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December 18, 2024

VIA ELECTRONIC FILING

Rosemary Chiavetta, Secretary
Pennsylvania Public Utility Commission
Commonwealth Keystone Building
400 North Street, 2nd Floor North
Harrisburg, PA 17120

**Re: Application of PECO Energy Company Filed Pursuant to 52 Pa. Code § 57.71 *et seq.* for Approval of the Siting and Construction of the Brandon Shores Retirement Mitigation Project Located in Peach Bottom Township, York County, Pennsylvania and Petition for Waiver of 52 Pa. Code § 57.72(c)(10)
Docket No. A-2024-3051467**

Dear Secretary Chiavetta:

Enclosed for filing on behalf of PECO Energy Company (“PECO”) please find revised Attachments 10,¹ 12, 18, 19, and 20 related to the above-captioned proceeding accompanying PECO’s application (“Application”) requesting Commission approval to site and construct transmission lines and related facilities associated with the proposed Brandon Shores Retirement Mitigation Project (hereinafter, the “Project”). Each revised attachment reflects minor design changes to certain proposed transmission structures. The attachments are also revised to provide clarity regarding the scope of work included in the Application, as described below.

¹ In Attachment 10, PECO only revised the maps at 10-1, 10-2, 10-3, 10-4, and 10-5. The narrative portion of Attachment 10 and other maps are the same as filed on September 30, 2024. PECO is filing an entire Attachment 10 with the revised maps for completeness.

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Minor Design Changes

PECO revised Attachments 12, 18, 19, and 20 to reflect slightly modified locations of certain transmission lines and structures. The design changes were necessary to move structures out of difficult terrain including structures initially proposed to be located within a ravine southeast of the Bramah Substation or on steep slopes that would be prohibitively challenging to construct on. Two additional design changes are necessary to accommodate the proposed construction sequence. The remaining design changes are necessary due to the aforementioned relocation of structures from difficult terrain. The following table identifies all of the minor design changes, none of which materially affect the application.

Circuit	Structure	Description of Change and Reasoning
220-08	14/2B	Rotated slightly due to new line angle from moving 14/3.
	14/3	Moved approximately 38 feet to the southwest due to moving 5040 1/1.
5012	2/3	Rotated slightly due to new line angle from moving 2/5.
	2/4	Moved approximately 45 feet to the northwest due to moving 2/5.
	2/5	Moved approximately 125 feet to the west to avoid placement within a ravine.
5040	1/1	Changed to H-frame due to construction sequencing.
	1/2	Moved approximately 26 feet to the southeast due to construction sequencing.
	1/3	Changed to H-frame due to construction sequencing.
	5/1	Rotated slightly due to new line angle from moving 1/1.
	6/4	Moved approximately 80 feet to the northeast to avoid a steep slope in terrain.
5041	1/7	Rotated 180 degrees to avoid a steep slope in terrain.
	2/3	Moved approximately 5 feet to the west due to on-going coordination with the design team responsible for Baltimore Gas and Electric Company's scope of work for this line in Maryland.
	2/4	Moved approximately 95 feet to the northeast to avoid a steep slope in terrain.
	2/5	Rotated slightly due to new line from moving 2/5.
5042	3/3	Moved approximately 74 feet to the northwest due to moving 2/5.

Minor Revisions for Clarity

PECO revised Attachments 10, 12, 18, 19, and 20 to provide additional clarity regarding the scope of the proposed Project subject to this Application. Specifically, the amendments were revised as follows:

- Attachment 12 clarifies that the scope of PECO's Application does not include work related to the existing Line 5034 or potential relocation of that line.
- Attachments 12, 19, and 20 clarify that PECO's ownership of proposed transmission lines ends before the lines connect to the Bramah substation.
- Attachments 12, 19, and 20 note that PECO's scope of work for the proposed Project does not include construction within the Bramah Substation.
- Attachments 10, 18, 19 and 20 mark the approximate location of the Bramah Substation, note the boundaries of the parcel of land the substation will be located, and/or clarify the extent to which substation property was considered only for purposes of conducting an environmental analysis.

Copies of the revised Attachments are being served upon the persons indicated on the certificate of service.

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If you have any questions pertaining to this matter, please do not hesitate to contact me.

Respectfully submitted,

A handwritten signature in black ink, reading "Kenneth M. Kulak". The signature is written in a cursive style with a large initial "K".

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Enclosure

cc: Certificate of Service

Brandon Shores Retirement Mitigation Project

ENVIRONMENTAL SETTING

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LIST OF ACRONYMS

Acronym	Definition
ACE	Agricultural Conservation Easement
APLIC	Avian Power Line Interaction Committee
ASA	Agricultural Security Area
CWF	Cold Water Fishes
FEMA	Federal Emergency Management Agency
FNLT	Farm and Natural Lands Trust
GIS	Geographic Information Systems
IBA	Important Bird Area
HUC	Hydrologic Unit Code
kV	Kilovolt
MBTA	Migratory Bird Treaty Act
MF	Migratory Fishery
NAI	Natural Areas Inventory
NHD	National Hydrography Dataset
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NWI	National Wetland Inventory
NWPS	National Wilderness Preservation System
PADCNR	Pennsylvania Department of Conservation and Natural Resources
PADEP	Pennsylvania Department of Environmental Protection
PA-SHARE	Pennsylvania State Historic and Archeological Resource Exchange
PECO	PECO, an Exelon Company
PEM	Palustrine Emergent
PFBC	Pennsylvania Fish and Boat Commission
PFO	Palustrine Forested
PHMC	Pennsylvania Historical and Museum Commission
PJM	PJM Interconnection, L.L.C.
PNDI	Pennsylvania Natural Diversity Inventory
PNHP	Pennsylvania Natural Heritage Program
POTC	Pennsylvania Ornithological Technical Committee
Project	Brandon Shores Retirement Mitigation Project

Acronym	Definition
PSS	Palustrine Scrub/Shrub
PUB	Palustrine Unconsolidated Bottom (pond)
PUC	Public Utility Commission
ROW	Right Of Way
RTE	Rare, Threatened, or Endangered
SR	State Route
TNC	The Nature Conservancy
TSF	Trout Stocking
UNT	Unnamed Tributary
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WWF	Warm Water Fishes
YCPC	York County Planning Commission

1.0 INTRODUCTION

PECO, an Exelon Company (PECO) seeks approval from the Pennsylvania Public Utility Commission (Commission or PUC) to site and construct transmission lines and related facilities associated with the proposed Brandon Shores Retirement Mitigation Project (Project). The Project is necessary to mitigate significant and widespread reliability issues that would otherwise result from the planned deactivation of the Brandon Shores Generating Station (Brandon Shores), located in Anne Arundel County, Maryland, which will have significant effects on the transmission system in the Mid-Atlantic region of the PJM Interconnection, L.L.C. (PJM) footprint, including on PECO's transmission facilities. The Project also supports mitigation of reliability concerns caused by significant load growth in other parts of PJM.

This Attachment provides background information describing the environmental setting of the Project for the siting of the proposed transmission lines in south central Pennsylvania. The purpose of this Attachment is to provide a contextual discussion of the natural environment and man-made features within and around the Project Area, which is defined as the fee-owned and right-of-way (ROW) easement areas along the Project alignment.

Information discussed in this Attachment was gathered from numerous sources, including federal, state, and local geographic information system (GIS) databases, published reports and maps, and field reconnaissance surveys. The combination of data sources within this Attachment provides a concise, yet thorough, description of the environmental setting of the Project Area. A complete list of data sources is included at the end of this Attachment.

The Project Area is entirely within Peach Bottom Township, York County, Pennsylvania (**Figure 10-1**).

2.0 NATURAL ENVIRONMENT OF THE PROJECT AREA

Features of the natural environment help define the opportunity and constraint areas within and around the Project Area making them an important component of a transmission line siting process. This section provides a description of the environmental setting within and around the Project Area including its physiography, geology, soils, surface waters, vegetation, wildlife habitat, and special use areas.

2.1 Physiographic Provinces and Terrain

Pennsylvania physiographic provinces are defined by the geomorphology, underlying bedrock geology, and the glacial signature of the landscape. The Project Area extends across one

physiographic province: the Piedmont Upland Section of the Piedmont Province (PADCNR 2023).

The Piedmont Upland Section consists of broad, rounded to flat-topped hills and shallow valleys with extremely complex folds and faults made up of mainly schist, gneiss, and quartzite with a mix of saprolite. The Piedmont Uplands contains most of the Philadelphia metro areas as well as parts of the metro areas for Baltimore and Washington D.C. This region is also spanned by the Susquehanna River, a wide shallow river predating the rise of the Appalachians that contains steep cliffs along many locations and high-gradient streams that flow into the river (Woods, A.J, Omernik, J.M., Brown, D.D. 1999).

The Project Area extends southwest from a high bluff along the western bank of the Susquehanna River toward the Pennsylvania/Maryland state border. Most of the alignment spans along the higher portions of the rolling hills that characterize the area. Several areas of steep slopes are crossed by the alignment that are attributed to the narrow and steep stream valley's that serve as headwaters for larger local tributaries to the Susquehanna River such as Scott Creek, Fishing Creek, and Muddy Creek.

2.2 Geologic Areas

The geology within the Project Area can be described in terms of underlying consolidated rocks (bedrock geology) and unconsolidated deposits positioned atop the bedrock (surficial geology). Rock units that underlie the unconsolidated material date from the Lower Paleozoic era, which ranges in age from about 542 million years to about 416 million years ago. Xpc – Peters Creek Schist is the only rock unit associated with the Project Area.

The Peters Creek Schist consists of fine-grained, finely laminated, chlorite-sericite schist containing numerous thin beds of quartzite and is estimated to be 2,000 feet thick. The primary surficial unit surrounding the Project Area consists of colluvial diacetones. Other surficial deposits include structured saprolite, residual soil, alluvium, and minor upland gravels (Pazzaglia and Cleaves 1998).

2.3 Soil Characteristics

The following discussion of soils is based on information provided by the U.S. Department of Agriculture/Natural Resources Conservation Service (USDA/NRCS 2024). Soils in the Piedmont Uplands Section are generally well to moderately well drained and are derived from residuum

weathered from schist. Moderately and well drained soils form as silt loams and channery silt loams on hillslopes, floodplains, drainageways, and swales.

Hydric soils are formed under wet conditions (saturation, flooding, or ponding) sufficient to develop anaerobic conditions during the growing season in the upper regions of the soil layer and support the growth of hydrophytic vegetation. Two soils within the Project Area are considered hydric soils: Codorus silt loam (Cm) and Glenville silt loam, 3 to 8 percent slopes (GdB).

Also present within this portion of the Project Area are prime farmland soils and soils of state importance, which are defined as having a combination of physical and chemical characteristics that make them optimal for producing food and feed. These soil criteria are used to determine if farms are eligible to be incorporated into the County Agricultural Conservation Easement (ACE) program (see **Section 3.1**).

Erosion potential associated with the Project will be related to clearing the vegetation and constructing the access roads and transmission structures. Following existing access roads and co-locating the new transmission line within portions of existing ROW reduces the potential for erosion and the resulting sedimentation. Erosion and sedimentation control plans will be developed that will address the construction and post-construction stormwater concerns. These plans will be reviewed and approved by the York County Conservation District and/or PADEP prior to the issuance of other required permits.

2.4 Hydrology

The Project Area spans two watersheds within the Lower Susquehanna Basin. The Fishing Creek-Muddy Creek Watershed (Hydrologic Unit Code (HUC) 020503061304) encompasses the southwestern portion of the Project from the Pennsylvania/Maryland border to approximately Flintville Road. The Fishing Creek-Susquehanna River Watershed (HUC 020503061709) meets the Fishing Creek-Muddy Creek watershed near Flintville Road and extends to the east across the Susquehanna River into Lancaster County, Pennsylvania. Major streams found on the U.S. Geological Survey (USGS) National Hydrography Dataset (NHD), as well as watershed boundaries, are illustrated in **Figure 10-2** and discussed further below.

2.4.1 Streams

The Pennsylvania Code, Title 25, Chapter 93 (Pennsylvania Department of Environmental Protection [PADEP] 2017a) establishes narrative and numeric water quality criteria necessary to support a variety of protected water uses. All surface waters must be protected for aquatic life

(warm water fishes), water supply (potable, industrial, livestock, wildlife, and irrigation), and recreation (boating, fishing, water contact sports, and aesthetics). PADEP assigns all streams in the Commonwealth a *Designated Use*, which is the water use goal for a particular stream segment, whether or not it is currently attained. In contrast, a stream’s *Existing Use* is the actual attained use by the existing water quality. PADEP’s antidegradation policy requires existing uses, and the level of water quality necessary to protect existing uses, shall be maintained and protected. As such, the water quality of a stream segment with an existing use that exceeds its designated use may not be degraded below the water quality levels protective of that existing use.

Beginning at the Maryland and Pennsylvania border, the Project crosses Scotts Creek and several unnamed tributaries (UNTs) to Scotts Creek in the Fishing Creek-Muddy Creek Watershed. This stream has a Chapter 93 designated use classification of Trout Stocking (TSF) and an existing use classification of Cold Water Fishes (CWF). Also, in the Fishing Creek-Muddy Creek Watershed, the Project crosses multiple UNTs to Muddy Creek which also has a Chapter 93 designation of TSF, but no existing use classification. The northeastern portion of Project within the Fishing Creek-Susquehanna River Watershed is primarily drained by several UNTs to the Susquehanna River which have a Chapter 93 designation of Warm Water Fishes (WWF) and no existing use classification. These streams, and all streams within and around the Project Area, have a migratory fishes (MF) designation for the passage, maintenance, and propagation of migratory fish.

Additionally, within the Project Area, the Pennsylvania Fish and Boat Commission (PFBC) has indicated that Scott Creek and its tributaries, Muddy Creek and its tributaries, and the UNT to the Susquehanna River at the eastern edge of the Project and its tributaries are listed as Natural Reproduction Trout Streams. The PFBC defines Natural Reproduction trout streams as “*Streams that support naturally reproducing populations of trout but may also be stocked* (PFBC 2024a).”

2.4.2 100-year Floodplains

The areas adjacent to streams subject to inundation by a flood elevation with a 1-percent-annual-chance of being equaled or exceeded each year are known as 100-year floodplains. The Federal Emergency Management Agency (FEMA) delineates the extent of some 100-year floodplains on Flood Insurance Rate Maps. 100-year floodplain extents in the Project Area and surrounding landscape were obtained and examined. FEMA 100-year floodplain boundaries within the Project Area are limited to the area adjacent to Scott Creek.

Pennsylvania Code, Title 25, Chapter 106 defines a streams floodway as “*the channel of the watercourse and those portions of the adjoining floodplains which are reasonably required to carry and discharge the 100-year flood.* (PADEP 2017b)” A FEMA defined floodway is located along Scott Creek. The FEMA floodplains and floodways located in the Project Area are illustrated in **Figure 10-2**.

2.4.3 Wetlands

The U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) wetland database indicates that wetlands within and around the Project Area are primarily palustrine (i.e., non-tidal, freshwater) wetlands dominated by trees, shrubs, persistent emergent vegetation, and emergent mosses or lichens. NWI wetlands are classified in accordance with the Cowardin system (Cowardin et al. 1979), which also includes open waters (e.g., streams, ponds, lakes) as wetlands. Small stretches of NWI wetlands, primarily palustrine forested (PFO) and shrub/scrub (PSS) communities, are present in the Project Area especially adjacent to stream valleys. There are a few palustrine emergent (PEM) wetlands scattered throughout the landscape and one freshwater pond (PUB) situated in the Project Area. Multiple NWI riverine systems flow to Scott Creek, Muddy Creek, and the Susquehanna River as depicted in **Figure 10-2** (USFWS 2023).

The wetlands depicted in the NWI database are not identified or delineated in accordance with methodologies used by regulatory agencies to establish boundaries of wetlands under their jurisdiction. The NWI database was created based on the analysis of aerial photographs from the 1980s with limited ground verification and should not be considered an alternative to delineating wetlands using regulatory requirements. An official delineation of the wetlands along the length of the project right-of-way (ROW) was completed in March and April 2024 which will be required to issue environmental permits necessary for construction of the transmission lines.

2.5 Plant and Wildlife Habitats

Native plant and wildlife habitats have been significantly altered within and around the Project Area due to current land uses, specifically agricultural, power generation and substation facilities, and transmission and distribution line corridor management. The few areas where potential habitat may exist are along the stream valleys that are spanned by the electric lines and have had limited affect by the agricultural use or power generation activities.

2.5.1 Vegetation

The Project Area lies within the Eastern Broadleaf Forest (Oceanic) ecosystem province (Bailey 1995). The climate of this province ensures a strong annual temperature cycle, with cold winters and warm summers. Precipitation is markedly greater in the summer months when evapotranspiration is great and moisture demands are high. The vegetation of the Project Area can be characterized as winter deciduous forest dominated by tall, broadleaf trees that provide a dense continuous canopy with weakly developed layers of shrubs in the understory.

The terrestrial vegetation of the Project Area is entirely within one forest type (Appalachian Oak Forest) according to Rhoads' and Block's *Trees of Pennsylvania: a complete reference guide* (Rhoads & Block 2005). The Appalachian Oak Forest is the dominant forest type in Pennsylvania; it is characterized by the presence of red oak (*Quercus rubra*), white oak (*Quercus alba*), tulip tree (*Liriodendron tulipifera*), red maple (*Acer rubrum*), and hickory trees (*Carya* species). It also generally has a dense layer of understory shrubs and trees that include maple-leaved viburnum (*Viburnum acerifolium*), shadbush (*Amelanchier arborea*), ironwood (*Carpinus caroliniana*), hophornbeam (*Ostrya virginiana*), witch-hazel (*Hamamelis virginiana*), gooseberry (*Ribes cynosbati*), and spicebush (*Lindera benzoin*) (Fike 1999).

2.5.2 Wildlife

Typical wildlife species found within and around the Project Area include a variety of mammals, birds, amphibians, and reptiles. Common mammals include the white-tailed deer (*Odocoileus virginianus*), eastern cottontail (*Sylvilagus floridanus*), gray squirrel (*Sciurus carolinensis*), and chipmunk (*Tamias striatus*). Bird species include robins (*Turdus migratorius*), blue jays (*Cyanocitta cristata*), red-wing blackbirds (*Agelaius phoeniceus*), and house wrens (*Troglodytes aedon*), as well as bald eagles (*Haliaeetus leucocephalus*), osprey (*Pandion haliaetus*), and great horned owls (*Bubo virginianus*). Common amphibians and reptiles include the northern green frog (*Rana clamitans melanota*), bullfrog (*Rana catesbeiana*), red-spotted newt (*Notophthalmus viridescens*), wood turtle (*Clemmys insculpta*), black rat snakes (*Elapha obsoleta*), and northern water snake (*Nerodia sipedon*) (Fergus and Hansen 2000).

2.5.3 Rare, Threatened, and Endangered Species

Based on a search of the Pennsylvania Natural Diversity Inventory (PNDI) database, administered by the Pennsylvania Natural Heritage Program (PNHP), and follow-up consultations with the USFWS, PFBC (PFBC 2024), and Pennsylvania Department of Conservation and

Natural Resources (PADCNR) (PADCNR 2024a), the following federal and/or state rare, threatened, or endangered (RTE) species could potentially occur within the Project Area:

- Bog turtle (*Glyptemys muhlenbergii*) – federally listed endangered (USFWS)
- Lobed Spleenwort (*Asplenium pinnatifidum*) – State plant species of Special Concern (PADCNR)
- Harbinger-of-spring (*Erigenia bulbosa*) – State threatened plant species (PADCNR)
- Declined Trillium (*Trillium flexipes*) – State species of concern (PADCNR)
- Nodding trillium (*Trillium cernuum*) – State species of concern (PADCNR)
- Fringe-tree (*Chionanthus virginicus*) – State species of concern (PADCNR)
- Nuttall’s tick-trefoil (*Desmodium nuttallii*) – State species of concern (PADCNR)
- Lion’s-foot (*Nabalus serpentaria*) – State species of concern (PADCNR)
- Downey Lobelia (*Lobelia puberula*) – State endangered species (PADCNR)
- Glade Spurge (*Euphorbia purpurea*) – State endangered species (PADCNR)
- Velvety panic grass (*Dichanthelium scoparium*) – State endangered species (PADCNR)
- Tawny ironweed (*Vernonia glauca*) – State endangered species (PADCNR)
- Plain Ragwort (*Packera anonyma*) – State rare species (PADCNR)
- Chesapeake Logperch (*Percina bimaculate*) – State threatened species (PFBC)
- Broad-head Skink (*Plestiodon laticeps*) - State species of concern (PFBC)

Habitat assessments and presence/absence surveys for these RTE species have been required by the jurisdictional agencies and were initiated in April 2024.

The USFWS notes that avian species protected under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act may use the Project area for wintering, migrating, or breeding activities. Electrocutions from power lines are of particular concern, and USFWS recommends that the proposed Project be evaluated in light of the *National Bald Eagle Management Guidelines* to determine whether or not eagles might be disturbed as a direct result of the Project. USFWS, in conjunction with the Avian Power Line Interaction Committee (APLIC), provides guidelines for power lines to minimize impacts from existing facilities and in the construction of new utility and energy systems and associated infrastructure (ALPIC 2005).

Per the PNDI, a USFWS bald eagle screening assessment will be completed for the Project to determine if bald eagles are nesting in the area and evaluate the potential impact of the Project activities on the eagles. Based on the findings of the screening assessment, specific conservation measures such as seasonal timing restrictions may need to be implemented.

2.6 Special Use Areas

Special use areas are places recognized by regulatory agencies or local governments as providing habitat characteristics or wildlife management opportunities that indicate a need for preservation.

Examples include scenic areas, wilderness areas, wild and scenic rivers, state and conserved lands, priority natural areas, and important bird areas (IBA).

