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March 26, 2024

VIA ELECTRONIC FILING

Rosemary Chiavetta, Secretary
Pennsylvania Public Utility Commission
Commonwealth Keystone Building
400 North Street, 2nd Floor North
P.O. Box 3265
Harrisburg, PA 17105-3265

Re: Letter of Notification Of PPL Electric Utilities Corporation, Filed Pursuant to 52 Pa. Code Chapter 57 Subchapter G, For Approval To Rebuild The Exiting Double-Circuit Harwood-East Palmerton and Siegfried-East Palmerton Transmission Lines Connecting The Harwood 230-69 kV Substation Located in Carbon County, Pennsylvania And The Siegfried 230-138-69kV Substation Located In Northampton County, Pennsylvania
Docket No. A-2024-_____

Dear Secretary Chiavetta:

Attached for filing is the Letter of Notification of PPL Electric Utilities Corporation in the above-referenced proceeding. As indicated on the Certificate of Service, copies of the Letter of Notification are being served by certified mail, return receipt requested, upon the involved governmental agencies, municipalities and property owners. Construction of the Project will commence upon the Commission's approval of this filing, with an estimated construction start date of June 13, 2024, with an anticipated in-service date of December 2028.

If you have any questions concerning this matter, please contact me at the address or telephone numbers provided above.

The associated $350.00 filing fee has been paid by Post & Schell, P.C. as of the time of filing.

Respectfully submitted,

Garrett P. Lent

GPL/dmc
Enclosures

cc: Paul T. Diskin
Jordan Van Order
Certificate of Service

CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of the foregoing has been served upon the following persons, in the manner indicated, in accordance with the requirements of 52 Pa. Code § 1.54 (relating to service by a participant).

VIA CERTIFIED MAIL: RETURN RECEIPT REQUESTED

Pennsylvania Bureau Of Investigation and Enforcement
Pennsylvania Public Utility Commission
Commonwealth Keystone Building
400 North Street
2nd Floor, Room-N201
Harrisburg, Pennsylvania 17120
Attn: Alison Kaster

Pennsylvania Department of Environmental Protection
400 Market Street
10th Floor Rachel Carson State Office Building
Harrisburg, Pennsylvania 17101
Attn: Regional Permit Coordination Office

Pennsylvania Department of Transportation
Keystone Building
400 North Street, Ninth Floor
Harrisburg, Pennsylvania 17120
Attn: Jeffrey Spots, Chief Counsel

Pennsylvania Historical and Museum Commission
Bureau For Historic Preservation
Commonwealth Keystone Building, Second Floor
400 North Street
Harrisburg, Pennsylvania 17120-0053
Attn: Ms. Emma Diehl, Division Manager

Pennsylvania Department of Conservation And Natural Resources
Rachel Carson State Office Building
400 Market Street
Harrisburg, Pennsylvania 17105-8767
Attn: Rebecca Bowen, Ecological Services Section Chief

Pennsylvania Game Commission
2001 Elmerton Avenue
Harrisburg, Pennsylvania 17110-9797
Attn: David Gustafson, Director, Bureau of Wildlife Habitat Management

Pennsylvania Fish and Boat Commission
450 Robinson Lane
Bellefonte, Pennsylvania 16823-9620
Attn: Christopher A. Urban, Chief, Natural Diversity Section

Pennsylvania Office Of Consumer Advocate
555 Walnut Street
5th Floor Forum Place
Harrisburg, Pennsylvania 17101-1923
Attn: Patrick Cicero, Consumer Advocate

Pennsylvania Office Of Small Business Advocate
555 Walnut Street
1st Floor Forum Place
Harrisburg, Pennsylvania 17101
Attn: Steven C. Gray, Senior Supervising Assistant Small Business Advocate

U.S. Army Corps of Engineers
Baltimore District Corporate
Communication Office
2 Hopkins Plaza
Baltimore, Maryland 21201
Attn: Planning Division

U.S. Fish and Wildlife Service
Pennsylvania Field Office
110 Radnor Road, Suite 101
State College, Pennsylvania 16801
Attn: Lesa Lindsay

Luzerne County Conservation District
325 Smiths Pond Road
Shavertown, Pennsylvania 18708
Attn: Josh Longmore, Executive Director

Luzerne County Planning Commission
Penn Place Building
20 North Pennsylvania Avenue
Wilkes-Barre, Pennsylvania 19712
Attn: N. Brian Caverly, Chair

Carbon County Conservation District
5664 Interchange Road
Lehighton, Pennsylvania 18235
Attn: Roger Shoenberger, Chair

Carbon County Planning Commission
2 Hazard Square
Jim Thorpe, Pennsylvania 18229
Attn: Fred Bresswein, Chair

Northampton County Conservation District
14 Gracedale Avenue
Nazareth, Pennsylvania 18064

Northampton County Planning Commission
Lehigh Valley Planning Commission
961 Marcon Boulevard #310,
Allentown, Pennsylvania 18109
Attn: Becky A. Bradley, Executive Director

Hazle Township
P.O. Box 506
Harleigh, Pennsylvania 18225
Attn: Jim Montone, Chair

Banks Township
P.O. Box 231
Treskow, Pennsylvania 18254
Attn: Joseph Clark, Chair

Franklin Township
900 Fairyland Road
Lehighton, Pennsylvania 18235
Attn: Brenda Neeb, Secretary

Lehigh Township
1741 South Lehigh Gorge Drive
Weatherly, Pennsylvania 18255
Attn: Carol Lenahan, Secretary

Lower Towamensing Township
595 Hahns Dairy Road
Palmerton, Pennsylvania 18071
Attn: Christine Wentz, Secretary

Packer Township
2234 Hudson Drive
Weatherly, Pennsylvania 18255
Attn: Stephanie Stolpe, Secretary

Penn Forest Township
2010 State Route 903
Jim Thorpe, Pennsylvania 18229
Attn: Susan Gibiser, Secretary

Towamensing Township
120 Stable Road
Lehighton, Pennsylvania 18235
Attn: Brenda L. Drew, Secretary

Jim Thorpe Borough
101 East Tenth Street
Jim Thorpe, Pennsylvania 18229
Attn: Louise McClafferty, Secretary

Allen Township
4714 Indian Trail Road
Northampton, Pennsylvania 18067
Attn: Dale Hassler, Chair

Lehigh Township
1069 Municipal Road
Walnutport, Pennsylvania 18088
Attn: Michael Jones, Chair

2J2N Brothers LLC
100 Commerce Dr
Hazleton, Pa 18202-4500

Agape Faith Ministries
2705 Willow St
Coplay, Pa 18037-2012

Alexander, Lawrence Hall
815 Chippy Cir
Jim Thorpe, Pa 18229-1638

American Zinc Recycling Corp
3010 Westchester Ave
Purchase, Ny 10577-2535

Ardle, Doris M
195 Sunset Dr
Lehighton, Pa 18235

Bamert, Maureen O & Finkbeiner, Keith D
4006 Sycamore Dr
Northampton, Pa 18067-9538

Bartholomew Family Trust
620 Hemlock St
Lehighton, Pa 18235-9328

Becker, Richard R
3814 Apple Rd
Northampton, Pa 18067-9121

Abraham, Jamie E & Sara E
1975 Stoney Ridge Rd
Palmerton, Pa 18071-5834

Ahner, Jared B & Megan M
191 Evergreen Rd
Lehighton, Pa 18235-9264

Altenburg, Slayton W
714 Getz Dawl Rd
Palmerton, Pa 18071-3441

AMPAL Inc.
2115 Little Gap Rd
Palmerton, Pa 18071-5109

Balliet, Gay L
4506 Cherryville Rd
Northampton, Pa 18067-9423

Barry, Marvin J & Christine G
932 Lark St
Lehighton, Pa 18235-8903

Bauchspies, Jeffrey W & Pamela M
193 Old Mill Rd
Lehighton, Pa 18235-9082

Beers, Duane & Ruth, Wilson
400 Maury Rd
Lehighton, Pa 18235-9102

Belardo, Lauren
3817 Long Run Rd
Lehighton, Pa 18235-8876

Berger, Larry C
100 Hemp Hill Ln
Palmerton, Pa 18071

Big Creek Grange 1559
215 Fairview St
Lehighton, Pa 18235-2814

Bird, Elmer L & Francine G
4124 Mountain View Dr
Walnutport, Pa 18088-9341

Bonao Home Remodeling Inc.
1041 W 19th St
Hazle Township, Pa 18202-2238

Bonner, Brian & Eileen
450 Bonn Ct
Hazleton, Pa 18201-7870

Bonners Trucking & Excavating Inc
500 Mt Pleasant Ln
Hazle Township, Pa 18202-8235

Borough Of Jim Thorpe
101 E 10th St
Jim Thorpe, Pa 18229-2528

Beltz, Thomas G
199 Airport Rd
Lehighton, Pa 18235-9308

Bieling, Carl Richard & Constance
315 Oak St
Palmerton, Pa 18071-6433

Binder, Daryl & Linda
261 Freedom Dr
Weatherly, Pa 18255-2613

Bliss, Amelia L & Fritchman, Darrick J
5260 Lake View St
Germansville, Pa 18053-2024

Bond, Kenneth Robert
751 State Route 903
Jim Thorpe, Pa 18229-3538

Bonner, Carmella E & Neal J
525 Mt Pleasant Ln
Hazle Township, Pa 18202

Bonser, Eric S
110 Windy Acres Ln
Palmerton, Pa 18071-5855

Bowersox, Robert C & Barbara A
5781 Indian Trail Rd
Northampton, Pa 18067-9144

Boyer Farm Inc.
510 Boyer Farm Rd
Palmerton, Pa 18071-6004

Bray, Laura J
618 Monastery Pl
Northampton, Pa 18067-9522

Burger, Lora
2780 Walnut Dr
Palmerton, Pa 18071-5434

Butler Enterprises Inc.
15 E Broad St
Hazleton, Pa 18201-6520

Carr, Stephen J
4070 Mountain View Dr
Walnutport, Pa 18088-9327

Cihylik, Nicholas W & Judith E
3960 Cherryville Rd
Northampton, Pa 18067-9424

Clough, Melissa A
612 Monastery Pl
Northampton, Pa 18067-9533

Commonwealth of Pa (Lehigh Gorge State Park)
400 Market St
Harrisburg, Pa 17105

Bradshaw, Jerry & Grenke, Carol A
318 Sunset Ter
Palmerton, Pa 18071-5465

Brunst, Barry J & Marie F
4055 Wood Dr
Walnutport, Pa 18088-9210

Burton, Karen M
3863 Apple Rd
Northampton, Pa 18067-9121

Carbon Co Lion Lioness Fair Assoc Inc.
Po Box 633
Lehighton, Pa 18235-0633

Castagna, James V & Diane S
1023 Honeysuckle Rd
Walnutport, Pa 18088-9762

Clark, David G & Susan K
4026 Cedar Dr
Walnutport, Pa 18088-9535

Commonwealth of Pa (Broad Mountain)
2001 Elmerton Ave
Harrisburg, Pa 17110

Commonwealth of Pa (State Game Lands)
2001 Elmerton Ave
Harrisburg, Pa 17110

Commonwealth of Pa Dept of Conservation
(Bureau of Facility Design & Construction)
Po Box 8451
Harrisburg, Pa 17105-8451

Compton, Amanda E
3775 Long Run Rd
Lehighton, Pa 18235-8875

Costenbader The Mar Lee
1420 Little Gap Rd
Palmerton, Pa 18071-5032

Costenbader, Phill Jason & Allissa
2175 Hahns Dairy Rd
Palmerton, Pa 18071-5326

Coxe, Nelson L & Lynn D
82 Tower Rd
Weatherly, Pa 18255-2536

Cuchran, Michael S
3835 Apple Rd
Northampton, Pa 18067-9121

Dahlgren, Emily
623 Bishops Pl
Northampton, Pa 18067-9510

Dodwell, Emily
515 E 72nd St
New York, Ny 10021-4074

Conarty, George R & Linda A
285 Evergreen Rd
Lehighton, Pa 18235-9492

Costenbader, Jared & Kortney
2015 Stoney Ridge Rd
Palmerton, Pa 18071-5836

Coxe, Courtney
195 Tower Rd
Weatherly, Pa 18255-2539

Cressley, Monroe B & Betty Ann
830 Red Hill Rd
Lehighton, Pa 18235-9359

Culp, Sean & Kendra
152 Tower Rd
Weatherly, Pa 18255-2538

Dellen, Jesse J
9 Riverside Dr
Etters, Pa 17319-8984

Doherty, Charles
108 Foster Ave
Upper Darby, Pa 19082-1007

Dowd, John & Tina
325 Elm St
Lehighton, Pa 18235-9326

Dunbar, Charles A & Irmgard F
650 Drift Rd
Palmerton, Pa 18071-6516

Eaton, Angie L & Gregory D
4039 Butternut Dr
Walnutport, Pa 18088-9337

Eckensberger, Anna L & Perkins, Gay L
4506 Cherryville Rd
Northampton, Pa 18067-9423

Evelyn Estates LLC
613 3rd St
Palmerton, Pa 18071-1520

Federal Natl Mtg Assn
Po Box 650043
Oxford, Ar 72565

Frack, Betty Louise
3831 Apple Rd
Northampton, Pa 18067-9121

Frederick, William C & Shelly L
606 Monastery Pl
Northampton, Pa 18067-9533

Drost, Erica Lynn & Kahr, Michael
600 Monastery Pl
Northampton, Pa 18067-9533

Duschak, Gregory F
702 Ridge Rd
Andreas, Pa 18211-3161

Ebert, Linda Carol
207 Yorktown Dr
Hazleton, Pa 18201

Eustache, Marie Carla
631 Bishops Pl
Northampton, Pa 18067-9509

Fasching, Francis X & Arline
Po Box 391
Hanover, Va 2306-90391

Fox, Jason & Lauren
124 Sunset Terrace Dr
Palmerton, Pa 18071

Frederick, Larry J & Sophie
841 S Dogwood Rd
Walnutport, Pa 18088-9537

Fredericks, Michele
950 Red Hill Rd
Lehighton, Pa 18235-9359

Freya Land Company (Pagnotti Enterprises Inc)
144 Brown Rd
Yatesville, Pa 18640-3723

Garrison, Charles J & Kristen
4035 Cedar Dr
Walnutport, Pa 18088-9536

Gehringer, Robert
669 Washington St
Easton, Pa 18042-7408

Gerrity, John & Jeannine
614 Monastery Pl
Northampton, Pa 18067-9533

Goodwin, Thomas & Joan
1631 Seidersville Rd
Bethlehem, Pa 18015-4223

Green, Annette E
1335 Blue Mountain Dr
Danielsville, Pa 18038-9738

Grega, James B
2432 Wetzel Run Dr
Weatherly, Pa 18255-2914

Haddad, Joel S & Brittany
598 Monastery Pl
Northampton, Pa 18067-9521

Fulks, Roger N
608 Monastery Pl
Northampton, Pa 18067-9533

Gehret, Joshua J & Stephanie M
1039 Honeysuckle Rd
Walnutport, Pa 18088-9762

George, Jeffrey
40 Kenneth Ln
Palmerton, Pa 18071-6456

Goetsch, Anthony
Po Box 207 Yorktown Dr
Hazle Township, Pa 18202

Graver, Stanley R & Elaine
546 Old Mill Rd
Lehighton, Pa 18235-9080

Green, Dennis R & Theresa I
3730 Long Run Rd
Lehighton, Pa 18235-8875

Gregg, John I & Theresa A
1108 Brenkman Dr
Weatherly, Pa 18255-2522

Hahn, Chris D & Holly A
115 Sunset Terrace Dr
Palmerton, Pa 18071

Hahns Cloverleaf Dairy Inc
1770 Hahns Dairy Rd
Palmerton, Pa 18071-5333

Hawk, Dwight D & Mary J
660 Oak St
Palmerton, Pa 18071-6438

Haydt, Tracy L
1815 Hazelwood Rd
Palmerton, Pa 18071-6166

Hazleton City Water
Church St
Hazleton, Pa 18201

Hilltop Center LLC
3150 Coffeetown Rd
Orefield, Pa 18069-2511

Hoffman, Todd A & Paula M
269 Tower Rd
Weatherly, Pa 18255-2541

Huff, Karinus C
3993 Cedar Dr
Walnutport, Pa 18088-9536

Inocencio, Rod Ivan & Michelle
610 Monastery Pl
Northampton, Pa 18067-9533

Harman, Leandra & Alex
621 Bishops Pl
Northampton, Pa 18067-9510

Haydt, Marc A
385 Forest Inn Rd
Lehighton, Pa 18235-5250

Hazleton City Auth
38 S Church St
Hazleton, Pa 18201

Hill, David F & Susan E
4626 Glasgow St
Center Valley, Pa 18034-8737

Hinkle, Jeffrey J & Claire P
366 Freedom Dr
Weatherly, Pa 18255-2614

Horning, John F & Phyllis A
190 Sunset Ter
Palmerton, Pa 18071-5466

Hydro, Stephen A & Cecelia L
1515 North St
Jim Thorpe, Pa 18229-9451

Iris USA Inc.
13423 W Cactus Rd
Surprise, Az 85379-9231

Ivory, Gladys N
2185 Indian Hill Rd
Lehighton, Pa 18235-9265

Jardine, George & Mensinger, Marie Christina
3997 Cedar Dr
Walnutport, Pa 18088-9536

Johnson, Troy E & Sherry L
152 Beltzville Dr
Kunkletown, Pa 18058-7763

Khalil, Maamari
3874 Apple Rd
Northampton, Pa 18067-9121

Kleintop, Jason D
245 Sunrise Terrace Ln
Lehighton, Pa 18235-3821

Koch, Neil E
3557 Howertown Rd
Northampton, Pa 18067-9430

Koneschusky, James R & Sally A
17 Freedom Dr
Weatherly, Pa 18255-2609

Kresge, Larry M & Fulk, Connie F
57 Tower Rd
Weatherly, Pa 18255-2537

J T Municipal Auth
80 Broadway
Jim Thorpe, Pa 18229-2022

Jeb Holdings LLC
602 Monastery Pl
Northampton, Pa 18067- 9533

Jones, David H & Brenda J
4084 Butternut Dr
Walnutport, Pa 18088-9337

Kilpatrick, Timothy M & Lori A
140 Sunset Ter
Palmerton, Pa 18071-5466

Kneas, Justin
80 Green Forest Ln
Lehighton, Pa 18235-9485

Kochik, Colleen Ann & Michael, Thomas
721 Hemlock St
Palmerton, Pa 18071-9614

Koslop, Robert J & David
3731 Church Rd
Mountain Top, Pa 18707-9039

Kromer, Kurt W
421 Evergreen Rd
Lehighton, Pa 18235-9496

Kuhns, Eric M & Kari M
78 Old Mill Rd
Lehighton, Pa 18235-9082

Laky, William M & Michelle L
835 S Dogwood Rd
Walnutport, Pa 18088-9537

Leah One Inc.
1708 Locust St
Philadelphia, Pa 19103-6107

Lehighton Water Co
Maury Rd
Lehighton, Pa 18235

Longenbach, Scott D & Rachel L
3695 Magnolia Dr
Northampton, Pa 18067-9641

Marcucci, Alan A
582 Graystone Dr
Cherryville, Pa 18035-9706

Matula Irrevocable Trust
1031 Honeysuckle Dr
Walnutport, Pa 18088-9762

May, Bradley J & Cynthia A
2868 Interchange Rd
Lehighton, Pa 18235-9356

Kunkle, John H & Theresa A
325 Drift Rd
Palmerton, Pa 18071-6511

Landi, Giovanni
601 Front St
Catasauqua, Pa 18032-2411

Lehighton Water Authority
Municipal Bldg
Lehighton, Pa 18235

Little, William D & Bonita L
617 Bishops Pl
Northampton, Pa 18067-9510

Mack, Mark T
4000 Chapel Ct
Northampton, Pa 18067-9525

Matis, Richard S & Elaine M
4012 Cedar Dr
Walnutport, Pa 18088-9535

Maurer, Zachery M & Jennifer
596 Monastery Pl
Northampton, Pa 18067-9521

McCutcheon, Michael
4038 Cedar Dr
Walnutport, Pa 18088-9535

McFarland, Ty & Ahner, Christina L
175 Maury Rd
Lehighton, Pa 18235-9036

Mehlig, Kenneth & Sandra
63 Mehlig Ln
Weatherly, Pa 18255-2535

Meixsell, Bradley
616 Monastery Pl
Northampton, Pa 18067-9522

Mertz, Todd
455 Maury Rd
Lehighton, Pa 18235-9095

Miller, Thomas L & Peggy Ann
4018 Cedar Dr
Walnutport, Pa 18088-9535

Moats, Lloyd & Loretta
945 Blue Mountain Dr
Walnutport, Pa 18088-9477

Mooney, Ann M & Seth
7442 Roebelenii Ct
Sarasota, Fl 34241-7122

Moser, Richard H
604 Monastery Pl
Northampton, Pa 18067-9533

McHenry, Scott & Sarah G
315 Evergreen Rd
Lehighton, Pa 18235-9494

Mehlig, Martin D & Nina
150 Country View Ln
Kunkletown, Pa 18058-7301

Mertz Family Trust
3999 Butternut Dr
Walnutport, Pa 18088-9337

Meyers, William B & Lois S
1469 Blue Mountain Dr
Danielsville, Pa 18038-9766

MM3 Properties LLC
371 Knoll Dr
Lehighton, Pa 18235-9237

Montes, Terrence S & Renee M
72 Sunset Ter
Palmerton, Pa 18071-5464

Morresi, Michael A & Melissa N
805 Chippy Cir
Jim Thorpe, Pa 18229-1638

Muffley, Juliann M & John M
4049 Butternut Dr
Walnutport, Pa 18088-9337

Muthard, Thomas L
1480 Wintergreen Rd
Palmerton, Pa 18071-6450

Neeb, Larry D & Judith E
815 Deer Ln
Lehighton, Pa 18235-6110

Niedermeyer, Christopher J
826 S Dogwood Rd
Walnutport, Pa 18088-9537

Oberman, Glenn J
3881 Sycamore Dr
Northampton, Pa 18067-9650

Oswald, Wayne Paul & Donna M
3901 Sycamore Dr
Northampton, Pa 18067-9519

Paules, David E & Sheri, L N
629 Bishops Pl
Northampton, Pa 18067-9509

Pennsylvania Lines LLC
110 Franklin Rd
Roanoke, Va 24011-2147

Persa, David S & Adele
1047 Honeysuckle Rd
Walnutport, Pa 18088-9762

Myster, Glenn A
619 Bishops Pl
Northampton, Pa 18067-9510

Newhard, Gloria
3861 Lehigh Dr
Northampton, Pa 18067-9771

Northwoods Management LLC
2846 Main St Box 12a
Morgantown, Pa 19543-9486

Orban, Jerome M & Kathryn A
3945 Lehigh Dr
Northampton, Pa 18067-9665

Paukovits, Timothy J & Patti L
125 Sunset Terrace Dr
Palmerton, Pa 18071

Pennsylvania Commonwealth Game Commission
8000 Derry St
Harrisburg, Pa 17105

Pennsylvania Lines LLC (Taxation Dept)
1200 Peachtree St
Atlanta, Ga 30309-3579

Petkosh, Damian & Kozak, Carla
2232 Broomstick Rd
Green Lane, Pa 18054-9577

Pitts, Timothy L & Wendy G
3738 Bayberry Dr
Danielsville, Pa 18038-9520

Pramik, Derek
4001 Chapel Ct
Northampton, Pa 18067-9574

Price, M Jeannette
3610 Romig Ave
Reading, Pa 19606-2932

Rapee, Marivel
6032 Indian Trail Rd
Northampton, Pa 18067-9145

Reading Blue Mt Railroad
Po Box 248
Port Clinton, Pa 19549-0248

Redline, Kenneth L & Melissa
1600 North St
Jim Thorpe, Pa 18229-1832

Reifinger, Glenn Keith & Muir, Suzanne
Po Box 4036
Jim Thorpe, Pa 18229-4036

Ritter, David W & Kevin D
1622 Brenkman Dr
Weatherly, Pa 18255-2532

Postupack, James T & Julia A
1495 Chinquapin Rd
Holland, Pa 18966-1737

Preston, Sheila
3877 Apple Rd
Northampton, Pa 18067-9121

Ramsey Palmerton LLC
2115 Little Gap Rd
Palmerton, Pa 18071-5109

Reading Blue Mountain & Northern
Railroad Co
Po Box 218
Port Clinton, Pa 19549-0218

Reagan, Rob R & Susan M
4029 Butternut Dr
Walnutport, Pa 18088-9337

Redline, Wayne A & June A
1580 North St
Jim Thorpe, Pa 18229-1805

Ripsom, Elizabeth M & George A
33 Porter Rd
Chelmsford, Ma 01824-4012

Rizzotto, Patricia A
5768 Indian Trail Rd
Northampton, Pa 18067-9124

Romig, Todd Randall & Ashley Louise
825 S Dogwood Rd
Walnutport, Pa 18088-9537

Sergent, Jared Gregory & Nicole Renee
3911 Lehigh Dr
Northampton, Pa 18067-9665

Shelly, Richard H & Susan E
4080 Mountain View Dr
Walnutport, Pa 18088-9327

Shetayh, Ziad & Meyada
189-99 W Tilghman St
Allentown, Pa 18102-2519

Shoenberger, Daniel L & Ann L
1161 Hemlock St
Palmerton, Pa 18071-9609

Skrapits, John R & Irina A
803 Fir Dr
Walnutport, Pa 18088-9532

Solderitz, Helen F & Emil A
7313 Northgate Dr
Slatington, Pa 18080-2242

Spaide, Harold L & Shirley J
120 Acher Rd
Wapwallopen, Pa 18660-1716

Scheller, Geoffrey & Sharon L
4008 Sycamore Dr
Northampton, Pa 18067-9538

Shay, Mark T & Sherry L
2110 Little Gap Rd
Palmerton, Pa 18071-5108

Shetayh, Elias
189-99 W Tilghman St
Allentown, Pa 18102-2519

Shoenberger, Clark R & Althea B
1880 Cherry Hill Rd
Palmerton, Pa 18071-9735

Silver, Frederick H
557 Belvidere Corner Rd
Mount Bethel, Pa 18343-6226

Snyder, Paul T & Anna M
3222 Interchange Rd
Lehighton, Pa 18235-9356

Solt, Delbert L & Carol A
2950 Fairyland Rd
Lehighton, Pa 18235-8906

Sportelli, Louis
125 Delaware Ave
Palmerton, Pa 18071-1746

Spring Mt Est Inc
1495 Chinpaupin Rd
Holland, Pa 18966

Steiner, Louis & Doris I
818 Fir Dr
Walnutport, Pa 18088-9586

SWJJ Real Estate LLC
1059 Quakake Rd
Weatherly, Pa 18255-3121

Theisen, Adam P
65 Sunset Ter
Palmerton, Pa 18071-5464

Tri Sales Co.
7401 S Cicero Ave
Chicago, Il 606295-818

Vandersteen, Agreement & John B
195 Mendelson Dr
Palmerton, Pa 18071-5468

Washburn, James C & Vicki L
2489 Indian Hill Rd
Lehighton, Pa 18235-9428

Wentz, Matthew W & Tara L
845 Centre St
Palmerton, Pa 18071-9603

Steigerwalt, Nelson E J
2223 Indian Hill Rd
Lehighton, Pa 18235-9265

Svede, Andrew
47 Montgomery St
Goshen, Ny 10924-1514

Taylor, Maryann & Thomas W
4213 Mountain View Dr
Walnutport, Pa 18088-9363

Township of Hazle
101 W 27th St
Hazle Township, Pa 18202

Turick, Dennis & Jean Ann
3954 Recker Dr
Northampton, Pa 18067-9511

Walck, James E & Marylou E
4059 Butternut Dr
Walnutport, Pa 18088-9337

Weidenhammer, Amanda J
4027 Butternut Dr
Walnutport, Pa 18088-9337

Wenz, Ronald A & Jill E
935 Brookside Rd
Wescosville, Pa 18106-9441

Wieand, Mary E
130 Oak St
Palmerton, Pa 18071-6428

Yankiewicz, Zackery & Dalton, Jessica
4060 Cedar Dr
Walnutport, Pa 18088-9739

Ziegenfuss, Alton D & Naomi G
4105 Wood Dr
Walnutport, Pa 1808-89737

USACE Philadelphia District
1650 Arch St
Philadelphia, Pa 19103

Yankauskas, John M
4311 Route 309
Schnecksville, Pa 18078-2513

Yelles, Douglas A & Donna M
4010 Sycamore Dr
Northampton, Pa 18067-9536

Ziegenfuss, Daniel James
4116 Wood Dr
Walnutport, Pa 18088-9737

Date: March 26, 2024

Garrett P. Lent

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Letter Of Notification Of PPL Electric Utilities Corporation, Filed Pursuant To 52 Pa. Code Chapter 57 Subchapter G, For Approval To Rebuild The Existing Double-Circuit Harwood-East Palmerton and Siegfried-East Palmerton Transmission Lines Connecting The Harwood 230-69 kV Substation Located In Carbon County, And The Siegfried 230-138-69 kV Substation Located In Northampton County, Pennsylvania	:	Docket No. A-2024-_____

LETTER OF NOTIFICATION

TO THE PENNSYLVANIA PUBLIC UTILITY COMMISSION:

PPL Electric Utilities Corporation ("PPL Electric") hereby files this Letter of Notification pursuant to Section 57.72(d)(1)(i) of the Pennsylvania Public Utility Commission's ("Commission") regulations, 52 Pa. Code § 57.72(d)(1)(i), to rebuild the existing double-circuit Harwood-East Palmerton and Siegfried-East Palmerton Transmission Lines connecting the Harwood 230-69 kV Substation ("Harwood Substation") located in Luzerne County, the East Palmerton 230-69 kV Substation ("East Palmerton Substation") located in Carbon County, and the Siegfried 230-138-69 kV Substation ("Siegfried Substation") located in Northampton County, Pennsylvania ("Project")[1].

The proposed Project will address reliability, asset health and safety concerns related to the deteriorated condition of the COR-TEN® lattice towners of PPL Electric's Harwood-East

[1] For a complete list of municipalities and counties crossed by the Project, please refer to the Letter of Notification, Attachment 5.

Palmerton and Siegfried-East Palmerton Transmission Lines. The Project contemplates the replacement and rebuilding of these existing COR-TEN® lattice towers to address structural reliability concerns associated with the experience of "pack-out rust"[2] in many of the joints of the subject lattice towers. The experience of pack-out rust in the joints of the subject towers has accelerated asset health concerns and accelerated the rate at which the subject towers were expected to reach end-of-life. In addition, the Project is also required to comply with the Consolidated Transmission Owners Agreement ("TOA") Rate Schedule - FERC No. 42 (FERC ER10-2713-000), which requires transmission systems to "[b]e kept in place and maintained in good operating condition in accordance with Good Utility Practice and principles, guidelines and standards of the applicable Regional Reliability Council and NERC."

This project will be constructed in Hazel, Banks, Franklin, Lehigh, Towamensing, Lower Towamensing, Packer, Penn Forest, Allen, and Lehigh Townships, as well as Jim Thorpe Borough, which are either in Luzerne, Carbon or Northampton Counties, Pennsylvania, respectively. PPL Electric has provided information regarding this Project to all identified political subdivisions, and none of them have objected to the Project. Construction of the Project will commence upon the Commission's approval of this filing. PPL Electric is seeking the Commission's decision by no later than June 13, 2024, to support an in-service date of December 2028.

In support thereof, PPL Electric states as follows:

[2] As explained in Attachment 1 – Necessity Statement, "pack-out rust" is a form of localized corrosion typical of steel components that develop a crevice into an open atmospheric environment, which results in rust packing between conjoined steel components. As described further herein, pack-out rust accelerates the deterioration of asset health and can result in shearing off bolts, loss of structural integrity, members disconnecting from lattice towers, and tower failure.

I. INTRODUCTION

1. This Letter of Notification is filed by PPL Electric, a public utility that provides electric distribution, transmission, and provider of last resort services in Pennsylvania subject to the regulatory jurisdiction of the Commission.

2. PPL Electric's address is as follows:

PPL Electric Utilities Corporation
Two North Ninth Street
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3. PPL Electric's attorneys are:

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PPL Electric's attorneys are authorized to receive all notices and communications regarding this Letter of Notification.

4. PPL Electric furnishes electric service to approximately 1.4 million customers throughout its certificated service territory, which includes all or portions of twenty-nine counties and encompasses approximately 10,000 square miles in eastern and central Pennsylvania. PPL Electric is a "public utility" and an "electric distribution company" as defined in Sections 102 and 2803 of the Pennsylvania Public Utility Code, 66 Pa.C.S. §§ 102, 2803.

5. PPL Electric owns approximately 5,000 miles of transmission lines operating at 69 kilovolts ("kV") or higher, approximately 375 substations with a capacity of 10 megavolt amperes

("MVA") or more, and approximately 43,000 miles of distribution lines operating at less than 69 kV.

6. This Letter of Notification includes the following accompanying Attachments:

- Attachment 1 Necessity Statement.
- Attachment 2 Engineering Description.
- Attachment 3 Description of Project Area.
- Attachment 4 PPL Electric Design Criteria and Safety Practices.
- Attachment 5 Landowners and Agencies List.

7. This Letter of Notification and accompanying Attachments, which are incorporated herein by reference, contain all the information required by 52 Pa. Code § 57.72(d)(4).

II. THE PROJECT

A. NEED FOR THE PROJECT

8. PPL Electric has a responsibility to provide transmission assets and maintain them in a manner that is safe, reliable, and resilient to meet the needs of the electric system and the service expectations of its customers. To meet this duty, PPL Electric applies its transmission asset management planning procedure, which includes system performance and condition assessments. These performance and condition assessments identify system needs and prioritize projects based on several variables such as equipment age, condition, maintenance schedule, and impact on system reliability and performance to ensure a reliable electric grid and reasonable service to its customers.

9. As explained in greater detail below and in Attachment 1 – Necessity Statement, this Project is necessary to resolve significant asset health condition concerns across the existing double-circuit Harwood-East Palmerton and Siegfried-East Palmerton Transmission Lines connecting the Harwood Substation, the East Palmerton Substation, and the Siegfried Substation

associated with the presence of pack-out rust in the existing COR-TEN® steel lattice towers and thereby resolve service reliability and safety risks associated with the potential failure of these structures.

10. As explained in greater detail below and in Attachment 1 – Necessity Statement, as the topic of severe weather patterns becomes increasingly relevant, there is a need to consider how changing weather patterns will impact the reliability of the existing COR-TEN® lattice structures. Over the last 20 years, PPL Electric has seen a trend of increasing storms per year within the PPL Electric service territory. With each storm comes more exposure to extreme precipitation and wind events. If a tower is structurally compromised due to COR-TEN® pack-out rust and section loss, that wind event creates an increased risk of structural failure. With projected increases of more frequent and intense heat waves over the next century in the Northeast, the occurrence of more severe wind and precipitation events is expected to rise as well. This is evident in the storms associated with Hurricane Ida that hit the Northeast recently, as a storm of that strength would have been rare decades ago. Due to drastic weather pattern changes, it is imperative to re-evaluate the COR-TEN® structures in the safest and most reliable way to protect against the pack-out rust issue in the joints of the structures and guard the transmission system from catastrophic failures of COR-TEN® towers. While rebuilding the existing Harwood-East Palmerton and Siegfried-East Palmerton 230 kV Transmission Lines underground would help mitigate impacts from severe weather, this alternative was rejected due to the substantial increase in overall project costs and environmental impacts, which would result due to the approximate 40.2-mile overall length, geographic location, and rough terrain.

11. Importantly, the existing double-circuit Harwood-East Palmerton and Siegfried-East Palmerton 230 kV Transmission Lines are presently in use and planned to continue to be in

use to maintain the reliable and efficient operation of the transmission grid. Indeed, these existing transmission lines are included in PJM's transmission planning studies and are assumed to remain in-service and fully operational, asset retirement is not considered a feasible option.

12. The Project as proposed addresses these concerns in a cost-efficient manner, as compared to either a replacement alternative or a remediation and later replacement alternative. In particular, the Project as proposed avoids the substantial uncertainties surrounding potential remediation of the existing COR-TEN® steel lattice towers, avoids redundant inspection and/or additional remediation of these structures, and is the lowest cost alternative. Therefore, and for the reasons more fully explained below, the Commission should approve the Project as proposed.

1. Existing System

13. The Harwood and East Palmerton Substations are connected by the double-circuit Harwood-East Palmerton 230 kV line and the Harwood-Siegfried 230 kV line.

14. The Harwood-East Palmerton Transmission Lines are approximately 31.0 miles long and supported by 178 COR-TEN® lattice structures.

15. The Siegfried and East Palmerton Substations are connected by the double-circuit Siegfried-East Palmerton 230 kV line and the Harwood-Siegfried 230 kV line.

16. The Siegfried-East Palmerton Transmission Lines are approximately 9.2 miles long and supported by 42 COR-TEN® lattice structures.

17. The total number of towers to be replaced is 232. These towers are designed and being used for double-circuit 230 kV operation.

18. The double-circuit Harwood-East Palmerton and Siegfried-East Palmerton Transmission Lines are in PPL Electric's Central and Lehigh Regions and are part of a larger 230 kV transmission network that connects generation in this region to load throughout PPL Electric and the rest of PJM Interconnection, LLC's ("PJM") footprint. This 230 kV network includes the

Susquehanna-Harwood 230 kV Transmission Lines, which all support bulk power flow and feed various 230-69 kV substations in these regions.

19. A map of the existing system configuration is provided as Figure 1-1, in Attachment 1 – Necessity Statement.

2. Definition of the Problem

20. Originally constructed in the early 1970s, the existing Harwood-East Palmerton and Siegfried-East Palmerton Transmission Lines have 220 weathering-steel COR-TEN® lattice structures spanning approximately 40.2 miles. COR-TEN® lattice towers were commonly installed by the industry during this time because it was believed that the corrosion-resistant properties of weathering-steel would reduce future maintenance needs and costs. These towers had an expected service life of approximately 75 years at the time they were installed.

21. However, in 2013, PPL Electric hired a third-party contractor to perform an assessment of its 230 kV transmission lines under a steel structure capital maintenance program. The assessment identified that 126 of 131 surveyed structures (96%) had one or more structure legs rated Condition C (poor) or Condition D (very poor). Of those 126 structures, 25 had one or more structure legs that were identified as "priority," requiring immediate attention. In order to extend the life of the asset and ensure no failures at the ground line, the 25 structures identified as "priority" received maintenance repairs in 2014, which included post leg, diagonal and base shoe repairs. Protective coating was applied to the remaining 101 COR-TEN® structures that rated Condition C or D but were not identified as "priority." However, these remaining structures face constant asset health concerns due to the presence of pack-out rust.

22. The asset health concerns discovered by the 2013 assessment were heightened by the discovery of pack-out rust in the section joints of the subject COR-TEN® lattice towers. As explained in further detail in Attachment 1 – Necessity Statement, when the presence of pack-out

rust becomes too severe, it can deform steel members and connecting hardware. Pack-out rust can also shear off bolts, cause loss of structural integrity, cause members to disconnect from the tower, and even result in tower failure. This now well-known inherent problem with COR-TEN® steel is also being seen in other infrastructure where two pieces of COR-TEN® Steel overlap at joints, such as those present on lattice towers[3] and other steel structures such as steel bridges.

23. PPL Electric further verified the results of the 2013 assessment by contracting with several independent, non-affiliated inspection companies to conduct evaluations of COR-TEN® lattice towers to determine the overall condition of these towers on the PPL Electric Transmission System in 2019. The 2019 evaluations included inspection of 15 randomly selected COR-TEN® lattice towers across the PPL Electric Transmission System by three separate contractors.[4] Review of the three contractor reports revealed that over 90% of the joints at each structure exhibited visible pack-out rust in the connections. In addition, the review revealed that pack-out rust and section-loss was most prominent on the lower portions of the towers where there was higher likelihood of moisture build up.

24. Based on the prevalence of the observed deterioration, PPL Electric determined a more thorough and strategic evaluation was required to determine the full extent of the negative asset health impacts associated with COR-TEN® lattice towers. In early 2020, PPL Electric initiated a second more robust evaluation of the COR-TEN® lattice towers to determine the full

[3] *See, e.g.*¸ *Application of Virginia Electric and Power Company d/b/a Dominion Virginia Power For approval and certification of Carson-Rogers Road 500 kV Transmission Line Rebuild under Va. Code § 56-46.1 and the Utility Facilities Act, Va. Code § 56-265.1 et seq.*, Va. SCC Case No. PUE-2016-00078, at pp. 2-3, 9-10 (Hearing Examiner Report dated March 10, 2017) ; *Application of Virginia Electric and Power Company For approval and certification of Cunningham-Dooms 500kV Transmission Line Rebuild under Va. Code § 56-46.1 and the Utility Facilities Act, Va. Code § 56-265.1 et seq.*, Va. SCC Case No. PUE-2016-00020, at pp. 3-4 (Response of Dominion Virginia Power to Staff's Supplemental Filing of March 30, 2017, filed April 13, 2017) (discussing the problems associated with "pack-out" rust on another utility's COR-TEN® lattice tower structures).

[4] Each contractor was asked to inspect 5 structures and prepare an engineering analysis of their condition, proposed remediation approach and estimated costs to remediate the identified structural defects.

extent of the deterioration on the transmission system. The details of this analysis are more fully detailed in Attachment 1 – Necessity Statement.

25. The results of the 2020 inspection program again confirmed the severity of deterioration identified during the 2019 inspection program, as follows:

- Over 90% of the joints showed visible pack-out rust in the connections, which is anticipated to worsen over time.
- The protective patina needed to protect the steel from corrosion did not properly develop at numerous members resulting in section-loss across the entire structure.
- Pack-out rust damage was typically more prevalent on lower sections of the tower except for some specific attachment points where severe pack-out rust was observed on higher sections.
- Structural damage was found on several members from pack-out rust that ruptured bolts and split/deformed members.

26. Finally, in December 2023 and January 2024, PPL Electric contracted RTR Energy Solutions, Inc. ("RTR") to perform a condition assessment of the Harwood-East Palmerton and Siegfried-East Palmerton Transmission Lines. The details of the RTR December 2023 and January 2024, Assessment are set forth in Attachment 1 – Necessity Statement. In addition, the average structure classified as "Moderate" is in similar condition to structures classified as "Severe." RTR classifies any structure with over 50% of its joints containing pack-out rust as "Severe." Importantly, 85% of the COR-TEN® lattice towers on Harwood-East Palmerton and 71% of the COR-TEN® lattice towers on Siegfried-East Palmerton 230 kV lines were classified as severe. None of the COR-TEN® lattice towers on either line were classified as mild. The specific numbers supporting these percentages are outlined in Tables 1-3 and 1-4 in Attachment 1- Necessary Statement.

27. The majority of pack-out rust observed on each structure was found in the lower sections of the post leg where horizontal and diagonal members are bolted to the post leg. This

assessment shows that the asset health conditions observed in the system-wide assessment are being exhibited on the specific structures targeted for replacement by the Project.

28. Based on the results of the inspection programs described above, it is clear that the issue with COR-TEN® lattice towers has accelerated the deterioration of these structures and has brought the assets to the end of their service life much sooner than would have been anticipated. At roughly 50 years of age, the COR-TEN® lattice towers that comprise the Harwood-East Palmerton and Siegfried-East Palmerton 230 kV Transmission Lines have exceeded their useful life and can no longer be relied upon to safely operate as designed.

29. Furthermore, these asset health concerns are particularly important as the Harwood-East Palmerton and Siegfried-East Palmerton 230 kV Transmission Lines are critical components of PPL Electric's Bulk Transmission System and are required to serve local load to several critical customer facilities.

30. If the Harwood-East Palmerton and Siegfried-East Palmerton 230 kV Transmission Lines were to fail, East Palmerton's Substation load would be at risk for the next contingency. The next contingency could be either loss of the Siegfried-East Palmerton #3 230 kV Transmission Line, the loss of East Palmerton 230 kV Bus 1 or East Palmerton Transformer #1. If this were to occur, the total load dropped at East Palmerton will be approximately 65 mega-watts ("MW") resulting in approximately 18,185 customers losing service.

31. Additionally, with the failure of the double circuit transmission lines, the loss of the Susquehanna-Harwood 1 & 2 230 kV Transmission Lines will result in up to approximately 215 MW of load drop resulting in approximately 41,595 customers losing service.

32. Similarly, failure of Siegfried-East Palmerton #3 230 kV Transmission Lines will put East Palmerton's Substation load at risk for the next contingency. The next contingency could

be either the loss of Harwood-East Palmerton 230 kV Transmission Lines, the loss of East Palmerton 230 kV Bus 2 or East Palmerton Transformer #2. If this were to occur, the total load dropped at East Palmerton will be approximately 65 MW resulting in approximately 18,185 customers losing service.

33. Additionally, should failure of the double circuit transmission lines occur, the loss of the Susquehanna-Harwood 1 & 2 230 kV Transmission Lines will result in up to approximately 280 MW of load drop resulting in approximately 59,780 customers losing service.

34. Furthermore, as the topic of severe weather patterns becomes increasingly relevant, there is a need to consider how changing weather patterns will impact the reliability of the existing COR-TEN® lattice structures. Over the last 20 years, PPL Electric has seen a trend of increasing storms per year within the PPL Electric service territory. With each storm comes more exposure to extreme precipitation and wind events. If a tower is structurally compromised due to COR-TEN® pack-out rust and section loss, that wind event creates an increased risk of structural failure. With projected increases of more frequent and intense heat waves over the next century in the Northeast, the occurrence of more severe wind and precipitation events is expected to rise as well. This is evident in the storms associated with Hurricane Ida that hit the Northeast recently, as a storm of that strength would have been rare decades ago. Due to drastic weather pattern changes, it is imperative to re-evaluate the COR-TEN® structures in the safest and most reliable way to protect against the pack-out rust issue in the joints of the structures and guard the transmission system from catastrophic failures of COR-TEN® towers. While rebuilding the existing Harwood-East Palmerton and Siegfried-East Palmerton 230 kV Transmission Lines underground would help mitigate impacts from severe weather, this alternative was rejected due to the substantial increase

in overall project costs and environmental impacts, which would result due to the approximate 40.2-mile overall length, geographic location, and rough terrain.

35. Importantly, the existing double-circuit Harwood-East Palmerton and Siegfried-East Palmerton 230 kV Transmission Lines are presently in use and planned to continue to be in use to maintain the reliable and efficient operation of the transmission grid. Indeed, these existing transmission lines are included in PJM's transmission planning studies and are assumed to remain in-service and fully operational, asset retirement is not considered a feasible option.

36. At the October 2020 PJM TEAC meeting,[5] PPL Electric presented its plan to address COR-TEN® needs on the 230 kV system. As part of this plan, PPL Electric also shared the need with PJM stakeholders to address COR-TEN® towers on the Harwood-East Palmerton and Siegfried-East Palmerton 230 kV Transmission Lines (need # PPL-2020-0013). The need # PPL-2020-0013 will be addressed by the Harwood-East Palmerton and Siegfried-East Palmerton 230 kV Transmission Line rebuild under supplemental project s2374, which will be completed at an estimated cost of $184.6 million.

B. THE PROPOSED PROJECT

37. In order to resolve the identified COR-TEN® lattice tower health condition, PPL Electric proposes to rebuild the existing Harwood-East Palmerton and Siegfried-East Palmerton 230 kV Transmission Lines to resolve the COR-TEN® lattice tower health condition. As part of the rebuild, all the COR-TEN® lattice structures as well as the conductors and associated hardware will be replaced, effectively addressing the asset health conditions described above.

38. The proposed Project will address the asset health needs associated with COR-TEN® lattice tower replacement, as well as improve overall reliability, safety, and system

[5] Refer to slides at https://www.pjm.com/~/media/committees-groups/committees/teac/2020/20201006/20201006-item-09-ppl-supplemental.ashx

resiliency. It will also address the above-identified reliability needs. With respect to the COR-TEN® asset health condition, the Project will immediately and fully resolve the deteriorated condition of the existing structures on a long-term basis by removing the existing COR-TEN® lattice towers and replacing them with steel monopoles. By rebuilding these structures, PPL Electric will resolve the existing COR-TEN® issue and avoid the possibility of the issue worsening and/or recurring with respect to these structures and developing into both a reliability and public safety issue.

39. Importantly, as explained in Attachment 1 – Necessity Statement, the Project as proposed also avoids the additional costs and uncertainties surrounding the alternative remediation solution contemplated PPL Electric. As noted therein, PPL Electric evaluated and rejected the remediation alternative because it carries substantial uncertainties regarding its immediate and long-term effectiveness to address the subject COR-TEN® lattice lowers. There are few, if any, other examples of fully remediating substantially deteriorated COR-TEN® towers which PPL Electric could review to benchmark the effectiveness of this alternative against. Although remediation could potentially extend the life of the structures, it would, at a minimum, require that the remediation work be re-evaluated and potentially repeated every ten years after the initial remediation. In addition, the initial cost of remediation could be substantially greater than anticipated, and the cost of repeated remediation would result in additional Operations and Maintenance ("O&M") expense. The Project as proposed avoids these additional costs and uncertainties and proposes to rebuild the transmission lines in a cost-efficient manner to ensure the continued provision of safe and reliable service.

40. The approximate cost of the entire transmission line rebuild Project is $184.6 Million. On a total cost of service basis, the Proposed Solution is approximately 95% of the cost

of Alternative 1 (replacing each of the existing structures) on a 45-year basis and 97% of the cost of Alternative 1 on 75-year basis. In addition, on a total cost of service basis, the Proposed Solution is approximately 95% of the cost of Alternative 2 (remediating the existing structures) on a 45-year basis and 57% of the cost of Alternative 2 on 75-year basis.

III. HEALTH AND SAFETY

41. The proposed lines will not create any unreasonable risk of danger to public health or safety. The proposed lines will be designed, constructed, operated, and maintained in a manner that meets or surpasses all applicable National Electrical Safety Code ("NESC") minimum standards and all applicable legal requirements. Descriptions of the NESC standards, PPL Electric's design criteria, and PPL Electric's safety practices are provided in Attachment 4 to this Letter of Notification.

42. Attachment 4 accompanying this Letter of Notification also explains PPL Electric's standards for Magnetic Field Management. Ground clearances for the proposed Project will be increased approximately 3.0 feet higher than those required by the NESC standard in order to reduce the magnetic field exposure. The proposed rebuild of the Harwood-East Palmerton and Siegfried-East Palmerton 230 kV Transmission Lines will continue to allow for double-circuit operation, which will allow for reverse phasing. A reduction in magnetic field exposure is anticipated due to the higher ground clearances and reverse phasing.

IV. DESCRIPTION OF THE RIGHT-OF-WAY

43. The rebuilt double-circuit Harwood-East Palmerton and Siegfried-East Palmerton Transmission Lines will be on the same structure alignment and in the same right-of-way ("ROW") as the existing transmission lines. The existing ROW is generally between 150 and 300 feet wide, with the exception of one section over the Lehigh River that is 500 feet wide. The Project will require the replacement of the existing structures that will be constructed entirely within the existing ROW or on PPL Electric's Harwood Substation, East Palmerton Substation and Siegfried Substation properties. *See* 52 Pa. Code § 57.72(d)(1)(i). In addition, the facilities associated with the Project will be constructed upon the same structure alignment as the existing facilities. PPL Electric does not require any additional ROW for the construction of the Project. An aerial map is provided at the end of Attachment 3 to this Letter of Notification, which depicts the proposed line and associated structures.

44. New structures will be located in close proximity to existing structures where it is reasonably practical to do so. Where structures will be substantially relocated, PPL Electric will discuss the proposed structure locations with the respective property owners. Additionally, the existing number of structures on each parcel will not change, and no new structures will be added to properties that do not currently have a structure. Because the new pole locations are generally similar to the original locations, PPL Electric does not anticipate any objections.

45. As explained in Attachment 2, existing COR-TEN® lattice tower structures range in height from between approximately 55 and 165 feet with an average structure height of approximately 135 feet. The proposed monopole structures for the Harwood-East Palmerton and Siegfried-East Palmerton 230 kV Transmission Lines will range in height from between approximately 60 and 170 feet with an average structure height of approximately 135 feet.

46. Two aerial plot plans are provided at the end of Attachment 1 to this Letter of Notification. Figure 1-1 depicts the location of the existing transmission facilities associated with this Project. Figure 1-2 depicts the location of the proposed transmission facilities associated with this Project.

V. LAND USE AND ENVIRONMENTAL EVALUATION

47. As explained above, construction of the proposed Project will take place entirely within existing rights-of-way. Therefore, it is anticipated that the proposed Harwood-East Palmerton and Siegfried-East Palmerton 230 kV Transmission Lines will have minimal incremental impacts on land use in the area.

48. PPL Electric will use and update previously established access roads for construction to the extent practical to further reduce interference with existing uses and minimize land use impacts. A detailed description of the route of each individual component of the Project can be found in Attachment 3.

49. PPL Electric evaluated the existing land uses on the PPL Electric owned properties, within the existing ROW, and the adjacent land within approximately 0.25 mile of the ROW ("Project Area"). This broader Project Area was reviewed to provide a sense of the landscape in which the Project is located. Based on review of the 2020 National Land Cover Data ("NLCD"), land use in the Project Area is approximately 90% forested with the remaining 10% comprised of urbans lands and cropland The urban lands and croplands were typically located where the transmission lines crossed major roads.

50. The proposed Project will cross the Lehigh River, a Pennsylvania Scenic River. It also crosses the National Scenic Appalachian Trail approximately 0.7 miles south of the East Palmerton Substation. It crosses nine Natural Heritage Areas as designated by the Pennsylvania

Natural Heritage Program. Four of these crossings are listed as "Temporary polygon for element(s) of conservation concern".

51. The other areas are listed as: Spring Mountain, Hughes Swamp, Stony Ridge, Berry Run Barrens, and Glen Onoko. Two Pennsylvania state parks are crossed by the Project: Beltzville and Lehigh Gorge State Parks. Weiser State Forest is the only state forest crossed by the Project. No Pennsylvania wildlands are crossed by the Project. State Game Lands #141 and #168 are crossed by the Project. The Project will not affect any national parks.

52. Agricultural easements crossed by the Project include four easements within Carbon County and five easements within Northampton County.

53. It is not expected that the proposed Project will have negative impacts on these resources as the line will be kept within existing ROW in these areas.

54. PPL Electric conducted an online review of the Project Area and surrounding landscape was conducted through the Pennsylvania Historical and Museum Commission ("PHMC") State Historic and Archaeological Resource Exchange site.

55. State Historic Preservation Office ("SHPO") eligible and listed structures and districts that were found within or close to the Project Area are listed in Table 3-1 to Attachment 3 to this LON.

