFFREY W. & MEGAN A. HATTON
22	CHRISTINA M. COLAROSSI



NOTE:
THE RIGHT OF WAY IS VARIABLE IN WIDTH AND IS NOT REPRESENTATIVE ON THE PARCEL.

NORTH

0 250 500 750 1000
1" = 500'

SITE MAP
1" = 20000'

LEGEND

- △ SUBSTATION
- PROPOSED ROUTE
- ROW
- PARCEL WITHIN ROW
- GIS PARCEL BOUNDARY

SOURCES: PENNSYLVANIA SPATIAL DATA ACCESS (PASDA)
PROJECTED COORDINATE SYSTEM: PA STATE PLANE SOUTH
DATUM: NORTH AMERICAN DATUM OF 1983 (NAD83)
PROJECTION: LAMBERT CONFORMAL CONIC.
LINEAR UNIT: FEET
ELLIPSOID: GEODETIC REFERENCE SYSTEM 80

DUQUESNE LIGHT COMPANY

REAL ESTATE DEPT.–SURVEYING PITTSBURGH,PA.

B.I. – CRESCENT
AERIAL EXHIBIT

SCALE AS SHOWN	DATE 7/17/20	ARCH. APP.
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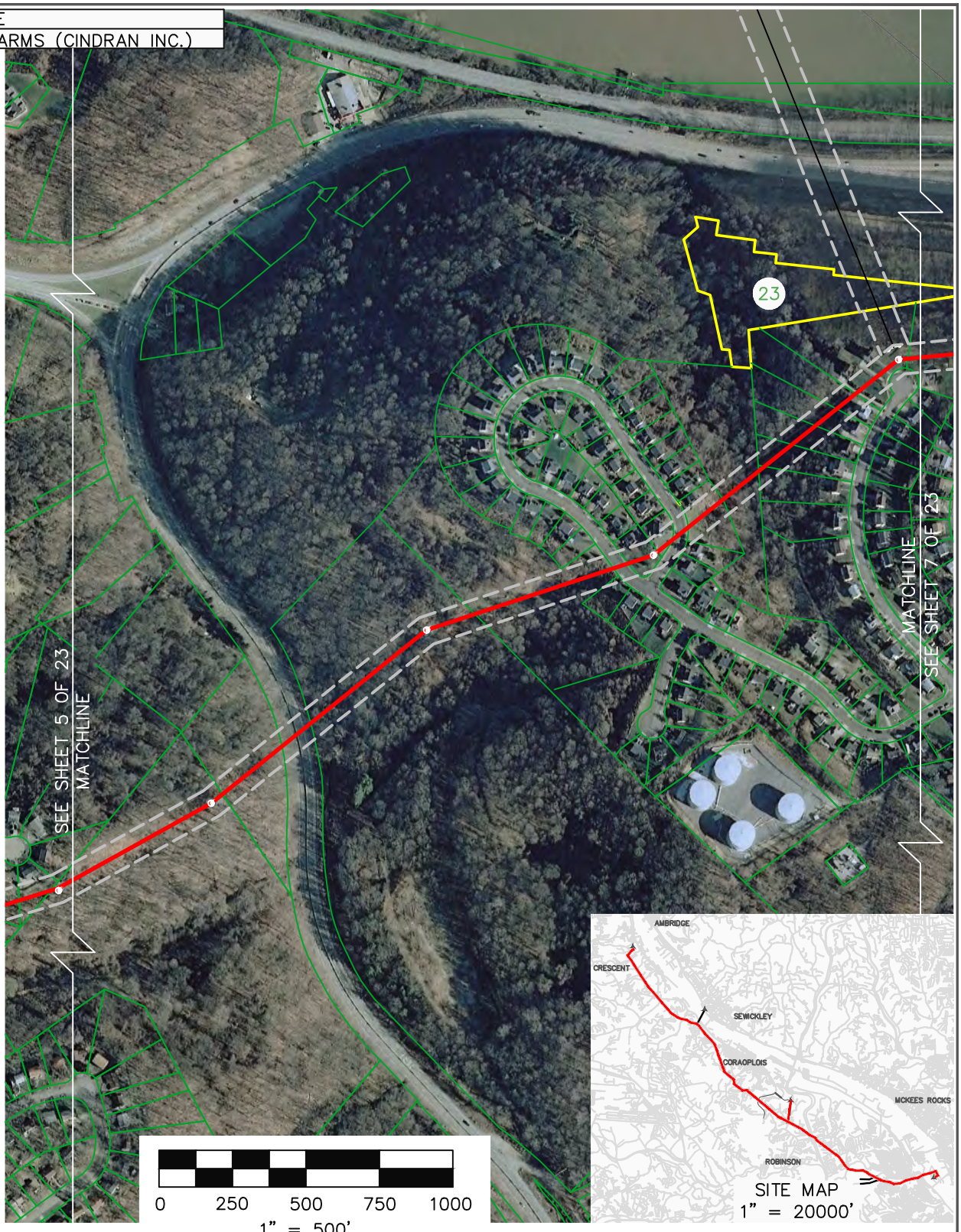
	CHECKED LAT	MECH. APP.
	INSP.	STRUCT. APP.

ALLEGHENY COUNTY
MOON TWP.
SHEET 5 OF 23

APP. COMPLETE WHEN INITIALED HERE	O.F.E.	L	NO. 8790
	C.O.		

LABEL	OWNER NAME
23	MORRISON FARMS (CINDRAN INC.)



NOTE:
THE RIGHT OF WAY IS VARIABLE IN WIDTH AND IS NOT REPRESENTATIVE ON THE PARCEL.

NORTH

0 250 500 750 1000
1" = 500'

SITE MAP
1" = 20000'

LEGEND

- △ SUBSTATION
- PROPOSED ROUTE
- ROW
- PARCEL WITHIN ROW
- GIS PARCEL BOUNDARY

SOURCES: PENNSYLVANIA SPATIAL DATA ACCESS (PASDA)
PROJECTED COORDINATE SYSTEM: PA STATE PLANE SOUTH
DATUM: NORTH AMERICAN DATUM OF 1983 (NAD83)
PROJECTION: LAMBERT CONFORMAL CONIC.
LINEAR UNIT: FEET
ELLIPSOID: GEODETIC REFERENCE SYSTEM 80

DUQUESNE LIGHT COMPANY

REAL ESTATE DEPT.–SURVEYING PITTSBURGH,PA.

B.I. – CRESCENT
AERIAL EXHIBIT

SCALE AS SHOWN	DATE 7/17/20	ARCH. APP.
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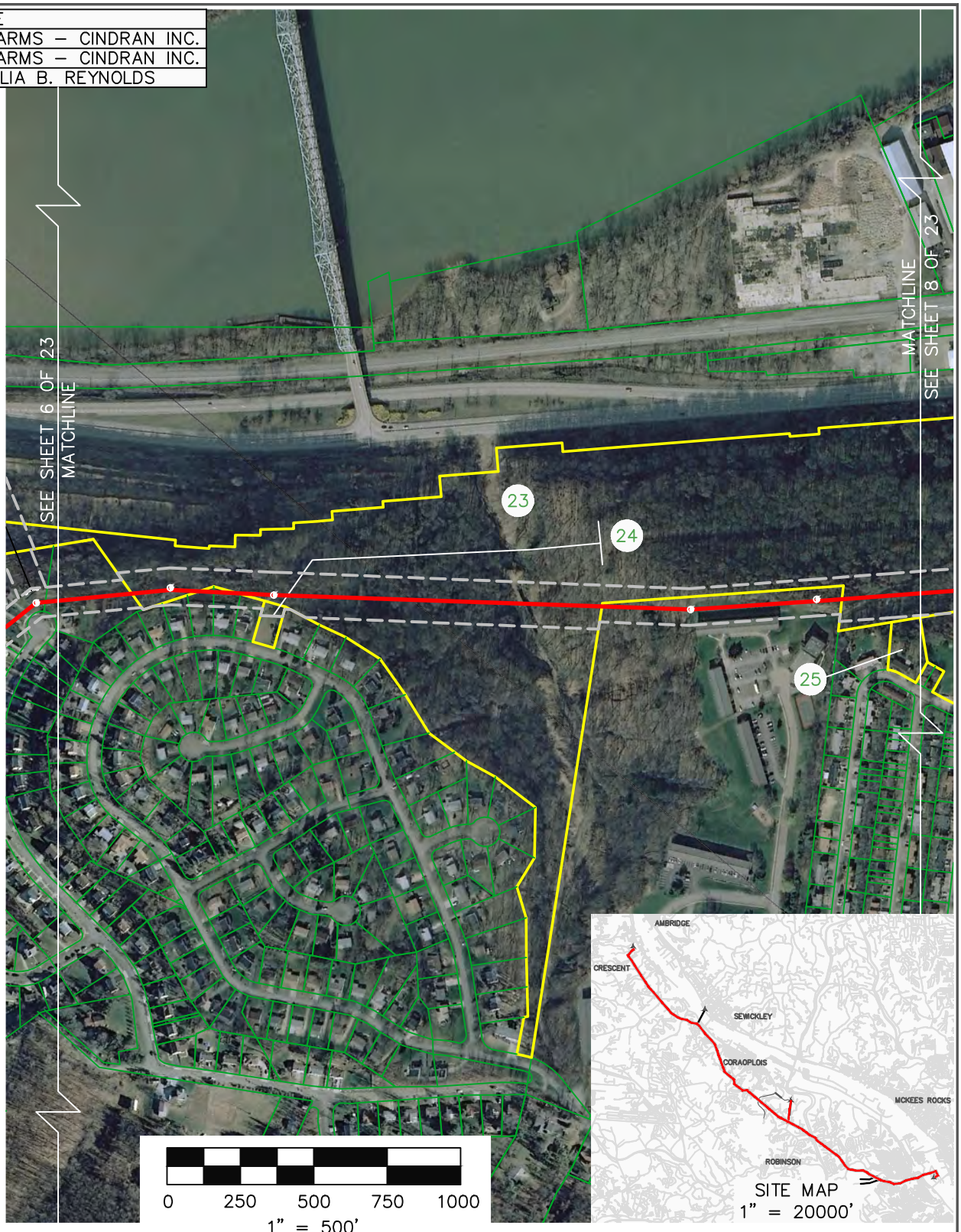
	CHECKED LAT	MECH. APP.
	INSP.	STRUCT. APP.

ALLEGHENY COUNTY
MOON TWP.
SHEET 6 OF 23

APP. COMPLETE WHEN INITIALED HERE	O.F.E.	L	NO. 8790
	C.O.		

LABEL	OWNER NAME
23	MORRISON FARMS – CINDRAN INC.
24	MORRISON FARMS – CINDRAN INC.
25	HENRY & JULIA B. REYNOLDS



NOTE:
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NORTH

LEGEND

- △ SUBSTATION
- PROPOSED ROUTE
- ROW
- PARCEL WITHIN ROW
- GIS PARCEL BOUNDARY

SOURCES: PENNSYLVANIA SPATIAL DATA ACCESS (PASDA)
PROJECTED COORDINATE SYSTEM: PA STATE PLANE SOUTH
DATUM: NORTH AMERICAN DATUM OF 1983 (NAD83)
PROJECTION: LAMBERT CONFORMAL CONIC.
LINEAR UNIT: FEET
ELLIPSOID: GEODETIC REFERENCE SYSTEM 80

DUQUESNE LIGHT COMPANY

REAL ESTATE DEPT.–SURVEYING PITTSBURGH,PA.

B.I. – CRESCENT
AERIAL EXHIBIT

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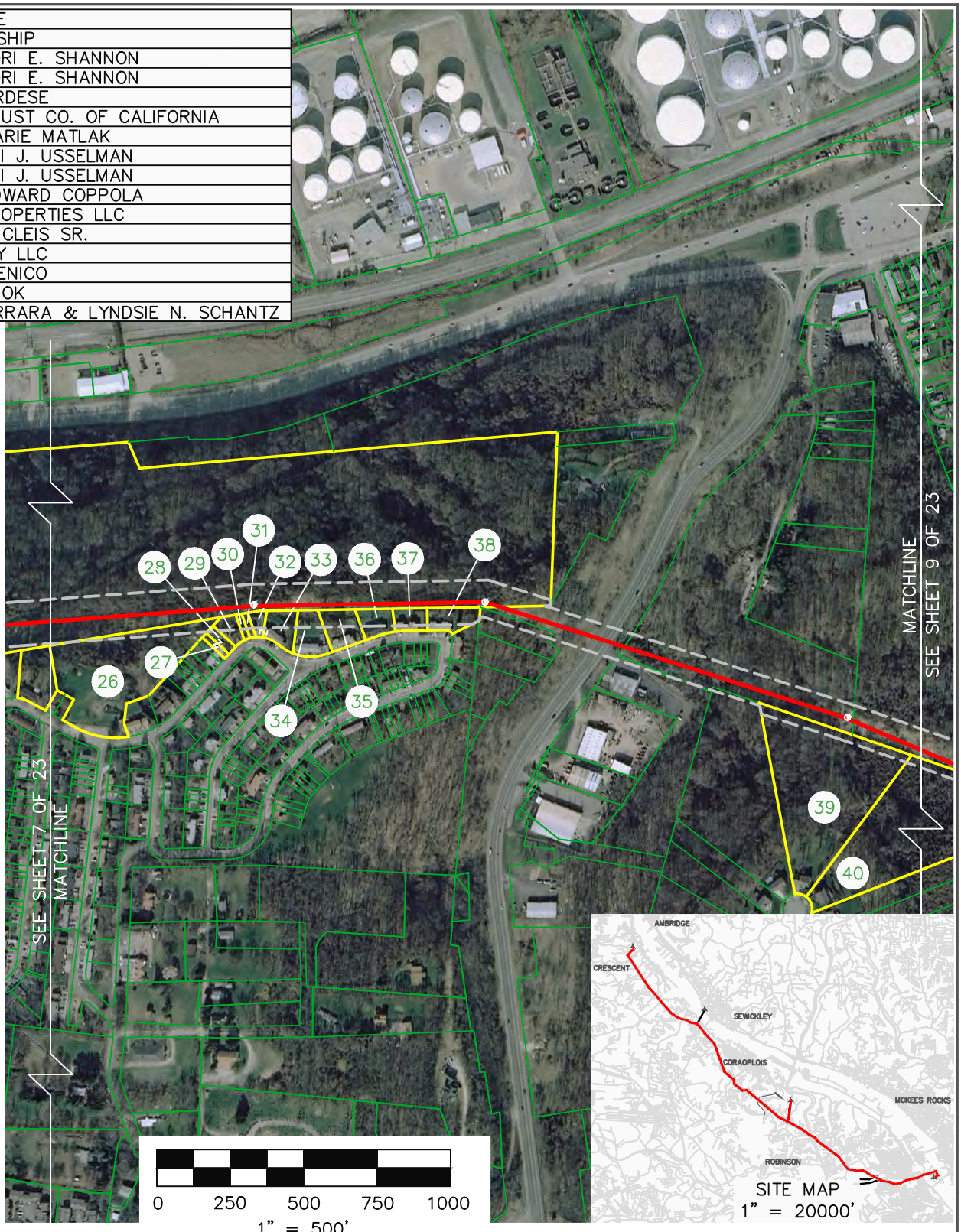
	CHECKED LAT	MECH. APP.
	INSP.	STRUCT. APP.

ALLEGHENY COUNTY
MOON TWP.
SHEET 7 OF 23

APP. COMPLETE WHEN INITIALED HERE	O.F.E.	L	NO. 8790
	C.O.		

LABEL	OWNER NAME
26	MOON TOWNSHIP
27	KIM E. & LORI E. SHANNON
28	KIM E. & LORI E. SHANNON
29	JOHN CAMARDESE
30	BANKERS TRUST CO. OF CALIFORNIA
31	CAROLYN MARIE MATLAK
32	ERIC & HEIDI J. USSELMAN
33	ERIC & HEIDI J. USSELMAN
34	MATTHEW EDWARD COPPOLA
35	TWOTUTS PROPERTIES LLC
36	CHARLES J. CLEIS SR.
37	JOLA REALTY LLC
38	JON S. DOMENICO
39	MORGAN MIHOK
40	MICHAEL FERRARA & LYNDSIE N. SCHANTZ



NOTE:
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NORTH

LEGEND

- △ SUBSTATION
- PROPOSED ROUTE
- ROW
- PARCEL WITHIN ROW
- GIS PARCEL BOUNDARY

SOURCES: PENNSYLVANIA SPATIAL DATA ACCESS (PASDA)
PROJECTED COORDINATE SYSTEM: PA STATE PLANE SOUTH
DATUM: NORTH AMERICAN DATUM OF 1983 (NAD83)
PROJECTION: LAMBERT CONFORMAL CONIC.
LINEAR UNIT: FEET
ELLIPSOID: GEODETIC REFERENCE SYSTEM 80

DUQUESNE LIGHT COMPANY

REAL ESTATE DEPT.–SURVEYING PITTSBURGH,PA.

B.I. – CRESCENT
AERIAL EXHIBIT

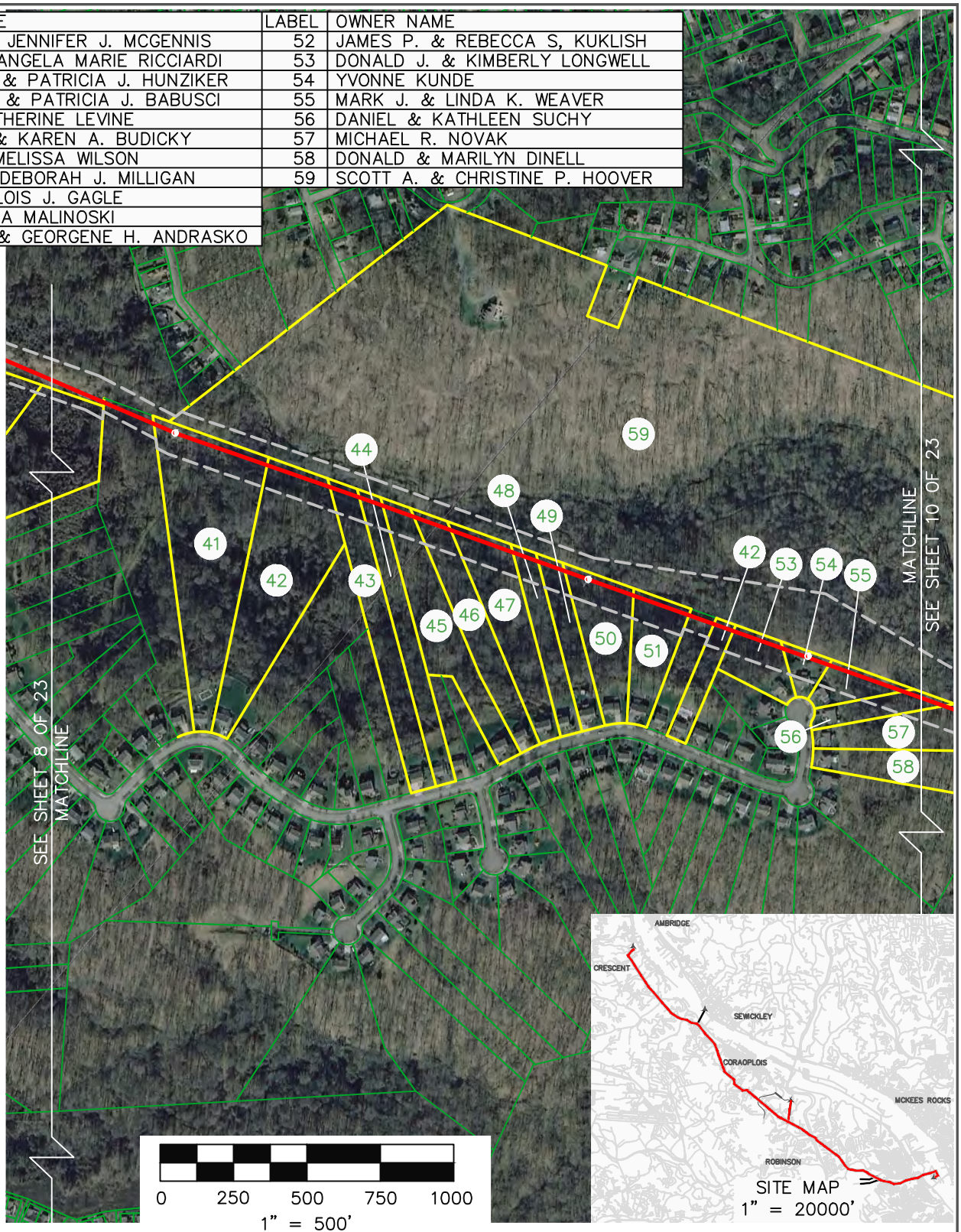
SCALE AS SHOWN	DATE 7/17/20	ARCH. APP.	
	DRAWN JLS	ELECT. APP.	
	CHECKED LAT	MECH. APP.	
	INSP.	STRUCT. APP.	

ALLEGHENY COUNTY
MOON TWP.
SHEET 8 OF 23

APP. COMPLETE WHEN INITIALED HERE	O.F.E.	L	NO. 8790
	C.O.		

LABEL	OWNER NAME
41	BRETT W. & JENNIFER J. MCGENNIS
42	VINCENT & ANGELA MARIE RICCIARDI
43	RICHARD A. & PATRICIA J. HUNZIKER
44	ANTHONY J. & PATRICIA J. BABUSCI
45	JOHN & CATHERINE LEVINE
46	RONALD J. & KAREN A. BUDICKY
47	BRANDT & MELISSA WILSON
48	OWEN R. & DEBORAH J. MILLIGAN
49	TODD J. & LOIS J. GAGLE
50	KEITH & DINA MALINOSKI
51	RONALD A. & GEORGENE H. ANDRASKO

LABEL	OWNER NAME
52	JAMES P. & REBECCA S, KUKLISH
53	DONALD J. & KIMBERLY LONGWELL
54	YVONNE KUNDE
55	MARK J. & LINDA K. WEAVER
56	DANIEL & KATHLEEN SUCHY
57	MICHAEL R. NOVAK
58	DONALD & MARILYN DINELL
59	SCOTT A. & CHRISTINE P. HOOVER



NOTE:
THE RIGHT OF WAY IS VARIABLE IN WIDTH AND IS NOT REPRESENTATIVE ON THE PARCEL.

NORTH

0 250 500 750 1000
1" = 500'

SITE MAP
1" = 20000'

LEGEND

- △ SUBSTATION
- PROPOSED ROUTE
- ROW
- PARCEL WITHIN ROW
- GIS PARCEL BOUNDARY

SOURCES: PENNSYLVANIA SPATIAL DATA ACCESS (PASDA)
PROJECTED COORDINATE SYSTEM: PA STATE PLANE SOUTH
DATUM: NORTH AMERICAN DATUM OF 1983 (NAD83)
PROJECTION: LAMBERT CONFORMAL CONIC.
LINEAR UNIT: FEET
ELLIPSOID: GEODETIC REFERENCE SYSTEM 80

DUQUESNE LIGHT COMPANY

REAL ESTATE DEPT.–SURVEYING PITTSBURGH,PA.

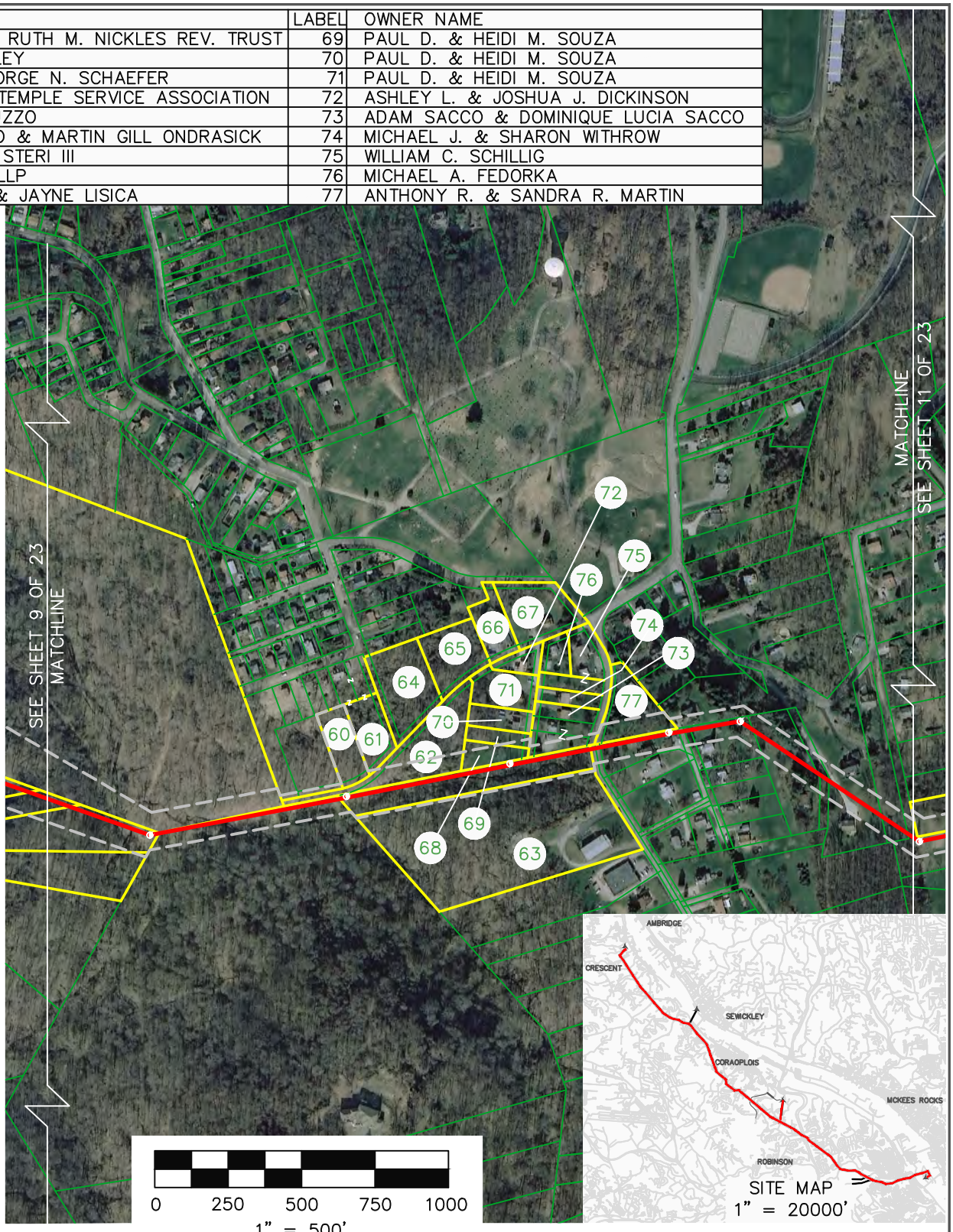
B.I. – CRESCENT
AERIAL EXHIBIT

SCALE AS SHOWN	DATE 7/17/20	ARCH. APP.	
	DRAWN JLS	ELECT. APP.	
	CHECKED LAT	MECH. APP.	
	INSP.	STRUCT. APP.	

ALLEGHENY COUNTY
MOON TWP.
SHEET 9 OF 23

APP. COMPLETE WHEN INITIALED HERE	O.F.E.	L	NO. 8790
	C.O.		

LABEL	OWNER NAME	LABEL	OWNER NAME
60	JOSEPH A. & RUTH M. NICKLES REV. TRUST	69	PAUL D. & HEIDI M. SOUZA
61	LYNNE J. BOLEY	70	PAUL D. & HEIDI M. SOUZA
62	HEIRS OF GEORGE N. SCHAEFER	71	PAUL D. & HEIDI M. SOUZA
63	CORAOPOLIS TEMPLE SERVICE ASSOCIATION	72	ASHLEY L. & JOSHUA J. DICKINSON
64	CHRISTIAN GUZZO	73	ADAM SACCO & DOMINIQUE LUCIA SACCO
65	WILLIAM DAVID & MARTIN GILL ONDRASICK	74	MICHAEL J. & SHARON WITHROW
66	NICHOLAS M. STERI III	75	WILLIAM C. SCHILLIG
67	FREESTONE LLLP	76	MICHAEL A. FEDORKA
68	CHARLES E. & JAYNE LISICA	77	ANTHONY R. & SANDRA R. MARTIN



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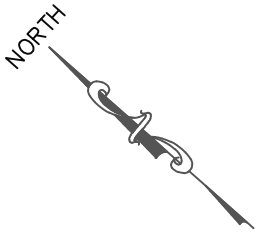

LEGEND

- △ SUBSTATION
- PROPOSED ROUTE
- ROW
- PARCEL WITHIN ROW
- GIS PARCEL BOUNDARY

SOURCES: PENNSYLVANIA SPATIAL DATA ACCESS (PASDA)
PROJECTED COORDINATE SYSTEM: PA STATE PLANE SOUTH
DATUM: NORTH AMERICAN DATUM OF 1983 (NAD83)
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DUQUESNE LIGHT COMPANY

REAL ESTATE DEPT.–SURVEYING PITTSBURGH,PA.

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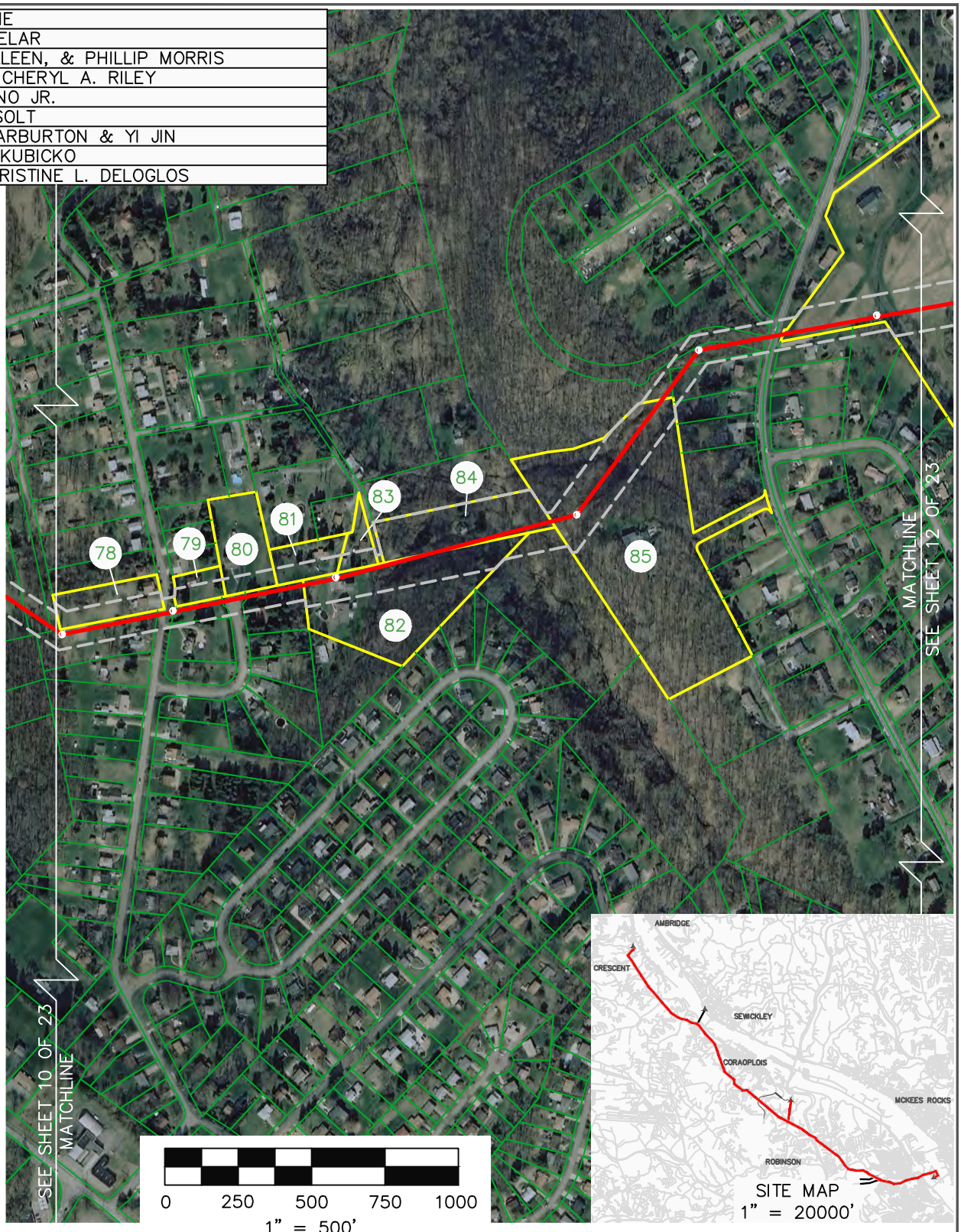
ALLEGHENY COUNTY
MOON TWP.
SHEET 10 OF 23

APP. COMPLETE WHEN INITIALED HERE: O.F.E. / C.O.

L NO. 8790

LABEL	OWNER NAME
78	MARISSA KIELAR
79	JASON, COLLEEN, & PHILLIP MORRIS
80	JOHN F. & CHERYL A. RILEY
81	JOSEPH VANO JR.
82	DENNIS J. SOLT
83	RICHARD WARBURTON & YI JIN
84	ROBERT S. KUBICKO
85	GUST & CHRISTINE L. DELOGLOS



NOTE:
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LEGEND

- △ SUBSTATION
- PROPOSED ROUTE
- ROW
- PARCEL WITHIN ROW
- GIS PARCEL BOUNDARY

SOURCES: PENNSYLVANIA SPATIAL DATA ACCESS (PASDA)
PROJECTED COORDINATE SYSTEM: PA STATE PLANE SOUTH
DATUM: NORTH AMERICAN DATUM OF 1983 (NAD83)
PROJECTION: LAMBERT CONFORMAL CONIC.
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ELLIPSOID: GEODETIC REFERENCE SYSTEM 80

DUQUESNE LIGHT COMPANY

REAL ESTATE DEPT.–SURVEYING PITTSBURGH,PA.

B.I. – CRESCENT
AERIAL EXHIBIT

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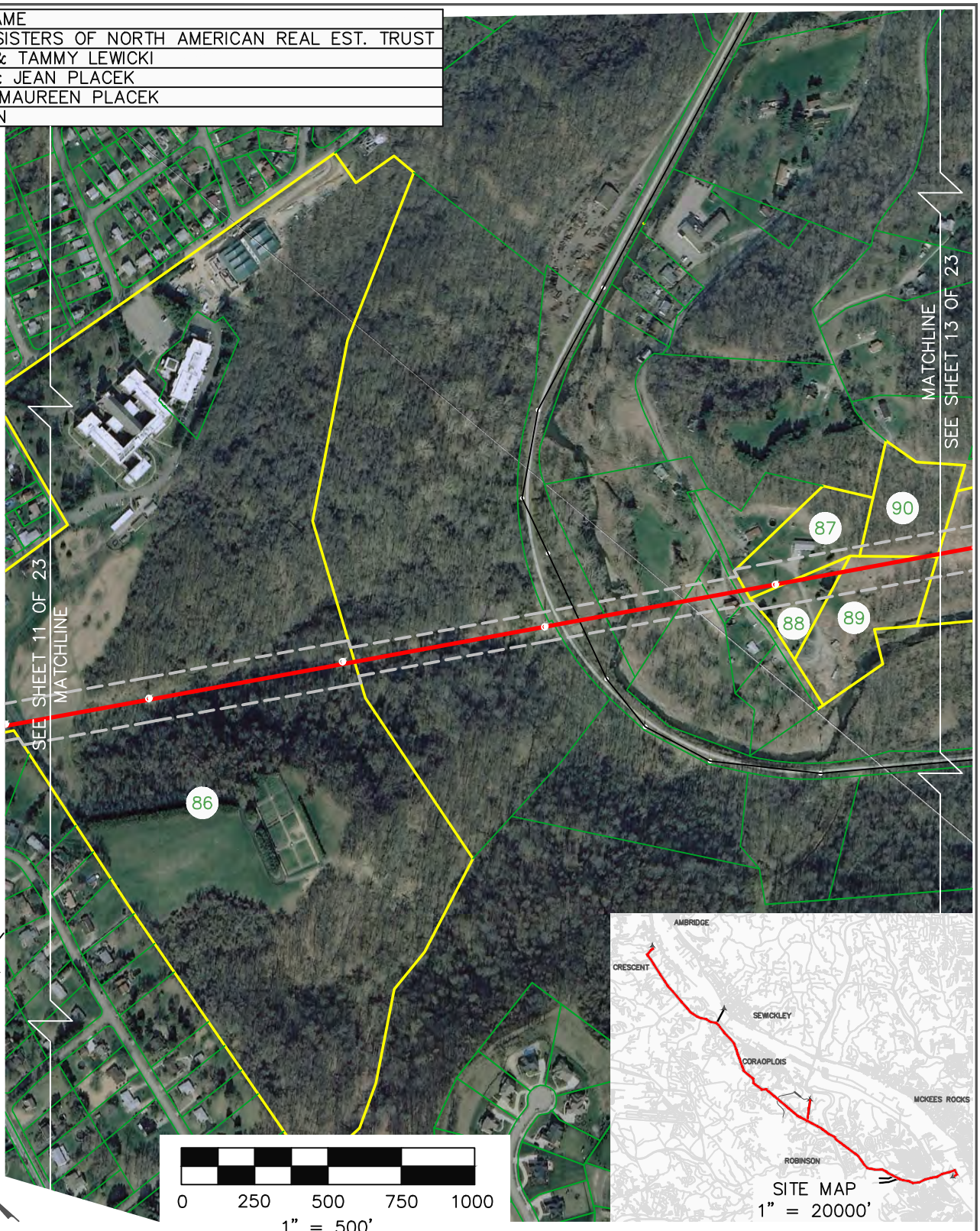
	INSP.	STRUCT. APP.

ALLEGHENY COUNTY
MOON TWP.
SHEET 11 OF 23

APP. COMPLETE WHEN INITIALED HERE	O.F.E.	L	NO. 8790
	C.O.		

LABEL	OWNER NAME
86	FELICIAN SISTERS OF NORTH AMERICAN REAL EST. TRUST
87	MICHAEL & TAMMY LEWICKI
88	ADOLPH & JEAN PLACEK
89	TERRY & MAUREEN PLACEK
90	COY ALLEN



NOTE:
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NORTH

0 250 500 750 1000
1" = 500'

SITE MAP
1" = 20000'

LEGEND

- △ SUBSTATION
- PROPOSED ROUTE
- ROW
- PARCEL WITHIN ROW
- GIS PARCEL BOUNDARY

SOURCES: PENNSYLVANIA SPATIAL DATA ACCESS (PASDA)
PROJECTED COORDINATE SYSTEM: PA STATE PLANE SOUTH
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DUQUESNE LIGHT COMPANY

REAL ESTATE DEPT.–SURVEYING PITTSBURGH,PA.

B.I. – CRESCENT AERIAL EXHIBIT

SCALE AS SHOWN	DATE 7/17/20	ARCH. APP.
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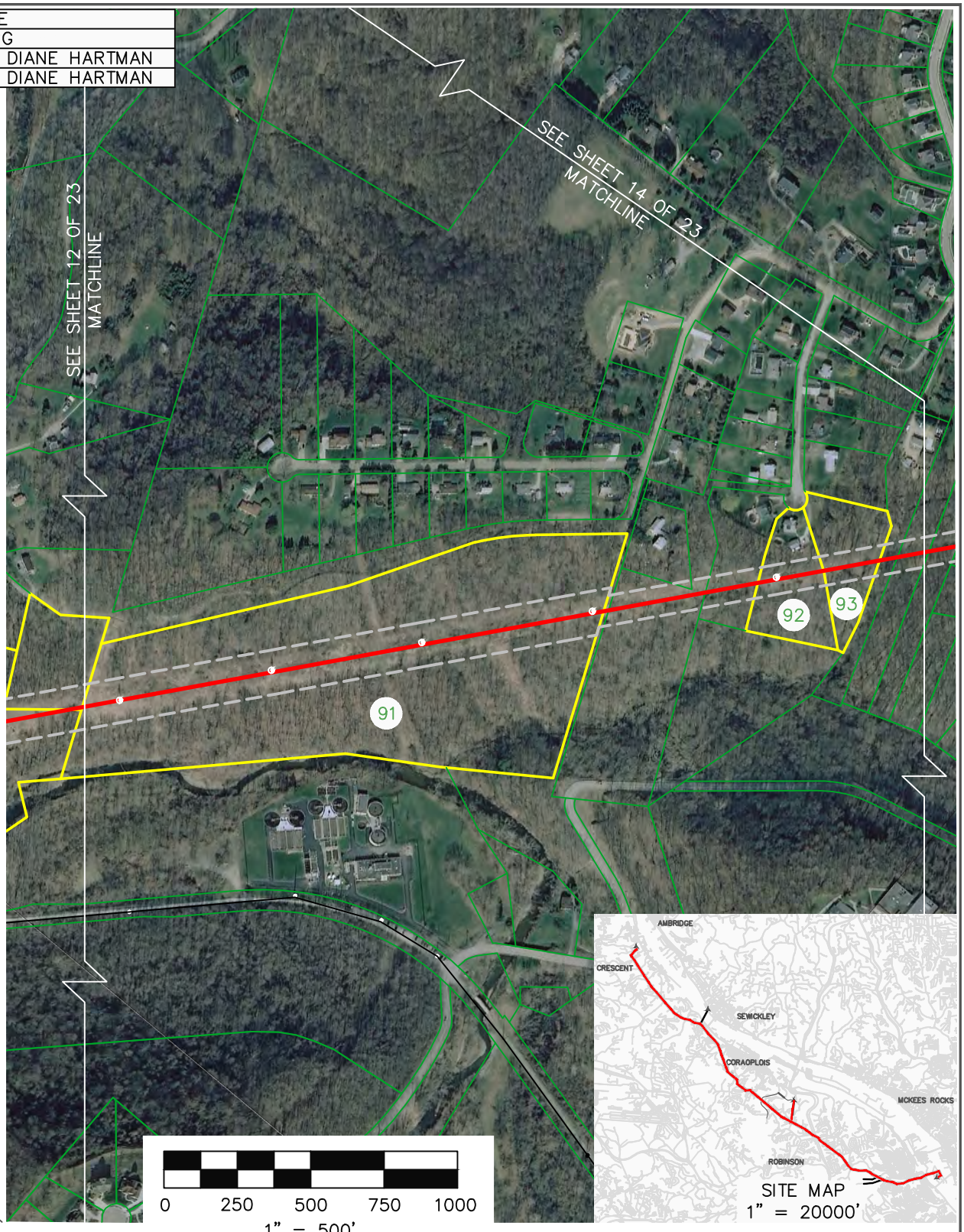
	CHECKED LAT	MECH. APP.
	INSP.	STRUCT. APP.

ALLEGHENY COUNTY
MOON TWP. & ROBINSON TWP.
SHEET 12 OF 23

APP. COMPLETE WHEN INITIALED HERE	O.F.E.	L	NO. 8790
	C.O.		

LABEL	OWNER NAME
91	UTA COLBERG
92	JAMES F. & DIANE HARTMAN
93	JAMES F. & DIANE HARTMAN



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NORTH

0 250 500 750 1000
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SITE MAP
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LEGEND

- △ SUBSTATION
- PROPOSED ROUTE
- ROW
- PARCEL WITHIN ROW
- GIS PARCEL BOUNDARY

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DUQUESNE LIGHT COMPANY

REAL ESTATE DEPT.–SURVEYING PITTSBURGH,PA.

B.I. – CRESCENT
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ALLEGHENY COUNTY
ROBINSON TWP.
SHEET 13 OF 23

APP. COMPLETE WHEN INITIALED HERE	O.F.E.	L	NO. 8790
	C.O.		

NOTE:
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LEGEND

- △ SUBSTATION
- PROPOSED ROUTE
- ROW
- PARCEL WITHIN ROW
- GIS PARCEL BOUNDARY

SOURCES: PENNSYLVANIA SPATIAL DATA ACCESS (PASDA)
PROJECTED COORDINATE SYSTEM: PA STATE PLANE SOUTH
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DUQUESNE LIGHT COMPANY

REAL ESTATE DEPT.–SURVEYING PITTSBURGH,PA.