2.6.1 Scenic Areas

The PADCNr provides designations for vistas and overlooks, waterfalls, scenic hikes, and other special use areas. There are no designated scenic areas within two miles of the Project Area (PADCNr 2024b). Additionally, there are no Heritage Geology Sites designated by the PNHP within two miles of the Project Area (PADCNr 2024c).

2.6.2 Wilderness Areas

No National Wilderness Preservation System (NWPS) areas are located within two miles of the Project Area (NWPS 2024).

2.6.3 Wild and Scenic Rivers

No wild or scenic rivers, as designated pursuant to the federal Wild and Scenic Rivers Act or by the Pennsylvania Scenic Rivers Act, are located within or around the Project Area (National Wild and Scenic Rivers System 2024; PADCNr 2024d).

2.6.4 State and Conserved Lands

The Project Area contains no state parks, state game lands, or state forests or conserved lands. Directly adjacent to the Project Area between Kilgore Road and Route 74 is a Farm and Natural Lands Trust (FNLT) of York County conservation easement. FNLT Easement #064 is a non-governmental open space and forest area that occupies approximately 130 acres of land directly north of existing PECO Fee Owned property. The exact extents and locations of these areas are depicted in **Figure 10-3**.

2.6.5 Priority Natural Areas

The Natural Area Inventories (NAI) for York County, conducted by The Nature Conservancy (TNC), indicate that two Natural Areas are crossed by the Project Area. These two areas, the Peach Bottom Woods and the Atom Road Woods Natural Areas, are located in the eastern part of the Project near the Susquehanna River. Both areas consist of steep wooded slopes that support plant species of concern.

Priority Natural Areas are associated with “locations of rare, threatened, and endangered species and of the highest quality natural areas” (TNC 2004). No Priority Natural Areas are located

within or around the Project Area. Natural Areas within the Project Area are illustrated in **Figure 10-2**.

2.6.6 Important Bird Areas

IBA's are "designated by the Pennsylvania Ornithological Technical Committee (POTC), as the most critical regions in the Commonwealth for conserving bird diversity and abundance and are the primary focus of Audubon Pennsylvania's conservation efforts" (Audubon 2024). Adjacent to the Project Area is the Lower Susquehanna River Gorge – Conowingo/Muddy Run IBA. 250 species of birds have been identified within the IBA, which stretches for approximately 16 miles along both sides of the Susquehanna River from the Pennsylvania/Maryland state line north to the Safe Harbor, Pennsylvania area.

Both Pennsylvania-listed and federally listed avian protected species are known to be located within the vicinity of the Project. Example species within the vicinity of the Project are the bald eagles (*Haliaeetus leucocephalus*) and the osprey (*Pandion haliaetus*). These and potentially other bird species are known to use utility transmission structures for nesting annually. PECO will implement their Avian Protection Plan for this Project to minimize impacts to protected species. Additionally, PECO is coordinating with the USFWS for protection requirements regarding the bald eagles and bald eagle nest locations within the vicinity of the Project. Coordination is currently still in progress with USFWS (See Section 2.5.3).

3.0 HUMAN ENVIRONMENT OF THE PROJECT AREA

Human influences on the natural environment within and around the Project Area are represented by many development types and patterns. These are discussed below using a land use code framework (described in **Section 3.1**) that is applicable to York County.

3.1 Land Use

Landcover data published by the Chesapeake Bay Program was used as the basis for characterizing land uses within the Project Area. Agricultural lands are the most prominent land use within and around the Project Area (**Figure 10-4**). The majority of the existing ROW actively involves farming activities related to row crops such as hay, corn, and soybeans. The Commonwealth of Pennsylvania has several mechanisms for protecting farmland, including:

- Agricultural Security Area (ASA)
- Agricultural Conservation Easement (ACE)
- Act 319 ("Clean and Green Act")

The state or county Agricultural Preservation Board administers the creation of an ASA and the purchase of an ACE. An ASA is an area of 500 or more semi-contiguous acres that is used for agricultural production. Farmers voluntarily form and/or join an ASA as a means of receiving special consideration regarding regulations, nuisance complaints, and conflicting land uses.

The ACE purchase program allows counties to use specific state-issued farmland preservation funds to purchase development rights. Qualifying farms must be part of an existing ASA and are rated based on soil quality, proximity to other farms, and other criteria. Once a farm is in easement, agricultural production must continue every year thereafter, with no new structures permitted except farm accessory buildings. Act 319 provides a means by which landowners whose property meets one of three qualifying uses (farming, forest, or water supply/open space) to have their property assessed, for tax purposes, on the basis of its use rather than on the basis of its fair market value. Mapped agricultural conservation easements and agricultural security areas identified within and around the Project Area are found on **Figure 10-3**.

Small pockets of residential land use are crossed by and are adjacent to the Project Area. The existing ROW crosses through an area of residential properties near Pikes Peak Road, Stone Road, and Lay Road. Several other communities also surround the Project Area including the Delta Ridge housing community to the south of the existing ROW and Bryansville which is a small village along State Route (SR) 851 that contains a series of residential properties.

Industrial land use is also present within and around the Project Area. Near the Susquehanna River, the Peach Bottom Atomic Power Station, Peach Bottom North and Peach Bottom South Substations and surrounding landscapes are considered industrial areas. Additionally, the Calpine Power Plant is a large industrial complex adjacent to the existing ROW south of the Project.

Forests are a land use/cover type that range from large uninterrupted areas of undeveloped wooded land typically associated with public service or recreational uses, to smaller forested areas associated with local residential development that often indicates the presence of steep slopes, rocky soils, or wet areas that could not be developed. Small pockets of forest are located within the Project Area but are mostly associated with industrial plots of land owned by the local utility companies. Adjacent to the Project, several residential and agricultural tracts of land contain moderately-sized, forested communities. These land uses are illustrated in **Figure 10-4**.

3.2 Airports

No public or private airports are located within two miles of the Project Area.

3.3 Linear Features

Linear features present in or around the Project Area include roadways, pipelines, and existing transmission corridors, as illustrated in **Figure 10-1**.

3.3.1 Roadways and Railroads

The primary roadway within the Project Area is Delta Road - SR 74. Other primary roadways within and adjacent to the Project Area are Paper Mill Road – SR 2024, Lay Road – SR 2104, Broad Street – SR 2045, and Line Road – SR 2028. No active railroads are present within the Project Area.

3.3.2 Transmission Line Corridors

Power transmission corridors located within the Project Area primarily consist of 230 kV and 500 kV lines that are owned by PECO. Transmission lines within the Project Area include two lines that originate in Maryland and cross the Maryland/Pennsylvania border to connect to the Peach Bottom Substations. Several other lines cross the Susquehanna River and continue into Lancaster County with a few others running north along the river towards the greater Harrisburg area. The Calpine Power Plant also has an existing 500 kV transmission line that extends northeast from the power plant to the Peach Bottom South Substation. Portions of this line are located within the Project Area.

3.4 Historic, Cultural, and Archaeological Resources

A review of cultural resources within and around the Project Area is required by various state agencies to ensure their preservation. A desktop survey of existing historic structures and archaeological resources within the Project Area was conducted by accessing the Pennsylvania Historical and Museum Commission’s (PHMC) Pennsylvania State Historic and Archeological Resource Exchange (PA-SHARE) to review available information on historic structures, archaeological surveys, and previously recorded archaeological sites. This was accomplished by importing a GIS polygon approximating the limits of the Project Area into the PA-SHARE interactive web map to capture all data contained within that polygon in the form of GIS data layers (PHMC 2024a).

The review concluded no NRHP-listed or -eligible archaeological sites are located within 2-miles of the Project corridor. This review did identify several NRHP-listed or -eligible historic districts, bridges and buildings located within 2-miles of the Project including:

- Delta Historic District, which covers most of Delta Borough.

- Coulsonstown Cottage Historic District located off of Ridge Road south of Delta.
- Muddy Creek Bridge, a railroad crossing of Muddy Creek located north of Delta.
- Delta Trestle Bridge, a railroad crossing of Scott Creek located north of Delta
- Scott Creek Bridge, a railroad crossing of Scott Creek located north of Delta.
- Whiteford House, historic building located on Broad Street in Delta.
- Sample House, historic building located on Flintville Road just south of the Cooper Substation.

Some details on this review are provided in the following sections.

3.4.1 Historic Architecture

One of the closest NRHP-listed or –eligible historic properties identified in the Project Area is the Sample House (Entity: 2001RE00562), which is an historic Aboveground resource located on Flintville Road just south of the Cooper Substation (**Figure 10-3**). Historic properties are defined as buildings, structures, districts, objects, sites, and linear historic sites. There is one ineligible historic property that is crossed by the Project Area. An unnamed bridge (Entity: 1995RE48739) crosses the project near Orr Road. Additionally, one historic district is crossed by the Project Area: the Maryland & Pennsylvania Railroad (Entity: 2010RE03384), which was also deemed not an eligible resource. The railroad originated as the Peach Bottom Railway, which was composed of a narrow-gauge track that spanned from York, Pennsylvania to Delta, Pennsylvania in the late 19th century. Later the Peach Bottom Railway merged with the Maryland Central Railroad to form the Maryland and Pennsylvania Railroad that created one contiguous railway from York, Pennsylvania to Baltimore, Maryland (PHMC 2024b).

Coordination with PHMC was initiated in April 2024. The response letter received on May 7, 2024, indicated that the project would have No Effect on above ground resources but that archaeological surveys will be necessary (PHMC 2024d).

3.4.2 Archaeology

As noted, the review concluded that no NRHP-listed or -eligible archaeological sites are located in the area, however, the PA-SHARE site was also used to evaluate the potential for archeologically sensitive areas. The Pre-Contact Probability Model analyzes the landscape at known Native American archeological sites and extrapolates patterns to predict the presence of sites in a given location. The model is broken down into low, moderate, and high probability values. Along the main ROW corridor, there are scattered pockets of moderate to high probability of locating archeological sites. Closer to the Susquehanna River, especially surrounding the Peach

Bottom North and Peach Bottom South Substations are large concentrations of high probability areas of encountering an archeological site (PHMC 2024c).

As noted above, the PHMC response letter received on May 7, 2024, indicated that archaeological surveys will be necessary.

3.5 Local Zoning and Comprehensive Plans

Local zoning ordinances have been adopted in Peach Bottom Township which completely contains the Project Area. Generally, these ordinances are used to guide future land use in the townships by encouraging development of desirable residential, commercial, agricultural, and industrial areas with appropriate groupings of compatible and related land uses. The various zoning districts outlined in this ordinance reflect the land use character of the region, which consists of mostly agricultural and open space, with small pockets of residential, industrial forest cover areas. Public utility projects are often exempt from most municipal zoning standards.

York County has prepared a comprehensive plan. In general, comprehensive plans are intended to serve as a means to review the assets and pressures within the county and provide guidance for future development and preservation; they are not intended to regulate and have no official authority.

As a component of the comprehensive plan, the York County Open Space and Greenways plan was developed to create greenways and protect open space in York County. According to the plan “Greenways, whether they are trails designed for public use or linear conservation corridors that enhance wildlife habitat or help reduce pollution in our waterways, play a significant role in helping to build livable communities and expand local economics” (YCPC 2006). The Open Space and Greenways plan identifies recreational opportunities in York County such as the Mason-Dixon Trail. The Mason-Dixon Trail is crossed by the Project Area near the Peach Bottom Substations and covers 193 miles connecting to the Appalachian Trail in Cumberland County and terminating near Chadds Ford, Pennsylvania. The plan also identifies the Peach Bottom Township Recreation Area which is directly adjacent to the Project Area along Lay Road.

3.6 Proposed Development

The U.S. Census Bureau reports that the population in York County has increased between 2010 and 2022. The population of York County has risen by approximately six percent (USA Facts 2024). More specifically, Peach Bottom Township has experienced a three percent rise in

population between 2010 and 2020. Based on this growth pattern, proposed development within and around the Project Area is anticipated to mildly increase (U.S. Census Bureau 2020).

4.0 ALTERNATIVES EVALUATION

Pennsylvania’s requirements for transmission siting applications direct applicants to provide a “general description of reasonable alternative routes.” To address this requirement, PECO completed a high-level evaluation of the area around the existing transmission line corridor to assess the potential of identifying alternative route corridors for a new 500 kV line, which would require identification and development of a new 150-foot-wide ROW (**Figure 10-5**). Through this initial analysis, and without planning specific routes within each corridor, PECO determined that any alternative route would create significant new adverse impacts that can be avoided using the planned route, which maximizes use of the existing ROW.

4.1 Evaluation Process

The initial step in the process was defining a study area within which the potential corridors would extend. Modification to the transmission line network between the Peach Bottom North Substation, Cooper Substation, and the new substation to be constructed by a separate entity (Bramah Substation) will occur in a relatively condensed area and involve relatively direct alignments such that siting an alternative route would be impractical (the straight-line distance between Peach Bottom North Substation and Cooper Substation is 1.3 miles with connections to Bramah Substation located in between). As such, the focus of the evaluation was on the section of PECO’s existing transmission line corridor that extends southwest from the Cooper Substation to the Pennsylvania/Maryland state line (approximately 4 miles).

To focus the evaluation, the study area boundary north of the existing transmission line corridor was defined by Muddy Creek, which extends generally west to east toward the Susquehanna River and is approximately 1.3 miles from the existing transmission line corridor. This waterway is located within a steep, forested valley that is generally 1,000 feet wide. Spanning this waterway would involve accessing the steep slopes to remove the trees within the valley and installing large transmission line structures on each side of the valley to account for the long span length over the waterway. Crossing Muddy Creek would also necessitate a second crossing of the waterway to reconnect to the existing transmission line corridor, which would duplicate the impacts. This boundary would limit any potential alternative to an approximate 5-mile length between Cooper Substation and the Pennsylvania/Maryland state line.

The area south of the existing transmission line corridor does not contain a natural boundary such as Muddy Creek. Land use in this area is predominantly agricultural or forested, with a dense swath of residential use extending for approximately 2.5 miles between Delta, Pennsylvania and Whiteford, Maryland, which is located approximately 1-mile south of the state line. As an additional complication, the Maryland portion of the existing transmission line corridor is extending to the southwest thereby making any alternative potentially longer. As such, the study area boundary south of the existing transmission line corridor was defined as a line extending west to east that is approximately 1-mile south of the state line. This boundary provides opportunity for a potential alternative to possibly avoid the residential areas while also possibly connecting back to the existing transmission line corridor near the state line and minimizing the length of the alternative. This boundary would limit any potential alternative to an approximate 5 to 6-mile length between Cooper Substation and the Pennsylvania/Maryland state line.

The western boundary of the study area is where the existing transmission line corridor meets the Pennsylvania/Maryland state line which will limit the length of any potential alternative and minimize its extent within Maryland. The eastern boundary was defined by the Susquehanna River, which would be impractical to cross and is in the wrong direction.

Within this defined study area, the second step of the evaluation process considered a variety of constraints that were categorized as either social, environmental, or engineering items. Social constraints include residential development as well as socially sensitive places such as churches, cemeteries, and schools. Other social constraints include preserved or public areas such as conserved farms, preserved nature areas, and local parks. Environmental constraints focus on the natural resources that include streams and wetlands as well as forested areas. Some of these resources are part of state-identified natural areas that also provide habitat for plant and animal species of concern that are protected by state or federal agencies. Engineering constraints assess the landscape for obstacles to the development of the potential transmission line. Specific engineering constraints include steep grades, wide stream valleys, and other large infrastructure that would need to be crossed such as railroads, highways, and other existing transmission lines.

The following sections provide a summary of PECO's assessment of the study area using these constraint concepts. For purposes of this discussion, the evaluation was broken into two sections, "Options North of the Project Area" and "Options South of the Project Area." As is illustrated in **Figure 10-5**, land use north and south of the existing transmission line alignment is constrained by social development, forested areas, and convoluted stream corridors.

4.2 Options North of the Project Area

As noted in **Figure 10-5**, the landscape north of the existing transmission line corridor includes areas of dense residential development around the town of Bryansville and the adjacent extensive Susquehanna Trails neighborhood, deep forested stream valleys that generally flow north toward Muddy Creek, and large swaths of agricultural lands with many protected by agricultural conservation easements. These land uses and natural resources are potential constraints to the development of a new transmission line. The following summarizes the specific constraints identified in the area.

4.2.1 Social Constraints

The town of Bryansville is located approximately 1.1 miles to the north of the existing transmission line corridor and is composed of approximately 75 residential homes clustered around the network of local roads. A few commercial properties, the Bryansville United Methodist Church, and a large Williams Transcontinental Gas Pipeline facility are located along the main roadway (SR 851). The sprawling Susquehanna Trails residential development is located a mile further to the northwest from Bryansville and is an approximate 2.5 square mile area of dense development containing hundreds of existing homes. Other areas of social constraints include the RT 74 and RT 851 intersection located just north of the existing transmission line corridor that consists of several residential communities, restaurants and other businesses, and the Calvary Chapel of Delta church, and the series of local roads located north of the Cooper Substation (i.e., Lay Road, Flintville Road, Ailes Road) that are bordered by pockets of residential properties, as well as Peach Bottom Park (Delta Sports Complex), which contains ball fields and other recreational opportunities.

Many of the farms located north of the existing transmission line corridor are also protected by county-based agricultural conservation easements. These easements were put in place to preserve the agrarian character of the county and to reduce the pressure of development. Construction of a potential transmission corridor across these lands is permissible but may place a burden on the farmer by disrupting their farming patterns through the installation of new structures within their fields, which they would need to navigate around. In addition, two parcels are protected by environmental conservation easements that were put into place through local land trust groups to preserve agricultural and natural landscapes. These include:

- 150-acre Farm and Natural Lands Trust near Line Road.
- 35-acre Farm and Natural Lands Trust near Route 74.

4.2.2 Environmental Constraints

According to the PFBC, several streams in this area are classified as Natural Trout Reproducing which provides protection to the watersheds and wetlands within these watersheds as they are also considered Exceptional Value wetlands under Pennsylvania Chapter 105 environmental permitting regulations. These streams include Fishing Creek, Scott Creek, and Muddy Creek watersheds which account for most of the area north of the existing transmission line corridor.

These streams and most of their tributaries are bordered by steep valleys that are heavily forested. Other large areas of dense forest cover are located between the stream valleys. Collectively, these forested areas provide potential habitat for a diversity of plant and animals, some of which are considered threatened or endangered by federal and state agencies, such as the nodding trillium (*Trillium cernuum*) and the broadhead skink (*Plestiodon laticeps*). Two specific state-identified Natural Areas encompass some of these forested areas that provide known habitat for some of these protected species. These Natural Areas include:

- Bryansville Station Seep – Rare plants and other threatened and endangered species in the area along Muddy Creek.
- Fishing Creek-York County – Rare, threatened or endangered species of concern along broad section of Fishing Creek watershed.

4.2.3 Engineering Constraints

One of the engineering constraints identified north of the existing transmission line corridor includes the Williams Transcontinental Gas Pipeline and pumping facility near Bryansville. The main pipelines extend from the southwest to the northeast between Bryansville and Susquehanna Trails. Paralleling this feature is not preferred by the utility due the potential cathodic impacts the electric line may have to the pipeline; spanning over the feature is less of a concern. The Willaims facility in Bryansville is a large industrial complex that includes pumping facilities and a network of gas pipelines that should be avoided by potential transmission line routes. Another similar engineering constraint is the series of existing PECO transmission lines near the Cooper Substation. These power lines present an engineering challenge that if needed to be crossed by a potential transmission line would require taller and more engineeringly complex structures. An abandoned railroad corridor also bisects the area from southeast to northwest and intersects the existing transmission line corridor near the RT 74 crossing. This railroad corridor is considered a potential cultural resource that may require additional historic survey but also may still involve specific regulatory and owner-operated approvals for spanning despite the lack of current use.

Another engineering constraint is the general topography of the landscape. The steep and deep stream valleys create challenges for spotting pole locations and engineering span lengths to cross over these irregular spaced areas. Construction of a potential route would involve creating new access roads across this landscape which would be complex and result in additional environmental and social impacts.

4.2.4 Review of Alternative Route Options to the North

Compared to the existing PECO transmission line corridor, there are no better practicable alternative route options located north of this corridor. Any route in this area would require acquisition of new easements from minimally 20 different landowners. This acquisition would represent a brand-new impact, which could dramatically alter the landscape, affect landowners' land use operations, and introduce new structures on their properties.

Unlike the existing corridor, which is generally linear, any new route in this area would be convoluted due to the need to avoid the density of residential development, minimize impacts to natural resources, and address the challenging terrain. The new route may need to cross over an existing PECO transmission line, which would result in several taller structures. The varying structure heights and numerous angle changes would increase the complexity of engineering and construction compared to the generally linear alignment of the existing corridor.

The new route would extend through at least four or five new forested areas, which may include the Farm and Natural Lands Trust parcels, the Bryansville Station Seep natural area, or the Fishing Creek-York County natural area, that will result in potential acres of tree clearing compared to the minimal tree clearing anticipated for building the project within the existing transmission line corridor. Clearing these forests may lead to new impacts to federal or state protected animal or plant habitat areas. The new route will also need to span over at least four or five new stream valleys, some of which may be associated with the Natural Areas or environmentally conserved parcels noted in this area. Spanning these streams may also result in additional riparian impacts. Wetlands may be located along the potential alignment that could be negatively affected and result in complex permitting and mitigation requirements.