56. PPL Electric is coordinating with the PHMC for the modifications being made to the transmission lines. This coordination is required to receive permits to construct the Project and will be completed prior to initiation of construction. PPL Electric does not anticipate any impacts to SHPO listed or eligible structures or districts. PPL Electric will perform any reviews and field survey/sampling work required by the PHMC to avoid, minimize, and mitigate impacts to archaeological or historic architectural resources that may be located within the Project Area.

57. The Project Area is varied in elevation, crossing Blue Mountain and many other ridges and valleys. The elevation profile of the Project Area generally falls as the Project runs northwest to southeast, starting at approximately 1,730 feet above sea level ("ASL") near Hazleton and falling to approximately 550 feet ASL near the Lehigh River around the Siegfried Substation.

58. The Project spans the Beaver Brook Industrial Track in two locations near the Harwood Substation. The Project spans the Catawissa Hazleton Industrial Track in two locations approximately 2.5 miles south of the Harwood Substation. The Reading Blue Mountain and Northern Railroad is spanned by the Project at the Lehigh River crossing. The Chestnut Ridge Railway is spanned by the Project approximately 1 mile east of the East Palmerton Substation.

59. Two gas pipelines are crossed by the Project. One pipeline crosses the Project on top of Blue Mountain in Northampton County and the second pipeline crosses just north of the intersection with Route 946 in Northampton County. The Project also crosses other PPL Electric ROWs adjacent to the Harwood, East Palmerton, and Siegfried Substations.

60. The closest active airport relative to the Project Area is the Beltzville Airport. The Project extends within 0.5 miles of the Beltzville Airport, which is located near the East Palmerton Substation. PPL Electric does not anticipate any interference with airport operations because the Project is located in an area where there are existing electrical facilities. However, PPL Electric will comply with any applicable requirements of the Federal Aviation Administration.

61. Erosion and Sedimentation ("E&S") control plans will be implemented for the Project to minimize the displacement of soils. These plans will require prior approval from the local county conservation districts, each of which will be served with this Letter of Notification. National Pollutant Discharge Elimination System ("NPDES") permits will also be required from the Pennsylvania Department of Environmental Protection ("PADEP") as needed. During

construction, PPL Electric will adhere to all conditions specified in the NPDES permit. Impacts to local soil resources are anticipated to be minimal.

62. The existing transmission line spans several National Hydrography Dataset waterways that will remain unaffected after the Project construction activities have occurred. Review of the USGS mapping website indicated that the Project will aerially span nine named streams which are listed in Table 3-2 in Attachment 3 – Description of Project Area – to this LON. The Project Area is located within several watersheds that all flow into the Lehigh River, as explained in Attachment 3.

63. Most of the streams in the Project Area have a PADEP Chapter 93 Designated Use Stream Classification of Cold Water Fishes ("CWF"), Migratory Fishes ("MF"). Several are also considered High Quality ("HQ") or Trout Stocking ("TSF"). Many have additional Pennsylvania Fish and Boat Commission ("PFBC") designations of Natural Reproduction Trout Streams ("NRT"), Stocked Trout Streams ("STS"), or Class A Trout Streams. Streams with any of these special designations may require seasonal restrictions for any work planned. No direct impact to these stream features are anticipated by the Project activities.

64. In addition to the named streams crossed by the Project, several of the unnamed tributaries ("UNTs") crossed by the project have Special PFBC Designations. These unnamed tributaries include the following:

- UNT to Black Creek crossed approximately 0.5 miles west of Weatherly is classified as a Natural Trout Reproduction and Class A Trout Stream.
- UNT to Quakake Creek crossed approximately 0.5 miles south of Weatherly is classified as a Natural Trout Reproduction stream.
- UNT to Mill Creek approximately 2 miles north of the East Palmerton Substation is classified as a Natural Trout Reproduction stream.

65. An E&S control plan will be developed to address stormwater control in all watershed areas crossed by the Project. PPL Electric will obtain all approvals and permits necessary for the construction of the Project and will comply with any conditions placed on those permits.

66. PPL Electric also reviewed the U.S. Fish and Wildlife Service's ("USFWS") National Wetlands Inventory ("NWI"). The Project crosses twenty-seven wetland features. These features consist of one Freshwater Emergent Wetland (PEM5A), three Freshwater Forested/Shrub Wetlands (PFO1/4C, PFO1A, PSS1A), two Freshwater Ponds (PUBHh, PUBHx), and twenty-one Riverine features (R3UBH, R4SBC, R5UBH). PPL Electric will coordinate with PADEP regarding any potential impacts to these regulated features.

67. The NWI only provides a general overview of the potential wetlands that may be located within an area. For federal and state permitting purposes, the wetlands and waterways within the Project area will be delineated, surveyed, and illustrated according to regulatory standards. This information will be used to minimize any identified wetland impacts where feasible. Additionally, PPL Electric will avoid impacts to wetlands where possible by aerially spanning these features.

68. In addition, the National Flood Hazard Layer for Carbon, Luzerne, and Northampton Counties, Pennsylvania was obtained through the Federal Emergency Management Agency ("FEMA") Flood Map Service Center website and analyzed for 100-year floodplains and floodways within the Project Area and surrounding landscape. Based on review of this data, the Project spans the FEMA 100-year floodplain associated with Quakake Creek, the Lehigh River, Silkmill Run, Bull Run, an unnamed tributary (UNT) to Fireline Creek, Mill Creek, Aquashicola Creek, and Indian Creek. The Project spans the FEMA floodway at Pohopoco Creek and

Aquashicola Creek. PPL Electric will coordinate PADEP regarding any potential impacts to these regulated features.

69. Vegetative cover in the Project Area consists almost entirely of forested areas. Several mining areas, low-density residential areas, and agriculture areas are also visible on aerial imagery. The existing ROW areas for the transmission line has previously been cleared of woody vegetation and no extensive tree clearing is anticipated for the construction of the Project. If localized vegetation management is required in specific locations, PPL Electric will apply its "Specifications for Transmission Vegetation Management LA-79827" to minimize potential impacts.

70. Vegetative cover in the Project Area consists almost entirely of forested habitat. Several areas of forest clearing, agricultural use, and rural residential development are present based on aerial imagery. The existing ROW areas for the transmission line have previously been cleared of woody vegetation and no extensive tree clearing is anticipated on most of those lines. If vegetation management is required in this specific location, PPL Electric will apply its "Specifications for Transmission Vegetation Management LA-79827" to minimize potential impacts.

71. Based on review of the Natural Areas Inventory of Luzerne County, Pennsylvania published by the Pennsylvania Natural Heritage Program in 2006, no natural areas are crossed by the Project in Luzerne County.

72. Based on review of the Natural Areas Inventory of Carbon County, Pennsylvania published by The Nature Conservancy in 2005, the Project extends through the following five Pennsylvania Natural Heritage identified natural areas within Carbon County:

- Spring Mountain – Located in the northern section of the Project, the Spring Mountain Natural Area is described as a site possibly supporting four or more community types including scrub oak barrens, hardwood forests, woodlands, forested swamps, wooded wetlands and a rocky summit.
- Hughes Swamp Natural Area – Located in the northern section of the Project, within State Game Land #141, the Hughes Swamp Natural Area is described as a large, wooded swamp containing spring fed pools. It supports several plant species of concern.
- Glen Onoko Natural Area – located south of Hughes Swamp, mostly within State Game Land #141, the Glen Onoko Natural Area is a scrub oak shrubland supporting several plant and animal species of concern.
- Berry Run Natural Area – located approximately midway through the Project, the Berry Run Barrens Natural Area is an extensive pitch pine and mixed hardwood natural community with patches of younger deciduous forest and acidic rocky summit communities.
- Stony Run Natural Area – located near the southern section of the Project, the Stony Ridge Natural Area is an erosional remnant considered an outstanding scenic geologic feature of Pennsylvania. It is approximately 10 miles long and composed of white sandstone.

73. Based on review of the Natural Areas Inventory of Northampton County, Pennsylvania published by the Pennsylvania Natural Heritage Program in 2013, no natural areas crossed by the Project are identified within Northampton County.

74. PPL Electric completed a Pennsylvania Natural Diversity Inventory ("PNDI") for the Project on April 11, 2023, to assess the potential presence of threatened and endangered species and/or special concern species with the Project Area. To facilitate the review, The Project was broken into two segments (Harwood-East Palmerton, Siegfried-East Palmerton). Specific agencies reviewing the Project included the Pennsylvania Game Commission ("PGC"), the United States

Fish and Wildlife Service ("USFWS"), Pennsylvania Fish and Boat Commission ("PFBC"), and the Pennsylvania Department of Conservation and Natural Resources ("PDCNR").

75. The Harwood-East Palmerton segment qualified as a Large Project due to its size, and therefore required further coordination from all agencies. This coordination was conducted and a response of "No impact anticipated" was received from PDCNR on January 26, 2023. The PGC responded with no impact is likely on January 20, 2023. A survey was requested for presence of timber rattlesnake (Crotalus horridus) by the PFBC and the USFWS has requested a bog turtle (Glyptemys muhlenbergii) survey. These surveys are being conducted and further coordination with these agencies is anticipated.

76. The Siegfried-East Palmerton segment required further coordination with the USFWS who required a survey be conducted for bog turtles. The survey has been completed and PPL Electric is waiting for a response from USFWS. Further coordination with USFWS is anticipated.

77. PPL Electric will continue to consult with the jurisdictional agencies regarding potential impacts to protected species, complete all required surveys, obtain all necessary approvals and permits for Project construction, and comply with all conditions placed on those permits.

VI. NOTICE

78. PPL Electric has reached out to residents located immediately adjacent to PPL Electric's fee owned parcels and owners of properties that are crossed by the Harwood-East Palmerton and Siegfried-East Palmerton Transmission Lines. Copies of the Letter of Notification will be served upon landowners in accordance with 52 Pa. Code § 57.72(d)(3). A list of the landowners impacted by this project is provided in Attachment 5.

79. PPL Electric has provided information regarding the Project to representatives of Hazel, Banks, Franklin, Lehigh, Towamensing, Lower Towamensing, Packer, Penn Forest, Allen, and Lehigh Townships, as well as Jim Thorpe Borough, which are either in Luzerne, Carbon or Northampton Counties, Pennsylvania, respectively. These entities have not objected to the proposed Project. Copies of this Letter of Notification will be served on the governmental agencies, municipalities, and other public entities and organizations in accordance with 52 Pa. Code § 57.72(d)(3). A list of these entities and organizations is also provided in Attachment 5.

VII. LETTER OF NOTIFICATION

80. PPL Electric is proceeding by means of a Letter of Notification, instead of a full Application, pursuant to the Commission's regulations at 52 Pa. Code § 57.72(d)(1)(i).

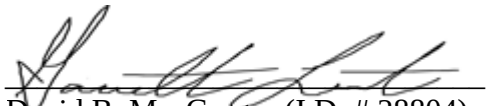
81. The proposed Project qualifies for use of a Letter of Notification because it will be located entirely on an existing transmission line right-of-way, and the size, character design or configuration of the proposed transmission line will not substantially alter the right-of-way.

82. This Letter of Notification is filed on the date set forth below. As provided in 52 Pa. Code § 57.72(d)(5), the Commission will review and, by order, approve or disapprove this Letter of Notification. If the Commission approves this Letter of Notification, the proposed Project will be constructed as proposed herein without the formal application process set forth at 52 Pa. Code §§ 57.71, *et seq*.

VIII. CONCLUSION

WHEREFORE, PPL Electric Utilities Corporation respectfully requests that the Pennsylvania Public Utility Commission approve the proposed Project located in Hazel, Banks, Franklin, Lehigh, Towamensing, Lower Towamensing, Packer, Penn Forest, Allen, and Lehigh Townships, as well as Jim Thorpe Borough, in Luzerne, Carbon, and Northampton Counties, Pennsylvania, that is explained above and in the Attachments hereto, by no later than June 13, 2024.

Respectfully submitted,



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Date: March 25, 2024 Attorneys for PPL Electric Utilities Corporation

PPL ELECTRIC
ATTACHMENT 1

HARWOOD-EAST PALMERTON & SIEGFRIED-EAST PALMERTON 230 kV COR-TEN® REBUILD PROJECT

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1.0 INTRODUCTION

PPL Electric Utilities Corporation ("PPL Electric") is requesting Pennsylvania Public Utility Commission ("PUC" or "the Commission") approval to rebuild the existing double-circuit Harwood-East Palmerton and Siegfried-East Palmerton 230 kV Transmission Lines connecting the Harwood 230-69 kV Substation ("Harwood Substation") located in Luzerne County, the East Palmerton 230-69 kV Substation ("East Palmerton Substation") located in Carbon County, and the Siegfried 230-138-69 kV Substation ("Siegfried Substation") located in Northampton County, Pennsylvania ("Project")[1]. The approximately 40-mile-long Harwood-Siegfried 230 KV double circuit transmission line connected the Harwood and Siegfried substations. When the East Palmerton Substation was installed, one of the Harwood-Siegfried circuits was cut and each end was terminated into the East Palmerton Substation. The terminated circuits were renamed as the 31.0-mile-long Harwood-Siegfried 230 kV line and the 9.2-mile-long Siegfried-Palmerton 230 kV line. See **Figure 1-1** for the current configuration.

This Project is required to address reliability concerns related to the deteriorated condition of the COR-TEN® lattice towers on the Harwood-East Palmerton and Siegfried-East Palmerton 230 kV Transmission Lines. In addition, the Project is also required to comply with:

- The Consolidated Transmission Owners Agreement ("TOA") Rate Schedule - FERC No. 42 (FERC ER10-2713-000), which requires transmission systems to "[b]e kept in place and maintained in good operating condition in accordance with Good Utility Practice and principles, guidelines and standards of the applicable Regional Reliability Council and NERC."

The Project is necessary for PPL Electric to avoid violating its obligations under the TOA to maintain its transmission facilities in good operating condition and avoid public safety concerns caused by failed assets. The Project is one of several essential PPL Electric projects designed to address a system-wide concern related to the structural reliability of COR-TEN® lattice towers on

[1] For a complete list of municipalities and counties crossed by the Project, please refer to the Letter of Notification, Attachment 5.

its bulk transmission system. As explained below, the existence of "pack-out rust"[2] in many of the joints of the subject lattice towers diminishes structural integrity and increases the risk of system failures that could negatively impact public safety, safety of PPL Electric employees, and affect approximately 18,185 PPL Electric customers. The Project is necessary to avoid these risks and provide the best solution to immediately address the identified asset health issues on a long-term basis.

Moreover, for PPL Electric's transmission facilities to be considered in good operating condition, they must be maintained in a manner consistent with the standards of the North American Electric Reliability Corporation ("NERC"), Reliability First Corporation, and Good Utility Practice as defined by the TOA. Failure to comply with these standards, particularly NERC standards, can result in the imposition of significant fines, and other non-monetary penalties.

Subject to the Commission's approval, construction will begin in June 2024 to support an in-service date of December 2028, and PPL Electric will continue to own, operate, and maintain the rebuilt 230 kV transmission lines. The total estimated cost of this Project, as described below, is approximately $184.6 million, and the cost for the Project will be paid by PPL Electric.[3]

2.0 BACKGROUND

PPL Electric is responsible for providing transmission assets and maintaining them in an adequate, efficient, safe, reliable, and reasonable manner to meet the needs of the electric system and its customers' expectations. To achieve this, PPL Electric applies its Transmission Asset Management Procedure as part of its system performance and condition assessment process. These performance and condition assessments identify system needs and prioritize projects based on several variables

[2] "Pack-out rust" is a form of localized corrosion typical of steel components that develop a crevice into an open atmospheric environment, which results in rust packing between conjoined steel components. As described in Attachment 1, pack-out rust accelerates the deterioration of asset health and can result in shearing off bolts, loss of structural integrity, members disconnecting from lattice towers, and tower failure.

[3] The estimated cost was developed based on preliminary engineering and by using averages of recent costs for similar project without an in-depth analysis of field investigation or completion of detailed engineering. The cost is subject to change as the constructability of the Project, sequence of construction, and other factors that may affect cost are identified and analyzed as the Project progresses.

such as equipment age, condition, maintenance schedule, and impact on system reliability and asset performance to ensure a reliable electric grid and service to its customers.

The transmission system is the backbone of the electric grid. Failure to maintain the system in accordance with Good Utility Practice and reliability practices and standards can decrease overall transmission system reliability and increase the risk of customer outages.

3.0 TRANSMISSION SYSTEM PLANNING PROCESS

The nation's interconnected transmission system ("Transmission Grid") serves as the backbone for safe and reliable delivery of substantial amounts of electricity from generating stations over significant distances to customers served by transmission and local distribution systems. It is critical that the Transmission Grid be planned and designed to ensure reliable electric service is provided under all loading conditions or when certain elements of the Transmission Grid are out of service (system contingencies) due to planned or unplanned outages.

Robust transmission planning enables the transmission system to supply electricity to all customer loads in a reliable and economical manner. This system planning process ensures that both the Bulk Electric System ("BES")[4] and non-Bulk Electric System (non-BES)[5] are planned and constructed so that:

- They can accommodate forecasted system flows during summer and winter peak load;
- They can adequately serve each customer's need regarding capacity, voltage, and reliability for all load levels throughout the daily load cycle;
- They can sustain probable contingencies and disturbances with minimal customer service interruptions; and
- They are in conformance with NERC, PJM Interconnection, LLC ("PJM"), and the Transmission Owner's reliability criteria for all normal and emergency operating conditions.

[4] Includes transmission facilities operated at voltages of 100 kV or higher.

[5] Includes transmission facilities operated at voltages less than 100 kV.

PJM is a Federal Energy Regulatory Commission ("FERC")-approved Regional Transmission Organization ("RTO") charged with ensuring the reliability of the electric transmission system under its functional control (100 kV and above) and coordinating the movement of electricity in all or parts of thirteen states and the District of Columbia, including Pennsylvania. To ensure reliable transmission service, PJM prepares an annual Regional Transmission Expansion Plan ("RTEP")[6] to identify system reinforcements which are required to, among other things, meet the NERC Reliability Standards, PJM reliability planning criteria, and Transmission Owner reliability criteria. Prior to submitting the project to PJM, PPL Electric evaluated whether the line could be retired as one of the functional alternatives. Based on this analysis, it was determined that the line could not be retired without causing substantial issues on the system. As such, the existing double-circuit Harwood-East Palmerton and Siegfried-East Palmerton 230 kV Transmission Lines remain in PJM's planning studies and are assumed to remain in-service and fully operational. Therefore, PPL Electric focused its efforts on identifying the most appropriate way to address the structural deficiencies.

PPL Electric's Transmission Asset Management Procedure involves identifying system needs and determining the best available solution to address those needs. This process includes asset evaluation, asset condition and system risk assessments, analysis of alternative solutions and project initiation and scheduling. System needs are identified based on the overarching goals of reducing outage frequency and duration, improving system reliability, decreasing system maintenance cost, and maintaining operational flexibility to ensure safe and reliable electric service of the transmission system and to our customers.

When transmission owning utilities (including PPL Electric) set up PJM as an RTO, they agreed to bind themselves to maintaining their existing transmission systems using Good Utility Practice. The TOA is an agreement among (1) individual Transmission Owners operating within the PJM Region and (2) between the Transmission Owners and PJM. The TOA facilitates the planning and

[6] PJM's RTEP process is currently set forth in Schedule 6 of PJM's Amended and Restated Operating Agreement ("Schedule 6"). Schedule 6 governs the process by which PJM's members rely on PJM to prepare an annual regional plan for the enhancement and expansion of the transmission facilities to ensure long-term, reliable electric service consistent with established reliability criteria. In addition, Schedule 6 addresses the procedures used to develop the RTEP, the review and approval process for the RTEP, the obligation of transmission owners to build transmission upgrades included in the RTEP, and the process by which interregional transmission upgrades will be developed.

operation of the Transmission Grid within the PJM region and establishes the rights and responsibilities of each party to the TOA. Section 4.6 of the TOA requires that transmission systems "[b]e kept in place and maintained in good operating condition in accordance with Good Utility Practice and principles, guidelines and standards of the applicable Regional Reliability Council and NERC." This Project is required to fulfill PPL Electric's obligations under the TOA.

At the October 2020 PJM TEAC meeting,[7] PPL Electric presented its plan to address COR-TEN® needs on the 230 kV system. As part of this plan, PPL Electric also shared the need with PJM stakeholders to address COR-TEN® towers on the Harwood-East Palmerton and Siegfried-East Palmerton 230 kV Transmission Lines (need # PPL-2020-0013). The need # PPL-2020-0013 will be addressed by the Harwood-East Palmerton and Siegfried-East Palmerton 230 kV Transmission Line rebuild under supplemental project s2374, which will be completed at an estimated cost of $184.6 million. As presented at the PJM TEAC meeting,[8] PPL Electric determined that remediation of the towers was not cost effective over the life of the asset and removal of the circuits was infeasible due to a 280 MW load drop.

4.0 THE NEED FOR THE PROJECT

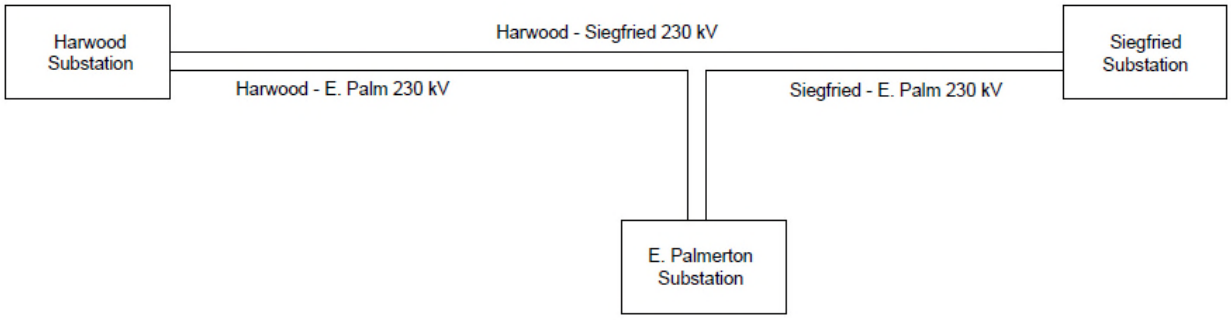
4.1 Existing System

The Harwood and East Palmerton Substations are connected by the double-circuit Harwood-East Palmerton 230 kV line and the Harwood-Siegfried 230 kV line. The Harwood-East Palmerton Transmission Lines are approximately 31.0 miles long and supported by 178 COR-TEN® lattice structures. The Siegfried and East Palmerton Substations are connected by the double-circuit Siegfried-East Palmerton 230 kV line and the Harwood-Siegfried 230 kV line. The Siegfried-East Palmerton Transmission Lines are approximately 9.2 miles long and supported by 42 COR-TEN® lattice structures. The total number of COR-TEN® towers to be replaced is 220. These towers are designed and being used for double-circuit 230 kV operation.

[7] Refer to slides 27 and 28 at https://www.pjm.com/~/media/committees-groups/committees/teac/2020/20201006/20201006-item-09-ppl-supplemental.ashx

[8] Refer to slides 27 and 28 at https://www.pjm.com/~/media/committees-groups/committees/teac/2020/20201006/20201006-item-09-ppl-supplemental.ashx

The one-line diagram of the existing system configuration is provided below.



Existing system configuration of Harwood-East Palmerton and Siegfried-East Palmerton 230 kV Transmission Lines.

The double-circuit Harwood-East Palmerton and Siegfried-East Palmerton Transmission Lines are in PPL Electric's Central and Lehigh Regions and are part of a larger 230 kV transmission network that connects generation in this region to load throughout PPL Electric and the rest of PJM's footprint. This 230 kV network includes the Susquehanna-Harwood 230 kV Transmission Lines, which all support bulk power flow and feed various 230-69 kV substations in these regions. As noted below, if the Harwood-East Palmerton and Siegfried-East Palmerton 230 kV Transmission Lines fail, it is expected the service of approximately 18,185 customers would be impacted and approximately 65 mega-watts ("MW") of load dropped. For the next contingency, the loss of the double circuit Susquehanna-Harwood 1 & 2 230 kV Transmission Lines will drop approximately 215 MW of load.

The asset health concerns on the Harwood-East Palmerton and Siegfried-East Palmerton 230 kV Transmission Lines are important as they are a critical component of PPL Electric's Bulk Transmission System and are required to serve local load to several critical customer facilities. If these transmission lines were to fail due to COR-TEN® issues, the following reliability issues would occur:

A) Failure of Siegfried-Harwood 230 kV and Harwood-East Palmerton 230 kV Transmission Lines:

- The load at the East Palmerton 230-69 kV Substation is served by the Harwood-East Palmerton and Siegfried-East Palmerton #3 230 kV Transmission Lines. A

failure of the Harwood-East Palmerton 230 kV Transmission Line will put East Palmerton's Substation load at risk for the next contingency. The next contingency could be either loss of the Siegfried-East Palmerton #3 230 kV Transmission Line, the loss of East Palmerton 230 kV Bus 1 or East Palmerton Transformer #1. If this were to occur, the total load dropped at East Palmerton would be approximately 65 MW resulting in approximately 18,185 customers losing service.

- Additionally, with the failure of the double circuit transmission lines, the loss of the Susquehanna-Harwood 1 & 2 230 kV Transmission Lines will result in up to approximately 215 MW of load drop resulting in approximately 41,595 customers losing service.

B) Failure of Siegfried-Harwood 230 kV and Siegfried-East Palmerton #3 230 kV Transmission Lines:

- The load at the East Palmerton 230-69 kV Substation is served by the Harwood-East Palmerton and Siegfried-East Palmerton #3 230 kV Transmission Lines. Failure of Siegfried-East Palmerton #3 230 kV Transmission Lines will put East Palmerton's Substation load at risk for the next contingency. The next contingency could be either the loss of Harwood-East Palmerton 230 kV Transmission Lines, the loss of East Palmerton 230 kV Bus 2 or East Palmerton Transformer #2. If this were to occur, the total load dropped at East Palmerton will be approximately 65 MW resulting in approximately 18,185 customers losing service.
- Additionally, with the failure of the double circuit transmission lines, the loss of the Susquehanna-Harwood 1 & 2 230 kV Transmission Lines will result in up to approximately 280 MW of load drop resulting in approximately 59,780 customers losing service.

4.2 Project Need

This Project is needed to address asset health concerns that are being accelerated by the presence of pack-out rust on the COR-TEN® lattice towers. There are approximately 1,284 COR-TEN®

lattice structures across PPL Electric's Transmission System that will need to be addressed to resolve asset health concerns like those identified below.[9]

The lattice towers on the Harwood-East Palmerton and Siegfried-East Palmerton Transmission Lines were installed in the early 1970s and had a life expectancy of 75 years. The discovery of pack-out rust accumulation on COR-TEN® lattice towers has accelerated the rate at which these towers are expected to reach end-of-life. The towers are continuing to deteriorate due to the pack-out rust, and in some cases, the towers have deteriorated beyond the point of safe operation, which cannot be reasonably or cost-effectively remediated. Operating at 230 kV, the transmission lines are part of the Bulk Electric System, and as such, PPL Electric is required by NERC to maintain the assets in a way that will ensure the reliability and stability of that system.

4.2.1 Asset History

Originally constructed in the early 1970s, the existing Harwood-East Palmerton and Siegfried-East Palmerton Transmission Lines have 220 weathering-steel COR-TEN® lattice structures spanning approximately 40.2 miles. COR-TEN® lattice towers were commonly installed by the industry during this time because it was believed that the corrosion-resistant properties of weathering-steel would reduce future maintenance needs and costs.

Asset health concerns for COR-TEN® lattice towers were heightened when pack-out rust in the section joints of the towers was first discovered. In particular, the protective surface coating of weathering steel that provides resistance to atmospheric corrosion, known as the patina, does not form properly on the structure joints and members due to trapped moisture. The trapped moisture prevents completion of the required wetting and drying cycle needed to form the patina. Over time, this leads to the formation of pack-out rust within the joints of connecting tower members and section-loss in the steel members and joints. When the pack-out rust becomes too severe, it can deform steel members and connecting hardware. It can shear off bolts, cause loss of structural integrity, cause members to disconnect from the tower, and even result in tower failure. PPL

[9] PPL Electric anticipates that addressing the currently anticipated COR-TEN® projects associated with the 230 kV system (approx. 1112 of the identified structures) will cost approximately $562 million in total. However, these estimates are preliminary in nature and subject to change. PPL Electric is also currently evaluating one other transmission line asset that includes 172 COR-TEN® lattice structures, but it has not yet developed a cost estimate for the remediation or replacement of these structures.

Electric is experiencing pack-out rust failures on its transmission line system, which are leading indicators of ultimate structure failure as outlined above. Over the past few years, PPL Electric has encountered multiple instances of COR-TEN® tower members becoming detached, broken, and deformed/corroded due to severe pack-out rust. Failures of this nature on a transmission tower create emergent safety and reliability concerns which must be proactively addressed.

This now well-known inherent problem with COR-TEN® steel is also being seen in other infrastructure where two pieces of COR-TEN® steel overlap at joints, such as those present on lattice towers[10] and other steel structures such as bridges. The presence of pack-out rust on COR-TEN® structures and its negative impacts on asset health have diminished the expected service life of these structures from 75 to 50 years. As these structures were installed approximately 50 years ago, they have effectively reached end-of-life[11]. No manufacturer's warranty currently exists for remediation of the COR-TEN® lattice towers. After a reasonable investigation, PPL Electric is not aware of whether a manufacturer's warranty was in existence at the time the structures were installed.

In 2013, PPL Electric utilized a third-party contractor to perform an assessment of 131 of the COR-TEN® lattice structures on its 230 kV transmission system. The program evaluated the ground-line of the steel structures, performing minor excavation around the base of the structure to assess the condition of the steel. Afterwards, a protective coating was applied to the exposed steel. No joints or members above the base of the structure were included in this assessment. The assessment identified that 126 of the total 131 COR-TEN® structures (96%) observed had one or more structure legs rated Condition C (poor) or Condition D (extremely poor). Of those 126 structures, 25 had one or more structure legs that were identified as "priority", requiring immediate attention. In order to extend the life of the asset and ensure no failures at the ground line, the 25 structures

[10] *See, e.g.*¸ *Application of Virginia Electric and Power Company d/b/a Dominion Virginia Power For approval and certification of Carson-Rogers Road 500 kV Transmission Line Rebuild under Va. Code § 56-46.1 and the Utility Facilities Act, Va. Code § 56-265.1 et seq.*, Va. SCC Case No. PUE-2016-00078, at pp. 2-3, 9-10 (Hearing Examiner Report dated March 10, 2017) ; *Application of Virginia Electric and Power Company For approval and certification of Cunningham-Dooms 500kV Transmission Line Rebuild under Va. Code § 56-46.1 and the Utility Facilities Act, Va. Code § 56-265.1 et seq.*, Va. SCC Case No. PUE-2016-00020, at pp. 3-4 (Response of Dominion Virginia Power to Staff's Supplemental Filing of March 30, 2017, filed April 13, 2017) (discussing the problems associated with "pack-out" rust on another utility's COR-TEN® lattice tower structures).

[11] New steel structures that will be installed under the Project have an anticipated service life of 75 years.

identified as "priority" received maintenance repairs in 2014, which included post leg, diagonal, and base shoe repairs.

In 2013, all 220 COR-TEN® structures on the Harwood-East Palmerton and Siegfried-East Palmerton lines were inspected to observe the overall condition. Of the 220, 31 (14%) observed were rated Condition C (poor). Condition C indicates that the steel corrosion coating has not stabilized, and pack-out rust conditions are evident in several areas. There were also several larger areas of measurable thinning, with at least one member measuring an average loss of total cross section greater than 10%, but less than 20%. 82 of the 220 (37%) structures inspected were rated Condition D (very poor). Condition D structures' steel corrosion coating has failed, and pack-out rust conditions are evident in large areas. These structures are also experiencing significant thinning, exceeding the loss of steel limits of 20% or greater loss of section. In these structures, there are areas where steel is completely rusted through. Protective coating was applied to all COR-TEN® structures that rated Condition C or D but were not identified as "priority." The coatings were expected to provide a 10-year life extension, mitigating the accumulation of rust and corrosion on the tower. The 10-year life of the coatings has been exceeded, and the coatings are deteriorating and are no longer an effective protective barrier. Even with the application of the protective coating on some structures, the COR-TEN® structures still face constant asset health concerns due to the presence of pack-out rust.

To better understand the heightened asset health concerns associated with COR-TEN® steel, PPL Electric contracted with independent, non-affiliated inspection companies to conduct evaluations of COR-TEN® lattice towers to determine the overall condition of these towers on the PPL Electric Transmission System in 2019. The 2019 evaluations included inspection of 15 randomly selected COR-TEN® lattice towers across the PPL Electric Transmission System by three separate contractors.[12] Review of the three contractor reports revealed that over 90% of the joints at each structure exhibited visible pack-out rust in the connections. In addition, the review revealed that pack-out rust and section-loss was most prominent on the lower portions of the towers where there was higher likelihood of moisture build up. The contractors' estimates to remediate each tower

[12] Each contractor was asked to inspect 5 structures and prepare an engineering analysis of their condition, proposed remediation approach and estimated costs to remediate the identified structural defects.

ranged from $140,000 to $240,000 per tower depending on the contractor's proposed remediation approach and extent of remediation recommended. For the sake of any analysis associated with the remediation option, a cost of $183,891 per structure was utilized, which is the average of the three remediation costs received from contractors.

Based on the prevalence of observed deterioration on the COR-TEN® lattice towers across the PPL Electric Transmission System and the estimated per-tower cost to rehabilitate, PPL Electric determined that a more thorough and strategic evaluation was needed to determine the full extent of the deterioration of COR-TEN® lattice towers across its system.

In early 2020, PPL Electric initiated a second, more robust evaluation of the COR-TEN® lattice towers to determine the full extent of the deterioration on the transmission system. PPL Electric's Data Analytics Team developed a strategic approach that utilized advanced statistical analysis and modeling to comprehensively determine the overall condition of the COR-TEN® lattice towers in a cost-efficient manner. The statistical analysis determined that inspection of 192 randomly selected COR-TEN® towers would provide a statistically significant representation of all 1,284 COR-TEN® towers on the PPL Electric system with a 90% confidence level and 5% confidence interval. To assist with the analysis, PPL Electric contracted with AmpJack, an independent consultant, to complete an inspection of 192 randomly selected COR-TEN® towers and classify the observed condition.

The inspection of 192 randomly selected COR-TEN® towers performed by AmpJack included a field-based visual overhead inspection of each structure from the ground, taking measurements of pack-out at each joint and section-loss at each member on the lower section of each structure, visual observations of pack-out rust and section loss for the higher sections of the towers, and visual observations of the damage at attachment points. The measured values of each joint and member are rated according to guidelines provided by PPL Electric using both the measured and visual observations (A-Good, B-Fair, C-Poor, D-Severe and F-Priority). This approach is consistent with the method used by Osmose, an essential asset inspection service company, in grading steel structure corrosion in applications across the country. The results of the AmpJack overall structure ratings are summarized in **Table 1-1** below:

TABLE 1-1: Structure Rating Summary

Overall Structure Rating			
Class	**Condition**	Structure Count	Percent
A	**Good**	0	0.0%
B	**Fair**	0	0.0%
C	**Poor**	95	49.5%
D	**Severe**	88	45.8%
F	**Priority**	9	4.7%

Of the 192 COR-TEN® towers inspected by AmpJack as described above, 30 towers lie on the Harwood-East Palmerton and Siegfried-East Palmerton 230 kV transmission lines. 70% of the inspected towers were categorized under Class D. The severe grading of the towers on Harwood-East Palmerton and Siegfried-East Palmerton is due to an average of 16.5% section loss on the members and pack-out rust greater than 0.200 inches between the joints. The results of the AmpJack overall structure ratings on Harwood-East Palmerton and Siegfried-East Palmerton Transmission Lines are summarized in **Table 1-2** below. The confirmed presence of significant section loss and pack-out rust in 2020 signifies the rapid deterioration since 2012/2013. The poor conditions exhibited by the towers of Harwood-East Palmerton and Siegfried-East Palmerton further support the need for the Project.

TABLE 1-2: Harwood-East Palmerton & Siegfried-East Palmerton Structure Rating Summary

Overall Structure Rating			
Class	**Condition**	Structure Count	Percent
A	**Good**	0	0.0%
B	**Fair**	0	0.0%
C	**Poor**	8	26.7%

D	**Severe**	21	70.0%
F	**Priority**	1	3.3%

The results of the 2020 inspection program confirmed the severity of deterioration identified during the 2019 inspection program as follows:

- Over 90% of the joints showed visible pack-out rust in the connections, which is anticipated to worsen over time;
- The patina needed to protect the steel from corrosion did not properly develop in numerous members resulting in section-loss across the entire structure;
- Pack-out rust damage was typically more prevalent on lower sections of the tower except for some specific attachment points where severe pack-out rust was observed on higher sections; and
- Structural damage was found on several members from pack-out rust that ruptured bolts and split/deformed members.

The accelerated deterioration of the asset health of the COR-TEN® lattice towers that are the subject of the Project revealed by the 2019 and 2020 inspection programs has been further corroborated by a recent study performed by RTR Energy Solutions, Inc. ("RTR") in December 2023 and January 2024. RTR was contracted to perform condition assessments on the Harwood-East Palmerton and Siegfried-East Palmerton Transmission Lines. The assessment consisted of all 220 COR-TEN® lattice towers on this line. The scope of the assessment included a visual inspection of each selected structure from the ground. Each joint of the structure was reviewed to determine if pack-out rust was present. The structure condition was noted as either Mild, Moderate or Severe using the following classification:

- **Mild** Condition Rating: <25% of total joints contain pack-out rust.
- **Moderate** Condition Rating: >25% & <50% of total joints contain pack-out rust.
- **Severe** Condition Rating: >50% of total joints contain pack-out rust.

Results showed that 85% of the COR-TEN® lattice towers on Harwood-East Palmerton and 71% of the COR-TEN® lattice towers on Siegfried-East Palmerton 230 kV lines were classified as

severe. None of the COR-TEN® lattice towers on either line were classified as mild. A summary of the results of the inspection are represented in **Table 1-3** and **Table 1-4** below:

The RTR assessment included several additional steel structures on the Harwood-East Palmerton and Siegfried-East Palmerton 230 kV lines that are not COR-TEN® lattice towers. Joint pack-out rust is not present in these structures; therefore, they have been left out of the count in **Table 1-3** and **Table 1-4** below.

TABLE 1-3: COR-TEN® Condition Rating Summary – Harwood-East Palmerton

Condition	Structure Count
Mild	0
Moderate	26
Severe	152
Total	178

TABLE 1-4: COR-TEN® Condition Rating Summary – Siegfried-East Palmerton

Condition	Structure Count
Mild	0
Moderate	12
Severe	30
Total	42

As the remedial coatings have passed their life expectancy, most pack-out rust observed on each structure was found in the lower sections of the post leg where horizontal and diagonal members are bolted to the post leg. Pack-out rust was also observed in joints all the way up some towers. The assessment shows that the asset health conditions observed in the system-wide assessment are being exhibited on the specific structures targeted for replacement by the Project.

Based on the results of the inspection programs described above, the inferior performance of the protective patina on the COR-TEN® lattice towers have accelerated the deterioration of these structures and has brought the assets to the end of their service life much sooner than would have

been anticipated. At roughly 50 years of age, the COR-TEN® lattice towers that comprise the Harwood-East Palmerton and Siegfried-East Palmerton 230 kV Transmission Lines have exceeded their useful life and can no longer be relied upon to safely operate as designed. The proposed rebuild addresses the safety issues resulting from the presence of pack-out rust (e.g., structures failing due to deteriorated joints at the arms or legs). Shearing of bolts, members disconnecting from lattice towers, or complete tower failure pose a major safety risk to both the public and PPL Electric employees. PPL Electric has determined it is appropriate to address these risks now, rather than later, to mitigate increasing asset health, system reliability and safety risks.

The current condition of the towers identified through the assessments identify a susceptibility to failure especially during extreme weather. The topic of severe weather patterns has become increasingly relevant, meaning there is a need to take into consideration how changing weather patterns will impact the reliability of the existing COR-TEN® lattice structures. Over the last 20 years, PPL Electric has seen a trend of increasing storms per year within the PPL Electric service territory. With each storm comes more exposure to extreme precipitation and wind events. If a tower is structurally compromised due to COR-TEN® pack-out rust and section loss, a wind event creates an increased risk of structural failure. With projected increases of more frequent and intense heat waves over the next century in the Northeast, severe wind and precipitation events are expected to rise too. This is evident in the storms associated with Hurricane Ida that hit the Northeast recently, as a storm of that strength would have been rare decades ago. Due to drastic weather pattern changes, it is imperative to re-evaluate the COR-TEN® structures in the safest and most reliable way to protect against the pack-out rust issue in the joints of the structures and guard the transmission system from catastrophic failures of COR-TEN® towers.

Any failure due to the condition of these assets will lead to unexpected outages on the Bulk Electric System, risking violations of NERC Reliability Standards. Violations result in monetary penalties that are determined based on the degree to which the compliance was not achieved, the entity size, and the duration of the violation. The penalties range from as low as $1,000 to over $1 million. A NERC violation can also directly cause or contribute to the BES instability, separation, or cascading failures. The rolling blackouts would impact both PPL customers and customers outside of PPL Electric's service territory.

5.0 ALTERNATIVES

PPL Electric evaluated three potential solutions to address the degrading health of the Harwood-East Palmerton and Siegfried-East Palmerton 230 kV Transmission Lines. While alternative solutions like 1 and 2 are available, they are not reasonable or feasible to address all the identified concerns. The following three alternatives were considered and compared based upon their ability to resolve the asset health conditions identified by PPL Electric and upon a 45-year and 75-year cost of service basis[13]:

- (1) Alternative 1 – Replace all structures on the Harwood-East Palmerton and Siegfried-East Palmerton 230 kV Transmission Lines;
- (2) Alternative 2 – Remediate all structures on the Harwood-East Palmerton and Siegfried-East Palmerton 230 kV Transmission Lines; and
- (3) Alternative 3 – Full Rebuild of the Harwood-East Palmerton and Siegfried-East Palmerton 230 kV Transmission Lines ("Proposed Solution").

Importantly, the existing double-circuit Harwood-East Palmerton and Siegfried-East Palmerton 230 kV Transmission Lines are presently in use and planned to continue to be in use to maintain the reliable and efficient operation of the transmission grid. Indeed, these existing transmission lines are included in PJM's transmission planning studies and are assumed to remain in-service and fully operational, asset retirement is not considered a feasible option.

[13] PPL Electric is providing this comparison based upon a 45-year cost of service basis, due to the Commission's routine data requests for a 45-year cost of service analysis in prior LON proceedings. PPL Electric notes that it does not utilize a stand-alone cost of service calculation for individual projects, and does not prepare a cost of service analysis for rebuild projects in its regular course of business. However, PPL Electric has prepared this line-specific calculation in anticipation of data requests from the Commission. PPL Electric used its current transmission rate for these calculations and notes that it cannot predict what its transmission rate will be in the future. The Company's transmission rate, and the associated calculations, are subject to change. Furthermore, PPL Electric submits that it is reasonable and appropriate to consider the 75-year cost of service for this project, as the expected life of the steel structures at issue is 75 years.

5.1 Alternative 1 – Structure Replacement

The first alternative considered by PPL Electric to address the poor health condition of the weathering steel COR-TEN® lattice towers on these lines was to replace each of the lattice structures. This alternative would include replacing the existing weathering-steel lattice towers with new standard monopole structures. The estimated replacement cost is approximately $569,088/structure. This option would also require PPL Electric to replace the conductors with new conductors in 2025 when it has reached its end-of-life at an additional $307,052/structure. In addition, there would be ongoing Operations and Maintenance ("O&M") costs for the remainder of the service life of the transmission lines, including more frequent inspections. Inspections to identify issues on the line not addressed through a rebuild would use a cycle of comprehensive visual inspections every 8 years and a supplemental, aerial visual inspection every 4 years in between. As shown in Table 1-5 below, this solution would be significantly more expensive from a total cost of service perspective than the proposed Full Rebuild.

5.2 Alternative 2 – Structure Remediation

The second alternative considered by PPL Electric to address the poor health condition of the weathering steel COR-TEN® lattice towers on these lines was to remediate the entire lattice tower line, which would include replacing severely damaged members with galvanized steel members, installing new hardware and spacers, and cleaning pack-out rust from affected joints. The average estimated cost of remediation is approximately $206,970/structure. This alternative was rejected by PPL Electric due to substantial uncertainties regarding its immediate and long-term effectiveness to address the COR-TEN® issue.[14] Although remediation could extend the life of the structures, it would, at a minimum, require re-evaluation and possible subsequent remediation every 10 years following the initial remediation. Moreover, the health and safety risks associated with the assets' advanced age and degree of deterioration are so great that remediation would fail to adequately address their poor health conditions.

[14] The contractors that provided the cost estimate have never performed a full weathering-steel COR-TEN® lattice tower remediation before. And, moreover, it is PPL Electric's understanding that complete remediation of COR-TEN® lattice towers has never been undertaken by another electric utility. Given the lack of industry experience with remediation, PPL Electric cannot adequately benchmark the efficacy and costs of this alternative. Rebuilding the subject transmission lines, as proposed by the Project, would avoid these potential unknown risks and costs.

Subsequent remediation work would be treated as an O&M expense. In addition, there would be ongoing O&M costs for the remainder of the service life of the transmission lines, including more frequent inspections. Inspections to identify issues on the line not addressed through a rebuild would use a cycle of comprehensive visual inspections every 6 years and a supplemental, aerial visual inspection every 3 years in between. After 30 years, the structures will have to be replaced with new structures. Further, remediation would not address all underlying issues, requiring additional, duplicative projects.

For the reasons stated above, it is not reasonable or prudent to pursue Alternative 2. Remediation would fail to address the underlying COR-TEN® asset health conditions on a long-term basis and is a less cost-efficient option.

5.3 Alternative 3 – Full Rebuild

The third alternative considered by PPL Electric is to fully rebuild the existing Harwood-East Palmerton and Siegfried-East Palmerton 230 kV Transmission Lines. Replacing the existing lattice towers with monopoles will improve performance by increasing clearances and improving lightning performance. The estimated rebuild cost is approximately $827,419/structure. As part of the Alternative 3 analysis, rebuilding the existing Harwood-East Palmerton and Siegfried-East Palmerton 230 kV Transmission Lines underground was rejected due to the substantial increase in overall project costs and environmental impacts, which would result due to the approximate 40.2-mile overall length, geographic location, and rough terrain.

The revenue requirements for a rebuild over both a 45 and 75-year period[15] are the lowest of the three alternatives (as shown in **Table 1-5**), making the rebuild the most cost-effective solution. General maintenance work would not be needed until 30 years after the rebuild due to fully replacing the affected structures (as opposed to attempting to add more useful life to those

[15] The 12.0 million is the total estimated upfront cost of the Project, including design and construction. To evaluate total cost-of-service, the calculation must factor in all lifecycle costs associated with that asset over the analysis window (i.e., 45 years). The Project lifecycle costs include 1) annual depreciation expense over the 45-year window, 2) annual Return on Capital over the 45-year window, and 3) O&M expense for minor repairs at year 45. Those costs will make up the total revenue requirement that is entered annually on the FERC Form 1 formula rate.

structures via remediation). Additionally, less frequent inspections would be needed, lowering O&M costs. Rebuilds are also less risky than remediation due to factors such as lack of remediation experience, lack of evidence for long-term remediation effectiveness, and risk of returning pack-out rust. The structure replacement and remediation options would continue to have ongoing O&M expenses with the additional need to return in 2025 to reconductor the line for an additional $307,053/structure. When compared to the remediation or replacement options, the full rebuild option has advantages in both cost-effectiveness and lower risk, making the full system rebuild the best long-term solution.

TABLE 1-5: Cost of Service of Evaluated Options

Project Scope	45 Year Cost of Service ($M)	75 Year Cost of Service ($M)
Replace Structures on Harwood-East Palmerton and Siegfried-East Palmerton 230 kV Transmission Lines	$599.9	$712.9
Remediate Structures on Harwood-East Palmerton and Siegfried-East Palmerton 230 kV Transmission Lines	$598.1	$1,208.3
Full Rebuild of Harwood-East Palmerton and Siegfried-East Palmerton 230 kV Transmission Lines	$568.7	$691.5

6.0 PROPOSED SOLUTION

The full rebuild of Harwood-East Palmerton and Siegfried-East Palmerton 230 kV lines appropriately addresses the asset health conditions described above at the most reasonable cost and, therefore, is the proposed solution. Although PPL Electric evaluated replacement and remediation options, these alternatives present substantial uncertainties regarding their immediate and long-term effectiveness to address the COR-TEN® pack-out rust issue. As explained herein, the health and safety risks associated with the assets' advanced age and degree of deterioration are so great that replacement and remediation would fail to adequately address their poor health conditions. For these reasons, the replacement and remediation alternatives were rejected as

neither prudent nor reasonable. If PPL Electric were to remediate the existing COR-TEN® lattice towers, further routine inspections would be required to identify any new pack-out rust growth requiring additional corrective action. The remediation effort could provide a short-term extension of life, but these towers will still need to be replaced to permanently address the issue of pack-out rust since structural integrity of the COR-TEN® steel will become too compromised to remediate. In this regard, Alternative 2 does not represent an alternative that effectively addresses the structural issues associated with the COR-TEN® lattice towers.

Based on this evaluation, PPL Electric proposes to rebuild the existing Harwood-East Palmerton and Siegfried-East Palmerton 230 kV Transmission Lines to resolve the COR-TEN® lattice tower health condition. As part of the rebuild, all the COR-TEN® lattice structures as well as the conductors and associated hardware will be replaced, effectively addressing the asset health conditions described above.

The proposed Project will improve overall reliability, safety, and system resiliency by resolving the asset health concerns associated with COR-TEN® lattice towers. The transmission line rebuild solution was deemed the most cost-effective option to address these concerns.

The Proposed Solution is the most cost-effective. To estimate the total cost of each alternative over both a 45-year and 75-year period (the expected service life of a new steel structure), cost-of-service calculations for the revenue requirement were completed on a per-structure basis.[16] A summary of this analysis is presented in **Table 1-5** above. On a total cost of service basis, the Proposed Solution is approximately 95% of the cost of Alternative 1 (replacing each of the existing structures) on a 45-year basis and 97% of the cost of Alternative 1 on a 75-year basis.

The Proposed Solution also avoids excess costs and uncertainties surrounding the remediation solution contemplated in Alternative 2. On a total cost of service basis, the Proposed Solution is approximately 95% of the cost of Alternative 2 (remediating the existing structures) on a 45-year

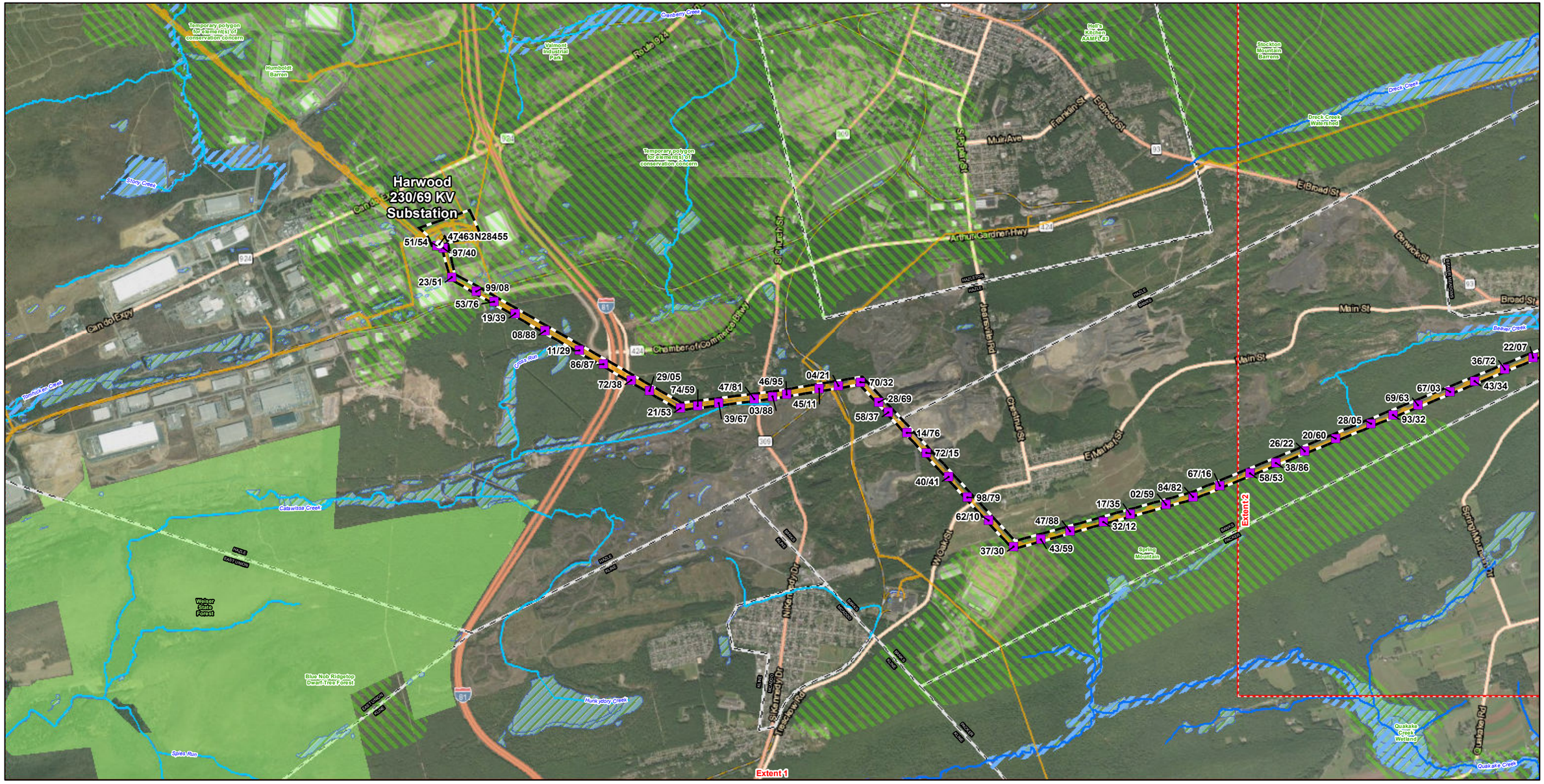
[16] Because all COR-TEN® lattice structures on the system are of a similar design and vintage, doing the cost of service calculation on a per structure basis allows for a determination of the most cost effective option for any COR-TEN® structure on the system regardless of the total line length. It is assumed that the cost of service calculation could be extrapolated across the total number of structures on a given line with a similar result. The revenue requirement is the total cost that the customers would be charged based on calculations that include a combination of operations and maintenance ("O&M") expense, depreciation, and return on capital.

basis and 57% of the cost of Alternative 2 on a 75-year basis. Moreover, PPL Electric is unaware of another project that has undergone full weathering-steel COR-TEN® lattice tower remediation. As such, the recurring costs of remediation could be even greater than anticipated and are unlikely to successfully mitigate the risk. The Proposed Solution avoids these excess costs and uncertainties, efficiently rebuilds the transmission lines to ensure the continued provision of safe and reliable service and resolves the additional reliability concerns identified herein.