B.I. – CRESCENT
AERIAL EXHIBIT

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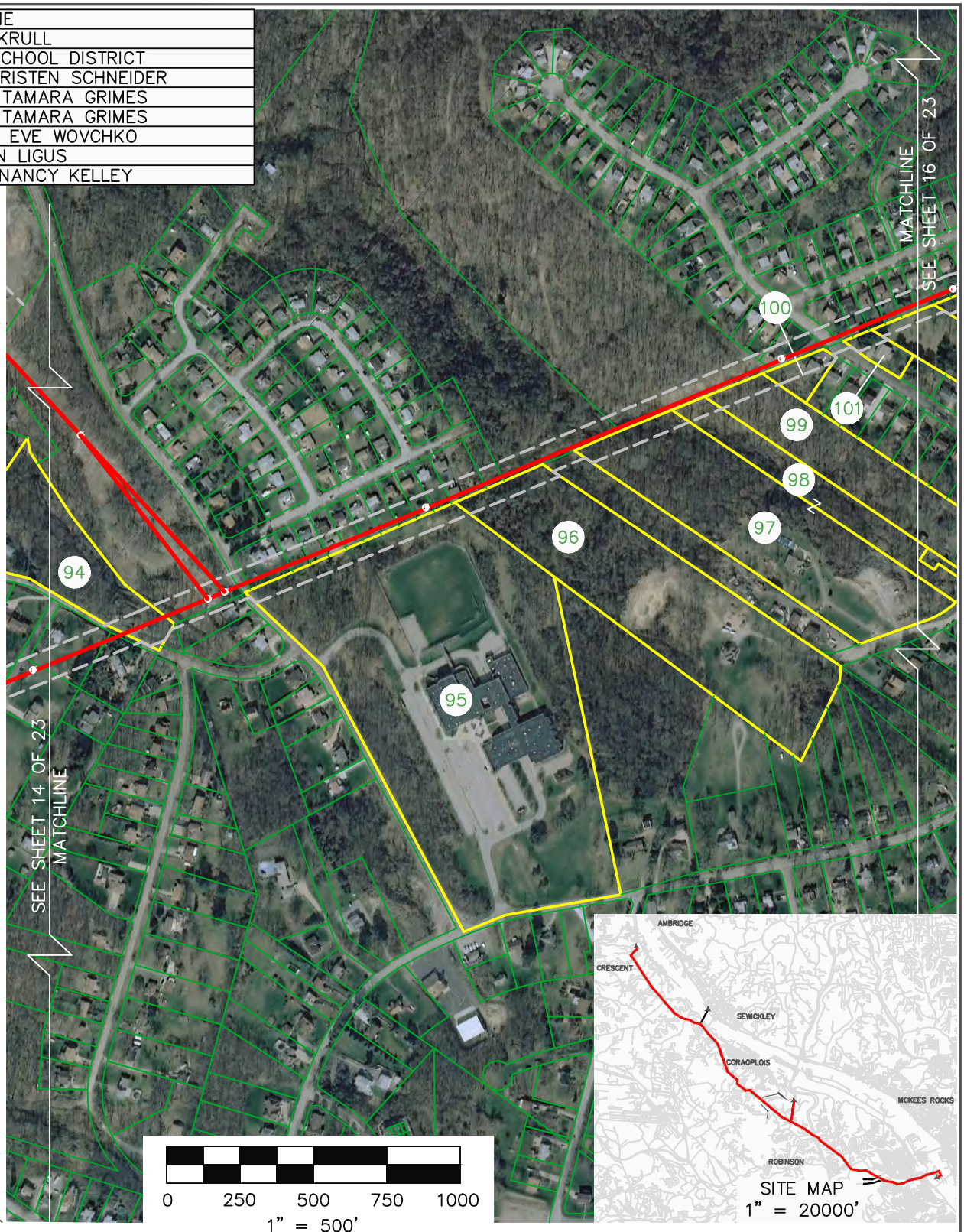
ALLEGHENY COUNTY
ROBINSON TWP.
SHEET 14 OF 23

APP. COMPLETE WHEN INITIALED HERE	O.F.E.	L	NO. 8790
	C.O.		

LABEL	OWNER NAME
94	WILLIAM J. KRULL
95	MONTOUR SCHOOL DISTRICT
96	FRANK & KRISTEN SCHNEIDER
97	DWAYNE & TAMARA GRIMES
98	DWAYNE & TAMARA GRIMES
99	CHARLES & EVE WOVCHKO
100	PAULA JEAN LIGUS
101	ROBERT & NANCY KELLEY



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NORTH

0 250 500 750 1000
1" = 500'

SITE MAP
1" = 20000'

LEGEND

- △ SUBSTATION
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DUQUESNE LIGHT COMPANY

REAL ESTATE DEPT.–SURVEYING PITTSBURGH,PA.

B.I. – CRESCENT AERIAL EXHIBIT

SCALE AS SHOWN	DATE 7/17/20	ARCH. APP.
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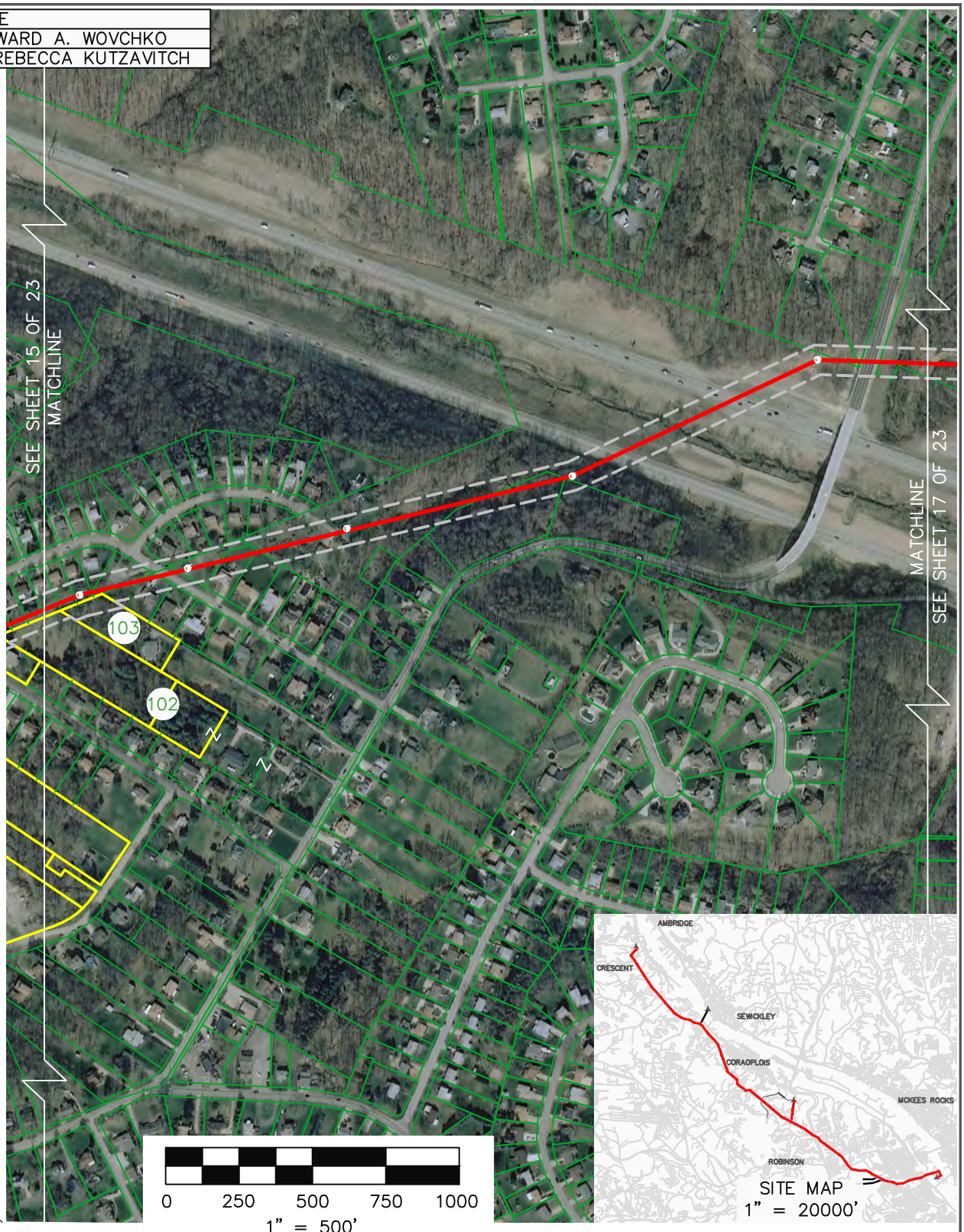
	INSP.	STRUCT. APP.

ALLEGHENY COUNTY
ROBINSON TWP.
SHEET 15 OF 23

APP. COMPLETE WHEN INITIALED HERE	O.F.E.	L	NO. 8790
	C.O.		

LABEL	OWNER NAME
102	JOHN & EDWARD A. WOVCHKO
103	WILLIAM & REBECCA KUTZAVITCH



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NORTH

LEGEND

- △ SUBSTATION
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DUQUESNE LIGHT COMPANY

REAL ESTATE DEPT.–SURVEYING PITTSBURGH,PA.

B.I. – CRESCENT
AERIAL EXHIBIT

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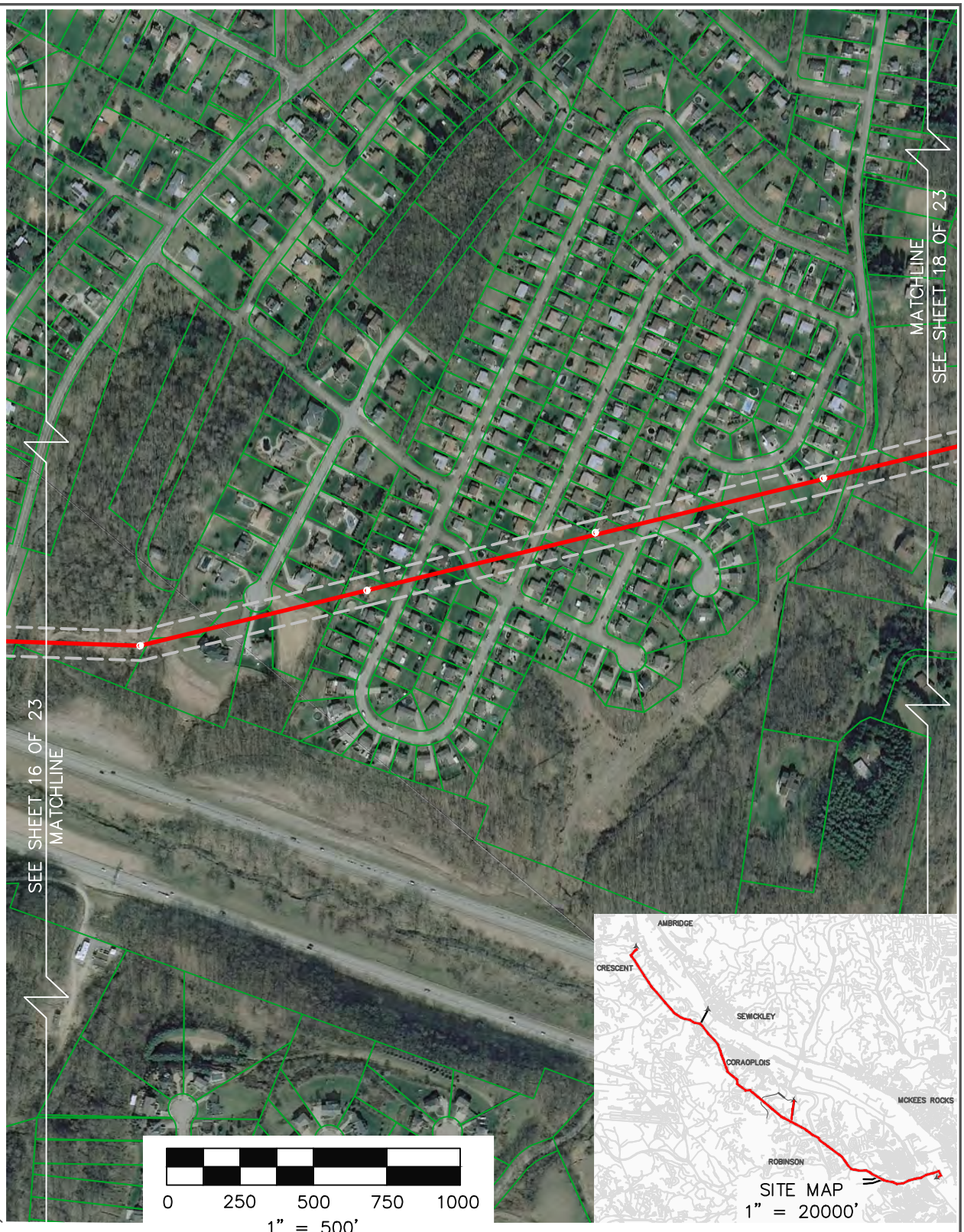
	INSP.	STRUCT. APP.

ALLEGHENY COUNTY
ROBINSON TWP.
SHEET 16 OF 23

APP. COMPLETE WHEN INITIALED HERE	O.F.E.	L	NO. 8790
	C.O.		



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NORTH

0 250 500 750 1000
1" = 500'

SITE MAP
1" = 20000'

LEGEND

- △ SUBSTATION
- PROPOSED ROUTE
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DUQUESNE LIGHT COMPANY

REAL ESTATE DEPT.–SURVEYING PITTSBURGH,PA.

B.I. – CRESCENT
AERIAL EXHIBIT

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ALLEGHENY COUNTY
KENNEDY TWP.
SHEET 17 OF 23

APP. COMPLETE WHEN INITIALED HERE	O.F.E.	L	NO. 8790
	C.O.		

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NORTH

0 250 500 750 1000
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SITE MAP
1" = 20000'

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- △ SUBSTATION
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DUQUESNE LIGHT COMPANY

REAL ESTATE DEPT.–SURVEYING PITTSBURGH,PA.

B.I. – CRESCENT AERIAL EXHIBIT

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ALLEGHENY COUNTY
KENNEDY TWP.
SHEET 18 OF 23

APP. COMPLETE WHEN INITIALED HERE	O.F.E.	L	NO. 8790
	C.O.		

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NORTH

LEGEND

- △ SUBSTATION
- PROPOSED ROUTE
- ROW
- PARCEL WITHIN ROW
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DUQUESNE LIGHT COMPANY

REAL ESTATE DEPT.–SURVEYING PITTSBURGH,PA.

B.I. – CRESCENT AERIAL EXHIBIT

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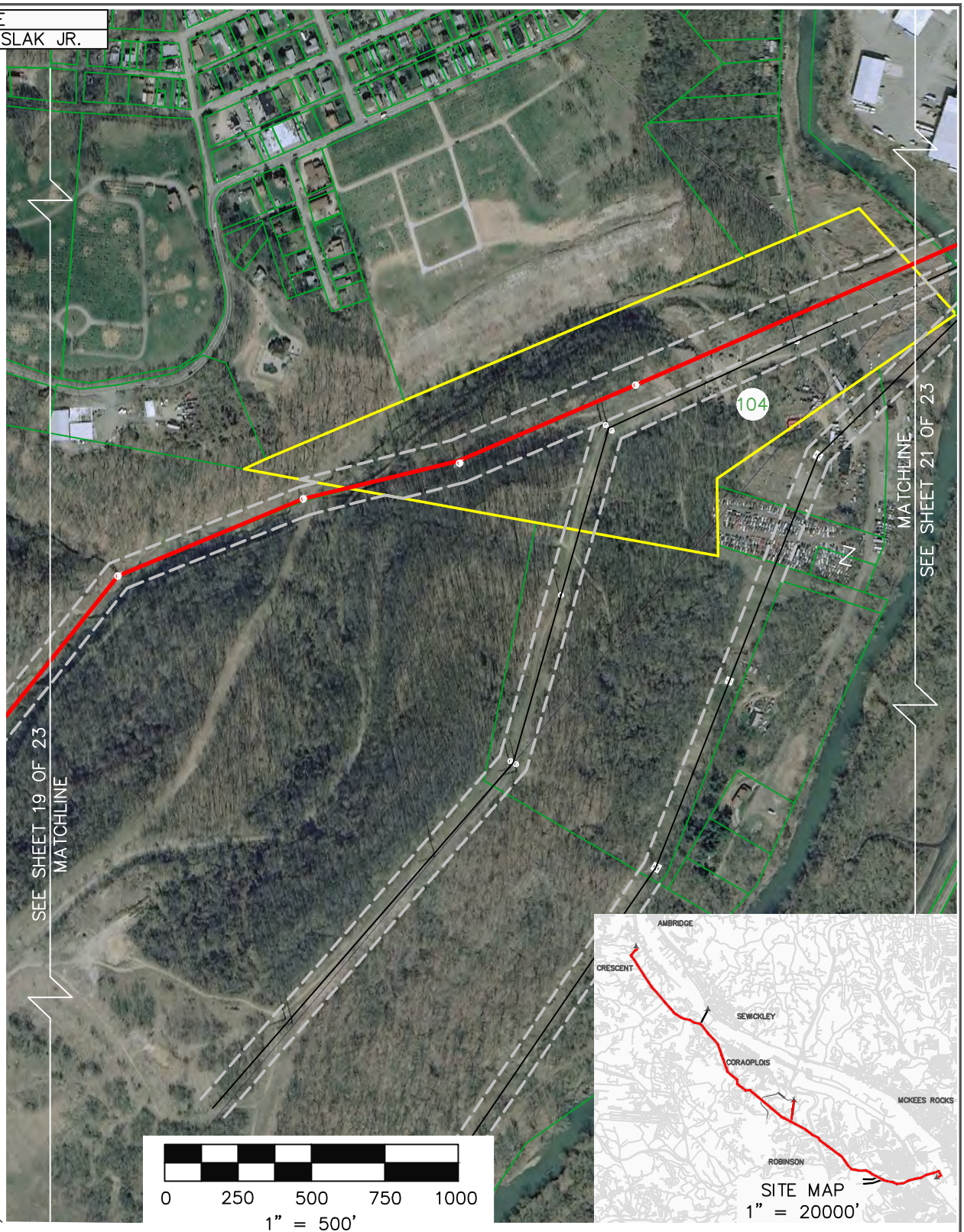
ALLEGHENY COUNTY
KENNEDY TWP.
SHEET 19 OF 23

APP. COMPLETE WHEN INITIALED HERE	O.F.E.	L	NO. 8790
	C.O.		

LABEL	OWNER NAME
104	STANLEY CIESLAK JR.



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NORTH

0 250 500 750 1000
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SITE MAP
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LEGEND

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DUQUESNE LIGHT COMPANY

REAL ESTATE DEPT.–SURVEYING PITTSBURGH,PA.

B.I. – CRESCENT
AERIAL EXHIBIT

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	INSP.	STRUCT. APP.

ALLEGHENY COUNTY
KENNEDY TWP.
SHEET 20 OF 23

APP. COMPLETE WHEN INITIALED HERE	O.F.E.	L	NO. 8790
	C.O.		

LABEL	OWNER NAME
105	PENNDOT
106	PENNDOT
107	FRANK BRYAN INC.
108	R&L REALTY COMPANY
109	BOYD ROLL OFF SERVICES INC.
110	AGGCO LIMITED PARTNERSHIP

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LEGEND

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- ROW
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DUQUESNE LIGHT COMPANY

REAL ESTATE DEPT.–SURVEYING PITTSBURGH,PA.

B.I. – CRESCENT AERIAL EXHIBIT

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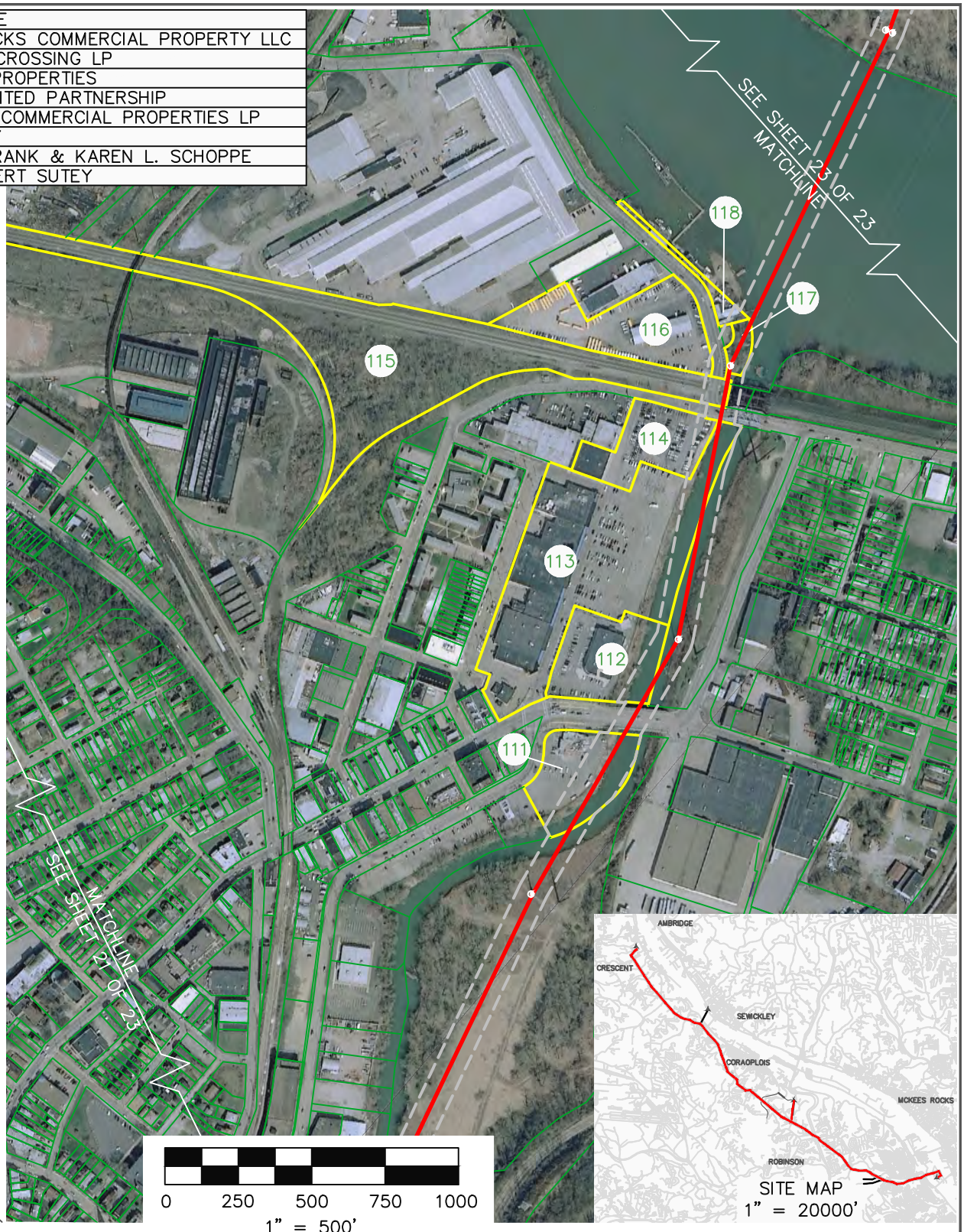
ALLEGHENY COUNTY
CITY OF PITTSBURGH & MCKEES ROCKS BORO
SHEET 21 OF 23

APP. COMPLETE WHEN INITIALED HERE	O.F.E.	L	NO. 8790
	C.O.		

LABEL	OWNER NAME
111	MCKEES ROCKS COMMERCIAL PROPERTY LLC
112	CHARTIERS CROSSING LP
113	OLD TOWN PROPERTIES
114	CRIVELLI LIMITED PARTNERSHIP
115	GREENVILLE COMMERCIAL PROPERTIES LP
116	CMC REALTY
117	JAMES F. FRANK & KAREN L. SCHOPPE
118	VICTOR ALBERT SUTEY



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LEGEND

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DUQUESNE LIGHT COMPANY

REAL ESTATE DEPT.–SURVEYING PITTSBURGH,PA.

SCALE AS SHOWN	DATE 7/17/20	ARCH. APP.	
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	CHECKED LAT	MECH. APP.	
	INSP.	STRUCT. APP.	

B.I. – CRESCENT AERIAL EXHIBIT

ALLEGHENY COUNTY
CITY OF PITTSBURGH & MCKEES ROCKS BORO
SHEET 22 OF 23

APP. COMPLETE WHEN INITIALED HERE	O.F.E.	L	NO. 8790
	C.O.		

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NORTH

LEGEND

- △ SUBSTATION
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DUQUESNE LIGHT COMPANY

REAL ESTATE DEPT.–SURVEYING PITTSBURGH,PA.

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ALLEGHENY COUNTY
CITY OF PITTSBURGH & MCKEES ROCKS BORO
SHEET 23 OF 23

APP. COMPLETE WHEN INITIALED HERE	O.F.E.	L	NO. 8790
	C.O.		

Amended Attachment 10

Amended Attachment 10

Owners of Property Along the Route Selected for the Proposed Project

LINE NUMBER	MAB BLOCK LOT NUMBER	PARCEL ID	OWNER	TAX MAILING ADDRESS
1	21-L-1	0021L00001000000	ORION POWER MIDWEST LP	PO BOX 1410 HOUSTON TX 77251
2	74-K-250-0-1	0074K00250000001	PITTSBURGH & LAKE ERIE RAILROAD COMPANY	4 STATION SQ PITTSBURGH PA 15219
3	43-M-30	0043M00030000000	VICTOR ALBERT SUTEY	1 RIVER RD MCKEES ROCKS PA 15136
4	43-M-25	0043M00025000000	JAMES F & KAREN L FRANK; SCHOPPE-FRANK TRUSTEES, BENEFIT OF JAMES L FRANK & KAREN L SCHOPPE-FRANK	C/O Mariah Venture Capital 98 Glenbury Street Pittsburgh, PA 15234
5	43-M-1	0043M00001000000	GREENVILLE COMMERCIAL PROPERTIES LP	1 ATLANTIC AVE PITTSBURGH PA 15202
6	43-M-375-9	0043M00375000900	CSX TRANSPORTATION INC	500 WATER ST JACKSONVILLE FL 32202
7	43-L-130	0043L00130000000	CRIVELLI LIMITED PARTNERSHIP	108 MC KEES ROCKS PLAZA MCKEES ROCKS PA 15136
8	43-L-100	0043L00100000000	OLD TOWN PROPERTIES LP	1 ATLANTIC AVE PITTSBURGH PA 15202
9	43-R-350	0043R00350000000	DUQUESNE LIGHT COMPANY	1800 SEYMOUR ST PITTSBURGH PA 15233
10	43-R-10	0043R00010000000	CHARTIERS CROSSING LP	1 ATLANTIC AVE PITTSBURGH PA 15202
11	43-P-56	0043P00056000000	MC KEES ROCKS COMMERCIAL PROPERTIES LLC	1 ATLANTIC AVE PITTSBURGH PA 15202
12	43-P-1-0-1	0043P00001000001	ALLEGHENY COUNTY SANITARY AUTHORITY	3300 PREBLE AVE PITTSBURGH PA 15233
13	43-P-64	0043P00064000000	MC KEES ROCKS COMMUNITY DEVELOPMENT CORPORATION	611 CHARTIERS AVE MCKEES ROCKS PA 15136
14	43-N-186	0043N00186000000	23 FURNACE STREET ASSOCIATES	23 FURNACE ST EXT MCKEES ROCKS PA 15136
15	72-S-205	0072S00205000000	FRANK BRYAN INC	1263 CHARTIERS AVE MCKEES ROCKS PA 15136
16	72-S-220	0072S00220000000	FRANK BRYAN INC	1263 CHARTIERS AVE MCKEES ROCKS PA 15136
17	72-S-240	0072S00240000000	AGGCO LIMITED PARTNERSHIP	1101 THOMPSON AVE MCKEES ROCKS PA 15136
18	21-K-66	0021K00066000000	CONRAIL	110 FRANKLIN RD SE PROPERTY TAX DEPT ROANOKE VA 24042
19	72-S-250-0-1	0072S00250000001	BOYD ROLL OFF SERVICES INC	300 FOURTH AVE PITTSBURGH PA 15222

LINE NUMBER	MAB BLOCK LOT NUMBER	PARCEL ID	OWNER	TAX MAILING ADDRESS
20	72-S-260	0072S00260000000	R& L REALTY COMPANY PENNA	1105 THOMPSON AVE MCKEES ROCKS PA 15136
21	71-D-25	0071D00025000000	CITY OF PITTSBURGH	414 GRANT ST RM 200 CITY-COUNTY BUILDING PITTSBURGH PA 15219
22	71-C-200	0071C00200000000	FRANK BYRAN INC	1263 CHARTIERS AVE MCKEES ROCKS PA 15136
23	71-B-52	0071B00052000000	CITY OF PITTSBURGH	414 GRANT ST RM 200 CITY-COUNTY BUILDING PITTSBURGH PA 15219
24	71-B-94	0071B00094000000	DUQUESNE LIGHT COMPANY	1800 SEYMOUR ST PITTSBURGH PA 15233
25	71-B-48	0071B00048000000	CITY OF PITTSBURGH	414 GRANT ST RM 200 CITY-COUNTY BUILDING PITTSBURGH PA 15219
26	71-B-48	0071B00048000000	PENNSYLVANIA DEPARTMENT OF TRANSPORTATION	45 THOMS RUN ROAD BRIDGEVILLE PA 15107
27	71-B-140	0071B00140000000	DUQUESNE LIGHT COMPANY	1800 SEYMOUR ST PITTSBURGH PA 15233
28	71-B-138	0071B0013800000	DUQUESNE LIGHT COMPANY	1800 SEYMOUR ST PITTSBURGH PA 15233
29	71-B-146	0071B00146000000	DUQUESNE LIGHT COMPANY	1800 SEYMOUR ST PITTSBURGH PA 15233
30	71-B-46	0071B00046000000	DUQUESNE LIGHT COMPANY	1800 SEYMOUR ST PITTSBURGH PA 15233
31	71-B-181	0071B00181000000	DUQUESNE LIGHT COMPANY	1800 SEYMOUR ST PITTSBURGH PA 15233
32	72-P-200-0-2	0072P00200000002	COMMONWEALTH OF PENNSYLVANIA	300 LIBERTY AVE PITTSBURGH PA 15222
33	71-B-180-0-2	0071B00180000002	DUQUESNE LIGHT COMPANY	1800 SEYMOUR ST PITTSBURGH PA 15233
34	71-B-180-0-1	0071B00180000001	DUQUESNE LIGHT COMPANY	1800 SEYMOUR ST PITTSBURGH PA 15233
35	71-B-204-0-2	0071B00204000002	DUQUESNE LIGHT COMPANY	1800 SEYMOUR ST PITTSBURGH PA 15233
36	71-B-204-0-1	0071B00204000001	DUQUESNE LIGHT COMPANY	1800 SEYMOUR ST PITTSBURGH PA 15233
37	71-B-214-0-2	0071B00214000002	DUQUESNE LIGHT COMPANY	1800 SEYMOUR ST PITTSBURGH PA 15233
38	71-B-214-0-1	0071B00214000001	DUQUESNE LIGHT COMPANY	1800 SEYMOUR ST PITTSBURGH PA 15233
39	71-B-230-0-1	0071B00230000001	DUQUESNE LIGHT COMPANY	1800 SEYMOUR ST PITTSBURGH PA 15233

LINE NUMBER	MAB BLOCK LOT NUMBER	PARCEL ID	OWNER	TAX MAILING ADDRESS
40	71-B-230-0-2	0071B00230000002	DUQUESNE LIGHT COMPANY	1800 SEYMOUR ST PITTSBURGH PA 15233
41	71-A-90	0071A00090000000	URBAN REDEVELOPMENT AUTHORITY OF PITTSBURGH	200 ROSS ST FL 10 PITTSBURGH PA 15219
42	72-P-200-0-3	0072P00200000003	PITTSBURGH & OHIO CENTRAL RR CO	47849 PAPERMILL RD COSHOCTON OH 43812
43	72-N-50	0072N00050000000	WINDGAP ENTERPRISES INC	6104 GRAND AVE STE A PITTSBURGH PA 15225
44	72-P-10	0072P00010000000	WINDGAP ENTERPRISES INC	6104 GRAND AVE STE A PITTSBURGH PA 15225
45	72-N-180	0072N00180000000	STANLEY CIESLAK JR	103 CREEK RD MCKEES ROCKS PA 15136
46	108-B-275	0108B00275000000	RICHARD LANG E	1801 MC KEES ROCKS RD MCKEES ROCKS PA 15136
47	109-F-61	0109F00061000000	UIRC GSA V MC KEES ROCKS PA LLC	1570 103rd STREET LEMONT, IL 60439-9610
48	109-F-21	0109F00021000000	PENNSYLVANIA ADULT LIVING II, LLC	625 LIBERTY AVE, STE 3110 PITTSBURGH, PA 15222
49	109-E-197	0109E00197000000	CLEVER ROAD ASSOCIATES	560 EPSILON DRIVE PITTSBURGH, PA 15238
50	109-E-195	0109E00195000000	CHRISTOPHER M LANG & (TRUSTEE)	1801 MC KEES ROCKS RD MCKEES ROCKS PA 15136
51	109-J-11	0109J00011000000	DUQUESNE LIGHT COMPANY	1800 SEYMOUR ST PITTSBURGH PA 15233
52	109-J-19	0109J00019000000	RAYMOND HELLMANN JR AND RAYMOND HELLMANN SR	731 1/2 CHARTIERS AVE PITTSBURGH PA 15220
53	109-J-43	0109J00043000000	ZAGARI JOHN J & PAMELA (W)	1929 MCKEES ROCKS RD MC KEES ROCKS PA 15136-1611
54	109-J-109	0109J00109000000	KENNEDY HIGHLANDS ASSOCIATES LP	310 SEVEN FIELDS BLVD STE 350 MARS PA 16046
55	109-E-17	0109E00017000000	MICHELLE L MASSUCCI	100 CONNIE PARK DR MCKEES ROCKS PA 15136
56	154-H-323	0154H00323000000	LINDA MARIE OSMAN	102 CONNIE PARK DR MCKEES ROCKS PA 15136
57	154-H-317	0154H00317000000	JACQUELINE MCKENZIE AND KENNETH L SALTERS	104 CONNIE PARK DR MCKEES ROCKS PA 15136
58	154-H-253	0154H00253000000	RONALD BRUNI	31 LONGVIEW DR MCKEES ROCKS PA 15136
59	154-H-258	0154H00258000000	JAY MICHAEL MICHEL, ALYSSA SUSAN PETRELLA	103 CONNIE PARK DR MCKEES ROCKS PA 15136-1647
60	154-H-240	0154H00240000000	TONI L MASON	191 PATRICIA PARK DR MCKEES ROCKS PA 15136

LINE NUMBER	MAB BLOCK LOT NUMBER	PARCEL ID	OWNER	TAX MAILING ADDRESS
61	154-H-357	0154H00357000000	CHRISTOPHER J STARR & JUDITH L (W)	200 PATRICIA PARK DR MCKEES ROCKS PA 15136
62	154-H-101	0154H00101000000	MICHAEL L PAPPATERRI & AMY L VICE PAPPATERRI (W)	180 CONNIE PARK DR MCKEES ROCKS PA 15136
63	154-H-98	0154H00098000000	PRESTIGE WORLDWIDE ENTERPRISE LLC	1283 SILVER LN MC KEES ROCKS PA 15136
64	154-H-96	0154H00096000000	WILLIAM J RUST	139 FIELD CLUB DR MCKEES ROCKS PA 15136
65	154-H-99	0154H0009900000	CORTLAND PROPERTIES	3010 MELLON BANK BUILDING 525 WILLIAM PENN PLACE PITTSBURGH, PA 15219
66	154-H-363	0154H00363000000	KENMAWR CARWASH INC	101 CLEVER RD MCKEES ROCKS PA 15136
67	154-H-99	0154H0009900000	CORTLAND PROPERTIES	3010 MELLON BANK BUILDING 525 WILLIAM PENN PLACE PITTSBURGH, PA 15219
68	154-H-25	0154H00025000000	ROBERT A MUHA JR & KIMBERLY A (W)	111 JULIANNA DR CORAOPOLIS PA 15108
69	154-H-27	0154H00027000000	ROBERT A MUHA JR & KIMBERLY A (W)	111 JULIANNE DR CORAOPOLIS PA 15108
70	154-H-29	0154H00029000000	ROBERT A MUHA JR & KIMBERLY A (W)	111 JULIANNA DR CORAOPOLIS PA 15108
71	154-H-31	0154H00031000000	ROBERT A MUHA JR & KIMBERLY A (W)	111 JULIANNA DR CORAOPOLIS PA 15108
72	155-S-368	0155S00368000000	TOWNSHIP OF KENNEDY	340 FOREST GROVE RD CORAPOLIS PA 15108
73	155-R-225	0155R00225000000	PRESTIGE LAND DEVELOPMENT	1789 PINE HOLLOW RD MCKEES ROCKS PA 15136
74	155-R-175	0155R00175000000	PARK PLACE ESTATES HOMEOWNERS ASSOCIATION, INC	1752 PINE HOLLOW RD MCKEES ROCKS PA 15136
75	155-R-132	0155R00132000000	KIERSTEN F. LAREN	107 PARK PLACE MCKEES ROCKS PA 15136
76	155-R-180	0155R00180000000	CHARLENE A CHEROKE	128 PARK PLACE MCKEES ROCKS PA 15136
77	155-R-133	0155R00133000000	ROBERT H. EGOLF IV	108 PARK PLACE MCKEES ROCKS PA 15136
78	155-R-134	0155R00134000000	JAMES M TITUS & AMANDA M (W)	109 PARK PLACE MCKEES ROCKS PA 15136
79	155-R-145	0155R00145000000	PARK PLACE ESTATES HOMEOWNERS ASSOCIATION, INC	1752 PINE HOLLOW RD MCKEES ROCKS PA 15136
80	155-R-135	0155R00135000000	SAMANTHA LYNN MOORE AND DAVID J HARRISON	110 PARK PLACE MCKEES ROCKS PA 15136

LINE NUMBER	MAB BLOCK LOT NUMBER	PARCEL ID	OWNER	TAX MAILING ADDRESS
81	155-R-136	0155R00136000000	ALYSSA M. MILLER AND JARYD HERBERT	111 PARK PLACE MCKEES ROCKS PA 15136
82	155-R-137	0155R00137000000	SARAH TURNER	112 PARK PLACE MCKEES ROCKS PA 15136
83	155-R-138	0155R00138000000	TAMMY L KELMECKIS	113 PARK PLACE MCKEES ROCKS PA 15136
84	155-R-142	0155R00142000000	CANDIDO E & SHIRLEY J NOLFI (W)	116 PARK PL MC KEES ROCKS, PA 15136-1698
85	155-R-150	0155R00150000000	PHILIP A KOSSLER & NAOMI C (W)	117 PARK PLACE MCKEES ROCKS PA 15136
86	155-R-59	0155R00059000000	SANDRA MAGLIOCCO & RANDALL LABRIE (H)	61 MIDWAY DR MCKEES ROCKS PA 15136
87	155-P-136	0155P00136000000	THOMAS M & MARY A (W) FENIO	103 MIDWAY DR MCKEES ROCKS PA 15136
88	155-K-9	0155K00009000000	ROBERT P & NICOLA A STREINER (W)	101 MIDWAY DR MCKEES ROCKS PA 15136
89	155-P-220	0155P00220000000	ANTHONY J & JUDITH L PASTELLA (W)	107 MIDWAY DR MCKEES ROCKS PA 15136
90	155-P-119	0155P00119000000	RUEBEN JEFFERSON	110 MIDWAY DR MCKEES ROCKS PA 15136
91	155-P-123	0155P00123000000	RUEBEN JEFFERSON	110 MIDWAY DR MCKEES ROCKS PA 15136
92	155-K-82	0155K00082000000	WILLIAM J & ARDUTH M CLAIR (W)	104 MIDWAY DR MCKEES ROCKS PA 15136
93	155-K-190	0155K00190000000	SARAH ELIZABETH ELLISON, JAMES ANDREW CAMPBELL	375 MIDWAY DR MCKEES ROCKS PA 15136
94	155-K-500	0155K00500000000	KENNEDY TWP	340 FOREST GROVE RD CORAOPOLIS PA 15108
95	155-K-358	0155K00358000000	MARK V & LISA A ALETTO (W)	199 WINDSOR DR CORAOPOLIS PA 15108
96	155-K-135	0155K00135000000	OTTAVIO J JR & MARGARET L PAUL (W)	2008 CANYON DR MCKEES ROCKS PA 15136
97	155-K-137	0155K00137000000	KEVIN M CHU	2010 CANYON DR MCKEES ROCKS PA 15136
98	155-K-139	0155K00139000000	HERBERT A & PATRICIA L MCCROSKEY (W)	2012 CANYON DR MCKEES ROCKS PA 15136
99	155-K-141	0155K00141000000	VERLAND HOUSING CORPORATION	212 IRIS RIDGE SEWICKLEY, PA 15143
100	155-K-145	0155K00145000000	PAUL & KIZZIE JOHNSON (W)	3114 ASHLYN ST PITTSBURGH, PA 15204-1706
101	155-K-147	0155K00147000000	WILLIAM J & NICOLE C OLIVANI (W)	2020 CANYON DR MCKEES ROCKS PA 15136
102	155-J-43	0155J00043000000	GEORGE J & FRANCES M GOEHRING (W)	4004 ORCHARD CIR MCKEES ROCKS PA 15136

LINE NUMBER	MAB BLOCK LOT NUMBER	PARCEL ID	OWNER	TAX MAILING ADDRESS
103	155-J-45	0155J00045000000	ROBERT D & ALMERENTEA M HULL (W)	4002 ORCHARD CIR MCKEES ROCKS PA 15136
104	155-J-47	0155J00047000000	GINGER N KUTSCHBACH	3012 TIMBERCREEK DR MCKEES ROCKS PA 15136
105	155-K-149	0155K00149000000	MICHELLE MITCHELL	2022 CANYON DR MCKEES ROCKS PA 15136
106	155-J-29	0155J00029000000	RICHARD & KAREN L OSHEA (W)	3014 TIMBERCREEK DR MCKEES ROCKS PA 15136
107	155-J-100	0155J00100000000	T A WARD	1405 MCLAUGHLIN RUN RD PITTSBURGH PA 15241
108	155-E-205	0155E00205000000	JUDITH A BURROUGHS	3019 TIMBERCREEK DR MCKEES ROCKS PA 15136
109	155-E-207	0155E00207000000	LOGAN E. WEIGLE AND CELESTE N DONATUCCI	3021 TIMBERCREEK DR MCKEES ROCKS PA 15136
110	155-E-211	0155E00211000000	NGO AND HUONG TRINH HOA	506 OVERBROOK BLVD PITTSBURGH PA 15210
111	155-J-1	0155J00001000000	BRIAN J & KELLY M SMARRA (W)	3027 TIMBERCREEK DR MCKEES ROCKS PA 15136
112	155-E-12	0155E00012000000	GEOFFREY P & MARY JO METZLER (W)	4026 FIRETHORN DR MCKEES ROCKS PA 15136
113	155-E-14	0155E00014000000	MICHAEL R CESSNA	4028 FIRETHORN DR MCKEES ROCKS PA 15136
114	155-E-16	0155E00016000000	DANIEL W RYAN AND MARY JEAN H STEINER	4030 FIRETHORN DR MCKEES ROCKS PA 15136
115	155-E-18	0155E00018000000	DAVID C & CHARLENE E KRAUTH (W)	4032 FIRETHORN DR MCKEES ROCKS PA 15136
116	155-E-22	0155E00022000000	ROBERT J & VIRGINIA A BADINI (W)	2039 CANYON DR EXT MCKEES ROCKS PA 15136
117	155-E-40	0155E00040000000	JOSEPH JR & SANDRA A JAWORSKI (W)	4035 FIRETHORN DR MCKEES ROCKS PA 15136
118	155-E-42	0155E00042000000	MARK F & JODY M VATER (W)	4037 FIRETHORN DR MCKEES ROCKS PA 15136
119	155-E-44	0155E00044000000	FRANK & ABBY CHYNOWETH	4039 FIRETHORN DR MCKEES ROCKS PA 15136
120	155-E-46	0155E00046000000	OLEH M & MOTRIA M HODOWANEC (W)	5040 WINDRIVER DR MCKEES ROCKS PA 15136
121	155-E-130	0155E00130000000	ALBERT M SOROKIS JR	5072 WINDRIVER DR MCKEES ROCKS PA 15136
122	155-E-100	0155E00100000000	SHAWN T & JILL JONES (W)	5042 WINDRIVER DR MCKEES ROCKS PA 15136
123	155-E-102	0155E00102000000	JAMES C & MAUREEN B CARLINS (W)	5044 WINDRIVER DR MCKEES ROCKS PA 15136
124	155-E-104	0155E00104000000	KENNETH E & MARY ANN S SCHNELBACH (W)	5046 WINDRIVER DR MCKEES ROCKS PA 15136

LINE NUMBER	MAB BLOCK LOT NUMBER	PARCEL ID	OWNER	TAX MAILING ADDRESS
125	155-E-98	0155E00098000000	STEPHEN H & PATRICIA C JASENAK (W)	5047 WINDRIVER DR MCKEES ROCKS PA 15136
126	155-E-131	0155E00131000000	TERRY J & BERNADINE GENSEL (W)	5049 WINDRIVER DR MCKEES ROCKS PA 15136
127	155-E-150	0155E00150000000	DAVID R & PAULETTE PASS (W)	5053 WINDRIVER DR MCKEES ROCKS PA 15136
128	155-E-135	0155E00135000000	DAVID R & PAULETTE PASS (W)	5053 WINDRIVER DR MCKEES ROCKS PA 15136
129	155-E-137	0155E00137000000	MARK J & NANCY B JAROCKI (W)	5055 WINDRIVER DR MCKEES ROCKS PA 15136
130	155-E-141	0155E00141000000	ROBERT A MUHA JR & KIMBERLY A (W)	111 JULIANNA DR CORAOPOLIS PA 15108
131	155-E-143	0155E00143000000	KEVIN S & JENNIFER L SHERMAN (W)	110 JULIANNA DR CORAOPOLIS PA 15108
132	208-H-56	0208H00056000000	ROBERT W SIDICK JR & VANESSA A (W)	109 JULIANNA DR CORAOPOLIS PA 15108
133	208-H-58	0208H00058000000	EDWARD J & JOYCE G CHEZOSKY (W)	108 JULIANNA DR CORAOPOLIS PA 15108
134	208-H-60	0208H00060000000	DAVID C GALLAGHER	107 JULIANNA DR CORAOPOLIS PA 15108
135	208-D-134	0208D00134000000	MELLON BANK N A (TRUSTEE) FOR TYLER HUDSON	525 WILLIAM PENN PL RM 153-1315 ATTN: JEFF LICHVAR PITTSBURGH PA 15259
136	208-D-132	0208D00132000000	PAUL F CHICHIN	10 ROSE AVE CORAOPOLIS PA 15108
137	209-S-56	0209S00056000000	MARK R & KATHLEEN A PANIZZI (W)	36 SUNSET DR CORAOPOLIS PA 15108
138	209-S-61	0209S00061000000	MARK R & KATHLEEN A PANIZZI (W)	36 SUNSET DR CORAOPOLIS PA 15108
139	208-C-225	0208C00225000000	MJH DEVELOPMENT COMPANY INC	44 PETRIE RD CORAOPOLIS PA 15108
140	209-R-97	0209R00097000000	GEORGE A & LEONA E DOUGLASS	9 WOODLAND RD PITTSBURGH PA 15228
141	209-P-380	0209P00380000000	GEORGE A JR & JANYCE DOUGLAS (W)	125 FAIRLAMB DR CORAOPOLIS PA 15108
142	209-P-342	0209P00342000000	DONALD J & GRACE B DEVENZIO	8 DENDRON RD CORAOPOLIS PA 15108
143	209-P-333	0209P00333000000	PAUL F & RUTH A GERGER (W)	108 FAIRLAMB DR CORAOPOLIS PA 15108
144	209-K-5	0209K00005000000	RICHARD H & NANCY M ANTANTIS	106 FAIRLAMB DR CORAOPOLIS PA 15108
145	209-K-9	0209K00009000000	FRED A. IORIO & HEATHER R. NIEWIERSKI	104 FAIRLAMB DR CORAOPOLIS PA 15108