In summary, a potential 500 kV transmission line alignment located north of the existing transmission lines would be longer than the existing transmission line corridor due to the challenging landscape and arrangement of identified social and environmental constraints. This longer and more convoluted alignment may result in the following impacts:

- New transmission line easement restrictions affecting multiple landowners

- Potential for new 500 kV structures on their properties
- Potential clearing of vegetation on their properties
- Probable viewshed complaints raised by landowners and the surrounding community
- Potential condemnation for these lands
- Probable need to cross conserved agricultural lands
- Potential effects on farming patterns
- Potential need to cross lands with existing conservation easements
- Acres of forest clearing
- Loss of riparian buffer for wild trout streams
- Potential impacts to RTE habitat
- Potential forested wetland impacts
- Potential complex permitting process and mitigation requirements

4.2.5 Conclusions for Route Options to the North

Based on the items discussed above, this evaluation of potential transmission line route options north of the existing transmission line corridor concluded the following:

- Use of the existing transmission line corridor will involve acquisition of minimal areas of ROW from two landowners currently crossed by the Project, whereas an alternative route would require new 150-foot wide ROW that extends approximately 5 miles and across at least 20 new properties.
- Use of the existing transmission line corridor avoids major residential/commercial areas such as Susquehanna Trails and Bryansville.
- Use of the existing transmission will not involve any new stream or wetland crossings, whereas an alternative may need to cross five or six streams and potentially involve new wetland impacts.
- Use of the existing transmission line corridor reduces potential impacts to environmentally sensitive areas, such as the Farm and Natural Lands Trust parcels, the Bryansville Station Seep natural area, and the Fishing Creek-York County natural area, by utilizing largely maintained existing transmission rights-of-way and easements.
- Use of the existing transmission line corridor reduces the need for new impacts to agricultural easements and conserved lands by utilizing existing easements and rights-of-way.
- Use of the existing transmission line corridor maintains the approximate same straight-line distance between churches, parks, and other community interests by staying within the existing transmission line area.
- Use of the existing transmission line corridor reduces the risk of impacts to gas pipelines and other utility infrastructure because the existing corridor does not intersect these utilities.

4.3 Options South of the Project Area

As noted in **Figure 10-5**, the landscape south of the existing transmission line corridor also includes areas of dense residential development around the town of Delta and the adjacent Delta Ridge neighborhood, several forested stream valleys that generally flow south toward the Susquehanna River or Deep Creek, and large swaths of agricultural lands with many protected by agricultural conservation easements. The town of Delta and the surrounding development define a barrier to any alternative route and would force the alignment further south and into the state of Maryland, where the route would encounter areas of dense residential development (towns of Cardiff and Whiteford) and large forested tracts. The following summarizes the specific constraints identified in the area:

4.3.1 Social Constraints

The town of Delta is located less than one mile south of the existing transmission line corridor and extends to the southwest to the state line border, where it transitions into the communities of Cardiff and Whiteford, Maryland. Delta is composed of residential and commercial development and has a population of approximately 700 people. Commercial businesses include restaurants, service centers, and hardware stores, but other facilities such as firehalls, senior centers, post offices, three churches and an elementary school are also present. The downtown is listed as a historic district through the National Register of Historic Places (NRHP) due to its association with slate production during the late 19th and early 20th centuries. An adjacent property (Whiteford House) is also listed as an historic home through the NRHP. The communities of Cardiff and Whiteford are also composed of residential and commercial development that is centered around Pylesford Road (MD 165) and Whiteford Road (MD 136). These communities are also listed by the NRHP as historic districts. Commercial areas include a supermarket, lumber yard, public library, and an ice cream shop, as well as the Slate Ridge Presbyterian Church and a volunteer fire company.

The Delta Ridge community is located immediately to the northwest of Delta and closer to the existing transmission line corridor. This approximate 140 home residential development includes areas of community open space and public walking trails. The community is bordered to the west by the Mason Dixon Fair Grounds, the Slate Ridge Cemetery, and the Delta Christian Academy. Furthermore, a series of local roads located north of Delta (i.e., RT 74, Broad Street, Atom Road, and Pikes Peak Road) are bordered by pockets of residential properties.

In addition to these developed areas, other social constraints that are located to the south of the existing transmission line corridor include Guppy Gulch Park, a scattering of conserved lands, and several churches. Guppy Gulch Park is a private camping facility near Delta that is based along a flooded quarry and offers a diversity of water sports and scuba diving. Several of the farms in Pennsylvania are protected by county-based agricultural conservation easements. In Maryland, a 185-acre tract of forest near Cardiff is protected through a Maryland Forest Conservation Easement and a 388-acre farm near Whiteford is protected through a Maryland Agricultural Land Preservation Foundation Easement. The rural area southeast of Delta also contains three churches and cemeteries including:

- Slateville Presbyterian Church and Cemetery.
- Mount Zion Church and Cemetery.
- Mount Nebo United Methodist Church and Cemetery.

4.3.2 Environmental Constraints

Streams in Pennsylvania are classified as Natural Trout Reproducing watersheds, according to the PFBC; wetlands within these watersheds are also considered Exceptional Value wetlands under Pennsylvania Chapter 105 environmental permitting regulations. These include Michael Run and an unnamed tributary to the Susquehanna River. Maryland does not provide similar commission-based protection for streams but does classify streams based on protection to aquatic life. Maryland streams near the existing transmission line corridor are classified as Class I-P (Protection of Nontidal Warmwater Aquatic Life – e.g., Broad Creek) and Class III-P (Protection of Nontidal Cold Water Aquatic Life – e.g., Deep Creek). Broad Creek is located southwest of Whiteford, whereas Deep Creek is located further to the northeast near Delta and Cardiff. Class III-P streams do provide protection for the growth and propagation of trout species. The “P” in the classification codes further signifies the protection of public water supplies.

Several areas of dense forest are located south of the existing transmission line corridor. Forested areas in Pennsylvania include the Guppy Gulch Park, quarries located along Atom Road, and along the stream valleys extending toward the Susquehanna River. A few larger forested tracts are in Maryland with some protected by state easements. Maryland has special regulations regarding tree removal that requires mitigation in the form of replenishment. Impacts to the forested areas are also monitored by Pennsylvania and Maryland agencies due to their potential as habitat for threatened or endangered species of concern.

4.3.3 Engineering Constraints

One of the engineering constraints identified south of the existing transmission line corridor includes the Calpine Power Plant located east of Delta. This nearly 50-acre facility includes geothermal and natural gas-powered generators, electrical substation facilities, and other operational buildings that should be avoided by potential transmission line routes. A 500 kV transmission line extends for 3.5 miles to the northeast between the Calpine Power Plant and the Peach Bottom South Substation. This power line presents an engineering challenge that if needed to be crossed by a potential transmission line would require taller and more engineeringly complex structures. An abandoned railroad corridor also bisects the area from east to west extending from the near the Peach Bottom Power Plant, past the Calpine Power Plant, through Delta, and then southwest through Cardiff and Whiteford. This railroad may still involve specific regulatory and owner-operated approvals for spanning despite the lack of current use.

The topography south of the existing transmission line corridor is not as incised with steep stream valleys as the north side, but does contain over a dozen large, abandoned slate quarries. These quarries range in size from 5 to 20 acres and extend in a linear fashion from northeast to southwest just south of Delta, Cardiff, and Whiteford. Spanning these features is not considered a preferred transmission siting practice and the area around the quarries may be unstable due to the quarrying operations. Several of the quarries in Maryland are also surrounded by the dense forested areas that are protected by the Maryland Forest Conservation Easement.

4.3.4 Review of Alternative Route Options to the South

Compared to the existing PECO transmission line corridor, there are no better practicable alternative route options located south of this corridor. Any route in this area would need to extend into Maryland to bypass the Calpine Power Plant and dense residential development around Delta, Pennsylvania and Cardiff and Whiteford, Maryland. This would introduce the need to coordinate with the Maryland Public Service Commission for approval to site a line in Maryland, which would involve additional costs and delays to the project.

Any route in this area would also require acquisition of new easements from minimally 10 different landowners in Pennsylvania and minimally 15 landowners in Maryland. This acquisition would represent a brand-new impact, which could dramatically alter the landscape, affect landowners' land use operations, and introduce new structures on their properties. The new route may also extend near several local churches and other culturally sensitive sites that may be considered a visual effect and may increase community concern.

Unlike the existing corridor, which is generally linear, any new route in this area would be convoluted due to the need to avoid the density of residential development, the Calpine Power Plant and transmission line, and minimize impacts to natural resources. The convoluted alignment will involve numerous angle changes which will increase the complexity of engineering and construction compared to the generally direct alignment of the existing corridor.

Although a southern route option may be able to avoid most impacts to forested areas in Pennsylvania, there are larger forested tracts in Maryland that would need to be crossed. Maryland has strict regulations on forest clearing that requires mitigation for all trees affected and some of the areas that may need to be crossed are protected through a Maryland Forest Conservation Easement. Wetlands may be located along the potential alignment that could be negatively affected and result in complex permitting and mitigation requirements in two different states.

In summary, a potential 500 kV transmission line alignment located south of the existing transmission lines would be longer than the existing transmission line corridor due to the indirect alignment required to avoid the arrangement of identified social and environmental constraints. This longer and more convoluted alignment may result in the following impacts:

- New transmission line easement restrictions affecting multiple landowners
- Potential for new 500 kV structures on their properties
- Potential clearing of vegetation on their properties
- Probable viewshed complaints raised by landowners and the surrounding community
- Potential condemnation for these lands
- Probable need to cross conserved agricultural lands
- Potential effects on farming patterns
- Potential effects on cultural resource areas in Maryland (historic districts)
- Acres of forest clearing
- Potential need to cross forests protected by Maryland Forest Conservation Easements
- Loss of riparian buffer for wild trout streams in Pennsylvania
- Loss of riparian buffer for Class III-P streams in Maryland,
- Potential impacts to RTE habitat
- Potential forested wetland impacts
- Potential complex permitting process and mitigation requirements

4.3.5 Conclusions for Route Options to the South

Based on the items discussed above, this evaluation of potential transmission line route options south of the existing transmission line corridor concluded the following:

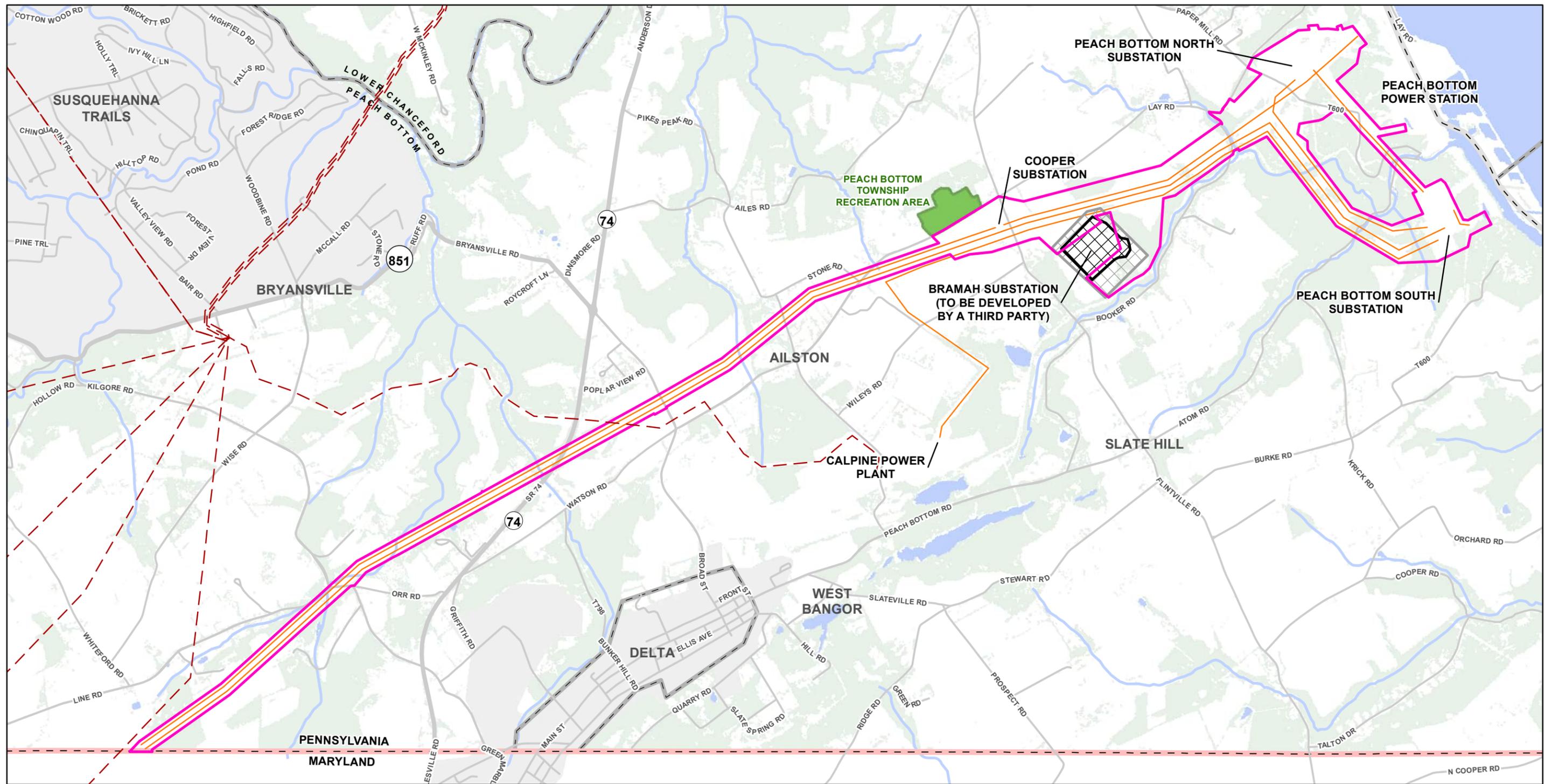
- Use of the existing transmission line corridor will involve acquisition of minimal areas of ROW from two landowners currently crossed by the Project, whereas an alternative route would require new 150-foot wide ROW that extends approximately 5 or 6 miles and across at least 25 new properties.
- Use of the existing transmission line corridor avoids major residential/commercial areas located to the south, including the Historic District of Delta and the communities of Cardiff and Whiteford.
- Use of the existing transmission will not involve any new stream or wetland crossings, whereas an alternative may need to cross five or six streams and potentially involve new wetland impacts.
- Use of the existing transmission line corridor reduces potential impacts to environmentally sensitive areas such as the Maryland Forest Conservation Easement lands by utilizing largely maintained existing transmission rights-of-way and easements.
- Use of the existing transmission line corridor reduces the need for new impacts to agricultural easements and conserved lands by utilizing existing easements and rights-of-way.
- Use of the existing transmission line corridor maintains the approximate same straight-line distance between churches, the elementary school, and other community interests by staying within the existing transmission line area.
- Use of the existing transmission line corridor reduces the risk of impacts to the Calpine Power Plant and their infrastructure.

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Legend

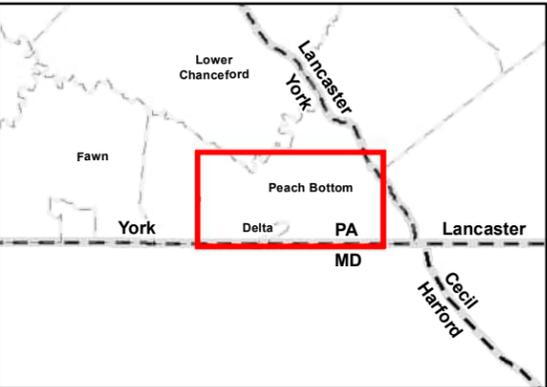
- PROJECT AREA SHOWN WITHIN BRAMAH SUBSTATION PROPERTY WAS CONSIDERED ONLY AS PART OF AECOM'S ENVIRONMENTAL ANALYSIS.
- PROPOSED SUBSTATION
- SUBSTATION PROPERTY
- EXISTING TRANSMISSION LINES
- EXISTING GAS PIPELINE
- STREAM
- LOCAL PARK
- STATE BOUNDARY
- COUNTY BOUNDARY
- MUNICIPAL BOUNDARY

NOTES:

REFERENCES:
 STATE, COUNTY AND MUNICIPAL BOUNDARIES (PENNDOT 10/2023); CHAPTER 9 DESIGNATED USE STREAMS (PA DEP 1/2024); LAND USE AND LAND COVER (LULC) DATABASE 2022 EDITION CHESAPEAKE BAY PROGRAM 2/2023; LOCAL EASEMENTS (WE CONSERVE PA 12/2023); STATE AND LOCAL ROADS (PENNDOT 10/2023); GAS

PIPES (UGI 2013)
 0 2,000 4,000
 Feet

COORDINATE SYSTEM: NAD 1983 STATE PLANE PENNSYLVANIA SOUTH FIPS 3702 FEET
 PROJECTION: LAMBERT CONFORMAL CONIC; UNITS: FOOT US

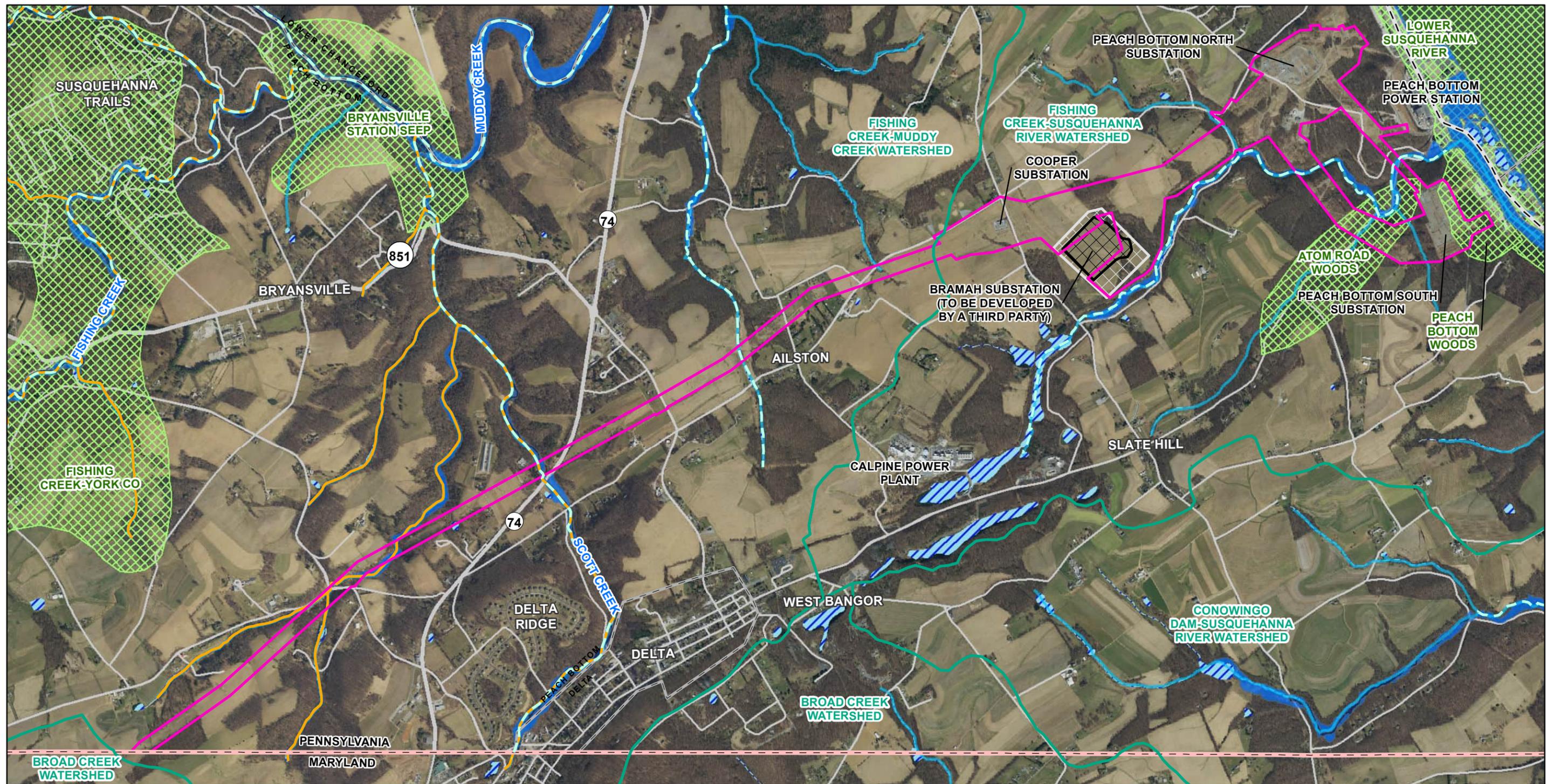


peco **AECOM**
 AN EXELON COMPANY

**Figure 10-1
 Project Area Map**

**Brandon Shores Retirement
 Mitigation Project**
 Peach Bottom Township, York County
 Pennsylvania
 PECO, an Exelon Company

Prepared By: BSF Checked By: DY/RB
 Job: 60727782 Date: 12/17/2024



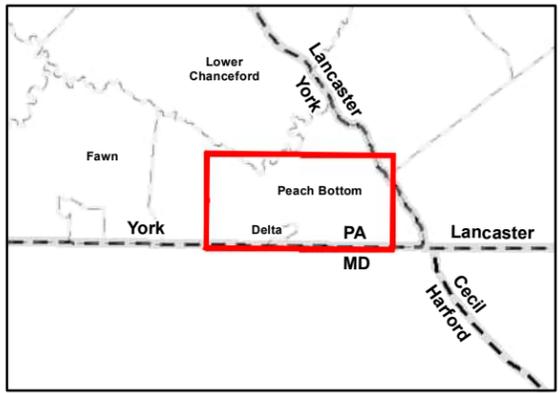
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PROJECT AREA SHOWN WITHIN BRAMAH SUBSTATION PROPERTY WAS CONSIDERED ONLY AS PART OF AECOM'S ENVIRONMENTAL ANALYSIS.	WETLAND
PROPOSED SUBSTATION	FLOODWAY
SUBSTATION PROPERTY	100-YEAR FLOODPLAIN
CH. 93 DESIGNATED USE STREAM	WATERSHED BOUNDARY
CH. 93 EXISTING USE STREAM	NATURAL HERITAGE AREA CORE HABITAT
NATURAL TROUT REPRODUCTION STREAMS	STATE BOUNDARY
	COUNTY BOUNDARY
	MUNICIPAL BOUNDARY

NOTES:

REFERENCES:
 STATE, COUNTY AND MUNICIPAL BOUNDARIES (PENNDOT 10/2023); CHAPTER 93 DESIGNATED USE STREAM S (PADEP 1/2024); CHAPTER 93 EXISTING USE STREAM S (PADEP 4/2024); TROUT NATURAL REPRODUCTION STREAM S (PFBCI/2024); NATIONAL ET LANDS INVENTORY (N I) (USF S 10/2023); NATIONAL FLOOD HAZARD LAYER (NFHL) FOR YORK COUNTY (FEM A12/2021); NATURAL HERITAGE AREAS (NHA) CORE HABITAT (PNHP 09/2022); YORK COUNTY 0.5-FOOT ORTHO MGRY (PEM A2021)

0 2,000 4,000
 Feet
 COORDINATE SYSTEM: NAD 1983 STATE PLANE PENNSYLVANIA SOUTH FIPS 3702 FEET
 PROJECTION: LAMBERT CONFORMAL CONIC; UNITS: FOOT US

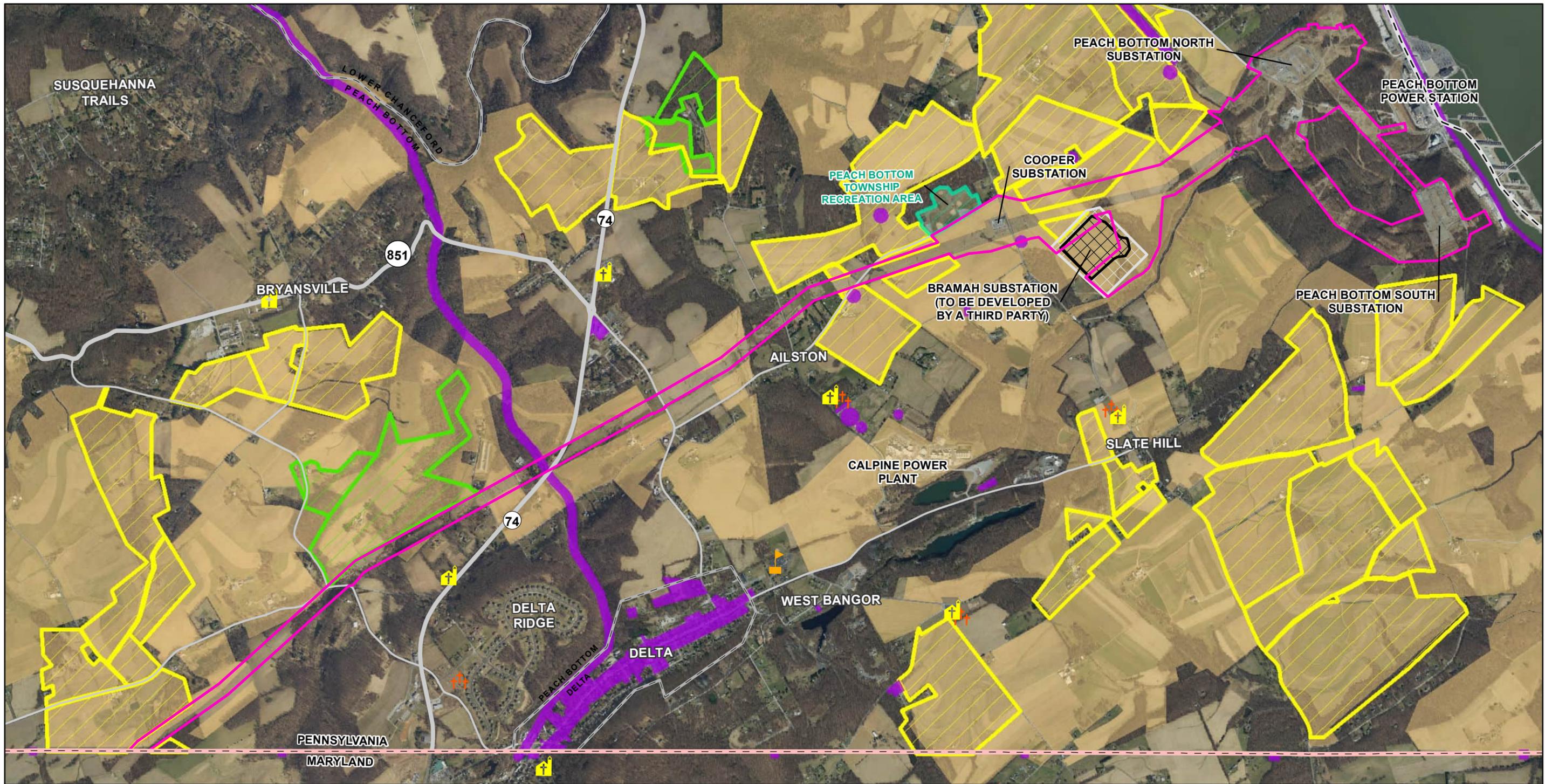


AECOM
 AN EXELON COMPANY

**Figure 10-2
 Natural Environment**

**Brandon Shores Retirement
 Mitigation Project**
 Peach Bottom Township, York County
 Pennsylvania
 PECO, an Exelon Company

Prepared By: BSF	Checked By: DY/RB
Job: 6072782	Date: 12/17/2024



Legend

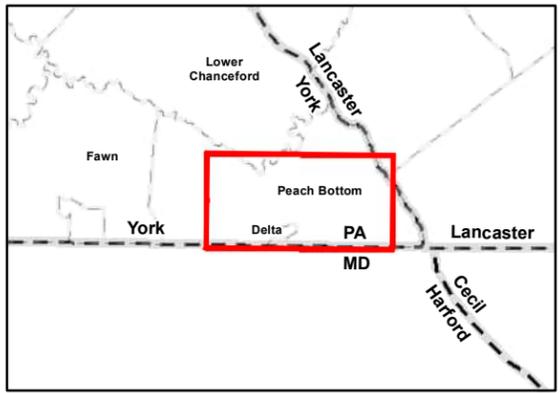
PROJECT AREA SHOWN WITHIN BRAMAH SUBSTATION PROPERTY WAS CONSIDERED ONLY AS PART OF AECOM'S ENVIRONMENTAL ANALYSIS.	CULTURAL RESOURCE
PROPOSED SUBSTATION	LOCAL PARK
SUBSTATION PROPERTY	FARM EASEMENT
PLACE OF WORSHIP	CONSERVATION EASEMENT
SCHOOL	AGRICULTURAL SECURITY AREA
CEMETERY	STATE BOUNDARY
	COUNTY BOUNDARY
	MUNICIPAL BOUNDARY

NOTES:

REFERENCES:
 CHURCHES, SCHOOLS AND CEMETERIES (ESR10212); STATE, COUNTY AND MUNICIPAL BOUNDARIES (PENNDOT 10/2023); HISTORIC RESOURCES (PA-SHARE 1/2024); CONSERVATION LOCAL AND FARM EASEMENTS (W/ ECONSERY EPA12/2023); AGRICULTURAL SECURITY AREAS (W/ ECONSERY EPA10/2023); YORK COUNTY 0.5- FOOT ORTHOGRAPHY (PEM A2021)

0 2,000 4,000
 Feet

COORDINATE SYSTEM: NAD 1983 STATEPLANE PENNSYLVANIA SOUTH FIPS 3702 FEET
 PROJECTION: LAMBERT CONFORMAL CONIC. UNITS: FOOT US



AECOM
 AN EXELON COMPANY

**Figure 10-3
 Social Environment**

**Brandon Shores Retirement
 Mitigation Project**
 Peach Bottom Township, York County
 Pennsylvania
 PECO, an Exelon Company

Prepared By: BSF	Checked By: DY/RB
Job: 6072782	Date: 12/17/2024



Legend

PROJECT AREA SHOWN WITHIN BRAMAH SUBSTATION PROPERTY WAS CONSIDERED ONLY AS PART OF AECOM'S ENVIRONMENTAL ANALYSIS.

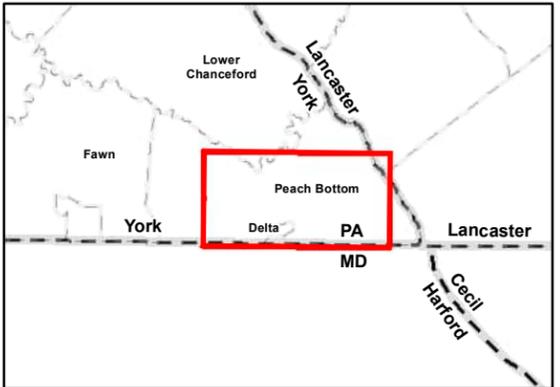
- PROPOSED SUBSTATION
- SUBSTATION PROPERTY
- WATER
- FOREST
- AGRICULTURAL AND UNDEVELOPED
- RESIDENTIAL
- INDUSTRIAL
- STATE BOUNDARY
- COUNTY BOUNDARY
- MUNICIPAL BOUNDARY

NOTES:

REFERENCES:
 STATE/COUNTY AND MUNICIPAL BOUNDARIES (PENNDOT 10/2023); LAND USE/LAND COVER DATABASE (CHESAPEAKE BAY PROGRAM 2/2023); YORK COUNTY PARCEL BOUNDARIES (YORK COUNTY ASSESSMENT MAPPER/09/2022); HANFORD COUNTY PARCEL DATA (2017); YORK COUNTY 0.5-FOOT ORTHOGRAPHY (PEM A 2021)

0 2,000 4,000
 Feet

COORDINATE SYSTEM: NAD 1983 STATEPLANE PENNSYLVANIA SOUTH FIPS 3702 FEET
 PROJECTION: LAMBERT CONFORMAL CONIC. UNITS: FOOT US

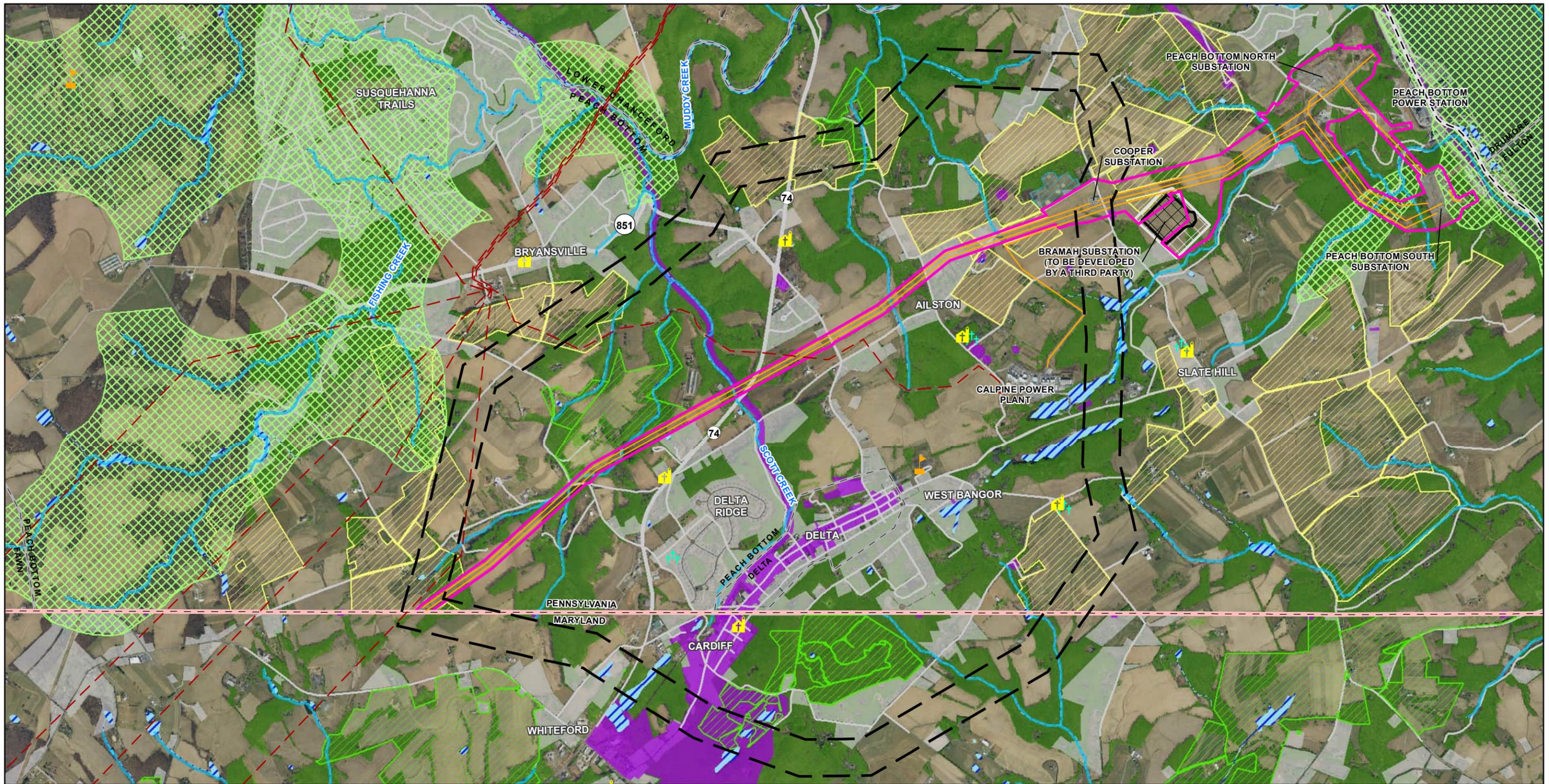


peco **AECOM**
 AN EXELON COMPANY

**Figure 10-4
 Land Use**

**Brandon Shores Retirement
 Mitigation Project**
 Peach Bottom Township, York County
 Pennsylvania
 PECO, an Exelon Company

Prepared By: BSF Checked By: DY/RB
 Job: 60727782 Date: 12/17/2024



Legend

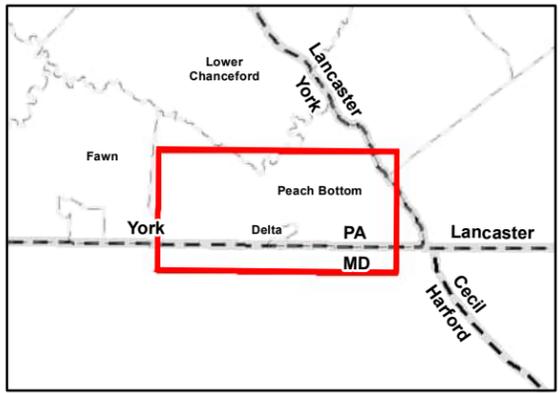
- ALTERNATIVES CORRIDOR
- PROJECT AREA SHOWN WITHIN BRAMAH SUBSTATION PROPERTY WAS CONSIDERED ONLY AS PART OF AECOM'S ENVIRONMENTAL ANALYSIS.
- ☒ PROPOSED SUBSTATION
- ▭ SUBSTATION PROPERTY
- 🏠 PLACE OF WORSHIP
- 🎓 SCHOOL
- ⚰ CEMETERY
- EXISTING TRANSMISSION LINES
- GAS PIPELINE
- USGS STREAM
- ▨ NWI WETLAND
- ▨ NATURAL HERITAGE AREA CORE HABITAT
- ▨ FARM EASEMENT
- ▨ CONSERVATION EASEMENT
- ▨ CULTURAL RESOURCE
- ▨ RESIDENTIAL AREAS
- ▨ FORESTED AREA
- ▨ STATE BOUNDARY
- ▨ COUNTY BOUNDARY
- ▨ MUNICIPAL BOUNDARY

NOTES:

REFERENCES:
 STATE,COUNTY AND MUNICIPAL BOUNDARIES (PENNDOT 10/2023); GAS PIPELINES (UG2013); NHDFLOW LINES (USGS 12/2023); NATIONAL WETLANDS INVENTORY (NWI) (USFW S10/2023); NATURAL HERITAGE AREAS (NHA) CORE HABITAT (PNHP09/2022); PLACES OF WORSHIP, SCHOOLS AND CEMETERIES (ESR0012); HISTORIC RESOURCES (PA-SHARE 1/2024); NATIONAL REGISTER OF HISTORIC PLACES (7/2018); CONSERVATION LOCAL AND FARM EASEMENTS (W E CONSERV EPA12/2023); M D CONSERVATION EASEMENTS (NCD07/2023); YORK COUNTY 0.5-FOOT ORTHO IMAGE (PEM A 2021)

0 2,500 5,000
 Feet

COORDINATE SYSTEM: NAD 1983 STATE PLANE PENNSYLVANIA SOUTH FIPS 3702 FEET
 PROJECTION: LAMBERT CONFORMAL CONIC. UNITS: FOOT US



peco **AECOM**
 AN EXELON COMPANY

**Figure 10-5
 Alternatives Review**

**Brandon Shores Retirement
 Mitigation Project**
 Peach Bottom Township, York County
 Pennsylvania
 PECO, an Exelon Company

Prepared By: BSF Checked By: DY/RB
 Job: 60727782 Date: 12/17/2024

GENERAL NOTES

1. THE EXISTING PECO TRANSMISSION RIGHT-OF-WAY AND THE PROPOSED ACQUISITION AREAS SHOWN ARE BASED UPON A FIELD SURVEY PERFORMED BY RETTEW IN MARCH AND APRIL OF 2024.
2. BEARING BASIS OF SURVEY IS THE PA STATE PLANE COORDINATE SYSTEM SOUTH ZONE, NAD 83 AND VERIFIED USING A TRIMBLE RTX SOLUTION PERFORMED ON MARCH 18, 2024 BY RETTEW.
3. FOR PROPERTIES THAT HAVE PARTIAL ACQUISITION AREAS, RETTEW HAS NOT PERFORMED FULL BOUNDARY RETRACEMENT SURVEYS. ONLY PROPERTY LINES ADJACENT TO THE ACQUISITION AREA WERE VERIFIED BY RETTEW.
4. EXISTING FEATURES SHOWN IN THE EXISTING PECO TRANSMISSION RIGHT-OF-WAY AND IN ACQUISITION AREAS 1 THROUGH 11 HAVE BEEN FIELD VERIFIED BY THE SURVEYOR. THE EXISTING FEATURES SHOWN IN ACQUISITION AREAS 12 THROUGH 18 (BRAMAH SUBSTATION) AND ARE SHOWN BASED UPON A COMBINATION OF FIELD SURVEY AND AERIAL TRACING.
5. EXISTING WATER LINE SHOWN HEREON IS BASED UPON REFERENCE 8 AND HAS NOT BEEN FIELD VERIFIED.
6. THE PENNSYLVANIA/MARYLAND STATE LINE SHOWN HEREON IS BASED UPON DEED VERIFICATION FROM THE PENNSYLVANIA ONLY. THERE HAS BEEN NO VERIFICATION OR BOUNDARY RETRACEMENTS OF THE STATE LINE OR THE MONUMENTS ALONG THE STATE LINE BY RETTEW.
7. PROPOSED FEATURES SHOWN HEREON ARE BASED UPON ELECTRONIC FILES PROVIDED BY POWER ENGINEERING ON 08/21/2024.