The approximate cost of the entire transmission line rebuild Project is $184.6 Million.

As discussed in Section 4.2.1, above, the project scope (Supplemental Project Number s2374) to rebuild the Harwood-East Palmerton and Siegfried-East Palmerton Transmission Lines was presented to PJM in the October 2020 TEAC meeting, to address the COR-TEN® asset health issues.

A map of the proposed system alignment is provided as **Figure 1-2**.



PPL Electric Utilities

FIGURE 1-1 Extent 1 of 5
Existing System Configuration
Harwood - E. Palmerton and Siegfried - E. Palmerton Corten Project

Luzerne, Carbon and Northampton Counties, Pennsylvania

Prepared By: AECOM Technical Services, Inc
Conshohocken, Pennsylvania

Prepared By: MAH	Checked By: BF/DY
Job: 60703770	Date: 11/6/2023

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Legend

- Existing Structure (to be replaced)
- PPL Electric 230kV ROW

Existing Transmission Lines

- 69 kV
- 230 kV
- State Park
- State Forest
- State Gameland
- Natural Area

Ch.93 Designated Use Stream

- HQ (High Quality)
- CWF(COLD WATER FISHES)
- 100-Year Floodplain
- NWI Wetland
- PA Municipality Boundary
- Map Extent Box

Notes:

1. Existing structure locations and right-of-way were provided by PPL Electric in January 2023.

2. Existing Transmission Lines provided by PPL Electric in April 2019.

NAD 1983 State Plane
Pennsylvania North FIPS 3701
Projection: Lambert Conformal Conic
Linear Unit: US Foot

References:
Ch. 93 Designated Use Streams (PASDA 2023)
National Wetlands Inventory for PA (USFWS 2021)
National Flood Hazard Data for Carbon, Luzerne and Northampton Counties, PA
(FEMA 2002, 2019 and 2021),
Core Habitat Natural Areas (NHI 2014)
State Lands (PGC and PADCNR 2023)
Existing Transmission Lines (PPL EU, 2019)
PA Municipality & County Boundaries (2023)
Google Maps Satellite (2020)

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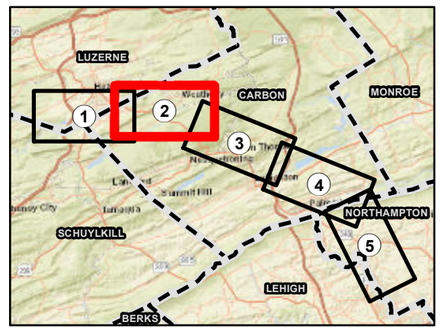
Feet
1 inch = 3,000 feet



PPL Electric Utilities

FIGURE 1-1 Extent 2 of 5
Existing System Configuration
Harwood - E. Palmerton and
Siegfried - E. Palmerton Corten Project
Luzerne, Carbon and Northampton Counties, Pennsylvania

Prepared By: AECOM Technical Services, Inc
Conshohocken, Pennsylvania

Prepared By: MAH	Checked By: BF/DY
Job: 60703770	Date: 11/6/2023

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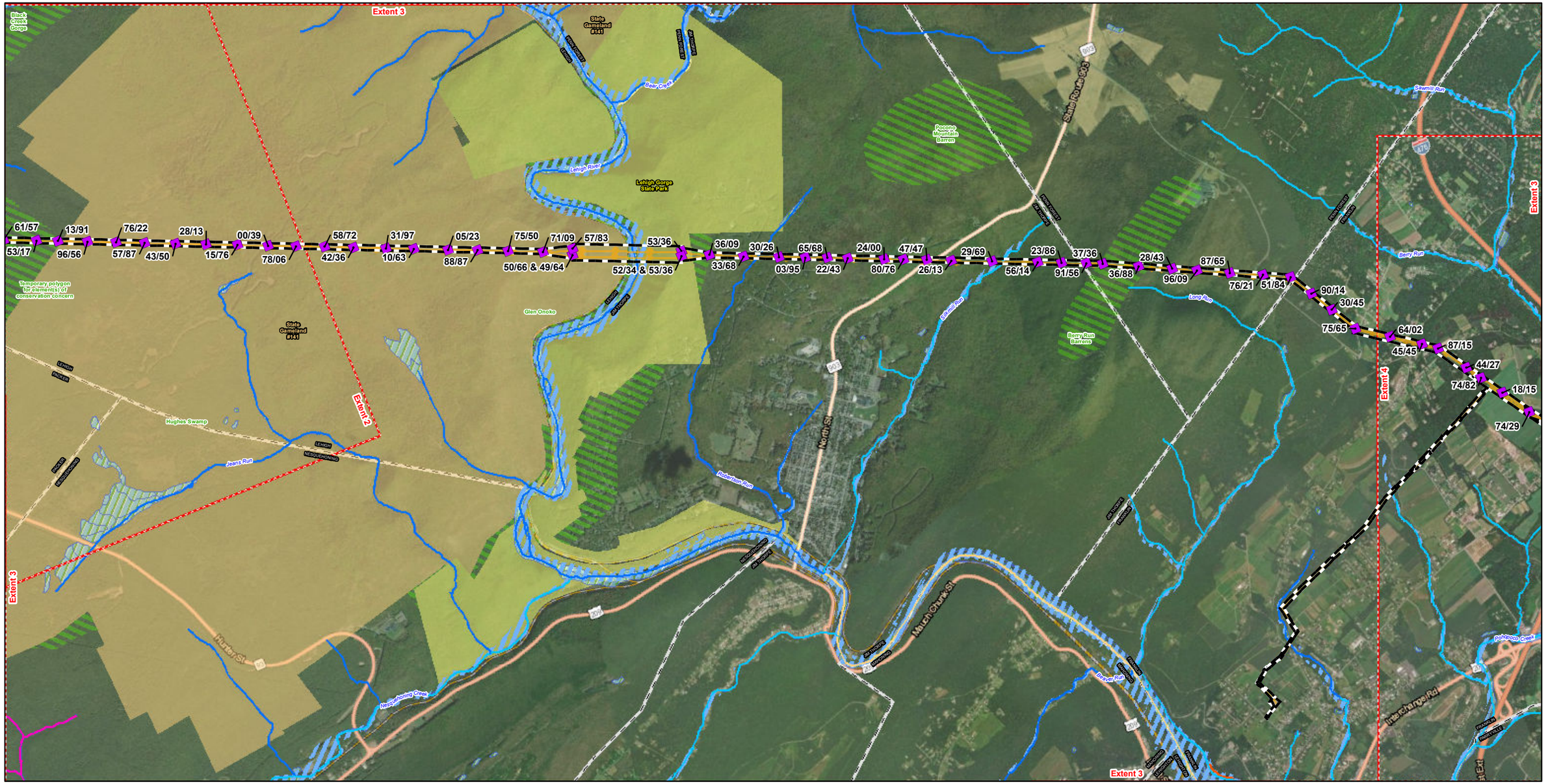

Legend

- Existing Structure (to be replaced)
- PPL Electric 230kV ROW

Existing Transmission Lines

- 69 kV
- 230 kV
- State Park
- State Gameland
- Natural Area

Ch.93 Designated Use Stream

- EV(Exceptional Value)
- HQ (High Quality)
- TSF(TROUT STOCKING)
- CWF(COLD WATER FISHES)
- WWF(WARM WATER FISHES)
- 100-Year Floodplain
- NWI Wetland
- PA Municipality Boundary
- Map Extent Box

Notes:

1. Existing structure locations and right-of-way were provided by PPL Electric in January 2023.

2. Existing Transmission Lines provided by PPL Electric in April 2019.

NAD 1983 State Plane
Pennsylvania North FIPS 3701
Projection: Lambert Conformal Conic
Linear Unit: US Foot

References:
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Core Habitat Natural Areas (NHI 2014)
State Lands (PGC and PADCNR 2023)
Existing Transmission Lines (PPL EU, 2019)
PA Municipality & County Boundaries (2023)
Google Maps Satellite (2020)

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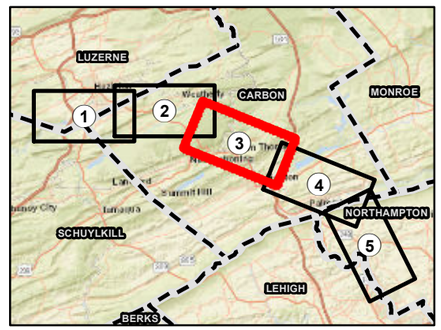

PPL Electric Utilities

FIGURE 1-1 Extent 3 of 5
Existing System Configuration
Harwood - E. Palmerton and
Siegfried - E. Palmerton Corten Project
Luzerne, Carbon and Northampton Counties, Pennsylvania
Prepared By: AECOM Technical Services, Inc
Conshohocken, Pennsylvania

Prepared By: MAH	Checked By: BF/DY
Job: 60703770	Date: 11/6/2023

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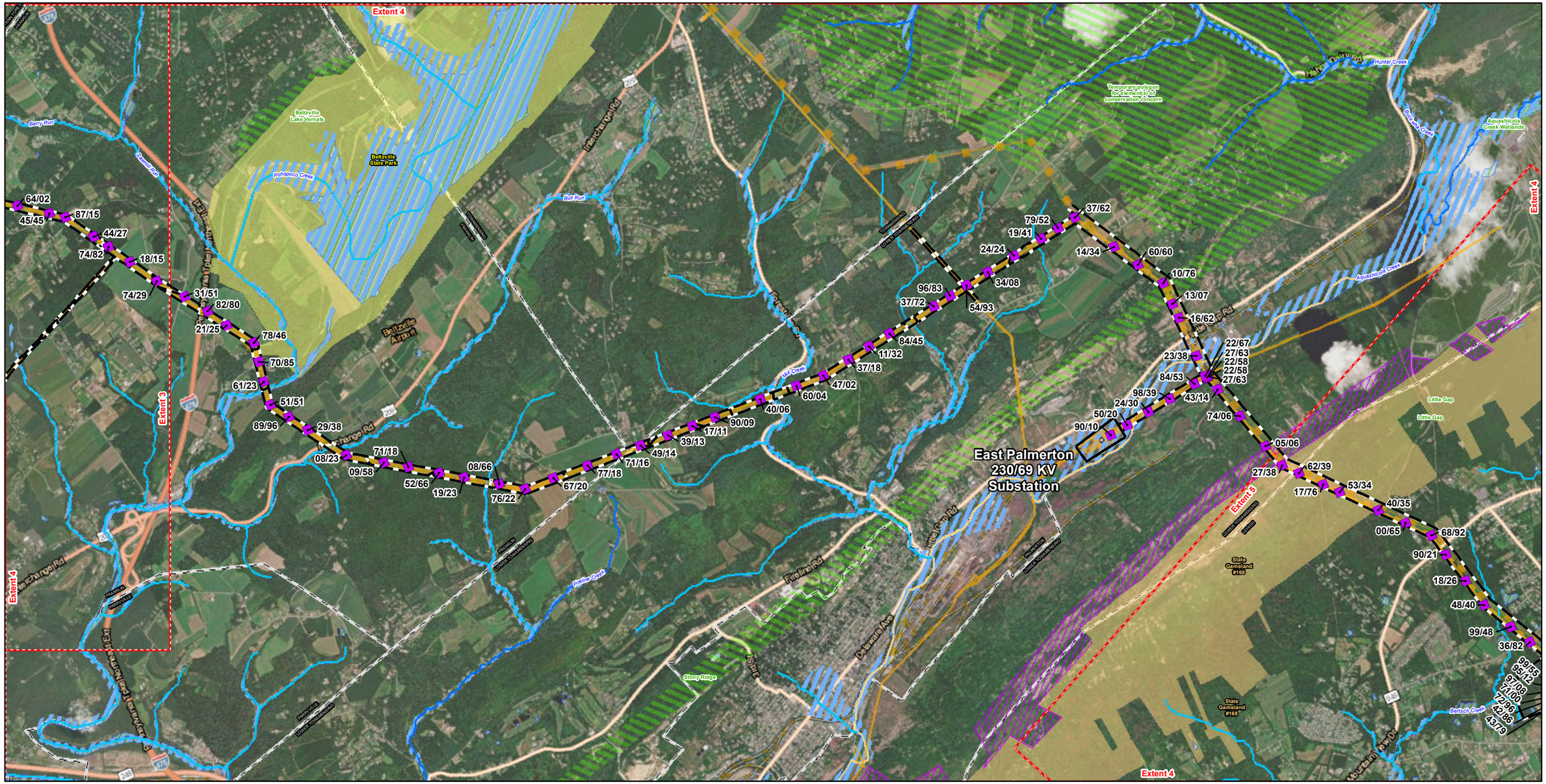

Legend

- Existing Structure (to be replaced)
- PPL Electric 230kV ROW

Existing Transmission Lines

- 69 kV
- 230 kV
- 500 kV
- State Park
- State Gameland
- Natural
- Appalachian Trail Federal Easement

Ch.93 Designated Use Stream

- HQ (High Quality)
- TSF(TROUT STOCKING)
- CWF(COLD WATER FISHES)
- 100-Year Floodplain
- NWI Wetland
- PA Municipality Boundary
- Map Extent Box

Notes:

1. Existing structure locations and right-of-way were provided by PPL Electric in January 2023.

2. Existing Transmission Lines provided by PPL Electric in April 2019.

NAD 1983 State Plane
Pennsylvania North FIPS 3701
Projection: Lambert Conformal Conic
Linear Unit: US Foot

References:
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Core Habitat Natural Areas (NHI 2014)
State Lands (PGC and PADCNR 2023)
Existing Transmission Lines (PPL EU, 2019)
PA Municipality & County Boundaries (2023)
Google Maps Satellite (2020)

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Feet
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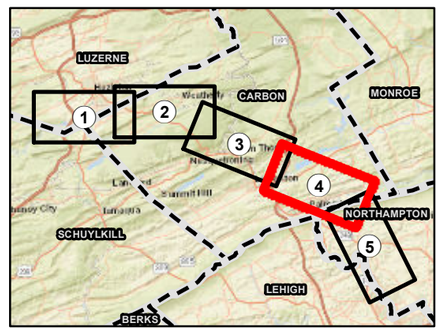

PPL Electric Utilities

FIGURE 1-1 Extent 4 of 5
Existing System Configuration
Harwood - E. Palmerton and
Siegfried - E. Palmerton Corten Project
Luzerne, Carbon and Northampton Counties, Pennsylvania

Prepared By: AECOM Technical Services, Inc
Conshohocken, Pennsylvania

Prepared By: MAH	Checked By: BF/DY
Job: 60703770	Date: 11/6/2023

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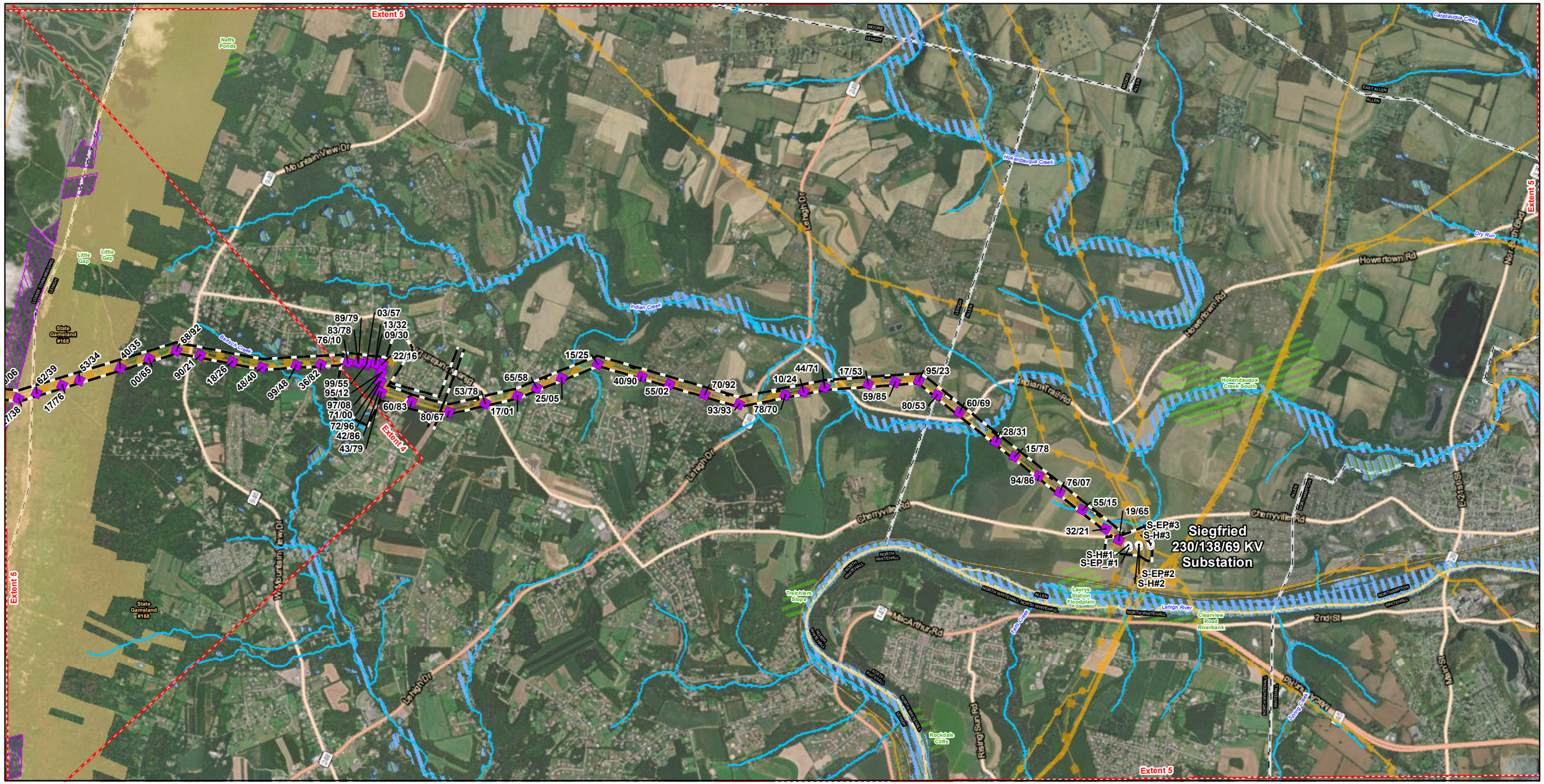

Legend

- Existing Structure (to be replaced)
- Existing Structure (to remain)
- PPL Electric 230kV ROW

Existing Transmission Lines

- 69 kV
- 138 kV
- 230 kV
- 500 kV
- State Gameland
- Natural
- Appalachian Trail Federal Easement

Ch.93 Designated Use Stream

- TSF(TROUT STOCKING)
- CWF(COLD WATER FISHES)
- WWF(WARM WATER FISHES)
- NWI Wetland
- PA Municipality Boundary
- Map Extent Box

Notes:

1. Existing structure locations and right-of-way were provided by PPL Electric in January 2023.

2. Existing Transmission Lines provided by PPL Electric in April 2019.

NAD 1983 State Plane
Pennsylvania North FIPS 3701
Projection: Lambert Conformal Conic
Linear Unit: US Foot

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Google Maps Satellite (2020)

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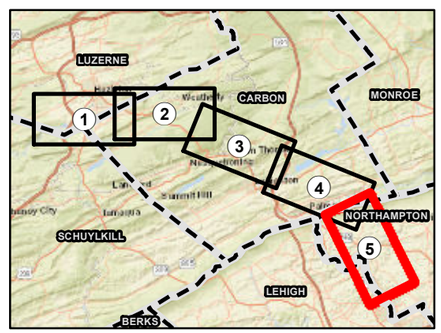
1 inch = 3,000 feet



PPL Electric Utilities

FIGURE 1-1 Extent 5 of 5
Existing System Configuration
Harwood - E. Palmerton and
Siegfried - E. Palmerton Corten Project
Luzerne, Carbon and Northampton Counties, Pennsylvania
Prepared By: AECOM Technical Services, Inc
Conshohocken, Pennsylvania

Prepared By: MAH	Checked By: BF/DY
Job: 60703770	Date: 11/6/2023

L:\DCS\Projects\IMS\PPL\DEVELOPMENT EXTENT MAPS\Harwood - E Palmerton - Siegfried\Maps\LON\HARWEPALSIEG - Fig 1-1 - Existing System Config.mxd

Legend

- Proposed Structure
- Existing Structure (to remain)
- PPL Electric 230kV ROW

Existing Transmission Lines

- 69 kV
- 230 kV
- State Forest
- Natural Area

Ch.93 Designated Use Stream

- HQ (High Quality)
- CWF(COLD WATER FISHES)
- 100-Year Floodplain
- NWI Wetland
- PA Municipality Boundary
- Map Extent Box

Notes:

1. Existing structure locations and right-of-way were provided by PPL Electric in January 2023.

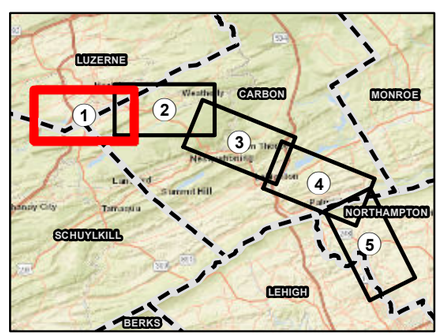
2. Proposed structure locations provided by PPL Electric in May 2023.

3. Existing Transmission Lines provided by PPL Electric in April 2019.

NAD 1983 State Plane
Pennsylvania North FIPS 3701
Projection: Lambert Conformal Conic
Linear Unit: US Foot

References:
Ch. 93 Designated Use Streams (PASDA 2023)
National Wetlands Inventory for PA (USFWS 2021)
National Flood Hazard Data for Carbon, Luzerne and Northampton Counties, PA (FEMA 2002, 2019 and 2021),
Core Habitat Natural Areas (NHI 2014)
State Lands (PGC and PADCNR 2023)
Existing Transmission Lines (PPL EU, 2019)
PA Municipality & County Boundaries (2023)
Google Maps Satellite (2020)

0 1,500 3,000 6,000
Feet
1 inch = 3,000 feet



PPL Electric Utilities

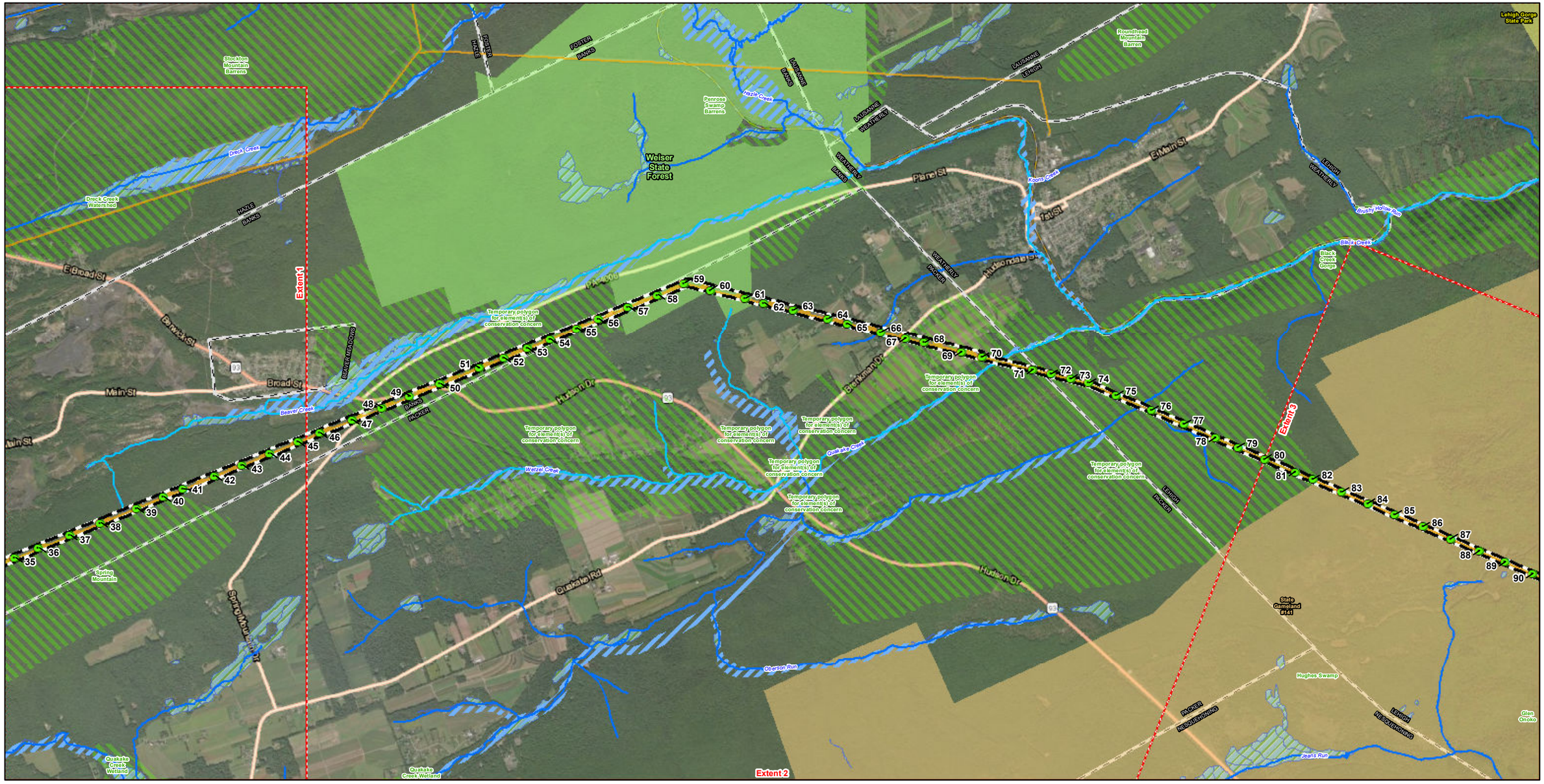
FIGURE 1-2 Extent 1 of 5
Proposed System Configuration
Harwood - E. Palmerton and
Siegfried - E. Palmerton Corten Project

Luzerne, Carbon and Northampton Counties, Pennsylvania

Prepared By: AECOM Technical Services, Inc
Conshohocken, Pennsylvania

Prepared By: MAH	Checked By: BF
Job: 60703770	Date: 11/6/2023

L:\DCS\Projects\IMS\PPL\DEVELOPMENT EXTENT MAPS\Harwood - E Palmerton - Siegfried\Maps\LON\HARWEPALSIEG - Fig 1-2 - Proposed System Config.mxd



Legend

- Proposed Structure
- PPL Electric 230kV ROW

Existing Transmission Lines

- 69 kV
- 230 kV
- State Park
- State Forest
- State Gameland
- Natural Area

Ch.93 Designated Use Stream

- HQ (High Quality)
- CWF(COLD WATER FISHES)
- 100-Year Floodplain
- NWI Wetland
- PA Municipality Boundary
- Map Extent Box

Notes:

1. Existing structure locations and right-of-way were provided by PPL Electric in January 2023.
2. Proposed structure locations provided by PPL Electric in May 2023.
3. Existing Transmission Lines provided by PPL Electric in April 2019.

NAD 1983 State Plane
Pennsylvania North FIPS 3701
Projection: Lambert Conformal Conic
Linear Unit: US Foot

References:
Ch. 93 Designated Use Streams (PASDA 2023)
National Wetlands Inventory for PA (USFWS 2021)
National Flood Hazard Data for Carbon, Luzerne and Northampton Counties, PA
(FEMA 2002, 2019 and 2021),
Core Habitat Natural Areas (NHI 2014)
State Lands (PGC and PADCNR 2023)
Existing Transmission Lines (PPL EU, 2019)
PA Municipality & County Boundaries (2023)
Google Maps Satellite (2020)

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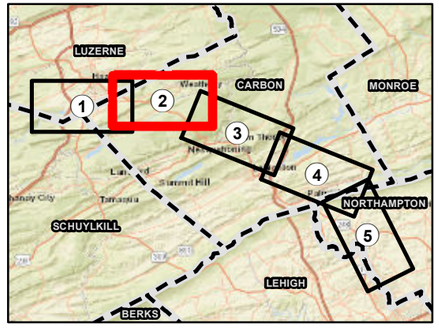
Feet
1 inch = 3,000 feet

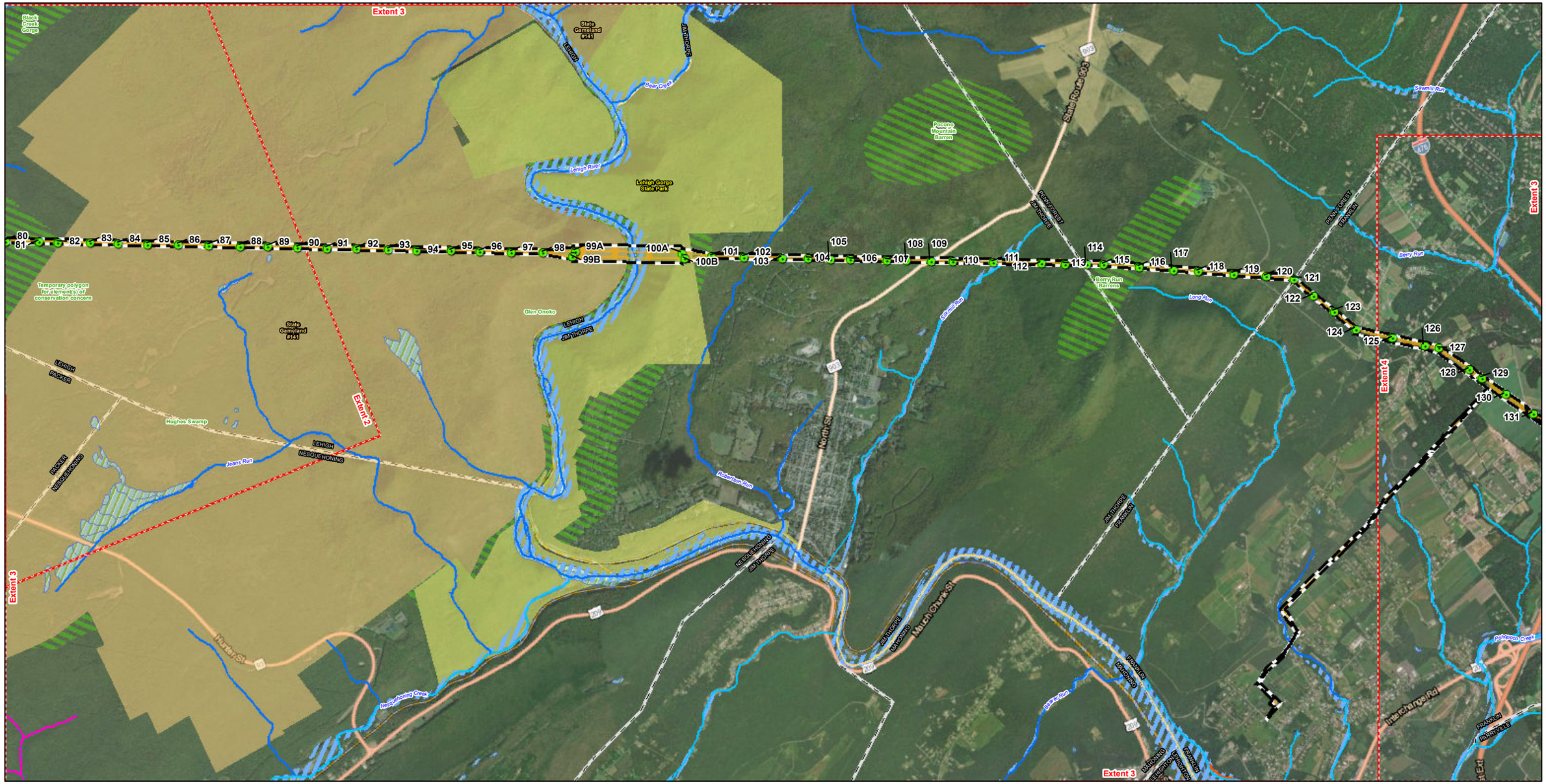


PPL Electric Utilities

FIGURE 1-2 Extent 2 of 5
Proposed System Configuration
Harwood - E. Palmerton and
Siegfried - E. Palmerton Corten Project
Luzerne, Carbon and Northampton Counties, Pennsylvania
Prepared By: AECOM Technical Services, Inc
Conshohocken, Pennsylvania

Prepared By: MAH	Checked By: BF
Job: 60703770	Date: 11/6/2023

L:\DCS\Projects\IMS\PPL\DEVELOPMENT EXTENT MAPS\Harwood - E Palmerton - Siegfried\Maps\LON\HARWEPALSIEG - Fig 1-2 - Proposed System Config.mxd



Legend

- Proposed Structure
- PPL Electric 230kV ROW

Existing Transmission Lines

- 69 kV
- 230 kV
- State Park
- State Gameland
- Natural Area

Ch.93 Designated Use Stream

- EV(Exceptional Value)
- HQ (High Quality)
- TSF(TROUT STOCKING)
- CWF(COLD WATER FISHES)
- WWF(WARM WATER FISHES)
- 100-Year Floodplain
- NWI Wetland
- PA Municipality Boundary
- Map Extent Box

Notes:

1. Existing structure locations and right-of-way were provided by PPL Electric in January 2023.

2. Proposed structure locations provided by PPL Electric in May 2023.

3. Existing Transmission Lines provided by PPL Electric in April 2019.

NAD 1983 State Plane
Pennsylvania North FIPS 3701
Projection: Lambert Conformal Conic
Linear Unit: US Foot

References:
Ch. 93 Designated Use Streams (PASDA 2023)
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National Flood Hazard Data for Carbon, Luzerne and Northampton Counties, PA
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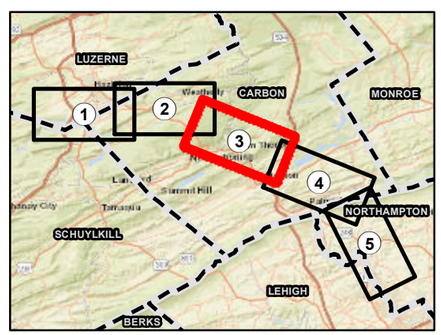
State Lands (PGC and PADCNR 2023)
Existing Transmission Lines (PPL EU, 2019)
PA Municipality & County Boundaries (2023)
Google Maps Satellite (2020)

0 1,500 3,000 6,000
Feet
1 inch = 3,000 feet



PPL Electric Utilities

FIGURE 1-2 Extent 3 of 5
Proposed System Configuration
Harwood - E. Palmerton and
Siegfried - E. Palmerton Corten Project
Luzerne, Carbon and Northampton Counties, Pennsylvania
Prepared By: AECOM Technical Services, Inc
Conshohocken, Pennsylvania

Prepared By: MAH	Checked By: BF
Job: 60703770	Date: 11/6/2023

L:\DCS\Projects\IMS\PPL\DEVELOPMENT EXTENT MAPS\Harwood - E Palmerton - Siegfried\Maps\LON\HARWEPALSIEG - Fig 1-2 - Proposed System Config.mxd

Legend

- Proposed Structure
- PPL Electric 230kV ROW

Existing Transmission Lines

- 69 kV
- 230 kV
- 500 kV
- State Park
- State Gameland
- Natural
- Appalachian Trail Federal Easement

Ch.93 Designated Use Stream

- HQ (High Quality)
- TSF(TROUT STOCKING)
- CWF(COLD WATER FISHES)
- 100-Year Floodplain
- NWI Wetland
- PA Municipality Boundary
- Map Extent Box

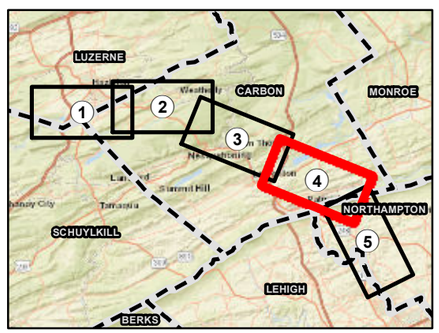
Notes:

1. Existing structure locations and right-of-way were provided by PPL Electric in January 2023.
2. Proposed structure locations provided by PPL Electric in May 2023.
3. Existing Transmission Lines provided by PPL Electric in April 2019.

NAD 1983 State Plane
Pennsylvania North FIPS 3701
Projection: Lambert Conformal Conic
Linear Unit: US Foot

References:
Ch. 93 Designated Use Streams (PASDA 2023)
National Wetlands Inventory for PA (USFWS 2021)
National Flood Hazard Data for Carbon, Luzerne and Northampton Counties, PA
(FEMA 2002, 2019 and 2021),
Core Habitat Natural Areas (NHI 2014)
State Lands (PGC and PADCNR 2023)
Existing Transmission Lines (PPL EU, 2019)
PA Municipality & County Boundaries (2023)
Google Maps Satellite (2020)

0 1,500 3,000 6,000
Feet
1 inch = 3,000 feet

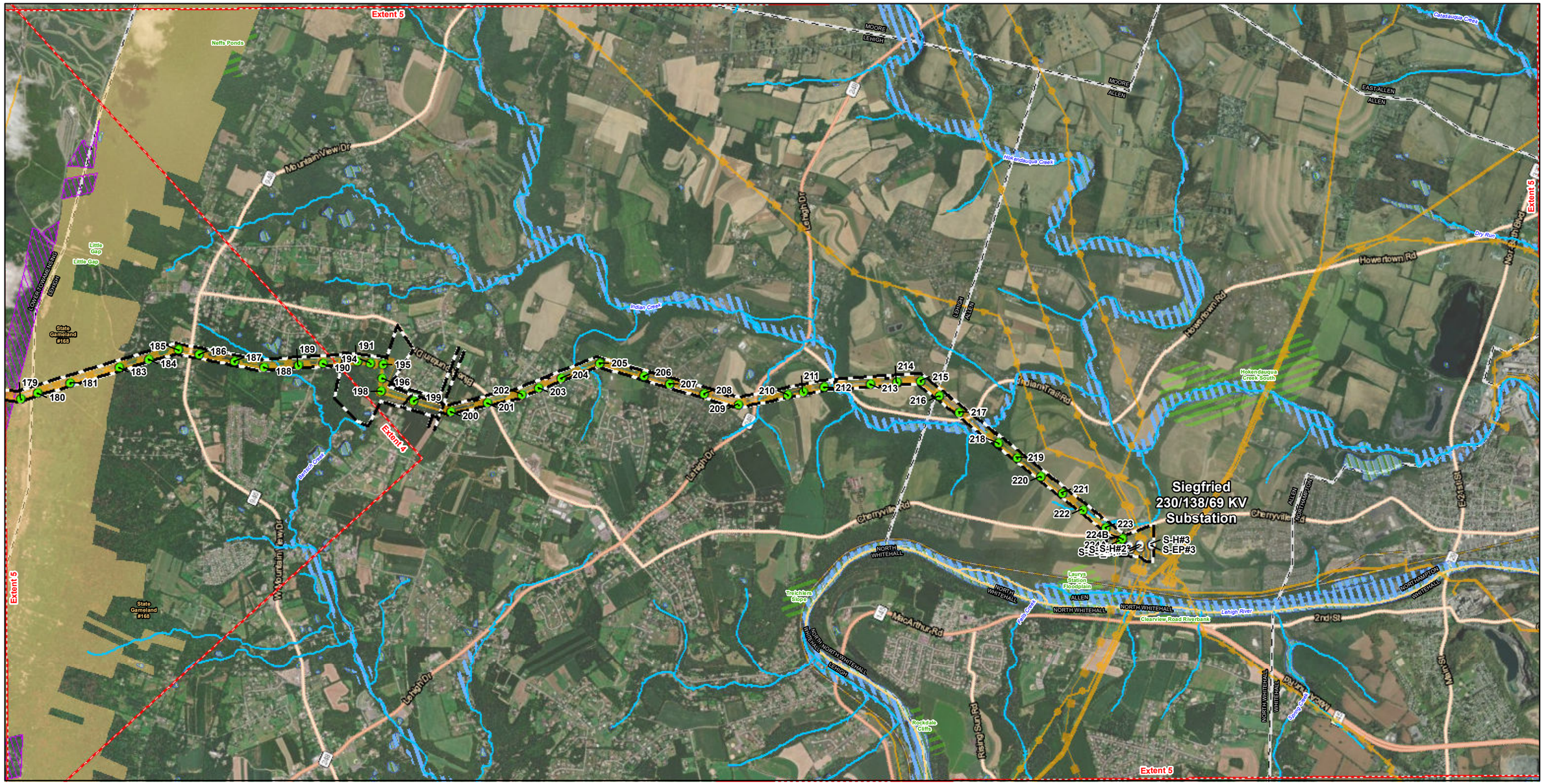


PPL Electric Utilities

FIGURE 1-2 Extent 4 of 5
Proposed System Configuration
Harwood - E. Palmerton and
Siegfried - E. Palmerton Corten Project
Luzerne, Carbon and Northampton Counties, Pennsylvania
Prepared By: AECOM Technical Services, Inc
Conshohocken, Pennsylvania

Prepared By: MAH	Checked By: BF
Job: 60703770	Date: 11/6/2023

L:\DCS\Projects\IMS\PPL\DEVELOPMENT EXTENT MAPS\Harwood - E Palmerton - Siegfried\Maps\LON\HARWEPALSIEG - Fig 1-2 - Proposed System Config.mxd



Legend

- Proposed Structure
- Existing Structure (to remain)
- PPL Electric 230kV ROW

Existing Transmission Lines

- 69 kV
- 138 kV
- 230 kV
- 500 kV
- State Gameland
- Natural Area
- Appalachian Trail Federal Easement

Ch.93 Designated Use Stream

- TSF(TROUT STOCKING)
- CWF(COLD WATER FISHES)
- WWF(WARM WATER FISHES)
- NWI Wetland
- PA Municipality Boundary
- Map Extent Box

Notes:

1. Existing structure locations and right-of-way were provided by PPL Electric in January 2023.

2. Proposed structure locations provided by PPL Electric in May 2023.

3. Existing Transmission Lines provided by PPL Electric in April 2019.

NAD 1983 State Plane
Pennsylvania North FIPS 3701
Projection: Lambert Conformal Conic
Linear Unit: US Foot

References:
Ch. 93 Designated Use Streams (PASDA 2023)
National Wetlands Inventory for PA (USFWS 2021)
National Flood Hazard Data for Carbon, Luzerne and Northampton Counties, PA
(FEMA 2002, 2019 and 2021),
Core Habitat Natural Areas (NHI 2014)
State Lands (PGC and PADCNR 2023)
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Google Maps Satellite (2020)

0 1,500 3,000 6,000
Feet
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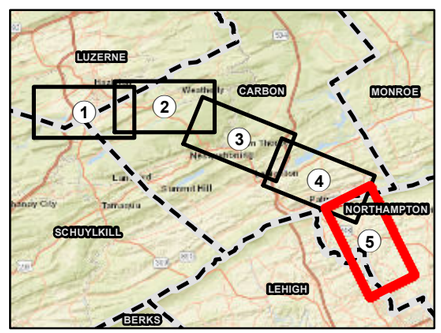

PPL Electric Utilities

FIGURE 1-2 Extent 5 of 5
Proposed System Configuration
Harwood - E. Palmerton and
Siegfried - E. Palmerton Corten Project
Luzerne, Carbon and Northampton Counties, Pennsylvania

Prepared By: AECOM Technical Services, Inc
Conshohocken, Pennsylvania

Prepared By: MAH	Checked By: BF
Job: 60703770	Date: 11/6/2023

L:\DCS\Projects\IMS\PPL\DEVELOPMENT EXTENT MAPS\Harwood - E Palmerton - Siegfried\Maps\LON\HARWEPALSIEG - Fig 1-2 - Proposed System Config.mxd

PPL ELECTRIC
ATTACHMENT 2

HARWOOD-EAST PALMERTON & SIEGFRIED-EAST PALMERTON 230 kV COR-TEN® REBUILD PROJECT

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1.0 INTRODUCTION

As explained in **Attachment 1**, PPL Electric Utilities Corporation ("PPL Electric") is requesting Pennsylvania Public Utility Commission ("PUC" or "the Commission") approval to rebuild the existing double-circuit Harwood-East Palmerton and Siegfried-East Palmerton 230 kV Transmission Lines connecting the Harwood 230-69 kV Substation ("Harwood Substation") located in Luzerne County, the East Palmerton 230-69 kV Substation ("East Palmerton Substation") located in Carbon County, and the Siegfried 230-138-69 kV Substation ("Siegfried Substation") located in Northampton County, Pennsylvania ("Project").

The proposed transmission line system will be designed according to, and generally exceed, all National Electrical Safety Code ("NESC") standards. Design specifications and safety rules adhered to by PPL Electric are included as **Attachment 4**.

2.0 DESCRIPTION OF THE EXISTING AND PROPOSED LINES AND STRUCTURES

Connection between the Harwood Substation and East Palmerton Substation involves a 31.0-mile-long section of the double-circuit Harwood-East Palmerton Transmission Lines. The Harwood-East Palmerton Transmission Lines include the Harwood-East Palmerton 230 kV line and the Harwood-Siegfried 230 kV line. The first line extends to the East Palmerton Substation, whereas the second line passes the tap area into East Palmerton and extends to the Siegfried Substation. A one-line illustration of the system arrangement is provided in **Figure 2-1** and an aerial map of the transmission line system near East Palmerton Substation is provided in **Figure 2-2**. The existing Harwood-East Palmerton Transmission Lines contain six 1590 kcmil[1], 45/7 stranding, "Lapwing" ACSR[2] conductor wires, one overhead ground wires ("OHGW"), and one optical ground wire ("OPGW"). These conductor and ground wires are supported by a series of transmission line structures that include 178 COR-TEN® double-circuit steel lattice tower structures, two H-frame structures, and one monopole structure.

[1] A kcmil is a thousand circular mils. A circular mil is the cross-sectional area of a wire one mil in diameter, where 1 kcmil = 0.5067 mm².
[2] ACSR stands for aluminum conductor steel reinforced.

Connection between the Siegfried Substation and East Palmerton Substation involves a 9.2-mile-long section of the double-circuit Siegfried-East Palmerton Transmission Lines. The Siegfried-East Palmerton Transmission Lines include the Harwood-Siegfried 230 kV line and the Siegfried-East Palmerton 230 kV line. The existing Siegfried-East Palmerton Transmission Lines also contain six 1590 kcmil, 45/7 stranding, "Lapwing" ACSR conductor wires, one OHGW, and one OPGW. These conductor and ground wires are supported by a series of transmission line structures that include 42 COR-TEN® double-circuit steel lattice tower structures, 16 monopole structures, and two 3-pole structures.

Figure 2-1: One-line Diagram

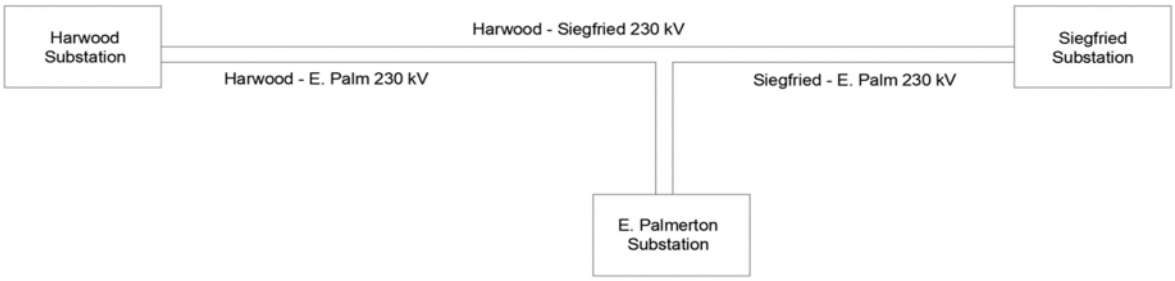
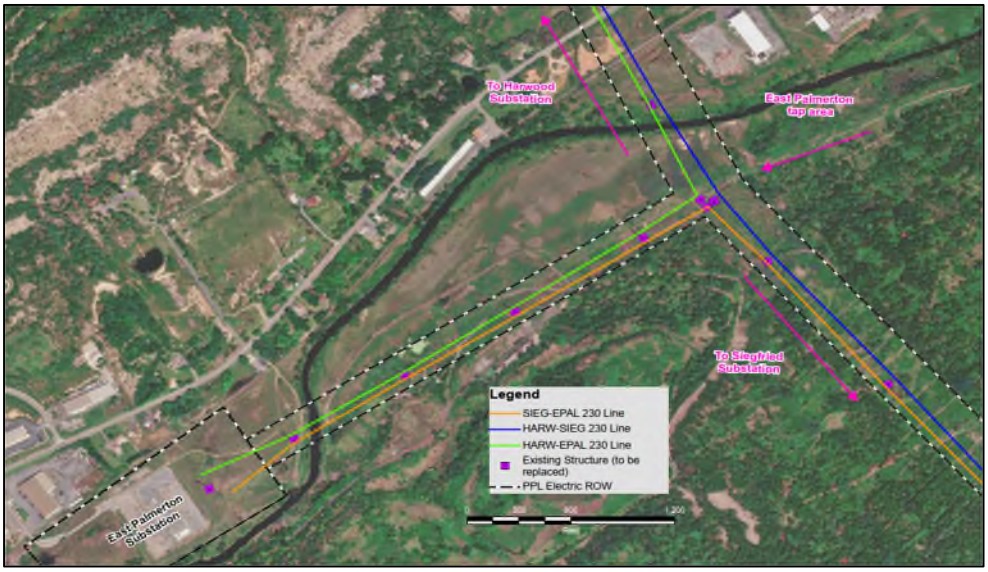


Figure 2-2: Aerial Illustration of East Palmerton Tap Area



Due to the corrosion and development of pack-out rust[3] on these 220 COR-TEN® lattice tower structures, PPL Electric proposes to replace them with 220 double-circuit steel monopole structures. For the Harwood-East Palmerton line, the COR-TEN® lattice structures to be replaced extend consecutively between existing Tower 47497N28440 (Structure 1) located near the Harwood Substation and Tower 60723N24438 (Structure 174) located north of the tap line into the East Palmerton Substation. Tower 47497N28440 will be replaced with two single-circuit monopoles (Structures 1A and 1B) and due to the ability to optimize Tower 48858N27937 (Structure 21) will be removed but not be replaced.

In addition to replacing the COR-TEN® lattice tower structures, the Harwood-East Palmerton section of the Project also involves the following structure replacements:

- The existing single-circuit monopole structure (47451N28454 (Structure 1C)) that is presently used to direct the wires into the Harwood Substation.
- The two existing single-circuit COR-TEN® H-frame structures (55350N27366 & 55349N27364 (Structure 99B) and 55652N27234 & 55653N27236 (Structure 100B)) that presently support the conductor over the Lehigh River.

For the Siegfried-East Palmerton transmission line, the COR-TEN® lattice tower structures to be replaced extend consecutively between existing Tower 60743N24314 (Structure 176) located south of the East Palmerton tap area and Tower 61376S53510 (Structure 191) located north of a 90-degree turn to the west. This sharp turn extends around a parcel owned by PPL Electric (identified as Northampton County Parcel ID: H3 18 10A 0516 and shown as Extent 39 of 45 within Attachment 3, Figure 3-1) where a series of six sets of single-circuit monopoles are used to guide the line around the parcel boundary. The COR-TEN® lattice tower structures to be replaced continue at Tower 61360S53283 (Structure 199), where the line turns sharply to the south, and extends consecutively to Tower 61932S51221 (Structure 223) located near the Siegfried Substation.

In addition to replacing the COR-TEN® lattice tower structures, the Siegfried-East Palmerton section of the project also involves the following structure replacements:

[3] "Pack-out rust" is a form a localized corrosion typical of steel components that develop a crevice into an open atmospheric environment, which results in rust packing between conjoined steel components. As described in Attachment 1, pack-out rust accelerates the deterioration of asset health and can result in shearing off bolts, loss of structural integrity, members disconnecting from lattice towers, and tower failure.

- Three existing single-circuit monopoles that guide the wires around the East Palmerton tap area (60727N24363 (Structure 175), 60722N24358 (Structure 226), and 60722N24367 (Structure 227).
- The six sets of existing monopole structures (12 monopoles) used to go around the PPL Electric parcel will be replaced with three new monopoles (Structure 194, 195, and 196).[4]
- The existing single-circuit monopole structure (61343S53379) located on the southern corner of the PPL Electric parcel (identified as Northampton County Parcel ID: H3 18 10A 0516 and shown as Extent 39 of 45 within Attachment 3, Figure 3-1) and used to turn the line south.
- Two sets of three-pole structures (61919S51165) used to direct the wires into the Siegfried Substation will be replaced with two structures (Structures 224A and 224B) .

In addition to the structure replacements listed above, the following non-COR-TEN® structures will not be replaced but will be upgraded.[5]

- The six existing single-circuit monopoles used to guide the wires into the Siegfried Substation.

At the East Palmerton tap area, the five COR-TEN® structures extending into the East Palmerton Substation (Structures 228 to 231A) are common to both sections and will be replaced when the Siegfried-East Palmerton section is rebuilt. Tower 60390N24310 (Structure 231A) will be replaced by two single-circuit monopole structures (Structures 231A and 231B) and upgraded with new conductor and ground wires.

A detailed map of the Project alignment is provided as **Figure 3-1 in Attachment 3**.

For both sections, the existing COR-TEN® lattice tower structures range in height from between approximately 55 and 165 feet with an average structure height of approximately 135 feet. The proposed monopole structures for the Harwood-East Palmerton and Siegfried-East Palmerton Transmission Lines will range in height from between approximately 60 and 170 feet, with an average structure height of approximately 135 feet. **Table 2-1** provides a summary of the number and heights of the existing and proposed structures.

[4] The structure numbering accounts for three of the existing structures that are not being replaced in kind.
[5] The existing conductor and ground wires supported by these towers will be replaced as part of the Project.