LINE NUMBER	MAB BLOCK LOT NUMBER	PARCEL ID	OWNER	TAX MAILING ADDRESS
146	209-K-15	0209K00015000000	ALDO & CHRISTINE A MITRI (W)	102 FAIRLAMB DR CORAOPOLIS PA 15108
147	209-K-23	0209K00023000000	MICHAEL FRANCIS & NICOLE MARIE CONTI (W)	530 DENDRON DR CORAOPOLIS PA 15108
148	209-P-304	0209P00304000000	JOSEPH & DOLORES PERRI	10 DENDRON DR CORAOPOLIS PA 15108
149	209-P-313	0209P00313000000	MICHAEL A & MIA CALA (W)	12 DENDRON DR CORAOPOLIS PA 15108
150	209-P-319	0209P00319000000	KRISTIN MARY BRANDL & STEVEN BRANDL III (H)	14 DENDRON DR CORAOPOLIS PA 15108
151	209-P-327	0209P00327000000	KRISTIN MARY BRANDL & STEVEN BRANDL III (H)	14 DENDRON DR CORAOPOLIS PA 15108
152	209-P-108	0209P00108000000	SPIOTTA FAMILY TRUST (THE)	13 DENDRON DR CORAOPOLIS PA 15108
153	209-K-75	0209K00075000000	BRUCE & PATRICIA COWAN (W)	15 DENDRON DR CORAOPOLIS PA 15108
154	209-K-81	0209K00081000000	EQUITABLE GAS COMPANY	PO BOX 6135 PITTSBURGH PA 15212
155	209-K-86	0209K00086000000	FRANK A & AUDREY MCBURNEY	537 DENDRON DR CORAOPOLIS PA 15108
156	209-P-98	0209P00098000000	WILLIAM A JR & REBECCA J KUTZAVITCH (W)	89 FOREST GROVE RD CORAOPOLIS PA 15108
157	209-K-89	0209K00089000000	SEAN J & HAYLEE C BURKE (W)	539 DENDRON DR CORAOPOLIS PA 15108
158	209-K-93	0209K00093000000	LEONARD R & KATHLEEN A RIDER (W)	541 DENDRON DR CORAOPOLIS PA 15108
159	209-K-97	0209K00097000000	DORIS A GLANCE	543 DENDRON DR CORAOPOLIS PA 15108
160	209-P-56	0209P00056000000	JOHN WOVCHKO & EDWARD A WOVCHKO	85 FOREST GROVE RD CORAOPOLIS PA 15108
161	209-K-101	0209K00101000000	H WAYNE & LUCILLE A MILLER	545 DENDRON DR CORAOPOLIS PA 15108
162	209-K-105	0209K00105000000	KENNETH J & CAROLYN L RIEDER	547 DENDRON DR CORAOPOLIS PA 15108
163	209-K-109	0209K00109000000	THOMAS C & KAREN A BAYER (W)	549 DENDRON DR CORAOPOLIS PA 15108
164	209-K-113	0209K00113000000	ANTHONY S & AUDREY TARQUINIO	551 DENDRON DR CORAOPOLIS PA 15108
165	209-J-16	0209J00016000000	TIMOTHY M & CRYSTAL L LISOWSKI (W)	630 MAGNUS LN CORAOPOLIS PA 15108
166	209-J-16-1	0209J00016000100	ANTHONY & AUDREY TARQUINIO (W)	551 DENRON DR CORAOPOLIS PA 15108
167	209-J-20	0209J00020000000	ROBERT G & NANCY B KELLEY (W)	628 MAGNUS LN CORAOPOLIS PA 15108

LINE NUMBER	MAB BLOCK LOT NUMBER	PARCEL ID	OWNER	TAX MAILING ADDRESS
168	209-J-48	0209J00048000000	JOHN A BIEDRZYCKI JR & BETTE JEAN (W)	625 MAGNUS LN CORAOPOLIS PA 15108
169	209-J-50	0209J00050000000	PAULA JEAN LIGUS	625 MAGNUS LN # B CORAOPOLIS PA 15108
170	209-J-82	0209J00082000000	LEONA V WARREN AND NANCY L JOHNSTON AND KAREN A SCHULMEISTER	627 MAGNUS LN CORAOPOLIS PA 15108
171	209-J-88	0209J00088000000	TINA R DOPUDJA	629 MAGNUS LN CORAOPOLIS PA 15108
172	209-F-273	0209F00273000000	TOWNSHIP OF ROBINSON	1000 CHURCH HILL RD PITTSBURGH PA 15205
173	209-N-155	0209N00155000000	CHARLES J & EVE M WOVCHKO (W)	13 HAWTORNE AVE PITTSBURGH PA 15205
174	209-N-163	0209N00163000000	DWAYNE & TAMARA GRIMES (W)	11 STRAWBERRY LN CORAOPOLIS PA 15108
175	209-N-198	0209N00198000000	DWAYNE & TAMARA GRIMES (W)	11 STRAWBERRY LN CORAOPOLIS PA 15108
176	209-N-207	0209N00207000000	FRANK & KRISTEN MARIA SCHNEIDER (W)	15 STRAWBERRY LN CORAOPOLIS PA 15108
177	209-A-89	0209A00089000000	JOHN P & JENNIFER A CROWE (W)	1123 JUANITA DR CORAOPOLIS PA 15108
178	270-H-261	0270H00261000000	CATHY A JAMIOLKOWSKI	1120 ZENOBIA DR CORAOPOLIS PA 15108
179	270-H-272	0270H00272000000	CATHY A JAMIOLKOWSKI	1120 ZENOBIA DR CORAOPOLIS PA 15108
180	270-H-277	0270H00277000000	JAMES A KRIVANEK JR & DENISE M BROOKS & BECKY M TAYLOR & SANDRA M LASCOLA & JENNIFER M CLEGG	192 BARNETT ST WASHINGTON PA 15301
181	270-H-282	0270H00282000000	AMY LYNN KANTZ	1116 ZENOBIA DR CORAOPOLIS PA 15108
182	270-H-287	0270H00287000000	GERALD D & CHARLOTTE A TOMASZEWSKI	1114 ZENOBIA DR CORAOPOLIS PA 15108
183	270-H-292	0270H00292000000	ANTHONY L YAKEMOWICZ	1112 ZENOBIA DR CORAOPOLIS PA 15108
184	270-H-297	0270H00297000000	BRIAN J & ELIZABETH A EISEL (W)	1110 ZENOBIA DR CORAOPOLIS PA 15108
185	270-H-302	0270H00302000000	DANTE AND EMILY PLASSIO M BYROM	1108 ZENOBIA DR CORAOPOLIS PA 15108
186	270-H-307	0270H00307000000	DANIEL & LUCINE A DABECCO (W)	1106 ZENOBIA DR CORAOPOLIS PA 15108
187	270-H-312	0270H00312000000	ROBERT & NOEL ZYCHOWSKI (W)	1104 ZENOBIA DR CORAOPOLIS PA 15108
188	270-H-317	0270H00317000000	MARJORIE C (W) AND ROBERT A PERRONE JR	2301 FOREST GROVE RD CORAOPOLIS PA 15108

LINE NUMBER	MAB BLOCK LOT NUMBER	PARCEL ID	OWNER	TAX MAILING ADDRESS
189	270-H-326	0270H00326000000	MARJORIE C (W) AND ROBERT A PERRONE JR	2301 FOREST GROVE RD CORAOPOLIS PA 15108
190	270-L-34	0270L00034000000	MONTOUR SCHOOL DISTRICT	223 CLEVER RD MCKEES ROCKS PA 15136
191	270-H-24	0270H00024000000	CYNTHIA A ELLEK	2308 FOREST GROVE RD CORAOPOLIS PA 15108
192	270-D-231	0270D00231000000	DUQUESNE LIGHT COMPANY	1800 SEYMOUR ST PITTSBURGH PA 15233
193	270-G-80	0270G00080000000	E N & BERNICE VIRGINIA SCHULER (W)	DECEASED NO KNOWN HEIRS OF RECORD
194	270-C-283	0270C00283000000	WILLIAM J KRULL	39 S PETRIE RD CORAOPOLIS PA 15108
195	270-D-379	0270D00379000000	MUNICIPAL AUTH TWP OF ROBINSON (THE)	PO BOX 15539 PITTSBURGH PA 15244
196	271-S-165	0271S00165000000	ALYSSA M KRAMER, WILLIAM A GRAFF (H)	2100 FOREST GROVE RD CORAOPOLIS, PA 15108-3352
197	270-C-235	0270C00235000000	ROBIN L HOUCK	55 S PETRIE RD CORAOPOLIS PA 15108
198	271-S-35	0271S00035000000	KING HENRY'S COURT HOMEOWNERS ASSOCIATION (THE)	317 2ND AVE CARNEGIE PA 15106
199	271-R-28	0271R00028000000	MICHAEL E & CHRISTINE A CRUNY (W)	3 WINDSOR WAY CORAOPOLIS PA 15108
200	271-R-145	0271R00145000000	HENRY D DUCKSTEIN	627 CHARTIERS AVE MCKEES ROCKS PA 15136
201	271-S-25	0271S00025000000	PATRICK M & MARY BETH ROGERS (W)	137 CAMELOT CIR CORAOPOLIS PA 15108
202	271-S-27	0271S00027000000	WILLIAM P & DIANA M MUDRYK (W)	135 CAMELOT CIR CORAOPOLIS PA 15108
203	271-S-29	0271S00029000000	KENNETH P & ELIZABETH M DURBIN (W)	133 CAMELOT CIR CORAOPOLIS PA 15108
204	271-S-31	0271S00031000000	ROBERT M AND BERG SUSAN M BERG	2 LANCELOT LN CORAOPOLIS PA 15108
205	271-S-33	0271S00033000000	CRAIG & LAUNETTE WEBER (W)	4 LANCELOT LN CORAOPOLIS PA 15108
206	271-M-25	0271M00025000000	BRIAN T & LISA M DANKE (W)	3 LANCELOT LN CORAOPOLIS PA 15108
207	271-L-10	0271L00010000000	KING HENRY'S COURT HOMEOWNERS ASSOCIATIO N (THE)	317 2ND AVE CARNEGIE PA 15106
208	271-H-62	0271H00062000000	DUQUESNE LIGHT COMPANY	1800 SEYMOUR ST PITTSBURGH PA 15233
209	270-G-140	0270G00140000000	JAMES E & GEORGINE MASON (W)	14 S PETRIE RD CORAOPOLIS PA 15108
210	270-G-124	0270G00124000000	DANIELLE TERPACK	30 S PETRIE RD CORAOPOLIS PA 15108

LINE NUMBER	MAB BLOCK LOT NUMBER	PARCEL ID	OWNER	TAX MAILING ADDRESS
211	270-G-122	0270G00122000000	FRANK W HANDLOVITCH & AMELIA S REVOCABLE LIVING	34 S PETRIE RD CORAOPOLIS PA 15108
212	270-C-62	0270C00062000000	JEFFREY T & PATRICIA A CATANZARITE (W)	36 S PETRIE RD CORAOPOLIS PA 15108
213	270-G-120	0270G00120000000	THOMAS P & AMY C HANDLOVITCH (W)	32 S PETRIE RD CORAOPOLIS PA 15108
214	270-C-91	0270C00091000000	MJH DEVELOPMENT CO	44 S PETRIE RD CORAOPOLIS PA 15108
215	270-C-59	0270C00059000000	FRANK W HANDLOVITCH & AMELIA S REVOCABLE LIVING TRUST (THE)	34 S PETRIE RD CORAOPOLIS PA 15108
216	270-G-128	0270G00128000000	MICHAEL P & MICHELLE G LUCAS (W)	39 JEFF DR CORAOPOLIS PA 15108
217	270-B-141	0270B00141000000	JOSEPH & TERESA M NOVAKOWSKI (W)	37 JEFF DR CORAOPOLIS PA 15108
218	270-C-85	0270C00085000000	MARTIN & TERRI LYNN SCANLON (W)	21 JEFF DR CORAOPOLIS PA 15108
219	270-B-123	0270B00123000000	KEVIN J & MICHELE R (GOSS W)	31 JEFF DR CORAOPOLIS PA 15108
220	270-B-129	0270B00129000000	CHERYL A SOWERS	30 JEFF DR CORAOPOLIS PA 15108
221	270-B-127	0270B00127000000	STEPHEN J & NEYRCHEL D LUDWICK (W)	28 JEFF DR CORAOPOLIS PA 15108
222	270-B-125	0270B00125000000	CHARLES W III & CYNTHIA L EISEL (W)	26 JEFF DR CORAOPOLIS PA 15108
223	270-B-131	0270B00131000000	SILVIA L BRAIDIC	112 AMY JO LN CORAOPOLIS PA 15108
224	270-B-133	0270B00133000000	MARK & CHRISTINE FERA (W)	114 AMY JO LN .CORAOPOLIS PA 15108
225	270-B-150	0270B00150000000	ROBERT AND ZHOU JIANJUN ALLSOP	116 AMY JO LN CORAOPOLIS PA 15108
226	270-B-152	0270B00152000000	MARK & CHRISTINE FERA (W)	114 AMY JO LN CORAOPOLIS PA 15108
227	270-B-128	0270B00128000000	STEPHEN J & NEYRCHEL D LUDWICK (W)	28 JEFF DR CORAOPOLIS PA 15108
228	270-C-181	0270C00181000000	JUNE C PETERS	56 S PETRIE RD CORAOPOLIS PA 15108
229	270-C-193	0270C00193000000	LEONARD J & BRENDA L JONES (W)	58 S PETRIE RD CORAOPOLIS PA 15108
230	270-B-122	0270B00122000000	STEPHEN L JR & NANCY A PAWLISH	62 S PETRIE RD CORAOPOLIS PA 15108
231	270-B-50	0270B00050000000	JAMES F & DIANE R HARTMAN (W)	12 BURATTI DR CORAOPOLIS PA 15108
232	270-B-25	0270B00025000000	JAMES F & DIANE R HARTMAN (W)	12 BURATTI DR CORAOPOLIS PA 15108

LINE NUMBER	MAB BLOCK LOT NUMBER	PARCEL ID	OWNER	TAX MAILING ADDRESS
233	270-A-125	0270A00125000000	FOREST GROVE SPORTSMENS ASSOCIATION	20 HICKMAN RD CORAOPOLIS PA 15108
234	271-P-109	0271P00109000000	SCOTT M & SUSAN F LOCKRIDGE (W)	10 BURATTI DR CORAOPOLIS PA 15108
235	271-P-282	0271P00282000000	EDWARD & MARGARET VIETMEIER (W)	2606 COUNTRY CLUB RD PITTSBURGH PA 15205
236	271-N-389	0271N00389000000	EDWARD & MARGARET VIETMEIER (W)	2606 COUNTRY CLUB DR PITTSBURGH PA 15205
237	271-N-115	0271N00115000000	UTA COLBERG	87 S. PETRIE RD COROAPOLIS, PA 15108
238	340-M-135	0340M00135000000	COY ALLEN	N. PETRIE RD COROAPOLIS, PA 15108
239	340-M-331	0340M00331000000	TERRY F & MAUREEN PLACEK (W)	10 REGINA DR MCKEES ROCKS PA 15136
240	340-M-380	0340M00380000000	ADOLPH & JEAN PLACEK (W)	175 COKETOWN RD CORAOPOLIS PA 15108
241	340-M-382	0340M00382000000	MICHAEL & TAMMY LEWICKI (W)	173 COKETOWN RD CORAOPOLIS PA 15108
242	340-H-380	0340H00380000000	TAMMIE S WEBB	171 COKETOWN RD CORAOPOLIS PA 15108
243	340-H-398	0340H00398000000	NOCK TAYLOR ASHLEY NICOLE	172 COKETOWN RD CORAOPOLIS PA 15108
244	340-G-21	0340G00021000000	HAUDENSHIELD REALTY CO	3207 EANES CIRCLE, UNIT A AUSTIN, TX 78746
245	340-H-387	0340H00387000000	VICKI J JONES	160 COKETOWN RD CORAOPOLIS PA 15108
246	498-M-396-0-2	0498M00396000002	MONTOUR TRAIL COUNCIL	304 HICKMAN ST BRIDGEVILLE PA 15017
247	498-M-396-0-1	0498M00396000001	MONTOUR TRAIL COUNCIL	304 HICKMAN ST BRIDGEVILLE PA 15017
248	340-G-114	0340G00114000000	HAUDENSHIELD REALTY CO	3207 EANES CIRCLE, UNIT A AUSTIN, TX 78746
249	341-R-126	0341R00126000000	FELICIAN SISTERS OF NORTH AMERICA REAL ESTATE TRUST	871 MERCER RD BEAVERS FALLS PA 15010
250	340-B-102	0340B00102000000	CHARLES BOBURKA	2107 POCOCEN DR CORAOPLIS PA 15108
251	340-B-62	0340B00062000000	RONALD A & KIMBERLY WISNESKY E (W)	2039 MONTOUR ST EXT CORAOPOLIS PA 15108
252	341-P-112	0341P00112000000	JOSEPH S & NANCY C STEINER (W)	2037 MONTOUR ST CORAOPOLIS PA 15108
253	341-P-114	0341P00114000000	RICHARD J JR & GEORGETTE E ARENA (W)	231 STREAMSIDE PL MOORESVILLE NC 28115
254	341-P-2	0341P00002000000	NADINE R & RICHARD DANIELS E (H)	2044 MONTOUR ST CORAOPOLIS PA 15108

LINE NUMBER	MAB BLOCK LOT NUMBER	PARCEL ID	OWNER	TAX MAILING ADDRESS
255	341-J-366	0341J00366000000	SUSAN D LIVINGSTON (C0-TRUSTEE) AND LORRAINE M GORMLEY (C0-TRUSTEE)	1130 GREENTREE RD PITTSBURGH PA 15220
256	340-A-83	0340A00083000000	WILLIAM D MORROW JR & CYNTHIA S (W)	2046 MONTOUR ST CORAOPOLIS PA 15108
257	340-A-103	0340A00103000000	GUST & CHRISTINE L DELOGLOS	115 CRAIGWOOD DR CORAOPOLIS PA 15108
258	418-S-87	0418S00087000000	HAYWARD V & ELAINE MCINTOSH	LANDSDOWNE DR CORAOPOLIS PA 15108
259	418-S-187	0418S00187000000	DENNIS J SOLT	1626 RIDGE ST CORAOPOLIS PA 15108
260	418-S-135	0418S00135000000	DUQUESNE LIGHT COMPANY	1800 SEYMOUR ST PITTSBURGH, PA 15233
261	418-S-186	0418S00186000000	RICHARD P & YI JIN WARBURTON	1619 RIDGE ST CORAOPOLIS PA 15108
262	418-S-183	0418S00183000000	JOSEPH JR VANO	1620 RIDGE ST CORAOPOLIS PA 15108
263	418-S-333	0418S00333000000	JOHN A LOUNDER	117 SANDRALAYNE RD CORAOPOLIS PA 15108
264	418-S-334	0418S00334000000	JOHN F & CHERYL A (W)RILEY	121 SANDRALAYNE DR CORAOPOLIS PA 15108
265	418-M-274	0418M00274000000	JASON N MORRIS AND COLLEEN A MORRIS AND PHILIP W MORRIS	1621 CHARLTON HEIGHTS RD CORAOPOLIS PA 15108
266	418-S-361	0418S00361000000	ROBERT T BEST	1627 CHARLTON HEIGHTS RD CORAOPOLIS PA 15108
267	418-S-367	0418S00367000000	ROBERT T BEST	1627 CHARLTON HEIGHTS RD CORAOPOLIS PA 15108
268	418-M-260	0418M00260000000	MARISSA KIELAR	1620 CHARLTON HEIGHTS RD CORAOPOLIS PA 15108
269	418-M-269	0418M00269000000	WILLIAM A & MARGARET BREEDLOVE	1626 CHARLTON HEIGHTS RD CORAOPOLIS PA 15108
270	418-L-86	0418L00086000000	DARRELL J & MARY ANN PAPINCHAK (W)	1203 MAPLE ST EXT CORAOPOLIS PA 15108
271	418-M-64	0418M00064000000	MICHAEL J & VIKKI A RICHARDS (W)	1424 CHARLTON HEIGHTS RD CORAOPOLIS PA 15108
272	418-M-30	0418M00030000000	ORVILLE A III & GAYLE A ANTRAM (W)	1426 CHARLTON HEIGHTS RD CORAOPOLIS PA 15108
273	418-L-385	0418L00385000000	ROBERT G & TERRY L CHESKY (W)	1422 CHARLTON HEIGHTS RD CORAOPOLIS PA 15108
274	418-G-4	0418G00004000000	SAYLOR DAVID K & DORIS M PEREZ (W)	107 SEIBERT RD CORAOPOLIS PA 15108
275	418-G-9	0418G00009000000	MARY E & NICHOLAS J JOY (H)	105 SEIBERT RD CORAOPOLIS PA 15108

LINE NUMBER	MAB BLOCK LOT NUMBER	PARCEL ID	OWNER	TAX MAILING ADDRESS
276	418-G-24	0418G00024000000	DAVRONBEK P KUDRATULLAEV & MICHELLE L CIARAMELLA (W)	101 SEIBERT RD CORAOPOLIS PA 15108
277	418-G-59	0418G00059000000	ANTHONY R & SANDRA R MARTIN (W)	1133 MAPLE ST EXT CORAOPOLIS PA 15108
278	418-G-68	0418G00068000000	MICHAEL A & APRIL M CRAWFORD (W)	1137 MAPLE ST EXT CORAOPOLIS PA 15108
279	418-G-77	0418G00077000000	CHRISTEN & JOLENE L WILLIAMS (W)	104 SEIBERT RD CORAOPOLIS PA 15108
280	418-G-183	0418G00183000000	CHARLES E & JAYNE LISICA	1140 MAPLE ST EXT CORAOPOLIS PA 15108
281	418-G-145	0418G00145000000	DUQUESNE LIGHT COMPANY	1800 SEYMOUR ST PITTSBURGH PA 15233
282	418-G-118	0418G00118000000	CORAOPOLIS TEMPLE SERVICE ASSOCIATION	PO BOX 41 CORAOPOLIS PA 15108
283	418-G-201	0418G00201000000	PAUL D & HEIDI M SOUZA (W)	224 ABBOTT ST CORAOPOLIS PA 15108
284	418-G-195	0418G00195000000	CHARLES E & JAYNE LISICA	1140 MAPLE ST EXT CORAOPOLIS PA 15108
285	418-C-122	0418C00122000000	GEORGE N SCHAEFER	DECEASED - KNOWN POTENTIAL INTEREST OWNERS
286	418-C-147	0418C00147000000	DUQUESNE LIGHT COMPANY	1800 SEYMOUR ST PITTSBURGH PA 15233
287	418-C-135	0418C00135000000	GEORGE A JELLISON AND GEORGE A JELLISON JR AND LYNNE BOLEY AND BONITA L JELLISON	834 ROYAL AVE CORAOPOLIS PA 15108
288	418-C-183	0418C00183000000	LAWSON REALTY COMPANY	8 DEL MAR CT DELMONT PA 15626
289	418-F-49	0418F00049000000	KARL M & OLGA D FLORENCE (W)	132 LAKEVIEW DR MCKEES ROCK PA 15136
290	419-P-29	0419P00029000000	DONALD & MARILYN DINELL (W)	373 INDIAN RIDGE DR CORAOPOLIS PA 15108
291	418-B-192	0418B00192000000	SCOTT A & CHRISTINE P HOOVER (W)	526 SOUTHERN AVE CORAOPOLIS PA 15108
292	419-P-27	0419P00027000000	SILVIYA N NOVAK	375 INDIAN RIDGE DR CORAOPOLIS PA 15108
293	419-P-25	0419P00025000000	DANIEL A & KATHLEEN M SUCHY (W)	377 INDIAN RIDGE DR CORAOPOLIS PA 15108
294	419-P-23	0419P00023000000	MARK J & LINDA K WEAVER (W)	379 INDIAN RIDGE DR CORAOPOLIS PA 15108
295	419-P-21	0419P00021000000	YVONNE KUNDE	378 INDIAN RIDGE DR CORAOPOLIS PA 15108
296	419-P-19	0419P00019000000	DONALD J & KIMBERLY LONGWELL (W)	376 INDIAN RIDGE DR CORAOPOLIS PA 15108

LINE NUMBER	MAB BLOCK LOT NUMBER	PARCEL ID	OWNER	TAX MAILING ADDRESS
297	419-P-5	0419P00005000000	JAMES P & REBECCA S KUKLISH (W)	354 INDIAN RIDGE DR CORAOPOLIS PA 15108
298	419-P-3	0419P00003000000	AARON J & ELISA A BOOTH (W)	352 INDIAN RIDGE DR CORAOPOLIS PA 15108
299	419-P-1	0419P00001000000	RONALD A & GEORGENE H ANDRASKO (W)	350 INDIAN RIDGE DR CORAOPOLIS PA 15108
300	419-N-4	0419N00004000000	KEITH M & DINA L MALINOSKI (W)	348 INDIAN RIDGE DR CORAOPOLIS PA 15108
301	419-N-2	0419N00002000000	TODD J & LOIS J GAGLE (W)	346 INDIAN RIDGE DR CORAOPOLIS PA 15108
302	419-J-73	0419J00073000000	OWEN R & DEBORAH J MILLIGAN (W)	344 INDIAN RIDGE DR CORAOPOLIS PA 15108
303	419-J-71	0419J00071000000	BRANDT & MELISSA WILSON (W)	342 INDIAN RIDGE DR CORAOPOLIS PA 15108
304	419-J-69	0419J00069000000	RONALD J & KAREN A BUDICKY (W)	340 INDIAN RIDGE DR CORAOPOLIS PA 15108
305	419-J-67	0419J00067000000	JOHN & CATHERINE B LEVINE (W)	338 INDIAN RIDGE DR CORAOPOLIS PA 15108
306	419-J-61	0419J00061000000	ANTHONY J & PATRICIA J BABUSCI (W)	332 INDIAN RIDGE DR CORAOPOLIS PA 15108
307	419-J-59	0419J00059000000	RICHARD J & PATRICIA A HUNZIKER (W)	330 INDIAN RIDGE DR CORAOPOLIS PA 15108
308	419-J-41	0419J00041000000	VINCENT & ANGELA MARIE RICCIARDI (W)	312 INDIAN RIDGE DR CORAOPOLIS PA 15108
309	419-E-152	0419E00152000000	BRETT W & JENNIFER J MCGENNIS (W)	310 INDIAN RIDGE DR CORAOPOLIS PA 15108
310	419-E-151	0419E00151000000	JUSTIN & BRETLYNN STARK	308 INDIAN RIDGE DR CORAOPOLIS PA 15108
311	420-P-303	0420P00303000000	400 FIFTH AVENUE LIMITED PARTNERSHIP	400 5TH AVE CORAOPOLIS PA 15108
312	419-A-162	0419A00162000000	MICHAEL J FERRARA AND LYNDSIE N SCHANTZ	136 TIFFANY RIDGE DR CORAOPOLIS PA 15108
313	419-A-160	0419A00160000000	MORGAN MIHOK	134 TIFFANY RIDGE DR CORAOPOLIS PA 15108
314	420-N-114	0420N00114000000	MOON LAND CO	8 DEL MAR CT DELMONT PA 15626
315	504-D-29	0504D00029000000	PHIL PATTON	132 TIFFANY RIDGE DR CORAOPOLIS PA 15108
316	420-N-99	0420N00099000000	CURTIS JORDAN JR	110 LANSDOWNE DR CORAOPOLIS PA 15108
317	505-S-348	0505S00348000000	STEVE & THERESA BABIK	THORON RUN RD CORAOPOLIS PA 15108
318	420-N-331	0420N00331000000	ROBERT J & SHARON M RUSH (W)	520 THORN RUN RD CORAOPOLIS PA 15108

LINE NUMBER	MAB BLOCK LOT NUMBER	PARCEL ID	OWNER	TAX MAILING ADDRESS
319	505-F-217	0505F00217000000	MORRISON FARMS	745 LINCOLN AVE BENTLEYVILLE PA 15314
320	505-S-307	0505S00307000000	BEE'S REAL ESTATE LP	3273 RALEIGH AVE STE L PITTSBURGH, PA 15216
321	505-S-314	0505S00314000000	JON S DOMENICO	424 AMHERST AVE CORAOPOLIS PA 15108
322	505-M-161	0505M00161000000	JOLA REALTY LLC	227 MCCARTNEY DR CORAOPOLIS PA 15108
323	505-M-156	0505M00156000000	CHARLES J SR AND MARY CLEIS	392 CEDAR DR CORAOPOLIS PA 15108
324	505-M-149	0505M00149000000	TWOTUTS PROPERTIES LLC	828 OLD THORN RUN RD CORAOPOLIS PA 15108
325	505-M-142	0505M00142000000	MATTHEW EDWARD COPPOLA	640 7TH AVE CORAOPOLIS PA 15108
326	505-M-136	0505M00136000000	ERIC & HEIDI USSELMAN	207 PATTON DR CORAOPOLIS PA 15108
327	505-M-135	0505M00135000000	ERIC & HEIDI USSELMAN	207 PATTON DR CORAOPOLIS PA 15108
328	505-M-134	0505M00134000000	CAROLYN MARIE MATLAK	199 PARSON LB ALIQUIPPA PA 15001
329	505-M-133	0505M00133000000	BANKERS TRUST COMPANY OF CALIFORNIA NA (TRUSTEE)	360 HEMLOCK DR CORAOPOLIS PA 15108
330	505-M-131	0505M00131000000	JOHN CAMARDESE	2 MCGOVERN BLVD CRESCENT PA 15046
331	505-M-129	0505M00129000000	KIM E & LORI E SHANNON (W)	354 HEMLOCK DR CORAOPOLIS PA 15108
332	505-M-128	0505M00128000000	KIM E & LORI E SHANNON (W)	354 HEMLOCK DR CORAOPOLIS PA 15108
333	505-M-127	0505M00127000000	JOSEPH ANTHONY & BEVERLY SUE WEBER (W)	352 HEMLOCK DR CORAOPOLIS PA 15108
334	505-L-295	0505L00295000000	MOON TOWNSHIP	1000 BEAVER GRADE RD CORAOPOLIS PA 15108
335	505-L-278	0505L00278000000	HENRY & JULIA B REYNOLDS (W)	1209 ROBINA DR PITTSBURGH PA 15221
336	505-G-17	0505G00017000000	RONALD J AND CONLEY STELLA RENNICH	284 OAK DR CORAOPOLIS PA 15108
337	505-G-300	0505G00300000000	LMS THORN RUN LP	ATTN CASEY STEINER 121 EDGEWOOD AVE PITTSBURGH, PA 15218-1593
338	505-G-38	0505G00038000000	MERRIT COMMONS LLC	112 PORT VUE DR CORAPOLIS PA 15108
339	505-G-38-1	0505G00038000100	MERRIT COMMONS LLC	112 PORT VUE DR CORAPOLIS PA 15108

LINE NUMBER	MAB BLOCK LOT NUMBER	PARCEL ID	OWNER	TAX MAILING ADDRESS
340	505-B-72	0505B00072000000	BUTTON PETER M & LISA L (W)	128 RIVERCREST DR CORAOPOLIS PA 15108
341	505-B-68	0505B00068000000	CINDRAN INC	745 LINCOLN AVE BENTLEYVILLE PA 15314
342	505-B-64	0505B00064000000	LISA G DOMENICK	132 RIVERCREST DR CORAOPOLIS PA 15108
343	505-B-62	0505B00062000000	PATRICIA ANN WALTER & ANTHONY MARIANO (TRUST)	134 RIVERCREST DR CORAOPOLIS PA 15108
344	506-P-31	0506P00031000000	ROBERT M & SHAYLA M HOFF	136 RIVERCREST DR CORAOPOLIS PA 15108
345	506-P-35	0506P00035000000	KEITH A MARSHALL	138 RIVERCREST DR CORAOPOLIS PA 15108
346	506-P-39	0506P00039000000	TRICIA JO CARTISANO	140 RIVERCREST DR CORAOPOLIS PA 15108
347	506-P-43	0506P00043000000	RICHARD L & JOYCE M KRANE (W)	142 RIVERCREST DR CORAOPOLIS PA 15108
348	506-P-85	0506P00085000000	JOSEPH R & MARGARET G MANUEL (W)	144 JAROD DR CORAOPOLIS PA 15108
349	506-P-87	0506P00087000000	PETER J & MELISSA R NOSSAL (W)	143 JAROD DR CORAOPOLIS PA 15108
350	506-P-88	0506P00088000000	ARTHUR & SUZANNE LANGUILLI (W)	141 JAROD DR CORAOPOLIS PA 15108
351	506-P-89	0506P00089000000	DAVID L & ABBY J JACKSON	139 JAROD DR CORAOPOLIS PA 15108
352	506-P-91	0506P00091000000	DONALD RAY III & RACHEL DAWN MOORE (W)	137 JAROD DR CORAOPOLIS PA 15108
353	506-P-93	0506P00093000000	CYNTHIA N GALISH	135 JAROD DR CORAOPOLIS PA 15108
354	506-N-13	0506N00013000000	LUKE M & MICHELLE C DIXON (W)	133 JAROD DR CORAOPOLIS PA 15108
355	506-N-11	0506N00011000000	JOHN L & SALLY C PRONESTI (W)	131 JAROD DR CORAOPOLIS PA 15108
356	506-N-201	0506N00201000000	PENN SHERMAN CORP	6171 BETHEL RD ALEXANDRIA PA 16611
357	506-N-117	0506N00117000000	JOSE G & GRISEL C CAMPOS MARTIN (W)	283 RANDY LN CORAOPOLIS PA 15108
358	506-N-115	0506N00115000000	AUSTIN C & AMANDA RUSSIAN	285 RANDY LN CORAOPOLIS PA 15108
359	506-N-113	0506N00113000000	NANCI E RICH	287 RANDY DR CORAOPOLIS PA 15108
360	506-N-127	0506N00127000000	DAVID T POST	288 RANDY LN CORAOPOLIS PA 15108
361	506-N-129	0506N00129000000	CHRIS J & ALYSON R PATSILEVAS (W)	230 RANDY LN CORAOPOLIS PA 15108

LINE NUMBER	MAB BLOCK LOT NUMBER	PARCEL ID	OWNER	TAX MAILING ADDRESS
362	506-J-68	0506J00068000000	SEETHALER WILLIAM L & LYNN L LIVING TRUST	237 RANDY LN CORAOPOLIS PA 15108
363	506-N-107	0506N00107000000	MILISSA A & SIDNEY F MOORE	229 RANDY LN CORAOPOLIS PA 15108
364	599-M-200	0599M00200000000	PITTSBURGH AIRPORT PROPERTY INC	5596 23RD W TER BOCA RATON FL 33496
365	599-R-115	0599R00115000000	MOON TOWNSHIP	1000 BEAVER GRADE RD CORAOPOLIS PA 15108
366	599-L-292	0599L00292000000	AARON SIGEL AND REBECCA BRAUND	110 WYNVIEW RD CORAOPOLIS PA 15108
367	599-L-286	0599L00286000000	DENNIS J & JEANNE M ZONA (W)	108 WYNVIEW DR CORAOPOLIS PA 15108
368	599-L-277	0599L00277000000	CAROL A GORDON ASSET PROTECTION TRUST	106 WYNVIEW DR CORAOPOLIS PA 15108
369	599-L-227	0599L00227000000	HANS H NAM & WON JI (W)	110 WESTBURY DR CORAOPOLIS PA 15108
370	599-L-237	0599L00237000000	CYNTHIA L WOOLLETT	112 WESTBURY DR CORAOPOLIS PA 15108
371	599-L-268	0599L00268000000	JOSEPH G & SUZANNE L RABOSKY (W)	104 WYNVIEW DR CORAOPOLIS PA 15108
372	599-L-260	0599L00260000000	RONALD W & MARLANE J MCGINNIS (W)	102 WYNVIEW DR CORAOPOLIS PA 15108
373	599-L-246	0599L00246000000	RANJAN & MEENA BHANDARI (W)	226 LAKEVIEW DR CORAOPOLIS PA 15108
374	599-G-136	0599G00136000000	VALJEAN C ECKERT	116 WESTBURY DR CORAOPOLIS PA 15108
375	599-G-124	0599G00124000000	DONALD E & TILLIE J MUELLER (W)	115 WESTBURY DR CORAOPOLIS PA 15108
376	599-G-127	0599G00127000000	CARLTON T & PATRICIA A MILLER	113 WESTBURY DR CORAOPOLIS PA 15108
377	599-L-352	0599L00352000000	JAMES W & ETHEL W JACOBS (W)	111 WESTBURY DR CORAOPOLIS PA 15108
378	599-F-53	0599F00053000000	ANDREW P & CAROL ANN KOSARIK (W)	280 SHAFER RD CORAOPOLIS PA 15108
379	599-F-41	0599F00041000000	VINCENT & MARIA DINUNNO (W)	278 SHAFER RD CORAOPOLIS PA 15108
380	599-F-27	0599F00027000000	ZACHARY C & GEORGIANA R SMITH (W)	274 SHAFER RD CORAOPOLIS PA 15108
381	599-F-7	0599F00007000000	JAMES T & GAIL E HOLMES (W)	272 SHAFER RD CORAOPOLIS PA 15108
382	599-F-91	0599F00091000000	DARREN J & CORINNE M MILLER	279 SHAFER RD CORAOPOLIS PA 15108
383	599-F-92	0599F00092000000	BARRETT KLAAS	271 SHAFER RD CORAOPOLIS PA 15108

LINE NUMBER	MAB BLOCK LOT NUMBER	PARCEL ID	OWNER	TAX MAILING ADDRESS
384	599-F-70	0599F00070000000	BARRETT KLAAS	271 SHAFER RD CORAOPOLIS PA 15108
385	599-F-97	0599F00097000000	WILLIAM F & HELEN L SUTTON (W)	101 CRABTREE DR CORAOPOLIS PA 15108
386	599-F-98	0599F00098000000	WILLIAM F & HELEN L SUTTON (W)	101 CRABTREE DR CORAOPOLIS PA 15108
387	599-F-124	0599F00124000000	CHARLES S & PATRICIA C DEMME	103 CRABTREE LN CORAOPOLIS PA 15108
388	599-F-122	0599F00122000000	MARK C & CHARLYN D MULKEY (W)	105 CRABTREE DR CORAOPOLIS PA 15108
389	599-F-120	0599F00120000000	CHRISTOPHER D & ERIN MARIE MANNA (W)	107 CRABTREE DR CORAOPOLIS PA 15108
390	599-F-118	0599F00118000000	JOSEPH P FAULK	109 CRABTREE DR CORAOPOLIS PA 15108
391	599-F-112	0599F00112000000	GREGORY C & LISA D MCVAY (W)	110 CRABTREE DR CORAOPOLIS PA 15108
392	599-F-109	0599F00109000000	KEITH R STUCKEMAN, LENA M LENGYEL-BEADLING	310 WESTBURY DR CORAOPOLIS PA 15108
393	599-B-111	0599B00111000000	GEOFFREY W HATTON AND MEGAN A HATTON	312 WESTBURY DR CORAOPOLIS PA 15108
394	599-B-113	0599B00113000000	MICHAEL R NOVAK	314 WESTBURY DR CORAOPOLIS PA 15108
395	600-K-14	0600K00014000000	WEST PENN LACO INC	331 OHIO ST PITTSBURGH PA 15209
396	600-J-32	0600J00032000000	B P O E ELKS CLUB CORAOPOLIS LODGE 1090	PO BOX 1091 CORAOPOLIS PA 15108
397	700-H-324	0700H00324000000	D & K WRIGHT LLC	113 HELDON DR CORAOPOLIS PA 1510
398	701-S-46	0701S00046000000	MOON TOWNSHIP MUNICIPAL AUTHORITY	1700 BEAVER GRADE RD CORAOPOLIS PA 15108
399	701-S-102	0701S00102000000	MOON TOWNSHIP MUNICIPAL AUTHORITY	1700 BEAVER GRADE RD CORAOPOLIS PA 15108
400	701-S-221	0701S00221000000	MARK H & JUDITH C MILLER (W)	459 WATTERS STATION EVANS CITY PA 16033
401	701-M-178	0701M00178000000	MARTIN MEDIA	740 TRUMBULL DR PITTSBURGH PA 15205-4363
402	701-L-116	0701L00116000000	RICHARD I GABLE	126 FLAUGHERTY RUN RD CORAOPOLIS PA 15108
403	701-L-28	0701L00028000000	MARLENE LUDMAN, MARK LUDMAN	206 PURDY RD CORAOPOLIS PA 15108
404	701-H-296	0701H00296000000	JAMES A STOKES	5 MCGOVERN BLVD CRESCENT PA 15046
405	701-H-286	0701H00286000000	ZACHARIAH R NAVE	PO BOX 524 CLARION PA 16214

LINE NUMBER	MAB BLOCK LOT NUMBER	PARCEL ID	OWNER	TAX MAILING ADDRESS
406	701-H-255	0701H00255000000	CYNTHIA A CHAMBERLIN AND PATRICK L WILSON	9 MCGOVERN BLVD CRESCENT PA 15046
407	701-D-304	0701D00304000000	RANDY J INCHES	1582 SPRING RUN RD EXT CORAOPOLIS PA 15108
408	701-C-100	0701C00100000000	PAUL M SCHREIBER	1215 MAPLE ST EXT CORAOPOLIS PA 15108
409	701-G-31	0701G00031000000	ALLEN M & JANE L NEMETZ W)	1510 LAUREL RIDGE DR CRESCENT PA 15046
410	701-G-29	0701G00029000000	KIERSTEN & GEORGE E CROSBY (H)	1512 LAUREL RIDGE DR CRESCENT PA 15046
411	701-G-27	0701G00027000000	DAVID L & BARBARA A ROSS (W)	1514 LAUREL RIDGE DR CRESCENT PA 15046
412	701-G-25	0701G00025000000	LOUIS GLUMAC JR AND DENISE THOMAS	1516 LAUREL RIDGE DR CRESCENT PA 15046
413	701-G-23	0701G00023000000	ZACHARY J BYRD & MEGAN T DELISLE	1518 LAUREL RIDGE DR CRESCENT PA 15046
414	701-C-121	0701C00121000000	ZOKAITES PROPERTIES LP	375 GOLFSIDE DR WEXFORD PA 15090
415	701-C-46	0701C00046000000	30 BEAVER LP	3000 WASHINGTON PIKE BRIDGEVILLE PA 15017
416	701-C-48	0701C00048000000	TERRY A DEZORT	1522 PARKWOOD POINTE DR UNIT 604 CRESCENT PA 15046
417	701-C-44	0701C00044000000	BONNY J FOX	1528 PARKWOOD POINTE DR CRESCET PA 15046
418	701-C-42	0701C00042000000	30 BEAVER LP	3000 WASHINGTON PIKE BRIDGEVILLE PA 15017
419	701-C-40	0701C00040000000	LOUIS E. & MARILYN E SMOLENSKI (W)	1530 PARKWOOD POINT DR UNIT 504 CRESCENT, PA 15046
420	701-C-3	0701C00003000000	ZOKAITES PROPERTIES LP	375 GOLFSIDE DR WEXFORD PA 15090
421	701-C-120	0701C00120000000	ZOKAITES PROPERTIES LP	375 GOLFSIDE DR WEXFORD PA 15090
422	701-C-120-701	0701C00120070100	ZOKAITES PROPERTIES LP	375 GOLFSIDE DR WEXFORD PA 15090
423	701-C-120-704	0701C00120070400	ZOKAITES PROPERTIES LP	375 GOLFSIDE DR WEXFORD PA 15090
424	701-C-120-703	0701C00120070300	ZOKAITES PROPERTIES LP	375 GOLFSIDE DR WEXFORD PA 15090
425	701-C-120-702	0701C00120070200	ZOKAITES PROPERTIES LP	375 GOLFSIDE DR WEXFORD PA 15090
426	701-C-2	0701C00002000000	CHARLOTTE L MUIA	1531 PARKWOOD POINTE DR CRESCENT PA 15046
427	701-C-8	0701C00008000000	BUNDY FAMILY TRUST	33 MCCOVERN BLVD CRESCENT PA 15046

LINE NUMBER	MAB BLOCK LOT NUMBER	PARCEL ID	OWNER	TAX MAILING ADDRESS
428	701-B-4	0701B00004000000	CHRISTOPHER J & HEIDI L GARITI (W)	1601 CLOVERDALE LN CRESCENT PA 15046
429	701-B-6	0701B00006000000	ADAM W ZUREK	1602 CLOVERDALE LN CRESCENT PA 15046
430	701-B-200	0701B00200000000	PAUL M SCHREIBER	1215 MAPLE ST EXT CORAOPOLIS PA 15108
431	702-P-236	0702P00236000000	ROBERT J & NANCY J KERNICK (W)	259 SPRING RUN RD CRESCENT PA 15046
432	702-P-252	0702P00252000000	DUQUESNE LIGHT COMPANY	1800 SEYMOUR ST PITTSBURGH PA 15233
433	702-P-257	0702P00257000000	HENRY K & MARILYN G WHITE (W)	248 SPRING RUN RD CRESCENT PA 15046
434	702-P-363	0702P00363000000	JUSTIN T SMITH	258 SPRING RUN RD CRESCENT PA 15046
435	702-K-16	0702K00016000000	STEVEN M & CAROLINE S DOTTERER	1208 CRESCENT BLVD EXT CRESCENT PA 15046
436	702-K-18	0702K00018000000	RONALD A GOTTSCHALK AND MARLA A GOTTSCHALK	1206 CRESCENT BLVD EXT CRESCENT PA 15046
437	702-N-398	0702N00398000000	IAN & CHRISTIE HOUSTON	470 CRESCENT BLVD CRESCENT PA 15046
438	702-J-149	0702J00149000000	NICHOLAS E & ERICA M HOLLABAUGH (W)	1204 CRESCENT BLVD EXT CRESCENT PA 15046
439	702-J-147	0702J00147000000	JOSEPH G & JENNIFER L DAUGHERTY (W)	1202 CRESCENT BLVD EXT CRESCENT PA 15046
440	702-J-143	0702J00143000000	LOUIS A BOJARSKI	648 MAGNUS LN CORAOPOLIS PA 15108
441	702-J-135	0702J00135000000	JEAN BUBENHEIM & BARBARA HUSUAR	524 CRESCENT BLVD EXT CRESCENT PA 15046
442	702-J-145	0702J00145000000	JOSEPH W & KATHLEEN A PLUMB (W)	1200 CRESCENT BLVD EXT CRESCENT PA 15046
443	702-J-158	0702J00158000000	JAMES & JUDITH L DEANGELIS (W)	1201 CRESCENT BLVD EXT CRESCENT PA 15046
444	702-J-156	0702J00156000000	PATRICK E HAYES	223 N GUADALUPE ST UNIT #218 SANTA FE NM 87501
445	702-J-165	0702J00165000000	NORMAN P & BARBARA J BONAZZA (W)	200 GLENGARRY DR CORAOPOLIS PA 15108
446	702-P-371	0702P00371000000	LOUIS A BOJARSKI	648 MAGNUS LN CORAOPOLIS PA 15108
447	811-R-129	0811R00129000000	LOUIS A BOJARSKI	648 MAGNUS LN CORAOPOLIS PA 15108
448	702-E-293	0702E00293000000	DANIEL & CHERYL L PERCIAVALLE (W)	815 BOCKTOWN RD CRESCENT PA 15046
449	702-E-377	0702E00377000000	ROBERT J DECKER & JAMIE TURNEY	826 BOCKTOWN RD CRESCENT PA 15046

LINE NUMBER	MAB BLOCK LOT NUMBER	PARCEL ID	OWNER	TAX MAILING ADDRESS
450	702-E-381	0702E00381000000	DUQUESNE LIGHT COMPANY	1800 SEYMOUR ST PITTSBURGH PA 15233
451	811-H-346	0811H00346000000	VICKIE D STARK	828 BOCKTOWN RD CRESCENT PA 15046
452	811-H-341	0811H00341000000	CATHERINE A DECKER AND ROBERT J DECKER	830 BOCKTOWN RD CRESCENT PA 15046
453	811-H-326	0811H00326000000	MICHAEL S EVANS	834 BOCKTOWN RD CRESCENT PA 15046
454	811-H-321	0811H00321000000	DONNA ABBOTT	117 COLONIAL DR CLINTON PA 15026
455	812-S-226	0812S00226000000	MATTHEW WAIBEL & MARIA GEORGINA (W)	923 HARPER RD CRESCENT PA 15046
456	812-S-129	0812S00129000000	JOSEPH & KAREN GERY (W)	1040 CHANTICLEER DR CRESCENT PA 15046
457	812-S-354	0812S00354000000	CRESWELL HEIGHTS JOINT AUTHORITY	PO BOX 301 SOUTH HEIGHTS PA 15081
458	812-R-128	0812R00128000000	DAVID J & ELIZABETH L VREDENBURG (W)	932 HARPER RD CRESCENT PA 15046
459	812-M-107	0812M00107000000	DUQUESNE LIGHT COMPANY	1800 SEYMOUR ST PITTSBURGH PA 15233
460	703-A-395-0-1	0703A00395000001	DUQUESNE LIGHT COMPANY	1800 SEYMOUR ST PITTSBURGH PA 15233
461	703-A-395	0703A00395000000	DUQUESNE LIGHT COMPANY	1800 SEYMOUR ST PITTSBURGH PA 15233

Property Owners Current as of June 22, 2020

Amended Attachment 11

AMENDED ATTACHMENT 11
BRUNOT ISLAND-CRESCENT PROJECT
DUQUESNE LIGHT COMPANY DESIGN CRITERIA, ELECTROMAGNETIC FIELD POLICY AND APPLICATION, AND SAFETY PRACTICES

The National Electrical Safety Code (NESC) is a set of rules to safeguard people during the installation, operation, and maintenance of electric power lines. The NESC contains the basic provisions considered necessary for the safety of employees and the public. Although it is not intended as a design specification, its provisions establish minimum design requirements. Duquesne Light Company ("Duquesne Light") has developed design specifications and safety rules which meet or surpass all provisions specified by the NESC.