LEGEND

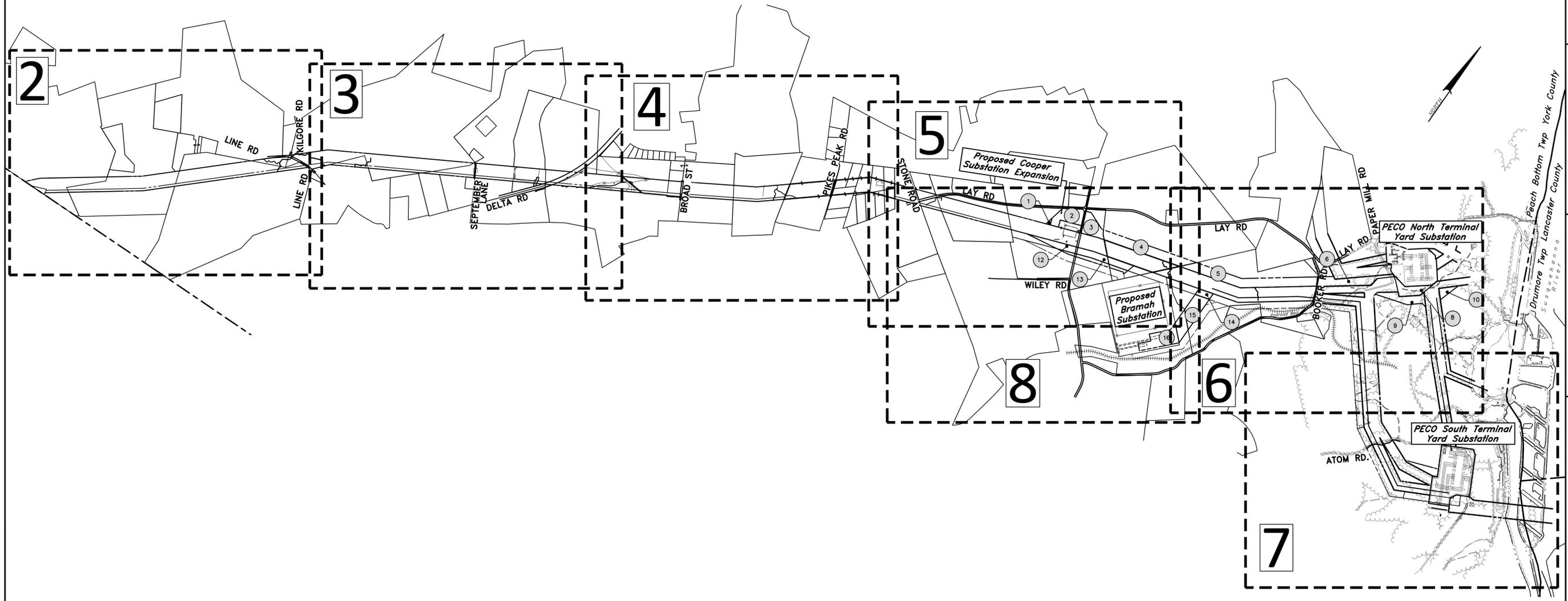
	Right-of-Way Line		Property Marker
	Existing Centerline Circuit		Unmarked Corner
	Existing Calpine Waterline		Utility Pole
	Edge of Pavement		Guy Pole
	Edge of Stone		Sign
	Curb Line		Unidentified Manhole
	Guide Rail		Telecom Manhole
	Fence		Waterline Manhole
	Building		Electric Box
	Riprap Stone Area		Mail Box
	Planting Area		Existing Transmission Structures
			Proposed Acquisition Area

REFERENCES

1. PLAN TITLED "GRACETON-NOTTINGHAM 220KV TRANSMISSION LINE"
2. AGREEMENT TITLED "AMENDED AND RESTATED EASEMENT AND LICENSE AGREEMENT BY AND BETWEEN CONSTELLATION ENERGY GENERATION, LLC AND PECO ENERGY COMPANY FOR LIMERICK GENERATING STATION" PREPARED BY JOHN C. HALDERMAN, 2301 MARKET STREET PHILADELPHIA, PA 19103, DATED JANUARY 26, 2022.
3. PLAN TITLED "OVERALL PROPERTY PLAN FOR PEACH BOTTOM GENERATION STATION" PREPARED BY RETTEW ASSOCIATES, INC. DATED JANUARY 25, 2022.
4. EASEMENT AGREEMENT BY AND BETWEEN EXELON GENERATION COMPANY, LLC AND CONECTIV MID-MERIT, LLC FOR THE TRANSMISSION, WATER, AND COMMUNICATION LINE EASEMENTS AND PUMPING STATION DATED AUGUST 25, 2008 AND RECORDED IN THE YORK COUNTY RECORDER OF DEEDS OFFICE IN RECORD BOOK 2027 PAGE 1 ON JUNE 16, 2009.
5. EASEMENT AGREEMENT BY AND BETWEEN PECO ENERGY COMPANY AND CONECTIV MID MERIT, LLC FOR THE TRANSMISSION, WATER, AND COMMUNICATION LINES EASEMENT, PEACH BOTTOM TOWNSHIP, DELTA, PENNSYLVANIA DATED AUGUST 25, 2008 AND RECORDED IN THE YORK COUNTY RECORDER OF DEEDS OFFICE IN RECORD BOOK 2020 PAGE 4203 ON MAY 12, 2009.
6. EASEMENT AGREEMENT BY AND BETWEEN PECO ENERGY COMPANY AND CONECTIV MID MERIT, LLC FOR THE TRANSMISSION, WATER, AND COMMUNICATION LINE EASEMENT, PEACH BOTTOM TOWNSHIP, DELTA, PENNSYLVANIA DATED JUNE 23, 2010 AND RECORDED IN THE YORK COUNTY RECORDER OF DEEDS OFFICE IN RECORD BOOK 2099 PAGE 1926 ON NOVEMBER 03, 2010.
7. EASEMENT AGREEMENT BY AND BETWEEN EXELON GENERATION COMPANY, LLC AND CONECTIV MID-MERIT, LLC FOR THE TRANSMISSION, WATER, COMMUNICATION LINE, EASEMENTS AND PUMPING STATION DATED SEPTEMBER 28, 2010 AND RECORDED IN THE YORK COUNTY RECORDER OF DEEDS OFFICE IN RECORD BOOK 2099 PAGE 1926 ON NOVEMBER 03, 2010.
8. EASEMENT AGREEMENT BY AND BETWEEN CHARLES EDWIN GRIMMEL JR. AND CONECTIV MID-MERIT, LLC FOR TRANSMISSION AND WATER LINE EASEMENT DATED APRIL 14, 2008 AND RECORDED IN THE YORK COUNTY RECORDER OF DEEDS OFFICE IN RECORD BOOK 1966 PAGE 2152 ON MAY 21, 2008.
9. MEMORANDUM OF PURCHASE OPTION GRANTED BY TROYER FARMS, LLC TO FRANKLIN REAL ESTATE COMPANY DATED SEPTEMBER 18, 2023 AND RECORDED IN THE YORK COUNTY RECORDER OF DEEDS OFFICE IN RECORD BOOK 2797 PAGE 7829 ON SEPTEMBER 20, 2023.
10. EASEMENT AGREEMENT BY AND BETWEEN PECO ENERGY COMPANY AND TRANSCONTINENTAL PIPELINE COMPANY, LLC FOR A GAS PIPELINE EASEMENT DATED JULY 29, 2010 AND RECORDED IN THE YORK COUNTY RECORDER OF DEEDS OFFICE IN RECORD BOOK 2087 PAGE 5697 ON AUGUST 13, 2010.

Area	Owner	Parcel ID	Deed Book/Page	Approximate Acreage
1	TROYER FARMS LLC	43-000-BQ-0034.00-00000	2324/1764	0.2 Acres
2	TROYER FARMS LLC	43-000-BQ-0034.00-00000	2324/1764	4.5 Acres
3	TROYER FARMS LLC	43-000-BQ-0034.00-00000	2324/1764	3.7 Acres
4	GRIMMEL FARMS, LP	43-000-BQ-0041.00-00000	2664/7621	8.1 Acres
5	TROYER FARMS LLC	43-000-BQ-0047.00-00000	2324/1764	12.0 Acres
6	CONSTELLATION ENERGY GENERATION, LLC	43-000-BQ-0050.00-00000	1977/8295	5.2 Acres
8	CONSTELLATION ENERGY GENERATION, LLC	43-000-BQ-0050.00-00000	1977/8295	3.1 Acres
9	CONSTELLATION ENERGY GENERATION, LLC	43-000-BQ-0051.00-00000	1977/8295	3.5 Acres
10	CONSTELLATION ENERGY GENERATION, LLC	43-000-BQ-0050.00-00000	1977/8295	1.1 Acres
12*	CALPINE CORPORATION	43-000-BQ-0034.00-00000	2020/4203	4.5 Acres
13**	CALPINE CORPORATION	43-000-BQ-0041.00-00000	1679/671	1.6 Acres
14*	CALPINE CORPORATION	43-000-BQ-0047.00-00000	2020/4203	1.0 Acres
15	TROYER FARMS LLC	43-000-BQ-0047.00-00000	2324/1764	6.2 Acres
16***	TROYER FARMS LLC	43-000-BQ-0016.00-00000	2324/1764	5.0 Acres

* ACQUISITION OF EXISTING TRANSMISSION EASEMENT CONTROLLED BY CALPINE W/ FEE TITLE IN TROYER FARMS LLC
 ** ACQUISITION OF EXISTING TRANSMISSION EASEMENT CONTROLLED BY CALPINE W/ FEE TITLE IN GRIMMEL FARMS, LP
 *** PROPERTY SUBJECT TO PURCHASE OPTION PER REFERENCE 7



RETTEW ASSOCIATES, INC.
 2301 MARKET STREET, N3-3
 PHILADELPHIA, PA 19103
 Phone: (800) 738-8395
 Email: rettew@rettew.com
 Website: www.rettew.com

FOR THE
PECO ENERGY COMPANY
BRANDON SHORES RETIREMENT
MITIGATION PROJECT
 PEACH BOTTOM TOWNSHIP
 YORK COUNTY, PA

DATE: 08/15/24
 SHEET NO. 1 OF 8
 DWG. NO. 0310001291

MANAGER: JASON MORAN
 DESIGN BY: DB
 SURV. CHIEF: JM
 DRAWN BY: DB

CHKD BY: JM
 FIELDBOOK NO. DATA COLLECTOR
 CHKD BY: JM

REVISIONS:
 5 12/05/24 UPDATED STRUCTURE AND CL LOCATIONS
 4 11/27/24 UPDATED INTERCONNECTION AND TRANSCO XING
 3 09/03/24 EASEMENT ACQUISITION UPDATES
 2 08/26/24 UPDATES TO EXISTING CENTERLINES
 1 08/23/24 ADJUSTED EASEMENTS TO UPDATED CLS

SCALE: 1"=1000'
 0 500' 1000' 2000' 3000'

CLIENT: PECO ENERGY COMPANY
 2301 MARKET STREET, N3-3
 PHILADELPHIA, PA 19103

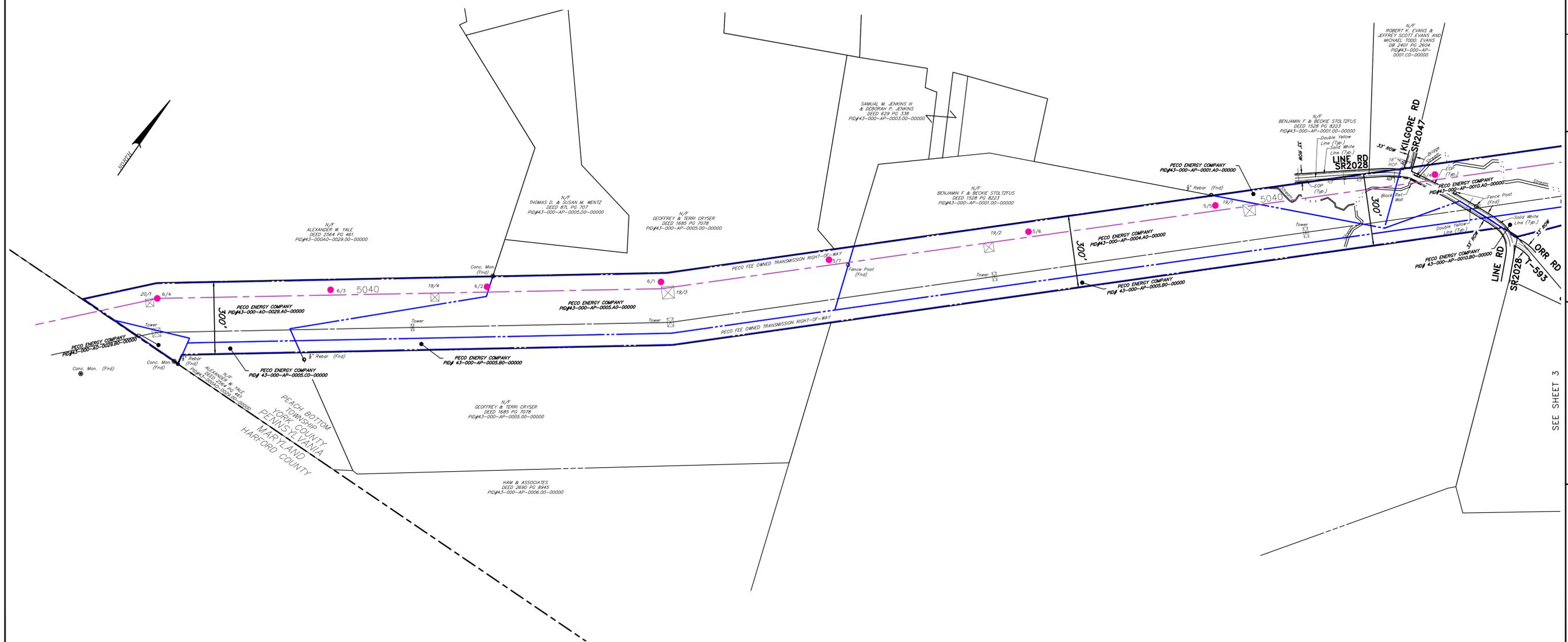
ENGINEERS: P. MORAN, S. SPRINGER, J. LANDSCAPE ARCHITECTS
 PROFESSIONAL ENGINEERS

LEGEND

- Right-of-Way Line
- Existing Centerline Circuit
- Existing Colpine Waterline
- Edge of Pavement
- Edge of Stone
- Curb Line
- Guide Rail
- Fence
- Building
- Riprap Stone Area
- Planting Area
- Property Marker
- Unmarked Corner
- Utility Pole
- Guy Pole
- Sign
- Unidentified Manhole
- Telecom Manhole
- Waterline Manhole
- Electric Box
- Mail Box
- Existing Transmission Structures
- Proposed Acquisition Area

COLOR LEGEND

- Existing PECO Owned in Fee
- Existing PECO Transmission Line Easement
- Existing PECO Substation Easement
- Proposed Q of Circuit
- Proposed Substation Acquisition (Fee)
- Proposed Substation Acquisition (Easement)
- Proposed Transmission Acquisition (Easement)
- Proposed Transmission Structure
- Point of Interconnection



FOR RETIEW ASSOCIATES BY:

MANAGER:	JASON MORAN
DESIGN BY:	CHD BY: JIM DB
SURV. CHIEF:	FIELDBOOK NO. DATA COLLECTOR
DRAWN BY:	CHD BY: JIM DB

DRAWING REFERENCE:
 1 08/23/24 ADJUSTED EASEMENTS TO UPDATED CLS
 2 08/26/24 UPDATES TO EXISTING CENTERLINES
 3 09/03/24 EASEMENT ACQUISITION UPDATES
 4 11/27/24 UPDATED INTERCONNECTION AND TRANSOCO XING
 5 12/05/24 UPDATED STRUCTURE AND CL LOCATIONS

CLIENT:

PECO ENERGY COMPANY
 2301 MARKET STREET, N3-3
 PHILADELPHIA, PA 19103

SCALE: 1"=200'

0 100' 200' 400' 600'

SEE SHEET 3

RETIEW Associates, Inc. Lancaster, PA 17603
 Phone: (800) 738-8395
 Email: retiew@retiew.com
 Website: www.retiew.com

Engineers • Planners • Surveyors • Landscape Architects
 Environmental Scientists

FERC ALIGNMENT SHEET PLANS
 FOR THE
PECO ENERGY COMPANY
BRANDON SHORES RETIREMENT
MITIGATION PROJECT
 PEACH BOTTOM TOWNSHIP YORK COUNTY, PA

DATE: 08/15/24

SHEET NO. 2 OF 8

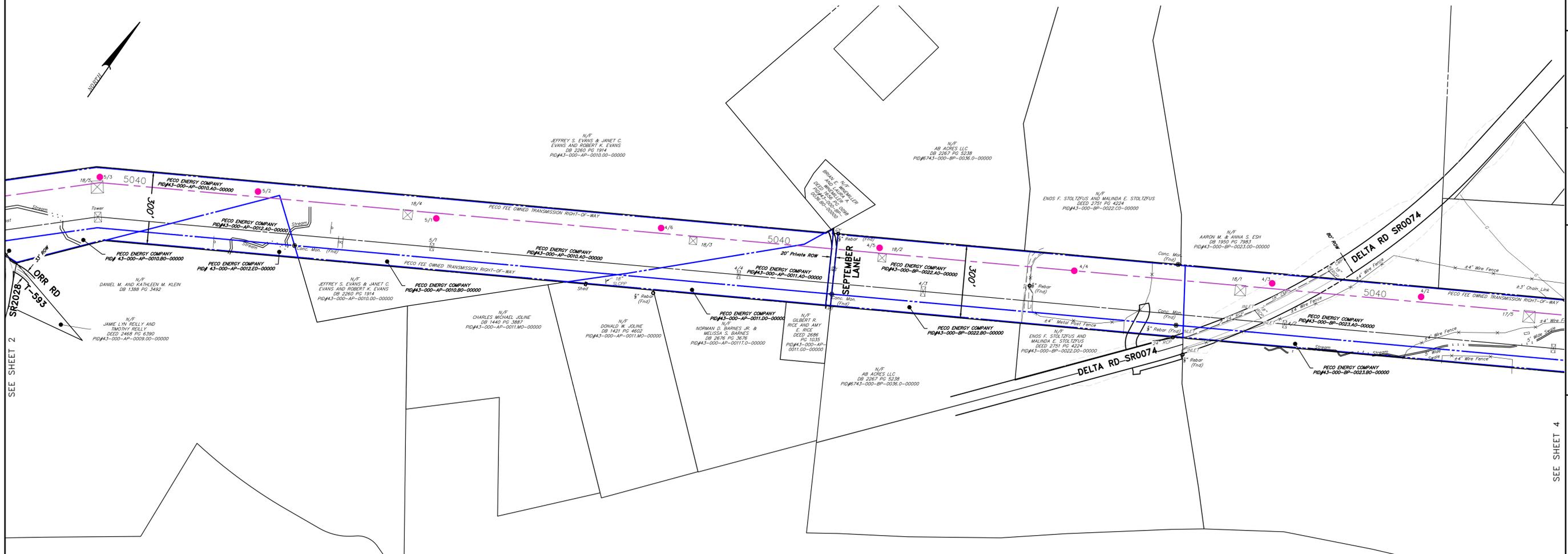
DWG. NO. 0310001291

LEGEND

- Right-of-Way Line
- Existing Centerline Circuit
- Existing Calpine Waterline
- Edge of Pavement
- Edge of Stone
- Curb Line
- Guide Rail
- Fence
- Building
- Riprap Stone Area
- Planting Area
- Property Marker
- Unmarked Corner
- ⊙ Utility Pole
- ⊙ Guy Pole
- ⊙ Sign
- ⊙ Unidentified Manhole
- ⊙ Telecom Manhole
- ⊙ Waterline Manhole
- ⊙ Electric Box
- ⊙ Mail Box
- ⊙ Existing Transmission Structures
- ⊙ Proposed Acquisition Area

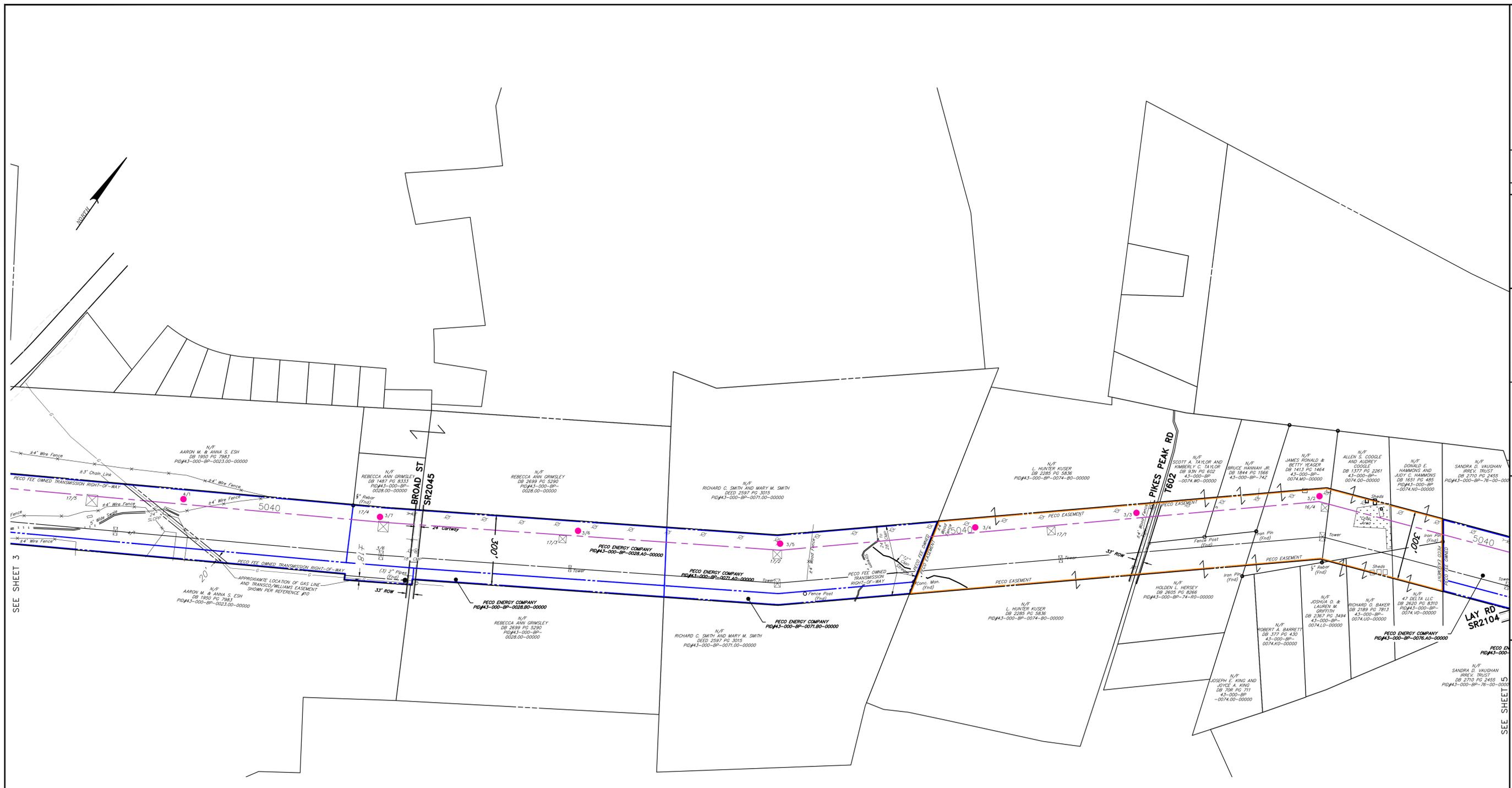
COLOR LEGEND

- Existing PECO Owned in Fee
- Existing PECO Transmission Line Easement
- Existing PECO Substation Easement
- Proposed ϕ of Circuit
- Proposed Substation Acquisition (Fee)
- Proposed Substation Acquisition (Easement)
- Proposed Transmission Acquisition (Easement)
- Proposed Transmission Structure
- Point of Interconnection