Figures 2-3 through **2-7** depict typical structure types that will be used for the Project and include the following:

- Approximately 109 new double-circuit long span suspension structures (**Figure 2-3)**.
- Approximately 55 new double-circuit long span angle tension structures **(Figure 2-4**).
- Approximately 54 new double-circuit long span angle tension structures **(Figure 2-5**).
- Approximately 12 new single-circuit 0° to 90° angle tension structures **(Figure 2-6)**.
- Approximately 2 new single-circuit 0° to 90° H-frame angle tension structures **(Figure 2-7)**.

Table 2-1: Existing and New Transmission Line Structures

Transmission Line	No. of Existing Structures	Existing Structure Height Range (feet)	Proposed No. of New Structures*	Proposed Structure Height Range (feet)	Applicable Framing/ Specifications
HARWOOD-EAST PALMERTON AND SIEGFRIED-EAST PALMERTON 230 kV	235	55'-165'	232	60'-170'	7-009-043 7-009-061 7-009-062 7-009-064 7-009-013
Total	**235**		**232**		

*Proposed number of new structures based on preliminary engineering. The final number of new structures may vary.

The proposed monopole structures for the Project will be constructed in generally the same location as the existing COR-TEN® lattice towers. The transmission lines cannot be fully deenergized during the construction process, thereby requiring the new monopoles to be offset typically 35 feet ahead or behind and horizontally offset approximately 15 feet from the COR-TEN® structure locations as a safety precaution. PPL Electric has designed the proposed transmission line system so that it fits entirely within the existing right of way ("ROW").

The proposed Harwood-East Palmerton, Harwood-Siegfried and Siegfried-East Palmerton Transmission Lines will consist of six 1590 kcmil, 54/19 stranding, "Falcon" ACSR conductors. The existing OHGW and OPGW will be removed and be replaced with two 0.791-inch-diameter 144 fiber OPGW. The design minimum conductor-to-ground clearance will be 25.5 feet which occurs at the emergency maximum thermal conductor temperature of 125°C (257°F). The design minimum conductor clearances and conductor thermal ratings for the reconstructed lines are noted in **Tables 2-2 and 2-3**.

Table 2-2: Design for Minimum Conductor Clearance for 1590 kcmil 54/19 Stranding Falcon ACSR

Condition	Transmission Double-Circuit Design Clearance-to-Ground
PPL Heavy Ice (1" ice, 32°F)	25.5'
Max Operating Temperature (125°C / 257°F)	25.5'
PPL Blowout (6psf, 60°F)	25.5'

Table 2-3: Conductor Thermal Rating 1590 kcmil 54/19 Stranding Falcon ACSR – 125°C Normal Maximum Conductor Temperature (125°C Emergency)

Condition	Ambient Temperature (°C)	Wind Speed (Ft./sec)	Ampacity (Amps)
Summer Normal	35	0	3343
Winter Normal	10	0	3849
Summer Emergency	35	2.53	4127
Winter Emergency	10	2.53	4646

Figure 2-3: Typical 230 kV Long Span Double-Circuit Steel Pole Structure

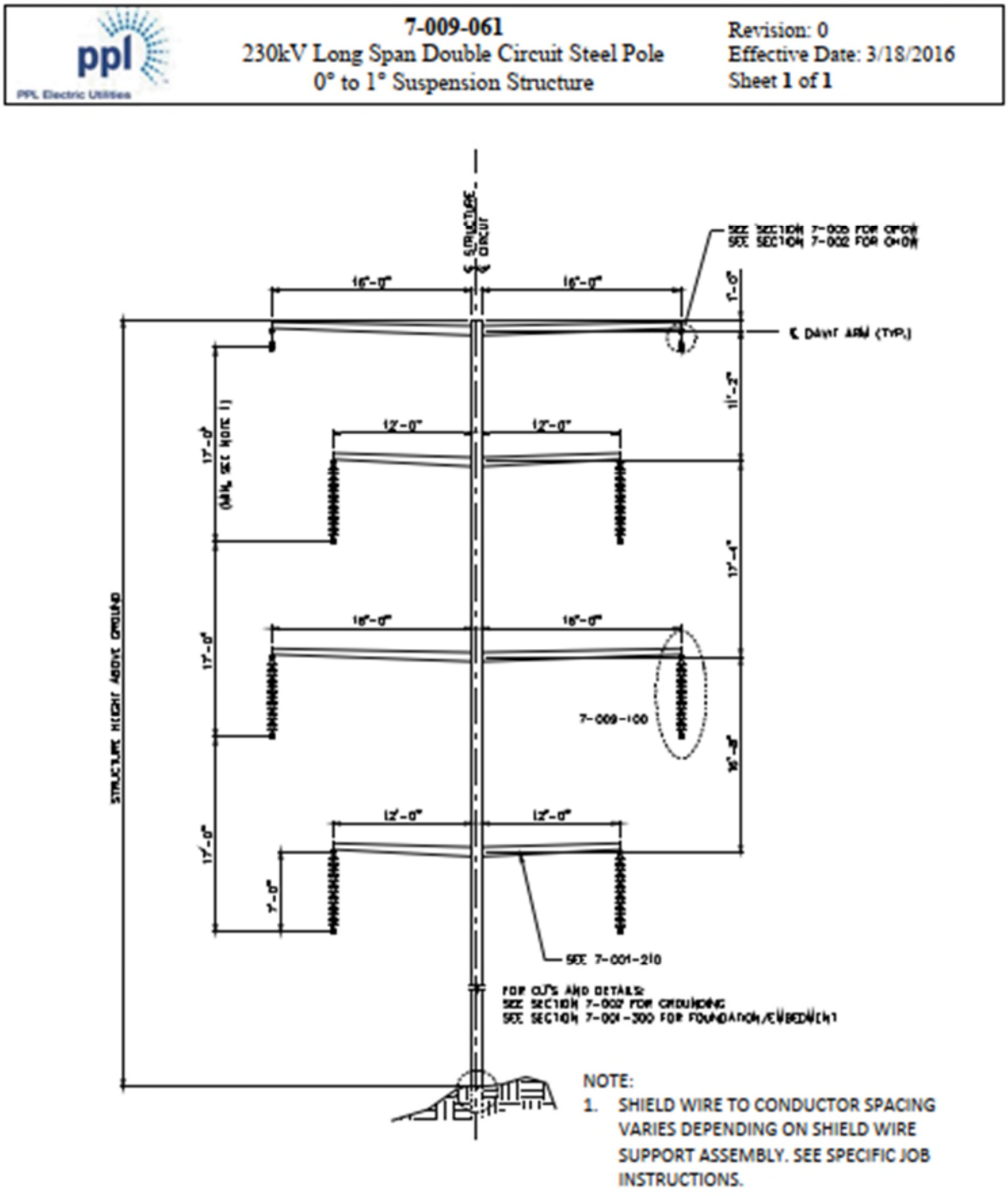


Figure 2-4: Typical 230 kV Long Span Double-Circuit Steel Pole Angle Suspension Structure

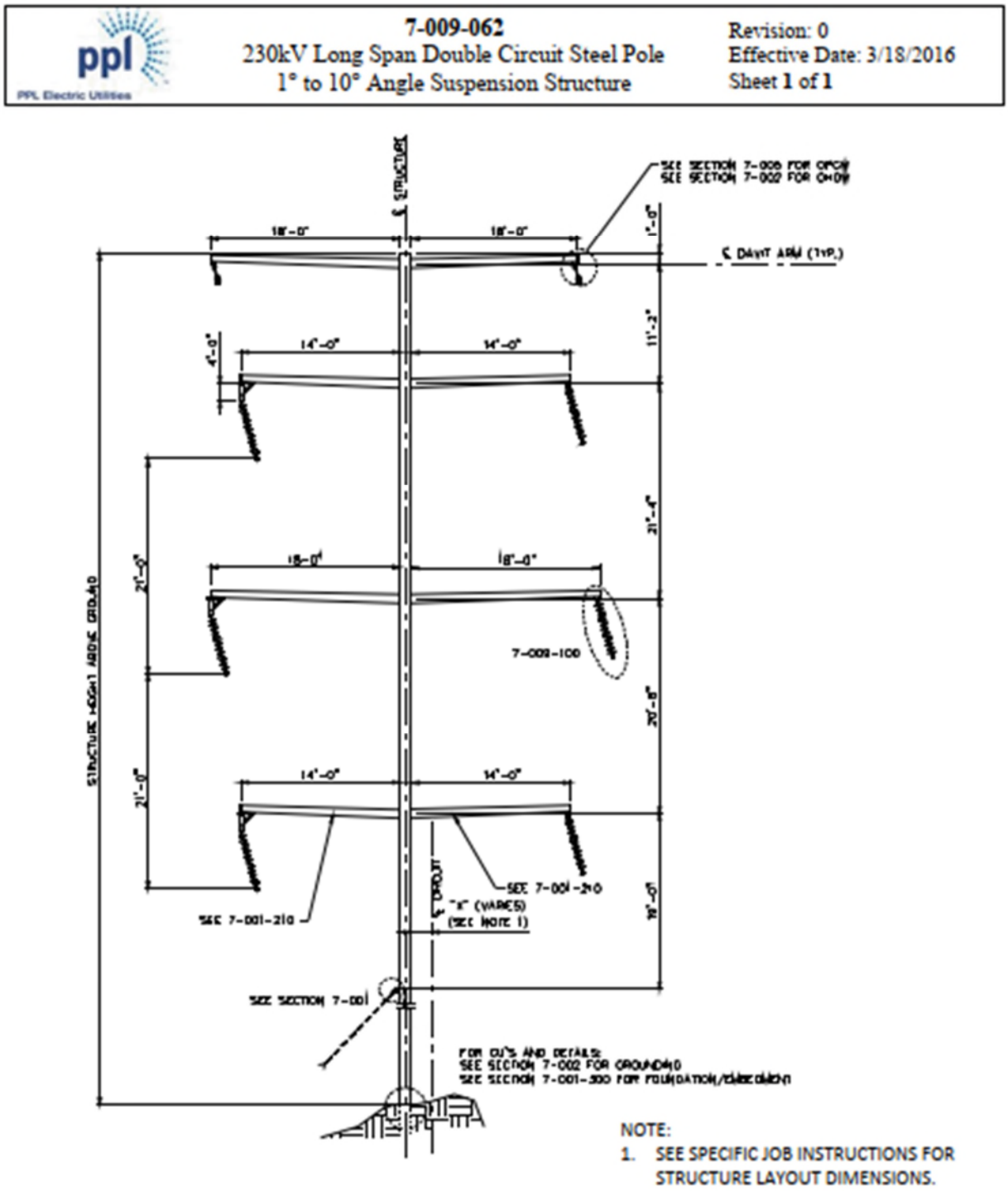


Figure 2-5: Typical 230 kV Long Span Double-Circuit Steel Pole Angle Tension on Arm Structure

PPL Electric Utilities

7-009-064
230kV Long Span Double Circuit Steel Pole
0° To 90° Angle Tension on Arm Structure

Revision: 0
Effective Date: 3/18/2016
Sheet 1 of 1

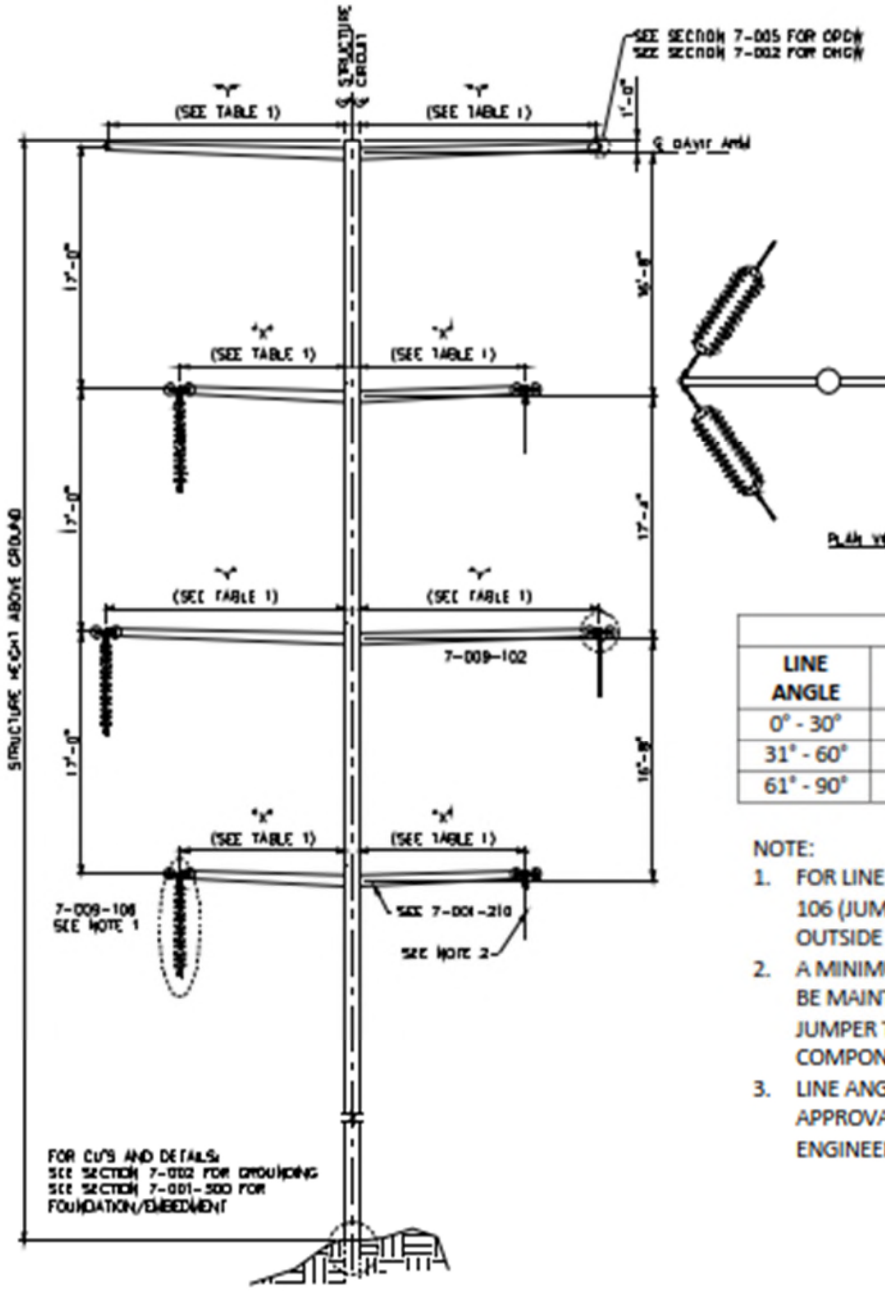


TABLE 1		
LINE ANGLE	DAVIT ARM LENGTH "X"	DAVIT ARM LENGTH "Y"
0° - 30°	12'-0"	16'-0"
31° - 60°	14'-0"	18'-0"
61° - 90°	17'-0"	21'-0"

NOTE:
1. FOR LINE ANGLES OVER 10° INSTALL 7-009-106 (JUMPER SUSPENSION ASSEMBLY) ON OUTSIDE CIRCUIT ONLY.
2. A MINIMUM 86 1/4 INCH CLEARANCE SHALL BE MAINTAINED FROM ANY POINT ON THE JUMPER TO ALL GROUNDED STRUCTURAL COMPONENTS AND HARDWARE.
3. LINE ANGLE MAY EXCEED 90° WITH APPROVAL FROM PPL ENGINEERING/STANDARDS.

Figure 2-6: Typical 230 kV Single-Circuit Steel Pole Angle Tension on Pole Structure

PPL Electric Utilities	7-009-013 230kV Single Circuit Steel Pole 0° to 90° Angle Tension on Pole Structure	Revision: 0 Effective Date: 3/18/2016 Sheet 1 of 1

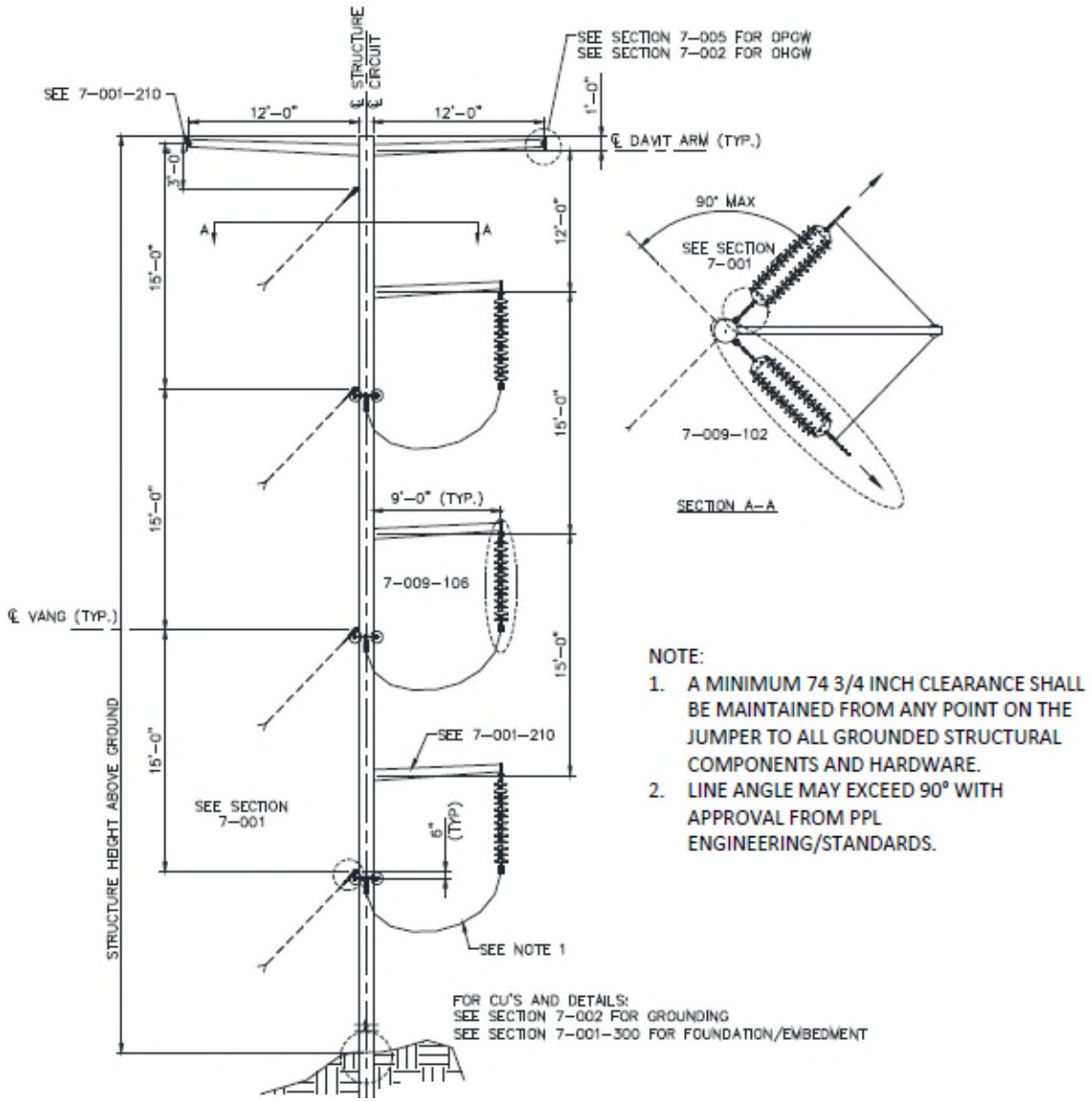


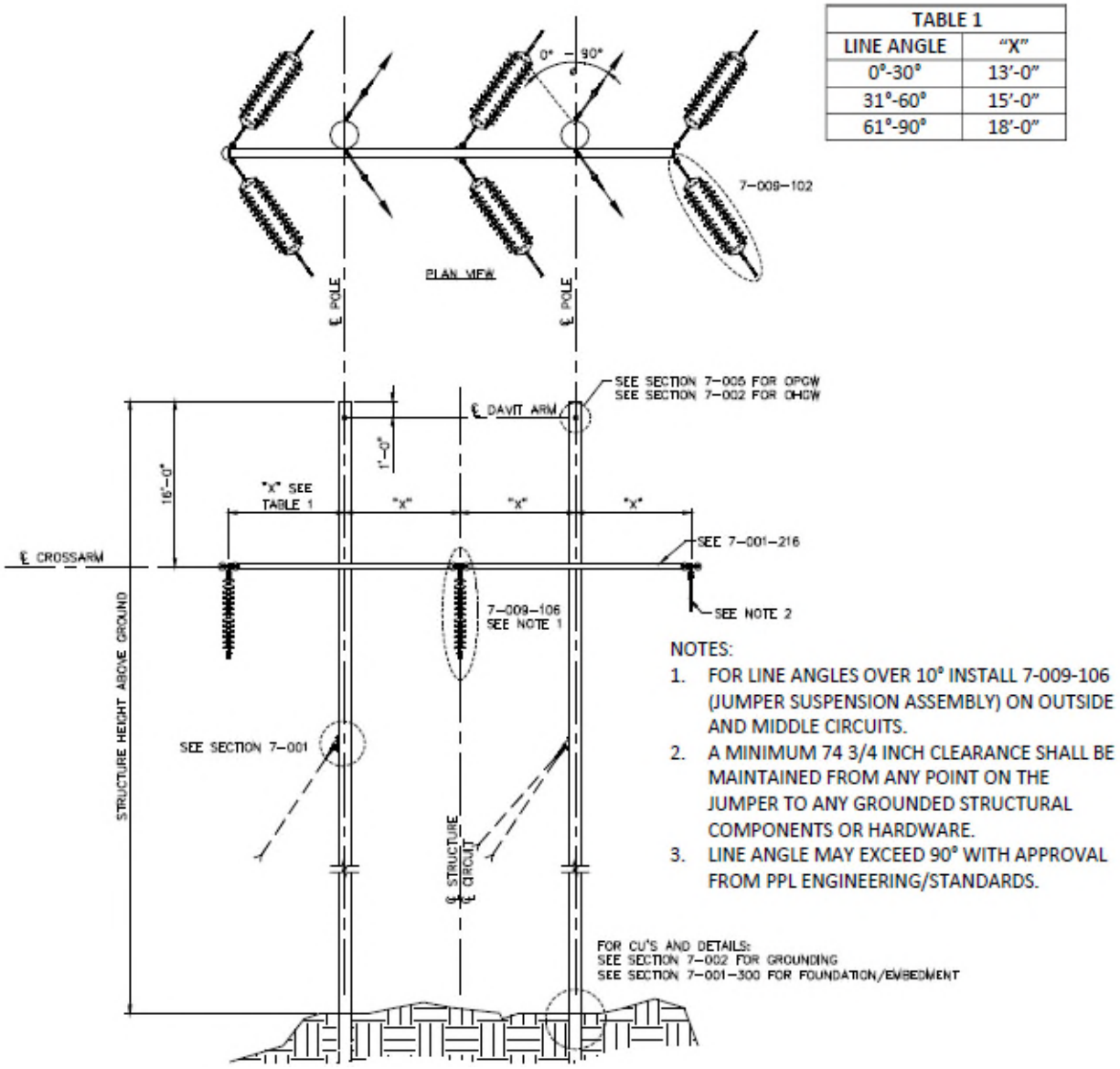
Figure 2-7: Typical 230 kV Single-Circuit Steel H-Frame Angle Tension Structure

PPL Electric Utilities

7-009-043
230kV Single Circuit Steel H-Frame
0° to 90° Angle Tension Structure

Revision: 0
Effective Date: 3/18/2016
Sheet 1 of 1

TABLE 1	
LINE ANGLE	"X"
0°-30°	13'-0"
31°-60°	15'-0"
61°-90°	18'-0"



NOTES:

1. FOR LINE ANGLES OVER 10° INSTALL 7-009-106 (JUMPER SUSPENSION ASSEMBLY) ON OUTSIDE AND MIDDLE CIRCUITS.
2. A MINIMUM 74 3/4 INCH CLEARANCE SHALL BE MAINTAINED FROM ANY POINT ON THE JUMPER TO ANY GROUNDED STRUCTURAL COMPONENTS OR HARDWARE.
3. LINE ANGLE MAY EXCEED 90° WITH APPROVAL FROM PPL ENGINEERING/STANDARDS.

PPL ELECTRIC
ATTACHMENT 3

HARWOOD-EAST PALMERTON & SIEGFRIED-EAST PALMERTON 230 KV CORTEN TRANSMISSION REBUILD PROJECT

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1.0 INTRODUCTION

PPL Electric Utilities Corporation ("PPL Electric") is requesting Pennsylvania Public Utility Commission ("PUC" or "the Commission") approval to rebuild the existing double-circuit Harwood-East Palmerton and Siegfried-East Palmerton 230 kV Transmission Lines connecting the Harwood 230-69 kV Substation ("Harwood Substation"), located in Luzerne County, the East Palmerton 230-69 kV Substation ("East Palmerton Substation") located in Carbon County, and the Siegfried 230-138-69 kV Substation ("Siegfried Substation") located in Northampton County, Pennsylvania ("Project").

The rebuilt transmission line will be on the same structure alignment as the existing transmission lines. However, as described in Attachment 2, the centerline will be offset from the existing centerline to maintain safe clearances during construction. The Project will remain on the same PPL Electric fee-owned properties and in the same right of way ("ROW") as the existing transmission line. The existing ROW is generally between 150 and 300 feet wide, with the exception of one section over the Lehigh River that is 500 feet wide. As described in Attachment 2, the Project will require the replacement of 220 existing COR-TEN® steel lattice and/or steel monopoles structures, plus 12 non-COR-TEN® structures, that will be constructed entirely within the existing ROW or on PPL Electric's Harwood Substation, East Palmerton Substation and Siegfried Substation properties. A network of existing access roads or temporary roads will be utilized during construction of the transmission lines. Detailed maps of the proposed rebuilt double-circuit Harwood-East Palmerton and Siegfried-East Palmerton 230 kV Transmission Lines and associated structures are provided in **Figure 3-1**.

From the Harwood Substation, the double circuit line travels in a southeasterly direction across predominantly forested lands before reaching the East Palmerton Substation. As the transmission line approaches the East Palmerton substation the line is tapped, and the double-circuit tap line extends southwesterly to East Palmerton Substation. After the tap point, the double circuit line continues in a southeasterly direction to the Siegfried Substation. See **Figure 3-1** for the existing layout. The ROW for the Project is further described below:

- From Structure 1 at the Harwood Substation, the Project will extend southeast approximately 4.05 miles to Structure 27 (Sheets 1 to 5, Structures 1 to 27 in **Figure 3-1**).

This section involves removal of twenty-seven COR-TEN® structures that will be replaced with two angle tension structures (7-009-013), seven long span angle tension structures (7-009-064), six long span angle suspension structures (7-009-062), and twelve long span suspension structures (7-009-061). Structure 1 will be replaced by two single-circuit monopoles (Structures 1A and 1B) and Structure 21 will not be replaced due to the opportunity to optimize span lengths. An existing single-circuit monopole outside the Harwood Substation (Structure 1C) will also be replaced as part of the Project. These structures are located entirely on PPL Electric's Harwood Substation property or PPL Electric maintained ROW. This section crosses commercial, forested, and mining lands, the Beaver Brook Regional Railroad, Catawissa Hazelton Regional Railroad, State Route 309 and Interstate 81.

- From Structure 27, the Project turns east for approximately 5.6 miles to Structure 59 (Sheets 5 to 12, Structures 28 to 59 in **Figure 3-1**). The thirty-two COR-TEN® structures along this segment will be replaced with twenty-three long span suspension structures (7-009-061), six long span angle suspension structures (7-009-062), and three long span angle tension structures (7-009-064). These structures are located entirely on ROW maintained by PPL Electric. Land use in this segment is predominantly forested, and the ROW crosses Spring Mountain Natural Area and sections of Weiser State Forest.
- From Structure 59, the Project turns to the southeast for approximately 11.05 miles to Structure 121 (Sheets 12 to 25, Structures 60 to 121 in **Figure 3-1**). The sixty-two COR-TEN® structures along this segment will be replaced with forty long span suspension structures (7-009-061), eleven long span angle suspension structures (7-009-062), nine long span angle tension structures (7-009-064), and two single-circuit angle tension structures (7-009-013). Two existing H-frame structures (Structures 99B and 100B) used to cross the Lehigh River will also be replaced as part of the Project. These structures are located entirely on ROW maintained by PPL Electric. Land use in this segment is predominantly forested, with a small section of residential development. This segment spans Quakake Creek, State Game Land #141, Hughes Swamp Natural Area, Glen Onoko Natural Area, the Lehigh River, the Reading Blue Mountain and Northern Railroad, Lehigh Gorge State Park, Robertson Run, and Berry Run Barrens Natural Area.

- From Structure 121, the Project turns southeast for approximately 4.2 miles to Structure 146 (Sheets 25 to 29, Structures 122 to 147 in **Figure 3-1**). The twenty-six COR-TEN® structures along this segment will be replaced with eight long span suspension structures (7-009-061), nine long span angle suspension structures (7-009-062), and nine long span angle tension structures (7-009-064). These structures are located entirely on ROW maintained by PPL Electric. Land use in this segment is predominantly forested and low-density residential, and the ROW crosses the Pennsylvania Turnpike, Beltzville State Park, Pohopoco Creek, and Bull Run.
- From Structure 147, the Project turns east for approximately 3.6 miles to Structure 168 (Sheets 30 to 34, Structures 148 to 168 in **Figure 3-1**). The twenty-one COR-TEN® structures along this segment will be replaced with twelve long span suspension structures (7-009-061), five long span angle suspension structures (7-009-062), and four long span angle tension structures (7-009-064). These structures are located entirely on ROW maintained by PPL Electric. Land use in this segment is predominantly agricultural and low-density residential, and the ROW crosses Mill Creek.
- From Structure 168, the Project turns east for approximately 1.2 miles to Structure 175 (Sheets 34 to 35, Structures 169 to 175 in **Figure 3-1**). The six COR-TEN® structures along this segment will be replaced with three long span angle suspension structures (7-009-062) and three long span angle tension structures (7-009-064). Structure 175 is a single-circuit monopole that will be replaced with an angle tension structure (7-009-013). These structures are located entirely on ROW maintained by PPL Electric. Land use in this segment is predominantly agricultural, and the ROW crosses Stony Ridge Natural Area and Aquashicola Creek.
- At this point the Project turns west for approximately 0.6 miles along the East Palmerton Tap from Structure 226 to Structure 231B (Sheet 45, Structures 226 to 231B in **Figure 3-1**). The five COR-TEN® structures along this segment will be replaced with two long span suspension structures (7-009-061), two long span angle tension structures (7-009-064), and two angle tension structures (7-009-013). Structure 231A will be replaced by two single-circuit monopoles (Structures 231A and 231B). Two existing single circuit monopoles (Structures 226 and 227) will also be replaced as part of the Project. These structures are

located entirely on PPL Electric fee-owned property or on ROW maintained by PPL Electric. Land use in this segment is predominantly land reclamation, and the ROW crosses Aquashicola Creek.

- From Structure 175, the Project turns southeast for approximately 7.6 miles to Structure 224B near the Siegfried Substation (Sheets 35 to 44, Structures 176 to 224 in **Figure 3-1**). The forty-one COR-TEN® structures along this segment will be replaced with ten long span suspension structures (7-009-061), fifteen long span angle suspension structures (7-009-062), sixteen long span angle tension structures (7-009-064). Structure 182 will not be replaced due to the opportunity to optimize span lengths. Six sets of two-pole structures and two 3-pole structures (Structures 224A and 224B) will also be replaced as part of the Project. Optimization around the two-pole structures will result in the installation of three monopoles (Structures 194, 195, and 196) to account for the removal of the twelve existing monopoles. These structures are located entirely on PPL Electric fee-owned property or on ROW maintained by PPL Electric. Land use in this segment is forested, residential, and agricultural, and crosses State Game Land #168, the Appalachian Trail, Bertsch Creek, and Indian Creek.

As described in Attachment 2, the Project requires replacement of 220 existing COR-TEN® steel lattice and/or steel monopoles structures, plus 12 non-COR-TEN® structures, that will be constructed entirely within the existing ROW or on PPL Electric's Harwood Substation, East Palmerton Substation and Siegfried Substation properties.

2.0 LAND USE

PPL Electric evaluated the existing land uses on the PPL Electric owned properties, within the existing ROW, and the adjacent land within approximately 0.25 miles of the ROW ("Project Area"). This broader Project Area was reviewed to provide a sense of the landscape in which the Project is located. Based on review of the 2020 National Land Cover Data ("NLCD"), land use in the Project Area is approximately 90% forested with the remaining 10% comprised of urbans lands and cropland. The urban lands and croplands were typically located where the transmission lines crossed major roads.

Four communications towers co-located on Structures 3, 52, 209, and 211 will be temporarily affected by the proposed Project during construction.

The Project spans six railroads as follows:

- The Beaver Brook Industrial Track is spanned in two locations around the Harwood Substation.
- The Catawissa Hazleton Industrial Track is spanned by the Project in two locations approximately 2.5 miles south of the Harwood Substation.
- The Reading Blue Mountain and Northern Railroad is spanned by the Project at the Lehigh River crossing.
- The Chestnut Ridge Railway is spanned by the Project approximately 1 mile east of the East Palmerton substation.

Two gas pipelines are crossed by the Project. One pipeline crosses the Project is on top of Blue Mountain in Northampton County and the second pipeline crosses just north of the intersection with Route 946 in Northampton County. The Project also crosses other PPL Electric ROWs adjacent to the Harwood, East Palmerton, and Siegfried Substations.

The Project extends within 0.5 miles of the Beltzville Airport, which is located near the East Palmerton Substation. PPL Electric does not anticipate any interference with airport operations because the Project is in an area where there are existing electrical facilities. However, PPL Electric will comply with any applicable requirements of the Federal Aviation Administration.

Conserved Lands

The proposed Project will cross the Lehigh River, a Pennsylvania Scenic River. It also crosses the National Scenic Appalachian Trail approximately 0.7 miles south of the East Palmerton Substation. It crosses nine Natural Heritage Areas as designated by the Pennsylvania Natural Heritage Program. Four of these crossings are listed as “Temporary polygon for element(s) of conservation concern”. The other areas are listed as: Spring Mountain, Hughes Swamp, Stony Ridge, Berry Run Barrens, and Glen Onoko. Two Pennsylvania state parks are crossed by the Project: Beltzville and Lehigh Gorge State Parks. Weiser State Forest is the only state forest

crossed by the Project. No Pennsylvania wildlands are crossed by the Project. State Game Lands #141 and #168 are crossed by the Project. The Project will not affect any national parks.

Agricultural easements crossed by the Project include four easements within Carbon County and five easements within Northampton County.

It is not expected that the rebuilt transmission line will have negative impacts on these resources as the line will be kept within existing ROW in these areas.

3.0 CULTURAL RESOURCES

An online review of the Project Area and surrounding landscape was conducted through the Pennsylvania Historical and Museum Commission ("PHMC") State Historic and Archaeological Resource Exchange site. State Historic Preservation Office ("SHPO") eligible and listed structures and districts that were found within or close to the Project Area are listed in **Table 3-1**.

Table 3-1: Cultural Resources Located in the Project Area

Resource Name	Resource Type	Eligibility	Location
Lehigh Valley Railroad (Allentown to Wilkes-Barre)	District	Eligible	Crossed in Lehigh Twp, Carbon Co
Lehigh and New England Railroad	District	Eligible	Crossed in Lehigh Twp, Northampton Co
Central Railroad of New Jersey	District	Eligible	Crossed in Lehigh Twp, Carbon Co Adjacent in Allen Twp, Northampton Co
Lehigh Valley Railroad	District	Eligible	Crossed multiple locations in Luzerne Co and Carbon Co
Pennsylvania-New Jersey (PNJ) Interconnection	District	Eligible	Crossed in Allen Twp, Northampton Co
Appalachian Trail	District	Eligible	Crossed on boundary of Northampton Co and Carbon Co
Mary Immaculate Seminary	Aboveground	Eligible	Crossed in Lehigh Twp, Northampton Co

Resource Name	Resource Type	Eligibility	Location
Lehigh Canal: Walnutport to Allentown Section	Aboveground	Listed	Adjacent in Allen Twp, Northampton Co

Some of these historic districts and structures are crossed or spanned by the Project. PPL Electric is in the initial stage of coordination with the PHMC for the modifications being made to the transmission lines. This coordination is required to receive permits to construct the Project and will be completed prior to initiation of construction. PPL Electric does not anticipate any impacts to SHPO listed or eligible structures or districts. PPL Electric will perform any reviews and field survey/sampling work required by the PHMC to avoid, minimize, and mitigate impacts to archaeological or historic architectural resources that may be located within the Project Area.

4.0 NATURAL FEATURES

Unique Natural Features

The Lehigh River is listed as a Pennsylvania Scenic River by the Pennsylvania Department of Conservation and Natural Resources ("PDCNR"). Near the East Palmerton Substation, the Project crosses the Stony Ridge Natural Area, which is an erosional remnant considered an outstanding scenic geologic feature of Pennsylvania. It is approximately 10 miles long and composed of white sandstone. It is not expected that the rebuilt transmission line will have negative impacts on these resources as the line will be kept within existing ROW in these areas.

Soils

The Project Area is varied in elevation, crossing Blue Mountain and many other ridges and valleys. The elevation profile of the Project Area generally falls as the Project runs northwest to southeast, starting at approximately 1,730 feet above sea level ("ASL") near Hazleton and falling to approximately 550 feet ASL near the Lehigh River around the Siegfried Substation.

Soils present within the Project Area mainly consist of loams, varied from silty clay loam to very stony loam.

Erosion and Sedimentation ("E&S") control plans will be developed and implemented for the Project to minimize the displacement of soils. These plans will require prior approval from the local county conservation districts. National Pollutant Discharge Elimination System ("NPDES") permits will also be required from the Pennsylvania Department of Environmental Protection ("PADEP") as needed. During construction, PPL Electric will adhere to all conditions specified in the NPDES permit. Impacts to local soil resources are anticipated to be minimal.

Waterways

The existing transmission line spans several National Hydrography Dataset waterways that will remain unaffected after the Project construction activities have occurred. Review of the USGS mapping website indicated that the Project will aerially span nine named streams which are listed in **Table 3-2**. The Project Area is located within the following watersheds that all flow into the Lehigh River:

- Black Creek watershed (USGS Hydrologic Unit Code ("HUC") 020501070402)
- Black Creek-Penn Haven Junction watershed (HUC 020401060307)
- Quakake Creek watershed (HUC 020401060306)
- Pohopoco Creek watershed (HUC 020401060404)
- Catawissa Creek-Tomhicken Creek watershed (HUC 020501070802)
- Nesquehoning Creek watershed (HUC 020401060308)
- Aquashicola Creek watershed (HUC 020401060502)
- Lehigh River-Hokendauqua Creek watershed (HUC 020401060804)
- Hokendauqua Creek watershed (HUC 020401060806)
- Indian Creek watershed (HUC 020401060805)
- Bertsch Creek watershed (HUC 020401060803)
- Lehigh River-Pohopoco Creek watershed (HUC 020401060310)**.**

Most of the streams in the Project Area have a PADEP Chapter 93 Designated Use Stream Classification of Cold Water Fishes ("CWF"), Migratory Fishes ("MF"). Several are also considered High Quality ("HQ") or Trout Stocking ("TSF"). Many have additional Pennsylvania Fish and Boat Commission ("PFBC") designations of Natural Reproduction Trout Streams ("NRT"), Stocked Trout Streams ("STS"), or Class A Trout Streams. Streams with any of these special designations may require seasonal restrictions for any work planned. No direct impact to these stream features are anticipated by the Project activities.

Table 3-2: Named Streams Crossed by the Project

Stream Name	Chapter 93 Designated Stream Classification	Watershed Name	Special PFBC Designation
Quakake Creek	CWF, MF	Quakake Creek	None
Lehigh River	HQ-CWF, MF	Lehigh River- Pohopoco Creek	None
Robertson Run	HQ-CWF, MF	Lehigh River- Pohopoco Creek	Class A and NRT
Silkmill Run	CWF, MF	Lehigh River- Pohopoco Creek	Class A and NRT
Pohopoco Creek	CWF, MF	Pohopoco Creek	Class A
Fireline Creek	HQ-CWF, MF	Pohopoco Creek	Class A and NRT
Bull Run	CWF, MF	Pohopoco Creek	Class A and NRT
Mill Creek	CWF, MF	Aquashicola Creek	Class A and NRT
Aquashicola Creek	TSF, MF	Aquashicola Creek	STS, NRT
Bertsch Creek	CWF, MF	Bertsch Creek	NRT
Indian Creek	CWF, MF	Indian Creek	STS, NRT

In addition to the named streams crossed by the Project, several of the unnamed tributaries ("UNTs") crossed by the project have Special PFBC Designations. These unnamed tributaries include the following:

- UNT to Black Creek crossed approximately 0.5 miles west of Weatherly is classified as a Natural Trout Reproduction and Class A Trout Stream.

- UNT to Quakake Creek crossed approximately 0.5 miles south of Weatherly is classified as a Natural Trout Reproduction stream.
- UNT to Mill Creek approximately 2 miles north of the East Palmerton Substation is classified as a Natural Trout Reproduction stream.

An E&S control plan will be developed to address stormwater control in all watershed areas crossed by the Project. PPL Electric will obtain all approvals and permits necessary for the construction of the Project and will comply with any conditions placed on those permits.

Wetlands

Based on review of the U.S. Fish and Wildlife Service's ("USFWS") National Wetlands Inventory ("NWI"), the Project crosses twenty-seven wetland features. These features consist of one Freshwater Emergent Wetland (PEM5A), three Freshwater Forested/Shrub Wetlands (PFO1/4C, PFO1A, PSS1A), two Freshwater Ponds (PUBHh, PUBHx), and twenty-one Riverine features (R3UBH, R4SBC, R5UBH). These classifications are listed and described in Table 3-3. PPL Electric will coordinate with PADEP regarding any potential impacts to these regulated features.

Table 3-3: NWI Wetland Types Crossed by the Project

Classification Code	Type	Description
PEM5A	Freshwater Emergent Wetland	Palustrine Emergent, *Phragmites australis* dominated, temporarily flooded
PFO1/4C	Freshwater Forested/Shrub Wetland	Palustrine Forested, broad-leaved deciduous/ needle-leaved evergreen, seasonally flooded.
PFO1A	Freshwater Forested/Shrub Wetland	Palustrine Forested, broad-leaved deciduous, seasonally flooded.
PSS1A	Freshwater Forested/Shrub Wetland	Palustrine Scrub-Shrub, broad-leaved deciduous, seasonally flooded.
PUBHh	Freshwater Pond	Palustrine Unconsolidated Bottom, permanently flooded, diked/impounded
PUBHx	Freshwater Pond	Palustrine Unconsolidated Bottom, permanently flooded, excavated
R3UBH	Riverine	Riverine, Upper Perennial, unconsolidated bottom, permanently flooded
R4SBC	Riverine	Riverine, Intermittent, streambed, seasonally flooded.

R5UBH	Riverine	Riverine, Unknown Perennial, unconsolidated bottom, permanently flooded

The NWI only provides a general overview of the potential wetlands that may be located within an area. For federal and state permitting purposes, the wetlands and waterways within the Project Area will be delineated, surveyed, and illustrated according to regulatory standards. This information is being used to minimize wetland and waterway impacts where feasible. Additionally, PPL Electric will avoid impacts to wetlands and waterways where possible by aerially spanning these features.

100-year Floodplains and Floodways

The National Flood Hazard Layer for Carbon, Luzerne, and Northampton Counties, Pennsylvania was obtained through the Federal Emergency Management Agency ("FEMA") Flood Map Service Center website and analyzed for 100-year floodplains and floodways within the Project Area and surrounding landscape. Based on review of this data, the Project spans the FEMA 100-year floodplain associated with Quakake Creek, the Lehigh River, Silkmill Run, Bull Run, an unnamed tributary (UNT) to Fireline Creek, Mill Creek, Aquashicola Creek, and Indian Creek. The Project spans the FEMA floodway at Pohopoco Creek and Aquashicola Creek. PPL Electric will coordinate with PADEP regarding any potential impacts to these regulated features.

Vegetation

Vegetative cover in the Project Area consists almost entirely of forested areas. Several mining areas, low-density residential areas, and agriculture areas are also visible on aerial imagery. The existing ROW areas for the transmission line have previously been cleared of woody vegetation and no extensive tree clearing is anticipated for the construction of the Project. If localized vegetation management is required in specific locations, PPL Electric will apply its "Specifications for Transmission Vegetation Management LA-79827" to minimize potential impacts.

5.0 THREATENED AND ENDANGERED SPECIES

Natural Areas Inventory

Based on review of the *Natural Areas Inventory of Luzerne County, Pennsylvania* published by the Pennsylvania Natural Heritage Program in 2006, no natural areas are crossed by the Project in Luzerne County.

Based on review of the *Natural Areas Inventory of Carbon County, Pennsylvania* published by The Nature Conservancy in 2005, the Project extends through the following five Pennsylvania Natural Heritage identified natural areas within Carbon County:

- Spring Mountain – Located in the northern section of the Project, the Spring Mountain Natural Area is described as a site possibly supporting four or more community types including scrub oak barrens, hardwood forests, woodlands, forested swamps, wooded wetlands and a rocky summit.
- Hughes Swamp Natural Area – Located in the northern section of the Project, within State Game Land #141, the Hughes Swamp Natural Area is described as a large, wooded swamp containing spring fed pools. It supports several plant species of concern.
- Glen Onoko Natural Area – located south of Hughes Swamp, mostly within State Game Land #141, the Glen Onoko Natural Area is a scrub oak shrubland supporting several plant and animal species of concern.
- Berry Run Natural Area – located approximately midway through the Project, the Berry Run Barrens Natural Area is an extensive pitch pine and mixed hardwood natural community with patches of younger deciduous forest and acidic rocky summit communities.
- Stony Run Natural Area – located near the southern section of the Project, the Stony Ridge Natural Area is an erosional remnant considered an outstanding scenic geologic feature of Pennsylvania. It is approximately 10 miles long and composed of white sandstone.

Based on review of the *Natural Areas Inventory of Northampton County, Pennsylvania* published by the Pennsylvania Natural Heritage Program in 2013, no natural areas crossed by the Project are identified within Northampton County.

Threatened and Endangered Species

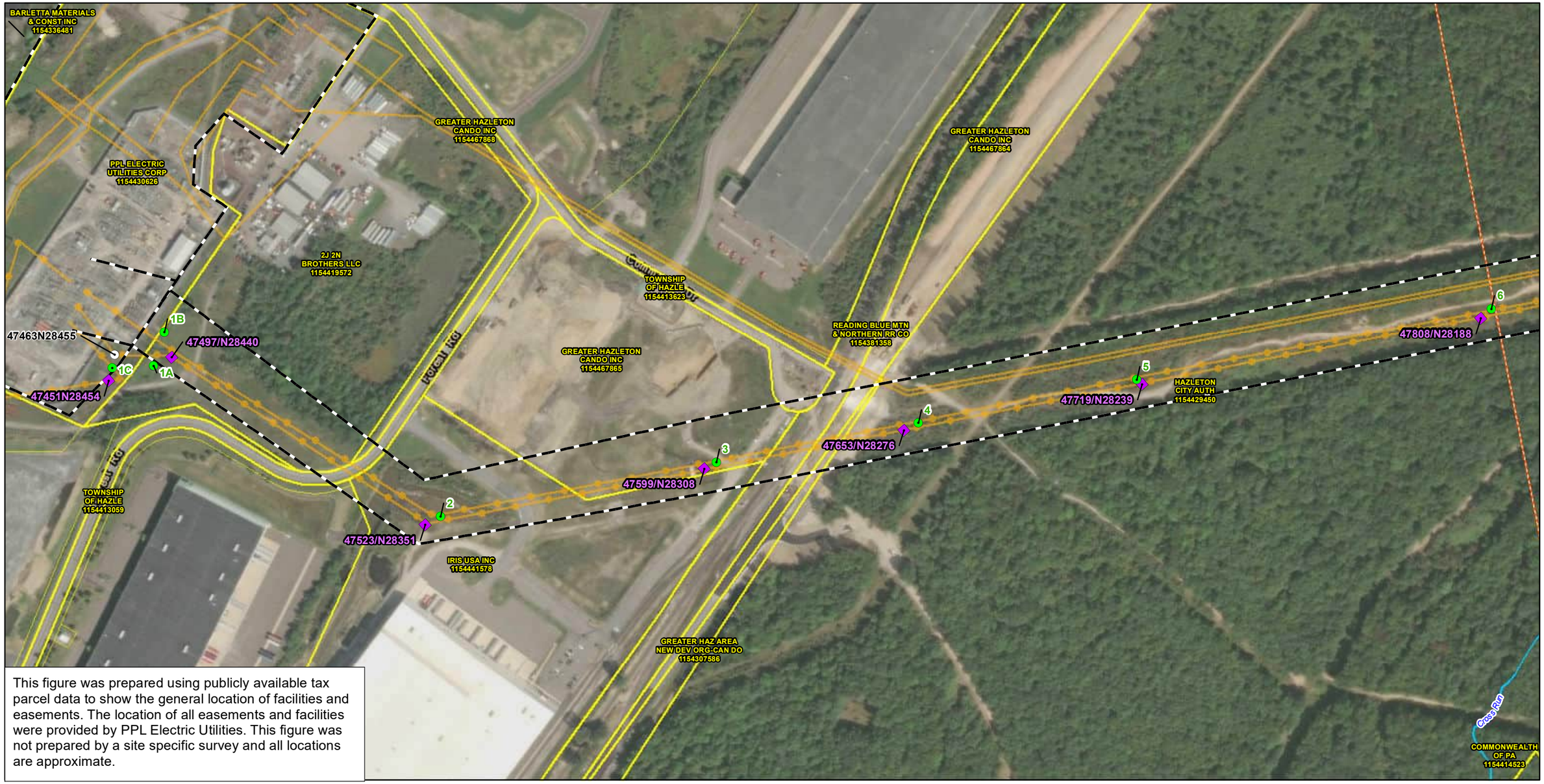
A Pennsylvania Natural Diversity Inventory ("PNDI") was run for the Project on April 11, 2023, to assess the potential presence of threatened and endangered species and/or special concern species with the Project Area. To facilitate the review, The Project was broken into two segments (Harwood-East Palmerton, Siegfried-East Palmerton). Specific agencies reviewing the Project included the following:

- Pennsylvania Game Commission ("PGC"),
- PFBC,
- PDCNR, and
- USFWS.

The Harwood-East Palmerton segment qualified as a Large Project due to its size, and therefore required further coordination from all agencies. This coordination was conducted and a response of "No impact anticipated" was received from PDCNR on January 26, 2023. The PGC responded with no impact is likely on January 20, 2023. A survey was requested for presence of timber rattlesnake (*Crotalus horridus*) by the PFBC and the USFWS has requested a bog turtle (*Glyptemys muhlenbergii*) survey. These surveys are being conducted and further coordination with these agencies is anticipated.

The Siegfried-East Palmerton segment required further coordination with the USFWS who required a survey be conducted for bog turtles. The survey has been completed and PPL Electric is waiting for a response from USFWS. Further coordination with USFWS is anticipated.

PPL Electric will continue to consult with the jurisdictional agencies regarding potential impacts to protected species, complete all required surveys, obtain all necessary approvals and permits for Project construction, and comply with all conditions placed on those permits.



This figure was prepared using publicly available tax parcel data to show the general location of facilities and easements. The location of all easements and facilities were provided by PPL Electric Utilities. This figure was not prepared by a site specific survey and all locations are approximate.

Legend

- Existing Structure (to remain)
- Proposed Structures
- Existing Structure (to be replaced)
- PPL Electric ROW

Existing Transmission Lines

- 69 kV
- 230 kV

Ch.93 Designated Use Stream

- CWF(COLD WATER FISHES)
- Parcel Boundary
- PA Municipality Boundary
- Map Extent Box

Notes:

1. Existing structure locations and right-of-way were provided by PPL Electric in January 2023.
2. Proposed structure locations provided by PPL Electric in May 2023.
3. Existing Transmission Lines provided by PPL Electric in April 2019.