Engineering Design Criteria and Parameters

The NESC includes loading requirements and clearances for the design, construction, and operation of power lines. The "loads" on conductors and supporting structures are the forces that develop from the weight of the conductors, the weight of ice on the conductors, plus wind pressure on the conductors and supporting structures. Loading requirements are the loads on the conductors and structures that are anticipated assuming certain ice and wind conditions. Loading requirements always contain "safety factors" to allow for unknown or unanticipated contingencies. The clearances and loading requirements contained in the NESC were developed to ensure public safety and welfare.

Duquesne Light transmission line design standards meet or surpass the NESC standards. For example, the relative order of grades of construction for conductors and supporting structures is B, C, and N; Grade B being the highest. According to the NESC standards, construction Grades B, C, or N may be used for transmission lines (except at crossings of railroad tracks and limited access highways where Grade B construction is specified). However, Duquesne Light designs all of its transmission lines for Grade B construction. The use of Grade B design and construction specifies such things as larger-minimum crossarm dimensions, larger-minimum conductor size, and increased safety factors.

Duquesne Light also surpasses the NESC standards in the clearance requirements. Duquesne Light strives to design 138 kV and 345kV transmission lines to meet 30 feet of ground clearance under the

worst-case load scenario, 9.4 feet more than the NESC minimum of 20.6 feet for new construction on 138kV transmission lines and 5.2 feet more than the NESC minimum of 24.8 feet for new construction on 345kV transmission lines. For reconductor projects and spans with new structures on 138kV and 345kV transmission lines, Duquesne Light strives to obtain either 30 feet of ground clearance or NESC+10%, modifying existing structures as necessary to meet these criteria. For all other types of clearances on new lines, NESC+10% is used.

Duquesne Light also surpasses the NESC standards in the structure overload or multiplying factors. The guideline for structural load factors for transmission structures can be found in the NESC Code. Duquesne Light applies overload factors of 1.1 for NESC 250C and NESC 250D loads compared to the NESC requirement of using 1.0 overload factors for NESC 250C and NESC 250D loads.

Electromagnetic Field Management Practices for New Transmission Lines

a. Transmission Line Planning

All electric currents, including those running within electric transmission lines, generate electric and magnetic fields (sometimes referred to jointly as electromagnetic fields or EMF). Electric and magnetic fields share some similarities, but have differences as well. Magnetic fields are directly related to the flow of electrical current in wires and devices. Electric fields are directly related to voltage, which creates the force to make electrical current flow. Both fields decrease quickly with distance from the source.

A large body of scientific evidence does not demonstrate that exposure to EMF are harmful, although guidelines have been set. The EMF exposure standard for the United States is the IEEE Standard C95.6 “Safety Levels with Respect to Human Exposure to Electromagnetic Fields, 0-3 kHz,” which specifies maximum permissible exposure (MPE) limits for the general public of 9040mG (60 Hz) for magnetic fields and 10kV/m (60 Hz) for electric fields within in the right-of-way and 5 kV/m off the right-of-way. Internally, the World Health Organization does not produce an EMF standard, but recognizes the International Council on Non-Ionizing Radiation Protection (ICNIRP) standard. The 2010 ICNIRP standard “ICNIRP Guidelines for Limiting Exposure to Time-varying Electric and Magnetic Fields (1 hZ to 100 kHz)” lists general public reference levels of 2000mG (60Hz) for magnetic fields and 4.167 kV/m (60Hz) for electric fields. Duquesne Light’s transmission lines have

EMF levels that are under the reference levels as indicated in these standards and guidelines. Duquesne Light also takes additional steps in its transmission line planning and design processes to identify and minimize any potential EMF impacts on the surrounding area.

Because EMF decreases significantly with distance from the source, any potential EMF emitted by a new transmission line is highly localized. Duquesne Light therefore first identifies the point(s) in a new transmission line with highest potential for EMF exposure. This point is usually a span with (i) lowest ground clearance, (ii) in densely populated neighborhoods; and (iii) in close proximity to publically-accessible areas (such as public sidewalks).

Second, because magnetic fields are a function of current, the next step is to determine the load current along that point of the transmission line. For this, Duquesne Light uses its power flow models, which are based upon projected load growth ten years into the future. Duquesne Light examines two load scenarios: (i) the "50/50" expected peak load forecast (i.e., projections indicate 50% chance the peak will be less than the scenario, and 50% chance the peak will be greater), and (ii) the "90/10" high load condition (i.e., projections indicate 90% chance the peak will be less than the scenario, and 10% the peak will be greater). These power flow studies also consider various contingencies, such as a generators being offline and other transmission lines being out of service. After evaluating the scenarios and contingencies, the greatest load currents on the transmission lines being studied are used for the EMF study. Where Duquesne Light plans to replace an existing transmission line with a new transmission line, it calculates the load in the same way for the existing transmission line as though the new line were not built, so that the net effect on the EMF levels can be determined.

Third, as part of its design process, Duquesne Light adjusts the line design to minimize the potential for exposure to EMF. For example, where a line has two 138 kV circuits, Duquesne Light balances circuit loads where practical to maximize the EMF-mitigating effects of reverse phasing.

b. Brunot Island-Crescent Project

Duquesne Light followed the above process for 138 kV transmission lines to design the Brunot Island-Crescent Project, employing several design and planning characteristics to mitigate their EMF propagation and impacts.

First, wherever possible, the lines are predominantly routed through unoccupied parcels; where the route would approach occupied areas, it would run around their edges.

Second, the above-ground lines have been designed with a minimum conductor clearance of 23 feet, which is the NESC required clearance + 10%. This establishes a "buffer area" in which EMF emitted by the line will dissipate.

Third, the double circuits being in a vertically stacked configuration as shown in Attachment 4, does not change the EMF emitted by the line at the right-of-way compared to the existing circuit position at the same right-of-way.

Periodic Maintenance Program on All Transmission Lines

Duquesne Light ensures the continued public safety from our transmission line infrastructure by implementing various maintenance and inspection programs. One program is the routine inspection of as-built conditions to meet clearance requirements described above through advanced surveying technology referred to as "LiDAR". This technology allows Duquesne Light to model its transmission system three-dimensionally to analyze clearances from the conductors to the world around them, including vegetation, homes, pools, roads, and more. This program provides Duquesne Light with accurate as-built records to ensure compliance with designs while also identifying any new or changing conditions to surrounding landscape.

Other Duquesne Light Maintenance programs for inspected towers include:

a. Ground inspections, performed by Duquesne Light mobile workers walking around the base of the structure, on approximately 350 structures annually. These inspections focus heavily on foundations, structure integrity, and failed hardware, though additional information may be noted.
b. Aerial inspections, performed by a Duquesne Light subcontractor from a helicopter on approximately 500 structures annually. These inspections focus heavily on hardware and structural defects in tower members, though additional information may be noted.

Personnel Safety Rules

Duquesne Light follows OSHA regulations to ensure safe practices. These regulations are incorporated into the Duquesne Light employee Safety Handbook. Duquesne Light safety rules and good practices include the following:

1. Only qualified employees and trainees working under their direct supervision may work on or with exposed energized lines or parts of equipment operating at 50 volts or more, and must be familiar with the minimum approach distances as indicated by OSHA regulations.

2. Before work is commenced, a job briefing will be held with all employees to orient each employee as to:
    a. The hazards associated with the job.
    b. The work procedures involved.
    c. Any special precautions to be taken.
    d. All energy source controls.
    e. Personal protective equipment required.

3. When working in elevated locations, above four feet, employees shall use appropriate fall protection systems. Each employee working from an aerial lift, bucket truck, or man lift shall use a full body harness and either a shock absorbing lanyard or self-retracting lanyard. Duquesne Light ensures that all fall protection follows the OSHA regulations.

4. Prior to climbing towers and other similar structures a documented visual inspection shall be conducted by a competent person to:
    a. Determine type or work, materials, and construction methods required.
    b. Determine whether ground access, without climbing a structure, is possible through use of access roads and bucket trucks.
    c. Determine physical condition of the structure.
    d. Contact Engineering to determine if a structural analysis has been performed to identify tie-off and anchorage points for construction activities.
    e. Tie-off and anchorage points follow the OSHA regulations, in which the anchorage points can support 5,000 lbs per employee or a twice the impact load per employee.

f. Determine the type of fall protection systems to be used, appropriate anchorage points and complete documented fall safety analysis. All work is to be inspected prior to construction to evaluate the site conditions. If there are any concerns about the integrity of a structure, Duquesne Light Engineering is engaged to perform the appropriate investigation and analysis to provide guidance for safely completing the job.

Attachment 12

ATTACHMENT 12
BRUNOT ISLAND-CRESCENT PROJECT
VEGETATION MANAGEMENT PRACTICES

This Attachment describes Duquesne Light Company's ("Duquesne Light" or the "Company") plans for managing vegetation within and around the transmission line corridor.

(1) A general description of the utility's vegetation management plan.

Duquesne Light will apply the Wire Zone/Border Zone management technique, which is recognized as an industry best practice to manage vegetation and ensure the safe and reliable delivery of electricity. Under the Wire Zone/Border Zone management technique, non-compatible species in both the Wire Zone/Border Zone areas are removed. Areas within the Wire zone are cleared of all woody vegetation leaving only grasses and other herbaceous plants. Areas within the Border Zone are cleared of vegetation that would exceed 15 feet at maturity. ROW management extends beyond the managed corridor to include "danger trees" located outside the ROW that present a hazard to, or target, a transmission line. Danger trees are those that, upon partial or complete failure, would either strike the conductors or pass within the minimum clearances required for the conductors, structures, and facilities.

(2) Factors that dictate when each method, including aerial spraying, is utilized.

Vegetation management methods are site-dependent. Duquesne Light employs a Utility Vegetation Management ("UVM") assessment of each vegetation management job to align job objectives, the characteristics and setting of the work site and vegetation thereon, and the vegetation management tools available. For example, field personnel consider species composition, stem density, and stand age to assist in the selection of management methods appropriate for the site.

Vegetation management methods are often used in combination to produce desired outcomes. Methods for consideration include, but are not limited to, the following and recognized as an Industry Best Practice and documented in the ANSI A300 Part 7, Integrated Vegetation Management:

- Manual Control: work performed with hand tools.
  - Highly selective method; can be useful in sensitive sites.
  - May be less efficient and more costly compared to other methods.
- Mechanical Control: work performed with the assistance of mechanized equipment.
  - Less selective; may result in site disturbance requiring restoration.
  - Can be highly efficient and cost-effective.
  - Application is limited by terrain and right-of-way accessibility.
- Chemical Control: application of herbicides.
  - When properly used, can be efficient and cost-effective, while minimizing site disturbance and enhancing plant and wildlife diversity.
  - Selection of proper herbicide and application method depend upon site and vegetation characteristics, and will be consistent with the manufacturer's label and applicable laws and regulations.
  - Selective application directly to targeted species is preferred. Non-selective aerial applications may be appropriate for less-sensitive sites that are in sparsely-populated areas, are difficult to safely access, and/or have a high stem density.

- Biological Control: encouragement of mutually beneficial interactions of naturally-occurring plant and animal species inhabiting the right-of-way .
    - Certain plants compatible with transmission line rights-of-way ("compatible species") naturally produce substances that inhibit the establishment of incompatible competing species (for example, fern allelopathy).
    - In some instances, field personnel may be able to selectively remove certain plants to encourage the growth of other, more favorable species.
    - Availability and feasibility of this method is highly dependent on site conditions, plant and animal species present at the site, and vegetation management objectives.
- Cultural Control: management of vegetation within the right-of-way to promote desired compatible plant communities (or "cultures").
    - In some instances, it can be feasible to supplement the above control methods with additional interventions to encourage the development of relatively stable communities of compatible plants within the right-of-way. For example, Duquesne Light can provide landowners with informational resources to aid them in the cultivation and management of desirable, compatible plant species in the right-of-way.
    - Can reduce longer-term maintenance requirements and costs once plant community stability is achieved.

(3) Vegetation management practices near aquatic and other sensitive locations.

All sites, notably those that are environmentally sensitive, should only be managed using appropriate UVM control methods. Field personnel assess special site characteristics, such as

proximity to wetlands or sensitive species habitats, as part of their UVM analysis. The control methods employed are then tailored to the site conditions to minimize or mitigate impacts consistent with the desired UVM objectives. Special site conditions are then noted for routine vegetation maintenance work.

(4) Notice procedures to affected landowners regarding vegetation management practices.

Duquesne Light employs robust landowner notification procedures regarding its vegetation management practices. Duquesne Light or its representatives (referred to collectively as Duquesne Light) notify landowners of routine vegetation management, such as maintenance of the right-of-way corridor, approximately 2-8 weeks prior to the scheduled vegetation management work. Duquesne Light typically makes at least one attempt at in-person contact with each landowner, except for landowners who reside outside of Duquesne Light's service territory, whom Duquesne Light contacts via telephone, mail or email. At such initial contact, Duquesne Light provides information regarding the scheduled work, including:

- A brief explanation of what and when work will be performed;
- Why the work is necessary;
- A general location of the work and utility facilities involved;
- The extent of work and how it will be performed;
- The contractor to perform the work and crew members involved; and
- Contact information for customer questions or follow-up.

Also at these in-person visits, Duquesne Light marks trees affected with either flagging or paint (blue for those identified for removal, yellow for those identified for pruning), and requests a landowner signature on a written description of work.

Where the in-person contact attempt is unsuccessful, Duquesne Light marks trees as discussed above and leaves a door hanger explaining the nature, necessity, and anticipated date of the scheduled work, as well as contact information for customer questions or follow-up. Depending on the nature and extent of the scheduled work, Duquesne Light may also supplement this notice with other written correspondence mailed to the landowner or via telephone upon request by the landowner.

In addition to these individualized contacts, Duquesne Light provides general notice of its vegetation management practices through other outlets. Duquesne Light's website, duquesnelight.com, includes extensive information concerning the reasons, methods, and features of Duquesne Light's vegetation management practices, as well as links to other educational sites for customers who wish to learn more. Duquesne Light staff also participate in periodic public events, such as the annual Pittsburgh Home & Garden Show, where they are available to respond directly to landowner questions or concerns.

(5) Provision of a copy of a landowner maintenance agreement that describes the duties and responsibilities of landowners and the utility for vegetation management to the extent utilized.

Landowners' and Duquesne Light's respective rights and responsibilities are perpetualized in the right-of-way and easement agreements between Duquesne Light and respective landowners. In general, landowners can to continue to use the right-of-way area, so long as such use is compatible with the safe and reliable operation and maintenance of Duquesne Light facilities. Compatible uses that require no prior review or approval from the Duquesne Light include agricultural farming and gardening. Duquesne Light also allows compatible development within the right-of-way area, provided that the design and work in the area does not interfere with the safe and reliable operation and maintenance of Duquesne Light facilities. Such uses can include:

grading, installation of roadways or parking lots, and installation of underground infrastructure (such as utilities).

Attachment 13

Duquesne Light Company
411 Seventh Avenue
Pittsburgh, PA 15219
May 3, 2016

Dear Resident:

Duquesne Light is committed to maintaining a level of reliability customers have come to expect from us. In the coming months, we will be conducting land surveys and field studies to evaluate our infrastructure for future improvements. You are receiving this letter because your property is within our Right of Way under a network of transmission lines.

Duquesne Light has engaged GAI Consultants, an engineering consulting firm, to assist us with this work. Together we will be looking at Duquesne Light infrastructure and surrounding land, documenting existing conditions and conducting land surveys and field studies for vegetation and wildlife. This will occur initially in May and then again in July and August. Because of the nocturnal nature of some wildlife, some of these studies will need to be conducted at night in specific areas. Our work will be performed safely, courteously and as quickly as possible. No wildlife will be harmed in any way during these studies.

A Duquesne Light or GAI employee will notify you in advance that we will be accessing the Right of Way. The representative will show proper identification and clearly state the purpose of the visit. If no one is home, Duquesne Light will leave a door tag notice and proceed with the land survey and field study.

Should you have any concerns, please contact Duquesne Light by calling our Customer Service Center at (412) 393-7100 between 8:00 a.m. and 5:00 p.m.

Thank you for your cooperation and assistance in this matter.

Sincerely,

Duquesne Light Company

January 23, 2017

Dear Duquesne Light Customer:

As our communities continue to develop and thrive, the demand for energy is growing. As a result, Duquesne Light Company is working to maintain a level of service and reliability customers have come to expect while increasing the overall resiliency of the grid. Our dedication to improving the way energy is delivered is just one of the many ways we are working to become your next generation energy company.

Duquesne Light customers in Moon Township, Robinson Township, Kennedy Township, Crescent Township, McKees Rocks Borough, and the City of Pittsburgh are served by a network of 138-kilovolt transmission lines that were originally installed when the region looked very different than it does today. This network needs to be upgraded to better serve our customers who live or work in this part of the region. As such, we are planning to replace the transmission line that stretches from our substation in Crescent Township to our substation located on Brunot Island on the Ohio River, just west of downtown Pittsburgh. We are referring to this important effort as the Brunot Island-Crescent Transmission Reliability Project.

You are receiving this letter because, over the next few months, you may see Duquesne Light employees or associates in your neighborhood conducting field studies and soil testing. We can assure you that our studies will be performed as safely, courteously and as quickly as possible. If your property is along the transmission route, you will be receiving additional communication in the near future.

To give you and your neighbors a chance to learn more about this important project, Duquesne Light will be hosting multiple open house meetings to gather input and answer questions. Our goal is to keep you informed, to listen carefully to your comments, and to incorporate your input wherever we can. Please choose the date and location that is most convenient for you. Upcoming open houses include:

- *Crescent Township Municipal Building*, 225 Spring Run Road, Crescent, Pa 15046, on February 21, 2017 from 4 p.m. to 7 p.m.
- *VFW Post 418 Hall*, 1242 Chartiers Ave., McKees Rocks, Pa 15136, on February 28, 2017 from 2 p.m. to 7 p.m.
- *Kennedy Township Independent Volunteer Fire Company*, 1796 Pine Hollow Road, McKees Rocks, Pa 15136, on March 2, 2017 from 4 p.m. to 7 p.m.

Should you have any concerns, please contact Travis Moore, Brunot Island-Crescent Transmission Reliability Project Manager at (412) 393-6500 or email BI-Crescent@duqlight.com. Additional information can be found at DuquesneLight.com/BI-Crescent. Thank you for your cooperation and assistance in this matter.

Sincerely,

Duquesne Light Company

January 30, 2017

<Address 1>
<Address 2>
<City, State, Zip>
Parcel ID: <XXX-XXX-XXX>

Dear Duquesne Light Customer:

You recently received a letter about an important project that will be occurring in your area. The Brunot Island-Crescent Transmission Reliability Project is intended to upgrade the transmission line that stretches from the our substation in Crescent Township, PA, to our substation located on Brunot Island on the Ohio River, just west of downtown Pittsburgh. This work will help us continue to maintain a level of reliability you have come to expect while increasing the overall resiliency of the grid.

You are receiving this letter because you own property in the proposed route of the transmission line. Duquesne Light has engaged GAI Consultants, an engineering consulting firm, to assist us with the work needed for this project, including field studies and soil testing. A Duquesne Light or GAI representative will show proper identification and clearly state the purpose of the visit. If no one is home, a door tag notice will be left so you are aware that someone visited your property while you were away and we will proceed with the field study. The studies will be performed safely, courteously and as quickly as possible.

Also enclosed are our Standards of Conduct guidelines, notice of eminent domain rights and Right-Of-Way maintenance practices. Duquesne Light has also engaged Burns and McDonnell, a land services company, to contact you to discuss acquiring the right of way needed to complete this project. Like GAI, a Burns and McDonnell representative will show proper identification and clearly state the purpose of the visit.

To give you and your neighbors a chance to learn more about the Brunot Island-Crescent Transmission Reliability Project, Duquesne Light is hosting multiple open house meetings to gather input and answer questions. Our goal is to keep you informed, to listen carefully to your comments, and to incorporate your input wherever we can. Please choose the date and location that is most convenient for you. Upcoming open houses include:

- *Crescent Township Municipal Building*, 225 Spring Run Road, Crescent, Pa 15046, on February 21, 2017 from 4 p.m. to 7 p.m.
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Should you have any concerns, please contact Travis Moore, Brunot Island-Crescent Transmission Reliability Project Manager at (412) 393-6500 or email BI-Crescent@duqlight.com. Additional information can be found at DuquesneLight.com/BI-Crescent. Thank you for your cooperation and assistance in this matter.

Sincerely,

Duquesne Light Company
411 Seventh Avenue
Pittsburgh, PA 15219

NOTICE
INTERNAL PRACTICES FOR DEALING WITH THE PUBLIC ON POWER LINE PROJECTS

Duquesne Light Company has a long-standing commitment to conducting business in an honest and ethical manner. Duquesne Light's employees, contractors and agents who interact with members of the public (including landowners along proposed rights-of-way) in activities such as planning; real estate and right-of-way transactions and construction of power lines and other facilities will:

- Act with integrity at all times.
- Treat people courteously and in a professional manner.
- Be forthright and honest in all actions and communications.
- Comply with applicable laws and regulations.
- Seek to avoid conflicts of interest.
- Accept responsibility for actions and decisions.
- Be responsible stewards of the environment.
- Place a high priority on the safety of the public and our representatives and employees.

NOTICE
EMINENT DOMAIN POWER

The Pennsylvania Public Utility Commission requires that Duquesne Light Company give you the following information:

Duquesne Light Company is presently planning to upgrade the 138 kilovolt (kV) electric transmission line from the Crescent Substation in Crescent Township, PA, to the Brunot Island Substation in the Ohio River, Pittsburgh, PA, as part of the Brunot Island-Crescent Transmission Reliability Project. Replacing this transmission line is needed to ensure reliable electric service for Allegheny and Beaver County. Although the final design of the transmission line is not complete, the line includes approximately 110 self-supporting steel monopoles on drilled pier reinforced concrete foundations. The monopoles will be less than 200 feet in height.

Since the route presently under consideration could affect your property, a representative of the utility will contact you in the near future to discuss the utility's plans as they may affect your property. In order to better prepare you for these discussions and to avoid possible misunderstandings, we want to take this opportunity to inform you of your legal rights and the legal rights and duties of Duquesne Light Company with regard to this project.

You have the right to have legal counsel represent you in these negotiations. You do not have to sign any agreement without the advice of counsel. If you do not know an attorney, you may contact your local bar association.

MUST YOU ACCEPT ANY OFFER MADE BY THE UTILITY FOR YOUR PROPERTY?

No. You may refuse to accept it. However, the utility has the power to take property by eminent domain, subject to the approval of the Public Utility Commission, for the construction of transmission lines if the utility is unable to negotiate an agreement to buy a right-of-way. If your property is condemned, you must be paid ‘‘just compensation.’’ ‘‘Just compensation’’ has been defined by the courts in Pennsylvania as the difference between the fair market value of your property before condemnation, unaffected by the condemnation, and the fair market value of your remaining property after condemnation, as affected by the condemnation.

CAN THE UTILITY CONDEMN YOUR HOUSE?

No. The company cannot condemn your house or a reasonable ‘‘curtilage’’ around your house. Generally, curtilage includes the land or buildings within 300 feet of your house which are used for your domestic purposes. However, the 300-foot limit does not automatically extend beyond the homeowner's property line.

DO YOU HAVE A RIGHT TO A PUBLIC HEARING WHEN THE UTILITY SEEKS TO CONDEMN YOUR PROPERTY?

Yes. When an electric utility seeks to have your property condemned, the utility must first apply to the Pennsylvania Public Utility Commission for a certificate finding the condemnation to be necessary or proper for the service, accommodation, convenience, or safety of the public. The Commission will then hold a public hearing. As the landowner whose property may be condemned, you are a party to the proceeding and may retain counsel, present evidence, and/or testify yourself in opposition to the application for a certification. If you wish to testify at the public hearing, you should make your intention known by letter to Secretary, Pennsylvania Public Utility Commission, P.O. Box 3265, Harrisburg, Pennsylvania 17120.

If the Commission approves the utility's application for a certificate finding the condemnation in the public interest, then the utility may proceed before the local Court of Common Pleas to condemn your land. If the Commission denies the utility's application, the utility cannot condemn your land. If you retain an attorney to represent you before the Commission, you must do so at your own expense.

The Commission will not decide how much money you should receive if your land is condemned. The only issue the Commission will decide is whether the condemnation serves the public interest. If the Commission approves the utility's application for condemnation, the amount of money to which you are entitled will be determined by a local Board of View or the Court of Common Pleas. However, you may at any time make an agreement with the utility as to the amount of damages you are to be paid.

NOTICE
RIGHT OF WAY MAINTENANCE PRACTICES

The Pennsylvania Public Utility Commission requires that Duquesne Light Company give you the following information on the Right-Of-Way Maintenance Practices for the Brunot Island-Crescent Transmission Reliability Project:

If you wish further information concerning right-of-way maintenance methods, you may contact Travis Moore at (412) 393-6500 or BI-Crescent@duqlight.com. You may discuss with Mr. Moore, either before or during negotiation of the right-of-way agreement, these methods and any other questions you may have about right-of-way maintenance.

Once a utility has constructed an electric transmission line on a right-of-way across your land, the utility must maintain the right-of-way free of tall-growing trees and brush which might impair the reliability of electric service, the safety of the line, and access to the line or its towers. The utility or its contractors may remove and control tall-growing trees and brush by several methods: hand cutting of trees, limbs, and brush; mechanical cutting with chain saws, motorized cutting machines, or aerial saws; application of herbicides, either from the ground or aerially. The utility must confine its maintenance activities to the approved right-of-way across your land, except where tall-growing trees or brush or their root systems grow into the right-of-way from adjoining land and constitute a threat to the electric transmission line and its structures.

If you believe that the maintenance method(s) used by the company would raise problems with your use of your land adjacent to the right-of-way, it is your responsibility as the landowner to bring this to the attention of the utility before you sign the right-of-way agreement.

The utility company has the responsibility to maintain its right-of-way, and regular maintenance must occur. Although you as the landowner cannot determine whether or not maintenance will occur, your right-of-way agreement may specify certain conditions on the performance of the maintenance program which are important to you. These conditions can be part of the negotiations between you and the utility company for your land, since a right-of-way agreement is a legal contract between a landowner and a utility company. It is important for you to understand also that the maintenance methods used by the utility company may change over time as the costs of maintenance or the methods of performing maintenance change. You may want to specify in your right-of-way agreement that the utility company inform you of changes in its maintenance methods or in the maintenance schedule for your land.

The provisions of the right-of-way agreement are enforceable in the local Court of Common Pleas. The right-of-way agreement cannot be enforced by the Pennsylvania Public Utility Commission. Any claims for damage resulting from improper maintenance of the right-of-way must be settled with the utility, its contractors, or in the local Court of Common Pleas at your own expense. The Commission cannot award damages for violations of the right-of-way agreement.

January 30, 2017

<Address 1>
<Address 2>
<City, State, Zip>
Parcel ID: <XXX-XXX-XXX>

Dear Duquesne Light Customer:

You recently received a letter about an important project that will be occurring in your area. The Brunot Island-Crescent Transmission Reliability Project is intended to upgrade the transmission line that stretches from the our substation in Crescent Township, PA, to our substation located on Brunot Island on the Ohio River, just west of downtown Pittsburgh. This work will help us continue to maintain a level of reliability you have come to expect while increasing the overall resiliency of the grid.

You are receiving this letter because you own property in the proposed route of the transmission line. Duquesne Light has engaged GAI Consultants, an engineering consulting firm, to assist us with the work needed for this project, including field studies and soil testing, and will need to access your property for further evaluation. Enclosed is a Permission Form for your review, signature, and return.

Also enclosed are our Standards of Conduct guidelines, notice of eminent domain rights and Right-Of-Way maintenance practices. Duquesne Light has also engaged Burns and McDonnell, a land services company, to contact you to discuss acquiring the right of way needed to complete this project. Like GAI, a Burns and McDonnell representative will show proper identification and clearly state the purpose of the visit.

To give you and your neighbors a chance to learn more about the Brunot Island-Crescent Transmission Reliability Project, Duquesne Light is hosting multiple open house meetings to gather input and answer questions. Our goal is to keep you informed, to listen carefully to your comments, and to incorporate your input wherever we can. Please choose the date and location that is most convenient for you. Upcoming open houses include:

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You have the right to have legal counsel represent you in these negotiations. You do not have to sign any agreement without the advice of counsel. If you do not know an attorney, you may contact your local bar association.

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Yes. When an electric utility seeks to have your property condemned, the utility must first apply to the Pennsylvania Public Utility Commission for a certificate finding the condemnation to be necessary or proper for the service, accommodation, convenience, or safety of the public. The Commission will then hold a public hearing. As the landowner whose property may be condemned, you are a party to the proceeding and may retain counsel, present evidence, and/or testify yourself in opposition to the application for a certification. If you wish to testify at the public hearing, you should make your intention known by letter to Secretary, Pennsylvania Public Utility Commission, P.O. Box 3265, Harrisburg, Pennsylvania 17120.

If the Commission approves the utility's application for a certificate finding the condemnation in the public interest, then the utility may proceed before the local Court of Common Pleas to condemn your land. If the Commission denies the utility's application, the utility cannot condemn your land. If you retain an attorney to represent you before the Commission, you must do so at your own expense.

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If you believe that the maintenance method(s) used by the company would raise problems with your use of your land adjacent to the right-of-way, it is your responsibility as the landowner to bring this to the attention of the utility before you sign the right-of-way agreement.

The utility company has the responsibility to maintain its right-of-way, and regular maintenance must occur. Although you as the landowner cannot determine whether or not maintenance will occur, your right-of-way agreement may specify certain conditions on the performance of the maintenance program which are important to you. These conditions can be part of the negotiations between you and the utility company for your land, since a right-of-way agreement is a legal contract between a landowner and a utility company. It is important for you to understand also that the maintenance methods used by the utility company may change over time as the costs of maintenance or the methods of performing maintenance change. You may want to specify in your right-of-way agreement that the utility company inform you of changes in its maintenance methods or in the maintenance schedule for your land.

The provisions of the right-of-way agreement are enforceable in the local Court of Common Pleas. The right-of-way agreement cannot be enforced by the Pennsylvania Public Utility Commission. Any claims for damage resulting from improper maintenance of the right-of-way must be settled with the utility, its contractors, or in the local Court of Common Pleas at your own expense. The Commission cannot award damages for violations of the right-of-way agreement.

PERMISSION FORM

In order to complete the design of this critical infrastructure project and enhance the reliability of its services in your area, Duquesne Light Company will need to access your property to evaluate property boundaries, environmental, and archeological issues.

All representatives accessing your property under this Permission Form, including Duquesne Light Company, GAI Consultants, and Burns and McDonnell will show proper identification and clearly state the purpose of the visit. Following return of this form, If no one is home, a door tag notice will be left, and we will proceed with the evaluation.

Please sign below and return this Permission Form using the enclosed envelope as soon as possible. If you have any questions, please contact Travis Moore at (412) 393-6500 or BI-Crescent@duqlight.com .

Duquesne Light Company and/or its agents or contractors may enter onto my property for the purpose of performing the above evaluation.

Signature: _____

Printed Name: _____

Address(es): _____

_____

Parcel ID(s): _____
(listed on Page 1)

_____

Telephone Number: _____

Date: _____

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CELEBRATING 50 YEARS

17 North Second Street
12th Floor
Harrisburg, PA 17101-1601
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717-731-1985 Main Fax
www.postschell.com

Anthony D. Kanagy

akanagy@postschell.com
717-612-6034 Direct
717-720-5387 Direct Fax
File #: 166407

March 15, 2019

VIA HAND DELIVERY

Rosemary Chiavetta, Secretary
Pennsylvania Public Utility Commission
Commonwealth Keystone Building
400 North Street, 2nd Floor North
P.O. Box 3265
Harrisburg, PA 17105-3265

Re: Application of Duquesne Light Company filed Pursuant to 15 Pa.C.S. §1511(c) for a Finding and Determination that the Service to be Furnished by the Applicant through its Proposed Exercise of the Power of Eminent Domain to Acquire a Certain Portion of the Lands of George N. Schaefer in Moon Township, Allegheny County, Pennsylvania Associated with the 138 kV Transmission Lines Associated with the Brunot Island - Crescent Project Is Necessary or Proper for the Service, Accommodation, Convenience, or Safety of the Public
Docket No. A-2019-

Dear Secretary Chiavetta:

Enclosed is the Application of Duquesne Light Company for the above-referenced proceeding. Also enclosed is the Direct Testimony of Lesley C. Gannon and supporting exhibits. A CD containing a copy of the Application, Direct Testimony and supporting exhibits is also enclosed. A check in the amount of $350 is enclosed for payment of the filing fee. Copies will be provided as indicated on the certificate of service.

Respectfully submitted,

Anthony D. Kanagy

ADK/kls
Enclosures

cc: Certificate of Service

DUQUESNE
EXHIBIT
5-SCHAFFER

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Application of Duquesne Light Company Under 15 Pa.C.S. § 1511(c) For A Finding and Determination That the Service to be Furnished by the Applicant Through Its Proposed Exercise of the Power of Eminent Domain to Acquire a Certain Portion of the Lands of **George N. Schaefer** of Moon Township, Allegheny County, Pennsylvania for the Siting and Construction of Transmission Lines Associated with the Proposed Brunot Island – Crescent Project is Necessary or Proper for the Service, Accommodation, Convenience, or Safety of the Public	:	Docket No. A-2019-_____

APPLICATION OF DUQUESNE LIGHT COMPANY

TO THE PENNSYLVANIA PUBLIC UTILITY COMMISSION:

Duquesne Light Company ("Duquesne Light" or the "Company") herein files this Application, pursuant to 15 Pa. C.S. § 1511(c), for a finding and determination by the Pennsylvania Public Utility Commission ("Commission") that the service to be furnished through its proposed exercise of the power of eminent domain to acquire a right-of-way and easement over a certain portion of the lands of George N. Schaefer in Moon Township, Allegheny County, Pennsylvania for the siting and construction of the 138 kV Transmission Lines Associated with the Brunot Island – Crescent Project ("BI – Crescent Project") is necessary or proper for the service, accommodation, convenience, or safety of the public. In support of this Application, Duquesne Light states as follows:

I. INTRODUCTION AND OVERVIEW

1. This Application is filed by Duquesne Light, a public utility that provides electric distribution, transmission, and provider of last resort services in Pennsylvania subject to the regulatory jurisdiction of the Commission.

2. Duquesne Light's principal business address is:

Duquesne Light Company
411 Seventh Avenue
Pittsburgh, PA 15230

3. Duquesne Light's attorneys are:

Tishekia Williams (PA ID # 208997)
Emily Farah (PA ID # 322559)
Duquesne Light Company
411 Seventh Avenue
Pittsburgh, PA 15230-1930
E-mail: twilliams@duqlight.com
E-mail: efarah@duqlight.com

Anthony D Kanagy (PA ID # 85522)
Garrett P. Lent (PA ID # 321566)
Post & Schell, P.C.
17 North Second Street
12th Floor
Harrisburg, PA 17101-1601
Phone: 717-731-1970
Fax: 717-731-1985
E-mail: akanagy@postschell.com
E-mail: glent@postschell.com

Duquesne Light's attorneys are authorized to receive all notices and communications regarding this Application.

4. Duquesne Light is a Pennsylvania business corporation formed on November 25, 1912. Duquesne Light converted to a limited liability company on November 11, 2017; the conversion was approved by the Commission by Order entered August 31, 2017 at Docket No. A-2017-2599375. Duquesne Light is subject to the Pennsylvania Business Corporation Law of 1988, P.L. 1444, No. 177, Section 103, *as amended*, 15 Pa. C.S. §§ 1101 *et seq.* ("BCL").

5. Duquesne Light is also a Pennsylvania public utility and has the power of eminent domain pursuant to the Pennsylvania BCL. Duquesne Light submits this Application pursuant to Section 1511 of the BCL, 15 Pa. C.S. § 1511.

6. Duquesne Light furnishes electric service to approximately 596,000 customers throughout its certificated service territory, which includes all or portions of Allegheny and Beaver Counties and encompasses approximately 800 square miles in western Pennsylvania.

7. Upon Commission approval, Duquesne Light proposes to construct the BI – Crescent Project. The BI – Crescent Project involves, among other things, the reconstruction of approximately 14.5 miles of overhead 138 kV transmission lines between the Brunot Island and the Crescent Substation. The reconstruction of the 138 kV transmission lines as a part of BI – Crescent Project is needed to replace some of the oldest infrastructure in Duquesne Light's service territory, and to continue to provide safe and reliable service to customers.

8. A certain portion of the route selected for the BI – Crescent Project will traverse a portion of the land owned by George N. Schaefer in Moon Township, Allegheny County, Pennsylvania. By this Application, Duquesne Light is requesting a finding and determination that the service to be furnished through its proposed exercise of the power of eminent domain to acquire a right of way and easement over a certain portion of the Schaefer property for the construction of the transmission lines associated with the BI – Crescent Project is necessary or proper for the service, accommodation, convenience, or safety of the public.

9. On March 15, 2019, Duquesne Light filed the "Application of Duquesne Light Company filed Pursuant to 52 Pa. Code Chapter 57, Subchapter G, for Approval of the Siting and Construction of the 138 kV Transmission Lines Associated with the Brunot Island – Crescent Project in the City of Pittsburgh, McKees Rocks Borough, Kennedy Township, Robinson Township, Moon Township, and Crescent Township, Allegheny County, Pennsylvania" (the "BI – Crescent Siting Application"). Therein, Duquesne Light is requesting

Commission approval of the siting and construction of the BI – Crescent Project in Allegheny County, Pennsylvania.

10. A complete copy of the BI – Crescent Siting Application, together with the supporting Attachments and Testimony, is being served on George N. Schaefer. The BI – Crescent Siting Application and supporting Attachments and Testimonies are incorporated herein by reference.

II. NEED FOR THE PROJECT

11. System planning is the process which assures that transmission and distribution systems can supply electricity to all customer loads reliably and economically. The reliable and economical operation of transmission systems requires planning guidelines for system expansion and reinforcement.

12. PJM Interconnection, LLC ("PJM") is a Federal Energy Regulatory Commission ("FERC") approved Regional Transmission Organization charged with ensuring the reliability of the electric transmission system under its functional control and coordinating the movement of electricity in all or parts of thirteen states and the District of Columbia, including most of Pennsylvania. Duquesne Light, an owner of transmission facilities in Pennsylvania, is a member of PJM and actively participates in the PJM transmission planning process.

13. In order to ensure reliable transmission service, PJM prepares an annual Regional Transmission Expansion Plan ("RTEP") to ensure power continues to flow reliably to customers. The North American Electric Reliability Corporation ("NERC"), PJM, and transmission owner reliability criteria are used by PJM and the transmission owners to analyze the system and determine if specific transmission upgrade projects are needed to ensure long-term reliable electric service to customers.

14. Duquesne Light has adopted reliability and planning standards to ensure adequate and appropriate levels of electric service to its customers consistent with good utility practice. The Duquesne Light Transmission Planning Criteria were developed from and are consistent with the NERC and PJM planning and reliability standards.[1]

15. In accordance with the Duquesne Light Transmission Planning Criteria, Duquesne Light's transmission system is planned so that it can be operated at all projected load levels and during normal scheduled outages to withstand specific unscheduled contingencies without exceeding the equipment capability, causing system instability or cascade tripping, or exceeding voltage tolerances. The transmission system is required to have adequate capability so that it can be operated normally and can withstand unscheduled contingencies and other system conditions.

16. The BI – Crescent corridor has some of Duquesne Light's oldest in-service steel lattice towers. Duquesne Light has performed structural evaluations and determined that the structures are approaching end of useful life. These structural evaluations were performed by an engineering consultant with experience in transmission line design, modeling, and structural analysis. Based on current condition, structure deterioration, and Power Line Systems – Computer Aided Design and Drafting ("PLS-CADD")[2] modeling at current design codes, all results indicate these structures are beyond permanent repair and require replacement. Temporary repairs have been made to ensure reliable service until new replacement structures can be installed.