SEE SHEET 4

<p>RETTEW RETTEW Associates, Inc. Lancaster, PA 17603 Phone: (610) 718-8995 Email: rettew@rettew.com Website: www.rettew.com</p>																			
<p>FOR RETIEW ASSOCIATES BY:</p> <p>MANAGER: JASON MORAN DESIGN BY: JIM DB SURV. CHIEF: JIM DB DRAWN BY: JIM DB</p>	<p>CLIENT:</p> <p>PECO ENERGY COMPANY 2301 MARKET STREET, N3-3 PHILADELPHIA, PA 19103</p>																		
<p>FERC ALIGNMENT SHEET PLANS FOR THE PECO ENERGY COMPANY BRANDON SHORES RETIREMENT MITIGATION PROJECT PEACH BOTTOM TOWNSHIP YORK COUNTY, PA</p>																			
<p>DATE: 08/15/24 SHEET NO. 3 OF 8 DWG. NO. 0310001291</p>																			
<p>REVISIONS:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>NO.</th> <th>DATE</th> <th>REVISION</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>08/23/24</td> <td>ADJUSTED EASEMENTS TO UPDATED CLS</td> </tr> <tr> <td>2</td> <td>08/26/24</td> <td>UPDATES TO EXISTING CENTERLINES</td> </tr> <tr> <td>3</td> <td>09/03/24</td> <td>EASEMENT ACQUISITION UPDATES</td> </tr> <tr> <td>4</td> <td>11/27/24</td> <td>UPDATED INTERCONNECTION AND TRANS CO XING</td> </tr> <tr> <td>5</td> <td>12/05/24</td> <td>UPDATED STRUCTURE AND CL LOCATIONS</td> </tr> </tbody> </table>		NO.	DATE	REVISION	1	08/23/24	ADJUSTED EASEMENTS TO UPDATED CLS	2	08/26/24	UPDATES TO EXISTING CENTERLINES	3	09/03/24	EASEMENT ACQUISITION UPDATES	4	11/27/24	UPDATED INTERCONNECTION AND TRANS CO XING	5	12/05/24	UPDATED STRUCTURE AND CL LOCATIONS
NO.	DATE	REVISION																	
1	08/23/24	ADJUSTED EASEMENTS TO UPDATED CLS																	
2	08/26/24	UPDATES TO EXISTING CENTERLINES																	
3	09/03/24	EASEMENT ACQUISITION UPDATES																	
4	11/27/24	UPDATED INTERCONNECTION AND TRANS CO XING																	
5	12/05/24	UPDATED STRUCTURE AND CL LOCATIONS																	



SEE SHEET 3

LEGEND

- | | | | |
|--|-----------------------------|--|----------------------------------|
| | Right-of-Way Line | | Property Marker |
| | Existing Centerline Circuit | | Unmarked Corner |
| | Existing Calpine Waterline | | Utility Pole |
| | Edge of Pavement | | Guy Pole |
| | Edge of Stone | | Sign |
| | Curb Line | | Unidentified Manhole |
| | Guide Rail | | Telecom Manhole |
| | Fence | | Waterline Manhole |
| | Building | | Electric Box |
| | Riprap Stone Area | | Mail Box |
| | Planting Area | | Existing Transmission Structures |
| | | | Proposed Acquisition Area |

COLOR LEGEND

- | | |
|--|--|
| | Existing PECO Owned in Fee |
| | Existing PECO Transmission Line Easement |
| | Existing PECO Substation Easement |
| | Proposed ϕ of Circuit |
| | Proposed Substation Acquisition (Fee) |
| | Proposed Substation Acquisition (Easement) |
| | Proposed Transmission Acquisition (Easement) |
| | Proposed Transmission Structure |
| | Point of Interconnection |

FOR RETTEW ASSOCIATES BY:

NO.	DATE	REVISION
5	12/05/24	UPDATED STRUCTURE AND CL LOCATIONS
4	11/27/24	UPDATED INTERCONNECTION AND TRANSPO XING
3	09/03/24	EASEMENT ACQUISITION UPDATES
2	08/26/24	UPDATES TO EXISTING CENTERLINES
1	08/23/24	ADJUSTED EASEMENTS TO UPDATED CLS

MANAGER:	JASON MORAN
DESIGN BY:	JM
FIELDWORK NO. DATA COLLECTOR:	JM
DRAWN BY:	DB
CHECKED BY:	JM

DRAWING REFERENCE:
 1. Letter/revision/number/0310001291-95-Base Line to PeachShoresMitigation/0310001291-95-FERC-65.dwg

CLIENT
PECO ENERGY COMPANY
 2301 MARKET STREET, N3-3
 PHILADELPHIA, PA 19103

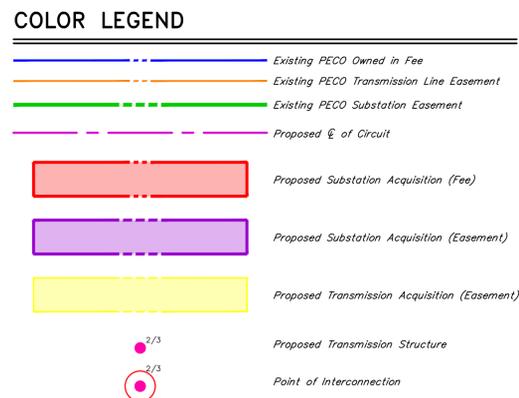
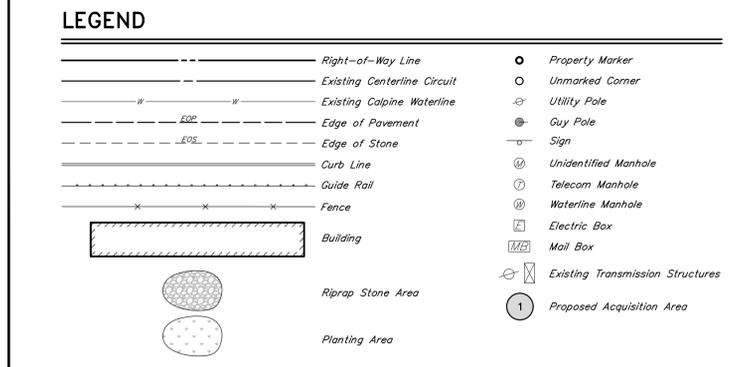
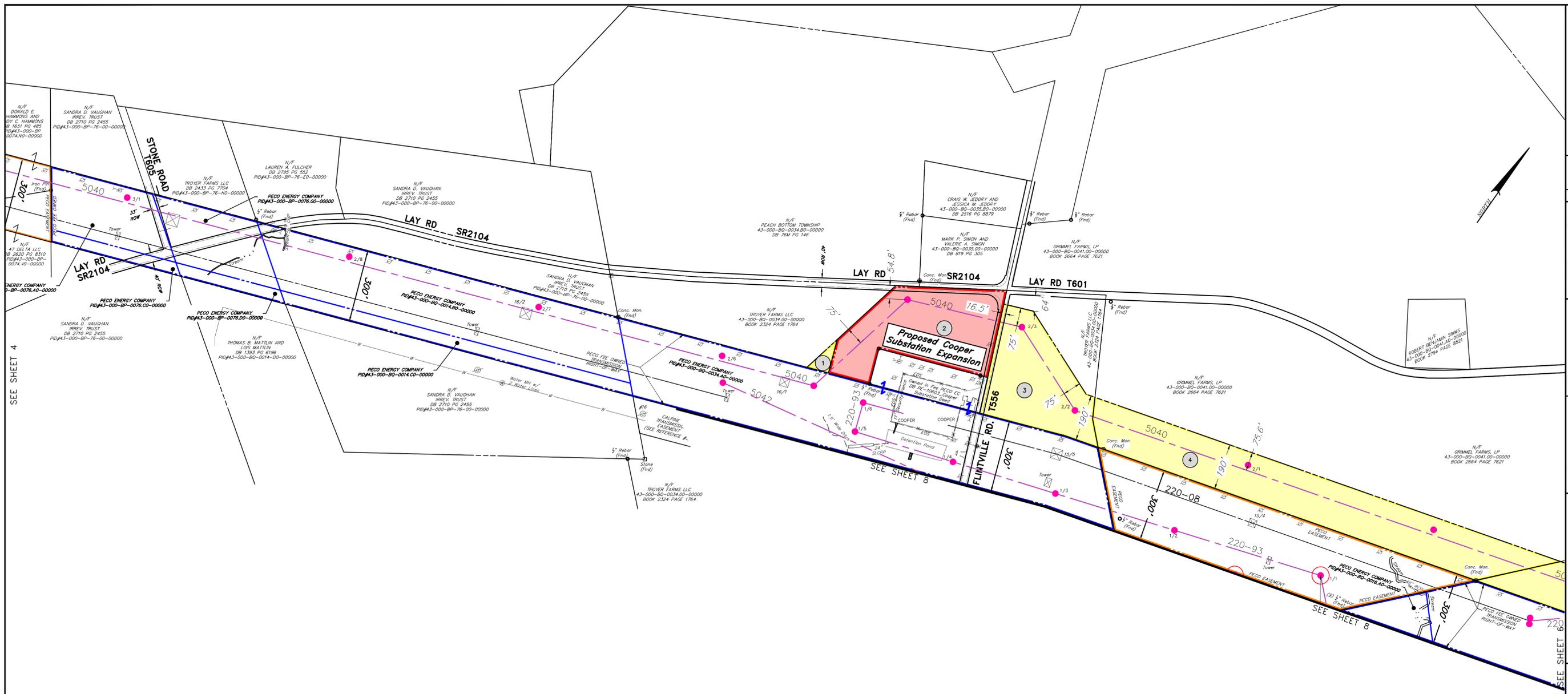
SEE SHEETS

RETTEW Associates, Inc. Lancaster, PA 17603
 Phone: (610) 738-8995
 Email: rettel@rettel.com
 Website: www.rettew.com

Engineers • Planners • Surveyors • Landscape Architects
 Environmental Scientists

FERC ALIGNMENT SHEET PLANS
 FOR THE
PECO ENERGY COMPANY
BRANDON SHORES RETIREMENT
MITIGATION PROJECT
 PEACH BOTTOM TOWNSHIP
 YORK COUNTY, PA

DATE:	08/15/24
SHEET NO.:	4 OF 8
DWG. NO.:	0310001291



Area	Owner	Parcel ID	Deed Book/Page	Approximate Acreage
1	TROYER FARMS LLC	43-000-BQ-0034.00-00000	2324/1764	0.2 Acres
2	TROYER FARMS LLC	43-000-BQ-0034.00-00000	2324/1764	4.5 Acres
3	TROYER FARMS LLC	43-000-BQ-0034.00-00000	2324/1764	3.7 Acres
4	GRIMMEL FARMS, LP	43-000-BQ-0041.00-00000	2664/7621	8.1 Acres
5	TROYER FARMS LLC	43-000-BQ-0047.00-00000	2324/1764	12.0 Acres
6	CONSTELLATION ENERGY GENERATION, LLC	43-000-BQ-0050.00-00000	1977/8295	5.2 Acres
8	CONSTELLATION ENERGY GENERATION, LLC	43-000-BQ-0050.00-00000	1977/8295	3.1 Acres
9	CONSTELLATION ENERGY GENERATION, LLC	43-000-BQ-0050.00-00000	1977/8295	3.5 Acres
10	CONSTELLATION ENERGY GENERATION, LLC	43-000-BQ-0050.00-00000	1977/8295	1.1 Acres
12*	CALPINE CORPORATION	43-000-BQ-0034.00-00000	2020/4203	4.5 Acres
13**	CALPINE CORPORATION	43-000-BQ-0041.00-00000	1679/671	1.6 Acres
14*	CALPINE CORPORATION	43-000-BQ-0047.00-00000	2020/4203	1.0 Acres
15	TROYER FARMS LLC	43-000-BQ-0047.00-00000	2324/1764	6.2 Acres
16***	TROYER FARMS LLC	43-000-BQ-0016.00-00000	2324/1764	5.0 Acres

* ACQUISITION OF EXISTING TRANSMISSION EASEMENT CONTROLLED BY CALPINE W/ FEE TITLE IN TROYER FARMS LLC
 ** ACQUISITION OF EXISTING TRANSMISSION EASEMENT CONTROLLED BY CALPINE W/ FEE TITLE IN GRIMMEL FARMS, LP
 *** PROPERTY SUBJECT TO PURCHASE OPTION PER REFERENCE 7

FOR RETTEW ASSOCIATES BY:

MANAGER: JASON MORAN

DESIGN BY: JIM DB

SURV. CHIEF: JIM DB

DRAWN BY: JIM DB

CLIENT:

PECO ENERGY COMPANY
 2301 MARKET STREET, N3-3
 PHILADELPHIA, PA 19103

NO. DATE REVISION

5 12/05/24 UPDATED STRUCTURE AND CL LOCATIONS

4 11/27/24 UPDATED INTERCONNECTION AND TRANS CO XING

3 09/03/24 EASEMENT ACQUISITION UPDATES

2 08/28/24 UPDATES TO EXISTING CENTERLINES

1 08/23/24 ADJUSTED EASEMENTS TO UPDATED CLS

DRAWING REFERENCE:

PECO EASEMENT

SCALE

1"=200'

0 100' 200' 400' 600'

DATE: 08/15/24

SHEET NO. 5 OF 8

DWG. NO. 0310001291

ENGINEERS • PLANNERS • SURVEYORS • LANDSCAPE ARCHITECTS

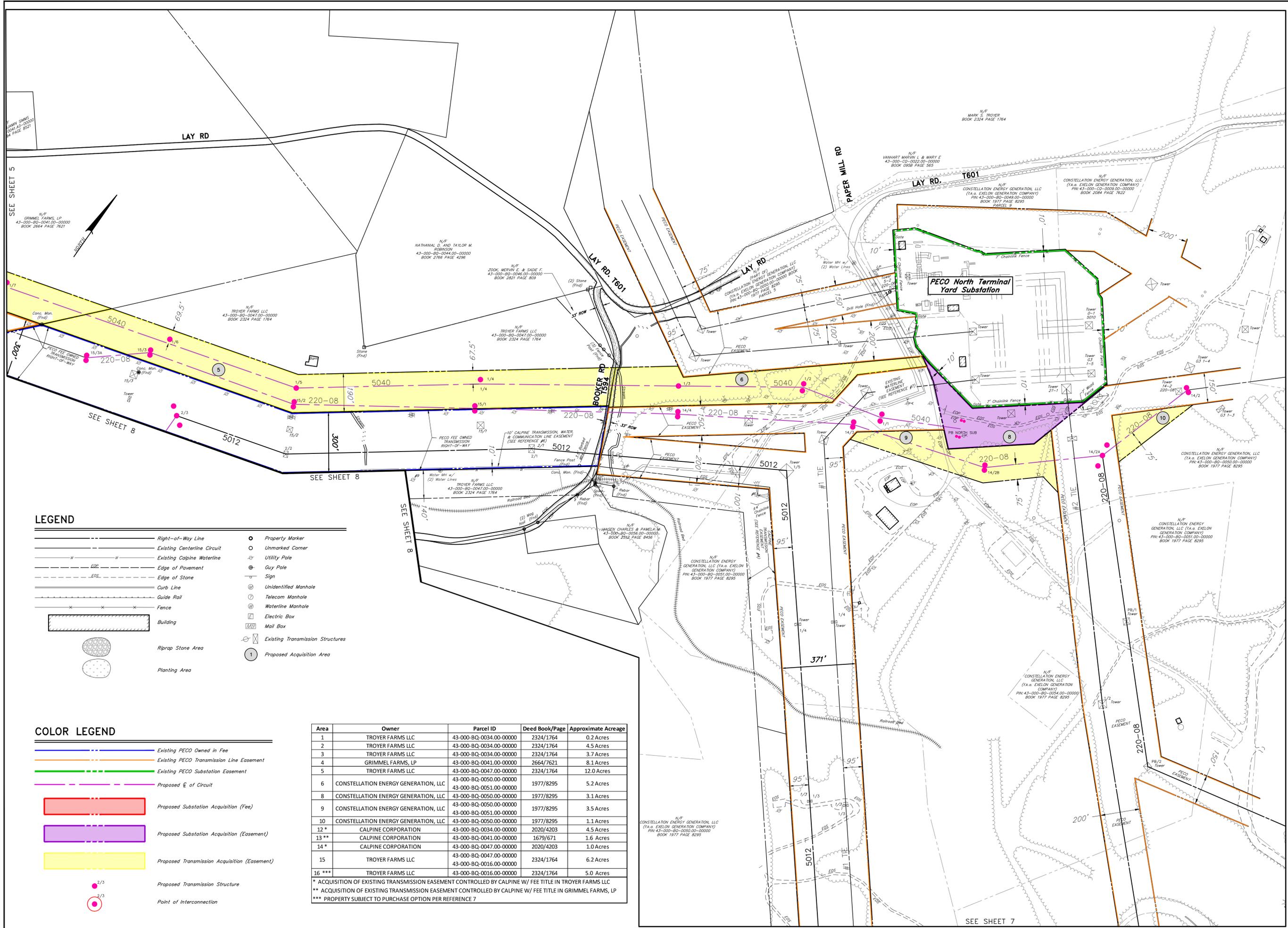
RETTEW ASSOCIATES, INC. Lancaster, PA 17603

Phone: (610) 718-8995

Email: rettew@rettew.com

Website: www.rettew.com

FERC ALIGNMENT SHEET PLANS FOR THE PECO ENERGY COMPANY BRANDON SHORES RETIREMENT MITIGATION PROJECT PEACH BOTTOM TOWNSHIP YORK COUNTY, PA



LEGEND

	Right-of-Way Line		Property Marker
	Existing Centerline Circuit		Unmarked Corner
	Existing Calpine Waterline		Utility Pole
	Edge of Pavement		Guy Pole
	Edge of Stone		Sign
	Curb Line		Unidentified Manhole
	Guide Rail		Telecom Manhole
	Fence		Waterline Manhole
	Building		Electric Box
	Riprap Stone Area		Mail Box
	Planting Area		Existing Transmission Structures
			Proposed Acquisition Area

COLOR LEGEND

	Existing PECO Owned in Fee
	Existing PECO Transmission Line Easement
	Existing PECO Substation Easement
	Proposed E of Circuit
	Proposed Substation Acquisition (Fee)
	Proposed Substation Acquisition (Easement)
	Proposed Transmission Acquisition (Easement)
	Proposed Transmission Structure
	Point of Interconnection

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 *** PROPERTY SUBJECT TO PURCHASE OPTION PER REFERENCE 7

FOR RETIEW ASSOCIATES BY:

MANAGER: JASON MORAN

DESIGN BY: JMO

SURV. CHEF: JMO

DRAWN BY: DB

DATE: 08/15/24

SHEET NO. 6 OF 8

DWG. NO. 0310001291

CLIENT:

PECO ENERGY COMPANY
 2301 MARKET STREET, N3-3
 PHILADELPHIA, PA 19103

RETIEW

RETIEW Associates, Inc. Lancaster, PA 17603
 Phone (800) 738-8395
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 Website: www.retiew.com

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FERC ALIGNMENT SHEET PLANS

FOR THE

PECO ENERGY COMPANY

BRANDON SHORES RETIREMENT

MITIGATION PROJECT

PEACH BOTTOM TOWNSHIP YORK COUNTY, PA

REVISIONS

NO.	DATE	REVISION
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3	09/03/24	EASEMENT ACQUISITION UPDATES
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5	12/05/24	UPDATED STRUCTURE AND CL LOCATIONS

N/P
CONSTELLATION ENERGY GENERATION, LLC
(f.k.a. EXELON GENERATION COMPANY)
PIN: 43-000-BQ-0054.00-00000
BOOK 1977 PAGE 8295

(f.k.a. EXELON GENERATION COMPANY)
PIN: 43-000-BQ-0054.00-00000
BOOK 1977 PAGE 8295

PIN: 43-000-BQ-0050.00-00000 (PART OF)
& 43-000-BQ-0000.00-00000
CONSTELLATION ENERGY GENERATION, LLC
(f.k.a. GENERATION COMPANY)
BOOK 1977 PAGE 8295
PARCEL 1

PIN: 43-000-BQ-0028.40-00000
CONSTELLATION ENERGY GENERATION, LLC
(f.k.a. EXELON GENERATION COMPANY)
BOOK 1977 PAGE 8295
PARCEL 3



LEGEND

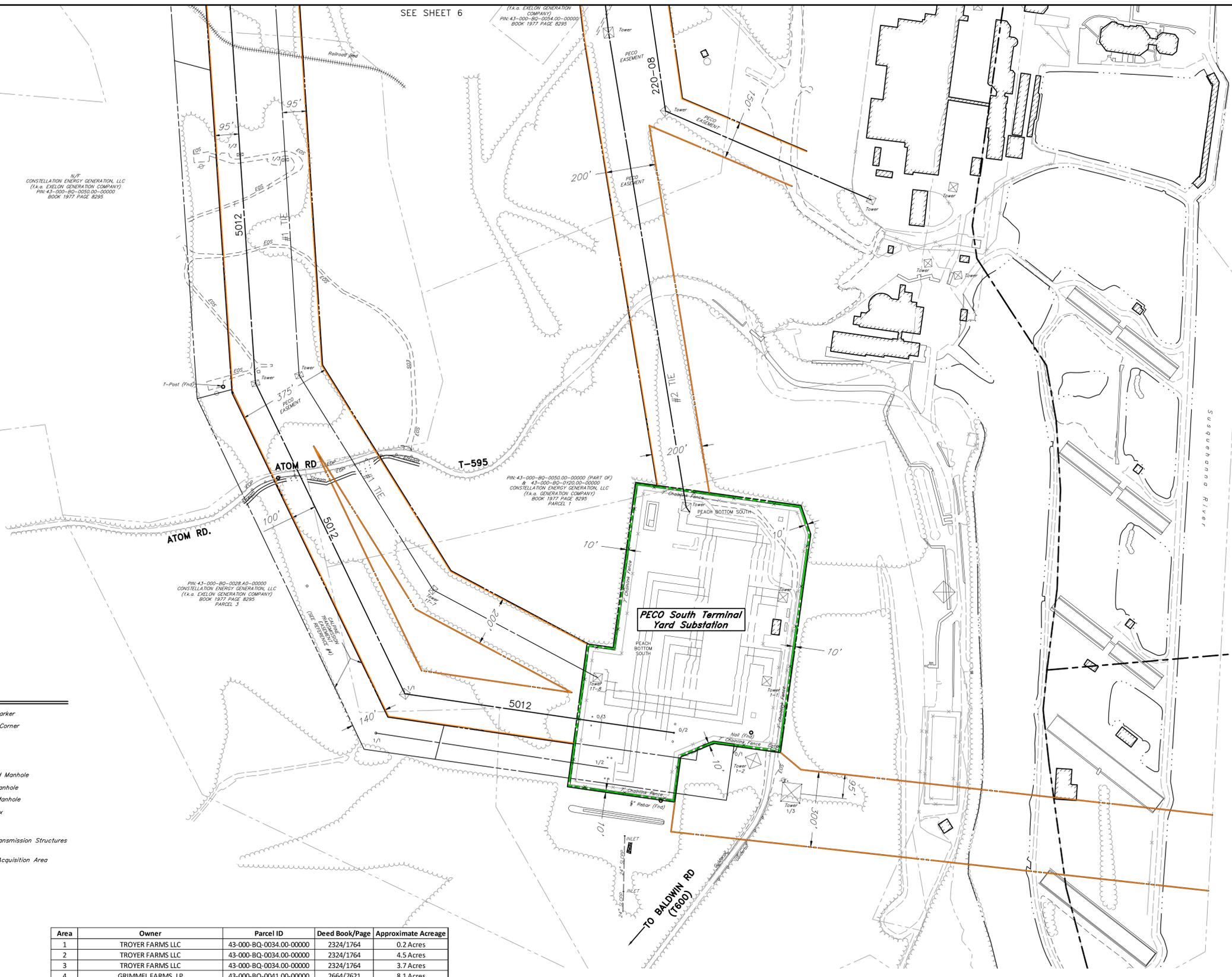
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			Proposed Acquisition Area