NAD 1983 State Plane
Pennsylvania North FIPS 3701
Projection: Lambert Conformal Conic
Linear Unit: US Foot

References:
Ch. 93 Designated Use Streams (PASDA 2023)
National Wetlands Inventory for PA (USFWS 2021)
National Flood Hazard Data for Carbon, Luzerne and Northampton Counties, PA
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State Lands (PGC and PADCNR 2023)
Existing Transmission Lines (PPL EU, 2019)
PA Municipality & County Boundaries (2023)
Google Maps Satellite (2020)

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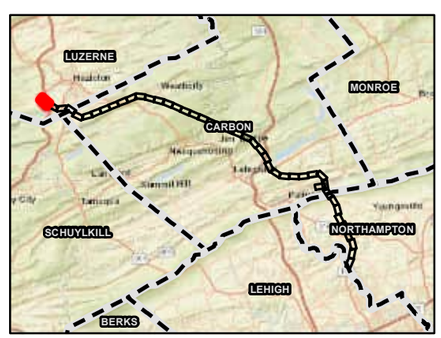
Feet
1 inch = 300 feet



PPL Electric Utilities

FIGURE 3-1
Aerial Project Map
Harwood - E. Palmerton and
Siegfried - E. Palmerton Corten Project
Extent 1 of 45
Luzerne, Carbon and Northampton Counties,Pennsylvania
Prepared By: AECOM Technical Services, Inc
Conshohocken, Pennsylvania

Prepared By: MAH	Checked By: BF
Job: 60703770	Date: 11/7/2023

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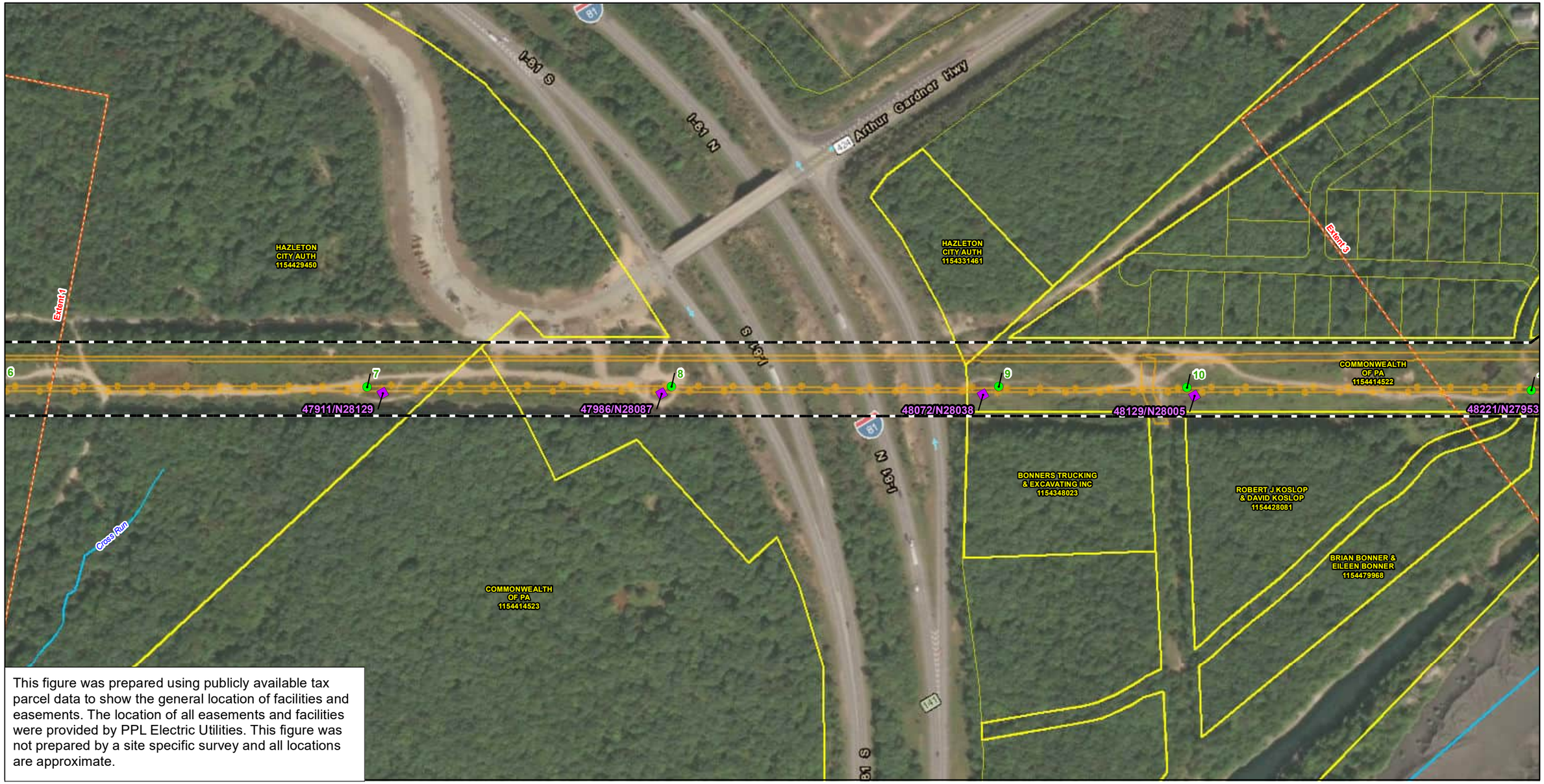

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- 69 kV
- 230 kV

Ch.93 Designated Use Stream

- CWF(COLD WATER FISHES)
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- PA Municipality Boundary
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3. Existing Transmission Lines provided by PPL Electric in April 2019.

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Pennsylvania North FIPS 3701
Projection: Lambert Conformal Conic
Linear Unit: US Foot

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PA Municipality & County Boundaries (2023)
Google Maps Satellite (2020)

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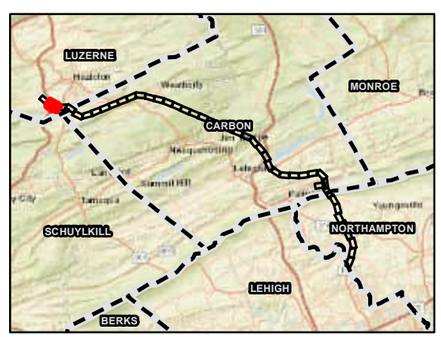

PPL Electric Utilities

FIGURE 3-1
Aerial Project Map
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Siegfried - E. Palmerton Corten Project
Extent 2 of 45
Luzerne, Carbon and Northampton Counties,Pennsylvania
Prepared By: AECOM Technical Services, Inc
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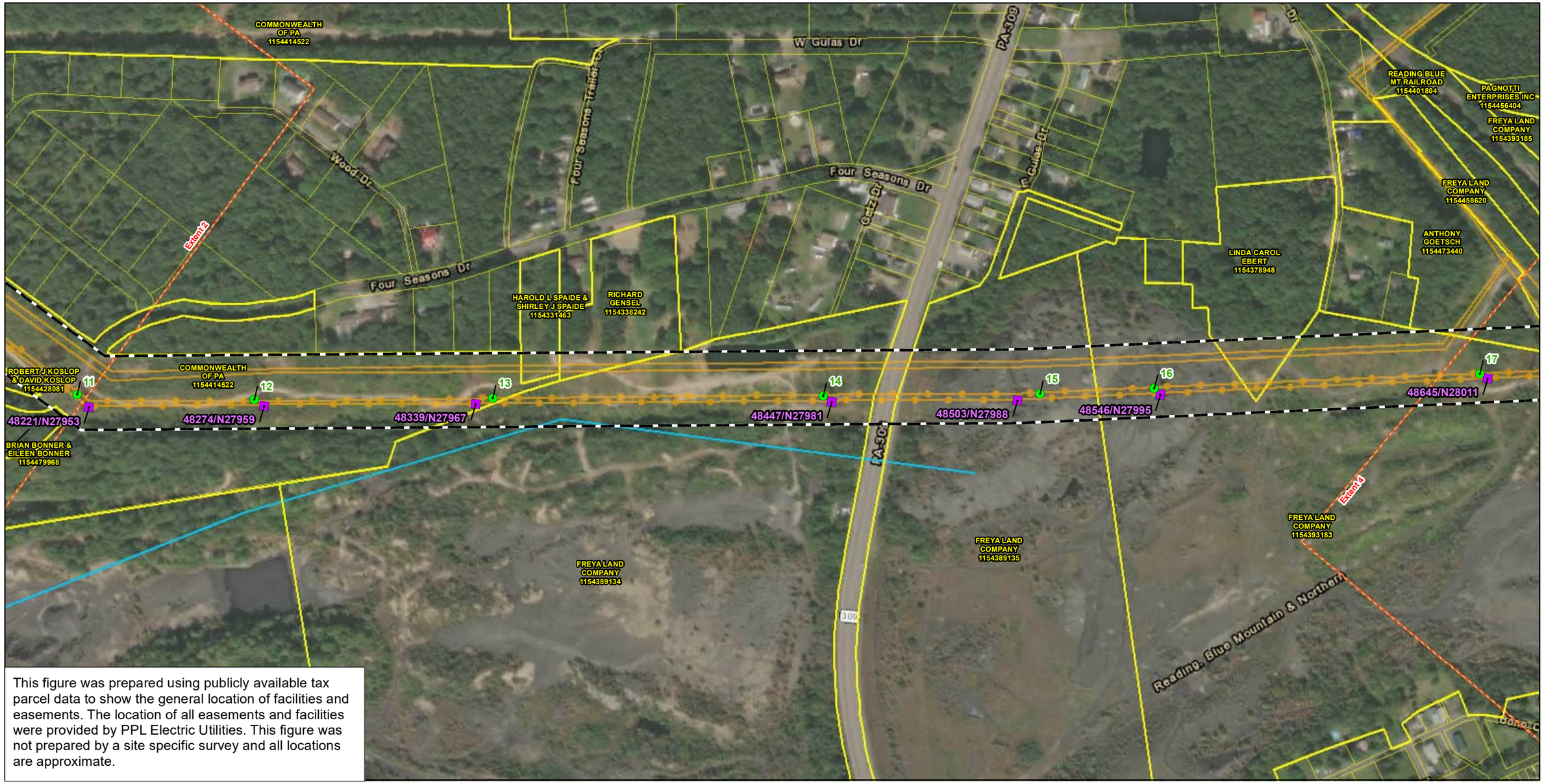

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Legend

- Proposed Structures
- Existing Structure (to be replaced)
- PPL Electric ROW

Existing Transmission Lines

- 69 kV
- 230 kV

Ch.93 Designated Use Stream

- CWF(COLD WATER FISHES)
- Parcel Boundary
- PA Municipality Boundary
- Map Extent Box

Notes:

1. Existing structure locations and right-of-way were provided by PPL Electric in January 2023.

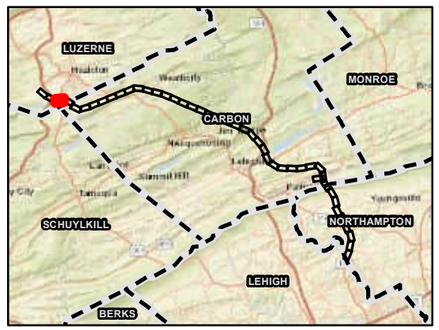
2. Proposed structure locations provided by PPL Electric in May 2023.

3. Existing Transmission Lines provided by PPL Electric in April 2019.

NAD 1983 State Plane
Pennsylvania North FIPS 3701
Projection: Lambert Conformal Conic
Linear Unit: US Foot

References:
Ch. 93 Designated Use Streams (PASDA 2023)
National Wetlands Inventory for PA (USFWS 2021)
National Flood Hazard Data for Carbon, Luzerne and Northampton Counties, PA
(FEMA 2002, 2019 and 2021),
Core Habitat Natural Areas (NHI 2014)
State Lands (PGC and PADCNR 2023)
Existing Transmission Lines (PPL EU, 2019)
PA Municipality & County Boundaries (2023)
Google Maps Satellite (2020)

0 150 300 600
Feet
1 inch = 300 feet



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PPL Electric Utilities

FIGURE 3-1
Aerial Project Map
Harwood - E. Palmerton and
Siegfried - E. Palmerton Corten Project
Extent 3 of 45
Luzerne, Carbon and Northampton Counties,Pennsylvania

Prepared By: AECOM Technical Services, Inc
Conshohocken, Pennsylvania

Prepared By: MAH	Checked By: BF
Job: 60703770	Date: 11/7/2023

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Legend

- Proposed Structures
- Existing Structure (to be replaced)
- PPL Electric ROW

Existing Transmission Lines

- 69 kV
- 230 kV
- Parcel Boundary
- PA Municipality Boundary
- Map Extent Box

Notes:

1. Existing structure locations and right-of-way were provided by PPL Electric in January 2023.

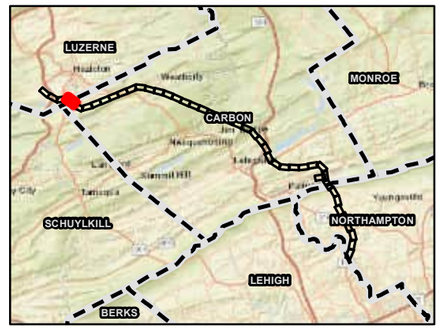
2. Proposed structure locations provided by PPL Electric in May 2023.

3. Existing Transmission Lines provided by PPL Electric in April 2019.

NAD 1983 State Plane
Pennsylvania North FIPS 3701
Projection: Lambert Conformal Conic
Linear Unit: US Foot

References:
Ch. 93 Designated Use Streams (PASDA 2023)
National Wetlands Inventory for PA (USFWS 2021)
National Flood Hazard Data for Carbon, Luzerne and Northampton Counties, PA (FEMA 2002, 2019 and 2021),
Core Habitat Natural Areas (NHI 2014)
State Lands (PGC and PADCNR 2023)
Existing Transmission Lines (PPL EU, 2019)
PA Municipality & County Boundaries (2023)
Google Maps Satellite (2020)

0 150 300 600
Feet
1 inch = 300 feet



PPL Electric Utilities

FIGURE 3-1
Aerial Project Map
Harwood - E. Palmerton and
Siegfried - E. Palmerton Corten Project
Extent 4 of 45
Luzerne, Carbon and Northampton Counties,Pennsylvania
Prepared By: AECOM Technical Services, Inc
Conshohocken, Pennsylvania

Prepared By: MAH	Checked By: BF
Job: 60703770	Date: 11/7/2023

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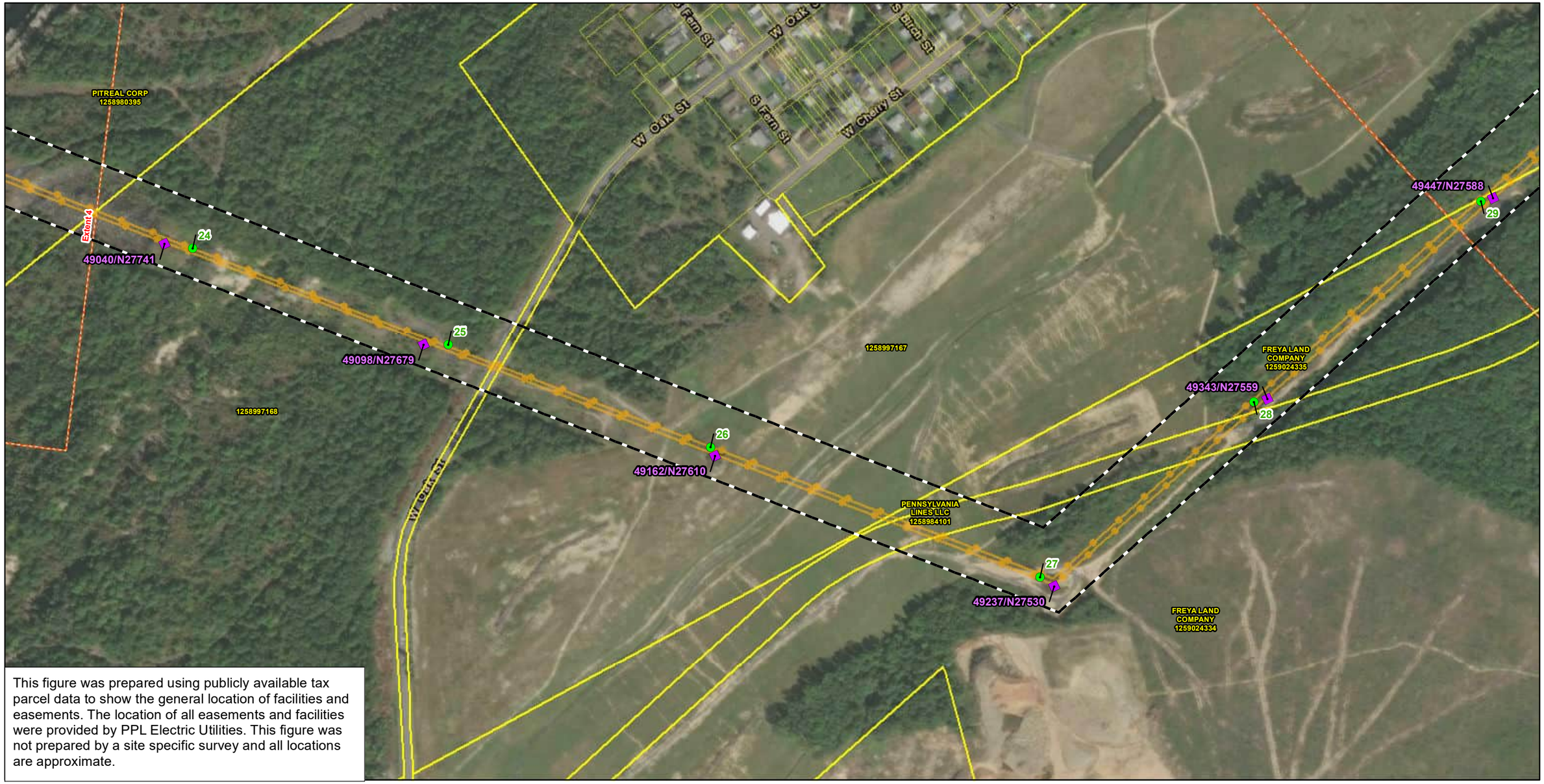

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Legend

- Proposed Structures
- Existing Structure (to be replaced)
- PPL Electric ROW

Existing Transmission Lines

- 230 kV
- Parcel Boundary
- PA Municipality Boundary
- Map Extent Box

Notes:

1. Existing structure locations and right-of-way were provided by PPL Electric in January 2023.

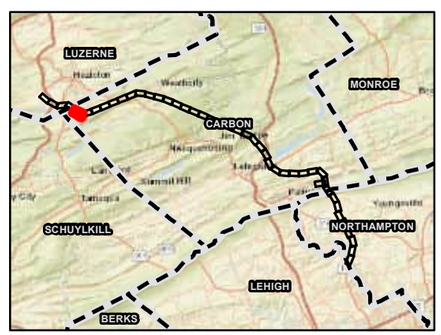
2. Proposed structure locations provided by PPL Electric in May 2023.

3. Existing Transmission Lines provided by PPL Electric in April 2019.

NAD 1983 State Plane
Pennsylvania North FIPS 3701
Projection: Lambert Conformal Conic
Linear Unit: US Foot

References:
Ch. 93 Designated Use Streams (PASDA 2023)
National Wetlands Inventory for PA (USFWS 2021)
National Flood Hazard Data for Carbon, Luzerne and Northampton Counties, PA
(FEMA 2002, 2019 and 2021),
Core Habitat Natural Areas (NHI 2014)
State Lands (PGC and PADCNR 2023)
Existing Transmission Lines (PPL EU, 2019)
PA Municipality & County Boundaries (2023)
Google Maps Satellite (2020)

0 150 300 600
Feet
1 inch = 300 feet



PPL Electric Utilities

FIGURE 3-1
Aerial Project Map
Harwood - E. Palmerton and
Siegfried - E. Palmerton Corten Project
Extent 5 of 45
Luzerne, Carbon and Northampton Counties,Pennsylvania
Prepared By: AECOM Technical Services, Inc
Conshohocken, Pennsylvania

Prepared By: MAH	Checked By: BF
Job: 60703770	Date: 11/7/2023

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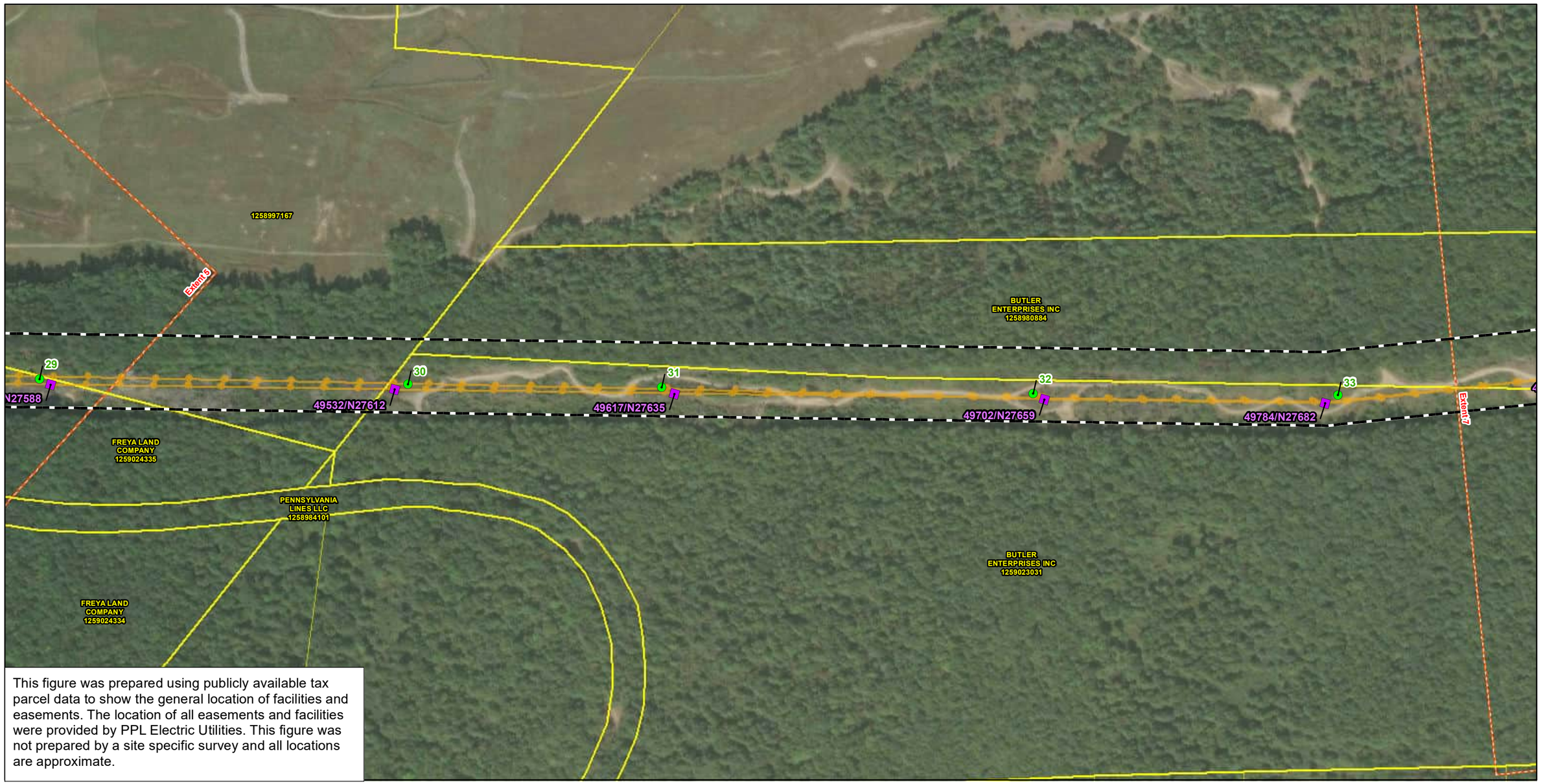

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Legend

- Proposed Structures
- Existing Structure (to be replaced)
- PPL Electric ROW

Existing Transmission Lines

- 230 kV
- Parcel Boundary
- PA Municipality Boundary
- Map Extent Box

Notes:

1. Existing structure locations and right-of-way were provided by PPL Electric in January 2023.

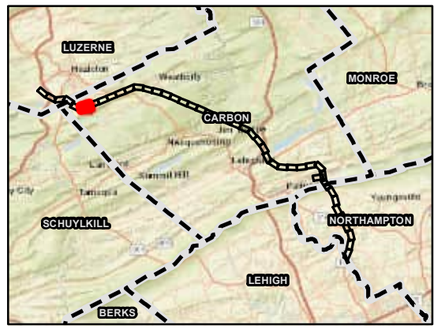
2. Proposed structure locations provided by PPL Electric in May 2023.

3. Existing Transmission Lines provided by PPL Electric in April 2019.

NAD 1983 State Plane
Pennsylvania North FIPS 3701
Projection: Lambert Conformal Conic
Linear Unit: US Foot

References:
Ch. 93 Designated Use Streams (PASDA 2023)
National Wetlands Inventory for PA (USFWS 2021)
National Flood Hazard Data for Carbon, Luzerne and Northampton Counties, PA (FEMA 2002, 2019 and 2021),
Core Habitat Natural Areas (NHI 2014)
State Lands (PGC and PADCNR 2023)
Existing Transmission Lines (PPL EU, 2019)
PA Municipality & County Boundaries (2023)
Google Maps Satellite (2020)

0 150 300 600
Feet
1 inch = 300 feet



PPL Electric Utilities

FIGURE 3-1
Aerial Project Map
Harwood - E. Palmerton and
Siegfried - E. Palmerton Corten Project
Extent 6 of 45
Luzerne, Carbon and Northampton Counties,Pennsylvania
Prepared By: AECOM Technical Services, Inc
Conshohocken, Pennsylvania

Prepared By: MAH	Checked By: BF
Job: 60703770	Date: 11/7/2023

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Legend

- Proposed Structures
- Existing Structure (to be replaced)
- PPL Electric ROW

Existing Transmission Lines

- 230 kV
- Parcel Boundary
- PA Municipality Boundary
- Map Extent Box

Notes:

1. Existing structure locations and right-of-way were provided by PPL Electric in January 2023.

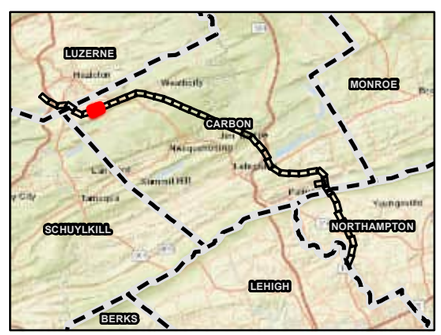
2. Proposed structure locations provided by PPL Electric in May 2023.

3. Existing Transmission Lines provided by PPL Electric in April 2019.

NAD 1983 State Plane
Pennsylvania North FIPS 3701
Projection: Lambert Conformal Conic
Linear Unit: US Foot

References:
Ch. 93 Designated Use Streams (PASDA 2023)
National Wetlands Inventory for PA (USFWS 2021)
National Flood Hazard Data for Carbon, Luzerne and Northampton Counties, PA
(FEMA 2002, 2019 and 2021).
Core Habitat Natural Areas (NHI 2014)
State Lands (PGC and PADCNR 2023)
Existing Transmission Lines (PPL EU, 2019)
PA Municipality & County Boundaries (2023)
Google Maps Satellite (2020)

0 150 300 600
Feet
1 inch = 300 feet



PPL Electric Utilities

FIGURE 3-1
Aerial Project Map
Harwood - E. Palmerton and
Siegfried - E. Palmerton Corten Project
Extent 7 of 45
Luzerne, Carbon and Northampton Counties,Pennsylvania
Prepared By: AECOM Technical Services, Inc
Conshohocken, Pennsylvania

Prepared By: MAH	Checked By: BF
Job: 60703770	Date: 11/7/2023

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Legend

- Proposed Structures
- Existing Structure (to be replaced)
- PPL Electric ROW

Existing Transmission Lines

- 230 kV

Ch.93 Designated Use Stream

- CWF(COLD WATER FISHES)
- Parcel Boundary
- PA Municipality Boundary
- Map Extent Box

Notes:

1. Existing structure locations and right-of-way were provided by PPL Electric in January 2023.

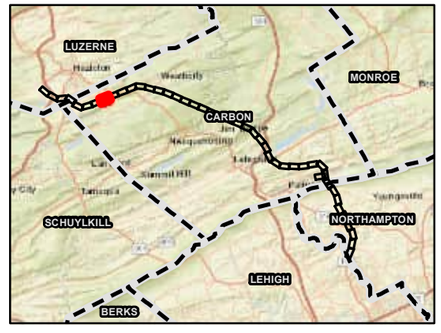
2. Proposed structure locations provided by PPL Electric in May 2023.

3. Existing Transmission Lines provided by PPL Electric in April 2019.

NAD 1983 State Plane
Pennsylvania North FIPS 3701
Projection: Lambert Conformal Conic
Linear Unit: US Foot

References:
Ch. 93 Designated Use Streams (PASDA 2023)
National Wetlands Inventory for PA (USFWS 2021)
National Flood Hazard Data for Carbon, Luzerne and Northampton Counties, PA
(FEMA 2002, 2019 and 2021),
Core Habitat Natural Areas (NHI 2014)
State Lands (PGC and PADCNR 2023)
Existing Transmission Lines (PPL EU, 2019)
PA Municipality & County Boundaries (2023)
Google Maps Satellite (2020)

0 150 300 600
Feet
1 inch = 300 feet



PPL Electric Utilities

FIGURE 3-1
Aerial Project Map
Harwood - E. Palmerton and
Siegfried - E. Palmerton Corten Project
Extent 8 of 45
Luzerne, Carbon and Northampton Counties,Pennsylvania
Prepared By: AECOM Technical Services, Inc
Conshohocken, Pennsylvania

Prepared By: MAH	Checked By: BF
Job: 60703770	Date: 11/7/2023

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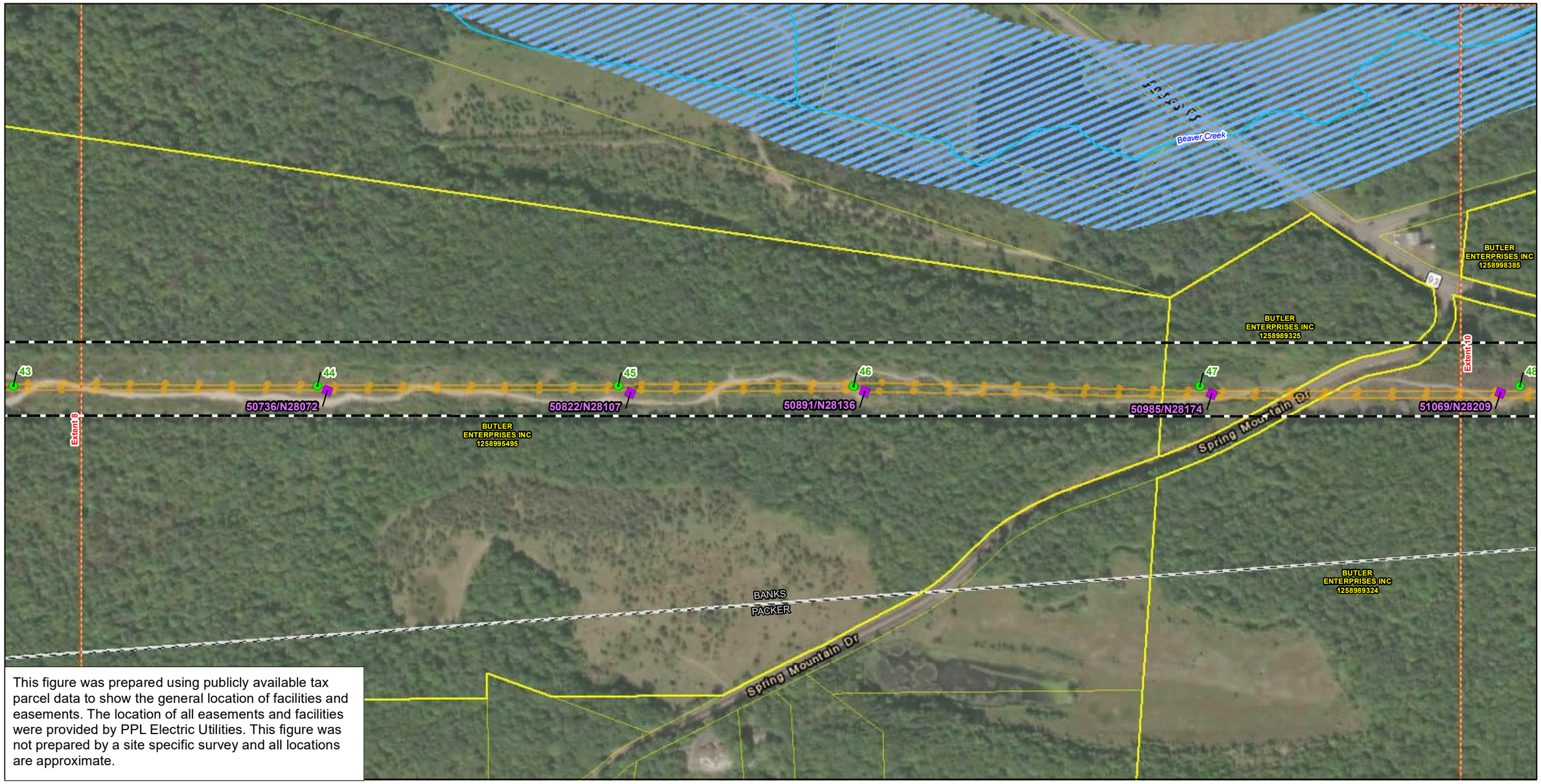

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Legend

- Proposed Structures
- Existing Structure (to be replaced)
- PPL Electric ROW

Existing Transmission Lines

- 230 kV

Ch.93 Designated Use Stream

- CWF(COLD WATER FISHES)
- Parcel Boundary
- PA Municipality Boundary
- Map Extent Box

Notes:

1. Existing structure locations and right-of-way were provided by PPL Electric in January 2023.

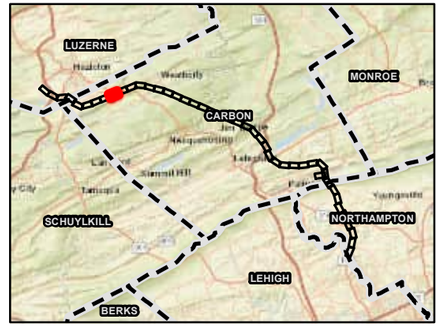
2. Proposed structure locations provided by PPL Electric in May 2023.

3. Existing Transmission Lines provided by PPL Electric in April 2019.

NAD 1983 State Plane
Pennsylvania North FIPS 3701
Projection: Lambert Conformal Conic
Linear Unit: US Foot

References:
Ch. 93 Designated Use Streams (PASDA 2023)
National Wetlands Inventory for PA (USFWS 2021)
National Flood Hazard Data for Carbon, Luzerne and Northampton Counties, PA
(FEMA 2002, 2019 and 2021),
Core Habitat Natural Areas (NHI 2014)
State Lands (PGC and PADCNR 2023)
Existing Transmission Lines (PPL EU, 2019)
PA Municipality & County Boundaries (2023)
Google Maps Satellite (2020)

0 150 300 600
Feet
1 inch = 300 feet



PPL Electric Utilities

FIGURE 3-1
Aerial Project Map
Harwood - E. Palmerton and
Siegfried - E. Palmerton Corten Project
Extent 9 of 45
Luzerne, Carbon and Northampton Counties,Pennsylvania
Prepared By: AECOM Technical Services, Inc
Conshohocken, Pennsylvania

Prepared By: MAH	Checked By: BF
Job: 60703770	Date: 11/7/2023

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Legend

- Proposed Structures
- Existing Structure (to be replaced)
- PPL Electric ROW

Existing Transmission Lines

- 230 kV

Ch.93 Designated Use Stream

- CWF(COLD WATER FISHES)
- State Forest
- Parcel Boundary
- PA Municipality Boundary
- Map Extent Box

Notes:

1. Existing structure locations and right-of-way were provided by PPL Electric in January 2023.

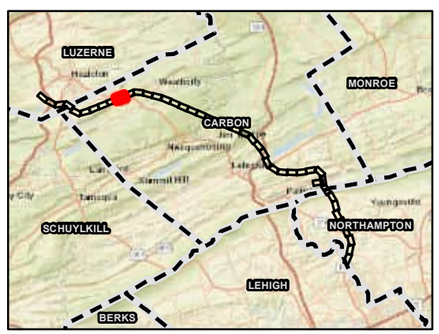
2. Proposed structure locations provided by PPL Electric in May 2023.

3. Existing Transmission Lines provided by PPL Electric in April 2019.

NAD 1983 State Plane
Pennsylvania North FIPS 3701
Projection: Lambert Conformal Conic
Linear Unit: US Foot

References:
Ch. 93 Designated Use Streams (PASDA 2023)
National Wetlands Inventory for PA (USFWS 2021)
National Flood Hazard Data for Carbon, Luzerne and Northampton Counties, PA
(FEMA 2002, 2019 and 2021),
Core Habitat Natural Areas (NHI 2014)
State Lands (PGC and PADCNR 2023)
Existing Transmission Lines (PPL EU, 2019)
PA Municipality & County Boundaries (2023)
Google Maps Satellite (2020)

0 150 300 600
Feet
1 inch = 300 feet



PPL Electric Utilities

FIGURE 3-1
Aerial Project Map
Harwood - E. Palmerton and
Siegfried - E. Palmerton Corten Project
Extent 10 of 45
Luzerne, Carbon and Northampton Counties,Pennsylvania
Prepared By: AECOM Technical Services, Inc
Conshohocken, Pennsylvania

Prepared By: MAH	Checked By: BF
Job: 60703770	Date: 11/7/2023

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Legend

- Proposed Structures
- Existing Structure (to be replaced)
- PPL Electric ROW

Existing Transmission Lines

- 230 kV
- State Forest
- Parcel Boundary
- PA Municipality Boundary
- Map Extent Box

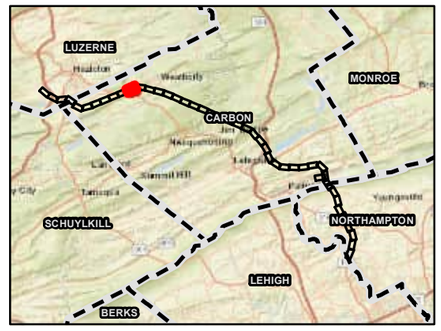
Notes:

1. Existing structure locations and right-of-way were provided by PPL Electric in January 2023.
2. Proposed structure locations provided by PPL Electric in May 2023.
3. Existing Transmission Lines provided by PPL Electric in April 2019.

NAD 1983 State Plane
Pennsylvania North FIPS 3701
Projection: Lambert Conformal Conic
Linear Unit: US Foot

References:
Ch. 93 Designated Use Streams (PASDA 2023)
National Wetlands Inventory for PA (USFWS 2021)
National Flood Hazard Data for Carbon, Luzerne and Northampton Counties, PA
(FEMA 2002, 2019 and 2021),
Core Habitat Natural Areas (NHI 2014)
State Lands (PGC and PADCNR 2023)
Existing Transmission Lines (PPL EU, 2019)
PA Municipality & County Boundaries (2023)
Google Maps Satellite (2020)

0 150 300 600
Feet
1 inch = 300 feet



PPL Electric Utilities

FIGURE 3-1
Aerial Project Map
Harwood - E. Palmerton and Siegfried - E. Palmerton Corten Project
Extent 11 of 45
Luzerne, Carbon and Northampton Counties,Pennsylvania
Prepared By: AECOM Technical Services, Inc
Conshohocken, Pennsylvania

Prepared By: MAH	Checked By: BF
Job: 60703770	Date: 11/7/2023

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Legend

- Proposed Structures
- Existing Structure (to be replaced)
- PPL Electric ROW

Existing Transmission Lines

- 230 kV

Ch.93 Designated Use Stream

- CWF(COLD WATER FISHES)
- State Forest
- Parcel Boundary
- PA Municipality Boundary
- Map Extent Box

Notes:

1. Existing structure locations and right-of-way were provided by PPL Electric in January 2023.

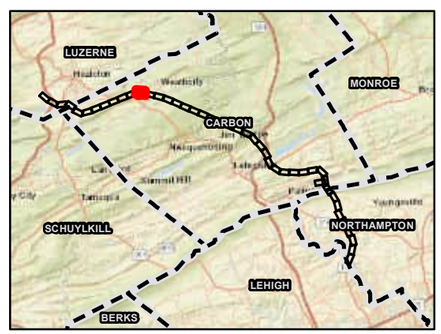
2. Proposed structure locations provided by PPL Electric in May 2023.

3. Existing Transmission Lines provided by PPL Electric in April 2019.

NAD 1983 State Plane
Pennsylvania North FIPS 3701
Projection: Lambert Conformal Conic
Linear Unit: US Foot

References:
Ch. 93 Designated Use Streams (PASDA 2023)
National Wetlands Inventory for PA (USFWS 2021)
National Flood Hazard Data for Carbon, Luzerne and Northampton Counties, PA
(FEMA 2002, 2019 and 2021),
Core Habitat Natural Areas (NHI 2014)
State Lands (PGC and PADCNR 2023)
Existing Transmission Lines (PPL EU, 2019)
PA Municipality & County Boundaries (2023)
Google Maps Satellite (2020)

0 150 300 600
Feet
1 inch = 300 feet



PPL Electric Utilities

FIGURE 3-1
Aerial Project Map
Harwood - E. Palmerton and
Siegfried - E. Palmerton Corten Project
Extent 12 of 45
Luzerne, Carbon and Northampton Counties,Pennsylvania
Prepared By: AECOM Technical Services, Inc
Conshohocken, Pennsylvania

Prepared By: MAH	Checked By: BF
Job: 60703770	Date: 11/7/2023

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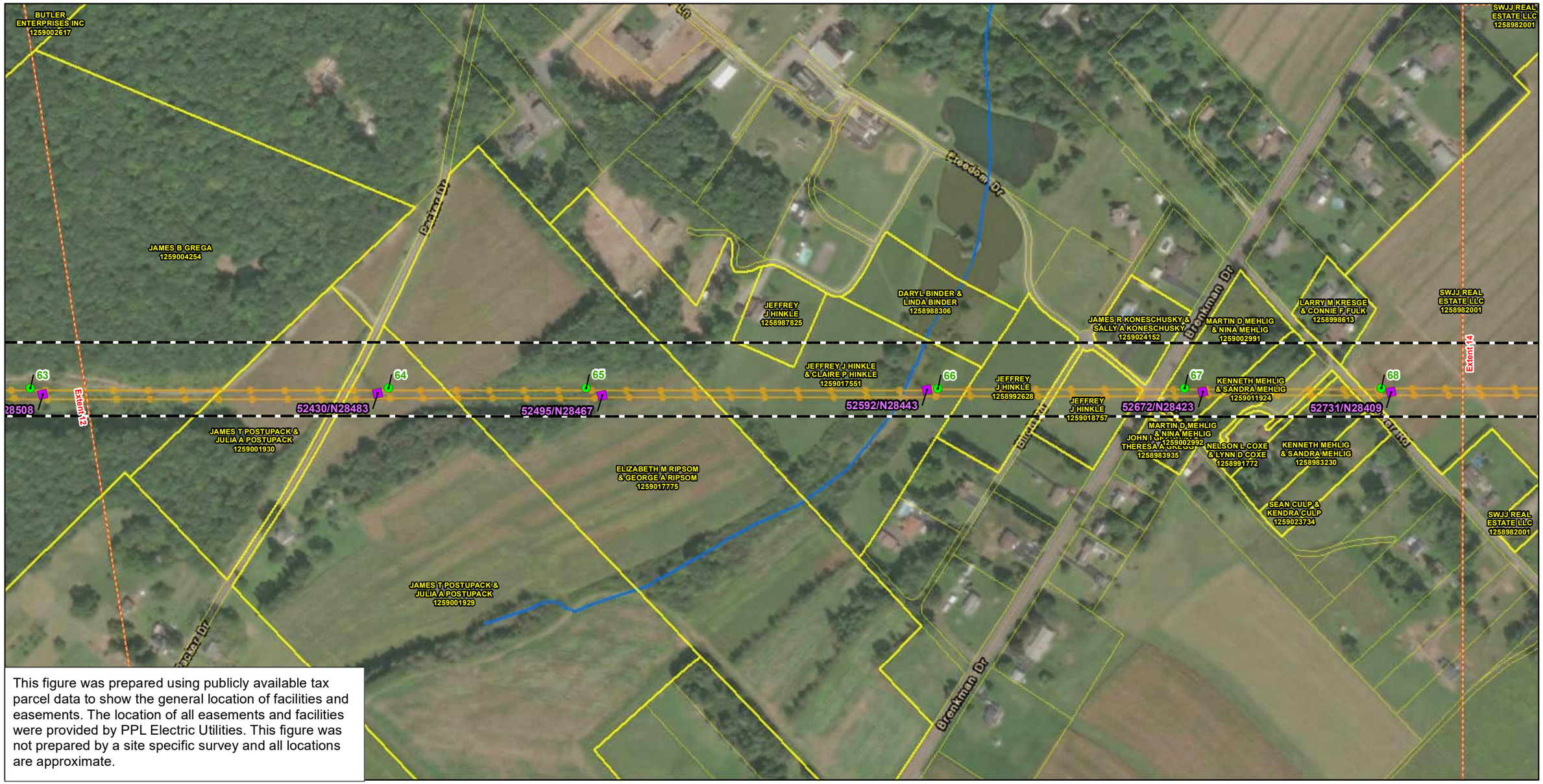

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Legend

- Proposed Structures
- Existing Structure (to be replaced)
- PPL Electric ROW

Existing Transmission Lines

- 230 kV

Ch.93 Designated Use Stream

- HQ (High Quality)
- Parcel Boundary
- PA Municipality Boundary
- Map Extent Box

Notes:

1. Existing structure locations and right-of-way were provided by PPL Electric in January 2023.

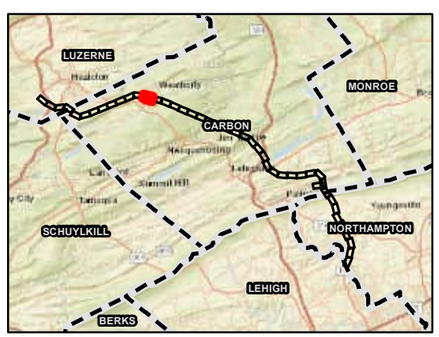
2. Proposed structure locations provided by PPL Electric in May 2023.

3. Existing Transmission Lines provided by PPL Electric in April 2019.

NAD 1983 State Plane
Pennsylvania North FIPS 3701
Projection: Lambert Conformal Conic
Linear Unit: US Foot

References:
Ch. 93 Designated Use Streams (PASDA 2023)
National Wetlands Inventory for PA (USFWS 2021)
National Flood Hazard Data for Carbon, Luzerne and Northampton Counties, PA (FEMA 2002, 2019 and 2021),
Core Habitat Natural Areas (NHI 2014)
State Lands (PGC and PADCNR 2023)
Existing Transmission Lines (PPL EU, 2019)
PA Municipality & County Boundaries (2023)
Google Maps Satellite (2020)

0 150 300 600
Feet
1 inch = 300 feet



PPL Electric Utilities

FIGURE 3-1
Aerial Project Map
Harwood - E. Palmerton and
Siegfried - E. Palmerton Corten Project
Extent 13 of 45
Luzerne, Carbon and Northampton Counties,Pennsylvania
Prepared By: AECOM Technical Services, Inc
Conshohocken, Pennsylvania

Prepared By: MAH	Checked By: BF
Job: 60703770	Date: 11/7/2023

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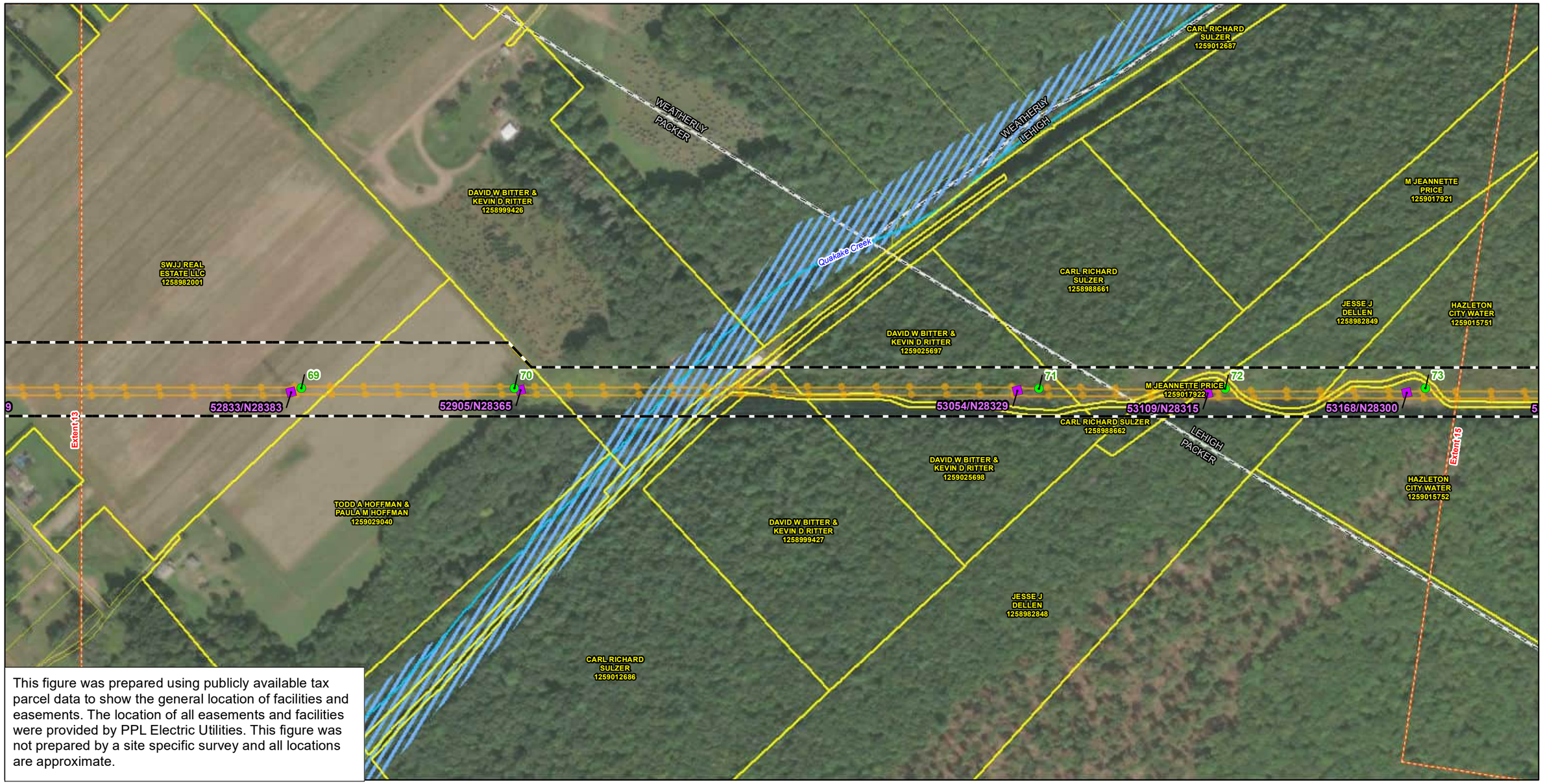

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Legend

- Proposed Structures
- Existing Structure (to be replaced)
- PPL Electric ROW

Existing Transmission Lines

- 230 kV

Ch.93 Designated Use Stream

- CWF(COLD WATER FISHES)
- Parcel Boundary
- PA Municipality Boundary
- Map Extent Box

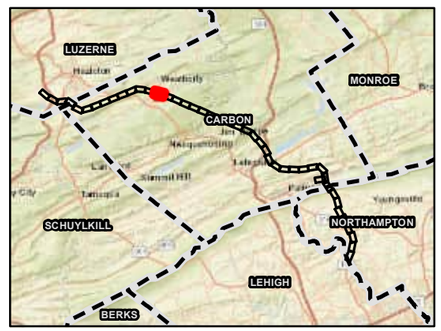
Notes:

1. Existing structure locations and right-of-way were provided by PPL Electric in January 2023.
2. Proposed structure locations provided by PPL Electric in May 2023.
3. Existing Transmission Lines provided by PPL Electric in April 2019.

NAD 1983 State Plane
Pennsylvania North FIPS 3701
Projection: Lambert Conformal Conic
Linear Unit: US Foot

References:
Ch. 93 Designated Use Streams (PASDA 2023)
National Wetlands Inventory for PA (USFWS 2021)
National Flood Hazard Data for Carbon, Luzerne and Northampton Counties, PA (FEMA 2002, 2019 and 2021),
Core Habitat Natural Areas (NHI 2014)
State Lands (PGC and PADCNR 2023)
Existing Transmission Lines (PPL EU, 2019)
PA Municipality & County Boundaries (2023)
Google Maps Satellite (2020)

0 150 300 600
Feet
1 inch = 300 feet



PPL Electric Utilities

FIGURE 3-1
Aerial Project Map
Harwood - E. Palmerton and Siegfried - E. Palmerton Corten Project
Extent 14 of 45
Luzerne, Carbon and Northampton Counties,Pennsylvania
Prepared By: AECOM Technical Services, Inc
Conshohocken, Pennsylvania

Prepared By: MAH	Checked By: BF
Job: 60703770	Date: 11/7/2023

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Legend

- Proposed Structures
- Existing Structure (to be replaced)
- PPL Electric ROW

Existing Transmission Lines

- 230 kV

Ch.93 Designated Use Stream

- HQ (High Quality)
- Parcel Boundary
- PA Municipality Boundary
- Map Extent Box

Notes:

1. Existing structure locations and right-of-way were provided by PPL Electric in January 2023.

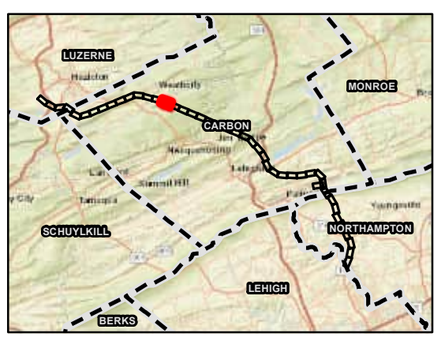
2. Proposed structure locations provided by PPL Electric in May 2023.