17. While the primary driver for this project is to replace aging transmission system infrastructure, other benefits can be achieved by rebuilding this transmission corridor.

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[1] Duquesne Light's reliability and planning standards are set forth in its Federal Energy Regulatory Commission Form No. 715 annual report.

[2] PLS-CADD is an industry-standard transmission line modeling software.

18. Transmission system studies have shown that during outages of various 345 kV circuits within the Duquesne Light service area, significant thermal and voltage concerns arise. Energizing one of the new BI – Crescent 138 kV circuits at 345 kV in the future would help to mitigate these issues.

III. DESCRIPTION OF THE PROJECT

19. To address the identified reliability and planning issues described above, Duquesne Light proposes to rebuild the BI – Crescent double-circuit 138 kV Transmission Line. The proposed BI – Crescent double-circuit 138 kV Transmission Line will extend approximately 14.5 miles between the Brunot Island Substation in the City of Pittsburgh and the Crescent Substation in Crescent Township.

20. The entire Project will be located in Allegheny County. Approximately 2.0 miles of the project will be located within the City of Pittsburgh, approximately 2.6 miles will be located within Kennedy Township, approximately 3.1 miles will be located within Robinson Township, approximately 5.0 miles will be located within Moon Township, and approximately 1.8 miles will be located within Crescent Township.

21. The proposed Project will replace aging transmission system infrastructure to meet safety and reliability standards. One circuit position on the transmission structures will be designed to 345 kV standards, but will be operated at 138 kV until load growth or system conditions require this voltage increase and necessary approvals are acquired. The other circuit position on the transmission structures will be designed to 138 kV standards and will be operated at 138 kV.

22. The proposed Project was reviewed by PJM stakeholders and included in PJM's TEAC as project s0320.

23. An aerial photograph map showing the location of the proposed BI – Crescent 138 kV Transmission Line is provided in this proceeding Duquesne Light Exhibit No. MH-1, which is attached to Duquesne Light Statement No. 1 (Schaefer).

IV. HEALTH AND SAFETY

24. The proposed Project will not create any unreasonable risk of danger to the public health or safety. The Project will be designed, constructed, operated, and maintained in a manner that meets or surpasses all applicable NESC minimum standards and all applicable legal requirements.

25. Descriptions of Duquesne Light's construction, operation, maintenance and safety standards and procedures for transmission and distribution lines meet or exceed all relevant NESC standards and all standards of the Federal Occupational Safety and Health Administration ("OSHA").

26. The BI – Crescent Project is being completed primarily within an existing transmission line corridor. Duquesne Light will apply the Wire Zone/Border Zone management technique, which is recognized as an industry best practice to manage vegetation and ensure the safe and reliable delivery of electricity.

27. Duquesne Light performed an electromagnetic field study for the proposed transmission line. A further description of Duquesne Light's electromagnetic field practices and policies are provided in Attachment 11 to BI – Crescent Siting Application.

28. No communication towers, pipelines, or other utilities will be affected by the proposed Project.

29. Several major roadways, including I-79, will be spanned by the various segments of the Project. Pennsylvania Department of Transportation ("PennDOT") Highway Occupancy

Permits or equivalent type permits will be acquired by Duquesne Light for these major highways and all other state roads prior to construction.

30. Aviation coordination will be conducted through the Federal Aviation Association ("FAA"). Duquesne Light will assure that that the pole locations and heights are properly recorded by the FAA. Duquesne Light will comply with any additional lighting or other visual aids that may be required by these agencies to assure aviation safety in the region.

31. A further description of the safety considerations which will be incorporated into the design, construction and maintenance of the proposed Project are provided in Attachment 11 to the BI – Crescent Siting Application.

V. PROPERTY FOR WHICH EMINENT DOMAIN APPROVAL IS SOUGHT

32. The service to be furnished by Duquesne Light through the proposed BI – Crescent Project is necessary or proper for the service, accommodation, convenience, or safety of the public for the reasons set forth in the BI – Crescent Siting Application and supporting Attachments and Testimonies that are incorporated herein by reference.

33. A certain portion of the route selected for the BI – Crescent Project crosses a tract of land located at parcel number 0418C00122000000, Allegheny County, Pennsylvania.

34. A deed for the property is recorded at Allegheny County, Pennsylvania in Deed Book 2340, at page 278, and a copy of said recorded deed is provided in this proceeding in Duquesne Light Exhibit No. MH-2, which is attached to Duquesne Light Statement No. 1 (Schaefer).

35. The name and mailing address of the owner of record of said tract of land is:

George N. Schaefer
Schaefer Blvd.
Coraopolis, PA 15108

36. Upon information and belief, Duquesne Light believes George Nicholas Schaefer was married to Alice Marguerite Abbott Schaefer and they had six children. George died in 1946 and Alice died in 1952. Research with the Register of Wills of Allegheny County found that no wills existed for either George N. or Alice M. Schaefer.

37. After further extensive research, Duquesne Light located one child of George Schaefer, Beatrice Sullivan, and seven grandchildren still living. Duquesne Light reached out to one of the grandchildren, who confirmed that they were the heirs of Mr. Schaefer. The family is interested in negotiating a right of way for the property, but that transfer must go through the Allegheny County Probate Courts, which may take some time. Further, Duquesne Light understands that the presumptive heirs to the estate are attempting to resolve their respective interests.

38. Duquesne Lights will continue discussions with the family and its attorney, but hereby files this Application a finding and determination, pursuant to 15 Pa. C.S. § 1511(c), that the service to be furnished through Duquesne Light's proposed exercise of the power of eminent domain is necessary or proper for the service, accommodation, convenience, or safety of the public, in the even that these efforts are unsuccessful or cannot be resolved in a timely manner. Moreover, in order to afford all known individuals who may have an interest in the property adequate notice, Duquesne Light is serving the BI – Crescent Siting Application and this Condemnation Application upon all known individuals who may have an interest in the property and known counsel currently representing such individuals.

39. Duquesne Light desires to acquire a right of way and easement over the aforesaid land for the construction, operation, and maintenance of a segment of the 138 kV transmission

line associated with the BI – Crescent Project to transmit electric energy for light, heat, and power.

40. The existing and newly-obtained rights-of-way for the BI – Crescent Project will vary in width to accommodate environmental, engineering, and constructability issues, as well as ensure compliance with NESC clearances.

41. The property sought to be acquired in this Application does not include property used as a burying ground, place of public worship, a dwelling house, or any part of the reasonable curtilage appurtenant thereto.

42. A map depicting the proposed right-of-way across the Schaefer property is provided in this proceeding in Duquesne Light Exhibit No. MH-3, which is attached to Duquesne Light Statement No. 1 (Schaefer).

43. Duquesne Light currently is attempting to voluntarily negotiate and obtain a right-of-way and easement over a portion of said tract of land for the purposes described above but, to date, has been unable to reach any agreement with the property owner and any other individuals who may have interest in the property. Accordingly, Duquesne Light herein files this Application for a finding and determination, pursuant to 15 Pa. C.S. § 1511(c), that the service to be furnished through Duquesne Light's proposed exercise of the power of eminent domain for the BI – Crescent Project is necessary or proper for the service, accommodation, convenience, or safety of the public.

44. Duquesne Light remains willing to negotiate a reasonable and mutually acceptable right-of-way agreement with George N. Schaefer and any other individuals who may have interest in the property and thereby avoid the need to condemn a right of way across the property. However, given the construction schedule and in-service date for the proposed BI –

Crescent Project, it is necessary for Duquesne Light to seek Commission approval to exercise the power of eminent domain in order to ensure that the BI – Crescent Project is constructed and operational by the in-service date. In the event that George N. Schaefer and any other individuals who may have interest in the property and Duquesne Light reach an agreement for the easement and right-of-way needed, Duquesne Light will withdraw the eminent domain application.

VI. THE REQUIREMENTS FOR CONDEMNATION HAVE BEEN SATISFIED

45. No other public utility is now furnishing or has the corporate authority and certificate to furnish the same service as, or service similar to, that which Duquesne Light will furnish by means of the transmission line to be constructed in the proposed right of way and easement over the land to be acquired as set forth in this Application.

46. The service to be furnished by Duquesne Light through the proposed new BI – Crescent 138 kV Transmission Line and related facilities is necessary or proper to provide safe and reliable electric service to customers in Allegheny County.

47. Appropriate resolutions will be adopted by Duquesne Light's Board of Directors authorizing and directing this Application. A copy of the applicable resolutions will be provided as soon as they become available.

VII. CONSOLIDATION OF RELATED PROCEEDINGS

48. On July 16, 2018, Duquesne Light filed the BI – Crescent Siting Application. Therein, Duquesne Light is requesting approval to site and construct the 138 kV transmission line associated with the BI – Crescent Project, including the portion of the proposed transmission line that is the subject of this Application. Issues relating to the necessity for BI – Crescent Project are interrelated with this Application.

49. In accordance with the requirements of 52 Pa. Code §57.75(i)(2), Duquesne Light is serving a complete copy of the BI – Crescent Siting Application, together with the accompanying Attachments and Testimony, upon George N. Schaefer, and the other individuals described above, who is/are the record owner(s) of the property that Duquesne Light seeks to acquire by the exercise of the power of eminent domain.

50. Pursuant to 52 Pa. Code § 57.75(i)(1), Duquesne Light requests that these related proceedings be consolidated for purposes of hearings, if necessary, and decision.

VIII. CONCLUSION

WHEREFORE, Duquesne Light Company respectfully requests that the Pennsylvania Public Utility Commission: (1) consolidate this Application for approval of the exercise of the power of eminent domain with the BI – Crescent Project Siting contemporaneously filed herewith; and (2) find and determine that the service to be furnished by Duquesne Light through the proposed exercise of the power of eminent domain, as set forth above, is reasonably necessary or proper for the service, accommodation, convenience, or safety of the public.

Respectfully submitted,

Tishekia Williams (PA ID # 208997)
Emily Farah (PA ID # 322559)
Duquesne Light Company
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Pittsburgh, PA 15230-1930
E-mail: twilliams@duqlight.com
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Anthony D Kanagy (PA ID # 85522)
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E-mail: glent@postschell.com

Date: March 15 2019

Attorneys for Duquesne Light Company

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Application of Duquesne Light Company Under 15 Pa.C.S. § 1511(c) For A Finding and Determination That the Service to be Furnished by the Applicant Through Its Proposed Exercise of the Power of Eminent Domain to Acquire a Certain Portion of the Lands of **George N. Schaefer** of Moon Township, Allegheny County, Pennsylvania for the Siting and Construction of Transmission Lines Associated with the Proposed Brunot Island – Crescent Project is Necessary or Proper for the Service, Accommodation, Convenience, or Safety of the Public	:	Docket No. A-2019-_____

DUQUESNE LIGHT COMPANY

STATEMENT NO. 1 (SCHAEFER)

TESTIMONY OF LESLEY GANNON

Direct Testimony of Lesley Gannon

Q. Please state your full name and business address.

A. My name is Lesley Cummings Gannon. My business address is 1800 Seymour Street, Pittsburgh, PA 15233.

Q. By whom are you employed and in what capacity?

A. I am employed by Duquesne Light Company ("Duquesne Light" or the "Company") as the Senior Manager of Real Estate and Rights of Way. In my position, I am responsible for managing all of the real estate-related acquisitions and divestitures for the Company.

Q. What are your qualifications, work experience and educational background?

A. I have been employed by Duquesne Light Company since 2013. In my current position, I manage the Real Estate Department, which has one Real Estate Specialist, one Supervisor of Survey and Right of Way, four surveying technicians, four right of way agents and a clerk. The Real Estate Department was formed in late 2017, and I have been in my current position for one year and 5 months. I am also Assistant Corporate Secretary for the Company.

Prior to assuming my present position at Duquesne Light, I was Managing Counsel, Commercial/General in the Company's Office of the General Counsel for 4 years and 9 months, in which position I managed all transactional work at the Company, including any legal issues relating to real estate. Prior to being hired by the Company, I performed similar work as contract counsel for the Company from May of 2008. From 2005 to 2013, in addition to representing the Company as set forth above, I managed my

law firm, Gannon Law Offices, which represented small and mid-sized businesses in the Pittsburgh area in transactional and real estate matters. From 2001 to 2005, I was an associate at Sherrard, German & Kelly, P.C. in their financial services and transactional practice groups. Prior to 2001, I held various positions in the financial services industry.

I am an attorney licensed to practice law in the Commonwealth of Pennsylvania since 2001. I graduated from Duquesne University School of Law in 2001 and was admitted to the Pennsylvania Bar in 2001. I also hold a Bachelor of Arts in Business and Communications from Carlow University.

Q. What are your responsibilities in connection with the Brunot Island-Crescent Project?

A. The Company worked with Burns and McDonnell to identify the parcel owners on and adjacent to the proposed Project line, identify any areas in which the Company will require new or enhanced rights of way for the Project, and acquire such rights of way. In October 2017, the Company's Rights of Way and Survey groups came under the new Real Estate Department and my supervision. The Company held public meetings on February 21, 2017, February 28, 2017 and March 2, 2017 at the Crescent Municipal Building, VFW Post 418 Hall in McKees Rocks and Kennedy Township Fire Department to provide information about the Project to owners of property in the area. At this meeting, Company representatives: delivered informational presentations about the Project need, route, design, and operational characteristics; answered questions from attendees; and provided informational literature regarding property owner rights, eminent domain, and a surveying permission form.

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to describe the property of George N. Schaefer as it relates to the Project, and describe the Company's proposed right-of-way and easement over said property.

Q. Please summarize the proposed Brunot Island - Crescent Project.

A. The Project is the subject of the Application of Duquesne Light Company filed Pursuant to 52 Pa. Code Chapter 57, Subchapter G, for Approval of the Siting and Construction of the 138 kV Transmission Lines Associated with the Brunot Island – Crescent Project in the City of Pittsburgh, McKees Rocks Borough, Kennedy Township, Robinson Township, Moon Township, and Crescent Township, Allegheny County, Pennsylvania ("Siting Application"), which the Company is filing contemporaneously with the Condemnation Application that is the subject of my testimony.

As explained in the Siting Application, the Project is necessary to replace existing facilities and establish a permanent, reliable link between electric transmission facilities from the Brunot Island Substation to the Crescent Substation in Allegheny County. The Company proposes to construct a new 138 kilovolt ("kV") from the Brunot Island Substation to the Crescent Substation.

Q. Does any portion of the Project's Proposed Route cross over the George N. Schaefer property?

A. Yes. The 138 kV transmission lines would run approximately 1,079 feet on the property of George N. Schaefer. The Project's proposed crossing over the George N. Schaefer property is illustrated in Duquesne Light Exhibit No. LG-3 (Schaefer), discussed more fully below. The Company has attempted to purchase an easement over the George N. Schaefer property to accommodate the Project, but has been unable to reach an agreement with the property owner to date, as the property owner is deceased.

Q. Have you, and/or the right-of-way agents working under your supervision, been to the George N. Schaefer property?

A. The survey crew under my supervision has been to the George N. Schaefer property, and the contracted right-of-way agents under the supervision of the Company's former Supervisor of Survey and Rights of Way visited the property.

Q. Please describe the property.

A. The land is located in Moon Township with the terrain being undulating, undeveloped and having some thickets and trees and is Zoned - Residential. It is for the most part open with low grass on the property. The lines travel in a northwesterly direction.

Q. Are there any dwellings on the property?

A. No.

Q. Does the Company's proposed right-of-way and easement of the George N. Schaefer property contain any burial grounds or places of worship?

A. No.

Q. Please explain Duquesne Light Exhibit LG-1 (Schaefer).

A. Duquesne Light Exhibit LG-1 (Schaefer) is a copy of the Map of the proposed Project.

Q. Please explain Duquesne Light Exhibit LG-2 (Schaefer).

A. Duquesne Light Exhibit LG-2 (Schaefer) is a copy of the deed for the George N. Schaefer property, which is recorded in Allegheny County.

Q. Please explain Duquesne Light Exhibit LG-3 (Schaefer).

A. Duquesne Light Exhibit LG-3 (Schaefer) is a copy of the Plan showing the George N. Schaefer property, including the portion over which the Company seeks a right of way and easement.

Q. Please explain Duquesne Light Exhibit LG-4 (Schaefer).

A. Duquesne Light Exhibit No. LG-4 (Schaefer) is a description of the easement over the Schaefer property, which is depicted in Exhibit No. LG-3 (Schaefer).

Q. In your opinion, is the service to be furnished through the condemnation of this property necessary?

A. Yes. The service the Company shall provide through the Project is necessary or proper for the service, accommodation, convenience, or safety of the public for the reasons set forth in my testimony, in this Condemnation Application, and in the Siting Application.

Q. Does this conclude your Direct Testimony at this time?

A. Yes.

DLC Exhibit LG-1 (Schaefer)

LABEL	OWNER NAME
1	MATTHEW & GEORGINA WAIBEL
2	JOSEPH & KAREN GERY

NOTE:
THE EASEMENT IS VARIABLE IN WIDTH AND IS NOT REPRESENTATIVE ON THE PARCEL.

LEGEND

- △ SUBSTATION
- PROPOSED ROUTE
- ROW
- PARCEL WITHIN ROW
- GIS PARCEL BOUNDARY

SOURCES: PENNSYLVANIA SPATIAL DATA ACCESS (PASDA)
PROJECTED COORDINATE SYSTEM: PA STATE PLANE SOUTH
DATUM: NORTH AMERICAN DATUM OF 1983 (NAD83)
PROJECTION: LAMBERT CONFORMAL CONIC
LINEAR UNIT: FEET
ELLIPSOID: GEODETIC REFERENCE SYSTEM 80

DUQUESNE LIGHT COMPANY
REAL ESTATE DEPT.–SURVEYING PITTSBURGH,PA.

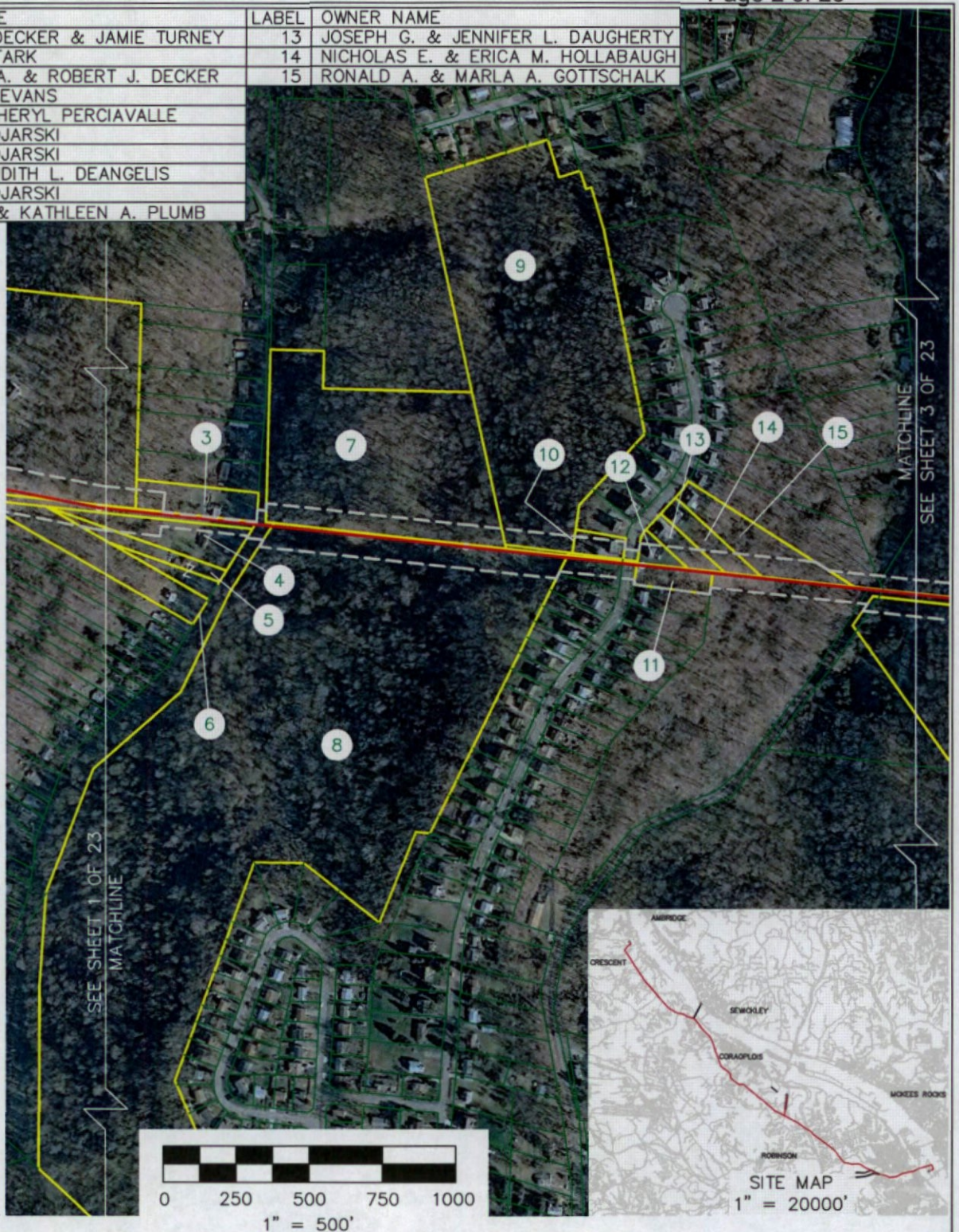
B.I. – CRESCENT
AERIAL EXHIBIT

SCALE AS SHOWN	DATE 3/04/19	ARCH. APP.
	DRAWN JLS	ELECT. APP.
	CHECKED MEH	MECH. APP.
	INSP.	STRUCT. APP.

BEAVER COUNTY/ALLEGHENY COUNTY
CRESCENT TWP.
SHEET 1 OF 23

APP. COMPLETE WHEN INITIALED HERE	O.F.E.	L	NO. 8790
	C.O.		

LABEL	OWNER NAME
3	ROBERT J. DECKER & JAMIE TURNEY
4	VICKIE D. STARK
5	CATHERINE A. & ROBERT J. DECKER
6	MICHAEL S. EVANS
7	DANIEL & CHERYL PERCIAVALLE
8	LOUIS A. BOJARSKI
9	LOUIS A. BOJARSKI
10	JAMES & JUDITH L. DEANGELIS
11	LOUIS A. BOJARSKI
12	JOSEPH W. & KATHLEEN A. PLUMB
13	JOSEPH G. & JENNIFER L. DAUGHERTY
14	NICHOLAS E. & ERICA M. HOLLABAUGH
15	RONALD A. & MARLA A. GOTTSCHALK



NOTE:
THE EASEMENT IS VARIABLE IN WIDTH AND IS NOT REPRESENTATIVE ON THE PARCEL.

NORTH

LEGEND

- △ SUBSTATION
- PROPOSED ROUTE
- ROW
- PARCEL WITHIN ROW
- GIS PARCEL BOUNDARY

SOURCES: PENNSYLVANIA SPATIAL DATA ACCESS (PASDA)
PROJECTED COORDINATE SYSTEM: PA STATE PLANE SOUTH
DATUM: NORTH AMERICAN DATUM OF 1983 (NAD83)
PROJECTION: LAMBERT CONFORMAL CONIC.
LINEAR UNIT: FEET
ELLIPSOID: GEODETIC REFERENCE SYSTEM 80

DUQUESNE LIGHT COMPANY
REAL ESTATE DEPT.–SURVEYING PITTSBURGH,PA.

B.I. – CRESCENT
AERIAL EXHIBIT

SCALE AS SHOWN	DATE 3/04/19	ARCH. APP.
	DRAWN JLS	ELECT. APP.
	CHECKED MEH	MECH. APP.
	INSP.	STRUCT. APP.

ALLEGHENY COUNTY
CRESCENT TWP.
SHEET 2 OF 23

APP. COMPLETE WHEN INITIALED HERE	O.F.E.	L	NO. 8790
	C.O.		

LABEL	OWNER NAME
16	ROBERT J. & NANCY J. KERNICK

NOTE:
THE EASEMENT IS VARIABLE IN WIDTH AND IS NOT REPRESENTATIVE ON THE PARCEL.

NORTH

LEGEND

- △ SUBSTATION
- PROPOSED ROUTE
- ROW
- PARCEL WITHIN ROW
- GIS PARCEL BOUNDARY

SOURCES: PENNSYLVANIA SPATIAL DATA ACCESS (PASDA)
PROJECTED COORDINATE SYSTEM: PA STATE PLANE SOUTH
DATUM: NORTH AMERICAN DATUM OF 1983 (NAD83)
PROJECTION: LAMBERT CONFORMAL CONIC
LINEAR UNIT: FEET
ELLIPSOID: GEODETIC REFERENCE SYSTEM 80

DUQUESNE LIGHT COMPANY

REAL ESTATE DEPT.–SURVEYING PITTSBURGH,PA.

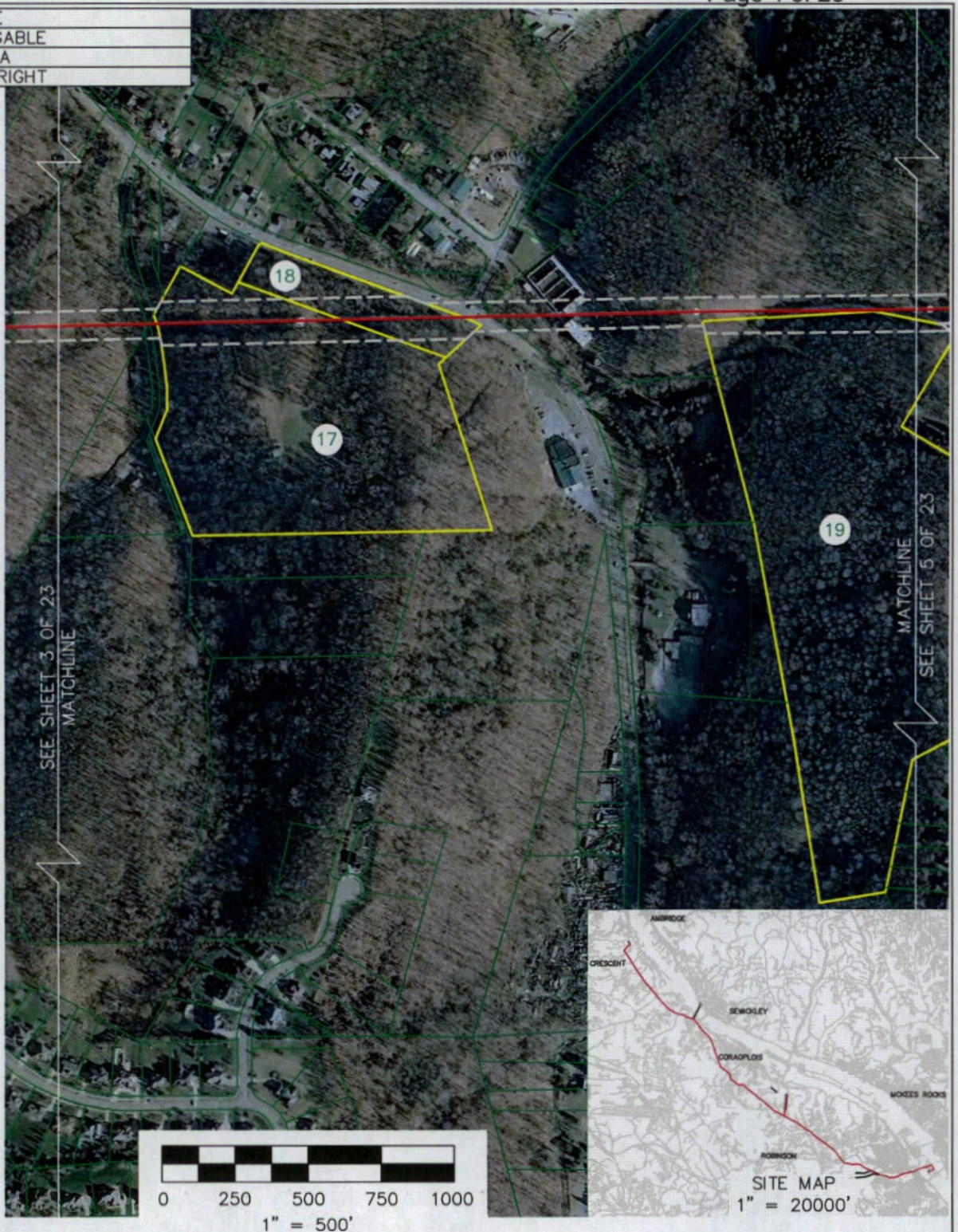
B.I. – CRESCENT AERIAL EXHIBIT

SCALE	DATE	ARCH. APP.
AS SHOWN	DRAWN JLS	ELECT. APP.
	CHECKED MEH	MECH. APP.
	INSP.	STRUCT. APP.

ALLEGHENY COUNTY
CRESCENT TWP.
SHEET 3 OF 23

APP. COMPLETE WHEN INITIALED HERE	O.F.E.	L	NO. 8790
	C.O.		

LABEL	OWNER NAME
17	RICHARD I. GABLE
18	MARTIN MEDIA
19	DANIEL C. WRIGHT



NOTE:
THE EASEMENT IS VARIABLE IN WIDTH AND IS NOT REPRESENTATIVE ON THE PARCEL.

NORTH

0 250 500 750 1000
1" = 500'

SITE MAP
1" = 20000'

LEGEND

- △ SUBSTATION
- PROPOSED ROUTE
- ROW
- PARCEL WITHIN ROW
- GIS PARCEL BOUNDARY

SOURCES: PENNSYLVANIA SPATIAL DATA ACCESS (PASDA)
PROJECTED COORDINATE SYSTEM: PA STATE PLANE SOUTH
DATUM: NORTH AMERICAN DATUM OF 1983 (NAD83)
PROJECTION: LAMBERT CONFORMAL CONIC
LINEAR UNIT: FEET
ELLIPSOID: GEODETIC REFERENCE SYSTEM 80

DUQUESNE LIGHT COMPANY

REAL ESTATE DEPT.–SURVEYING PITTSBURGH,PA.

B.I. – CRESCENT AERIAL EXHIBIT

SCALE	DATE	ARCH. APP.
AS SHOWN	DRAWN JLS	ELECT. APP.
	CHECKED MEH	MECH. APP.
	INSP.	STRUCT. APP.

ALLEGHENY COUNTY
MOON TWP.
SHEET 4 OF 23

APP. COMPLETE WHEN INITIALED HERE	O.F.E.	L	NO. 8790
	C.O.		

LABEL	OWNER NAME
20	MICHAEL R. NOVAK
21	GEOFFREY W. & MEGAN A. HATTON
22	CHRISTINA M. COLAROSSI

NOTE:
THE EASEMENT IS VARIABLE IN WIDTH AND IS NOT REPRESENTATIVE ON THE PARCEL.

NORTH

0 250 500 750 1000
1" = 500'

SITE MAP
1" = 20000'

LEGEND

- △ SUBSTATION
- PROPOSED ROUTE
- ROW
- PARCEL WITHIN ROW
- GIS PARCEL BOUNDARY

SOURCES: PENNSYLVANIA SPATIAL DATA ACCESS (PASDA)
PROJECTED COORDINATE SYSTEM: PA STATE PLANE SOUTH
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ELLIPSOID: GEODETIC REFERENCE SYSTEM 80

DUQUESNE LIGHT COMPANY

REAL ESTATE DEPT.–SURVEYING PITTSBURGH,PA.

B.I. – CRESCENT AERIAL EXHIBIT

SCALE	DATE	ARCH. APP.
AS SHOWN	DRAWN JLS	ELECT. APP.
	CHECKED MEH	MECH. APP.
	INSP.	STRUCT. APP.

ALLEGHENY COUNTY
MOON TWP.
SHEET 5 OF 23

APP. COMPLETE WHEN INITIALED HERE	O.F.E.	L	NO. 8790
	C.O.		

LABEL	OWNER NAME
23	MORRISON FARMS (CINDRAN INC.)

NOTE:
THE EASEMENT IS VARIABLE IN WIDTH AND IS NOT REPRESENTATIVE ON THE PARCEL.

NORTH

0 250 500 750 1000
1" = 500'

SITE MAP
1" = 20000'

LEGEND

- △ SUBSTATION
- PROPOSED ROUTE
- ROW
- PARCEL WITHIN ROW
- GIS PARCEL BOUNDARY

SOURCES: PENNSYLVANIA SPATIAL DATA ACCESS (PASDA)
PROJECTED COORDINATE SYSTEM: PA STATE PLANE SOUTH
DATUM: NORTH AMERICAN DATUM OF 1983 (NAD83)
PROJECTION: LAMBERT CONFORMAL CONIC
LINEAR UNIT: FEET
ELLIPSOID: GEODETIC REFERENCE SYSTEM 80

DUQUESNE LIGHT COMPANY

REAL ESTATE DEPT.–SURVEYING PITTSBURGH,PA.

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ALLEGHENY COUNTY
MOON TWP.
SHEET 6 OF 23

APP. COMPLETE WHEN INITIALED HERE	O.F.E.	L	NO. 8790
	C.O.		

LABEL	OWNER NAME
23	MORRISON FARMS – CINDRAN INC.
24	MORRISON FARMS – CINDRAN INC.
25	HENRY & JULIA B. REYNOLDS

NOTE:
THE EASEMENT IS VARIABLE IN WIDTH AND IS NOT REPRESENTATIVE ON THE PARCEL.

NORTH

LEGEND

- △ SUBSTATION
- PROPOSED ROUTE
- ROW
- PARCEL WITHIN ROW
- GIS PARCEL BOUNDARY

SOURCES: PENNSYLVANIA SPATIAL DATA ACCESS (PASDA)
PROJECTED COORDINATE SYSTEM: PA STATE PLANE SOUTH
DATUM: NORTH AMERICAN DATUM OF 1983 (NAD83)
PROJECTION: LAMBERT CONFORMAL CONIC.
LINEAR UNIT: FEET
ELLIPSOID: GEODETIC REFERENCE SYSTEM 80

DUQUESNE LIGHT COMPANY
REAL ESTATE DEPT.–SURVEYING PITTSBURGH,PA.

B.I. – CRESCENT
AERIAL EXHIBIT

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	INSP.	STRUCT. APP.

ALLEGHENY COUNTY
MOON TWP.
SHEET 7 OF 23

APP. COMPLETE WHEN INITIALED HERE	O.F.E.	L	NO. 8790
	C.O.		

LABEL	OWNER NAME
26	MOON TOWNSHIP
27	KIM E. & LORI E. SHANNON
28	KIM E. & LORI E. SHANNON
29	JOHN CAMARDESE
30	BANKERS TRUST CO. OF CALIFORNIA
31	CAROLYN MARIE MATLAK
32	ERIC & HEIDI J. USSELMAN
33	ERIC & HEIDI J. USSELMAN
34	MATTHEW EDWARD COPPOLA
35	TWOTUTS PROPERTIES LLC
36	CHARLES J. CLEIS SR.
37	JOLA REALTY LLC
38	JON S. DOMENICO
39	MORGAN MIHOK
40	MICHAEL FERRARA & LYNDSIE N. SCHANTZ

NOTE:
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LEGEND

- △ SUBSTATION
- PROPOSED ROUTE
- ROW
- PARCEL WITHIN ROW
- GIS PARCEL BOUNDARY

SOURCES: PENNSYLVANIA SPATIAL DATA ACCESS (PASDA)
PROJECTED COORDINATE SYSTEM: PA STATE PLANE SOUTH
DATUM: NORTH AMERICAN DATUM OF 1983 (NAD83)
PROJECTION: LAMBERT CONFORMAL CONIC
LINEAR UNIT: FEET
ELLIPSOID: GEODETIC REFERENCE SYSTEM 80

DUQUESNE LIGHT COMPANY

REAL ESTATE DEPT.–SURVEYING PITTSBURGH,PA.

B.I. – CRESCENT AERIAL EXHIBIT

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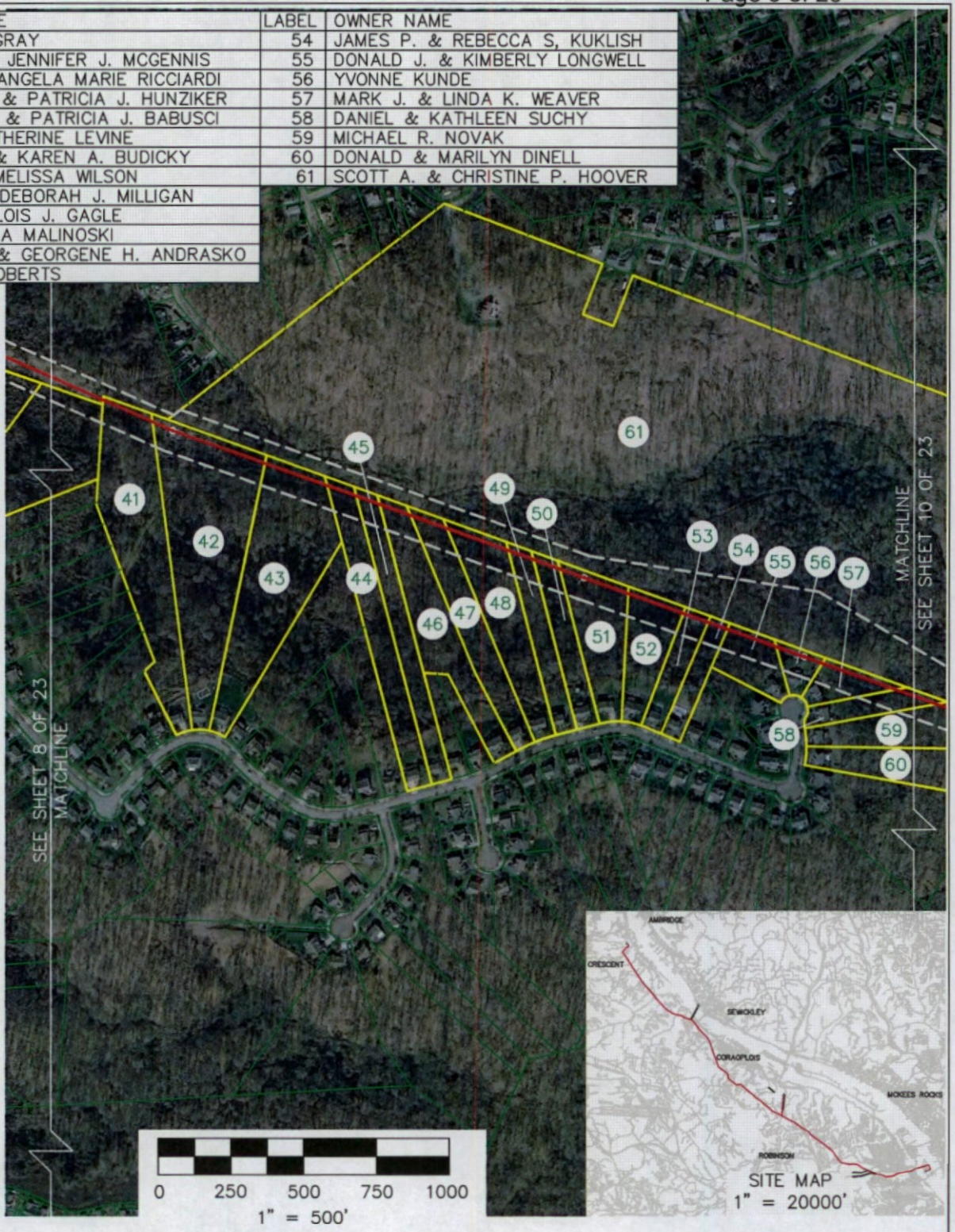
ALLEGHENY COUNTY
MOON TWP.
SHEET 8 OF 23

APP. COMPLETE WHEN INITIALED HERE			
	O.F.E.	L	NO. 8790
	C.O.		

LABEL	OWNER NAME
41	WILLIAM E. GRAY
42	BRETT W. & JENNIFER J. MCGENNIS
43	VINCENT & ANGELA MARIE RICCIARDI
44	RICHARD A. & PATRICIA J. HUNZIKER
45	ANTHONY J. & PATRICIA J. BABUSCI
46	JOHN & CATHERINE LEVINE
47	RONALD J. & KAREN A. BUDICKY
48	BRANDT & MELISSA WILSON
49	OWEN R. & DEBORAH J. MILLIGAN
50	TODD J. & LOIS J. GAGLE
51	KEITH & DINA MALINOSKI
52	RONALD A. & GEORGENE H. ANDRASKO
53	DEREK C. ROBERTS
54	JAMES P. & REBECCA S, KUKLISH
55	DONALD J. & KIMBERLY LONGWELL
56	YVONNE KUNDE
57	MARK J. & LINDA K. WEAVER
58	DANIEL & KATHLEEN SUCHY
59	MICHAEL R. NOVAK
60	DONALD & MARILYN DINELL
61	SCOTT A. & CHRISTINE P. HOOVER



NOTE:
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NORTH

LEGEND

- △ SUBSTATION
- PROPOSED ROUTE
- ROW
- PARCEL WITHIN ROW
- GIS PARCEL BOUNDARY

SOURCES: PENNSYLVANIA SPATIAL DATA ACCESS (PASDA)
PROJECTED COORDINATE SYSTEM: PA STATE PLANE SOUTH
DATUM: NORTH AMERICAN DATUM OF 1983 (NAD83)
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LINEAR UNIT: FEET
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DUQUESNE LIGHT COMPANY
REAL ESTATE DEPT.–SURVEYING PITTSBURGH,PA.

B.I. – CRESCENT
AERIAL EXHIBIT

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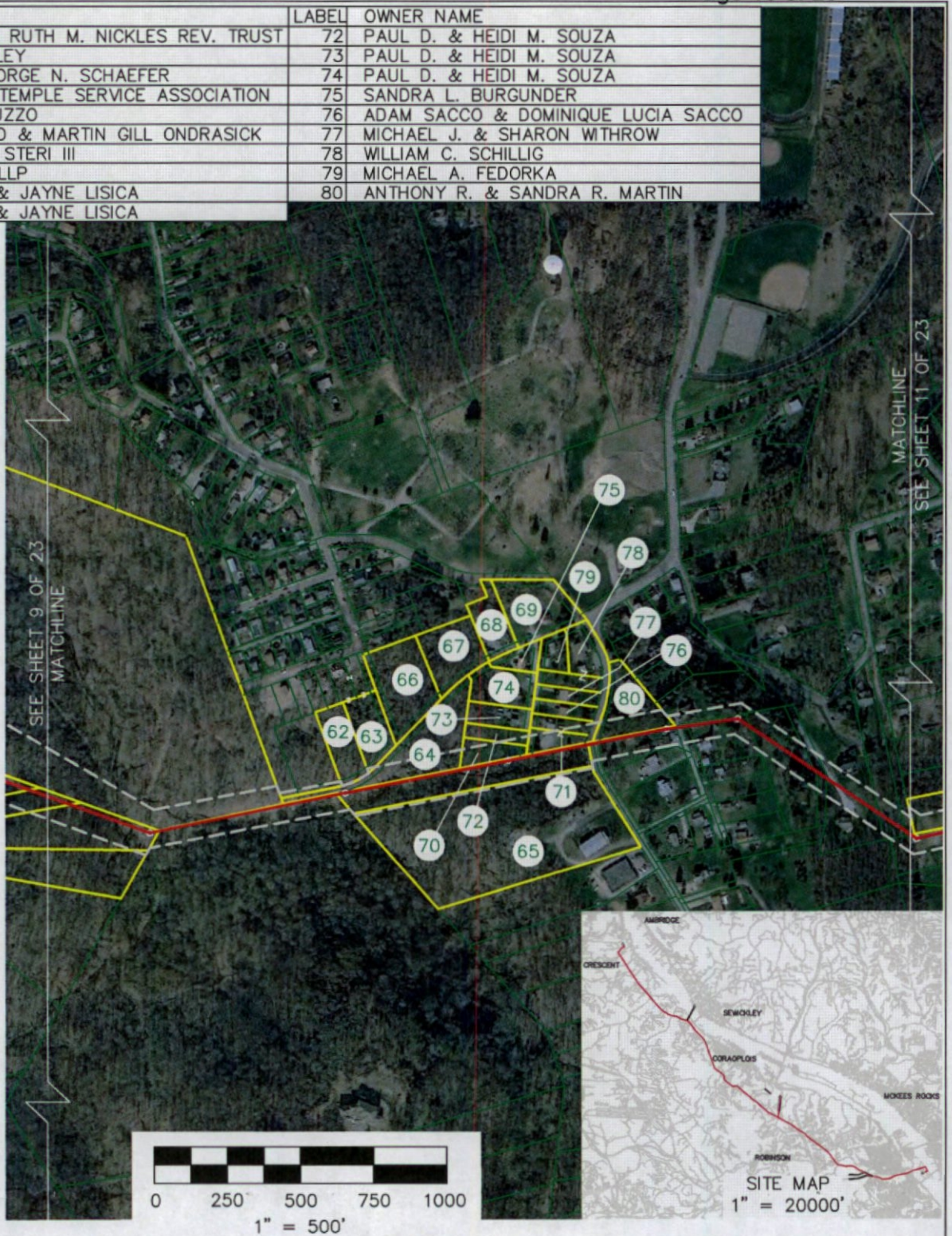
ALLEGHENY COUNTY
MOON TWP.
SHEET 9 OF 23

APP. COMPLETE WHEN INITIALED HERE	O.F.E.	L	NO. 8790
	C.O.		