COLOR LEGEND

	Existing PECO Owned in Fee
	Existing PECO Transmission Line Easement
	Existing PECO Substation Easement
	Proposed ϕ of Circuit
	Proposed Substation Acquisition (Fee)
	Proposed Substation Acquisition (Easement)
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	Point of Interconnection

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 ** ACQUISITION OF EXISTING TRANSMISSION EASEMENT CONTROLLED BY CALPINE W/ FEE TITLE IN GRIMMEL FARMS, LP
 *** PROPERTY SUBJECT TO PURCHASE OPTION PER REFERENCE 7



FOR RETIEW ASSOCIATES BY:

MANAGER: JASON MORAN
 DESIGN BY: JIM DB
 SURV. CHIEF: JIM DB
 DRAWN BY: JIM DB

CHKD BY: JIM DB
 DATA COLLECTOR: JIM DB
 CHKD BY: JIM DB

DRAWING REFERENCE:
 1 08/23/24 ADJUSTED EASEMENTS TO UPDATED CLS
 2 08/26/24 UPDATES TO EXISTING CENTERLINES
 3 09/03/24 EASEMENT ACQUISITION UPDATES
 4 11/27/24 UPDATED INTERCONNECTION AND TRANS CO XING
 5 12/05/24 UPDATED STRUCTURE AND CL LOCATIONS

CLIENT

PECO ENERGY COMPANY
 2301 MARKET STREET, N3-3
 PHILADELPHIA, PA 19103

SCALE: 1"=200'
 0 100' 200' 400' 600'

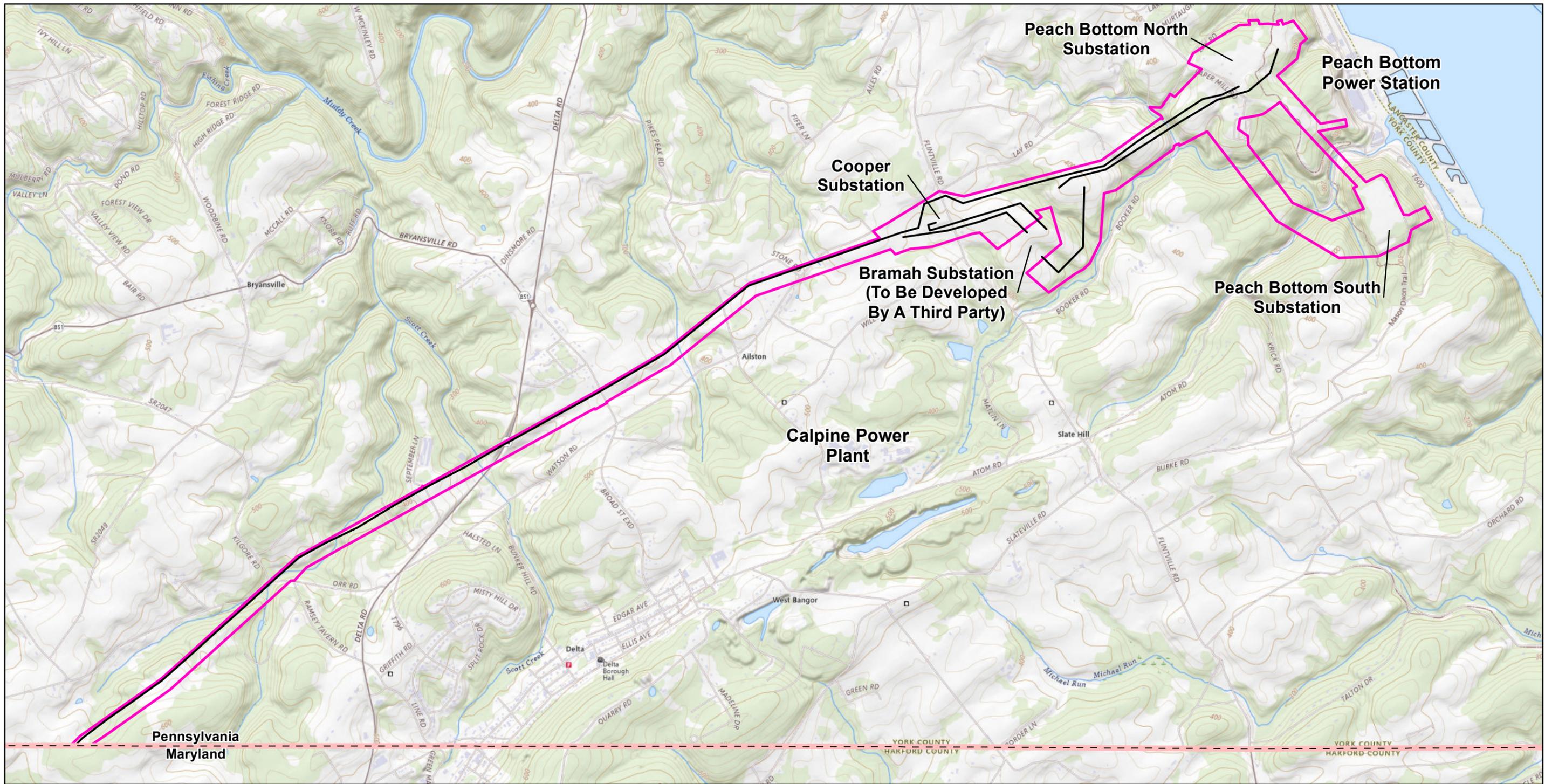
RETIEW

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FERC ALIGNMENT SHEET PLANS
 FOR THE
PECO ENERGY COMPANY
BRANDON SHORES RETIREMENT
MITIGATION PROJECT
 PEACH BOTTOM TOWNSHIP
 YORK COUNTY, PA

DATE: 08/15/24
 SHEET NO. 7 OF 8
 DWG. NO. 0310001291



Legend

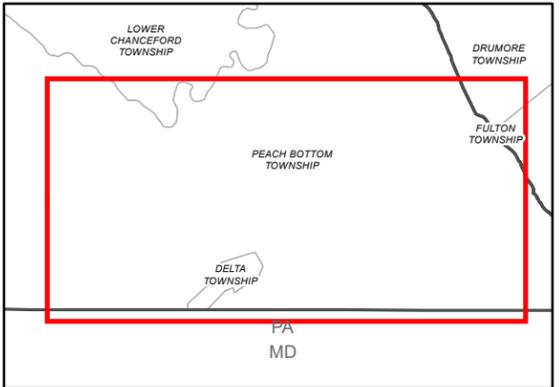
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- PROJECT AREA SHOWN WITHIN BRAMAH SUBSTATION PROPERTY WAS CONSIDERED ONLY AS PART OF AECOM'S ENVIRONMENTAL ANALYSIS.
- STATE LINE

NOTES:

REFERENCES:
STATE LINE (PENNDOT 10/2023)

0 2,000 4,000
Feet

COORDINATE SYSTEM: NAD 1983 STATEPLANE PENNSYLVANIA SOUTH FIPS 3702 FEET
PROJECTION: LAMBERT CONFORMAL CONIC; UNITS: FOOT US



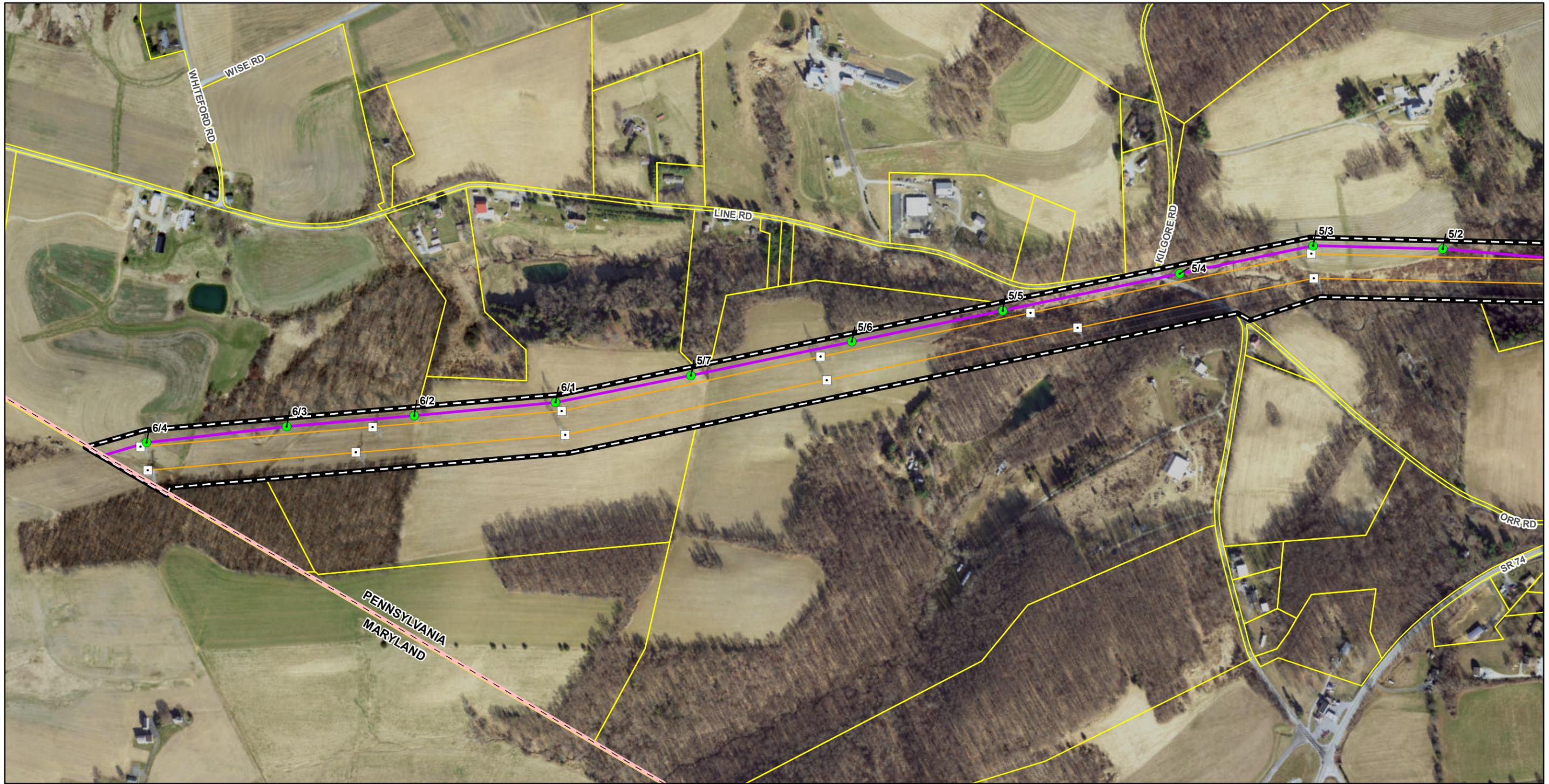
peco
AN EXELON COMPANY

AECOM

Attachment 18
Topographic Overview Map

Brandon Shores Retirement
Mitigation Project
Peach Bottom Township, York County
Pennsylvania
PECO, an Exelon Company

Prepared By: BSF	Checked By: DY/RB
Job: 60727782	Date: 12/17/2024



Legend

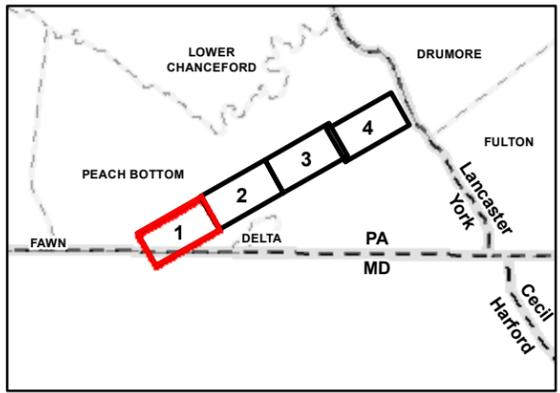
- PROPOSED STRUCTURE
- EXISTING STRUCTURE (TO REMAIN)
- EXISTING STRUCTURE (TO BE REMOVED)
- PROPOSED TRANSMISSION LINES
- EXISTING TRANSMISSION LINE
- PECO FEE OWNED PROPERTY
- PARCEL BOUNDARY
- STATE BOUNDARY
- COUNTY BOUNDARY
- MUNICIPAL BOUNDARY

NOTES:

REFERENCES:
 STATE,COUNTY AND MUNICIPAL BOUNDARIES (PENNDOT10/2023); YORK COUNTY 0.5-FOOT TO THE MIDDLE (PEM A2021)

0 500 1,000
 Feet

COORDINATE SYSTEM: NAD 1983 STATEPLANE PENNSYLVANIA SOUTH FIPS 3702 FEET
 PROJECTION: LAMBERT CONFORMAL CONIC; UNITS: FOOT US

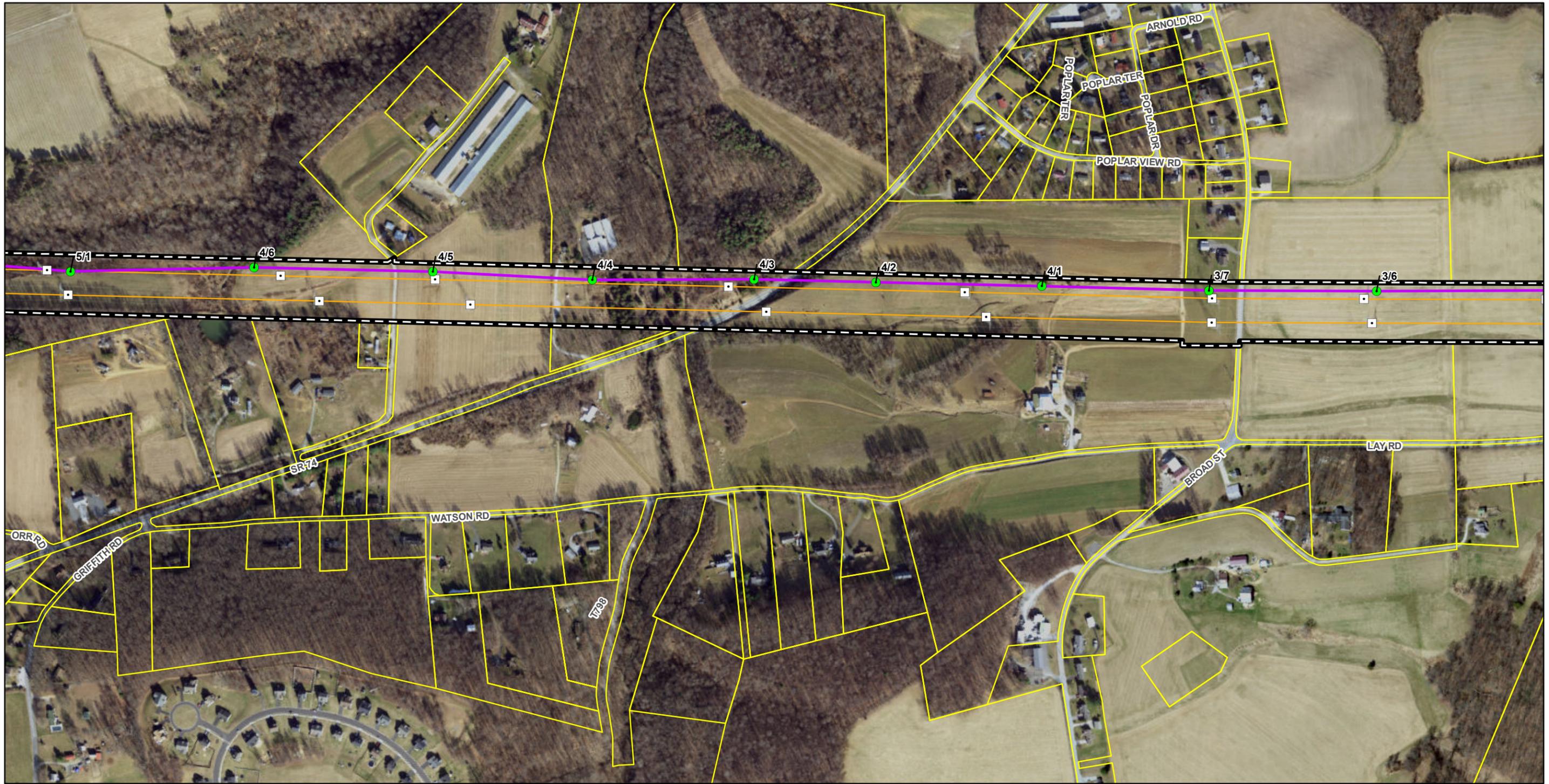


peco AN EXELON COMPANY **AECOM**

**Attachment 19
 Aerial Overview Map**

**Brandon Shores Retirement
 Mitigation Project**
 Peach Bottom Township, York County
 Pennsylvania
 PECO, an Exelon Company

Prepared By: BSF	Checked By: DY/RB
Job: 60727782	Date: 12/11/2024



Legend

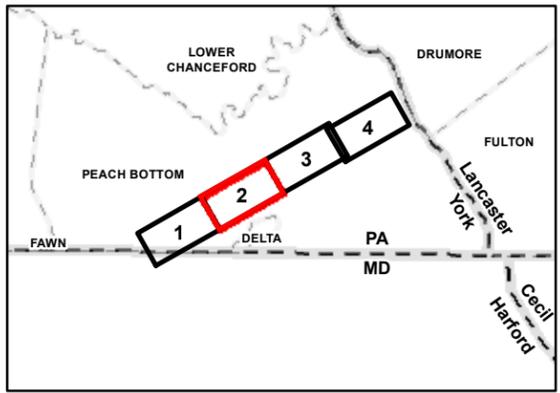
- PROPOSED STRUCTURE
- EXISTING STRUCTURE (TO REMAIN)
- EXISTING STRUCTURE (TO BE REMOVED)
- PROPOSED TRANSMISSION LINES
- EXISTING TRANSMISSION LINE
- PECO FEE OWNED PROPERTY
- PARCEL BOUNDARY
- STATE BOUNDARY
- COUNTY BOUNDARY
- MUNICIPAL BOUNDARY

NOTES:

REFERENCES:
STATE, COUNTY AND MUNICIPAL BOUNDARIES (PENNDOT 10/2023); YORK COUNTY 0.5-FOOT ORTHO IMAGE (PEM A2021)