3. Existing Transmission Lines provided by PPL Electric in April 2019.

NAD 1983 State Plane
Pennsylvania North FIPS 3701
Projection: Lambert Conformal Conic
Linear Unit: US Foot

References:
Ch. 93 Designated Use Streams (PASDA 2023)
National Wetlands Inventory for PA (USFWS 2021)
National Flood Hazard Data for Carbon, Luzerne and Northampton Counties, PA
(FEMA 2002, 2019 and 2021),
Core Habitat Natural Areas (NHI 2014)
State Lands (PGC and PADCNR 2023)
Existing Transmission Lines (PPL EU, 2019)
PA Municipality & County Boundaries (2023)
Google Maps Satellite (2020)

0 150 300 600
Feet
1 inch = 300 feet



PPL Electric Utilities

FIGURE 3-1
Aerial Project Map
Harwood - E. Palmerton and
Siegfried - E. Palmerton Corten Project
Extent 15 of 45
Luzerne, Carbon and Northampton Counties,Pennsylvania
Prepared By: AECOM Technical Services, Inc
Conshohocken, Pennsylvania

Prepared By: MAH	Checked By: BF
Job: 60703770	Date: 11/7/2023

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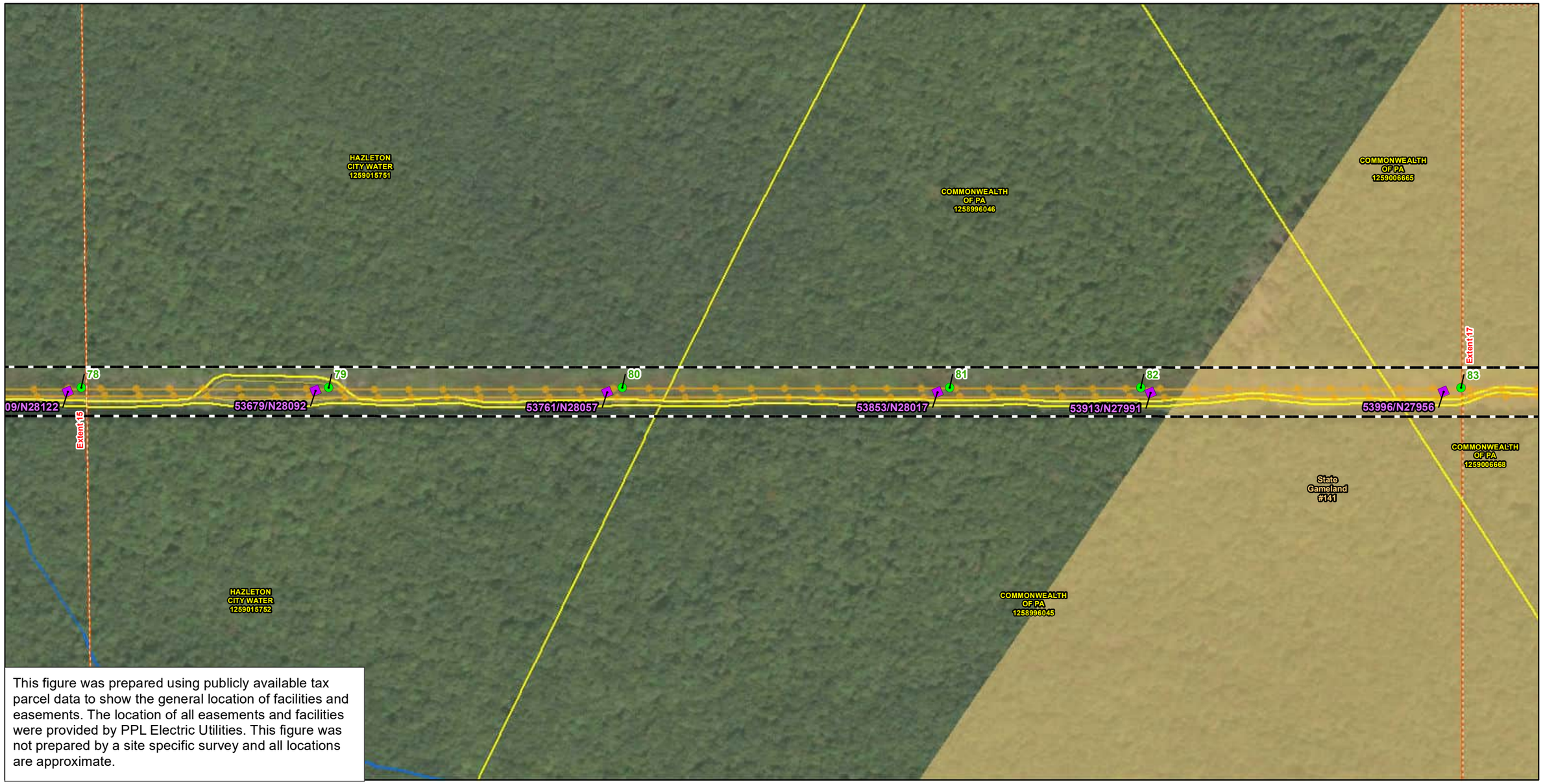

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Legend

- Proposed Structures
- Existing Structure (to be replaced)
- PPL Electric ROW

Existing Transmission Lines

- 230 kV

Ch.93 Designated Use Stream

- HQ (High Quality)
- State Gameland
- Parcel Boundary
- PA Municipality Boundary
- Map Extent Box

Notes:

1. Existing structure locations and right-of-way were provided by PPL Electric in January 2023.

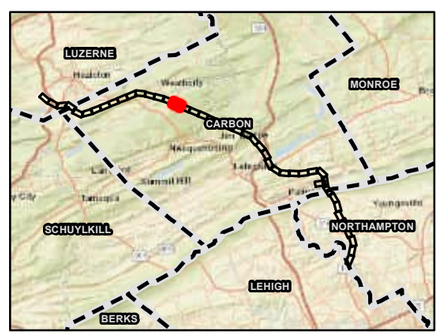
2. Proposed structure locations provided by PPL Electric in May 2023.

3. Existing Transmission Lines provided by PPL Electric in April 2019.

NAD 1983 State Plane
Pennsylvania North FIPS 3701
Projection: Lambert Conformal Conic
Linear Unit: US Foot

References:
Ch. 93 Designated Use Streams (PASDA 2023)
National Wetlands Inventory for PA (USFWS 2021)
National Flood Hazard Data for Carbon, Luzerne and Northampton Counties, PA
(FEMA 2002, 2019 and 2021),
Core Habitat Natural Areas (NHI 2014)
State Lands (PGC and PADCNR 2023)
Existing Transmission Lines (PPL EU, 2019)
PA Municipality & County Boundaries (2023)
Google Maps Satellite (2020)

0 150 300 600
Feet
1 inch = 300 feet



PPL Electric Utilities

FIGURE 3-1
Aerial Project Map
Harwood - E. Palmerton and
Siegfried - E. Palmerton Corten Project
Extent 16 of 45
Luzerne, Carbon and Northampton Counties,Pennsylvania
Prepared By: AECOM Technical Services, Inc
Conshohocken, Pennsylvania

Prepared By: MAH	Checked By: BF
Job: 60703770	Date: 11/7/2023

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This figure was prepared using publicly available tax parcel data to show the general location of facilities and easements. The location of all easements and facilities were provided by PPL Electric Utilities. This figure was not prepared by a site specific survey and all locations are approximate.

Legend

- Proposed Structures
- Existing Structure (to be replaced)
- PPL Electric ROW

Existing Transmission Lines

- 230 kV

Ch.93 Designated Use Stream

- HQ (High Quality)
- State Gameland
- Parcel Boundary
- PA Municipality Boundary
- Map Extent Box

Notes:

1. Existing structure locations and right-of-way were provided by PPL Electric in January 2023.

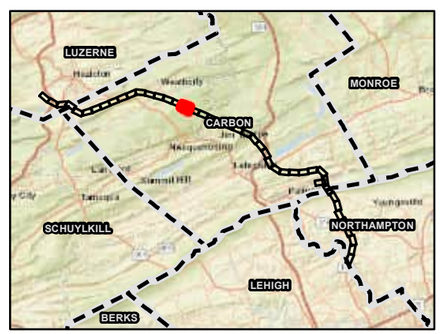
2. Proposed structure locations provided by PPL Electric in May 2023.

3. Existing Transmission Lines provided by PPL Electric in April 2019.

NAD 1983 State Plane
Pennsylvania North FIPS 3701
Projection: Lambert Conformal Conic
Linear Unit: US Foot

References:
Ch. 93 Designated Use Streams (PASDA 2023)
National Wetlands Inventory for PA (USFWS 2021)
National Flood Hazard Data for Carbon, Luzerne and Northampton Counties, PA
(FEMA 2002, 2019 and 2021).
Core Habitat Natural Areas (NHI 2014)
State Lands (PGC and PADCNR 2023)
Existing Transmission Lines (PPL EU, 2019)
PA Municipality & County Boundaries (2023)
Google Maps Satellite (2020)

0 150 300 600
Feet
1 inch = 300 feet



PPL Electric Utilities

FIGURE 3-1
Aerial Project Map
Harwood - E. Palmerton and
Siegfried - E. Palmerton Corten Project
Extent 17 of 45
Luzerne, Carbon and Northampton Counties,Pennsylvania
Prepared By: AECOM Technical Services, Inc
Conshohocken, Pennsylvania

Prepared By: MAH	Checked By: BF
Job: 60703770	Date: 11/7/2023

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Legend

- Proposed Structures
- Existing Structure (to be replaced)
- PPL Electric ROW

Existing Transmission Lines

- 230 kV

Ch.93 Designated Use Stream

- HQ (High Quality)
- State Gameland
- Parcel Boundary
- PA Municipality Boundary
- Map Extent Box

Notes:

1. Existing structure locations and right-of-way were provided by PPL Electric in January 2023.

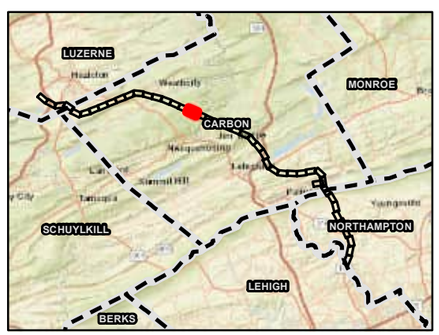
2. Proposed structure locations provided by PPL Electric in May 2023.

3. Existing Transmission Lines provided by PPL Electric in April 2019.

NAD 1983 State Plane
Pennsylvania North FIPS 3701
Projection: Lambert Conformal Conic
Linear Unit: US Foot

References:
Ch. 93 Designated Use Streams (PASDA 2023)
National Wetlands Inventory for PA (USFWS 2021)
National Flood Hazard Data for Carbon, Luzerne and Northampton Counties, PA
(FEMA 2002, 2019 and 2021),
Core Habitat Natural Areas (NHI 2014)
State Lands (PGC and PADCNR 2023)
Existing Transmission Lines (PPL EU, 2019)
PA Municipality & County Boundaries (2023)
Google Maps Satellite (2020)

0 150 300 600
Feet
1 inch = 300 feet



PPL Electric Utilities

FIGURE 3-1
Aerial Project Map
Harwood - E. Palmerton and
Siegfried - E. Palmerton Corten Project
Extent 18 of 45
Luzerne, Carbon and Northampton Counties,Pennsylvania
Prepared By: AECOM Technical Services, Inc
Conshohocken, Pennsylvania

Prepared By: MAH	Checked By: BF
Job: 60703770	Date: 11/7/2023

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COMMONWEALTH OF PA 1259006667

COMMONWEALTH OF PA 1259006670

COMMONWEALTH OF PA 1259021686

State Gameland #141

Extent 20

93 N27597

94 54910/N27563

95 55005/N27523

96 55088/N27487

97 55175/N27450

Extent 18

COMMONWEALTH OF PA 1259006671

COMMONWEALTH OF PA 1259006666

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Legend

- Proposed Structures
- Existing Structure (to be replaced)
- PPL Electric ROW

Existing Transmission Lines

- 230 kV
- State Gameland
- Parcel Boundary
- PA Municipality Boundary
- Map Extent Box

Notes:

1. Existing structure locations and right-of-way were provided by PPL Electric in January 2023.

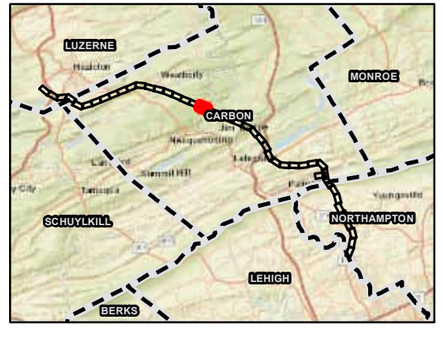
2. Proposed structure locations provided by PPL Electric in May 2023.

3. Existing Transmission Lines provided by PPL Electric in April 2019.

NAD 1983 State Plane
Pennsylvania North FIPS 3701
Projection: Lambert Conformal Conic
Linear Unit: US Foot

References:
Ch. 93 Designated Use Streams (PASDA 2023)
National Wetlands Inventory for PA (USFWS 2021)
National Flood Hazard Data for Carbon, Luzerne and Northampton Counties, PA
(FEMA 2002, 2019 and 2021),
Core Habitat Natural Areas (NHI 2014)
State Lands (PGC and PADCNR 2023)
Existing Transmission Lines (PPL EU, 2019)
PA Municipality & County Boundaries (2023)
Google Maps Satellite (2020)

0 150 300 600
Feet
1 inch = 300 feet



PPL Electric Utilities

FIGURE 3-1
Aerial Project Map
Harwood - E. Palmerton and
Siegfried - E. Palmerton Corten Project
Extent 19 of 45
Luzerne, Carbon and Northampton Counties,Pennsylvania
Prepared By: AECOM Technical Services, Inc
Conshohocken, Pennsylvania

Prepared By: MAH	Checked By: BF
Job: 60703770	Date: 11/7/2023

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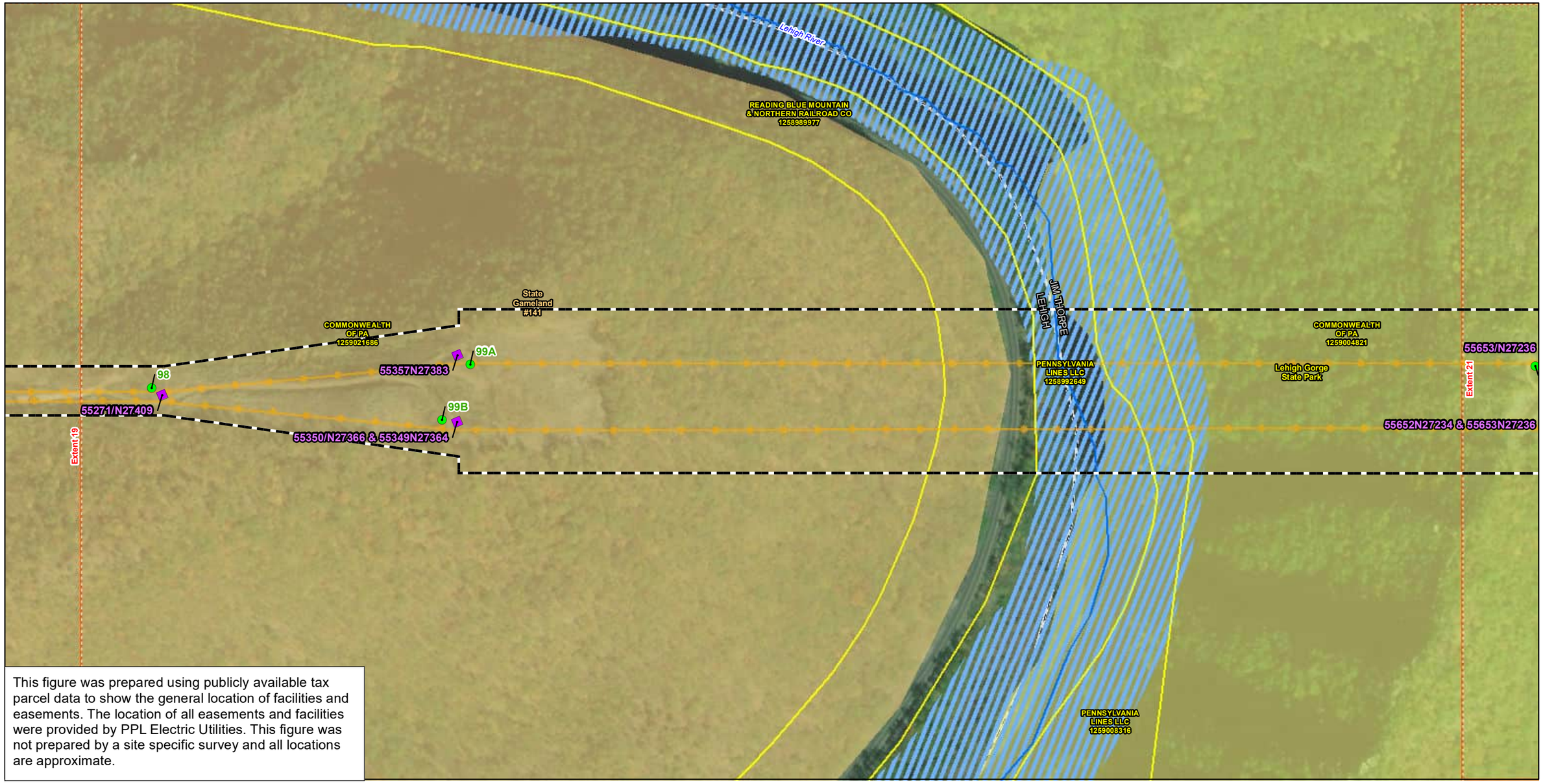

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Legend

- Proposed Structures
- Existing Structure (to be replaced)
- PPL Electric ROW
- Map Extent Box

Existing Transmission Lines

- 230 kV

Ch.93 Designated Use Stream

- HQ (High Quality)
- State Park
- State Gameland
- Parcel Boundary
- PA Municipality Boundary

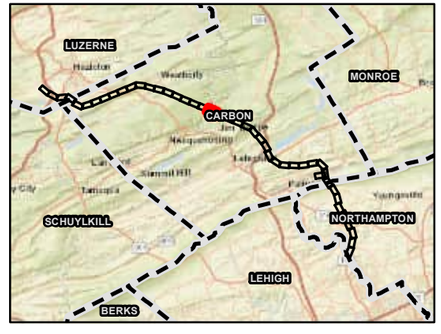
Notes:

1. Existing structure locations and right-of-way were provided by PPL Electric in January 2023.
2. Proposed structure locations provided by PPL Electric in May 2023.
3. Existing Transmission Lines provided by PPL Electric in April 2019.

NAD 1983 State Plane
Pennsylvania North FIPS 3701
Projection: Lambert Conformal Conic
Linear Unit: US Foot

References:
Ch. 93 Designated Use Streams (PASDA 2023)
National Wetlands Inventory for PA (USFWS 2021)
National Flood Hazard Data for Carbon, Luzerne and Northampton Counties, PA
(FEMA 2002, 2019 and 2021),
Core Habitat Natural Areas (NHI 2014)
State Lands (PGC and PADCNR 2023)
Existing Transmission Lines (PPL EU, 2019)
PA Municipality & County Boundaries (2023)
Google Maps Satellite (2020)

0 150 300 600
Feet
1 inch = 300 feet



PPL Electric Utilities

FIGURE 3-1
Aerial Project Map
Harwood - E. Palmerton and Siegfried - E. Palmerton Corten Project
Extent 20 of 45
Luzerne, Carbon and Northampton Counties,Pennsylvania
Prepared By: AECOM Technical Services, Inc
Conshohocken, Pennsylvania

Prepared By: MAH	Checked By: BF
Job: 60703770	Date: 11/7/2023

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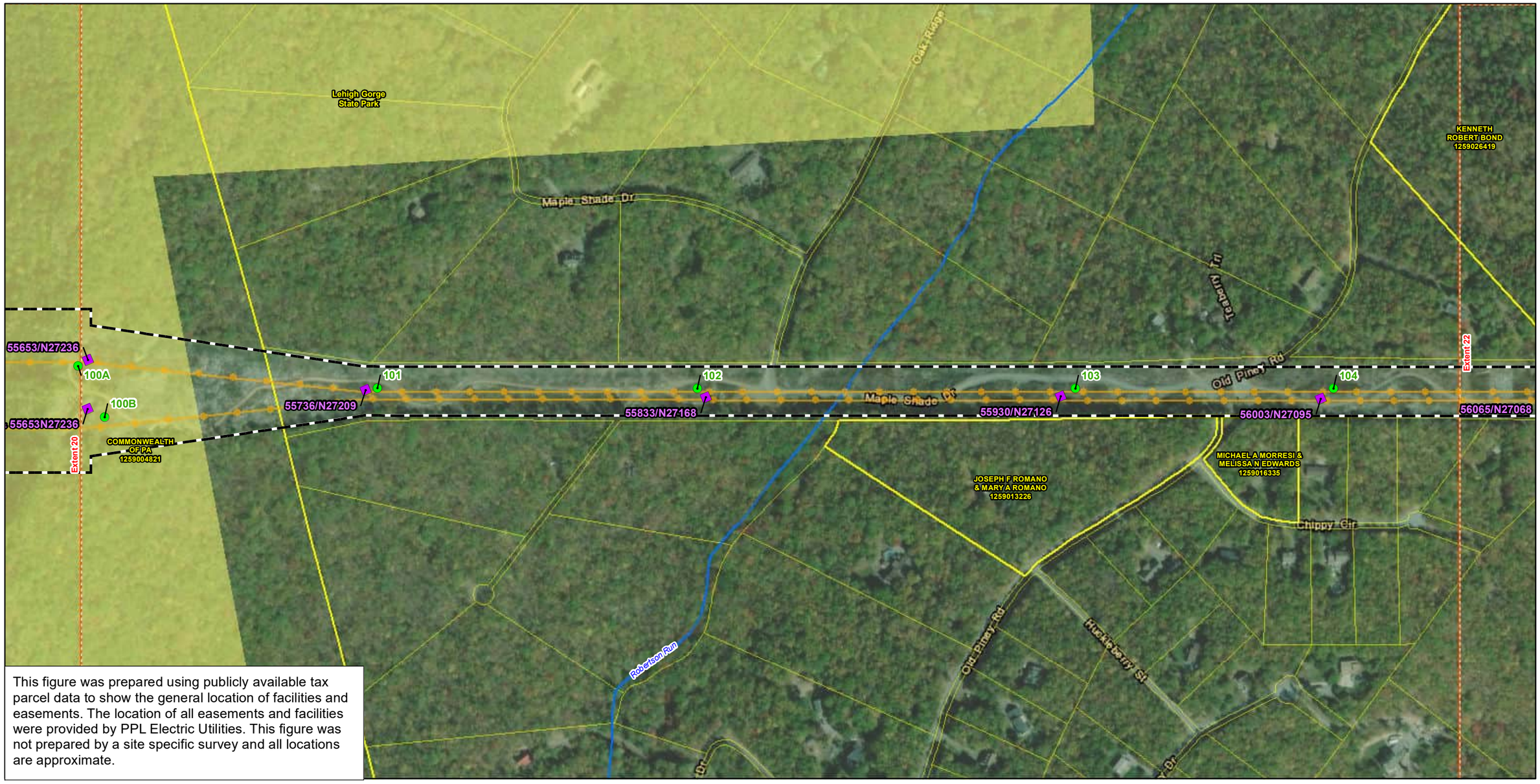

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Legend

- Proposed Structures
- Existing Structure (to be replaced)
- PPL Electric ROW

Existing Transmission Lines

- 230 kV

Ch.93 Designated Use Stream

- HQ (High Quality)
- State Park
- Parcel Boundary
- PA Municipality Boundary
- Map Extent Box

Notes:

1. Existing structure locations and right-of-way were provided by PPL Electric in January 2023.

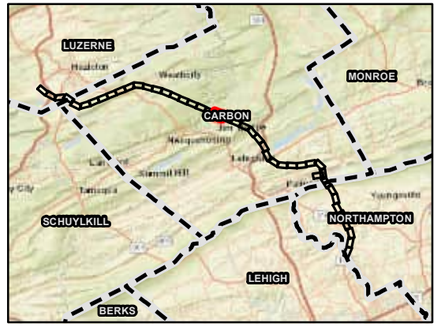
2. Proposed structure locations provided by PPL Electric in May 2023.

3. Existing Transmission Lines provided by PPL Electric in April 2019.

NAD 1983 State Plane
Pennsylvania North FIPS 3701
Projection: Lambert Conformal Conic
Linear Unit: US Foot

References:
Ch. 93 Designated Use Streams (PASDA 2023)
National Wetlands Inventory for PA (USFWS 2021)
National Flood Hazard Data for Carbon, Luzerne and Northampton Counties, PA
(FEMA 2002, 2019 and 2021),
Core Habitat Natural Areas (NHI 2014)
State Lands (PGC and PADCNR 2023)
Existing Transmission Lines (PPL EU, 2019)
PA Municipality & County Boundaries (2023)
Google Maps Satellite (2020)

0 150 300 600
Feet
1 inch = 300 feet



PPL Electric Utilities

FIGURE 3-1
Aerial Project Map
Harwood - E. Palmerton and
Siegfried - E. Palmerton Corten Project
Extent 21 of 45
Luzerne, Carbon and Northampton Counties,Pennsylvania
Prepared By: AECOM Technical Services, Inc
Conshohocken, Pennsylvania

Prepared By: MAH	Checked By: BF
Job: 60703770	Date: 11/7/2023

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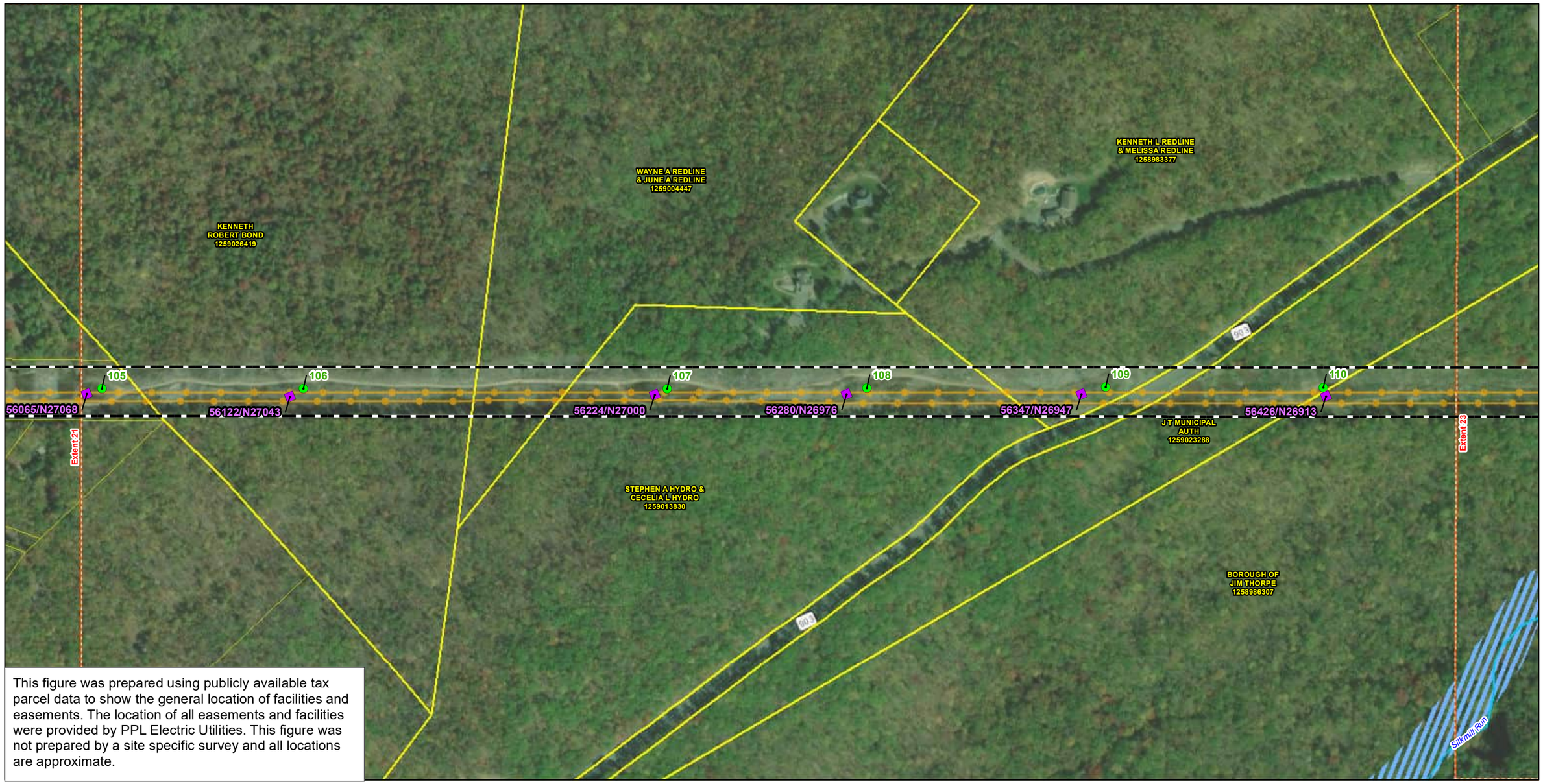

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Legend

- Proposed Structures
- Existing Structure (to be replaced)
- PPL Electric ROW

Existing Transmission Lines

- 230 kV

Ch.93 Designated Use Stream

- CWF(COLD WATER FISHES)
- Parcel Boundary
- PA Municipality Boundary
- Map Extent Box

Notes:

1. Existing structure locations and right-of-way were provided by PPL Electric in January 2023.

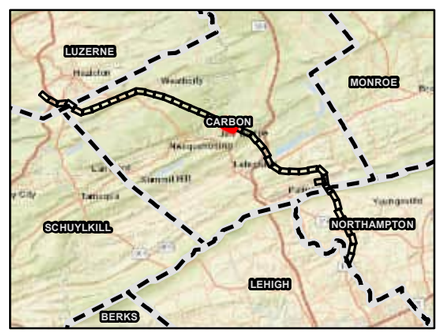
2. Proposed structure locations provided by PPL Electric in May 2023.

3. Existing Transmission Lines provided by PPL Electric in April 2019.

NAD 1983 State Plane
Pennsylvania North FIPS 3701
Projection: Lambert Conformal Conic
Linear Unit: US Foot

References:
Ch. 93 Designated Use Streams (PASDA 2023)
National Wetlands Inventory for PA (USFWS 2021)
National Flood Hazard Data for Carbon, Luzerne and Northampton Counties, PA
(FEMA 2002, 2019 and 2021),
Core Habitat Natural Areas (NHI 2014)
State Lands (PGC and PADCNR 2023)
Existing Transmission Lines (PPL EU, 2019)
PA Municipality & County Boundaries (2023)
Google Maps Satellite (2020)

0 150 300 600
Feet
1 inch = 300 feet



PPL Electric Utilities

FIGURE 3-1
Aerial Project Map
Harwood - E. Palmerton and
Siegfried - E. Palmerton Corten Project
Extent 22 of 45
Luzerne, Carbon and Northampton Counties,Pennsylvania
Prepared By: AECOM Technical Services, Inc
Conshohocken, Pennsylvania

Prepared By: MAH	Checked By: BF
Job: 60703770	Date: 11/7/2023

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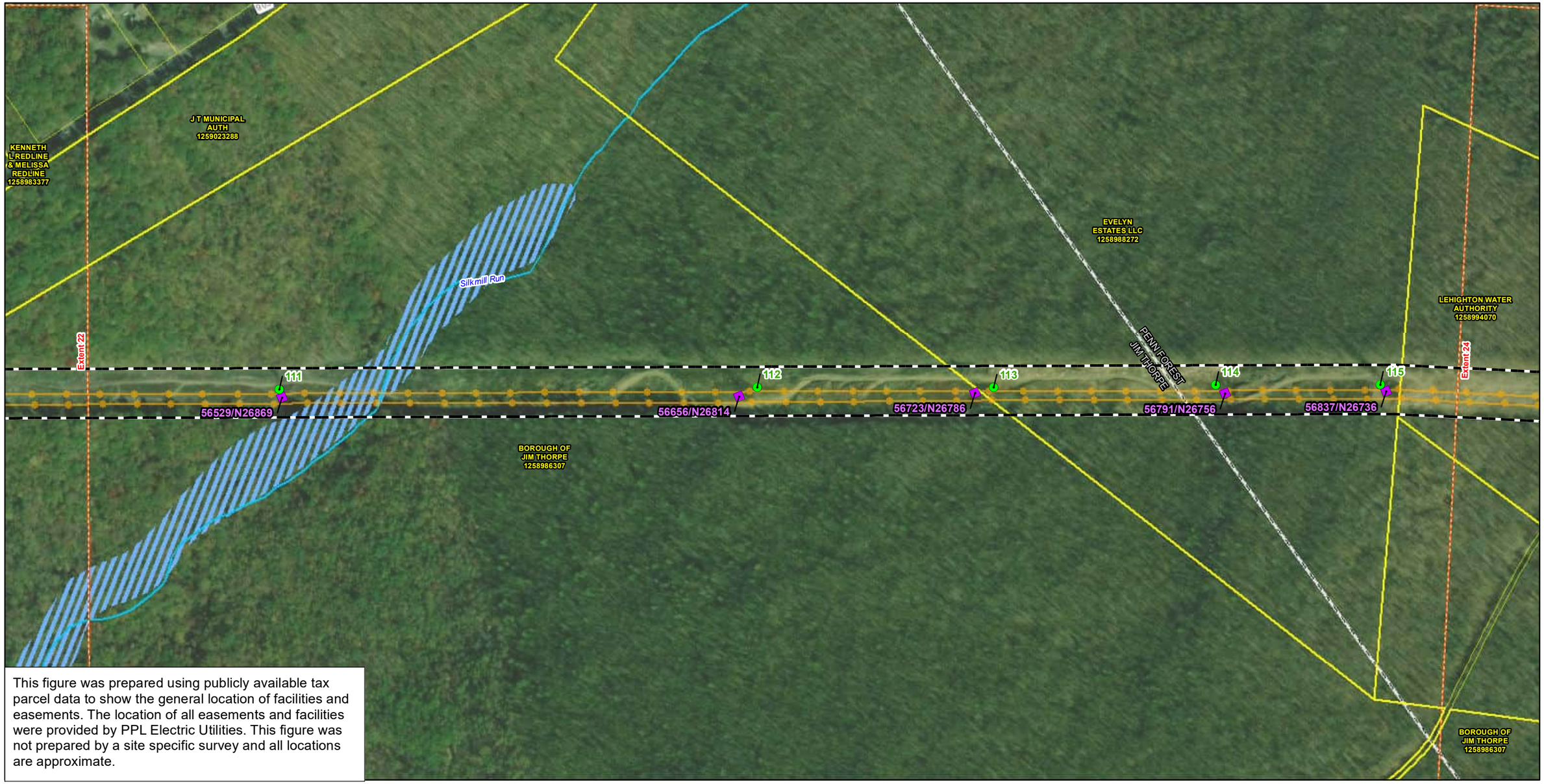

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Legend

- Proposed Structures
- Existing Structure (to be replaced)
- PPL Electric ROW

Existing Transmission Lines

- 230 kV

Ch.93 Designated Use Stream

- CWF(COLD WATER FISHES)
- Parcel Boundary
- PA Municipality Boundary
- Map Extent Box

Notes:

1. Existing structure locations and right-of-way were provided by PPL Electric in January 2023.

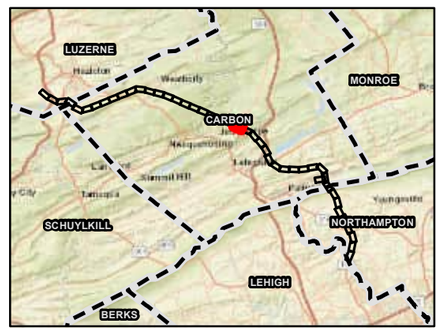
2. Proposed structure locations provided by PPL Electric in May 2023.

3. Existing Transmission Lines provided by PPL Electric in April 2019.

NAD 1983 State Plane
Pennsylvania North FIPS 3701
Projection: Lambert Conformal Conic
Linear Unit: US Foot

References:
Ch. 93 Designated Use Streams (PASDA 2023)
National Wetlands Inventory for PA (USFWS 2021)
National Flood Hazard Data for Carbon, Luzerne and Northampton Counties, PA
(FEMA 2002, 2019 and 2021),
Core Habitat Natural Areas (NHI 2014)
State Lands (PGC and PADCNR 2023)
Existing Transmission Lines (PPL EU, 2019)
PA Municipality & County Boundaries (2023)
Google Maps Satellite (2020)

0 150 300 600
Feet
1 inch = 300 feet



PPL Electric Utilities

FIGURE 3-1
Aerial Project Map
Harwood - E. Palmerton and
Siegfried - E. Palmerton Corten Project
Extent 23 of 45
Luzerne, Carbon and Northampton Counties,Pennsylvania
Prepared By: AECOM Technical Services, Inc
Conshohocken, Pennsylvania

Prepared By: MAH	Checked By: BF
Job: 60703770	Date: 11/7/2023

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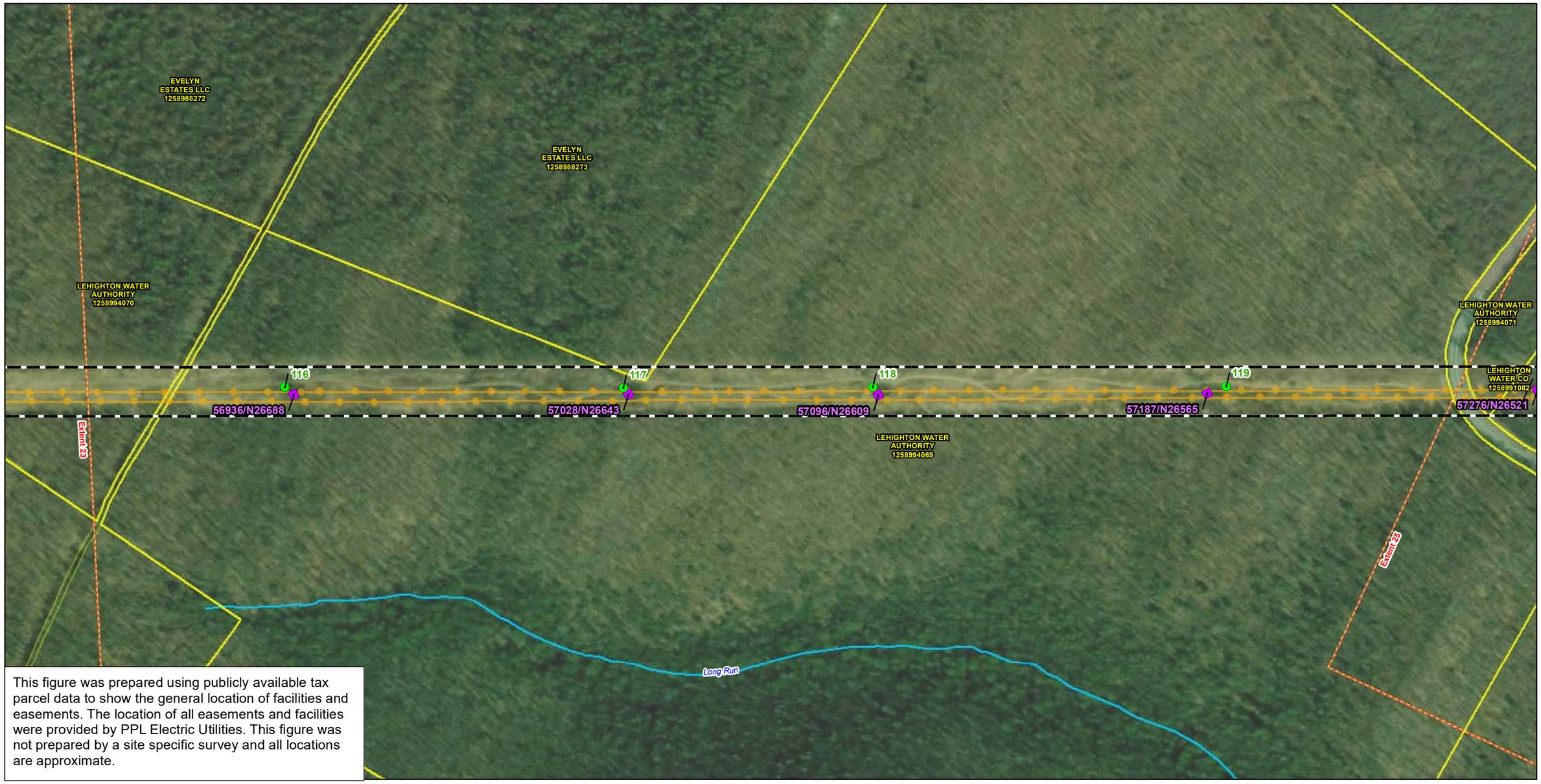

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Legend

- Proposed Structures
- Existing Structure (to be replaced)
- PPL Electric ROW

Existing Transmission Lines

- 230 kV

Ch.93 Designated Use Stream

- CWF(COLD WATER FISHES)
- Parcel Boundary
- PA Municipality Boundary
- Map Extent Box

Notes:

1. Existing structure locations and right-of-way were provided by PPL Electric in January 2023.

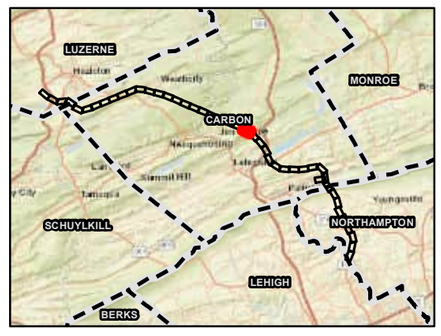
2. Proposed structure locations provided by PPL Electric in May 2023.

3. Existing Transmission Lines provided by PPL Electric in April 2019.

NAD 1983 State Plane
Pennsylvania North FIPS 3701
Projection: Lambert Conformal Conic
Linear Unit: US Foot

References:
Ch. 93 Designated Use Streams (PASDA 2023)
National Wetlands Inventory for PA (USFWS 2021)
National Flood Hazard Data for Carbon, Luzerne and Northampton Counties, PA
(FEMA 2002, 2019 and 2021),
Core Habitat Natural Areas (NHI 2014)
State Lands (PGC and PADCNR 2023)
Existing Transmission Lines (PPL EU, 2019)
PA Municipality & County Boundaries (2023)
Google Maps Satellite (2020)

0 150 300 600
Feet
1 inch = 300 feet



PPL Electric Utilities

FIGURE 3-1
Aerial Project Map
Harwood - E. Palmerton and Siegfried - E. Palmerton Corten Project
Extent 24 of 45
Luzerne, Carbon and Northampton Counties,Pennsylvania
Prepared By: AECOM Technical Services, Inc
Conshohocken, Pennsylvania

Prepared By: MAH	Checked By: BF
Job: 60703770	Date: 11/7/2023

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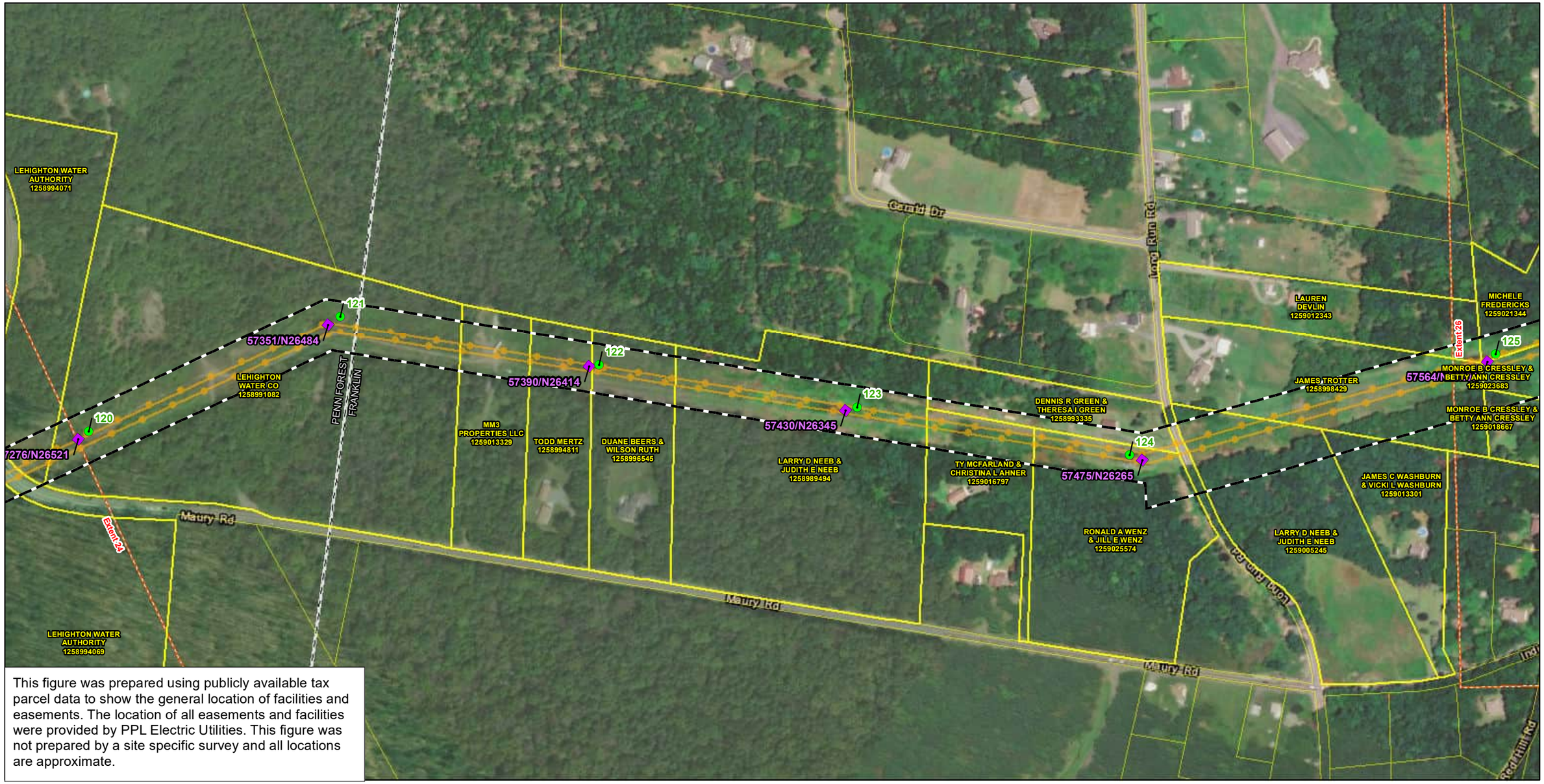


This figure was prepared using publicly available tax parcel data to show the general location of facilities and easements. The location of all easements and facilities were provided by PPL Electric Utilities. This figure was not prepared by a site specific survey and all locations are approximate.

Legend

- Proposed Structures
- Existing Structure (to be replaced)
- PPL Electric ROW

Existing Transmission Lines

- 230 kV
- Parcel Boundary
- PA Municipality Boundary
- Map Extent Box

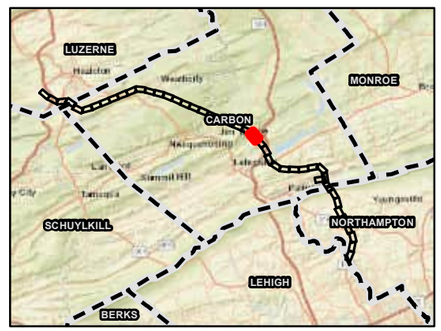
Notes:

1. Existing structure locations and right-of-way were provided by PPL Electric in January 2023.
2. Proposed structure locations provided by PPL Electric in May 2023.
3. Existing Transmission Lines provided by PPL Electric in April 2019.

NAD 1983 State Plane
Pennsylvania North FIPS 3701
Projection: Lambert Conformal Conic
Linear Unit: US Foot

References:
Ch. 93 Designated Use Streams (PASDA 2023)
National Wetlands Inventory for PA (USFWS 2021)
National Flood Hazard Data for Carbon, Luzerne and Northampton Counties, PA
(FEMA 2002, 2019 and 2021),
Core Habitat Natural Areas (NHI 2014)
State Lands (PGC and PADCNR 2023)
Existing Transmission Lines (PPL EU, 2019)
PA Municipality & County Boundaries (2023)
Google Maps Satellite (2020)

0 150 300 600
Feet
1 inch = 300 feet



PPL Electric Utilities

FIGURE 3-1
Aerial Project Map
Harwood - E. Palmerton and
Siegfried - E. Palmerton Corten Project
Extent 25 of 45
Luzerne, Carbon and Northampton Counties,Pennsylvania
Prepared By: AECOM Technical Services, Inc
Conshohocken, Pennsylvania

Prepared By: MAH	Checked By: BF
Job: 60703770	Date: 11/7/2023

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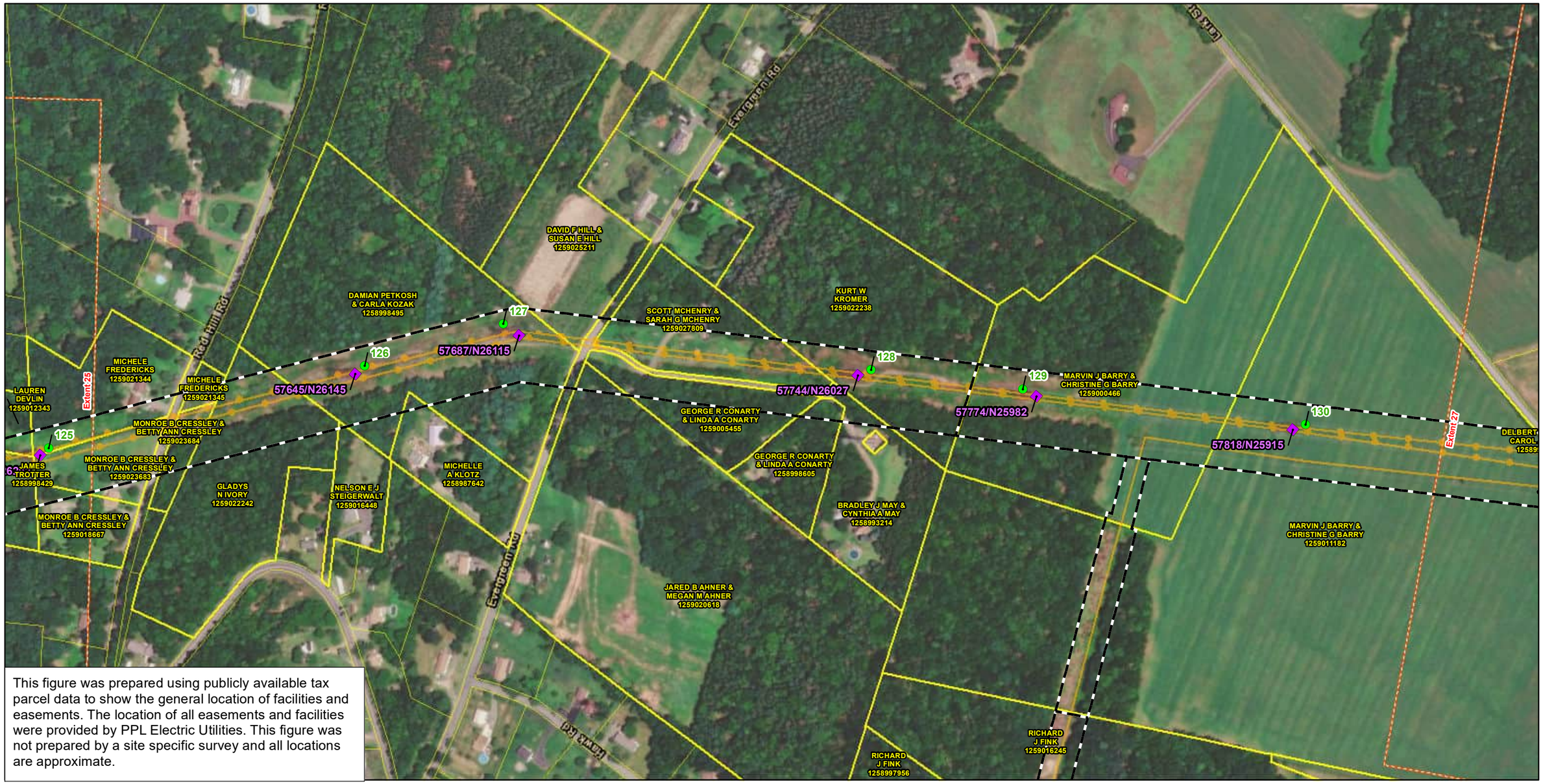

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Legend

- Proposed Structures
- Existing Structure (to be replaced)
- PPL Electric ROW

Existing Transmission Lines

- 69 kV
- 230 kV
- Parcel Boundary
- PA Municipality Boundary
- Map Extent Box

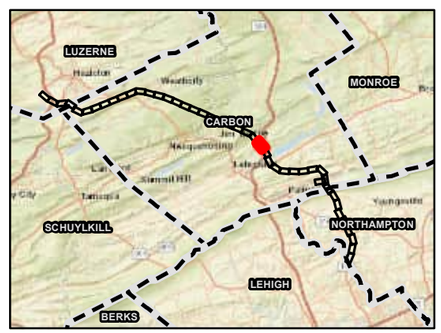
Notes:

1. Existing structure locations and right-of-way were provided by PPL Electric in January 2023.
2. Proposed structure locations provided by PPL Electric in May 2023.
3. Existing Transmission Lines provided by PPL Electric in April 2019.

NAD 1983 State Plane
Pennsylvania North FIPS 3701
Projection: Lambert Conformal Conic
Linear Unit: US Foot

References:
Ch. 93 Designated Use Streams (PASDA 2023)
National Wetlands Inventory for PA (USFWS 2021)
National Flood Hazard Data for Carbon, Luzerne and Northampton Counties, PA
(FEMA 2002, 2019 and 2021),
Core Habitat Natural Areas (NHI 2014)
State Lands (PGC and PADCNR 2023)
Existing Transmission Lines (PPL EU, 2019)
PA Municipality & County Boundaries (2023)
Google Maps Satellite (2020)

0 150 300 600
Feet
1 inch = 300 feet



PPL Electric Utilities

FIGURE 3-1
Aerial Project Map
Harwood - E. Palmerton and Siegfried - E. Palmerton Corten Project
Extent 26 of 45
Luzerne, Carbon and Northampton Counties,Pennsylvania
Prepared By: AECOM Technical Services, Inc
Conshohocken, Pennsylvania

Prepared By: MAH	Checked By: BF
Job: 60703770	Date: 11/7/2023

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This figure was prepared using publicly available tax parcel data to show the general location of facilities and easements. The location of all easements and facilities were provided by PPL Electric Utilities. This figure was not prepared by a site specific survey and all locations are approximate.

Legend

- Proposed Structures
- Existing Structure (to be replaced)
- PPL Electric ROW
- Map Extent Box

Existing Transmission Lines

- 69 kV
- 230 kV

Ch.93 Designated Use Stream

- CWF(COLD WATER FISHES)
- State Park
- Parcel Boundary
- PA Municipality Boundary

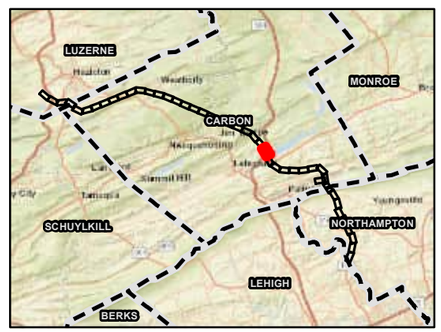
Notes:

1. Existing structure locations and right-of-way were provided by PPL Electric in January 2023.
2. Proposed structure locations provided by PPL Electric in May 2023.
3. Existing Transmission Lines provided by PPL Electric in April 2019.