LABEL	OWNER NAME
62	JOSEPH A. & RUTH M. NICKLES REV. TRUST
63	LYNNE J. BOLEY
64	HEIRS OF GEORGE N. SCHAEFER
65	CORAOPOLIS TEMPLE SERVICE ASSOCIATION
66	CHRISTIAN GUZZO
67	WILLIAM DAVID & MARTIN GILL ONDRASICK
68	NICHOLAS M. STERI III
69	FREESTONE LLLP
70	CHARLES E. & JAYNE LISICA
71	CHARLES E. & JAYNE LISICA

LABEL	OWNER NAME
72	PAUL D. & HEIDI M. SOUZA
73	PAUL D. & HEIDI M. SOUZA
74	PAUL D. & HEIDI M. SOUZA
75	SANDRA L. BURGUNDER
76	ADAM SACCO & DOMINIQUE LUCIA SACCO
77	MICHAEL J. & SHARON WITHROW
78	WILLIAM C. SCHILLIG
79	MICHAEL A. FEDORKA
80	ANTHONY R. & SANDRA R. MARTIN



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NORTH

LEGEND

- △ SUBSTATION
- PROPOSED ROUTE
- ROW
- PARCEL WITHIN ROW
- GIS PARCEL BOUNDARY

SOURCES: PENNSYLVANIA SPATIAL DATA ACCESS (PASDA)
PROJECTED COORDINATE SYSTEM: PA STATE PLANE SOUTH
DATUM: NORTH AMERICAN DATUM OF 1983 (NAD83)
PROJECTION: LAMBERT CONFORMAL CONIC.
LINEAR UNIT: FEET
SPHEROID: GEODETIC REFERENCE SYSTEM 80

DUQUESNE LIGHT COMPANY

REAL ESTATE DEPT.–SURVEYING PITTSBURGH,PA.

B.I. – CRESCENT AERIAL EXHIBIT

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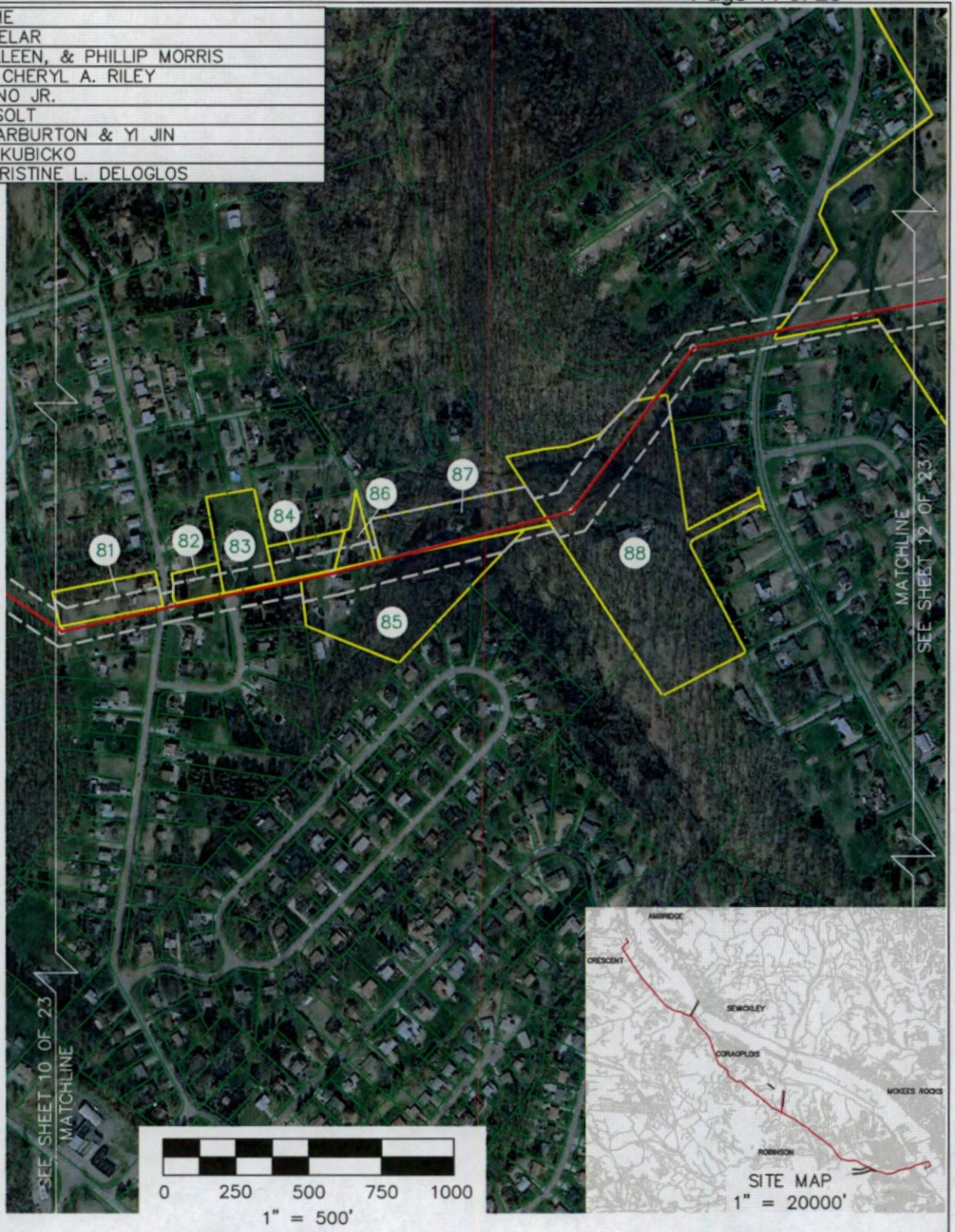
ALLEGHENY COUNTY
MOON TWP.
SHEET 10 OF 23

APP. COMPLETE WHEN INITIALED HERE	O.F.E.	L	NO. 8790
	C.O.		

LABEL	OWNER NAME
81	MARISSA KIELAR
82	JASON, COLLEEN, & PHILLIP MORRIS
83	JOHN F. & CHERYL A. RILEY
84	JOSEPH VANO JR.
85	DENNIS J. SOLT
86	RICHARD WARBURTON & YI JIN
87	ROBERT S. KUBICKO
88	GUST & CHRISTINE L. DELOGLOS



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LEGEND
- △ SUBSTATION
- PROPOSED ROUTE
- ROW
- PARCEL WITHIN ROW
- GIS PARCEL BOUNDARY

SOURCES: PENNSYLVANIA SPATIAL DATA ACCESS (PASDA)
PROJECTED COORDINATE SYSTEM: PA STATE PLANE SOUTH
DATUM: NORTH AMERICAN DATUM OF 1983 (NAD83)
PROJECTION: LAMBERT CONFORMAL CONIC.
LINEAR UNIT: FEET
SUPPORT: GEODETIC REFERENCE SYSTEM 80

DUQUESNE LIGHT COMPANY
REAL ESTATE DEPT.–SURVEYING PITTSBURGH,PA.

B.I. – CRESCENT
AERIAL EXHIBIT

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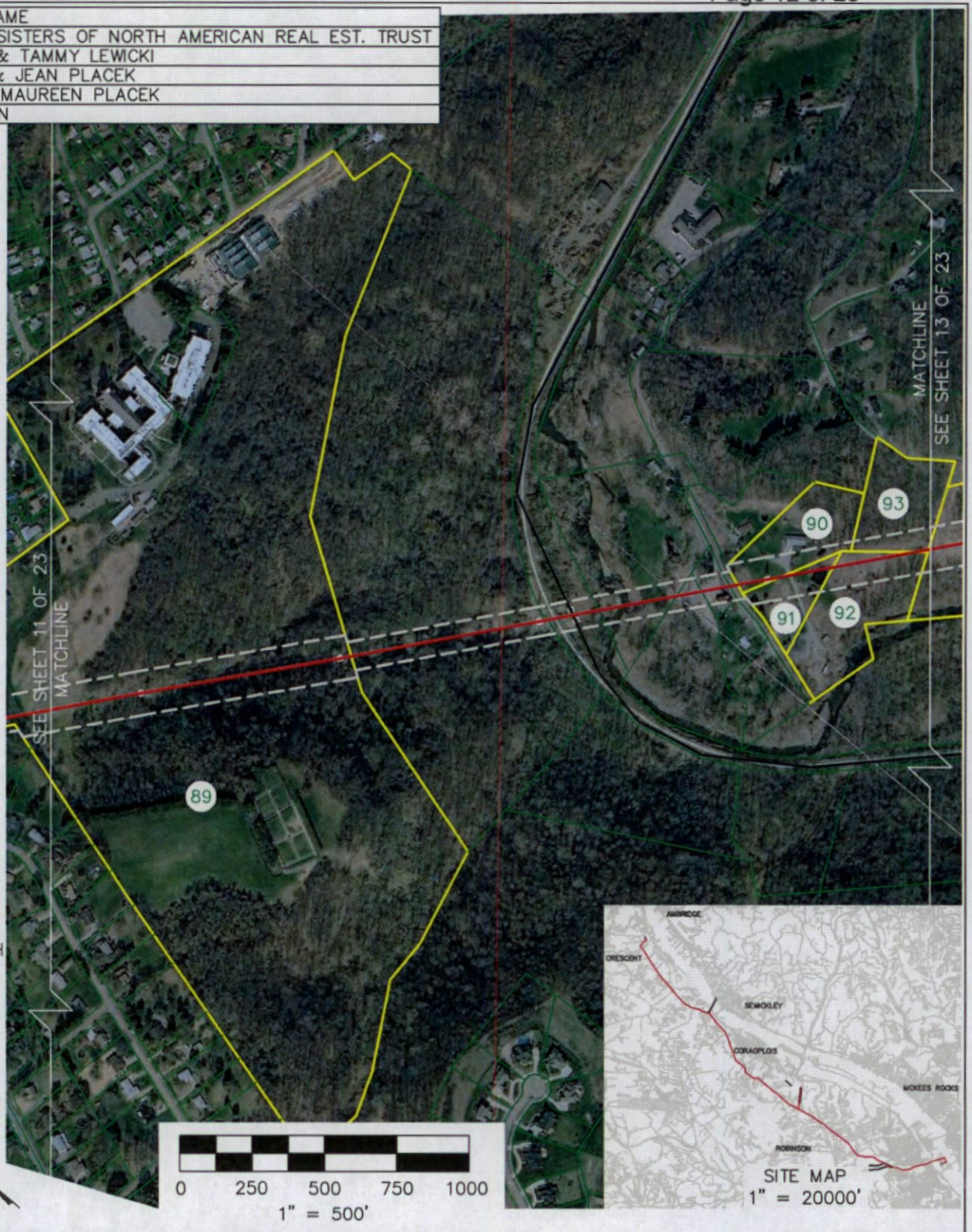
	INSP.	STRUCT. APP.

ALLEGHENY COUNTY
MOON TWP.
SHEET 11 OF 23

APP. COMPLETE WHEN INITIALED HERE	O.F.E.	L	NO. 8790
	C.O.		

LABEL	OWNER NAME
89	FELICIAN SISTERS OF NORTH AMERICAN REAL EST. TRUST
90	MICHAEL & TAMMY LEWICKI
91	ADOLPH & JEAN PLACEK
92	TERRY & MAUREEN PLACEK
93	COY ALLEN



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LEGEND

- △ SUBSTATION
- PROPOSED ROUTE
- ROW
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PROJECTED COORDINATE SYSTEM: PA STATE PLANE SOUTH
DATUM: NORTH AMERICAN DATUM OF 1983 (NAD83)
PROJECTION: LAMBERT CONFORMAL CONIC
LINEAR UNIT: FEET
SURFACE: GEODETIC REFERENCE SYSTEM 80

DUQUESNE LIGHT COMPANY
REAL ESTATE DEPT.–SURVEYING PITTSBURGH,PA.

B.I. – CRESCENT
AERIAL EXHIBIT

SCALE AS SHOWN	DATE 3/04/19	ARCH. APP.
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	CHECKED MEH	MECH. APP.
	INSP.	STRUCT. APP.

ALLEGHENY COUNTY
MOON TWP. & ROBINSON TWP.
SHEET 12 OF 23

APP. COMPLETE WHEN INITIALED HERE	O.F.E.	L	NO. 8790
	C.O.		

LABEL	OWNER NAME
94	UTA COLBERG
95	JAMES F. & DIANE HARTMAN
96	JAMES F. & DIANE HARTMAN

NOTE:
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LEGEND
- △ SUBSTATION
- PROPOSED ROUTE
- ROW
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ELLIPSOID: GEODETIC REFERENCE SYSTEM 80

DUQUESNE LIGHT COMPANY
REAL ESTATE DEPT.–SURVEYING PITTSBURGH,PA.

B.I. – CRESCENT
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ALLEGHENY COUNTY
ROBINSON TWP.
SHEET 13 OF 23

APP. COMPLETE WHEN INITIALED HERE	O.F.E.	L	NO. 8790
	C.O.		

NOTE:
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LEGEND

- △ SUBSTATION
- PROPOSED ROUTE
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DUQUESNE LIGHT COMPANY
REAL ESTATE DEPT.–SURVEYING PITTSBURGH,PA.

B.I. – CRESCENT
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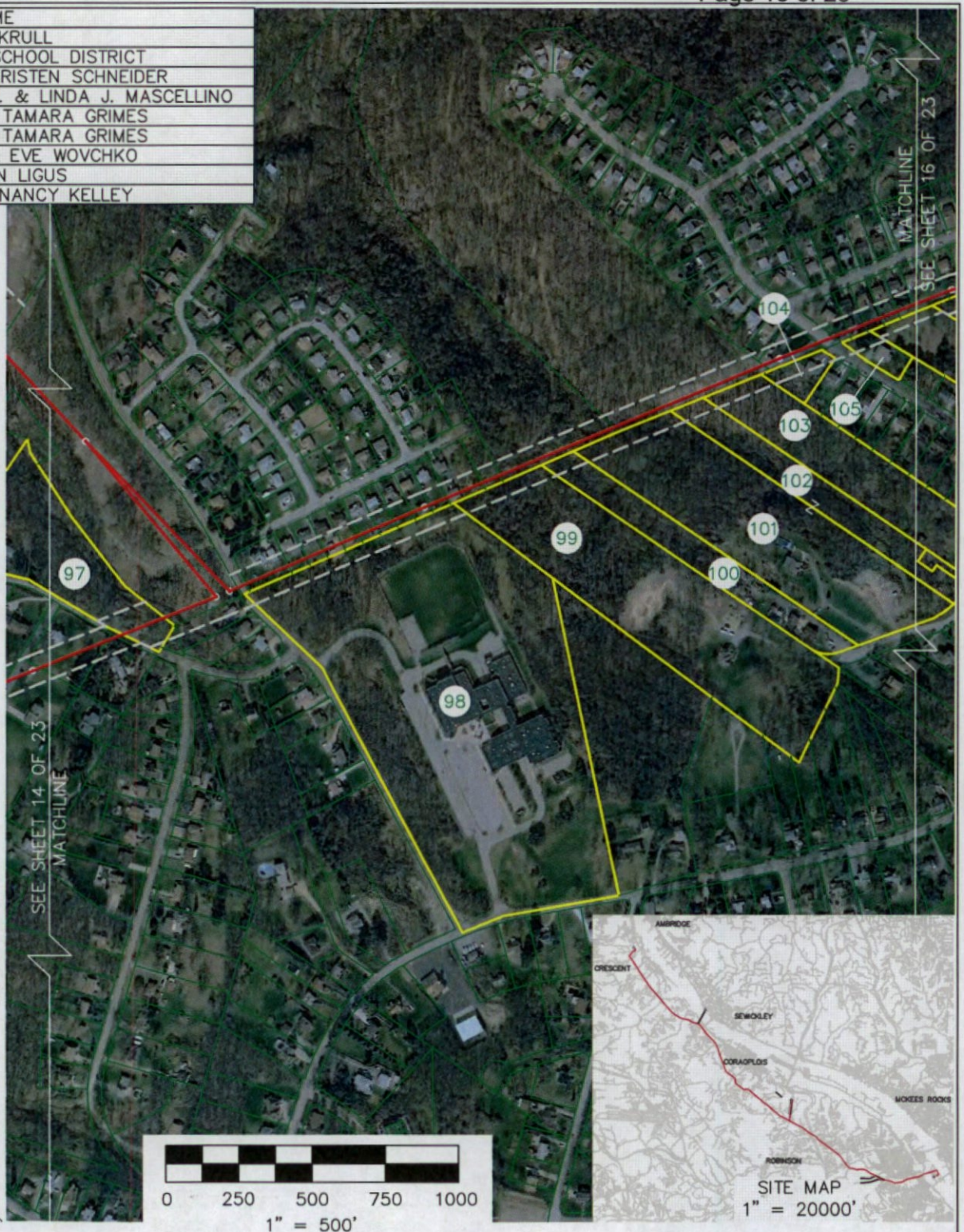
ALLEGHENY COUNTY
ROBINSON TWP.
SHEET 14 OF 23

APP. COMPLETE WHEN INITIALED HERE	O.F.E.	L	NO. 8790
	C.O.		

LABEL	OWNER NAME
97	WILLIAM J. KRULL
98	MONTOUR SCHOOL DISTRICT
99	FRANK & KRISTEN SCHNEIDER
100	CHARLES M. & LINDA J. MASCELLINO
101	DWAYNE & TAMARA GRIMES
102	DWAYNE & TAMARA GRIMES
103	CHARLES & EVE WOVCHKO
104	PAULA JEAN LIGUS
105	ROBERT & NANCY KELLEY



NOTE:
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NORTH

LEGEND

- △ SUBSTATION
- PROPOSED ROUTE
- ROW
- PARCEL WITHIN ROW
- GIS PARCEL BOUNDARY

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DUQUESNE LIGHT COMPANY
REAL ESTATE DEPT.–SURVEYING PITTSBURGH,PA.

B.I. – CRESCENT
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ALLEGHENY COUNTY
ROBINSON TWP.
SHEET 15 OF 23

APP. COMPLETE WHEN INITIALED HERE	O.F.E.	L	NO. 8790
	C.O.		

LABEL	OWNER NAME
106	JOHN & EDWARD A. WOVCHKO
107	WILLIAM & REBECCA KUTZAVITCH

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NORTH

LEGEND

- △ SUBSTATION
- PROPOSED ROUTE
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- PARCEL WITHIN ROW
- GIS PARCEL BOUNDARY

SOURCES: PENNSYLVANIA SPATIAL DATA ACCESS (PASDA)
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DUQUESNE LIGHT COMPANY
REAL ESTATE DEPT.–SURVEYING PITTSBURGH,PA.

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AERIAL EXHIBIT

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	INSP.	STRUCT. APP.

ALLEGHENY COUNTY
ROBINSON TWP.
SHEET 16 OF 23

APP. COMPLETE WHEN INITIALED HERE	O.F.E.	L	NO. 8790
	C.O.		

NOTE:
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NORTH

0 250 500 750 1000
1" = 500'

SITE MAP
1" = 20000'

LEGEND

- △ SUBSTATION
- PROPOSED ROUTE
- ROW
- PARCEL WITHIN ROW
- GIS PARCEL BOUNDARY

SOURCES: PENNSYLVANIA SPATIAL DATA ACCESS (PASDA)
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DUQUESNE LIGHT COMPANY

REAL ESTATE DEPT.–SURVEYING PITTSBURGH,PA.

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ALLEGHENY COUNTY
KENNEDY TWP.
SHEET 17 OF 23

APP. COMPLETE WHEN INITIALED HERE	O.F.E.	L	NO. 8790
	C.O.		

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NORTH

0 250 500 750 1000
1" = 500'

SITE MAP
1" = 20000'

LEGEND

- △ SUBSTATION
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ALLEGHENY COUNTY
KENNEDY TWP.
SHEET 18 OF 23

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	C.O.		

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NORTH

0 250 500 750 1000
1" = 500'

SITE MAP
1" = 20000'

LEGEND

- △ SUBSTATION
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- ROW
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DUQUESNE LIGHT COMPANY
REAL ESTATE DEPT.–SURVEYING PITTSBURGH,PA.

B.I. – CRESCENT AERIAL EXHIBIT

ALLEGHENY COUNTY
KENNEDY TWP.
SHEET 19 OF 23

SCALE	DATE	ARCH. APP.
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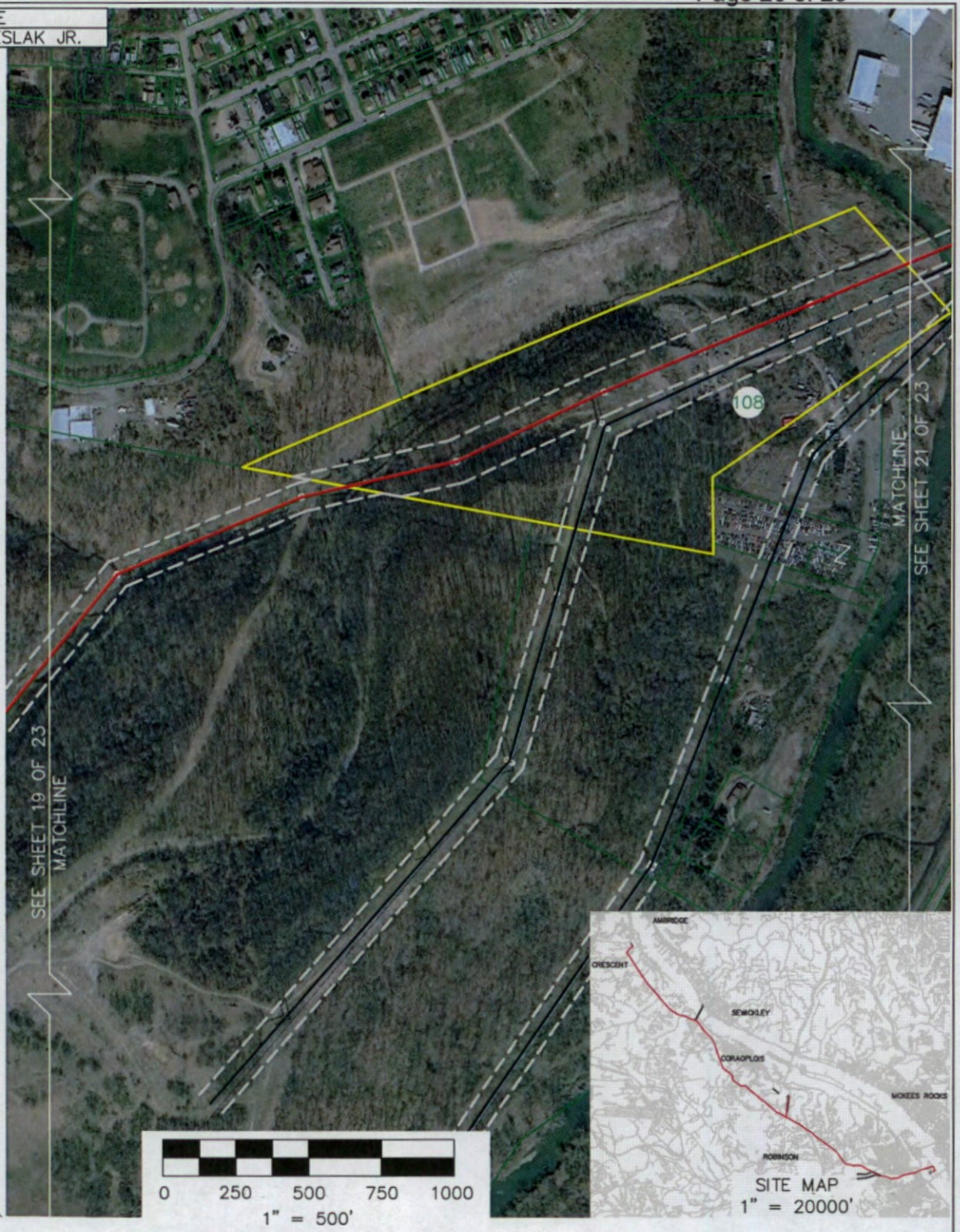
	CHECKED MEH	MECH. APP.
	INSP.	STRUCT. APP.

APP. COMPLETE WHEN INITIALED HERE			
	O.F.E.	L	NO. 8790
	C.O.		

LABEL	OWNER NAME
108	STANLEY CIESLAK JR.



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NORTH

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1" = 500'

SITE MAP
1" = 20000'

LEGEND

- △ SUBSTATION
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DUQUESNE LIGHT COMPANY

REAL ESTATE DEPT.–SURVEYING PITTSBURGH,PA.

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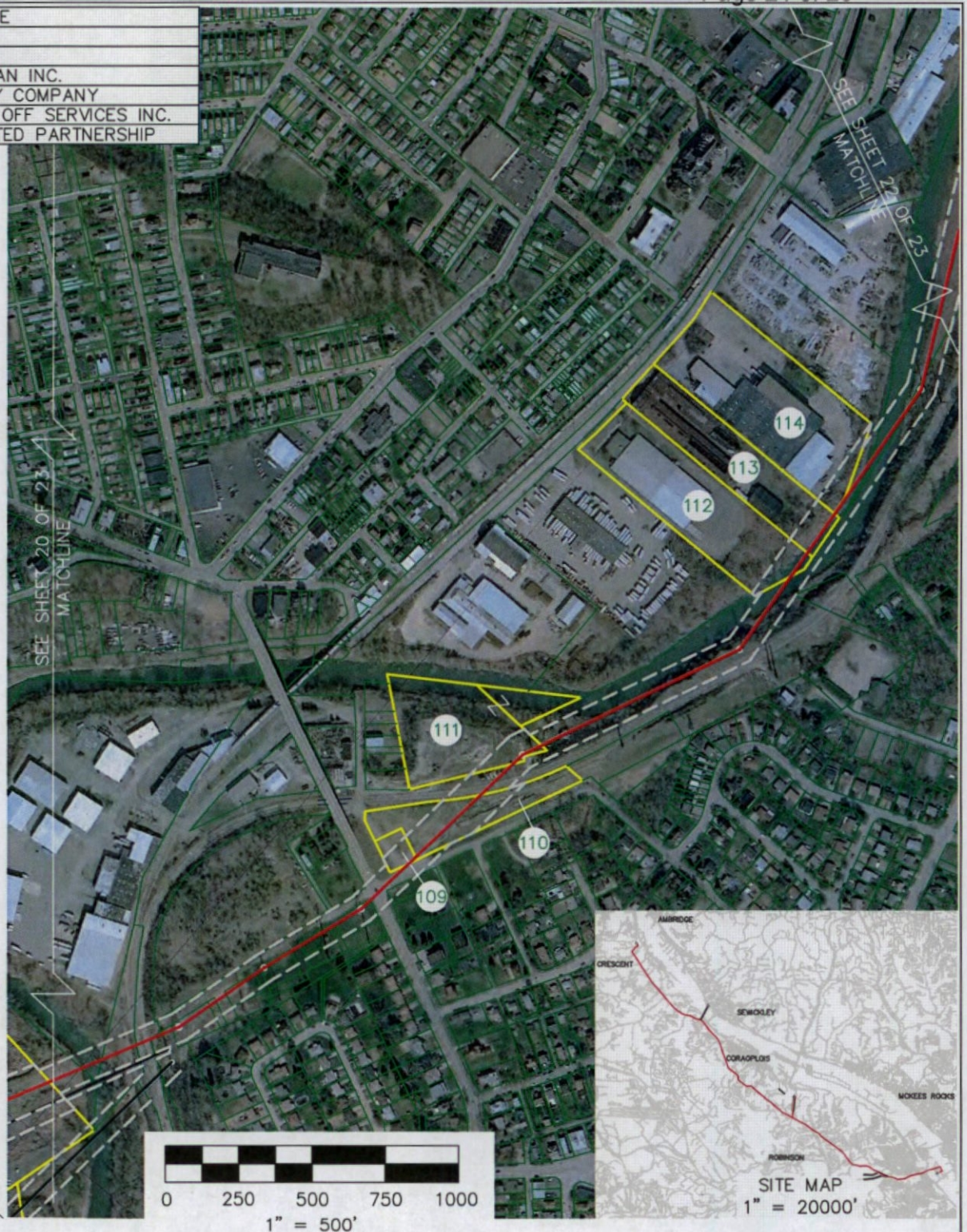
	CHECKED MEH	MECH. APP.
	INSP.	STRUCT. APP.

ALLEGHENY COUNTY
KENNEDY TWP.
SHEET 20 OF 23

APP. COMPLETE WHEN INITIALED HERE	O.F.E.	L	NO. 8790
	C.O.		

LABEL	OWNER NAME
109	PENNDOT
110	PENNDOT
111	FRANK BRYAN INC.
112	R&L REALTY COMPANY
113	BOYD ROLL OFF SERVICES INC.
114	AGGCO LIMITED PARTNERSHIP



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NORTH

LEGEND
- △ SUBSTATION
- PROPOSED ROUTE
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SOURCES: PENNSYLVANIA SPATIAL DATA ACCESS (PASDA)
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DUQUESNE LIGHT COMPANY
REAL ESTATE DEPT.–SURVEYING PITTSBURGH,PA.

B.I. – CRESCENT
AERIAL EXHIBIT

SCALE AS SHOWN	DATE 3/04/19	ARCH. APP.
	DRAWN JLS	ELECT. APP.
	CHECKED MEH	MECH. APP.
	INSP.	STRUCT. APP.

ALLEGHENY COUNTY
CITY OF PITTSBURGH & MCKEES ROCKS BORO
SHEET 21 OF 23

APP. COMPLETE WHEN INITIALED HERE	O.F.E.	L	NO. 8790
	C.O.		

LABEL	OWNER NAME
115	MCKEES ROCKS COMMERCIAL PROPERTY LLC
116	CHARTIERS CROSSING LP
117	OLD TOWN PROPERTIES
118	CRIVELLI LIMITED PARTNERSHIP
119	GREENVILLE COMMERCIAL PROPERTIES LP
120	CMC REALTY
121	JAMES F. FRANK & KAREN L. SCHOPPE
122	VICTOR ALBERT SUTEY

NOTE:
THE EASEMENT IS VARIABLE IN WIDTH AND IS NOT REPRESENTATIVE ON THE PARCEL.

LEGEND

- △ SUBSTATION
- PROPOSED ROUTE
- ROW
- PARCEL WITHIN ROW
- GIS PARCEL BOUNDARY

SOURCES: PENNSYLVANIA SPATIAL DATA ACCESS (PASDA)
PROJECTED COORDINATE SYSTEM: PA STATE PLANE SOUTH
DATUM: NORTH AMERICAN DATUM OF 1983 (NAD83)
PROJECTION: LAMBERT CONFORMAL CONIC
LINEAR UNIT: FEET
SPHEROID: GEODETIC REFERENCE SYSTEM 80

DUQUESNE LIGHT COMPANY

REAL ESTATE DEPT.–SURVEYING PITTSBURGH,PA.

B.I. – CRESCENT
AERIAL EXHIBIT

SCALE AS SHOWN	DATE 3/04/19	ARCH. APP.
	DRAWN JLS	ELECT. APP.
	CHECKED MEH	MECH. APP.
	INSP.	STRUCT. APP.

ALLEGHENY COUNTY
CITY OF PITTSBURGH & MCKEES ROCKS BORO
SHEET 22 OF 23

APP. COMPLETE WHEN INITIALED HERE	O.F.E.	L	NO. 8790
	C.O.		

NOTE:
THE EASEMENT IS VARIABLE IN WIDTH AND IS NOT REPRESENTATIVE ON THE PARCEL.

LEGEND

- △ SUBSTATION
- PROPOSED ROUTE
- ROW
- PARCEL WITHIN ROW
- GIS PARCEL BOUNDARY

SOURCES: PENNSYLVANIA SPATIAL DATA ACCESS (PASDA)
PROJECTED COORDINATE SYSTEM: PA STATE PLANE SOUTH
DATUM: NORTH AMERICAN DATUM OF 1983 (NAD83)
PROJECTION: LAMBERT CONFORMAL CONIC.
LINEAR UNIT: FEET
ELLIPSOID: GEODETIC REFERENCE SYSTEM 80

DUQUESNE LIGHT COMPANY

REAL ESTATE DEPT.–SURVEYING PITTSBURGH,PA.

B.I. – CRESCENT
AERIAL EXHIBIT

SCALE AS SHOWN	DATE 3/04/19	ARCH. APP.
	DRAWN JLS	ELECT. APP.
	CHECKED MEH	MECH. APP.
	INSP.	STRUCT. APP.

ALLEGHENY COUNTY
CITY OF PITTSBURGH & MCKEES ROCKS BORO
SHEET 23 OF 23

APP. COMPLETE WHEN INITIALED HERE	O.F.E.	L	NO. 8790
	C.O.		

DLC Exhibit LG-2 (Schaefer)

COMMONWEALTH OF PENNSYLVANIA)
COUNTY OF ALLEGHENY) SS.
)

On this 24th day of October, A.D. 1927, before me, a Notary Public in and for said County and State came the above named Ida May Trout and Roy C. Trout, her husband, and acknowledged the foregoing Indenture to be their act and deed, to the end that it may be recorded as such.

WITNESS my hand and notarial seal.

Alice Linnert Notary Public (N. P. Seal)
My commission expires January 17, 1931

Registered in Allegheny County and City of Pittsburgh
No. 58425 Recorded October 25th, 1927 Time 2:44 P.M.
Written by Johnston Compared by Mau and Chambers

CHARLES DELP, ET UX.)
TO)
GEORGE N. SCHAEFER)

THIS INDENTURE MADE the 8th day of October in the year of our Lord one thousand nine hundred and twenty-seven BETWEEN CHARLES DELP and CORA E. DELP, his wife, of the City of Pittsburgh, County of Allegheny, State of Pennsylvania, parties of the first part and GEORGE N. SCHAEFER, of the City of Pittsburgh, County of Allegheny, State of Pennsylvania, party of the second part:

WITNESSETH, that the said parties of the first part, in consideration of Eleven Thousand ($11,000.00) Dollars to them now paid by the said party of the second part, do grant, bargain, sell and convey unto the said party of the second part, his heirs and assigns,

ALL that certain parcel or plot of land situate in Moon Township, County of Allegheny, State of Pennsylvania, being bounded and described as follows:

BEGINNING on the dividing line between the properties of the party of the first part and the WOODLAWN Plan of Lots, at the south end of a 12-foot alley in said plan, and running thence along the Woodlawn Plan of Lots to the property of the Coraopolis Cemetery Company and the south side of Watson Street S. 60° 21' East, 792 feet; thence along the lands of the Coraopolis Cemetery Company south 9° 52' West 433.23 ft. to the line of the center of a township road; thence along the center of said township road and land of George Ondrasick north 40° 7' west 250.84 feet; thence leaving said road and running along the land of George Ondrasick south 27° 32' west 62.18 feet; thence still along the lands of said George Ondrasick north 62° 28' west 76 feet, and south 27° 32' west 201.80 feet to the center of a 40-foot road; thence along the center of said 40-foot road and land of George Ondrasick south 62° 28' east 361.67 feet to the center of the county road known as the Coraopolis Heights road; then along center of said county road south 18° 44' and 15" west 99.18 feet; then by a curve to the right with a radius of 195 feet a distance of 131.07 feet; thence south 57° 15' west 41.30 feet; then by a curve to the right with a radius of 315 feet a distance of 69.55 feet; thence south 69° 54' west 73.17 feet; thence by a curve to the left with a radius of 225 feet a distance of 29.17 feet to the northerly line of the right-of-way of the Duquesne Light Company transmission line, and the property of S. E. Pence; then leaving said road and running along the line of said right-of-way and along the properties of S. E. Pence and S. S. Robertson north 51° 35' west 1078.64 feet; thence by other lands of the party of the first part north 29° 39' east 969.52 feet to the westerly line of the Woodlawn Plan of Lots; thence along the westerly line of said Woodlawn Plan of Lots south 19° 48' east 250.22 feet to the place of beginning.

Subject to all outstanding oil and gas leases and rights-of-way for pipe lines.

BEING part of the same property which Olivia M. Cassidy by her deed dated May 15th, 1922 and of record in the said Recorder's Office in Deed Book Vol. 2136, page 22, granted and conveyed unto Charles Delp, one of the parties of the first part hereto.

With the appurtenances: TO HAVE AND TO HOLD the same unto and for the use of said party of the second part his heirs and assigns forever,

And the said Charles Delp, and Cora E. Delp, his wife, for themselves, their heirs, executors and administrators covenant with the said party of the second part his heirs and assigns against all lawful claimants the same and every part thereof to Warrant and Defend.

WITNESS the hands and seals of the said parties of the first part.

Attest:
J. L. Trefaller Jr.

Charles Delp (Seal)
Cora E. Delp (Seal)

COMMONWEALTH OF PENNSYLVANIA)
COUNTY OF ALLEGHENY) SS.
)

On this 8th day of October A.D. 1927, before me Notary Public in and for said State and County came the above named Charles Delp and Cora E. Delp, his wife, and acknowledged the foregoing Indenture to be their act and deed, to the end that it may be recorded as such.

WITNESS my hand and Notarial seal.

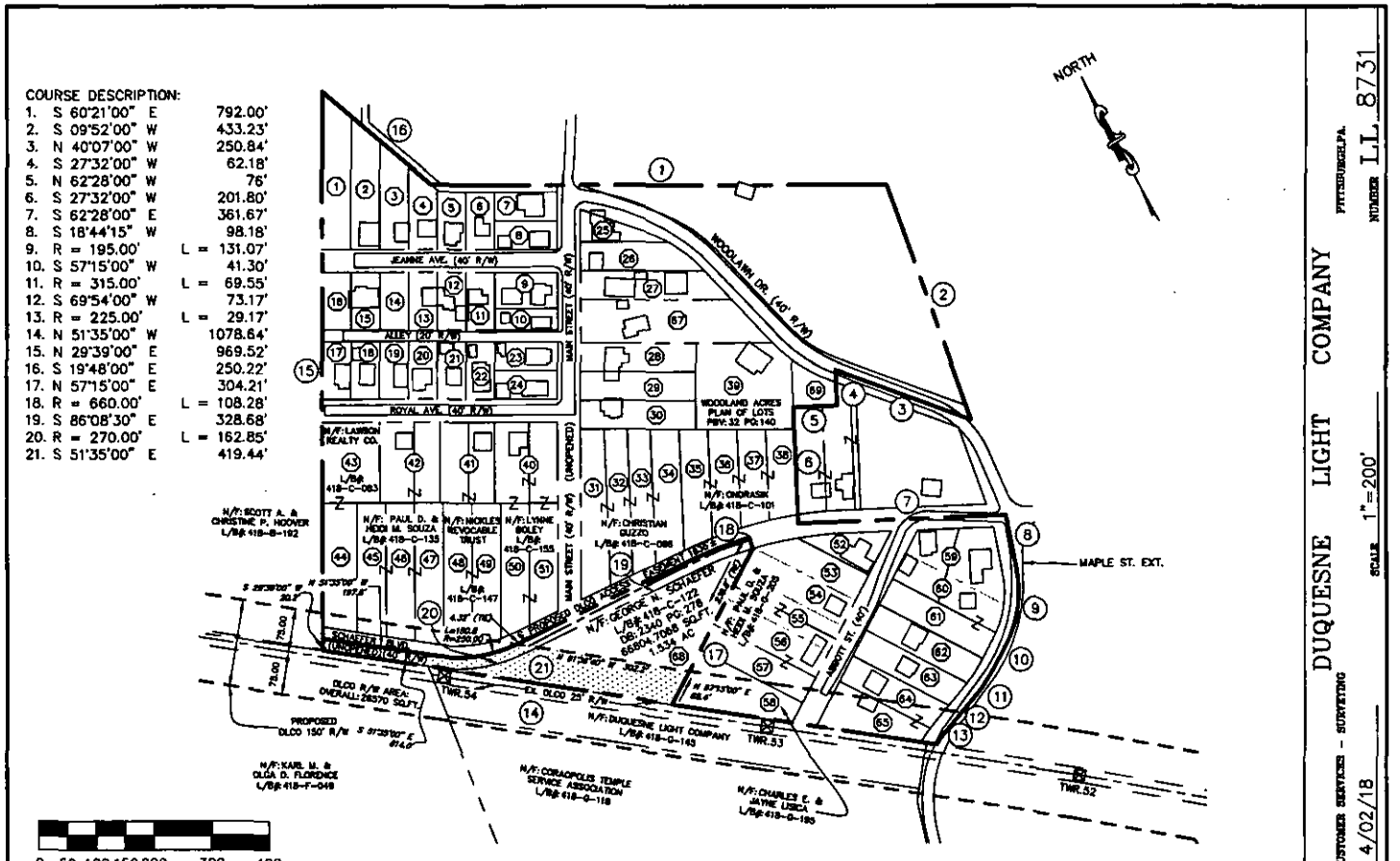
J. L. Trefaller Jr. Notary Public (N.P. Seal)
My commission expires March 26, 1929

Registered in Allegheny County
No. 58426 Recorded October 25th, 1927 Time 2:51 P.M.
Written by Johnston Compared by Mau and Chambers

DLC Exhibit LG-3 (Schaefer)

COURSE DESCRIPTION:

1.	S 60°21'00" E		792.00'
2.	S 09°52'00" W		433.23'
3.	N 40°07'00" W		250.84'
4.	S 27°32'00" W		62.18'
5.	N 62°28'00" W		76'
6.	S 27°32'00" W		201.80'
7.	S 62°28'00" E		361.67'
8.	S 18°44'15" W		98.18'
9.	R = 195.00'	L =	131.07'
10.	S 57°15'00" W		41.30'
11.	R = 315.00'	L =	69.55'
12.	S 69°54'00" W		73.17'
13.	R = 225.00'	L =	29.17'
14.	N 51°35'00" W		1078.64'
15.	N 29°39'00" E		969.52'
16.	S 19°48'00" E		250.22'
17.	N 57°15'00" E		304.21'
18.	R = 660.00'	L =	108.28'
19.	S 86°08'30" E		328.68'
20.	R = 270.00'	L =	162.85'
21.	S 51°35'00" E		419.44'



DUQUESNE LIGHT COMPANY
CUSTOMER SERVICES - SURVEYING
PITTSBURGH, PA.
NUMBER LL 8731
SCALE 1"=200'
DATE 4/02/18

NOTES:
- ALL BUILDING AND ROAD LOCATIONS ARE FROM DUQUESNE LIGHT GIS DATA

REVISIONS:
4/02/18 BY JLS:
- LABELED BEARING AND DISTANCES FOR EASEMENT

SURVEY NOTES:
DATE OF SURVEY: 1/25/17

○	SET IRON ROD UNLESS OTHERWISE NOTED	A	ARC
●	FOUND IRON ROD UNLESS OTHERWISE NOTED	R	RADIUS
N/F	NOW OR FORMERLY	STY	STORY
L/B#	TAX IDENTIFICATION	PBV	PLAN BOOK VOLUME
FND	FOUND	PG	PAGE
I.P.	IRON PIN	⊙	DUQUESNE LIGHT POLE (EXISITNG)
CONC	CONCRETE	◉	DUQUESNE LIGHT POLE (PROPOSED)
R/W	RIGHT-OF-WAY		
POB	POINT OF BEGINNING		

NOTE: THIS IS NOT A BOUNDARY SURVEY

Duquesne Light Our Energy...Your Power
Customer Services – Surveying Dept. Pittsburgh, PA

SCALE 1" = 200'

DATE	4/02/18	ARCH. APP.	
DRAWN	JLS	ELECT. APP.	
CHECKED	MEH	MECH. APP.	
INSPECTED		STRUCT. APP.	

BI-CRESCENT
GEORGE N. SCHAEFER
L/B#: 418-C-122/DB: 2340 PG: 278
MOON TWP./ALLEGHENY COUNTY

APP. COMPLETE DESIGN DETAILED HERE

O.F.E. No.
C.O. No.

LL 8731

DLC Exhibit LG-4 (Schaefer)

EASEMENT DESCRIPTION

All that certain strip of land being a portion of Lot 68 and a portion of an unopened Schaefer Boulevard as shown in Woodland Acres, recorded in Plan Book Volume 32, Page 140 in Allegheny County Department of Real Estate, situate in Moon Township, Allegheny County and the Commonwealth of Pennsylvania, being more particularly described as follows:

Beginning at southeast corner of said Lot 68 now or formerly owned by George N. Schaefer, being recorded in Deed Book 2340, Page 278 in the Allegheny County Department of Real Estate; thence North 57°15''00" East, along the east line of said Lot 68, a distance of 65.4 feet, to a point 75 feet east of and parallel with an existing powerline; thence North 51°36'40" West, along said parallel line, a distance of 302.2 feet to the intersection with a non-tangent point on the arc of a curve to the right, having a radius of 250.00 feet and the centerline of said Schaefer Boulevard; thence northwesterly along the arc of said curve and said centerline, a distance of 150.8 feet; thence North 51°35'00" West, continuing along said centerline, a distance of 197.6 feet to a point on the west boundary line of said plat; thence South 29°39'00" West, along said west line, a distance of 20.2 feet to a point on the south line of said plat and south line of said Schaefer Boulevard; thence South 51°35'00" East, along said south line, a distance of 614.0 feet to a point and the **Point of Beginning**.

Subject to easements, restrictions, reservations, covenants, and rights-of-way of record.