0 500 1,000
Feet

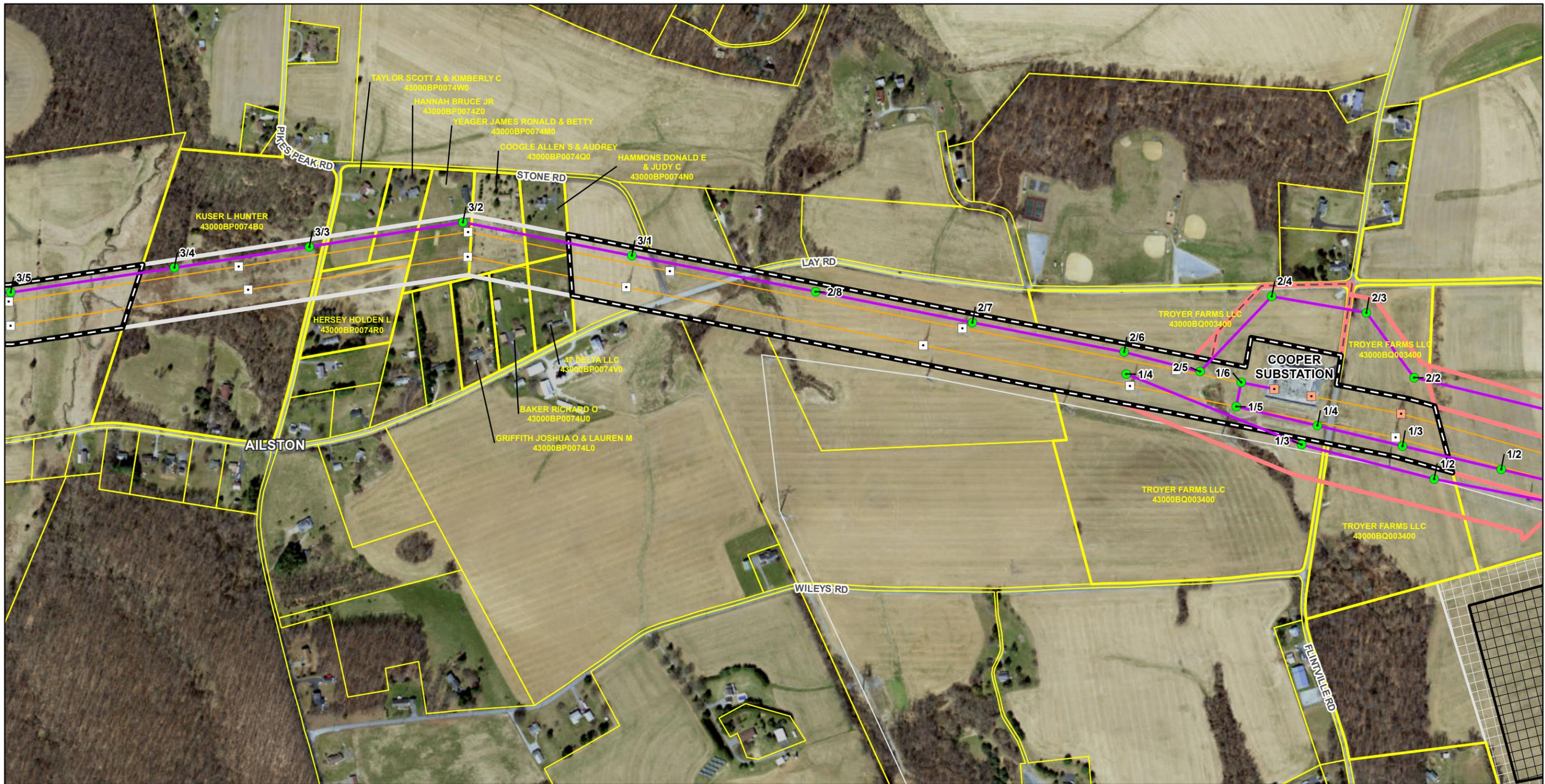
COORDINATE SYSTEM: NAD 1983 STATEPLANE PENNSYLVANIA SOUTH FIPS 3702 FEET
PROJECTION: LAMBERT CONFORMAL CONIC; UNITS: FOOT US



**Attachment 19
Aerial Overview Map**

**Brandon Shores Retirement
Mitigation Project**
Peach Bottom Township, York County
Pennsylvania
PECO, an Exelon Company

Prepared By: BSF	Checked By: DY/RB
Job: 60727782	Date: 12/11/2024



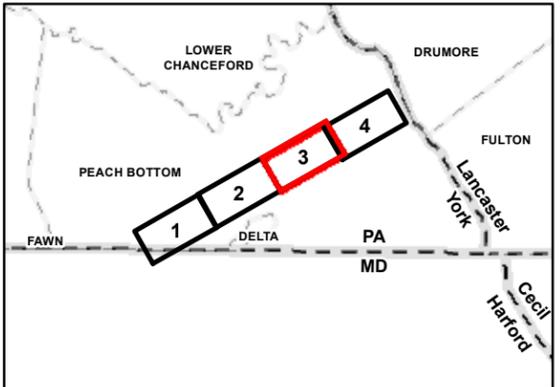
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	PROPOSED STRUCTURE		PECO FEE OWNED PROPERTY
	PECO'S OWNERSHIP OF THE TRANSMISSION LINE ENDS AT THIS POINT OF INTERCONNECTION		PROPOSED FEE ACQUISITION
	EXISTING STRUCTURE (TO REMAIN)		PROPOSED EASEMENT ACQUISITION
	EXISTING STRUCTURE (TO BE REMOVED)		PROPOSED SUBSTATION
	PROPOSED TRANSMISSION LINES		SUBSTATION PROPERTY
	EXISTING TRANSMISSION LINE		PARCEL BOUNDARY
	EXISTING CALPINE LINE (OUT OF SCOPE)		STATE BOUNDARY
			COUNTY BOUNDARY
			MUNICIPAL BOUNDARY

NOTES:

REFERENCES:
STATE, COUNTY AND MUNICIPAL BOUNDARIES (PENNDOT10/2023); YORK COUNTY 0.5-FOOT ORTHOREGISTRY (PEM A2021)

COORDINATE SYSTEM: NAD 1983 STATEPLANE PENNSYLVANIA SOUTH FIPS 3702 FEET
PROJECTION: LAMBERT CONFORMAL CONIC; UNITS: FOOT US

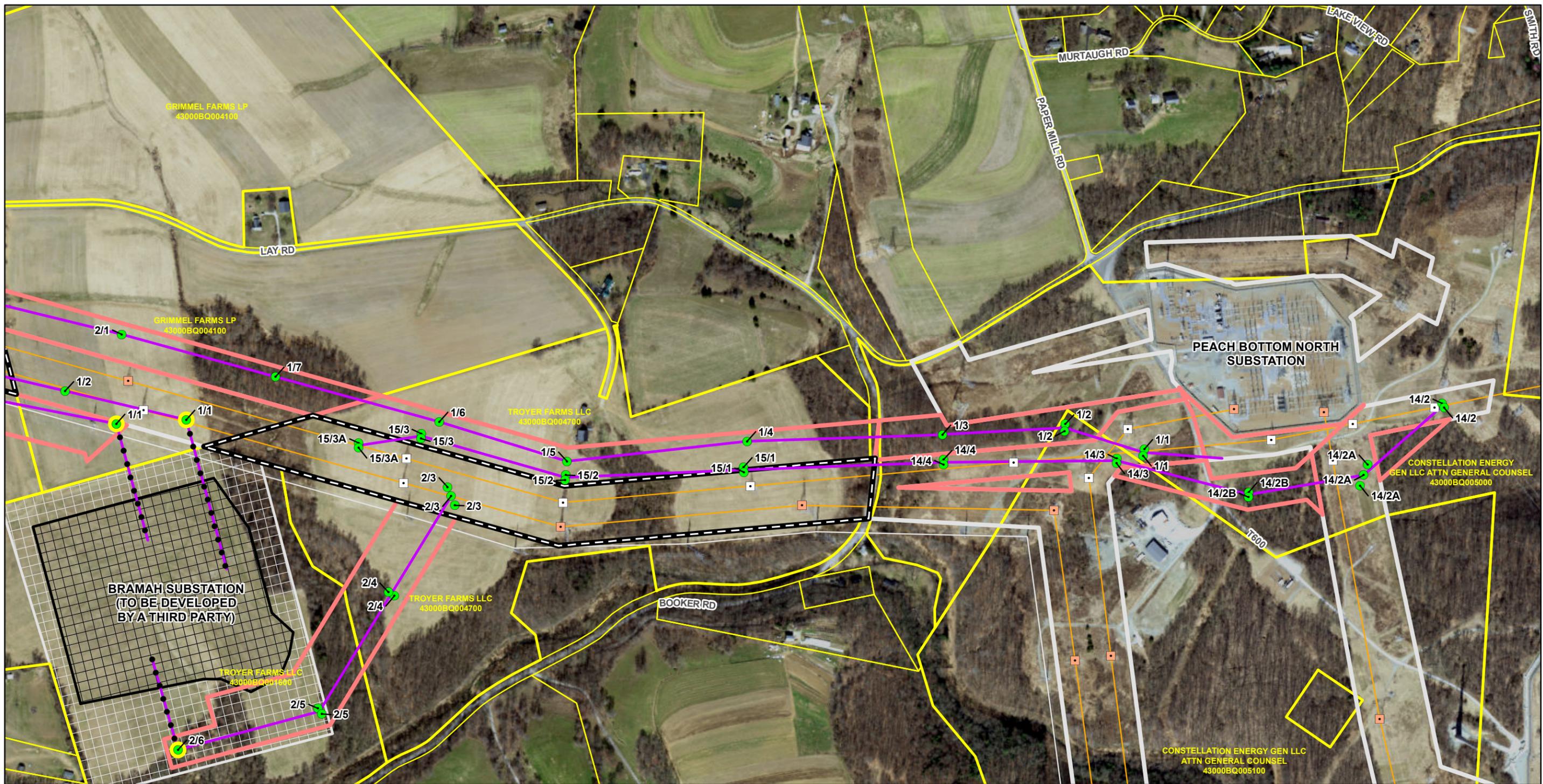


peco
AN EXELON COMPANY

**Attachment 19
Aerial Overview Map**

**Brandon Shores Retirement
Mitigation Project**
Peach Bottom Township, York County
Pennsylvania
PECO, an Exelon Company

Prepared By: BSF	Checked By: DY/RB
Job: 60727782	Date: 12/11/2024



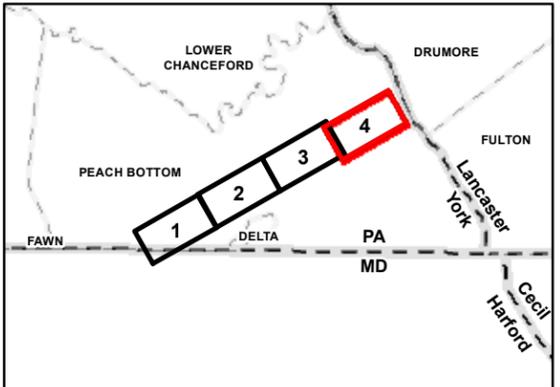
Legend

	PROPOSED STRUCTURE		PECO FEE OWNED PROPERTY
	PECO'S OWNERSHIP OF THE TRANSMISSION LINE ENDS AT THIS POINT OF INTERCONNECTION		PECO ROW EASEMENT
	EXISTING STRUCTURE (TO REMAIN)		PROPOSED EASEMENT ACQUISITION
	EXISTING STRUCTURE (TO BE REMOVED)		PROPOSED SUBSTATION
	PROPOSED TRANSMISSION LINES		SUBSTATION PROPERTY
	LINE AND STRUCTURE WORK INSIDE THE BRAMAH SUBSTATION INCLUDING TO THE POINT OF INTERCONNECTION TO BE PERFORMED BY OTHERS.		PARCEL BOUNDARY
	EXISTING TRANSMISSION LINE		STATE BOUNDARY
	EXISTING CALPINE LINE (OUT OF SCOPE)		COUNTY BOUNDARY
			MUNICIPAL BOUNDARY

NOTES:

REFERENCES:
STATE, COUNTY AND MUNICIPAL BOUNDARIES (PENNDOT10/2023); YORK COUNTY 0.5-FOOT ORTHOREGISTRY (PEM A2021)

COORDINATE SYSTEM: NAD 1983 STATEPLANE PENNSYLVANIA SOUTH FIPS 3702 FEET
PROJECTION: LAMBERT CONFORMAL CONIC; UNITS: FOOT US



<p>Attachment 19 Aerial Overview Map</p> <p>Brandon Shores Retirement Mitigation Project Peach Bottom Township, York County Pennsylvania PECO, an Exelon Company</p>	
Prepared By: BSF	Checked By: DY/RB
Job: 6072782	Date: 12/11/2024



Legend

PROPOSED BRANDON SHORES TRANSMISSION LINE

- 220-08 LINE
- 220-93 LINE
- 5012 LINE
- 5040 LINE
- 5042 LINE

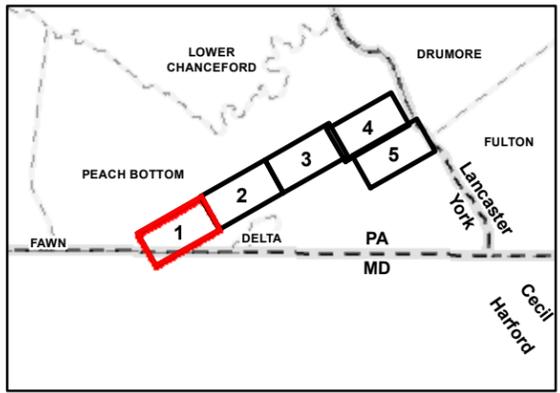
- PECO'S OWNERSHIP OF THE TRANSMISSION LINE ENDS AT THIS POINT OF INTERCONNECTION
- LINE AND STRUCTURE WORK INSIDE THE BRAMAH SUBSTATION INCLUDING TO THE POINT OF INTERCONNECTION TO BE PERFORMED BY OTHERS.
- PROPOSED PJM TRANSMISSION LINE
- EXISTING TRANSMISSION LINE
- STATE BOUNDARY
- COUNTY BOUNDARY
- MUNICIPAL BOUNDARY

NOTES:

REFERENCES:
STATE, COUNTY AND MUNICIPAL BOUNDARIES (PENNDOT 10/2023); YORK COUNTY 0.5-FOOT ORTHOGRAPHY (PEM A 2021)

0 500 1,000
Feet

COORDINATE SYSTEM: NAD 1983 STATEPLANE PENNSYLVANIA SOUTH FIPS 3702 FEET
PROJECTION: LAMBERT CONFORMAL CONIC. UNITS: FOOT US






Attachment 20
Map of Project Segments

Brandon Shores Retirement Mitigation Project
Peach Bottom Township, York County
Pennsylvania
PECO, an Exelon Company

Prepared By: BSF	Checked By: DY/RB
Job: 60727782	Date: 12/11/2024



Legend

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- 5040 LINE
- 5042 LINE

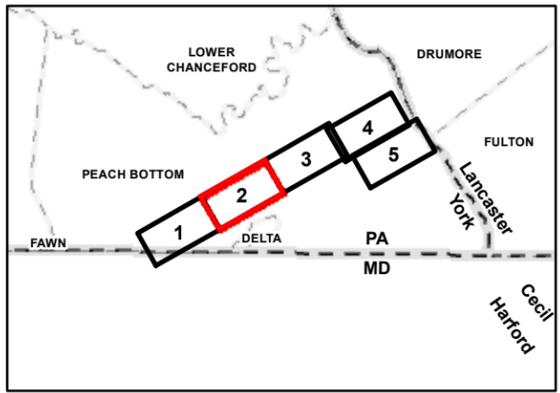
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 Feet

COORDINATE SYSTEM: NAD 1983 STATEPLANE PENNSYLVANIA SOUTH FIPS 3702 FEET
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Brandon Shores Retirement Mitigation Project
 Peach Bottom Township, York County
 Pennsylvania
 PECO, an Exelon Company

Prepared By: BSF	Checked By: DY/RB
Job: 60727782	Date: 12/11/2024



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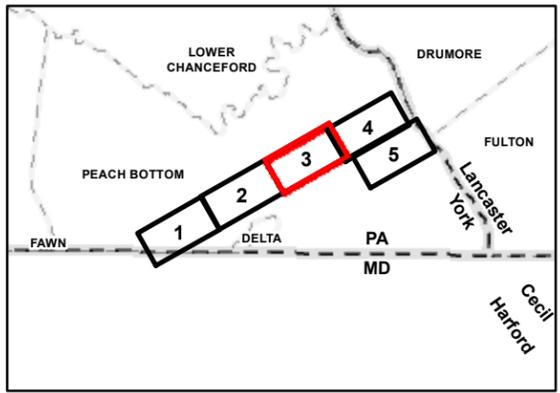
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Feet

COORDINATE SYSTEM: NAD 1983 STATE PLANE PENNSYLVANIA SOUTH FIPS 3702 FEET
PROJECTION: LAMBERT CONFORMAL CONIC. UNITS: FOOT US

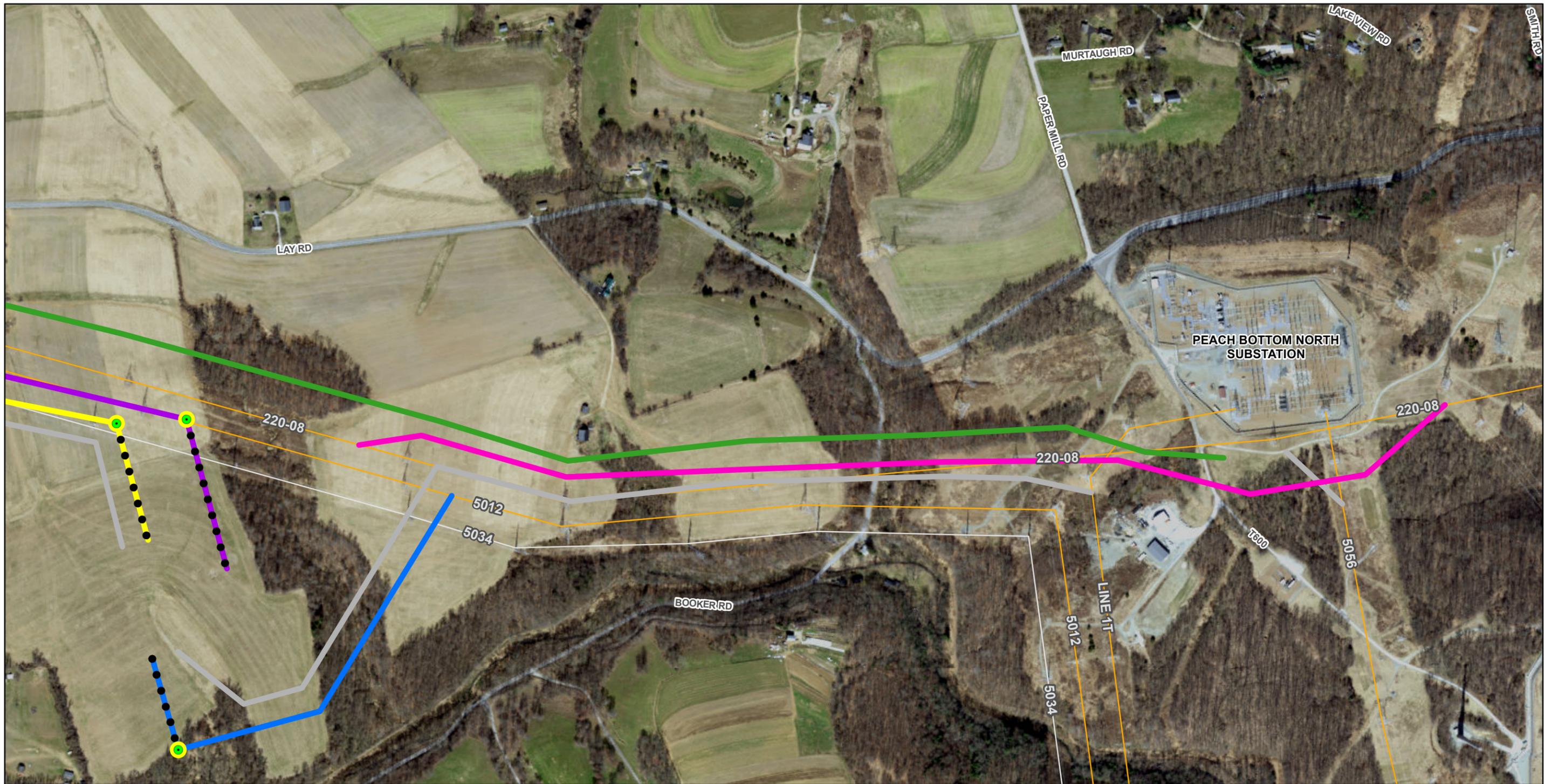





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Map of Project Segments

Brandon Shores Retirement Mitigation Project
Peach Bottom Township, York County
Pennsylvania
PECO, an Exelon Company

Prepared By: BSF	Checked By: DY/RB
Job: 60727782	Date: 12/11/2024



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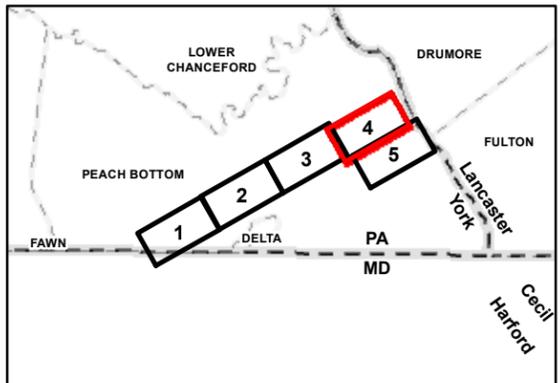
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0 500 1,000
Feet

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PROJECTION: LAMBERT CONFORMAL CONIC. UNITS: FOOT US



peco **AECOM**
AN EXELON COMPANY

Attachment 20
Map of Project Segments

Brandon Shores Retirement Mitigation Project
Peach Bottom Township, York County
Pennsylvania
PECO, an Exelon Company

Prepared By: BSF	Checked By: DY/RB
Job: 60727782	Date: 12/11/2024



Legend

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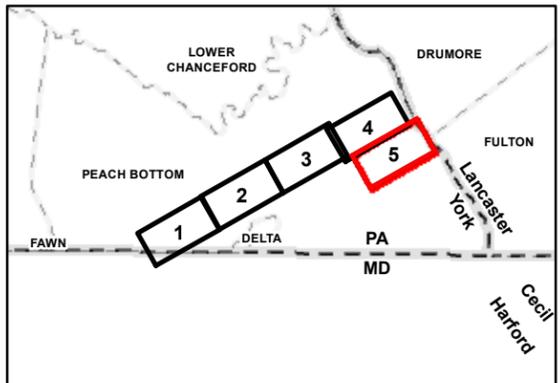
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Brandon Shores Retirement Mitigation Project
Peach Bottom Township, York County
Pennsylvania
PECO, an Exelon Company

Prepared By: BSF	Checked By: DY/RB
Job: 60727782	Date: 12/11/2024

**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

**Application of PECO Energy Company Filed :
Pursuant to 52 Pa. Code § 57.71 *et seq.* for :
Approval of the Siting and Construction of :
the Brandon Shores Retirement Mitigation : **Docket No. A-2024-3051467**
Project Located in Peach Bottom Township, :
York County, Pennsylvania and Petition for :
Waiver of 52 Pa. Code § 57.72(c)(10) :**

CERTIFICATE OF SERVICE

I hereby certify and affirm that I have this day served the revised Attachments 10, 12, 18, 19, and 20 in the above-referenced proceeding on the following persons, in the manner specified below, in accordance with the requirements of 52 Pa. Code § 1.54.

VIA ELECTRONIC SERVICE:

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Dated: December 18, 2024

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