NAD 1983 State Plane
Pennsylvania North FIPS 3701
Projection: Lambert Conformal Conic
Linear Unit: US Foot

References:
Ch. 93 Designated Use Streams (PASDA 2023)
National Wetlands Inventory for PA (USFWS 2021)
National Flood Hazard Data for Carbon, Luzerne and Northampton Counties, PA (FEMA 2002, 2019 and 2021),
Core Habitat Natural Areas (NHI 2014)
State Lands (PGC and PADCNR 2023)
Existing Transmission Lines (PPL EU, 2019)
PA Municipality & County Boundaries (2023)
Google Maps Satellite (2020)

0 150 300 600
Feet
1 inch = 300 feet



PPL Electric Utilities

FIGURE 3-1
Aerial Project Map
Harwood - E. Palmerton and Siegfried - E. Palmerton Corten Project
Extent 27 of 45
Luzerne, Carbon and Northampton Counties,Pennsylvania
Prepared By: AECOM Technical Services, Inc
Conshohocken, Pennsylvania

Prepared By: MAH	Checked By: BF
Job: 60703770	Date: 11/7/2023

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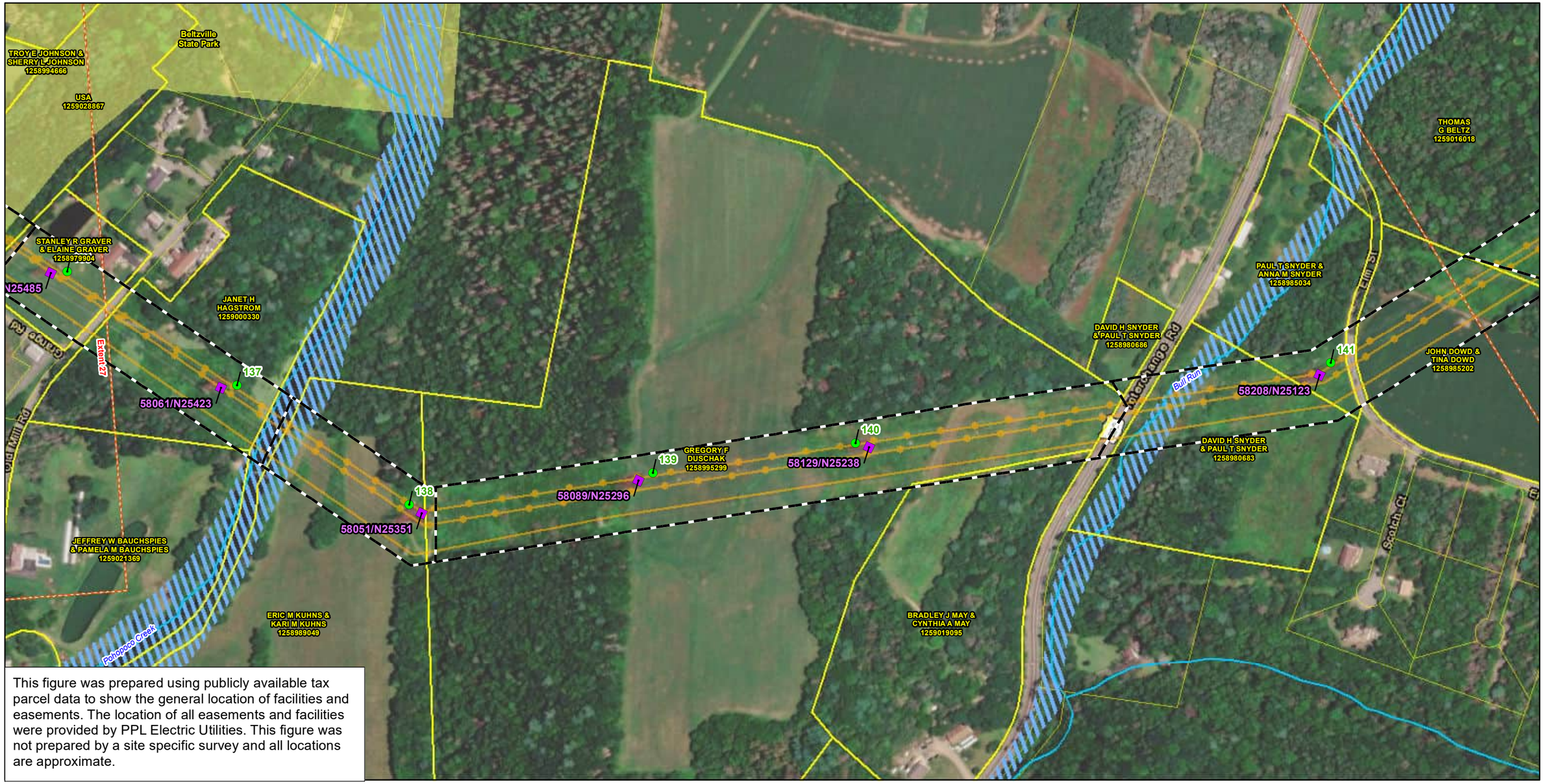

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Legend

- Proposed Structures
- Existing Structure (to be replaced)
- PPL Electric ROW
- Map Extent Box

Existing Transmission Lines

- 69 kV
- 230 kV

Ch.93 Designated Use Stream

- CWF(COLD WATER FISHES)
- State Park
- Parcel Boundary
- PA Municipality Boundary

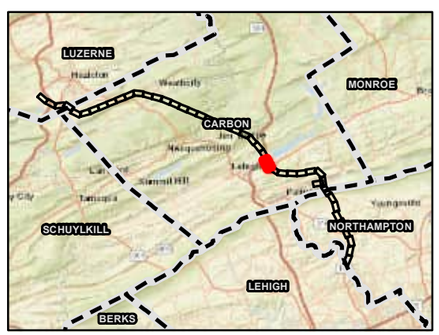
Notes:

1. Existing structure locations and right-of-way were provided by PPL Electric in January 2023.
2. Proposed structure locations provided by PPL Electric in May 2023.
3. Existing Transmission Lines provided by PPL Electric in April 2019.

NAD 1983 State Plane
Pennsylvania North FIPS 3701
Projection: Lambert Conformal Conic
Linear Unit: US Foot

References:
Ch. 93 Designated Use Streams (PASDA 2023)
National Wetlands Inventory for PA (USFWS 2021)
National Flood Hazard Data for Carbon, Luzerne and Northampton Counties, PA
(FEMA 2002, 2019 and 2021),
Core Habitat Natural Areas (NHI 2014)
State Lands (PGC and PADCNR 2023)
Existing Transmission Lines (PPL EU, 2019)
PA Municipality & County Boundaries (2023)
Google Maps Satellite (2020)

0 150 300 600
Feet
1 inch = 300 feet



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PPL Electric Utilities

FIGURE 3-1
Aerial Project Map
Harwood - E. Palmerton and
Siegfried - E. Palmerton Corten Project
Extent 28 of 45
Luzerne, Carbon and Northampton Counties,Pennsylvania
Prepared By: AECOM Technical Services, Inc
Conshohocken, Pennsylvania

Prepared By: MAH	Checked By: BF
Job: 60703770	Date: 11/7/2023

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This figure was prepared using publicly available tax parcel data to show the general location of facilities and easements. The location of all easements and facilities were provided by PPL Electric Utilities. This figure was not prepared by a site specific survey and all locations are approximate.

Legend

- Proposed Structures
- Existing Structure (to be replaced)
- PPL Electric ROW

Existing Transmission Lines

- 69 kV
- 230 kV

Ch.93 Designated Use Stream

- CWF(COLD WATER FISHES)
- Parcel Boundary
- PA Municipality Boundary
- Map Extent Box

Notes:

1. Existing structure locations and right-of-way were provided by PPL Electric in January 2023.

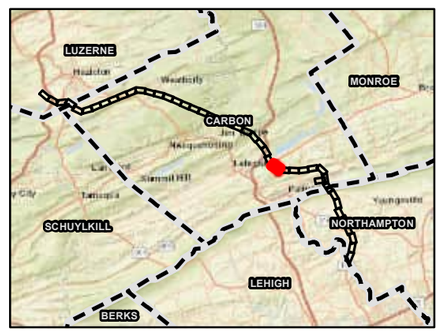
2. Proposed structure locations provided by PPL Electric in May 2023.

3. Existing Transmission Lines provided by PPL Electric in April 2019.

NAD 1983 State Plane
Pennsylvania North FIPS 3701
Projection: Lambert Conformal Conic
Linear Unit: US Foot

References:
Ch. 93 Designated Use Streams (PASDA 2023)
National Wetlands Inventory for PA (USFWS 2021)
National Flood Hazard Data for Carbon, Luzerne and Northampton Counties, PA
(FEMA 2002, 2019 and 2021),
Core Habitat Natural Areas (NHI 2014)
State Lands (PGC and PADCNR 2023)
Existing Transmission Lines (PPL EU, 2019)
PA Municipality & County Boundaries (2023)
Google Maps Satellite (2020)

0 150 300 600
Feet
1 inch = 300 feet



PPL Electric Utilities

FIGURE 3-1
Aerial Project Map
Harwood - E. Palmerton and
Siegfried - E. Palmerton Corten Project
Extent 29 of 45
Luzerne, Carbon and Northampton Counties,Pennsylvania
Prepared By: AECOM Technical Services, Inc
Conshohocken, Pennsylvania

Prepared By: MAH	Checked By: BF
Job: 60703770	Date: 11/7/2023

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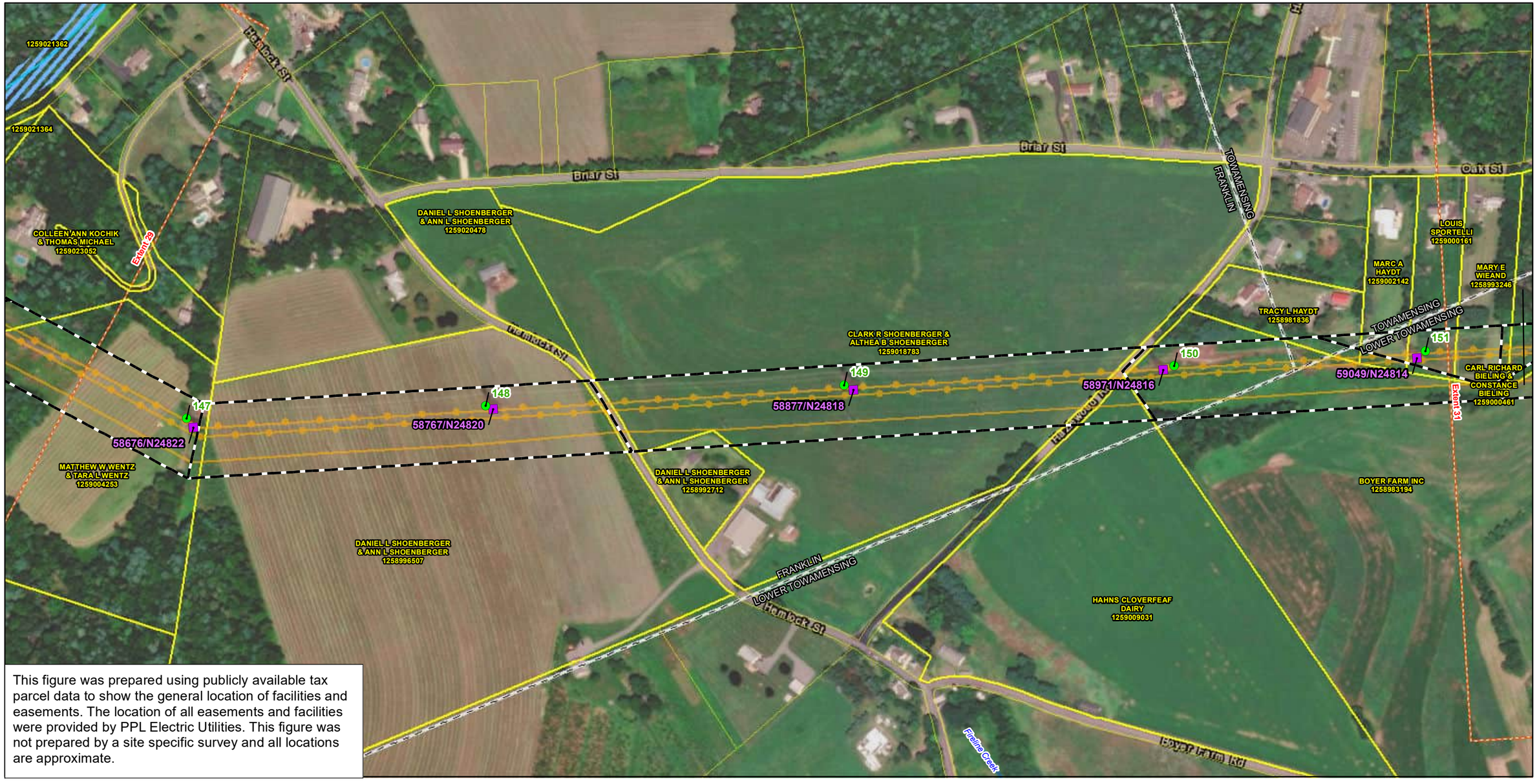

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Legend

- Proposed Structures
- Existing Structure (to be replaced)
- PPL Electric ROW

Existing Transmission Lines

- 69 kV
- 230 kV

Ch.93 Designated Use Stream

- HQ (High Quality)
- CWF(COLD WATER FISHES)
- Parcel Boundary
- PA Municipality Boundary
- Map Extent Box

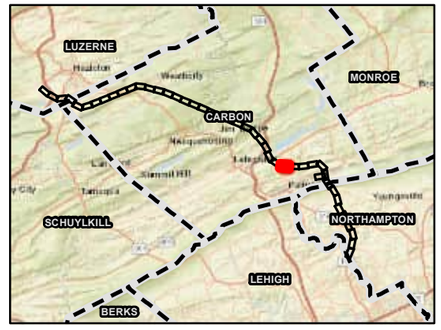
Notes:

1. Existing structure locations and right-of-way were provided by PPL Electric in January 2023.
2. Proposed structure locations provided by PPL Electric in May 2023.
3. Existing Transmission Lines provided by PPL Electric in April 2019.

NAD 1983 State Plane
Pennsylvania North FIPS 3701
Projection: Lambert Conformal Conic
Linear Unit: US Foot

References:
Ch. 93 Designated Use Streams (PASDA 2023)
National Wetlands Inventory for PA (USFWS 2021)
National Flood Hazard Data for Carbon, Luzerne and Northampton Counties, PA
(FEMA 2002, 2019 and 2021),
Core Habitat Natural Areas (NHI 2014)
State Lands (PGC and PADCNR 2023)
Existing Transmission Lines (PPL EU, 2019)
PA Municipality & County Boundaries (2023)
Google Maps Satellite (2020)

0 150 300 600
Feet
1 inch = 300 feet



PPL Electric Utilities

FIGURE 3-1
Aerial Project Map
Harwood - E. Palmerton and
Siegfried - E. Palmerton Corten Project
Extent 30 of 45
Luzerne, Carbon and Northampton Counties,Pennsylvania
Prepared By: AECOM Technical Services, Inc
Conshohocken, Pennsylvania

Prepared By: MAH	Checked By: BF
Job: 60703770	Date: 11/7/2023

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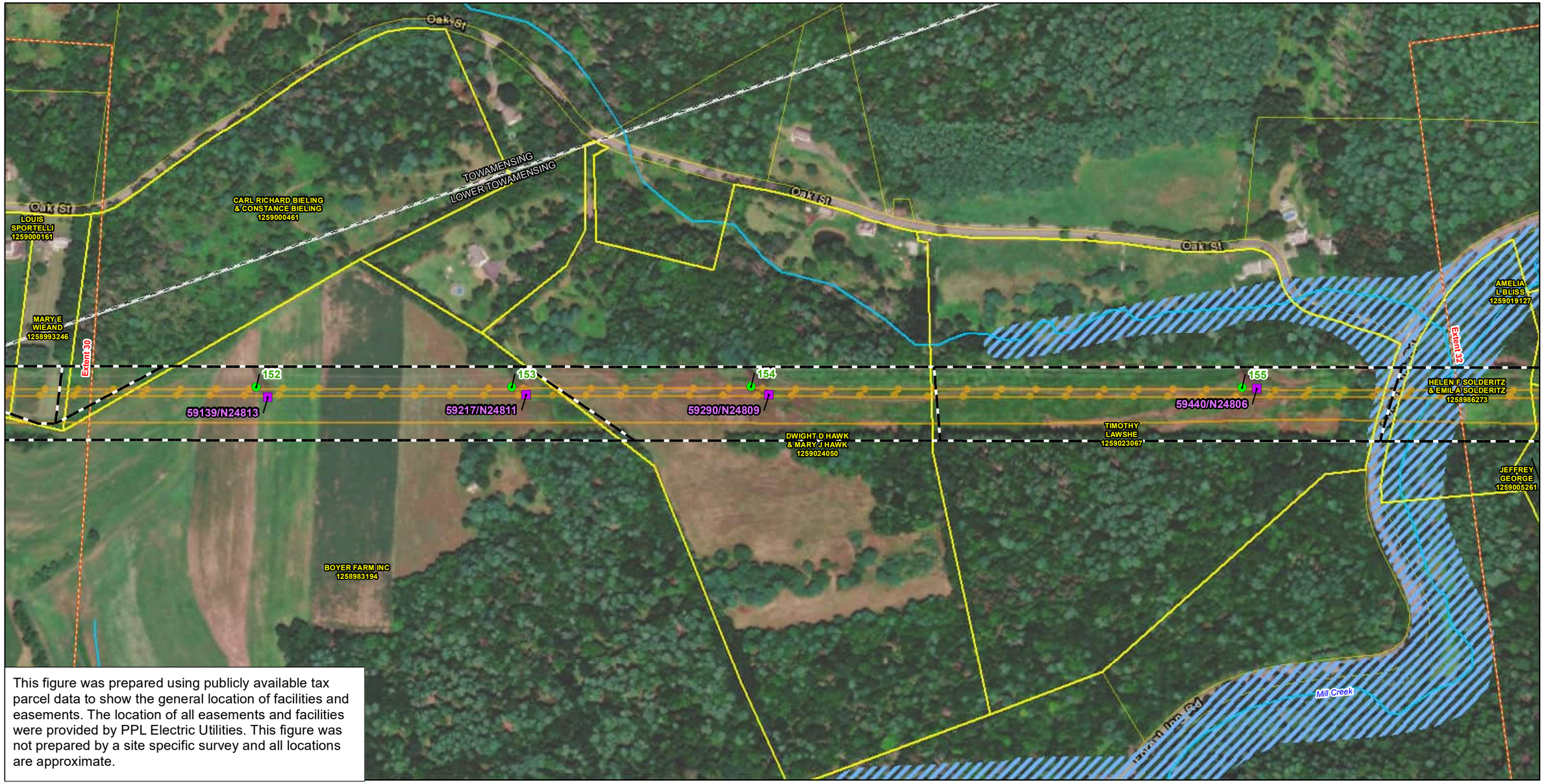

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Legend

- Proposed Structures
- Existing Structure (to be replaced)
- PPL Electric ROW

Existing Transmission Lines

- 69 kV
- 230 kV

Ch.93 Designated Use Stream

- CWF(COLD WATER FISHES)
- Parcel Boundary
- PA Municipality Boundary
- Map Extent Box

Notes:

1. Existing structure locations and right-of-way were provided by PPL Electric in January 2023.

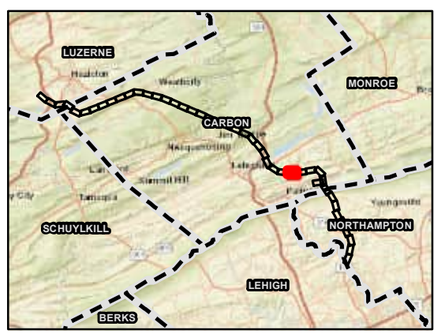
2. Proposed structure locations provided by PPL Electric in May 2023.

3. Existing Transmission Lines provided by PPL Electric in April 2019.

NAD 1983 State Plane
Pennsylvania North FIPS 3701
Projection: Lambert Conformal Conic
Linear Unit: US Foot

References:
Ch. 93 Designated Use Streams (PASDA 2023)
National Wetlands Inventory for PA (USFWS 2021)
National Flood Hazard Data for Carbon, Luzerne and Northampton Counties, PA
(FEMA 2002, 2019 and 2021),
Core Habitat Natural Areas (NHI 2014)
State Lands (PGC and PADCNR 2023)
Existing Transmission Lines (PPL EU, 2019)
PA Municipality & County Boundaries (2023)
Google Maps Satellite (2020)

0 150 300 600
Feet
1 inch = 300 feet



PPL Electric Utilities

FIGURE 3-1
Aerial Project Map
Harwood - E. Palmerton and
Siegfried - E. Palmerton Corten Project
Extent 31 of 45
Luzerne, Carbon and Northampton Counties,Pennsylvania
Prepared By: AECOM Technical Services, Inc
Conshohocken, Pennsylvania

Prepared By: MAH	Checked By: BF
Job: 60703770	Date: 11/7/2023

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Legend

- Proposed Structures
- Existing Structure (to be replaced)
- PPL Electric ROW

Existing Transmission Lines

- 69 kV
- 230 kV

Ch.93 Designated Use Stream

- CWF(COLD WATER FISHES)
- Parcel Boundary
- PA Municipality Boundary
- Map Extent Box

Notes:

1. Existing structure locations and right-of-way were provided by PPL Electric in January 2023.

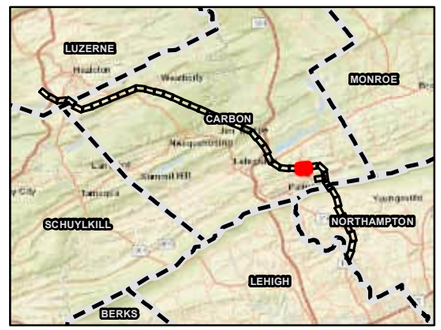
2. Proposed structure locations provided by PPL Electric in May 2023.

3. Existing Transmission Lines provided by PPL Electric in April 2019.

NAD 1983 State Plane
Pennsylvania North FIPS 3701
Projection: Lambert Conformal Conic
Linear Unit: US Foot

References:
Ch. 93 Designated Use Streams (PASDA 2023)
National Wetlands Inventory for PA (USFWS 2021)
National Flood Hazard Data for Carbon, Luzerne and Northampton Counties, PA (FEMA 2002, 2019 and 2021),
Core Habitat Natural Areas (NHI 2014)
State Lands (PGC and PADCNR 2023)
Existing Transmission Lines (PPL EU, 2019)
PA Municipality & County Boundaries (2023)
Google Maps Satellite (2020)

0 150 300 600
Feet
1 inch = 300 feet



PPL Electric Utilities

FIGURE 3-1
Aerial Project Map
Harwood - E. Palmerton and Siegfried - E. Palmerton Corten Project
Extent 32 of 45
Luzerne, Carbon and Northampton Counties,Pennsylvania
Prepared By: AECOM Technical Services, Inc
Conshohocken, Pennsylvania

Prepared By: MAH	Checked By: BF
Job: 60703770	Date: 11/7/2023

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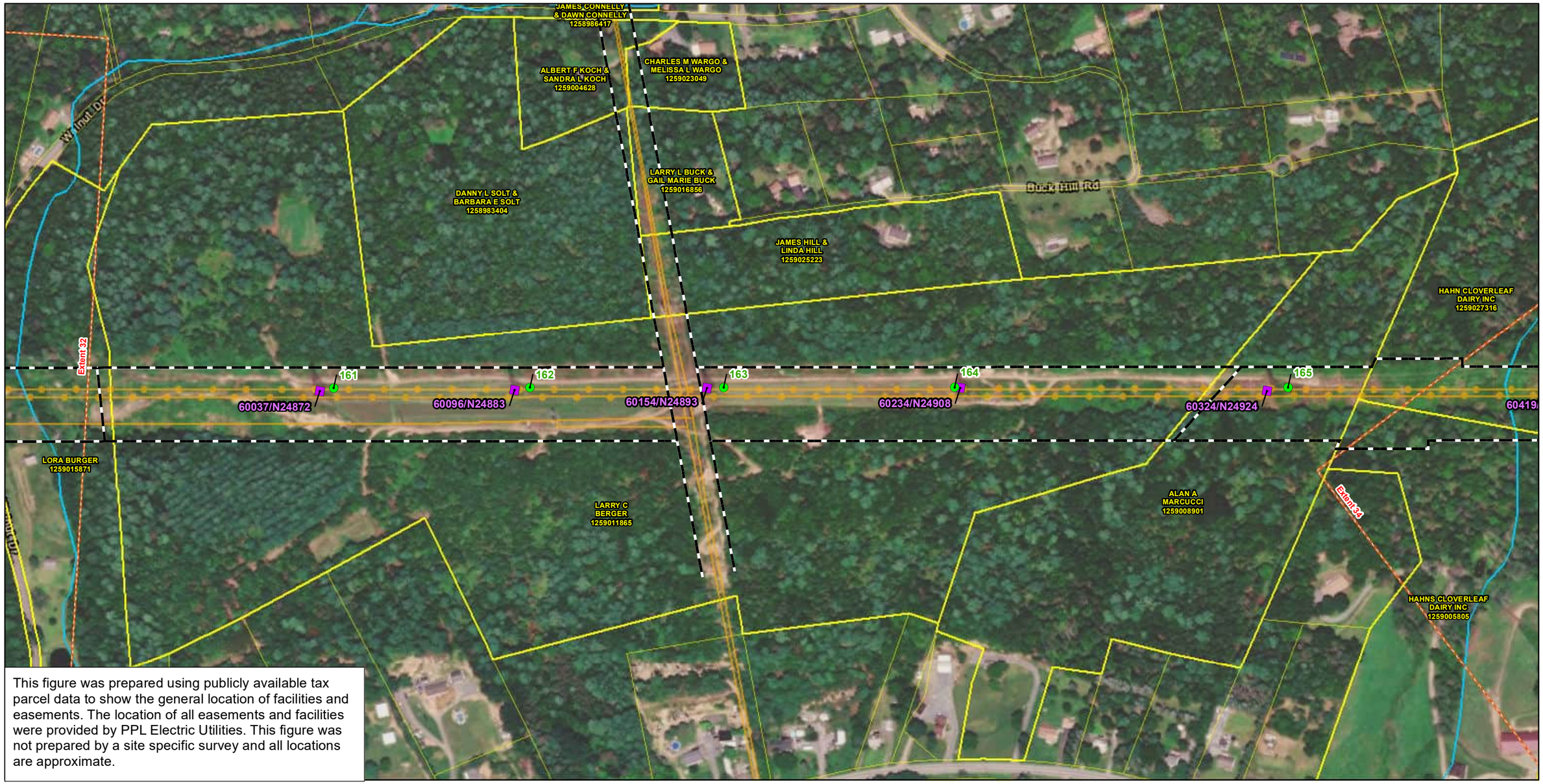

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Legend

- Proposed Structures
- Existing Structure (to be replaced)
- PPL Electric ROW

Existing Transmission Lines

- 69 kV
- 230 kV

Ch.93 Designated Use Stream

- CWF(COLD WATER FISHES)
- Parcel Boundary
- PA Municipality Boundary
- Map Extent Box

Notes:

1. Existing structure locations and right-of-way were provided by PPL Electric in January 2023.

2. Proposed structure locations provided by PPL Electric in May 2023.

3. Existing Transmission Lines provided by PPL Electric in April 2019.

NAD 1983 State Plane
Pennsylvania North FIPS 3701
Projection: Lambert Conformal Conic
Linear Unit: US Foot

References:
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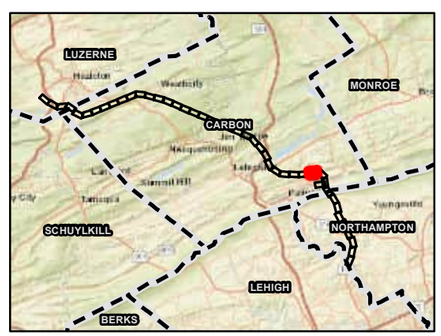
National Flood Hazard Data for Carbon, Luzerne and Northampton Counties, PA
(FEMA 2002, 2019 and 2021),
Core Habitat Natural Areas (NHI 2014)
State Lands (PGC and PADCNR 2023)
Existing Transmission Lines (PPL EU, 2019)
PA Municipality & County Boundaries (2023)
Google Maps Satellite (2020)

0 150 300 600
Feet
1 inch = 300 feet



PPL Electric Utilities

FIGURE 3-1
Aerial Project Map
Harwood - E. Palmerton and
Siegfried - E. Palmerton Corten Project
Extent 33 of 45
Luzerne, Carbon and Northampton Counties,Pennsylvania
Prepared By: AECOM Technical Services, Inc
Conshohocken, Pennsylvania

Prepared By: MAH	Checked By: BF
Job: 60703770	Date: 11/7/2023

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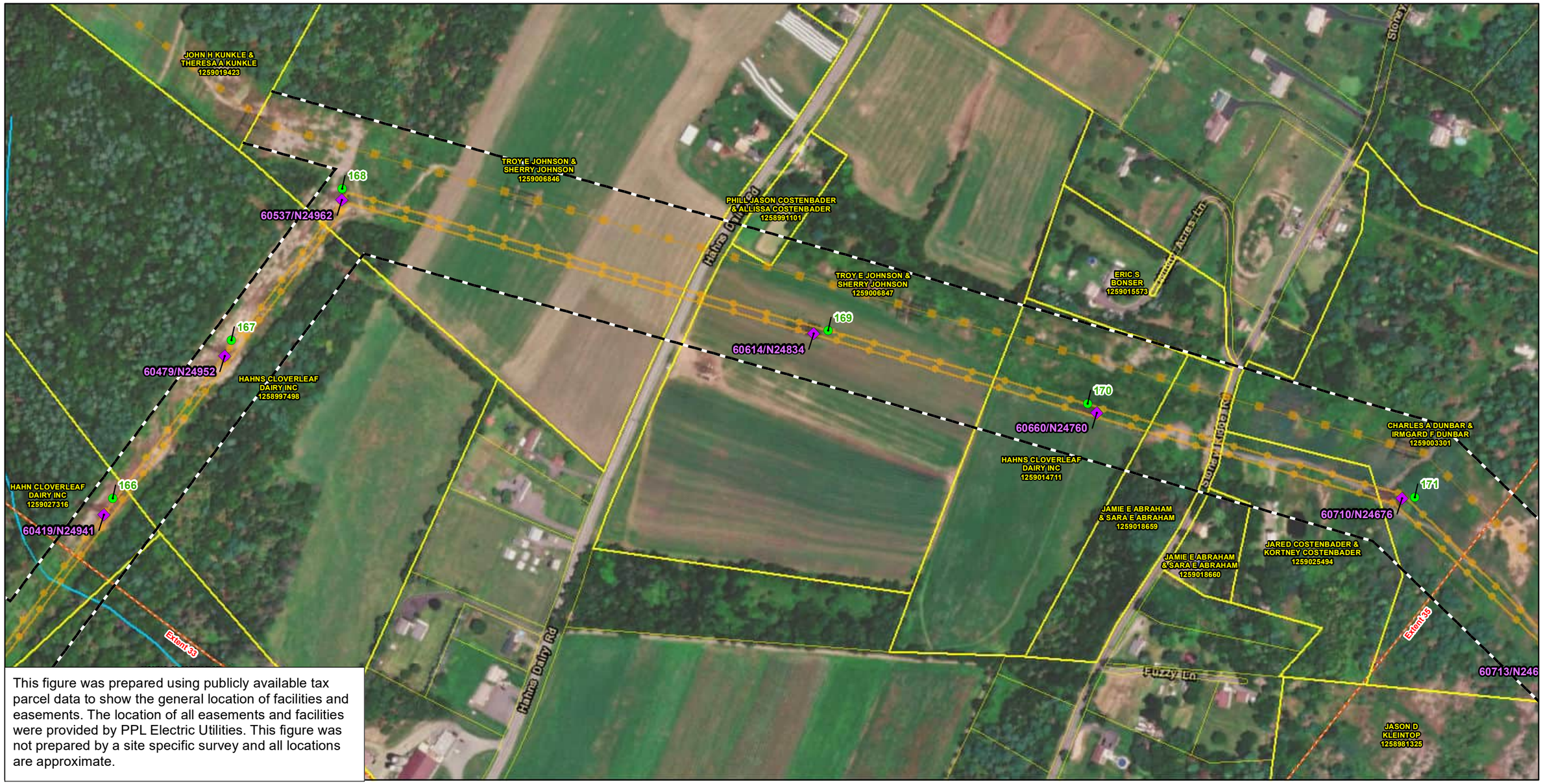

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Legend

- Proposed Structures
- Existing Structure (to be replaced)
- PPL Electric ROW

Existing Transmission Lines

- 230 kV
- 500 kV

Ch.93 Designated Use Stream

- CWF(COLD WATER FISHES)
- Parcel Boundary
- PA Municipality Boundary
- Map Extent Box

Notes:

1. Existing structure locations and right-of-way were provided by PPL Electric in January 2023.

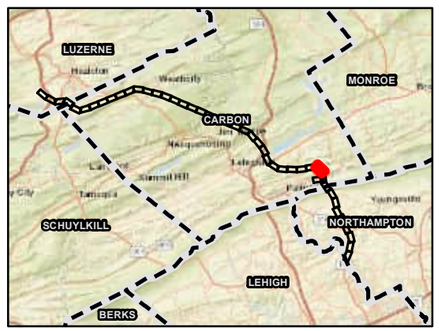
2. Proposed structure locations provided by PPL Electric in May 2023.

3. Existing Transmission Lines provided by PPL Electric in April 2019.

NAD 1983 State Plane
Pennsylvania North FIPS 3701
Projection: Lambert Conformal Conic
Linear Unit: US Foot

References:
Ch. 93 Designated Use Streams (PASDA 2023)
National Wetlands Inventory for PA (USFWS 2021)
National Flood Hazard Data for Carbon, Luzerne and Northampton Counties, PA
(FEMA 2002, 2019 and 2021),
Core Habitat Natural Areas (NHI 2014)
State Lands (PGC and PADCNR 2023)
Existing Transmission Lines (PPL EU, 2019)
PA Municipality & County Boundaries (2023)
Google Maps Satellite (2020)

0 150 300 600
Feet
1 inch = 300 feet



PPL Electric Utilities

FIGURE 3-1
Aerial Project Map
Harwood - E. Palmerton and
Siegfried - E. Palmerton Corten Project
Extent 34 of 45
Luzerne, Carbon and Northampton Counties,Pennsylvania
Prepared By: AECOM Technical Services, Inc
Conshohocken, Pennsylvania

Prepared By: MAH	Checked By: BF
Job: 60703770	Date: 11/7/2023

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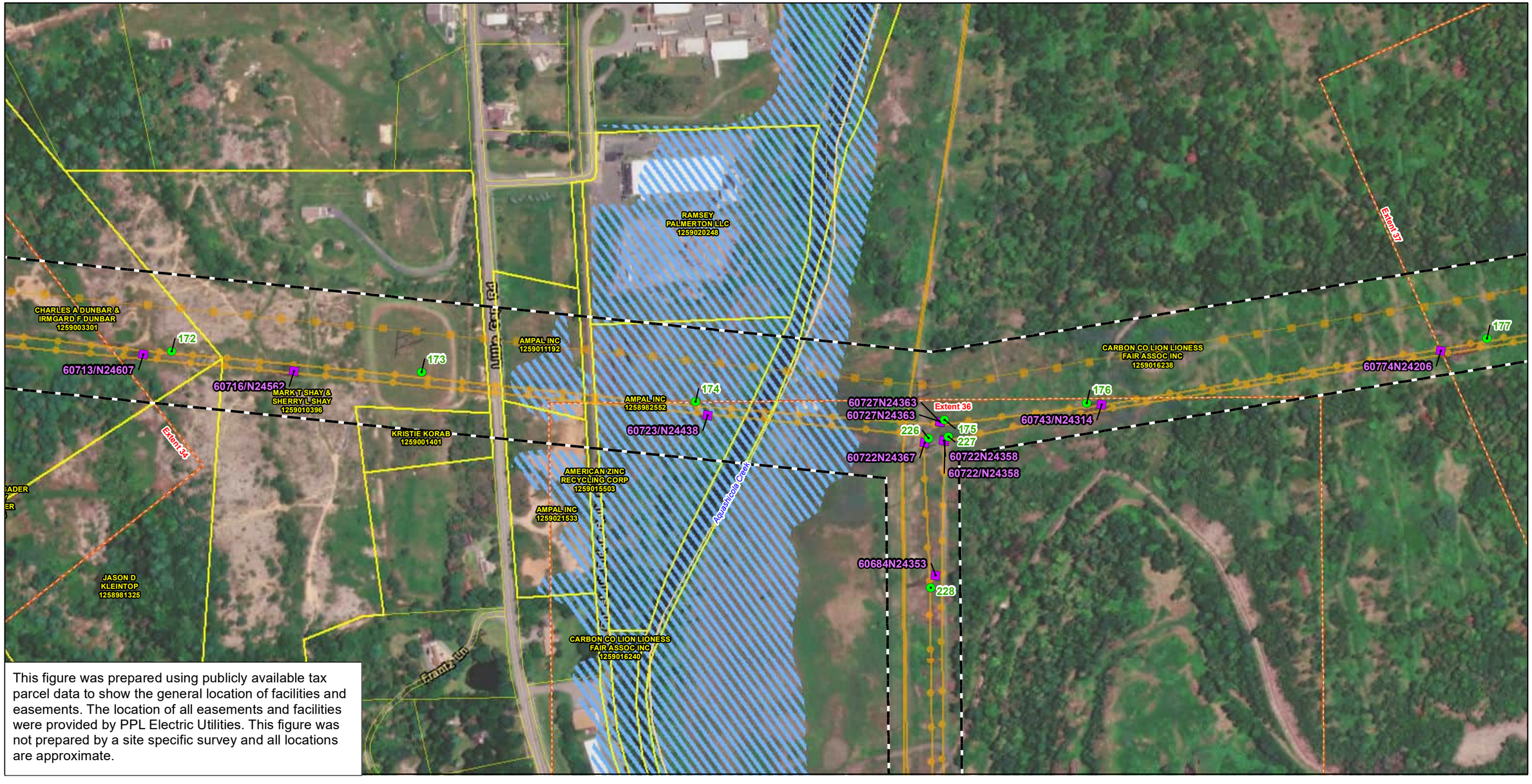


This figure was prepared using publicly available tax parcel data to show the general location of facilities and easements. The location of all easements and facilities were provided by PPL Electric Utilities. This figure was not prepared by a site specific survey and all locations are approximate.

Legend

- Proposed Structures
- Existing Structure (to be replaced)
- PPL Electric ROW
- Map Extent Box

Existing Transmission Lines

- 69 kV
- 230 kV
- 500 kV

Ch.93 Designated Use Stream

- TSF(TROUT STOCKING)
- Parcel Boundary
- PA Municipality Boundary

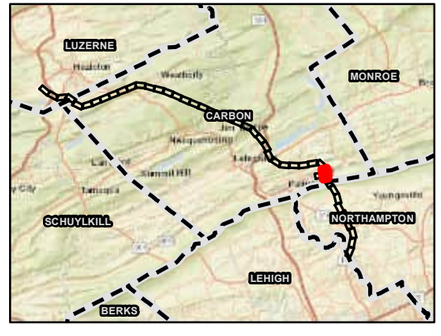
Notes:

1. Existing structure locations and right-of-way were provided by PPL Electric in January 2023.
2. Proposed structure locations provided by PPL Electric in May 2023.
3. Existing Transmission Lines provided by PPL Electric in April 2019.

NAD 1983 State Plane
Pennsylvania North FIPS 3701
Projection: Lambert Conformal Conic
Linear Unit: US Foot

References:
Ch. 93 Designated Use Streams (PASDA 2023)
National Wetlands Inventory for PA (USFWS 2021)
National Flood Hazard Data for Carbon, Luzerne and Northampton Counties, PA
(FEMA 2002, 2019 and 2021),
Core Habitat Natural Areas (NHI 2014)
State Lands (PGC and PADCNR 2023)
Existing Transmission Lines (PPL EU, 2019)
PA Municipality & County Boundaries (2023)
Google Maps Satellite (2020)

0 150 300 600
Feet
1 inch = 300 feet

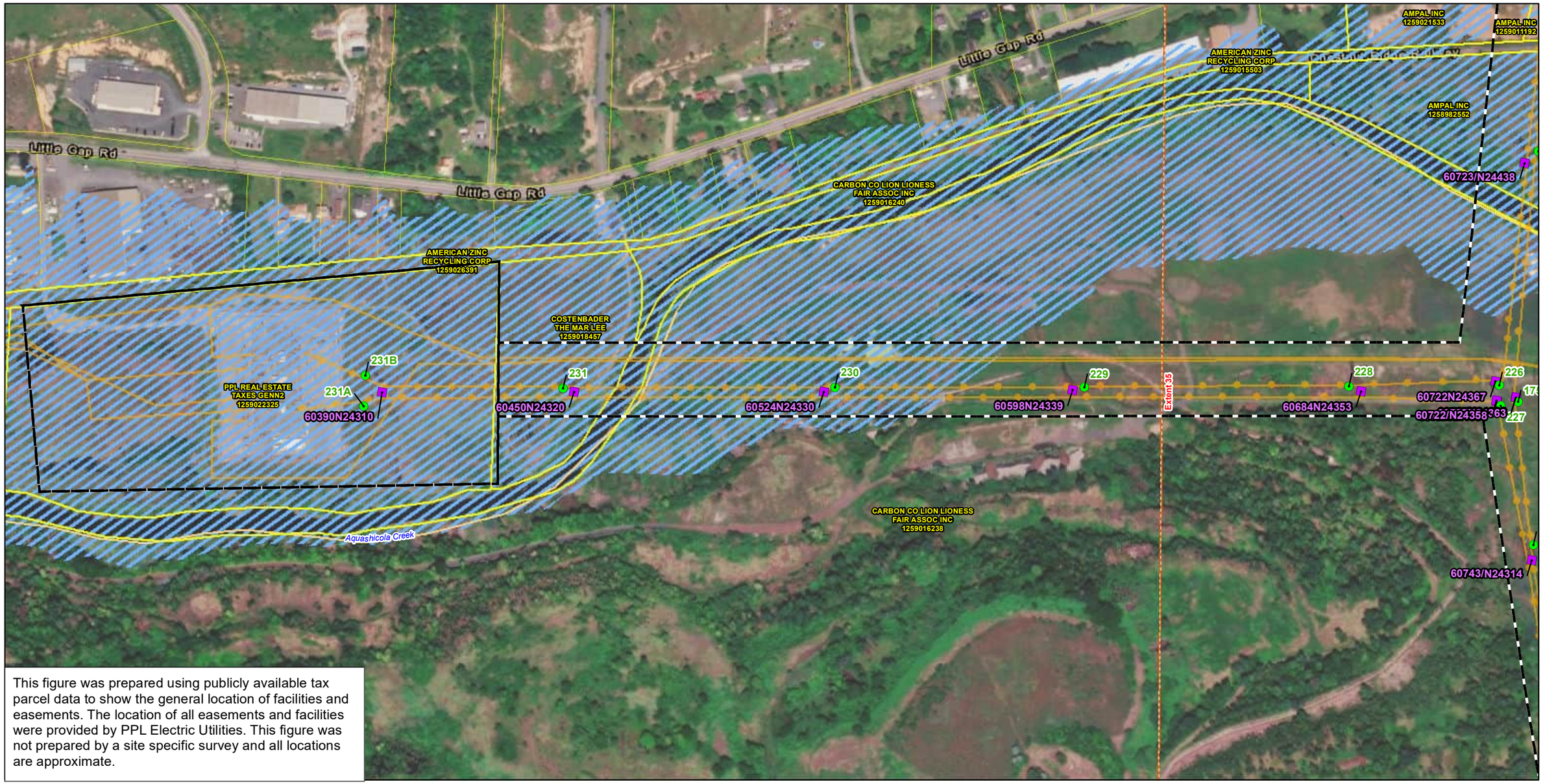


PPL Electric Utilities

FIGURE 3-1
Aerial Project Map
Harwood - E. Palmerton and Siegfried - E. Palmerton Corten Project
Extent 35 of 45
Luzerne, Carbon and Northampton Counties,Pennsylvania
Prepared By: AECOM Technical Services, Inc
Conshohocken, Pennsylvania

Prepared By: MAH	Checked By: BF
Job: 60703770	Date: 11/7/2023

L:\DCS\Projects\IMS\PPL\DEVELOPMENT EXTENT MAPS\Harwood - E Palmerton - Siegfried\Maps\LON\HARWEPALSIEG - Fig 3-1 - Aerial Extents1.mxd



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Legend

- Proposed Structures
- Existing Structure (to be replaced)
- PPL Electric ROW

Existing Transmission Lines

- 69 kV
- 230 kV

Ch.93 Designated Use Stream

- TSF(TROUT STOCKING)
- Parcel Boundary
- PA Municipality Boundary
- Map Extent Box

Notes:

1. Existing structure locations and right-of-way were provided by PPL Electric in January 2023.

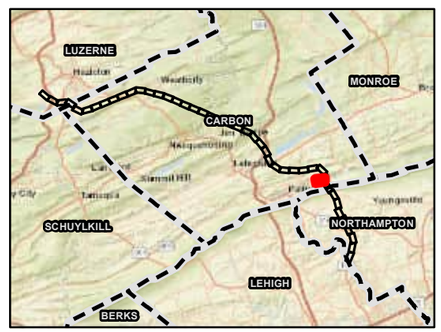
2. Proposed structure locations provided by PPL Electric in May 2023.

3. Existing Transmission Lines provided by PPL Electric in April 2019.

NAD 1983 State Plane
Pennsylvania North FIPS 3701
Projection: Lambert Conformal Conic
Linear Unit: US Foot

References:
Ch. 93 Designated Use Streams (PASDA 2023)
National Wetlands Inventory for PA (USFWS 2021)
National Flood Hazard Data for Carbon, Luzerne and Northampton Counties, PA
(FEMA 2002, 2019 and 2021),
Core Habitat Natural Areas (NHI 2014)
State Lands (PGC and PADCNR 2023)
Existing Transmission Lines (PPL EU, 2019)
PA Municipality & County Boundaries (2023)
Google Maps Satellite (2020)

0 150 300 600
Feet
1 inch = 300 feet

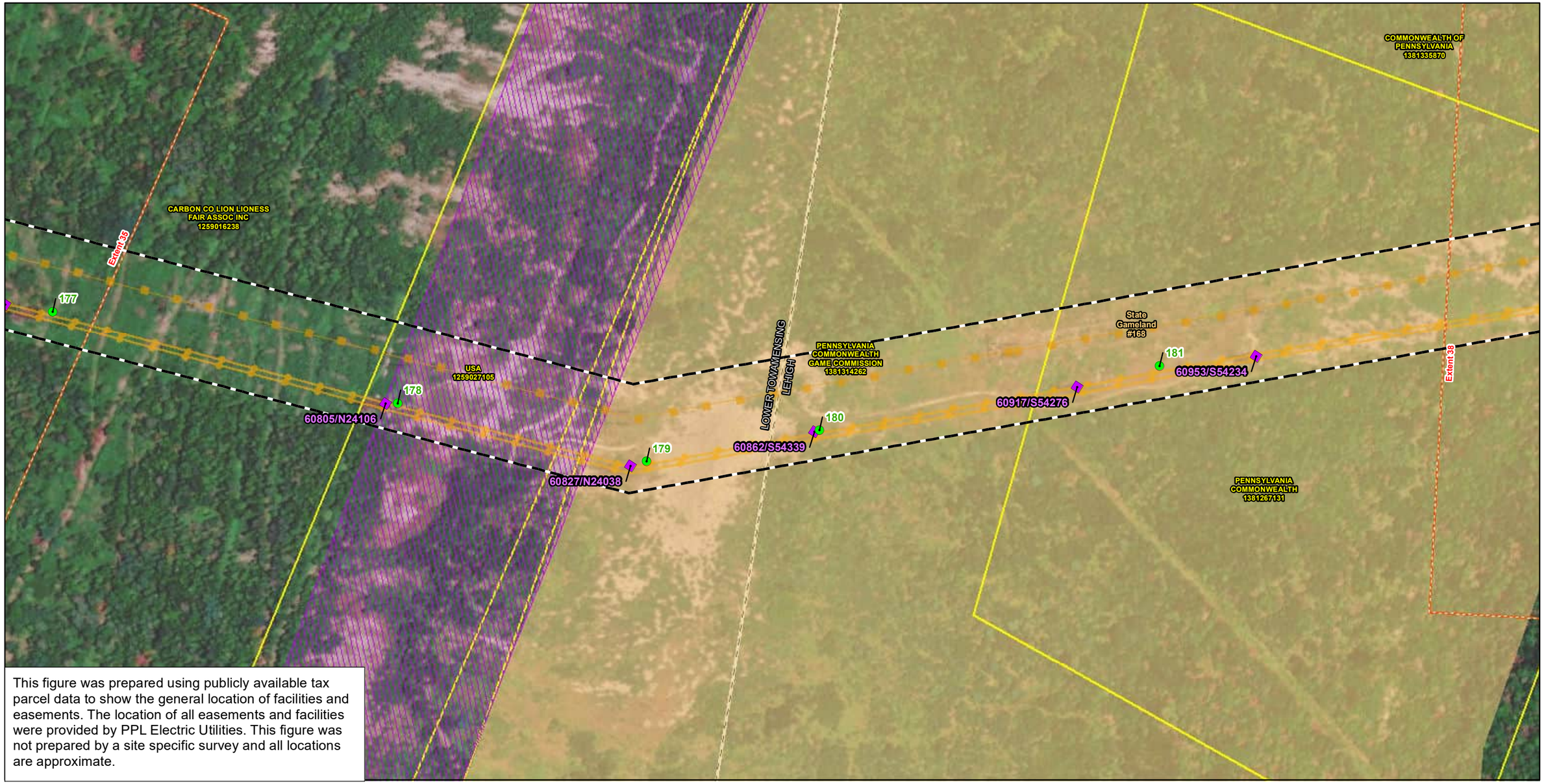


PPL Electric Utilities

FIGURE 3-1
Aerial Project Map
Harwood - E. Palmerton and
Siegfried - E. Palmerton Corten Project
Extent 36 of 45
Luzerne, Carbon and Northampton Counties,Pennsylvania
Prepared By: AECOM Technical Services, Inc
Conshohocken, Pennsylvania

Prepared By: MAH	Checked By: BF
Job: 60703770	Date: 11/7/2023

L:\DCS\Projects\IMS\PPL\DEVELOPMENT EXTENT MAPS\Harwood - E Palmerton - Siegfried\Maps\LON\HARWEPALSIEG - Fig 3-1 - Aerial Extents1.mxd



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Legend

- Proposed Structures
- Existing Structure (to be replaced)
- PPL Electric ROW

Existing Transmission Lines

- 230 kV
- 500 kV
- Appalachian Trail Federal Easement
- State Gameland
- Parcel Boundary
- PA Municipality Boundary
- Map Extent Box

Notes:

1. Existing structure locations and right-of-way were provided by PPL Electric in January 2023.

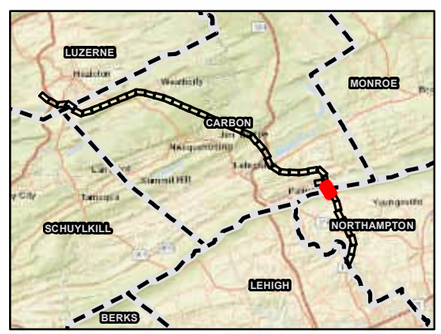
2. Proposed structure locations provided by PPL Electric in May 2023.

3. Existing Transmission Lines provided by PPL Electric in April 2019.

NAD 1983 State Plane
Pennsylvania North FIPS 3701
Projection: Lambert Conformal Conic
Linear Unit: US Foot

References:
Ch. 93 Designated Use Streams (PASDA 2023)
National Wetlands Inventory for PA (USFWS 2021)
National Flood Hazard Data for Carbon, Luzerne and Northampton Counties, PA
(FEMA 2002, 2019 and 2021),
Core Habitat Natural Areas (NHI 2014)
State Lands (PGC and PADCNR 2023)
Existing Transmission Lines (PPL EU, 2019)
PA Municipality & County Boundaries (2023)
Google Maps Satellite (2020)

0 150 300 600
Feet
1 inch = 300 feet

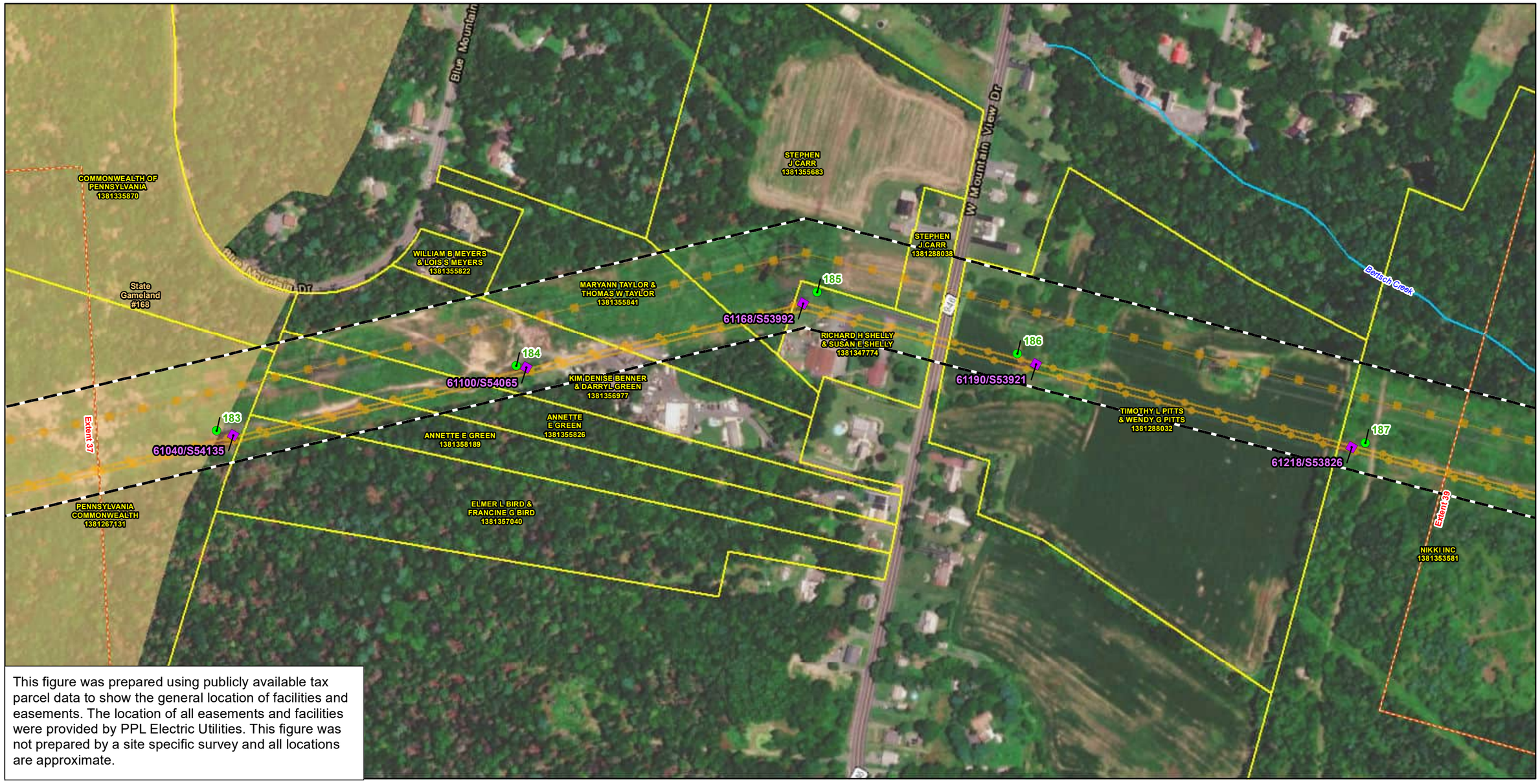


PPL Electric Utilities

FIGURE 3-1
Aerial Project Map
Harwood - E. Palmerton and
Siegfried - E. Palmerton Corten Project
Extent 37 of 45
Luzerne, Carbon and Northampton Counties,Pennsylvania
Prepared By: AECOM Technical Services, Inc
Conshohocken, Pennsylvania

Prepared By: MAH	Checked By: BF
Job: 60703770	Date: 11/7/2023

L:\DCS\Projects\IMS\PPL\DEVELOPMENT EXTENT MAPS\Harwood - E Palmerton - Siegfried\Maps\LON\HARWEPALSIEG - Fig 3-1 - Aerial Extents1.mxd



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Legend

- Proposed Structures
- Existing Structure (to be replaced)
- PPL Electric ROW
- Map Extent Box

Existing Transmission Lines

- 230 kV
- 500 kV

Ch.93 Designated Use Stream

- CWF(COLD WATER FISHES)
- State Gameland
- Parcel Boundary
- PA Municipality Boundary

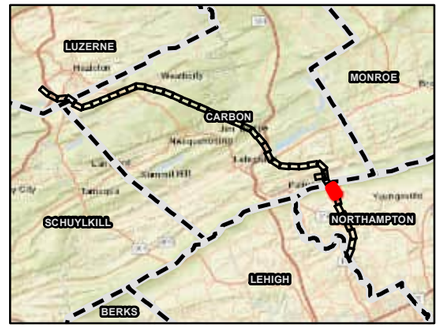
Notes:

1. Existing structure locations and right-of-way were provided by PPL Electric in January 2023.
2. Proposed structure locations provided by PPL Electric in May 2023.
3. Existing Transmission Lines provided by PPL Electric in April 2019.