X

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Application of Duquesne Light Company filed Pursuant To 15 Pa.C.S. §1511(c) for a Finding and Determination that the Service to be Furnished by the Applicant through its Proposed Exercise of the Power of Eminent Domain to Acquire a Certain Portion of the Lands of **George N. Schaefer** in Moon Township, Allegheny County, Pennsylvania Associated with the 138 kV Transmission Lines Associated with the **Brunot Island – Crescent Project** in the City of Pittsburgh, McKees Rocks Borough, Kennedy Township, Robinson Township, Moon Township, and Crescent Township, Allegheny County, Pennsylvania.	:	Docket No. A-2019-_____

VERIFICATION

I, Lesley C. Gannon, being Senior Manager of Real Estate and Rights of Way for Duquesne Light Company, hereby state that the information set forth above is true and correct to the best of my knowledge, information, and belief, and that I expect to be able to prove the same at a hearing held in this matter. I understand that the statements herein are made subject to the penalties of 18 Pa.C.S. § 4904 (relating to unsworn falsification to authorities).

Date: March 12, 2019

L. C. Gannon

Lesley C. Gannon
Senior Manager of Real Estate and Rights of Way

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Application of Duquesne Light Company filed Pursuant To 15 Pa.C.S. §1511(c) for a Finding and Determination that the Service to be Furnished by the Applicant through its Proposed Exercise of the Power of Eminent Domain to Acquire a Certain Portion of the Lands of **George N. Schaefer** in Moon Township, Allegheny County, Pennsylvania Associated with the 138 kV Transmission Lines Associated with the **Brunot Island – Crescent Project** in the City of Pittsburgh, McKees Rocks Borough, Kennedy Township, Robinson Township, Moon Township, and Crescent Township, Allegheny County, Pennsylvania.	:	Docket No. A-2019-_____

VERIFICATION

I, Lesley C. Gannon, being Senior Manager of Real Estate and Rights of Way for Duquesne Light Company, hereby state that the information set forth above is true and correct to the best of my knowledge, information, and belief, and that I expect to be able to prove the same at a hearing held in this matter. I understand that the statements herein are made subject to the penalties of 18 Pa.C.S. § 4904 (relating to unsworn falsification to authorities).

Date: March 12, 2019

Lesley C. Gannon
Senior Manager of Real Estate and Rights of Way

CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of the foregoing **CONDEMNATION APPLICATION** has been served upon the following persons, in the manner indicated, in accordance with the requirements of 52 Pa. Code § 1.54 (relating to service by a participant).

VIA CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Michael Syme, Esquire
Fox Rothschild LLP
500 Grant Street
Suite 2500
Pittsburgh, PA 15219

George N. Schaefer
Schaefer Boulevard
Coraopolis PA 15108

Date: March 15, 2019

Anthony D. Kanagy

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Application of Duquesne Light Company filed Pursuant to 52 Pa. Code Chapter 57, Subchapter G, for Approval of the Siting and Construction of the 138 kV Transmission Lines Associated with the Brunot Island - Crescent Project in the City of Pittsburgh, McKees Rocks Borough, Kennedy Township, Robinson Township, Moon Township, and Crescent Township, Allegheny County, Pennsylvania.	:	A-2019-3008589
Application of Duquesne Light Company under 15 Pa.C.S. § 1511(c) for a Finding and Determination That the Service to be Furnished by the Applicant through Its Proposed Exercise of the Power of Eminent Domain to Acquire a Certain Portion of the Lands of George N. Schaefer of Moon Township, Allegheny County, Pennsylvania for the Siting and Construction of Transmission Lines Associated with the Proposed Brunot Island - Crescent Project Is Necessary or Proper for the Service, Accommodation, Convenience, or Safety of the Public.	:	A-2019-3008652

DIRECT TESTIMONY AND EXHIBITS OF MICHAEL LICHTE, P.E.

ON BEHALF OF THE
ALLEGHENY COUNTY SANITARY AUTHORITY

DECEMBER 9, 2020

ALKAZAN
STATEMENT
1

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Application of Duquesne Light Company filed Pursuant to 52 Pa. Code Chapter 57, Subchapter G, for Approval of the Siting and Construction of the 138 kV Transmission Lines Associated with the Brunot Island - Crescent Project in the City of Pittsburgh, McKees Rocks Borough, Kennedy Township, Robinson Township, Moon Township, and Crescent Township, Allegheny County, Pennsylvania.	:	A-2019-3008589
Application of Duquesne Light Company under 15 Pa.C.S. § 1511(c) for a Finding and Determination That the Service to be Furnished by the Applicant through Its Proposed Exercise of the Power of Eminent Domain to Acquire a Certain Portion of the Lands of George N. Schaefer of Moon Township, Allegheny County, Pennsylvania for the Siting and Construction of Transmission Lines Associated with the Proposed Brunot Island - Crescent Project Is Necessary or Proper for the Service, Accommodation, Convenience, or Safety of the Public.	:	A-2019-3008652

DIRECT TESTIMONY OF MICHAEL LICHTE
ON BEHALF OF ALLEGHENY COUNTY SANITARY AUTHORITY

I. INTRODUCTION

Q. Please state your name and occupation.

A. My name is Michael Lichte, P.E. I am the Manager of Planning at the Allegheny County Sanitary Authority ("ALCOSAN").

Q. Please summarize your educational background and professional experience.

A. My educational background and professional experience are summarized and outlined in Exhibit A. I have over 25 years of experience in the field of civil engineering, focusing

heavily on water and wastewater projects. I have served as the Manager of Planning in the Regional Conveyance Department at ALCOSAN since 2008. The Regional Conveyance Department oversees the day to day operation of approximately 90 miles of Interceptor Sewers and over 300 Regulator Structures.

I am actively involved in the ongoing planning activities associated with the Clean Water Plan, and I oversee planning activities associated with the ACT 537 program. I also manage several interceptor repair and rehabilitation contracts. Prior to joining ALCOSAN, I served as the Director of Engineering and Construction for the Pittsburgh Water and Sewer Authority.

Q. What is your educational background?

A. I received a Bachelor's Degree in Aquatic Environments from Allegheny College in 1986 and a Master of Science in Civil Engineering from the University of Pittsburgh in 1992. I am a licensed professional Engineer in the State of Pennsylvania and a member of the American Society of Civil Engineers and the Water Environment Federation.

Q. Please state on whose behalf you are testifying.

A. I am testifying on behalf of the Allegheny County Sanitary Authority in this proceeding before the Pennsylvania Public Utility Commission ("PUC" or "Commission"). The Allegheny County Sanitary Authority is a political subdivision of the Commonwealth of Pennsylvania with administrative offices located at 3300 Preble Avenue Pittsburgh, Pennsylvania 15233. In 1946, ALCOSAN was created under Pennsylvania's Municipal Authorities Act to design, construct, and operate an interceptor system and treatment plant for residential, commercial, and industrial wastewater. ALCOSAN provides wastewater treatment services to 83 communities, including the City of Pittsburgh.

Q. What is ALCOSAN's interest in this proceeding?

A. ALCOSAN has wastewater facilities that are located along portions of Duquesne Light Company's ("Duquesne") proposed route parallel to Chartiers Creek and further downstream. ALCOSAN has existing and planned facilities in the vicinity of Duquesne's planned transmission route. Given ALCOSAN's need to protect its existing and planned facilities in order to continuously and adequately continuing providing wastewater service, ALCOSAN has a substantial interest in the outcome of this proceeding.

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to explain the factual context and events starting with the Consent Decree which ALCOSAN entered into with the United States Environmental Protection Agency ("EPA") and the adverse impact Duquesne Light Company's ("Duquesne") proposed transmission facilities may have on ALCOSAN's existing and planned wastewater facilities if the PUC approves Duquesne's amended application without modification.

As explained subsequently, whether the proposed transmission facilities will impact ALCOSAN's existing and planned wastewater facilities depends on the specific placement and design characteristics of Duquesne's final project plan. ALCOSAN seeks to collaborate with Duquesne regarding that final project plan to ensure that both organizations can continue to provide safe, adequate, and reliable service to their customers.

Q. Are you sponsoring any exhibits as part of your Direct Testimony?

A. Yes. I am sponsoring the following exhibits:

- Exhibit A (Michael Lichte, P.E., Resume and Biography)
- Exhibit B (GIS Maps Overlaying ALCOSAN's existing and planned facilities with Duquesne's existing and proposed facilities) (Contains Confidential and Critical Energy Infrastructure Information)
- Exhibit C (Preliminary Basis of Design Report, Section 1 – Executive Summary)

Q. How is the remainder of your Direct Testimony organized?

A. The remainder of my Direct Testimony is organized as follows:

- Section II – Provides the background facts regarding the Consent Decree and Modified Consent Decree which ALCOSAN entered into with the Environmental Protection Agency and Commonwealth of Pennsylvania Department of Environmental Protection ("PA DEP") ("Consent Decree").
- Section III – Provides ALCOSAN's understanding of Duquesne's proposal that led to ALCOSAN filing its Petition to Intervene in this proceeding on September 18, 2020.
- Section IV – Highlights potential overlap and concerns between Duquesne's proposed facilities and ALCOSAN's existing and planned facilities around Chartiers Creek and further downstream.
- Section V – Highlights potential overlap and concerns between Duquesne's proposed facilities and ALCOSAN's existing facilities in Sheradan Park.
- Section VI – Provides my recommendation and conclusion.

Q. Please summarize your Direct Testimony and your recommendation in this proceeding.

A. ALCOSAN does not oppose the need for the Project but is concerned that the proposed route of the Project will overlap with ALCOSAN's existing facilities and the ability of ALCOSAN to construct its future wastewater treatment facilities, with potential adverse impacts to safe and reliable operations, the health and safety of the public and the environment. The adverse impact could occur if heavy pads or other transmission equipment are placed above ALCOSAN's underground facilities or if a transmission line is placed directly over an area where ALCOSAN will be using or staging above ground equipment such as large cranes that are needed, at times, for ALCOSAN's construction or maintenance activities. If these details are not adequately coordinated between Duquesne and ALCOSAN, ALCOSAN's ability to fulfill its existing operations and obligations under the Consent Decree could be impaired. ALCOSAN has reached out to Duquesne to discuss ALCOSAN's concerns regarding the proposed route and has relayed ALCOSAN's desire to collaborate and work with Duquesne to ensure that the parties coordinate on the completion of both projects – Duquesne's proposed transmission line and ALCOSAN's planned facilities. ALCOSAN respectfully recommends that the PUC consider ALCOSAN's concerns and Consent Decree obligations in reaching a decision on Duquesne's application. As a condition of approval of Duquesne's application, ALCOSAN requests the PUC to require Duquesne to site its transmission line in a manner that does not interfere with ALCOSAN's existing wastewater facilities or ALCOSAN's planned facilities under the Consent Decree.

II. BACKGROUND ON THE CONSENT DECREE ALCOSAN ENTERED INTO WITH THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY AND PROCEDURAL HISTORY

Q. What is the background of the Consent Decree?

A. In 2019, ALCOSAN submitted its Clean Water Plan ("CWP") to Federal, State, and local regulators in response to requirements set forth in a 2008 Consent Decree. The CWP provides a comprehensive wet weather plan for reducing sewage overflows and attaining water quality (WQ) for the region that includes an Interim Wet Weather Plan ("IWWP") which serves as the basis for an affordable regional solution through 2036. Following CWP submission, ALCOSAN and the regulators filed a Modified Consent Decree on September 19, 2019. On May 14, 2020, the federal court approved a Department of Justice motion which addressed public comments, approved the Clean Water Plan, and entered the Modified CD. To satisfy the requirements of the ALCOSAN Modified Consent Decree, a Basis of Design Report ("BODR," attached hereto as Exhibit C) for the Regional Conveyance Facilities was prepared by the ALCOSAN Preliminary Planning team. The BODR further defines the proposed work for the recommended IWWP Regional Tunnel and Near Surface Conveyance Facilities, and contains design criteria, considerations, and assumptions to refine the project budget and support final design. The BODR submission also includes sections in response to the "Existing Sewer Consolidation/Conveyance System Improvement" report, which response is presented in Section 10.4 of the BODR for the Ohio River Tunnel Segment, Section 11.4 for the Allegheny River Tunnel Segment, and Section 12.4 for the Monongahela River Tunnel Segment.

Q. When did ALCOSAN begin planning the proposed facilities that may be adversely impacted by Duquesne's proposed transmission facilities, should the PUC approve Duquesne's proposal without modification?

A. ALCOSAN has been involved in evaluating and planning the improvement and redesign of ALCOSAN's wastewater facilities since the mid-2000s. ALCOSAN's work has been

ongoing since the initial Consent Decree that was signed in 2008. Among other things, ALCOSAN hired basin planners around 2007-2008. The Preliminary Planning effort for preliminary and conceptual design began in 2017, three years prior to the execution of the Modified Consent Decree. The Preliminary Planning effort (*i.e.*, outside the fence work) focused on developing a Basis of Design Report for the Regional Conveyance Tunnel system and associated consolidation sewers, shafts, regulators, and other appurtenant structures and facilities. Meanwhile, the Basis of Design for the Tunnel Dewatering Pump Station (TDPS) and other Wastewater Treatment Facilities (*i.e.*, inside the fence work) is being completed by the ALCOSAN Wastewater Treatment Plant ("WWTP") Program Manager. To support the development of the Preliminary Planning BODR, extensive alternatives and costing analysis began in 2017 which built upon the findings of the Clean Water Plan. The primary goal of the ALCOSAN Preliminary Planning project effort was to analyze, optimize, and recommend the CSO controls within the framework of the IWWP and Consent Decree in preparation for final design. The BODR further advances the proposed improvements, layouts, concepts, and recommendations summarized in previous ALCOSAN wet weather planning efforts into a 20% preliminary design. An overview map of the Proposed IWWP Regional Conveyance Facilities CSO Controls by the Preliminary Planning team is included in Figure 1-2 of Exhibit C.

III. ALCOSAN'S UNDERSTANDING OF DUQUESNE'S PROPOSAL

Q. What is your understanding of Duquesne's Proposal?

A. ALCOSAN's understanding is that Duquesne's proposed transmission line route, proposed use of its easements, and proposed exercise of the power of eminent domain could impact ALCOSAN's existing and planned wastewater facilities. ALCOSAN also understands that

the PUC's determinations in this proceeding, including approval of the proposed route in the Application, may adversely impact ALCOSAN's existing operations and obligations under a Consent Decree entered into with the EPA and PA DEP. In addition, it is ALCOSAN's understanding that 1) Duquesne's proposed new tower, transmission lines, and related constructions may have easement impacts on ALCOSAN's facilities; 2) Duquesne's proposed transmission siting route may adversely impact the construction of ALCOSAN's planned facilities and obligations in the preliminary basis of design report under the Consent Decree, and 3) Duquesne's proposed future structure locations may overlap with ALCOSAN's existing and future wastewater treatment facilities, with potential adverse impacts to safe and reliable operations, the health and safety of the public and the environment, and ALCOSAN's obligations under the Consent Decree.

Q. Have Duquesne and ALCOSAN both finalized their engineering plans for the projects and determined the exact location of their future facilities?

A. No. Because the exact placement of Duquesne's future facilities and ALCOSAN's future facilities has not been completely finalized, ALCOSAN is highly concerned that the final plans for both ALCOSAN and Duquesne could overlap, especially in light of certain easements and the ability of Duquesne to exercise eminent domain. Specifically, ALCOSAN is concerned that Duquesne could site its transmission lines and pads on ground that is directly above existing wastewater pipes and facilities. Additionally, because ALCOSAN's construction equipment will need a certain level of clearance, ALCOSAN is concerned that the transmission lines could impede the ability of ALCOSAN to use construction equipment to construct its planned facilities.

Q. How do you understand Duquesne's Proposal will likely impact ALCOSAN's existing and planned facilities?

A. The location of the Duquesne's proposed facilities may impact Tunnel and Shaft Construction and ALCOSAN's planned facilities at Crivelli (near Parcel 43-L-130) near Chartiers Creek and the intersection of Chartiers Avenue and West Carson Street. The location of Duquesne's proposed facilities may also impact, limit the access and maintenance to existing facilities in Sheraden Park (through Parcel 43-P-1-0-1). Facilities are shown as being constructed overtop of the ALCOSAN Interceptor Sewer.

Q. Outside of this PUC proceeding, has ALCOSAN reached out to Duquesne to express ALCOSAN's concerns? Please explain.

A. Yes. ALCOSAN contacted the engineering team at Duquesne to express ALCOSAN's concerns, particularly as it relates to the Consent Decree and ALCOSAN's existing and planned wastewater facilities and infrastructure. ALCOSAN has shared documents with Duquesne and requested documents and engineering plans and drawings from Duquesne to enable both parties to understand the extent of overlap of planned facilities and the possible actions that may be taken to mitigate or avoid such overlaps in the interest of public health and safety. Duquesne has provided some information to ALCOSAN outside the PUC discovery process and Duquesne has served responses and requested documents to ALCOSAN's discovery requests in the PUC proceeding.

Q. Does ALCOSAN desire to work with Duquesne to ensure both ALCOSAN and Duquesne can complete their respective projects?

A. Yes. ALCOSAN desires to maintain an ongoing dialogue and collaborative relationship with Duquesne to ensure completion of both projects.

IV. POSSIBLE OVERLAP BETWEEN DUQUESNE'S PROPOSED FACILITIES AND ALCOSAN'S EXISTING AND PLANNED FACILITIES AROUND CHARTIERS CREEK.

Q. Where is there possible overlap between Duquesne's proposed facilities and ALCOSAN's existing and planned facilities?

A. The location of the Duquesne's proposed facilities may impact Tunnel Boring Machine Construction and ALCOSAN's planned facilities at Parcels 43-L-130 and Parcel 43-L-150 near Chartiers Creek and the intersection of Chartiers Avenue and West Carson Street.

Q. Please explain ALCOSAN's proposed Tunnel Boring Machine Construction.

A. ALCOSAN's BODR includes the Ohio River Tunnel (ORT) preliminary design which is based on an 18-foot diameter tunnel that is approximately 24,180 lineal feet or 4.6 miles long. The length of the Chartiers Creek (CC) river crossing is approximately 4,500 lineal feet, and Saw Mill Run (SMR) river crossing is approximately 1,590 lineal feet. The Saw Mill Run Tunnel (SMRT) and Chartiers Creek Tunnel (CCT) are both 14-foot-diameter tunnels. Figure 1-4 of Exhibit C displays the proposed facilities for the ORT segment. A proposed 8-foot-diameter dewatering tunnel is 907 lineal feet and conveys flow from the ORT-O27-DS drop shaft to the dewatering pump station located at the ALCOSAN Wastewater Treatment Plant. A 34-foot diameter work shaft at ORT-O27-DS will need to be constructed to a depth of 154.8 feet. This shaft will be constructed to facilitate connections to the existing system as well as to remove the TBM at the end of Tunnel construction. Constructing this shaft will require the use of cranes and other heavy equipment to support excavation and mining. Following TBM removal, the shaft will be re-purposed as a drop shaft to facilitate wet weather conveyance of flows to the Wastewater Treatment Plant for ultimate treatment and disposal.

Q. How exactly could Duquesne's proposed facilities overlap with ALCOSAN's proposed Tunnel Boring Machine Construction?

A. Huge cranes will be necessary for excavation and removal of rock. ALCOSAN needs to ensure that its cranes during the construction phase have sufficient clearance to operate.

Q. Does ALCOSAN own any property in this vicinity?

A. Yes, ALCOSAN has had longstanding, historical easements in this vicinity, including a Right-of-Way grant from the 1955 that grants ALCOSAN a perpetual right of way for sewer pipelines and necessary connections and appurtenances. ALCOSAN has also been in the process of acquiring two parcels owned by Crivelli Limited Partnerships (Parcels 43-L-130 and Parcel 43-L-150) near Chartiers Creek and the intersection of Chartiers Avenue and West Carson Street. Closing on the sale of the property from Crivelli to ALCOSAN occurred on November 30, 2020. Recently, ALCOSAN learned of easements on the Crivelli property that were recently acquired by Duquesne in October 2020. ALCOSAN is in the process of reviewing those easements to evaluate the impact of those easements on ALCOSAN's planned facilities. ALCOSAN needs to ensure that its cranes during the construction phase have sufficient clearance (from the transmission lines) to operate. The ability of ALCOSAN to carry out its construction depends on the exact siting of Duquesne's transmission lines within its easement. ALCOSAN believes that both Duquesne and ALCOSAN could cooperate and coexist in the same space; however, the ability to do so depends on the exact siting of Duquesne's transmission lines.

Q. Have Duquesne and ALCOSAN discussed the possible overlapping facilities?

A. Yes. Some limited and very preliminary discussion has occurred.

V. POSSIBLE OVERLAP BETWEEN DUQUESNE'S PROPOSED FACILITIES AND ALCOSAN'S EXISTING FACILITIES AT SHERADAN PARK.

Q. Beyond Chartiers Creek, is there any other possible overlap of facilities?

A. Yes, near Sheraden Park (Parcel 43-P-1-0-1, which is land and property owned by ALCOSAN). Facilities are shown as being constructed overtop of ALCOSAN's existing Chartiers Creek Interceptor in Sheraden Park.

Q. Does ALCOSAN have existing sewer lines and facilities in Sheradan Park in Pittsburgh?

A. Yes. ALCOSAN's existing Chartiers Creek Interceptor Sewer flows through Parcel 43-P-1-0-1, which is owned by ALCOSAN.

Q. What are Interceptor Sewer flows?

A. An Interceptor Sewer is a major sewer conveyance line that intercepts flow from municipal trunk lines and transports the sewage to the Wastewater Treatment Facility for treatment.

Q. Is Duquesne proposing transmission facilities in the vicinity of ALCOSAN's existing sewer lines in Sheradan Park?

A. Yes. It is my understanding that Duquesne may be proposing to locate certain transmission lines and pads over or near ALCOSAN's existing sewer lines in Sheradan Park.

Q. What are your concerns with Duquesne's proposed facilities in Sheraden Park?

A. ALCOSAN is concerned about ongoing access for operation, cleaning, bypass pumping, and maintenance. ALCOSAN is also concerned about the proposed foundations and pads potentially being placed near or on top of existing interceptor facilities. Without detailed

drawings of foundations or pads, ALCOSAN is concerned that the sewer may be point loaded or undergo settlement due to dead and live loads that are currently not defined. In other words, ALCOSAN has not seen any detailed foundation plans from Duquesne and ALCOSAN has structural concerns with the proposed use of foundations or pads.

Q. Have Duquesne and ALCOSAN discussed the possible overlapping facilities?

A. Yes.

Q. How have Duquesne and ALCOSAN agreed to address these overlaps?

A. Some limited and preliminary discussions have occurred.

VI. RECOMMENDATION

Q. In your opinion, how should the PUC address ALCOSAN's concerns?

A. As discussed earlier, ALCOSAN does not oppose the need for Duquesne's project. As a municipal utility, ALCOSAN understands the importance of providing safe and reliable service to its customers. ALCOSAN also understands the need for a utility to upgrade its facilities. At this time, ALCOSAN does not believe that the general transmission siting route proposed by Duquesne needs to be altered. However, ALCOSAN's review of Duquesne's most recent plans indicate that Duquesne's proposal could overlap and interfere with ALCOSAN's existing and planned facilities near Chartiers Creek as well as ALCOSAN's facilities in Sheradan Park. Therefore, as a condition of the PUC's approval of Duquesne's amended application, ALCOSAN requests the PUC to require Duquesne to site its transmission line in a manner that does not interfere with ALCOSAN's existing wastewater facilities or ALCOSAN's planned facilities under the Modified Consent Decree and Preliminary Basis of Design Report (Exhibit C).

Q. Does this conclude your testimony?

A. Yes. However, I reserve the right to amend or update my testimony should new information become available in this proceeding.

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Application of Duquesne Light Company filed Pursuant to 52 Pa. Code Chapter 57, Subchapter G, for Approval of the Siting and Construction of the 138 kV Transmission Lines Associated with the Brunot Island - Crescent Project in the City of Pittsburgh, McKees Rocks Borough, Kennedy Township, Robinson Township, Moon Township, and Crescent Township, Allegheny County, Pennsylvania.	:	A-2019-3008589
Application of Duquesne Light Company under 15 Pa.C.S. § 1511(c) for a Finding and Determination That the Service to be Furnished by the Applicant through Its Proposed Exercise of the Power of Eminent Domain to Acquire a Certain Portion of the Lands of George N. Schaefer of Moon Township, Allegheny County, Pennsylvania for the Siting and Construction of Transmission Lines Associated with the Proposed Brunot Island - Crescent Project Is Necessary or Proper for the Service, Accommodation, Convenience, or Safety of the Public.	:	A-2019-3008652

EXHIBITS
OF
MICHAEL LICHTE

ON BEHALF OF THE
ALLEGHENY COUNTY SANITARY AUTHORITY

DECEMBER 9, 2020

Exhibit A

Docket Nos. A-2019-3008589 and A-2019-3008652

BIOGRAPHY

Michael Lichte, P.E.
Manager of Planning

Mike Lichte, has been in his current position as Manager of Planning in the Regional Conveyance Department at ALCOSAN since 2008. The Regional Conveyance Department oversees the day to day operation of approximately 90 miles of Interceptor Sewers and over 300 Regulator Structures.

Mike's efforts include the current, on-going planning activities associated with the regional wet weather control plan. In addition, Mike oversees planning activities associated with the ACT 537 program and manages several interceptor repair and rehabilitation contracts.

Mike has over 25 years of experience in water and wastewater projects. In his former position with the Pittsburgh Water and Sewer Authority, Mike was the Director of Engineering and Construction.

Mike received a Bachelor's Degree in Aquatic Environments from Allegheny College in 1986 and a Master of Science in Civil Engineering from the University of Pittsburgh in 1992. Mike is a licensed professional Engineer in the State of Pennsylvania and a member of the American Society of Civil Engineers and the Water Environment Federation.

Resume

Michael Lichte, P.E., M.ASCE
4119 Gladstone Street, Pittsburgh, PA 15207

EDUCATION

- M.S. in Civil Engineering, 1990-1992, University of Pittsburgh, Pittsburgh, PA
- B.S. in Aquatic Environments, 1982-1986, Allegheny College, Meadville, PA

EMPLOYMENT

Manager of Planning, 2008 to 2019, Allegheny County Sanitary Authority (ALCOSAN)

Managed Preliminary Planning Consultant tasked with developing Basis of Design documents for the ALCOSAN Clean Water Plan. Management of three Basin Planning consultants whose task was to develop a planning level model and conduct alternatives analysis for the Clean Water Plan. Managed the Authority's Chapter 94 Planning Module Review Program. Prepared and managed numerous contracts for over 30 flap gate replacements. Cured in Place Pipe Lining of over four miles of Saw Mill Run Interceptor. Replacement of the PLC and Level control panels at five sewage Pump Stations.

Director of Engineering and Construction, 2005-2008, Pittsburgh Water and Sewer Authority (PWSA)

Managed a $50 million capital program and the distribution of funds to individual capital projects. Managed a Department of 18 engineers, managers and administrative support staff.

Acting Executive Director, 2007 to 2008, Pittsburgh Water and Sewer Authority (PWSA)

On an interim basis, directed operations of the PWSA for the City of Pittsburgh. Management of a system of 83,000 customer accounts with revenues exceeding $120 million. Coordinated and participated with the Authority Board and Mayors Office on water and sewer issues facing the City. Oversaw day to day operations and customer service as well as ongoing O&M and capital projects. Oversaw budgeting for ongoing operations as well as bond issuance for capital projects. Negotiated bulk water and sewer rates with customer municipalities. Prepared for and conducted Board meetings for the Pittsburgh Water and Sewer Authority.

Senior Project Management Engineer, 2005, Pittsburgh Water and Sewer Authority (PWSA)

Managed a variety of capital projects for the PWSA. Participated with local development agencies such as the Urban Redevelopment Authority, and the Sports and Exhibition Authority on joint capital construction projects. Managed engineering consultant budgets, developed capital contracts and monitored project schedules.

Environmental Compliance Coordinator, 1999-2004, Pittsburgh Water and Sewer Authority (PWSA)

Prepared an NPDES Permit for the City of Pittsburgh Water Treatment Plant. Participated in Consent Order and Agreement Negotiations on behalf of the City of Pittsburgh and PWSA concerning Combined and Sanitary Sewage Overflows. Managed capital projects for the PWSA including the Nine Mile Run Trunk Sewer rehabilitation (Open trenching and CIPP) and Streets Run Trunk Sewer Rehabilitation

(CIPP). Repair and Gunite of a 120 inch Sewer underneath PNC Park. Managed Nine Mile Run CSO and Sewer Improvement Study.

Environmental Health Engineer, 1996-1999, Allegheny County Health Department (ACHD)

Performed regulatory oversight of drinking water, wastewater and solid waste facilities within Allegheny County. Performed routine treatment plant and facility inspections. Review of Chapter 94 Wasteload Management Reports, Act 537 Facility Plans and Corrective Action Plans (CAPs).

Project Engineer, 1996, Advanced Technology Systems (ATS), Monroeville, PA

Project Engineer, 1994-1995, Universal Systems & Technology, Inc., Fairfax, VA

Hydrologist 1993-1994, U.S. Geological Survey, Water Resources Division, Harrisburg, PA

Research Assistant 1990-1992, University of Pittsburgh, School of Engineering, Pittsburgh, PA

Hydrologic Technician 1987-1990, U.S. Geological Survey, Water Resources Division, Pittsburgh, PA

Biological Aide 1986-1987, U.S. Army Corp of Engineers, Pittsburgh District, Warren, PA

Professional Achievements: Licensed Professional Engineer in the Commonwealth of Pennsylvania

Memberships: American Society of Civil Engineers (ASCE), Water Environment Federation (WEF)

Publications/Proceedings

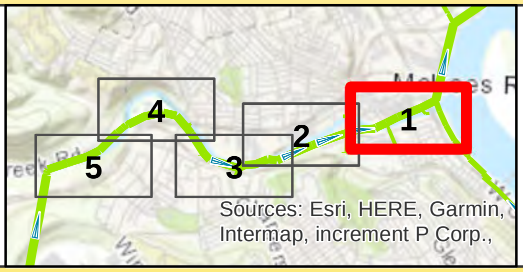
- An Integrated Asset Management Platform to Support Sewer Regionalization in Allegheny County, Pennsylvania; Michael Lichte, P.E., ALCOSAN, Andrew Burton, AECOM; WEFTEC October 2017.
- The City of Pittsburgh's Largest Asset Management Initiative and Condition Assessment Program Ever. M. Lichte, R. Rudolph, Hazen and Sawyer; B. Hutton, J. Stoss, Pittsburgh Water and Sewer Authority Water Environment Federation (WEF) Collection Systems 2008 Conference Proceedings
- Development of Manhole and Catch Basin Inlet Condition Assessment Criteria for the City of Pittsburgh's Collection System, Roy S. Rudolph, Hazen and Sawyer, P.C.; Lauren E. Terpak, Metcalf & Eddy, Inc.; Robert Hutton, Michael D. Lichte, Pittsburgh Water and Sewer Authority, Water Environment Federation WEF Collection Systems 2008 Conference Proceedings
- Quality Control and Assessment of the Calibration of a Model of the City of Pittsburgh Sewer System. J. M. Maslanik, Chester Engineers; M. D. Lichte, B. M. Body, R. Pinheiro Water Environment Federation, WEF Collection Systems 2008 Conference Proceedings

Exhibit B

PUBLIC VERSION

DLC Notice of Filing Brunot Island with DLC Crescent Transmission Line

Page 1



Sources: Esri, HERE, Garmin, Intermap, increment P Corp.,

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1 inch = 200 feet

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Feet

- DLC ENS Area
- DLC Transmission Mains
- Existing Access Shaft
- Existing Regulator
- Existing Manhole
- Existing Outfall
- Proposed Drop Shaft
- Proposed Ohio River Tunnel Alignment
- Proposed Consolidation Sewer
- Proposed Tunnel Adit
- ALCOSAN Sewers
- Existing Municipal Sewers

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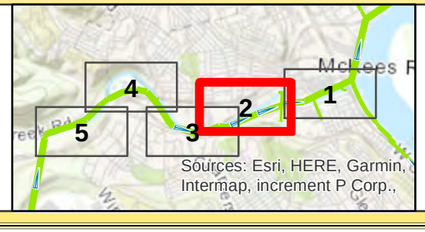
alcosan
allegheny county sanitary authority

DLC Notice of Filing Brunot Island with DLC Crescent Transmission Line

Page 2



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- Existing Municipal Sewers

PUBLIC

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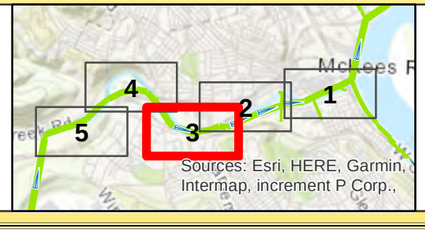
DLC Notice of Filing Brunot Island with DLC Crescent Transmission Line

Page 3



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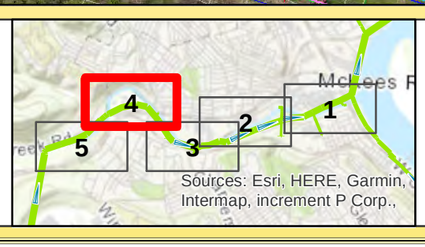
DLC Notice of Filing Brunot Island with DLC Crescent Transmission Line

Page 4



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DLC Notice of Filing Brunot Island with DLC Crescent Transmission Line

Page 5

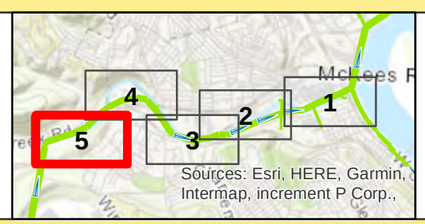

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Exhibit C

Docket Nos. A-2019-3008589 and A-2019-3008652

1.0 EXECUTIVE SUMMARY

1.1 INTRODUCTION

In 2019, ALCOSAN submitted its Clean Water Plan (CWP) to Federal, State, and local regulators in response to requirements set forth in a 2008 Consent Decree (CD). The CWP provides a comprehensive wet weather plan for reducing sewage overflows and attaining water quality (WQ) for the region that includes an Interim Wet Weather Plan (IWWP) which serves as the basis for an affordable regional solution through 2036. Following CWP submission, ALCOSAN and the regulators lodged a Modified CD on September 19, 2019. On May 14, 2020, the federal court approved a Department of Justice motion which addressed public comments, approved the Clean Water Plan, and entered the Modified CD. To satisfy the requirements of the ALCOSAN Modified CD for the Preliminary Basis of Design Report (BODR) for the Regional Conveyance Facilities of the IWWP tunnels and near surface facilities, this report has been prepared by the ALCOSAN Preliminary Planning team. This BODR further defines the proposed work for the recommended IWWP Regional Conveyance Facilities, and contains design criteria, considerations, and assumptions to refine the project budget and support final design. This BODR submission also includes sections in response to the "Existing Sewer Consolidation/Conveyance System Improvement" report requested in Appendix Z. This is presented in Section 10.4 of the BODR for the Ohio River Tunnel Segment, Section 11.4 for the Allegheny River Tunnel Segment, and Section 12.4 for the Monongahela River Tunnel Segment. These sections will constitute the 'report' under the same cover as this BODR. The Preliminary Planning effort began in 2017, three years prior to the modified Consent Decree being entered. The Preliminary Planning effort focused on the Regional Conveyance Tunnel system and associated consolidation sewers, shafts, regulators, and other appurtenant structures and facilities while the Basis of Design for the Tunnel Dewatering Pump Station (TDPS) is being completed by the ALCOSAN WWTP Program Manager. This effort included the following activities to satisfy the requirements of the CWP and Modified CD:

- Value Engineering Review of the alternatives related to the potential expansion of the main pumping station from 480 million gallons per day (MGD) to 600 MGD
- Determination of the proposed regional tunnel extents, alignment, and proposed sizing
- Analysis of tunnel dewatering and wet weather pump station alternatives
- Geotechnical boring investigations and assessments
- Property evaluation and assessment
- Proposed regional tunnel system hydraulics and surge analysis
- Flow management and operational strategies, including the following:
    - Locations and feasibility of the regional tunnel cross-connections
    - Cost-effective improvements to optimize the existing proposed regional tunnel storage and conveyance capacities
    - New and existing proposed regional tunnel Operation and Maintenance (O&M) and dual tunnel system optimization strategies
- Evaluation of construction packaging and project delivery alternatives
- Preparation of a geotechnical data report (GDR)

- Development of a consolidation sewer and tunnel project schedule
- Proposals for solids and floatables control at consolidation sewer combined sewer overflow (CSO) outfall locations
- Consideration of the flow reduction plans submitted by the Customer Municipalities in early 2020 in response to an information request to determine whether elements of the proposed conveyance system improvements could be eliminated or reduced in size
- Identification of potential future flow reductions that should be evaluated as part of the adaptive management provisions of the Modified CD and ALCOSAN's goal to maximize the use of cost-effective source reduction in coordination with Customer Municipalities

The results of these activities are detailed in various sections of the BODR and summarized in this Executive Summary. To support the development of the BODR, extensive alternatives and costing analysis began in 2017 which built upon the findings of the Clean Water Plan. The primary goal of the ALCOSAN Preliminary Planning project effort was to analyze, optimize, and recommend the CSO controls within the framework of the IWWP and CD in preparation for final design. This BODR further advances the proposed improvements, layouts, concepts, and recommendations summarized in previous ALCOSAN wet weather planning efforts into a 10% to 20% preliminary design. An overview of the Proposed IWWP Regional Conveyance Facilities CSO Controls by the Preliminary Planning team is included in **Figure 1-2**. This report is prepared in coordination with the Preliminary Planning 20% Drawings included as **Appendix A**. More context on the Preliminary Planning project background, evaluations performed by the Preliminary Planning team, proposed changes to the IWWP, and recommendations for regional conveyance facilities improvements are summarized in **Section 2** of the BODR. A separate report will be submitted to formally propose revisions to the IWWP to meet the relevant requirements in Paragraph 67 of the Modified CD.

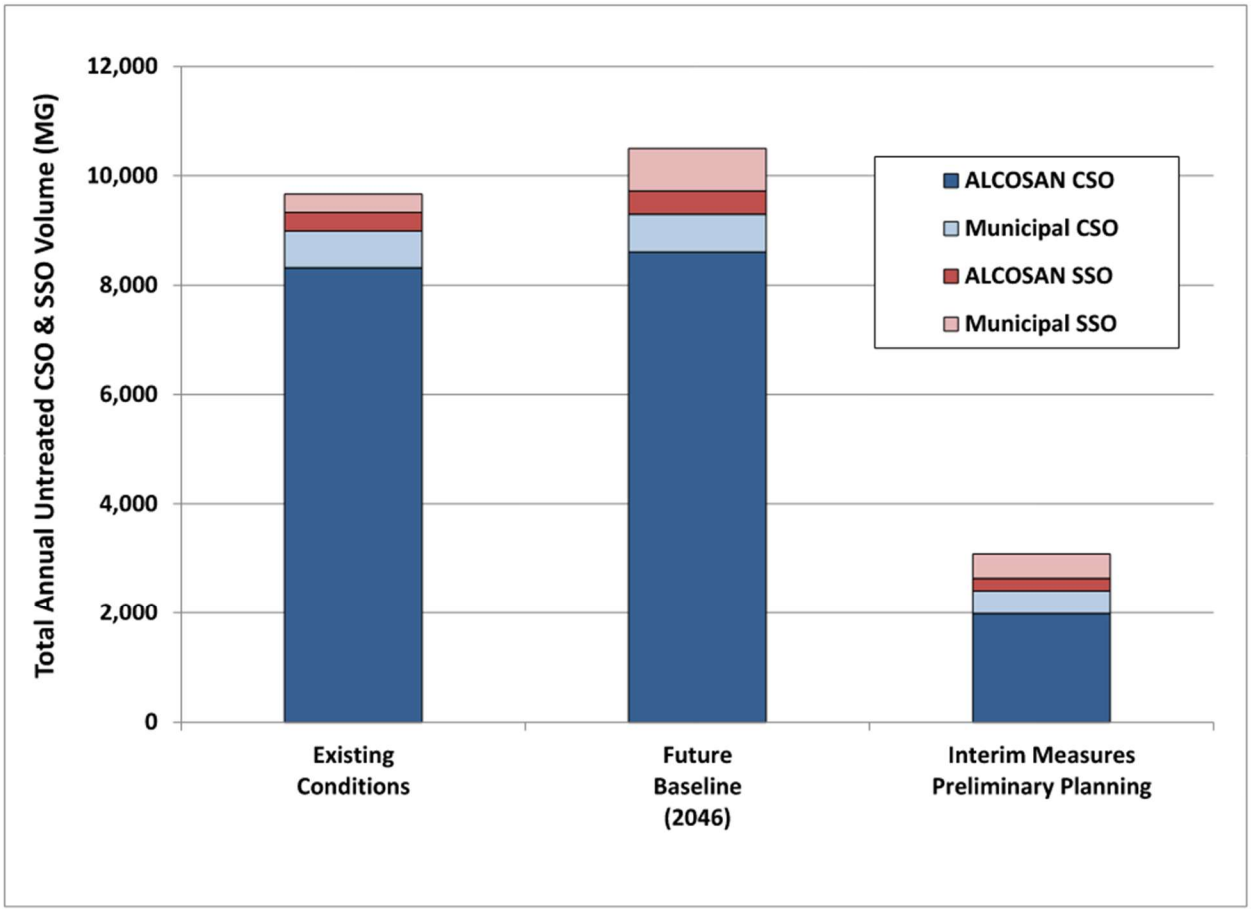
1.2 SYSTEMWIDE HYDRAULIC AND OPERATIONAL DESIGN CONSIDERATIONS

Section 3 provides the hydraulic basis of design for the proposed structures as well as the system overflow performance criteria that was used to develop the preliminary design basis. Annual CSO volume is estimated based on hydrologic and hydraulic (H/H) modeling of ALCOSAN's Typical Year (TY) rainfall for Future Baseline conditions and the IWWP scenarios to quantify CSO control performance. The approved CWP, also known as the Selected Plan, is based on a CSO control demonstration approach to not preclude attainment with WQ standards in ALCOSAN receiving waters during the TY, while SSOs are controlled to a 2-year level of control. The approved IWWP represents a subset of the Selected Plan and was estimated to result in less than 2,700 million gallons (MG) of CSO remaining during the TY. In addition, specific outfalls in the ALCOSAN collection system discharge directly into sensitive areas as defined in Appendix C of the Modified CD. These outfalls are required to be fully controlled in the TY, except for A-67 which is allowed one activation in the TY.

Peak TY flow rates from the Systemwide Selected Plan model were used to develop design flows for the sizing of regulators, inflow control gates/coarse screens, and consolidation sewers. The flow rates from this model include proposed municipal improvements and future wastewater flow projections to reflect the year 2046 conditions. The 5-year, 24-hour design storm was selected to evaluate the performance of proposed regulator structures, drop shafts, and tunnel gate operations for an event greater than the typical year storm events.

Figure 1-1 presents the modeled annual CSO and SSO volumes after implementation of the revised IWWP, projecting the same or better system-wide performance as the unmodified IWWP. The total annual untreated ALCOSAN and municipal CSO discharge volume is estimated to decrease from 9.3 to 2.5 BG, resulting in a total reduction of nearly 6.8 BG. The revised IWWP also provides equivalent performance regarding discharges to sensitive areas.

Figure 1-1: Annual Overflow Volume Performance



Wet weather flow conveyed from proposed regulators via the near surface consolidation sewers will be conveyed to the deep regional tunnels through drop shafts. Drop shaft sizing is based on the Peak TY flows at each location. Several acceptable types of drop shaft designs will meet the hydraulic needs at

each shaft location. The greatest cost benefit may be realized if the final drop shaft type selection is based on a more detailed analysis of the criteria included in this section, taking into account additional site-specific information to be gathered during final design. Near surface consolidation sewers convey wet weather flow from proposed regulators to the proposed drop shafts. Consolidation sewers were generally sized with a full pipe capacity of at least 115% of the peak TY design flow to account for head losses.

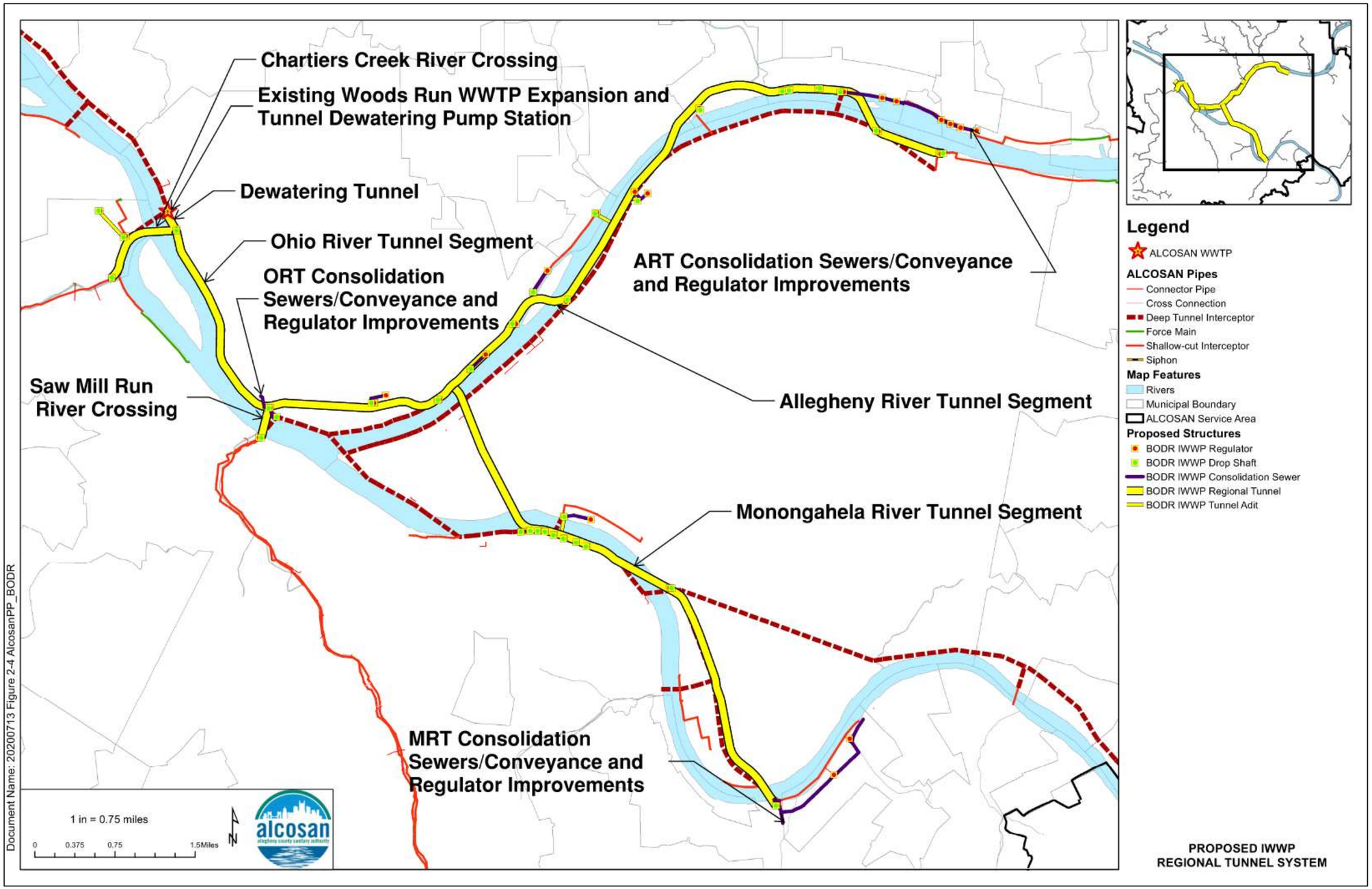
Simulations were performed with 14-, 16-, and 18-foot-diameter tunnels to determine conveyance and storage capacity during a selected typical year storm event, and the 5-year, 24-hour design storm event. In general, the analysis shows that the 14-foot-diameter tunnel has insufficient conveyance capacity and is therefore not recommended. A 16-foot diameter tunnel required active control for all connections into the tunnel. This alternative provides limited flexibility for control of additional outfalls in the future if needed. An 18-foot-diameter tunnel requires active control only at selected outfalls while providing more flexibility for control of future flows and improved filling characteristics. Based on the transient simulations, the 18-foot-diameter tunnel is being used as the basis of design for the proposed regional tunnel system except for the 14-foot-diameter Chartiers Creek and Saw Mill Run Tunnels. Additional improvements should be considered to reduce peak flow rates into the tunnel, such as source reduction/green infrastructure (GI), particularly along the Allegheny River Tunnel (ART). Since the Monongahela River Tunnel (MRT) has significantly fewer high peak rate outfalls, it is recommended that a 16-foot-diameter tunnel be fully evaluated for the MRT by the final designer.

Under normal operating conditions, the TDPS will only operate during wet weather conditions. The TDPS will have a peak pumping capacity of 120 MGD and will start pumping as flows are delivered to the pump station. The tunnel is a dynamic storage tunnel which means that flow is anticipated to be pumped out of the tunnel during wet weather events continually and not just after a storm event has ended. Therefore, the TDPS capacity and operation have a significant impact on the sizing of the proposed regional tunnel. The TDPS will dewater the remaining wet weather volume captured in the tunnel within 48 hours from the end of tunnel inflow. As discussed in **Section 2**, at the time of this report, ongoing coordination with the ALCOSAN Wastewater Treatment Plant (WWTP) Program Manager (PM), who is responsible for the basis of design of the TDPS, on the design parameters and operations of the TDPS is continuing. Additional coordination between the TDPS design team will be required throughout the design of the proposed regional tunnel.

To support maintenance of the existing interceptor system, the proposed tunnel system has been configured to divert dry weather flow from the proposed pick up points to the regional tunnel. During this maintenance mode of operation, this procedure will reduce flow to the existing interceptor and facilitate O&M activities on the existing interceptor system. Additional O&M assumptions and protocols for the proposed wet weather system are reported in **Section 3**. This includes the O&M needs for the regional tunnel drop shaft design to meet hydraulic and ventilation performance of the shaft to convey

wet weather flow to the tunnel; tunnel inflow gate operation and surge and transient condition mitigation analyses; and odor control considerations for the proposed tunnel and consolidation sewers. The control of sediment and grit was also analyzed in terms of management in the proposed tunnel and how to accommodate maintenance of sediment deposits in the existing deep tunnel interceptor. The recommended approach is to provide grit management of the existing and proposed systems independently, while allowing for the intermittent cross connection of flows between the two for maintenance purposes. However, due to site constraints, grit management for select DSI outfalls should be evaluated to determine if proposed regulators are capable of incorporating grit management without the need for separate grit pits. The proposed approach includes two access shafts on the existing interceptor to provide cleaning of areas of significant debris deposition, 11 access shafts on the proposed tunnel, 12 preventive near surface grit pits, and the opportunity for intermittent diversion of dry weather flow from the existing interceptor to the proposed tunnel at each IWWP drop shaft location.

Figure 1-2: Proposed IWWP Regional Conveyance Facilities CSO Controls



1.3 SYSTEMWIDE OVERVIEW OF GEOTECHNICAL CONDITIONS

Section 4 includes an overview of the subsurface conditions in the vicinity of the proposed IWWP Regional Conveyance Facilities tunnels, as well as a summary of the geotechnical investigations conducted by the Preliminary Planner to support the preliminary design of the IWWP tunnel facilities.

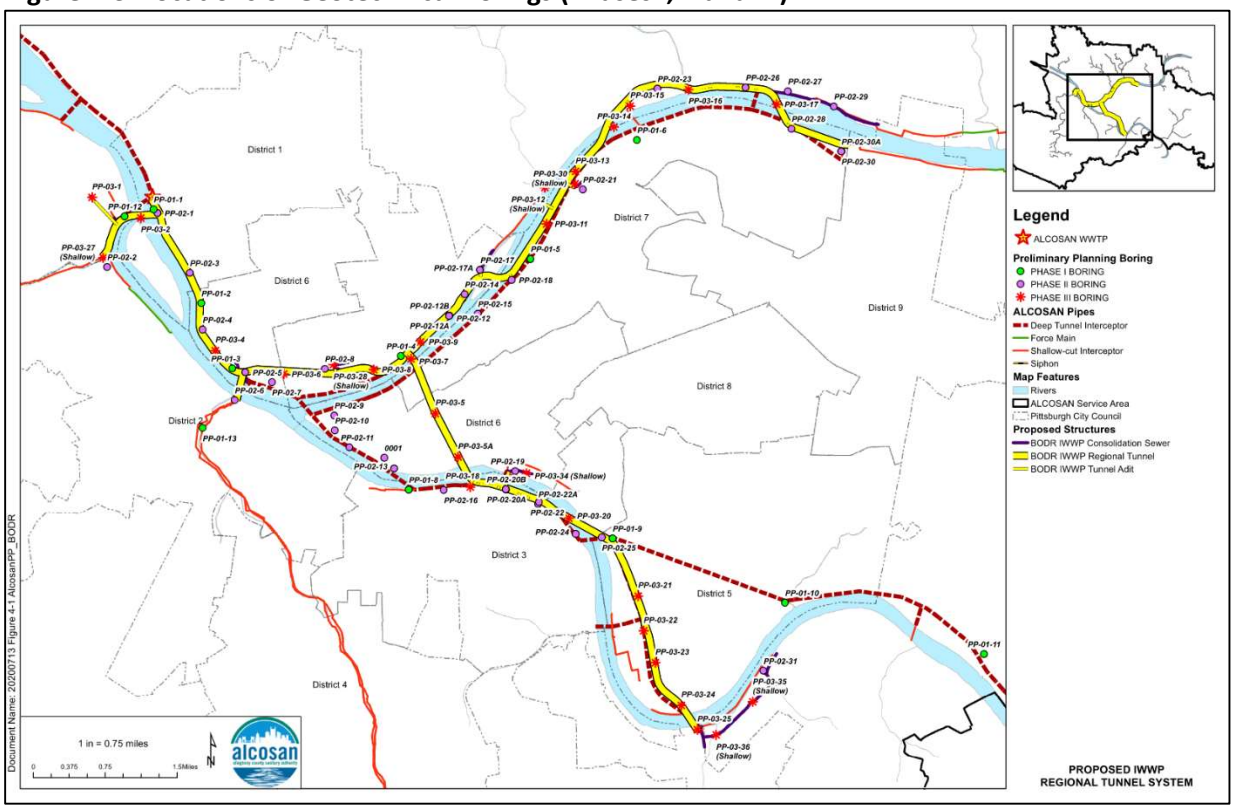
The Preliminary Planning team completed two comprehensive geotechnical investigations to support the preliminary design of the proposed regional tunnel. These efforts were preceded by an initial 12 geotechnical borings that represented Phase I of the program, completed in 2018 by the Clean Water Program Director. Phase II was completed by the Preliminary Planner and consisted of 32 borings, while the Phase III program consists of 30 borings. Selection of the surface locations for the Phase II and Phase III borings was based on the information obtained in the prior phase(s) and also strategic locations to obtain data for the alignment development for the proposed tunnels. Locations of all three phases of the geotechnical boring program are displayed in **Figure 1-3**. The vertical depth of the deep borings was determined primarily based on the proposed depth of the tunnel which is approximately 100 to 300 feet. The shallow borings conducted around proposed near surface regional conveyance infrastructure were typically 60 to 70 feet deep. Soil and rock properties data obtained from the geotechnical investigation formed a refined geologic stratigraphy for areas of the proposed tunnel. Select boreholes also had observation wells and vibrating wire piezometers (VWPZ) installed to collect data on the groundwater elevations. Additional testing included Acoustic Televiewer (ATV), Optical Televiewer (OTV) downhole geophysical testing, and Packer Testing at select boring locations for Phases II and III.

In addition to the Preliminary Planning investigation, several historical projects in the area provided information on completed geotechnical investigations and have data available for reference. The original ALCOSAN Interceptor system, constructed in the late 1950s, consisted of deep tunnel and shallow cut conveyance pipe ranging in size from 36 to 120 inches. Borings from this original construction cover many of the same areas as the investigations for this project, however, all these borings were terminated before reaching the proposed depths of the new alignment. An "Existing Deep Tunnel Construction Summary Report" was completed in 2018 by ALCOSANs Program Director and provides valuable insight of the tunneling challenges during the original construction of the existing ALCOSAN interceptor system. This data was used to help fill in the gaps between borings and help further classify rock in the project area. Recent projects, such as the North Shore Connector Tunnel and State Route 28 improvement, provide more detailed information within a smaller project area. Most of the historical borings were not drilled to depths within the tunnel horizon, however, this data is still useful for soil data as well as further understanding the top of rock profile along the tunnel alignment.

The results of the Phase 1 subsurface exploration, field testing, and laboratory testing programs for the planning and design of the Wet Weather Program is included in **Appendix B** of this report. Details of the procedures used for conducting field work and laboratory testing as well as the results of the subsurface investigations and laboratory testing completed for this project are presented in a report entitled, *"Task*

4.2 Preliminary Planning Geotechnical Data Report" hereinafter referred to as the GDR and included as **Appendix E**. Further discussion of the engineering properties of the soil and rock, in addition to their impacts on design and construction, can be found in the Geotechnical Design Memorandum (GDM) included as **Appendix F**.

Figure 1-3: Locations of Geotechnical Borings (Phases I, II and III)



1.4 SYSTEMWIDE OVERVIEW OF ENVIRONMENTAL CONDITIONS

Implementation of the IWWP relies on the ability to acquire and access a variety of properties within the corridors of the proposed regional tunnel system and near surface consolidation systems. In support of potential property access needs for IWWP construction, an environmental screening (ES) was conducted for the IWWP tunnel corridor along the Allegheny, Monongahela, and Ohio Rivers. **Section 5** summarizes the initial environmental surveys completed to evaluate the historical uses of properties within the proposed footprint of the IWWP tunnel corridor and determine recognized environmental conditions (RECs) on those properties. The screening also included the corridors along the supplemental conveyance lines and supporting structures in the vicinity of the deep tunnel alignment, including the sites proposed for interim drop shaft locations that were identified for the project at the time of the analysis. A full summary of the ES results is documented in the *"Environmental Screening Report (ESR)*," dated May 8, 2018 and "*Environmental Screening Addendum Report,"* dated March 2020 by Rhea Engineers and Consultants, Inc. included in **Appendix G**.

The objective of the ES was to identify RECs along the project corridor, as well as potential RECs from offsite sources that may adversely affect the project area and require additional investigation or study. A summary of all sites of concern is include in **Section 5**. Most of the REC sites are adjacent to or in the areas of a proposed excavation-related activity (e.g., drop shaft locations). Based on the increased amount of subsurface disturbance anticipated during these activities, a greater likelihood of encountering subsurface contamination exists. The site reconnaissance performed as part of the ES did not identify additional sites of concern. No indications of large-scale, previous spills, or hazardous material usage or disposal were identified within the project area. No pits, ponds, lagoons, or other indications of buried or large-scale hazardous material were identified during reconnaissance of the project area.

Site-specific interviews and regulatory file review were not completed as part of the scope of the ES effort. ALCOSAN has retained the assistance of two property consultants to conduct environment surveys as well as provide all services in conjunction with the acquisition of property. The property acquisition effort will be carried forward into final design. The findings of subsequent interviews and regulatory file review may alter the ranking or REC classification of a site.

As portions of the IWWP advance, it is recommended that the ES be reevaluated, and subsequent Phase I Environmental Site Assessments be completed prior to property acquisition. The applicable American Society for Testing and Materials (ASTM) standard (E 1527-13) requires a reevaluation of site conditions if a Phase I report (Environmental Site Assessment) is older than 180 days (6 months). As the program moves into construction, final design documents are recommended to contain language to address how construction would be impacted in the event that potentially hazardous materials are encountered, an odor is identified, or significantly-stained soil is visible. Documents should reference and/or follow all applicable regulations regarding discovery and response for hazardous materials encountered during the construction process.

1.5 ELECTRICAL POWER REQUIREMENTS

Section 6 provides considerations for electrical power requirements of the Tunnel Boring Machine(s) (TBM) temporary power feeds as well as for any active control gates recommended in the system. Temporary power requirements for the TBM assume each tunnel segment will be constructed in a single drive. The temporary power requirement will be dictated by the TBM excavation needs. The expected electric service needs for each launch site is included in **Table 1-1**. The final designer shall confirm the electric service needs, available capacity, and requirements to bring the required power to the site.

Table 1-1: TBM Site Expected Temporary Electrical Service Needs	
Tunnel Segment	Preliminary Temporary TBM Power Estimate
Ohio River Tunnel (ORT)	8,100 kilovolt-amp (kVA)
Allegheny River Tunnel (ART)	8,500 kVA
Monongahela River Tunnel (MRT)	8,500 kVA

Operation of the tunnel system requires inflow control gates at selected connection points to the tunnel that close when the level in the tunnel reaches certain critical elevations. These gates prevent the tunnel from overfilling and provide protection from surge propagation by ensuring the tunnel fills from the downstream end of the system. Level sensors will be installed at key locations along the tunnel alignment to monitor the levels within the tunnel and send signals to the control gates to close once critical elevations are exceeded. Following construction of the proposed tunnel, power will be required for automated gates and gate control structures. The control gates will be hydraulically operated; however, the hydraulic pumps will require power. A hydraulic power system should be supplied as a packaged unit including the pumps, gate actuators, power, and control panels. Gate control structures and level sensor controls will be powered with a 240/120-volt, 1-phase, secondary metered electrical service.

1.6 MECHANICAL DESIGN

Section 7 includes an overview of the proposed mechanical systems for the IWWP Regional Conveyance Facilities, including gates, control vaults, and screening facilities. Inflow control gates will be stainless steel slide gates sized to the diameter of the proposed consolidation sewer conveying flow to the regional tunnels in the regulator structures. Control vaults are recommended at selected locations throughout the proposed tunnel to house the power, mechanical, and control devices necessary for monitoring and remote operation of the system. The vaults are proposed to be below grade, constructed of cast in place (CIP) concrete, and will be equipped with watertight hatches or floor doors. The proposed coarse screens in the regulator structures are to be manually cleaned bar racks. The bar rack opening sizing is a balance between protecting the downstream tunnel from large, heavy debris that will be more difficult to remove from the tunnel, and not creating a nuisance operational condition with potential blinding of the screens during wet weather. A 6-inch opening dimension is recommended.

1.7 INSTRUMENTATION AND CONTROL

Section 8 summarizes the instrumentation and control standards and design assumptions used for the IWWP Regional Conveyance Facilities tunnel monitoring and control gate operation. Monitoring and transfer of systemwide data necessary for the control of each gate structure will be provided through ALCOSAN's Supervisory Control and Data Acquisition (SCADA) system. Two bubbler level transmitters, each one with a dip tube, will provide tunnel water level elevations at specific drop shaft locations along the tunnel alignment. The SCADA system shall transmit the tunnel levels to all gate control sites. The

tunnel levels would then be transmitted from the control gate Programmable Logic Controller (PLC) to the WWTP. Once a critical high-level elevation (preset "close" level) from any one of the four level sensors is exceeded, the PLC will send a signal to the all control gates to close. See **Section 3.3.2** for the preset "close" and "open" set points.

1.8 RISK MANAGEMENT

Section 9 contains an overview of the risk management process for identification, evaluation, risk register scheduling, and implementation and organization for potential risks that could impact design, construction, and operation of the IWWP tunnel system. The risk management process for the IWWP Regional Conveyance Facilities Improvements has been prepared through a review of comparable programs within the industry and previous ALCOSAN project risk registers. The program-specific guidelines developed for the IWWP Regional Conveyance Facilities improvements outlined in the BODR include Identification and Organization of Risks, Risk Assessment Guidelines, Risk Management Strategies, and Sample Risk Control Measures.

Categories of risks for the IWWP Regional Conveyance Facilities improvements are included in **Section 9** along with defining the general areas of impact for the risk. A Severity of Impact score is assigned for each risk as well as identifying a Likelihood of Occurrence. A risk ranking score is calculated by taking the product of the scores for Likelihood of Occurrence and Severity of Impact. This ranking is used in conjunction with the risk profile to determine the risk management strategy and any control strategies within the risk register, and to prioritize the program risks. A series of sample risk control measures are identified in **Section 9,** as well as the basis for the initial risk register. A preliminary planning level risk register applicable to the tunnel systems has been prepared and can be found in **Appendix H**. The risk register should be updated by the final designers as the design progresses. It will also be important that the risk register is maintained and updated all the way through the construction phase of each tunnel segment.

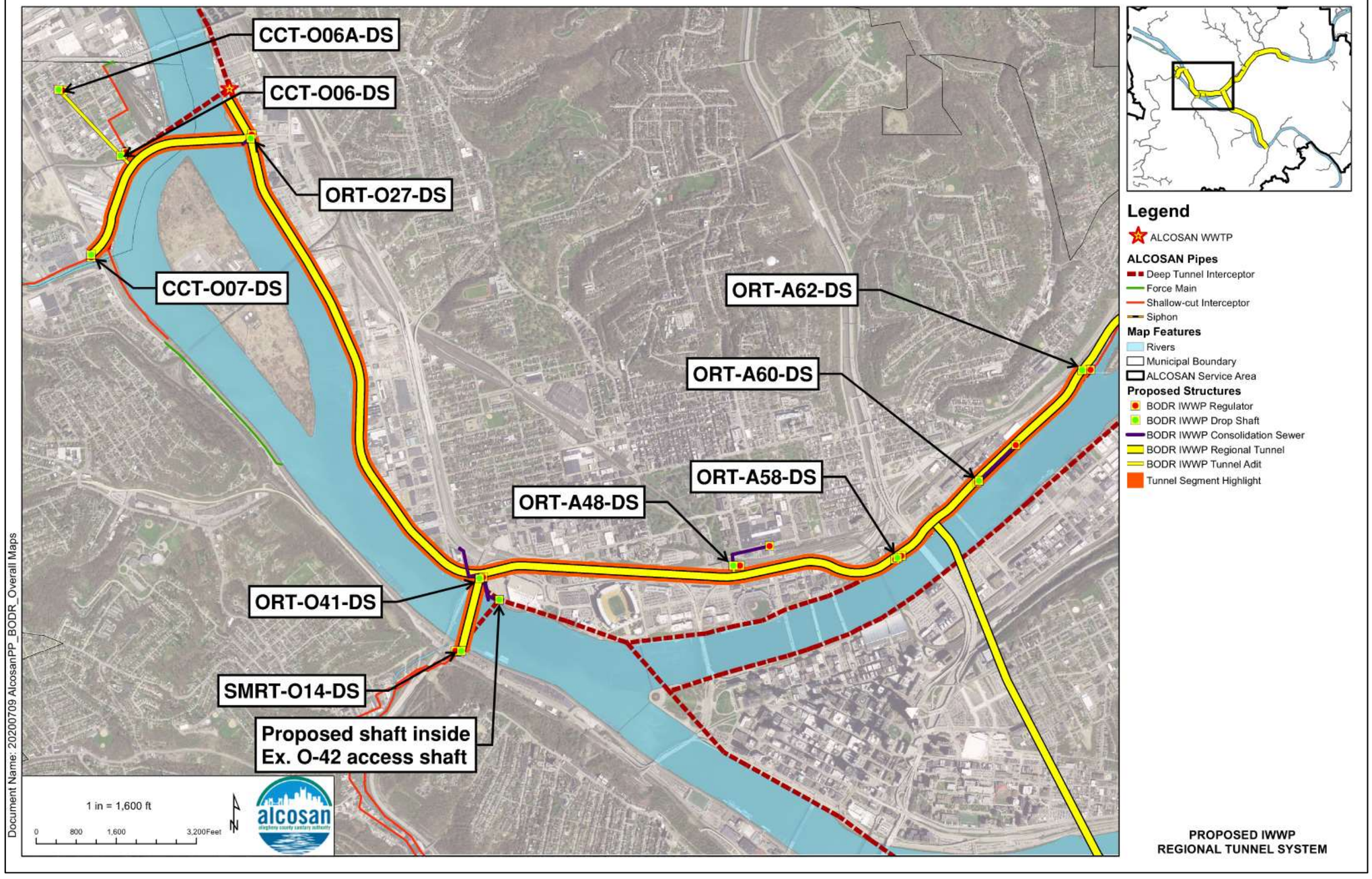
1.9 OHIO RIVER TUNNEL SEGMENT

Section 10 describes the consolidation and conveyance sewer improvements and tunnel facilities proposed to control overflows from outfalls along the ORT segment of the IWWP Regional Conveyance Facilities. This section includes detailed summaries of the geotechnical conditions; significant environmental conditions; existing sewer consolidation/conveyance improvements including detailed site plan figures; considerations for excavation/ground support/ground control during construction; summaries of each proposed drop shaft; considerations for TBM launch and retrieval shafts and additional tunnel design and construction considerations. In addition, community stakeholders and public impacts of the ORT are identified.

The ORT preliminary design is based on an 18-foot diameter tunnel that is approximately 24,180 lineal feet or 4.6 miles long, compared to 10,100 feet in the CWP. The length of the Chartiers Creek (CC) river

crossing is approximately 4,500 lineal feet, and Saw Mill Run (SMR) river crossing is approximately 1,590 lineal feet. The Saw Mill Run Tunnel (SMRT) and Chartiers Creek Tunnel (CCT) are both 14-foot-diameter tunnels. **Figure 1-4** displays the proposed facilities for the ORT segment. A proposed 8-foot-diameter dewatering tunnel is 907 lineal feet and conveys flow from the ORT-O27-DS drop shaft to the dewatering pump station.

Figure 1-4: ORT Segment Alignment and Consolidation Sewers



1.10 ALLEGHENY RIVER TUNNEL SEGMENT

The consolidation and conveyance sewer improvements and tunnel facilities proposed to control overflows from outfalls along the ART segment of the IWWP Regional Conveyance Facilities are summarized in **Section 11**. This section includes detailed summaries of the geotechnical conditions; significant environmental conditions; existing sewer consolidation/conveyance improvements including detailed site plan figures; considerations for excavation/ground support/ground control during construction; summaries of each proposed drop shaft; considerations for TBM launch and retrieval shafts and additional tunnel design and construction considerations. In addition, community stakeholders and public impacts of the ART are identified.

The ART preliminary design is based on an 18-foot-diameter tunnel that is approximately 28,550 lineal feet or 5.4 miles long, compared to 41,200 lineal feet (7.9 miles) in the CWP. **Figure 1-5** displays the proposed facilities for the ART segment.

1.11 MONONGAHELA RIVER TUNNEL SEGMENT

Section 12 provides the consolidation and conveyance sewer improvements and tunnel facilities proposed to control overflows from outfalls along the MRT segment of the IWWP Regional Conveyance Facilities. This section includes detailed summaries of the geotechnical conditions; significant environmental conditions; existing sewer consolidation/conveyance improvements including detailed site plan figures; considerations for excavation/ground support/ground control during construction; summaries of each proposed drop shaft; considerations for TBM launch and retrieval shafts and additional tunnel design and construction considerations. In addition, community stakeholders and public impacts of the MRT are identified.

The MRT preliminary design is based on an 18-foot-diameter tunnel that is approximately 28,040 lineal feet or 5.30 miles, compared to 23,000 feet in the IWWP. **Figure 1-6** displays the proposed facilities for the MRT segment. Although an 18-foot-diameter tunnel is currently recommended, given the smaller inflows in the MRT, a 16-foot-diameter or smaller tunnel should be evaluated during the adaptive management phases of the IWWP.

Figure 1-5: ART Segment Alignment and Consolidation Sewers

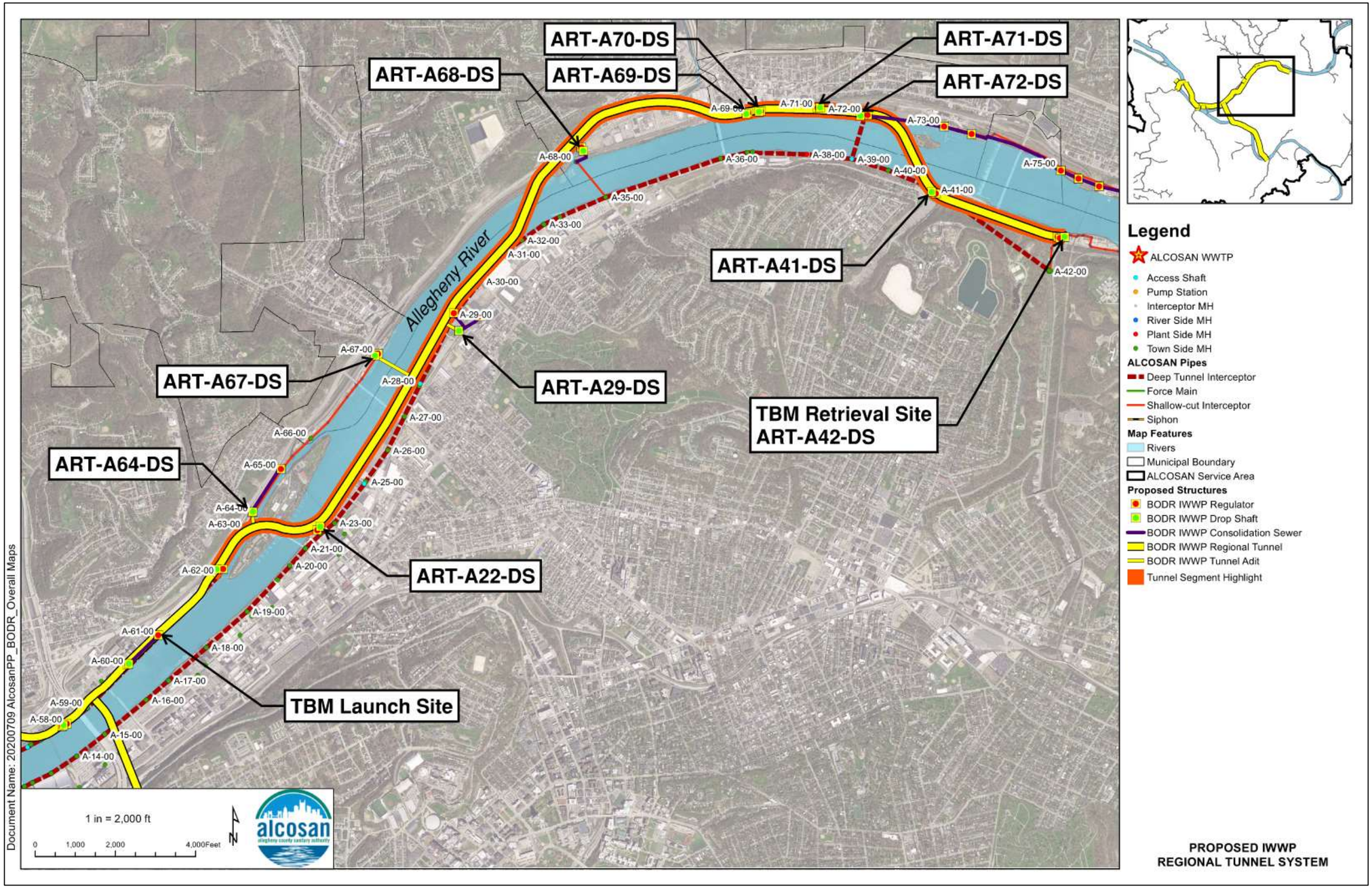
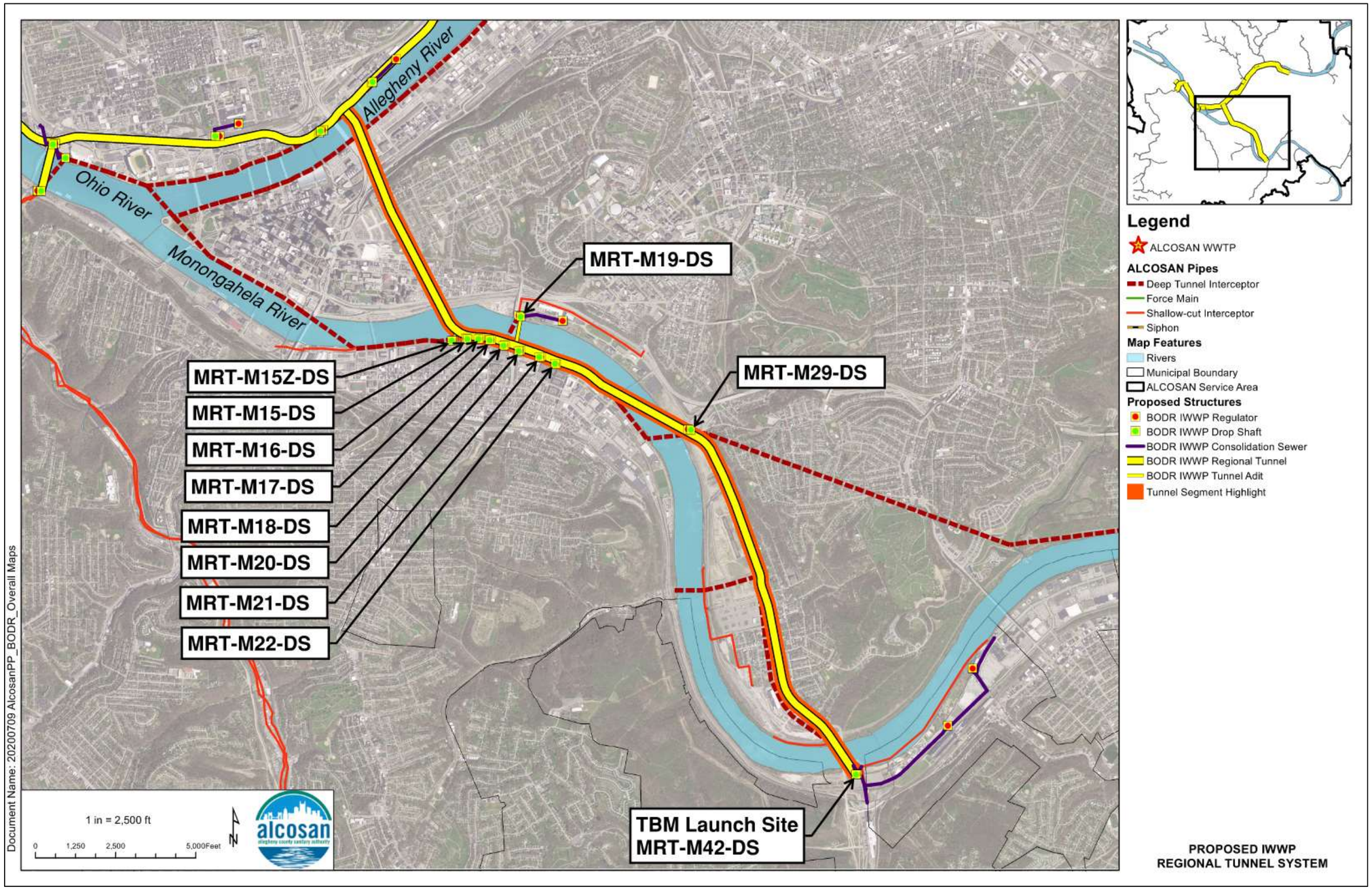


Figure 1-6: MRT Segment Alignment and Consolidation Sewers



1.12 SURVEY AND BASE MAPPING

Section 13 summarizes the available base mapping that was used to develop the drawings included with this BODR. Existing base maps included in **Appendix A** or in support of this BODR have been developed utilizing Geographic Information System (GIS) source data either publicly available or from ALCOSAN. To facilitate a future survey to support final design of proposed IWWP facilities, ALCOSAN has installed 16 survey monuments approximately 1 mile apart along the riverfronts that can be tied into the existing survey control located on the ALCOSAN WWTP property. Final design will require survey and updated base mapping using various sources of data such as field surveying, aerial photogrammetric products, and GIS information.

1.13 STRUCTURAL DESIGN

Section 14 describes the preliminary structural design criteria, assumptions and analysis intended to guide the design of proposed structural elements of the IWWP Regional Conveyance Facilities. Applicable codes and standards are identified to apply to the design, construction quality control, and safety of all work. Structures should be designed in accordance with engineering principles based on applicable references and codes for the Pittsburgh, PA, region. Final design methods and assumptions will be confirmed by the future tunnel designer's lead structural engineers. In addition, this section summarizes the material properties and design load assumptions that should be considered for structural design. Floor, Wall and Roof Slab thicknesses and rebar detailing were not defined for the purposes of the BODR and will need to be determined during final design.

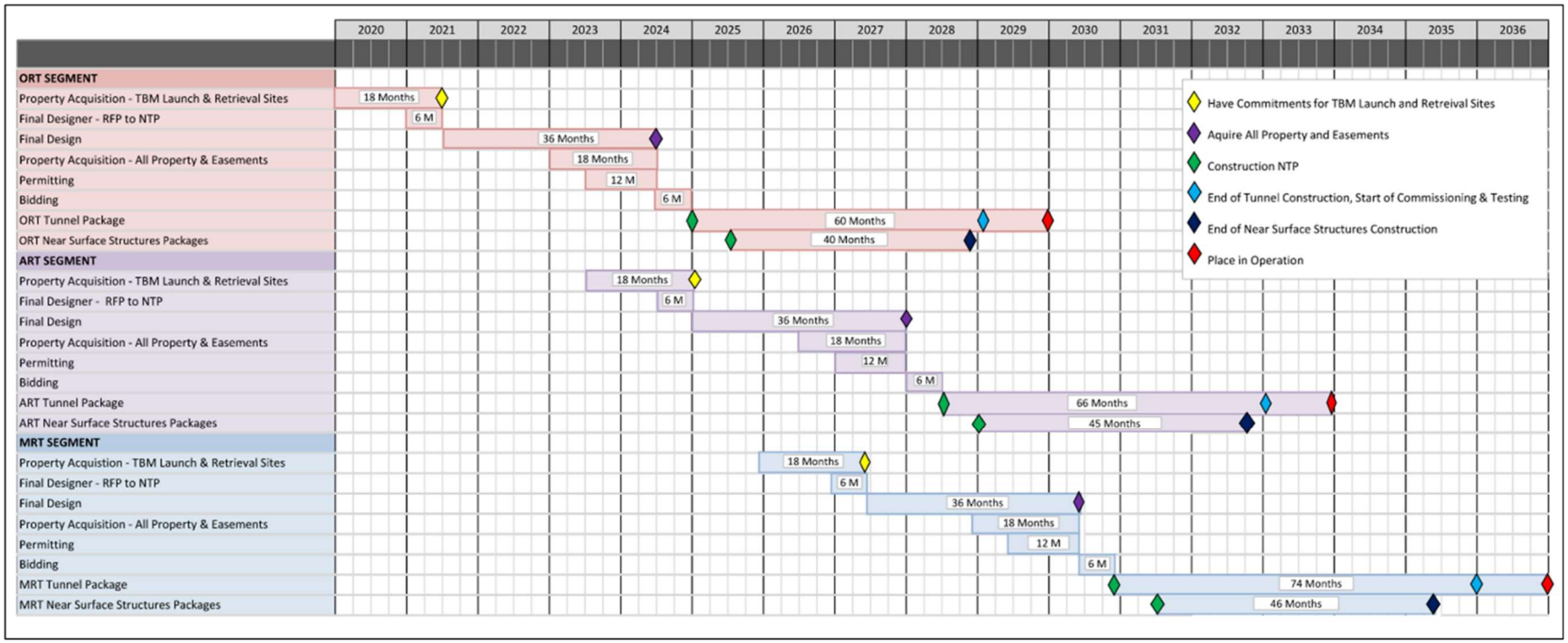
1.14 PERMITTING REQUIREMENTS

Section 15 summarizes the available information regarding permits for design and construction of the IWWP Regional Conveyance Facilities. Permitting will be required for each location where construction activities are proposed to take place, including any construction staging areas. It is anticipated that permits will be required from the Pennsylvania Department of Environmental Protection (PADEP), United States Army Corps of Engineers (USACE), City of Pittsburgh, Allegheny County, various local municipalities, various railroads, and the Pennsylvania Department of Transportation (PennDOT). A detailed permit summary table is provided in **Section 15** that provides context for the potential permit types, basic submission requirements, and typical processing times. The specific needs and advanced agency coordination for permitting will need to be considered as final design advances.

1.15 PROJECT SCHEDULE, SEQUENCING, AND CONTRACT PACKAGING

Section 16 describes the project scheduling and contract packaging assumptions and summarizes the impacts on the schedule included in Appendix Z of the Modified CD relative to the WWP tunnel segments and consolidation sewers/conveyance improvements. Due to the modifications proposed to the IWWP improvements, revisions to the milestone dates established in the Modified CD will need to be implemented. **Figure 1-7** presents the recommended proposed regional tunnel conveyance facility milestone schedule based on the Preliminary Planning IWWP revisions. Should any changes occur to the project scope, design, or construction schedule, the overall project schedule should be reevaluated.

Figure 1-7: Recommended IWWP Regional Conveyance Facilities Implementation Schedule



1.16 ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COST

The Engineer's Opinion of Probable Construction Cost (EOPCC) is summarized in **Section 17**, which also provides an overview of the assumptions and methodology used for development of these costs. Technical Memoranda have been developed for the preliminary EOPCC for each segment of the proposed tunnels in the IWWP. Structures that are included the EOPCC can be grouped into four general categories: near surface facilities, drop shafts, adits, and storage tunnels. **Section 17** also includes estimated capital costs which are the EOPCC plus engineering and implementation costs, excluding property and easement acquisition costs. With respect to base construction costs, the general layout and overall level of design for the proposed tunnel have advanced to a level that a bottom-up estimate approach was deemed appropriate. A bottom-up estimate explicitly takes into account labor, equipment, material, and indirect costs, including contractor overhead and profit, as well as production rates for the various construction activities. This type of estimate is considered to be an Association for the Advancement of Cost Estimating (AACE) Class III estimate with an expected accuracy range of +20% to -15%. The base construction cost estimates are in May 2020 dollars. The output of these estimates includes not only an estimated construction cost, but also an estimate of the overall construction duration which can be used for construction scheduling and monthly progress payments for cash flow purposes.

The ORT segment includes the ORT, CCT, SMRT, a total of 10 drop shafts, 4 of which are planned to be constructed within TBM launch or retrieval shafts, 6 adits and near surface facilities associated with 13 Points of Connection. The ART segment includes the ART, a total of 11 drop shafts, 1 of which is planned to be constructed within a TBM retrieval shaft, 10 adits and near surface facilities associated with 20 Points of Connection. The MRT segment includes the MRT, a total of 11 drop shafts, 1 of which is planned to be constructed within a TBM launch shaft, 10 adits and near surface facilities associated with 14 Points of Connection.

The construction contract packaging used to develop the base construction cost estimate assumed each tunnel segment along with shafts and adits will be in one construction contract and the near surface facilities construction will be in a series of packages. **Table 1-2** summarizes the EOPCC for each assumed tunnel package for all three segments. The total EOPCC for the IWWP is $1,257.6 M.

Table 1-2: Summary of IWWP Engineer's Estimate of Probable Construction Cost*

Tunnel Segment	Construction Cost (2020 $M)
ORT	$410.8
ART	$439.2
MRT	$407.6
Total	**$1,257.6**

1.17 FUTURE CONSIDERATIONS

Design of the IWWP conveyance systems will be advanced by others following procurement by ALCOSAN of the Tunnel Program Manager and tunnel design teams. **Section 18** contains general future considerations for the advancement of the conveyance system designs. In addition, this section contains site-specific considerations for the ORT, ART, and MRT improvements described in **Sections 10**, **11**, and **12,** respectively.

Some noteworthy aspects of future consideration include:

Property Acquisition

The site layouts and construction budget estimates of the proposed facilities identified in the basis of design (BOD) drawings and described in this report have been developed with the assumption that easements and acquisitions of required property will be obtained. If these properties are not available, or determined to be unattainable, feasible alternative sites have been identified in the alternative evaluation summarized in the Flow Group Alternatives Evaluation Summary Technical Memorandums.

While the Preliminary Planning team has developed conceptual layouts of the facilities proposed on these sites for this report, it is anticipated that the layouts and impacted parcels may change as the locations of proposed regulators and sewer alignments are advanced during final design of the near surface facilities. Therefore, acquisition and gathering of easements for these facilities are planned to occur during final design. Acquisition, easement, or general agreement for use of tunnel construction sites is required prior to final design commencing.

Municipal Flow Reduction and Adaptive Management

As described in Appendix Z of the Modified CD, flow reduction studies submitted by ALCOSAN's Customer Municipalities shall be taken into consideration to "determine whether the proposed tunnel system could be eliminated or reduced in size." In December 2019, ALCOSAN requested copies of any source reduction studies and other relevant information regarding flow reduction from Customer Municipalities in the form of a fillable information request form/survey. ALCOSAN will continue requesting updated source reduction information on an annual basis and evaluate opportunities for downsizing grey infrastructure while advancing tunnel design. However, further coordination with the municipalities on the projects where reductions have yet to be determined is needed as the tunnel design progresses. Since the CD requires municipal commitments to flow reduction before it can propose reductions to grey infrastructure facilities, ALCOSAN's on-going coordination with municipalities includes discussion of flow reduction agreements.

Point of Connection Optimization

During development of the preferred layouts and alignments, several areas were identified where the Preliminary Planning team recommended improvements that differed from those included in the CWP. These alternatives included regrouping or separation of POCs in consolidated flow groups in the CWP. While the CWP proposed to control these flow groups based on the basin planner determination that

these groupings were the most cost-effective means to control the outfalls, the Preliminary Planning evaluations determined that a number of outfalls can be controlled more cost-effectively with individual connections to the proposed tunnel rather than the consolidated flow groups in the CWP. The evaluations also determined that controls for several outfalls are no longer needed to achieve equivalent or better systemwide performance than the IWWP described in the CWP. These include outfalls with low overflow volumes and/or a high cost per gallon of overflow reduction. The Modified CD includes provisions for making certain revisions to the IWWP. Accordingly, a separate IWWP revisions proposal document will be prepared and submitted for agency review and approval.

Green Infrastructure/Source Control

A main goal of the Modified CD was to provide a flexible CWP implementation framework that fully embraces adaptive inclusion of green stormwater infrastructure (GSI) and source reduction. A GSI/source control (SC) PM has been retained to facilitate this effort. The Preliminary Planning team and GSI/SC PM coordinated on the evaluation and identification of potential GSI improvements that could be implemented to either eliminate or downsize proposed elements of the IWWP. During the Preliminary Planning work, 12 IWWP POCs were identified to be investigated further under ALCOSAN's GSI/SC Program as having potential to reduce wet weather flows using source control. Of these 12, 4 POCs were identified as needing further information to determine if separation could eliminate the drop shafts to the proposed regional tunnels. These 12 potential GSI improvements were further evaluated under the ALCOSAN Green Revitalization of our Waterways (GROW) Program and are a subject of ongoing ALCOSAN workshops with customer municipalities to assess the level of municipal interest and implementation commitment.

Additional future considerations highlighted in **Section 18** include:

- Flow Monitoring/Modeling Considerations
- Geotechnical Program Considerations
- Grit and Sediment Management
- Regional Conveyance Tunnel Facility, WWTP, and TDPS Design Coordination
- Regionalization
- Recommendations for Property Consultants
- Other ALCOSAN Capital Improvement Project and Operations & Maintenance Considerations
- Municipal Improvements/Planned Projects
- Third-Party Projects
- Coordination with Existing Utilities