NAD 1983 State Plane
Pennsylvania North FIPS 3701
Projection: Lambert Conformal Conic
Linear Unit: US Foot

References:
Ch. 93 Designated Use Streams (PASDA 2023)
National Wetlands Inventory for PA (USFWS 2021)
National Flood Hazard Data for Carbon, Luzerne and Northampton Counties, PA
(FEMA 2002, 2019 and 2021),
Core Habitat Natural Areas (NHI 2014)
State Lands (PGC and PADCNR 2023)
Existing Transmission Lines (PPL EU, 2019)
PA Municipality & County Boundaries (2023)
Google Maps Satellite (2020)

0 150 300 600
Feet
1 inch = 300 feet



PPL Electric Utilities

FIGURE 3-1
Aerial Project Map
Harwood - E. Palmerton and
Siegfried - E. Palmerton Corten Project
Extent 38 of 45
Luzerne, Carbon and Northampton Counties,Pennsylvania
Prepared By: AECOM Technical Services, Inc
Conshohocken, Pennsylvania

Prepared By: MAH	Checked By: BF
Job: 60703770	Date: 11/7/2023

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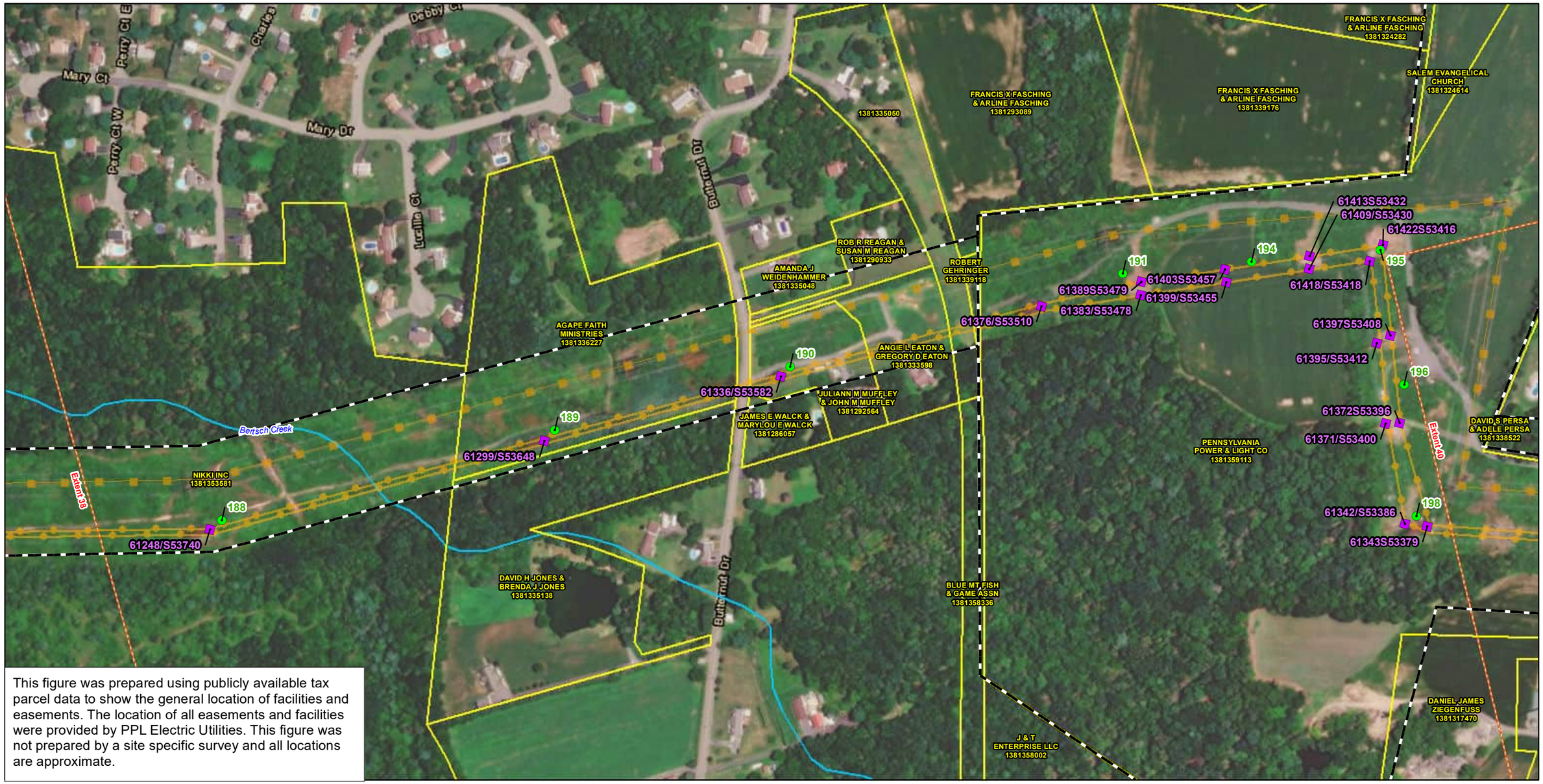

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Legend

- Proposed Structures
- Existing Structure (to be replaced)
- PPL Electric ROW

Existing Transmission Lines

- 230 kV
- 500 kV

Ch.93 Designated Use Stream

- CWF(COLD WATER FISHES)
- Parcel Boundary
- PA Municipality Boundary
- Map Extent Box

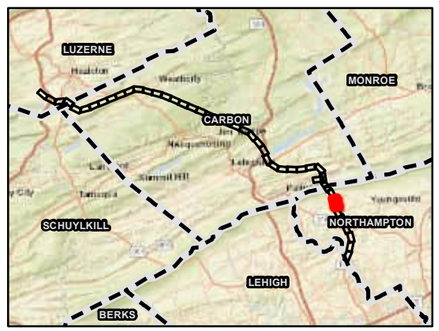
Notes:

1. Existing structure locations and right-of-way were provided by PPL Electric in January 2023.
2. Proposed structure locations provided by PPL Electric in May 2023.
3. Existing Transmission Lines provided by PPL Electric in April 2019.

NAD 1983 State Plane
Pennsylvania North FIPS 3701
Projection: Lambert Conformal Conic
Linear Unit: US Foot

References:
Ch. 93 Designated Use Streams (PASDA 2023)
National Wetlands Inventory for PA (USFWS 2021)
National Flood Hazard Data for Carbon, Luzerne and Northampton Counties, PA (FEMA 2002, 2019 and 2021).
Core Habitat Natural Areas (NHI 2014)
State Lands (PGC and PADCNR 2023)
Existing Transmission Lines (PPL EU, 2019)
PA Municipality & County Boundaries (2023)
Google Maps Satellite (2020)

0 150 300 600
Feet
1 inch = 300 feet



PPL Electric Utilities

FIGURE 3-1
Aerial Project Map
Harwood - E. Palmerton and Siegfried - E. Palmerton Corten Project
Extent 39 of 45
Luzerne, Carbon and Northampton Counties,Pennsylvania
Prepared By: AECOM Technical Services, Inc
Conshohocken, Pennsylvania

Prepared By: MAH	Checked By: BF
Job: 60703770	Date: 11/7/2023

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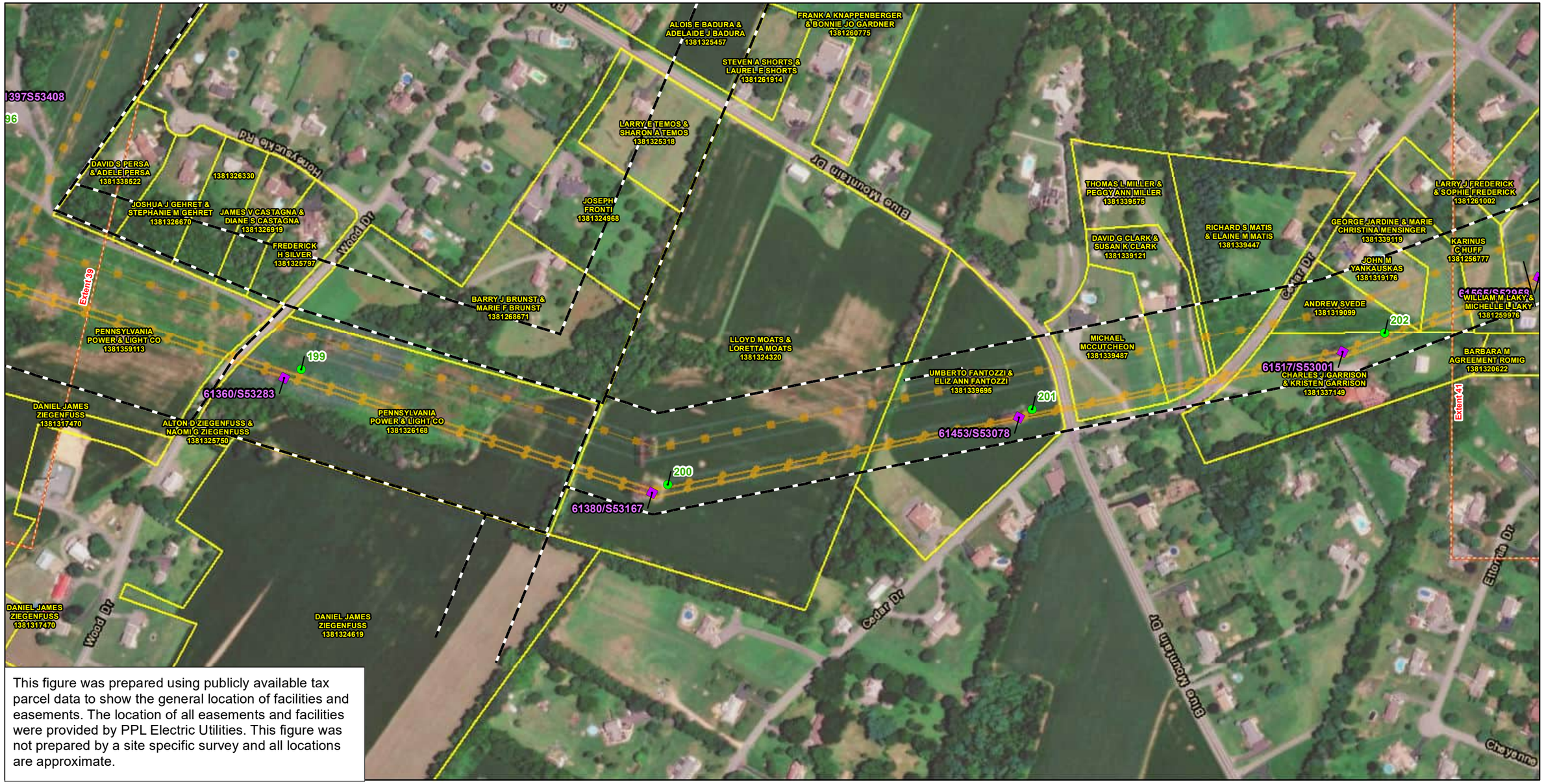

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Legend

- Proposed Structures
- Existing Structure (to be replaced)
- PPL Electric ROW

Existing Transmission Lines

- 230 kV
- 500 kV
- Parcel Boundary
- PA Municipality Boundary
- Map Extent Box

Notes:

1. Existing structure locations and right-of-way were provided by PPL Electric in January 2023.

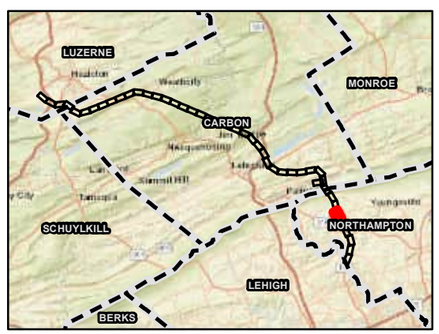
2. Proposed structure locations provided by PPL Electric in May 2023.

3. Existing Transmission Lines provided by PPL Electric in April 2019.

NAD 1983 State Plane
Pennsylvania North FIPS 3701
Projection: Lambert Conformal Conic
Linear Unit: US Foot

References:
Ch. 93 Designated Use Streams (PASDA 2023)
National Wetlands Inventory for PA (USFWS 2021)
National Flood Hazard Data for Carbon, Luzerne and Northampton Counties, PA
(FEMA 2002, 2019 and 2021).
Core Habitat Natural Areas (NHI 2014)
State Lands (PGC and PADCNR 2023)
Existing Transmission Lines (PPL EU, 2019)
PA Municipality & County Boundaries (2023)
Google Maps Satellite (2020)

0 150 300 600
Feet
1 inch = 300 feet



PPL Electric Utilities

FIGURE 3-1
Aerial Project Map
Harwood - E. Palmerton and
Siegfried - E. Palmerton Corten Project
Extent 40 of 45
Luzerne, Carbon and Northampton Counties,Pennsylvania
Prepared By: AECOM Technical Services, Inc
Conshohocken, Pennsylvania

Prepared By: MAH	Checked By: BF
Job: 60703770	Date: 11/7/2023

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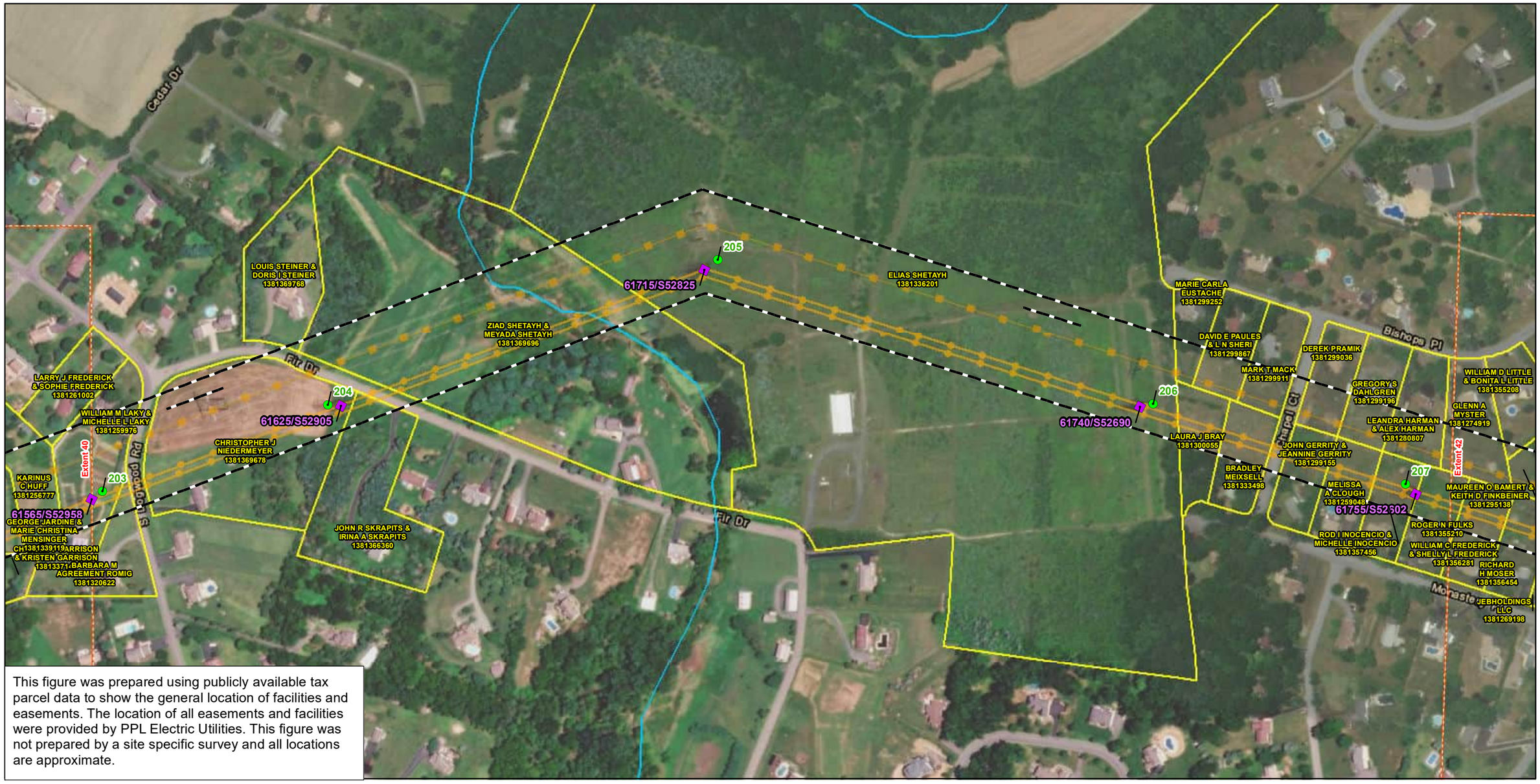

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Legend

- Proposed Structures
- Existing Structure (to be replaced)
- PPL Electric ROW

Existing Transmission Lines

- 230 kV
- 500 kV

Ch.93 Designated Use Stream

- CWF(COLD WATER FISHES)
- Parcel Boundary
- PA Municipality Boundary
- Map Extent Box

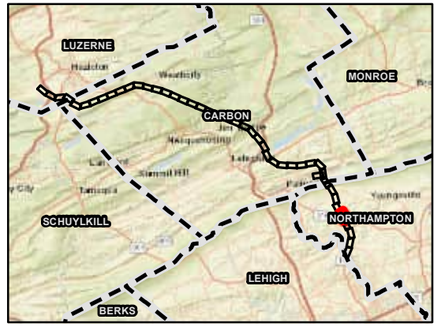
Notes:

1. Existing structure locations and right-of-way were provided by PPL Electric in January 2023.
2. Proposed structure locations provided by PPL Electric in May 2023.
3. Existing Transmission Lines provided by PPL Electric in April 2019.

NAD 1983 State Plane
Pennsylvania North FIPS 3701
Projection: Lambert Conformal Conic
Linear Unit: US Foot

References:
Ch. 93 Designated Use Streams (PASDA 2023)
National Wetlands Inventory for PA (USFWS 2021)
National Flood Hazard Data for Carbon, Luzerne and Northampton Counties, PA
(FEMA 2002, 2019 and 2021),
Core Habitat Natural Areas (NHI 2014)
State Lands (PGC and PADCNR 2023)
Existing Transmission Lines (PPL EU, 2019)
PA Municipality & County Boundaries (2023)
Google Maps Satellite (2020)

0 150 300 600
Feet
1 inch = 300 feet



PPL Electric Utilities

FIGURE 3-1
Aerial Project Map
Harwood - E. Palmerton and Siegfried - E. Palmerton Corten Project
Extent 41 of 45
Luzerne, Carbon and Northampton Counties,Pennsylvania
Prepared By: AECOM Technical Services, Inc
Conshohocken, Pennsylvania

Prepared By: MAH	Checked By: BF
Job: 60703770	Date: 11/7/2023

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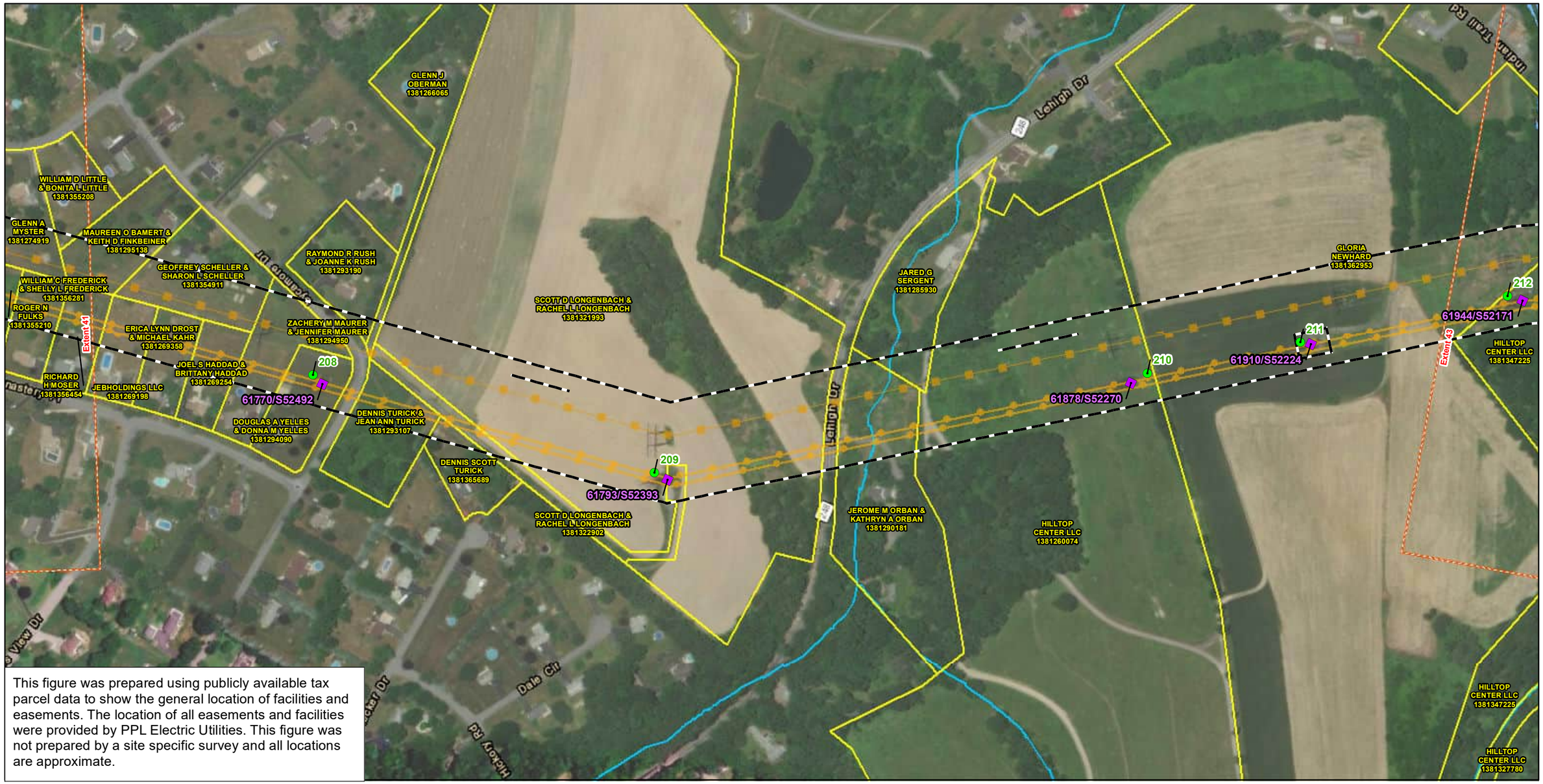

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Legend

- Proposed Structures
- Existing Structure (to be replaced)
- PPL Electric ROW
- Map Extent Box

Existing Transmission Lines

- 230 kV
- 500 kV

Ch.93 Designated Use Stream

- CWF(COLD WATER FISHES)
- 100-Year Floodplain
- Parcel Boundary
- PA Municipality Boundary

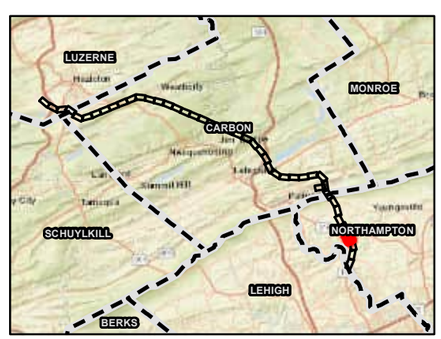
Notes:

1. Existing structure locations and right-of-way were provided by PPL Electric in January 2023.
2. Proposed structure locations provided by PPL Electric in May 2023.
3. Existing Transmission Lines provided by PPL Electric in April 2019.

NAD 1983 State Plane
Pennsylvania North FIPS 3701
Projection: Lambert Conformal Conic
Linear Unit: US Foot

References:
Ch. 93 Designated Use Streams (PASDA 2023)
National Wetlands Inventory for PA (USFWS 2021)
National Flood Hazard Data for Carbon, Luzerne and Northampton Counties, PA (FEMA 2002, 2019 and 2021),
Core Habitat Natural Areas (NHI 2014)
State Lands (PGC and PADCNR 2023)
Existing Transmission Lines (PPL EU, 2019)
PA Municipality & County Boundaries (2023)
Google Maps Satellite (2020)

0 150 300 600
Feet
1 inch = 300 feet



PPL Electric Utilities

FIGURE 3-1
Aerial Project Map
Harwood - E. Palmerton and
Siegfried - E. Palmerton Corten Project
Extent 42 of 45
Luzerne, Carbon and Northampton Counties,Pennsylvania
Prepared By: AECOM Technical Services, Inc
Conshohocken, Pennsylvania

Prepared By: MAH	Checked By: BF
Job: 60703770	Date: 11/7/2023

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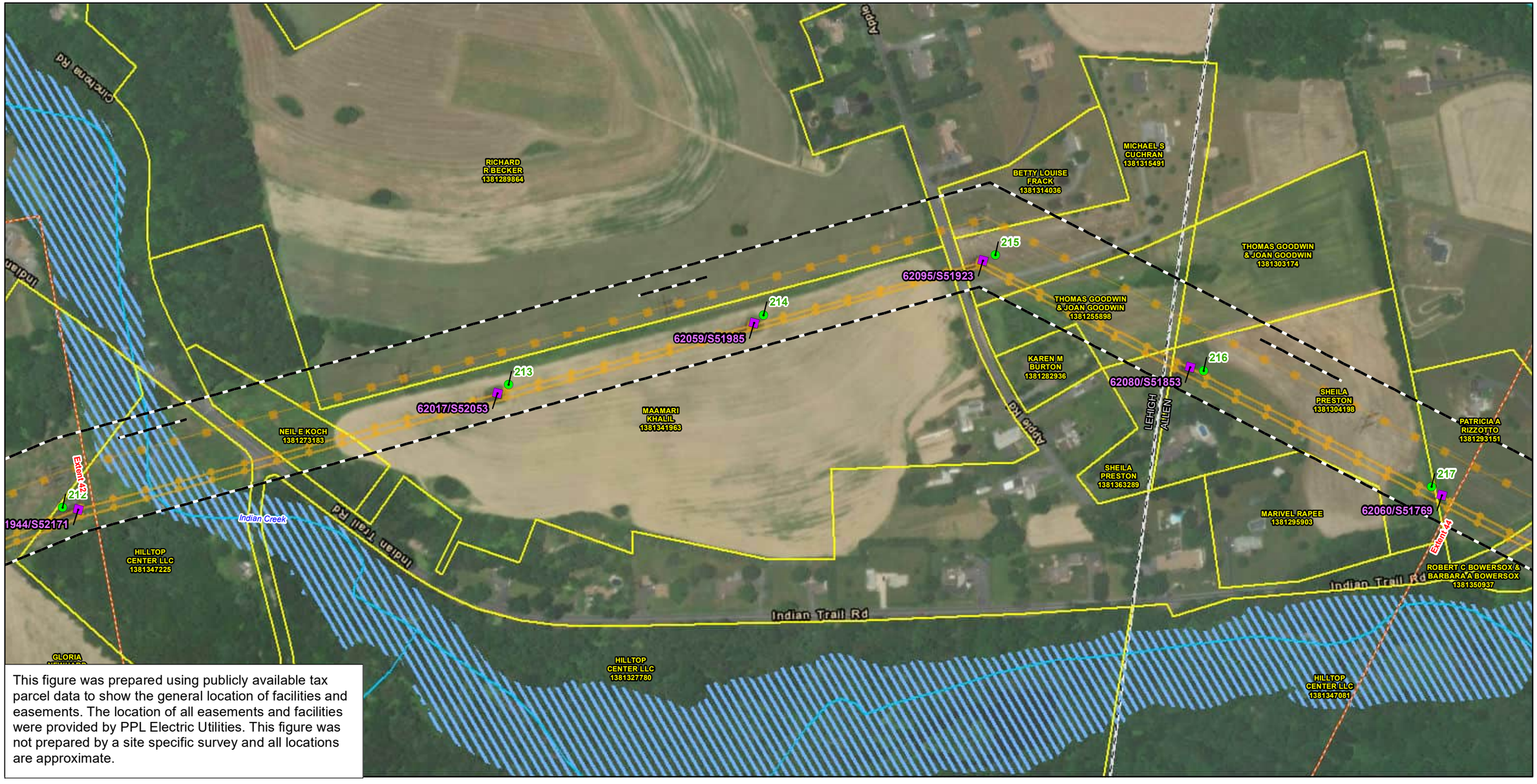

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Legend

- Proposed Structures
- Existing Structure (to be replaced)
- PPL Electric ROW
- Map Extent Box

Existing Transmission Lines

- 230 kV
- 500 kV

Ch.93 Designated Use Stream

- CWF(COLD WATER FISHES)
- 100-Year Floodplain
- Parcel Boundary
- PA Municipality Boundary

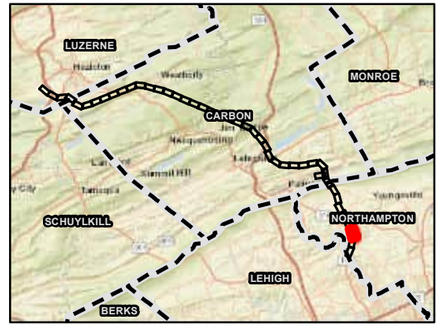
Notes:

1. Existing structure locations and right-of-way were provided by PPL Electric in January 2023.
2. Proposed structure locations provided by PPL Electric in May 2023.
3. Existing Transmission Lines provided by PPL Electric in April 2019.

NAD 1983 State Plane
Pennsylvania North FIPS 3701
Projection: Lambert Conformal Conic
Linear Unit: US Foot

References:
Ch. 93 Designated Use Streams (PASDA 2023)
National Wetlands Inventory for PA (USFWS 2021)
National Flood Hazard Data for Carbon, Luzerne and Northampton Counties, PA
(FEMA 2002, 2019 and 2021),
Core Habitat Natural Areas (NHI 2014)
State Lands (PGC and PADCNR 2023)
Existing Transmission Lines (PPL EU, 2019)
PA Municipality & County Boundaries (2023)
Google Maps Satellite (2020)

0 150 300 600
Feet
1 inch = 300 feet



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PPL Electric Utilities

FIGURE 3-1
Aerial Project Map
Harwood - E. Palmerton and Siegfried - E. Palmerton Corten Project
Extent 43 of 45
Luzerne, Carbon and Northampton Counties,Pennsylvania
Prepared By: AECOM Technical Services, Inc
Conshohocken, Pennsylvania

Prepared By: MAH	Checked By: BF
Job: 60703770	Date: 11/7/2023

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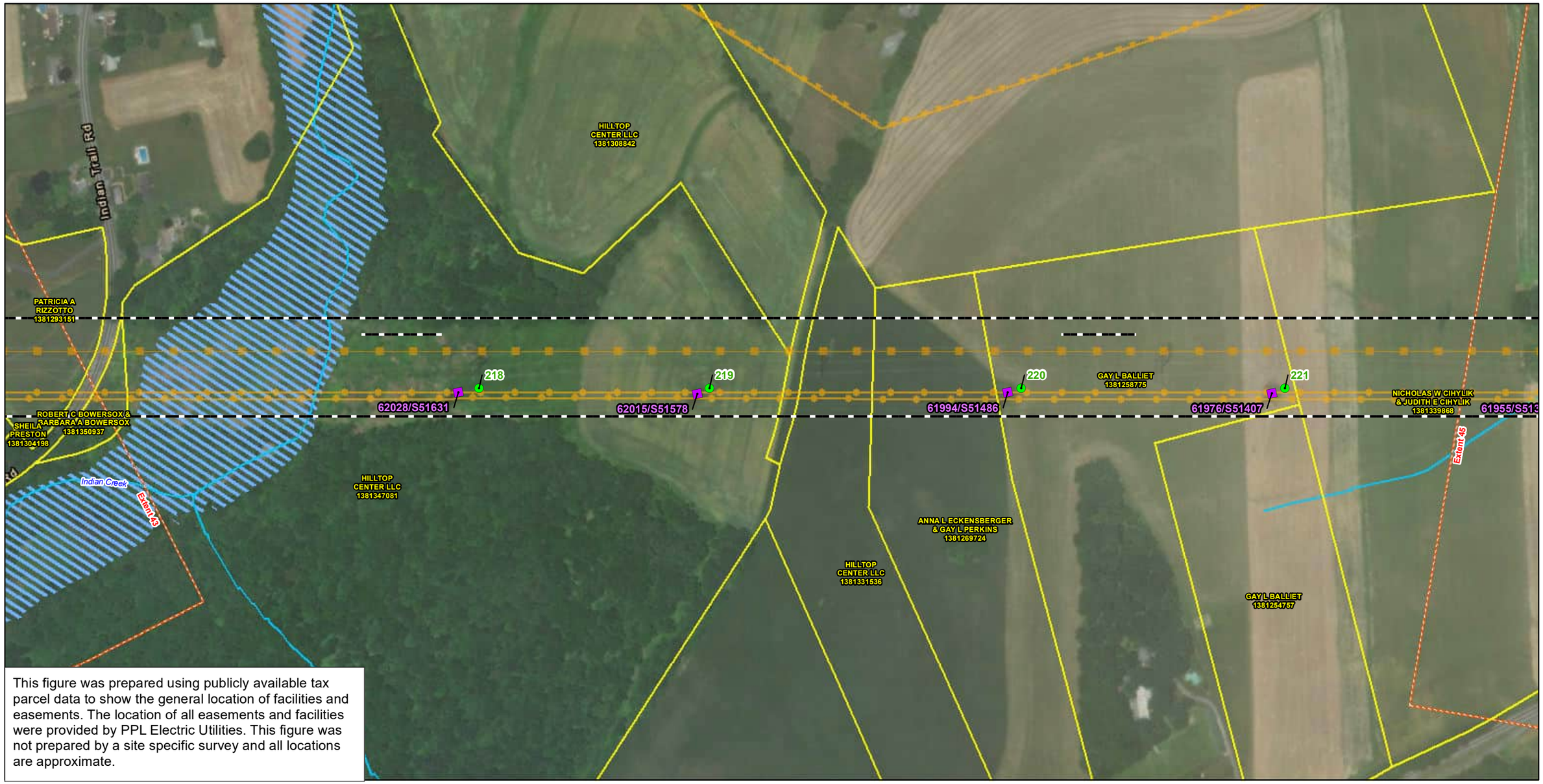

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Legend

- Proposed Structures
- Existing Structure (to be replaced)
- PPL Electric ROW
- PA Municipality Boundary
- Map Extent Box

Existing Transmission Lines

- 138 kV
- 230 kV
- 500 kV

Ch.93 Designated Use Stream

- CWF(COLD WATER FISHES)
- 100-Year Floodplain
- Parcel Boundary

Notes:

1. Existing structure locations and right-of-way were provided by PPL Electric in January 2023.

2. Proposed structure locations provided by PPL Electric in May 2023.

3. Existing Transmission Lines provided by PPL Electric in April 2019.

NAD 1983 State Plane
Pennsylvania North FIPS 3701
Projection: Lambert Conformal Conic
Linear Unit: US Foot

References:
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National Wetlands Inventory for PA (USFWS 2021)
National Flood Hazard Data for Carbon, Luzerne and Northampton Counties, PA
(FEMA 2002, 2019 and 2021),
Core Habitat Natural Areas (NHI 2014)
State Lands (PGC and PADCNR 2023)
Existing Transmission Lines (PPL EU, 2019)
PA Municipality & County Boundaries (2023)
Google Maps Satellite (2020)

0 150 300 600
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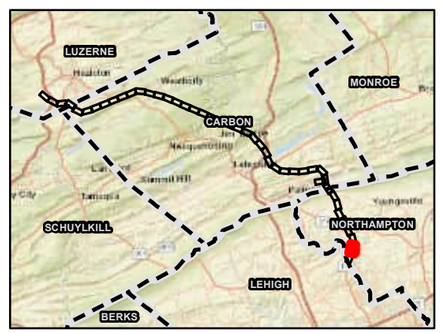
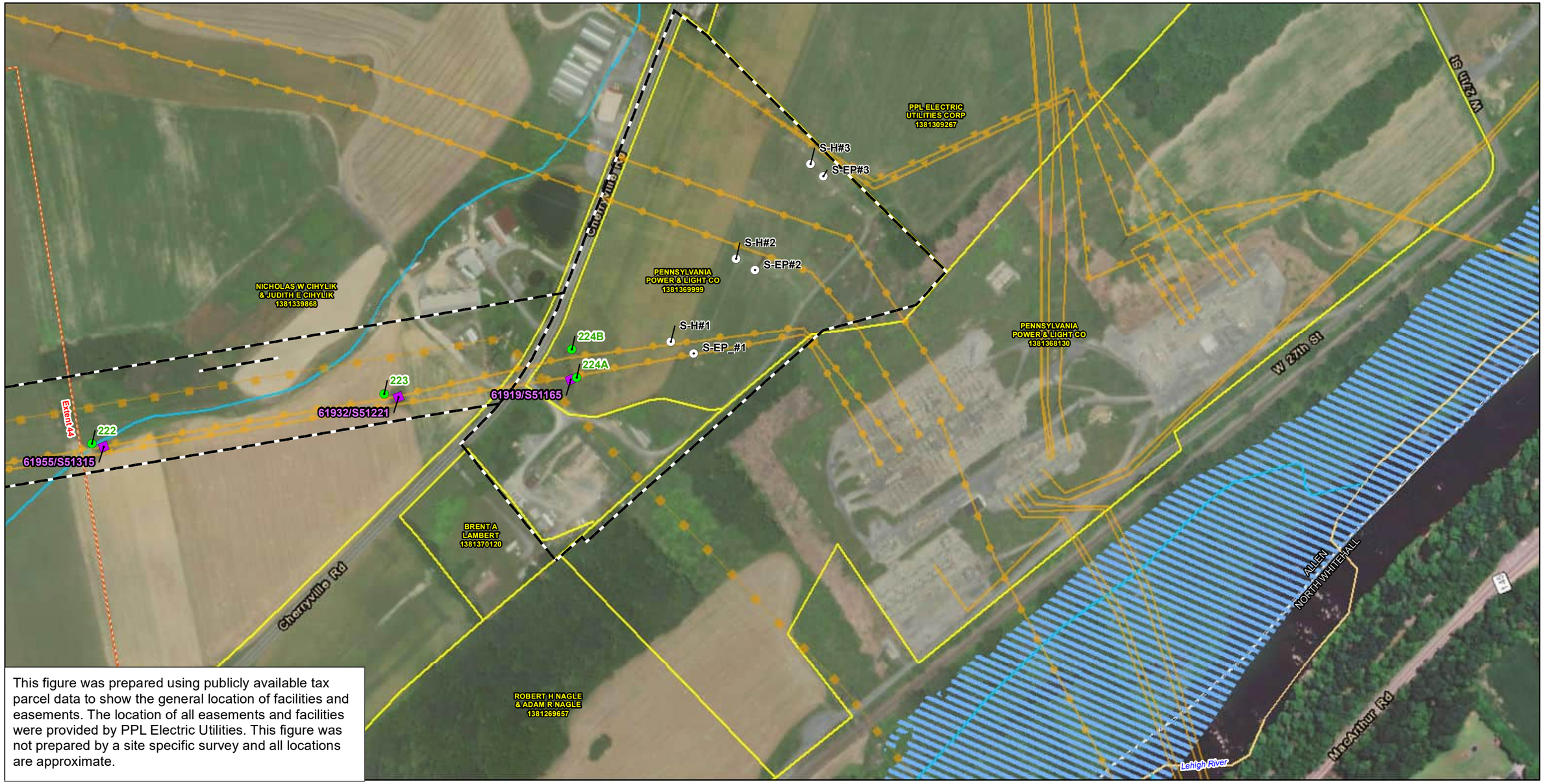


PPL Electric Utilities

FIGURE 3-1
Aerial Project Map
Harwood - E. Palmerton and
Siegfried - E. Palmerton Corten Project
Extent 44 of 45
Luzerne, Carbon and Northampton Counties,Pennsylvania
Prepared By: AECOM Technical Services, Inc
Conshohocken, Pennsylvania

Prepared By: MAH	Checked By: BF
Job: 60703770	Date: 11/7/2023

L:\DCS\Projects\IMS\PPL\DEVELOPMENT EXTENT MAPS\Harwood - E Palmerton - Siegfried\Maps\LON\HARWEPALSIEG - Fig 3-1 - Aerial Extents1.mxd



This figure was prepared using publicly available tax parcel data to show the general location of facilities and easements. The location of all easements and facilities were provided by PPL Electric Utilities. This figure was not prepared by a site specific survey and all locations are approximate.

Legend

- Existing Structure (to remain)
- Proposed Structures
- Existing Structure (to be replaced)
- PPL Electric ROW

Existing Transmission Lines

- 69 kV
- 138 kV
- 230 kV
- 500 kV

Ch.93 Designated Use Stream

- TSF(TROUT STOCKING)
- CWF(COLD WATER FISHES)
- 100-Year Floodplain
- Parcel Boundary
- PA Municipality Boundary
- Map Extent Box

Notes:

1. Existing structure locations and right-of-way were provided by PPL Electric in January 2023.

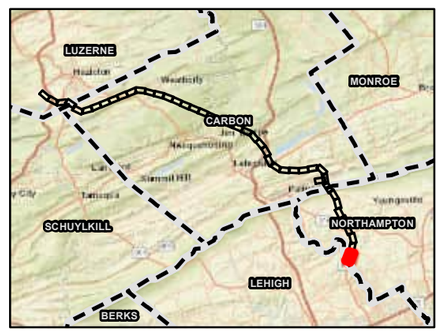
2. Proposed structure locations provided by PPL Electric in May 2023.

3. Existing Transmission Lines provided by PPL Electric in April 2019.

NAD 1983 State Plane
Pennsylvania North FIPS 3701
Projection: Lambert Conformal Conic
Linear Unit: US Foot

References:
Ch. 93 Designated Use Streams (PASDA 2023)
National Wetlands Inventory for PA (USFWS 2021)
National Flood Hazard Data for Carbon, Luzerne and Northampton Counties, PA
(FEMA 2002, 2019 and 2021),
Core Habitat Natural Areas (NHI 2014)
State Lands (PGC and PADCNR 2023)
Existing Transmission Lines (PPL EU, 2019)
PA Municipality & County Boundaries (2023)
Google Maps Satellite (2020)

0 150 300 600
Feet
1 inch = 300 feet



PPL Electric Utilities

FIGURE 3-1
Aerial Project Map
Harwood - E. Palmerton and
Siegfried - E. Palmerton Corten Project
Extent 45 of 45
Luzerne, Carbon and Northampton Counties,Pennsylvania
Prepared By: AECOM Technical Services, Inc
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Prepared By: MAH	Checked By: BF
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L:\DCS\Projects\IMS\PPL\DEVELOPMENT EXTENT MAPS\Harwood - E Palmerton - Siegfried\Maps\LON\HARWEPALSIEG - Fig 3-1 - Aerial Extents1.mxd

PPL ELECTRIC
ATTACHMENT 4

HARWOOD-EAST PALMERTON & SIEGFRIED-EAST PALMERTON REBUILD PROJECT

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1.0 DESIGN CONSIDERATIONS

PPL Electric Utilities Corporation's ("PPL Electric") new and rebuilt transmission lines are designed according to, and generally exceed, all National Electric Safety Code ("NESC") minimum standards. The NESC is a set of rules guiding safety standards during the installation, operation, and maintenance of electric power lines. The NESC contains the basic provisions considered necessary for the safety of employees and the public. Although it is not intended as a design specification, its provisions establish minimum design requirements. PPL Electric has developed design specifications and safety rules which meet or surpass all requirements specified by the NESC.

The NESC includes loading requirements and clearances for the design, construction, and operation of power lines. The "loads" on conductors and supporting structures are the mechanical forces that develop from the weight of the conductors, the weight of ice on the conductors, plus wind pressure on the conductors and supporting structures. Loading requirements are the loads on the conductors and structures that are anticipated assuming certain ice and wind conditions. Loading requirements always contain "safety factors" to allow for unknown or unanticipated contingencies. The clearances and loading requirements contained in the NESC are designed to maintain public safety.

The NESC specifies strength and loading rules based on three different "grades of construction" for conductors and supporting structures:

- Grade B – This grade of construction provides the highest margin of safety and is required when the pole supports spans that cross limited access highways, railroads, and waterways.
- Grade C – This grade of construction is most common and provides a basic margin of safety. It is often utilized for the typical power and joint-use distribution pole.
- Grade N – This is the lowest grade of construction and is most often used for emergency and temporary construction.

PPL Electric designs all its transmission lines for Grade B construction. The use of Grade B design and construction translates to higher levels of structural reliability and safety to withstand the environmental conditions of ice and/or wind loading.

PPL Electric's rigorous design standards are further incorporated into the parameters utilized to account for ice and wind loadings on the wires and structure. Structure loading and line designs

must accommodate a variety of operating conditions as different ice and wind combinations can impact the conductor sags and tensions of the line. PPL Electric's transmission lines are designed to exceed NESC requirements by accounting for additional load cases due to various ice and wind loading conditions beyond what is required by NESC. This means that PPL Electric lines are designed to operate safely and reliably during extreme inclement weather. In addition, PPL Electric design standards include a clearance to ground buffer in excess of NESC required clearances to account for construction and design tolerances and the filling or grading of land within the right-of-way by property owners. This buffer also significantly reduces the risk of a property owner inadvertently contacting a transmission line. This has occurred on PPL Electric's system in the past and higher clearances minimize the likelihood of future occurrences.

TABLE 4-1: 69 kV Vertical Clearance to Ground

Surface Underneath Conductors	NESC Standard Clearance	PPL Conductor Clearances
Roads, streets, and other areas subject to truck traffic	19.2 Ft.	22.2 Ft.
Other land traversed by vehicles such as cultivated grazing, forest, orchards, etc.	19.2 Ft.	22.2 Ft.
Spaces and ways subject to pedestrians or restricted traffic only	15.2 Ft.	22.2 Ft.
Track rails of railroads (except electrified railroads using overhead trolley conductors)	27.2 Ft.	30.2 Ft.

TABLE 4-2: 138 kV Vertical Clearance to Ground

Surface Underneath Conductors	NESC Standard Clearance	PPL Conductor Clearances
Roads, streets, and other areas subject to truck traffic	20.6 Ft.	23.6 Ft.
Other land traversed by vehicles such as cultivated grazing, forest, orchards, etc.	20.6 Ft.	23.6 Ft.
Spaces and ways subject to pedestrians or restricted traffic only	16.6 Ft.	23.6 Ft.
Track rails of railroads (except electrified railroads using overhead trolley conductors)	28.6 Ft.	31.6 Ft.

TABLE 4-3: 230 kV Vertical Clearance to Ground

Surface Underneath Conductors	NESC Standard Clearance	PPL Conductor Clearances
Roads, streets, and other areas subject to truck traffic	22.5 Ft.	25.5 Ft.
Other land traversed by vehicles such as cultivated grazing, forest, orchards, etc.	22.5 Ft.	25.5 Ft.
Spaces and ways subject to pedestrians or restricted traffic only	18.5 Ft.	25.5 Ft.
Track rails of railroads (except electrified railroads using overhead trolley conductors)	30.5 Ft.	33.5 Ft.

TABLE 4-4: 500 kV Vertical Clearance to Ground

Surface Underneath Conductors	NESC Standard Clearance	PPL Conductor Clearances
Roads, streets, and other areas subject to truck traffic	28.4 Ft.	31.4 Ft.
Other land traversed by vehicles such as cultivated grazing, forest, orchards, etc.	28.4 Ft.	31.4 Ft.
Spaces and ways subject to pedestrians or restricted traffic only	24.4 Ft.	31.4 Ft.
Track rails of railroads (except electrified railroads using overhead trolley conductors)	36.4 Ft.	39.4 Ft.

A relay protection system is also used on PPL Electric's transmission lines to protect public safety, as well as the equipment on the transmission system. The purpose of relay protection is to automatically de-energize the line in the unlikely event that the line or supporting structure fails and the line contacts the ground.

2.0 PERIODIC MAINTENANCE PROGRAM ON ALL TRANSMISSION LINES

To ensure continued public safety and integrity of service, a periodic maintenance and inspection program is implemented for every transmission line. The program is administered using helicopter patrols, with supplemental foot patrols as needed. Helicopter patrols are performed on all lines on

a predetermined frequency, depending on voltage level. The two-man helicopter crew flies parallel to and above the line so that the observer can look for signs of line damage or deterioration and observe clearances between vegetation and conductors. The observations are included in a report that is forwarded to the appropriate department for corrective action.

3.0 PERSONNEL SAFETY RULES

Overall, PPL Electric designs and constructs projects with high regard to both public and employee safety and follows or exceeds all codes and requirements. The following are a few examples of PPL Electric's safety rules that demonstrate its dedication to employee and contractor safety:

- Procedures have been developed to allow work to be performed on energized facilities in a safe manner. When lines or apparatus are removed from service to be worked on, the Energy Control Process system is applied. This system provides that a red tag must be physically placed on the control handle of the de-energized equipment.
- The red tag may be removed only after proper authorization to energize the equipment has been received.
- Various other tags are used for limited operations and informational purposes.
- Employees or contractors will not apply or remove a tag or change the status of tagged equipment unless authorized.
- Temporary safety grounds are used on de-energized facilities for employee lineman safety during maintenance, construction, or reconstruction work. Safety grounds are wires connecting the de-energized facility to an electrical ground. If the facility should be energized, the safety grounds will divert the current directly to ground and reduce the likelihood of personal injury.
- Before applying grounds, a voltage test is performed to confirm that the line is de-energized. The voltage test device is checked before and after use to assure reliability.
- Poles or structures are inspected and examined for structural integrity before climbing. If there is any reason to believe that a pole is unsafe, it is stabilized before work is performed.

Appropriate safety gear in the form of body belts, safety straps, hard hats, gloves, etc., is worn by linemen during line work activity.

4.0 MAGNETIC FIELD MANAGEMENT PLAN

PPL Electric's Magnetic Field Management Program is applied to new and reconstructed transmission line projects. Although there is no current scientific evidence demonstrating that magnetic fields cause any adverse health effects or pose a health or safety threat to the public, PPL Electric has established a policy to design its new and rebuilt transmission lines to reduce magnetic fields. To lower magnetic field exposures, the program generally prescribes the use of a line design that provides ground clearances higher than the required minimum NESC ground clearance and reverse phasing of new double circuit lines where it is feasible to do so at low or no cost. The implementation of additional modifications to reduce magnetic field levels is considered, provided those modifications can be made at low or no cost and will not interfere with the operation of the line.

The program will be applied to this Project and designed with clearances that are at least three feet higher than NESC standards.

PPL ELECTRIC
ATTACHMENT 5

HARWOOD-EAST PALMERTON & SIEGFRIED-EAST PALMERTON 230 kV COR-TEN® REBUILD PROJECT

STATE AGENCIES

Pennsylvania Bureau of Investigation and Enforcement
Pennsylvania Public Utility Commission
Commonwealth Keystone Building
400 North Street
2nd Floor, Room-N201
Harrisburg, Pennsylvania 17120
Attn: Alison Kaster

Pennsylvania Department of Environmental Protection
400 Market Street
10th Floor Rachel Carson State Office Building
Harrisburg, Pennsylvania 17101
Attn: Regional Permit Coordination Office

Pennsylvania Department of Transportation
Keystone Building
400 North Street, Ninth Floor
Harrisburg, Pennsylvania 17120
Attn: Jeffrey Spotts, Chief Counsel

Pennsylvania Historical and Museum Commission
Bureau for Historic Preservation
Commonwealth Keystone Building, Second Floor
400 North Street
Harrisburg, Pennsylvania 17120-0093
Attn: Ms. Emma Diehl, Division Manager

Pennsylvania Department of Conservation and Natural Resources
Rachel Carson State Office Building
400 Market Street
Harrisburg, Pennsylvania 17105-8767
Attn: Rebecca Bowen, Ecological Services Section Chief

Pennsylvania Game Commission
2001 Elmerton Avenue
Harrisburg, Pennsylvania 17110-9797
Attn: David Gustafson, Director, Bureau of Wildlife Habitat Management

Pennsylvania Fish and Boat Commission
450 Robinson Lane
Bellefonte, Pennsylvania 16823-9620
Attn: Christopher A. Urban, Chief, Natural Diversity Section

Pennsylvania Office of Consumer Advocate
555 Walnut Street
5th Floor Forum Place
Harrisburg, Pennsylvania 17101-1923
Attn: Patrick Cicero, Consumer Advocate

Pennsylvania Office of Small Business Advocate
555 Walnut Street
1st Floor Forum Place
Harrisburg, Pennsylvania 17101
Attn: Steven C. Gray, Senior Supervising Assistant Small Business Advocate

FEDERAL AGENCIES

U.S. Army Corps of Engineers
Baltimore District Corporate Communication Office
2 Hopkins Plaza
Baltimore, Maryland 21201
Attn: Planning Division

U.S. Fish and Wildlife Service
Pennsylvania Field Office
110 Radnor Rd, Suite 101
State College, Pennsylvania 16801
Attn: Lesa Lindsay

COUNTY AGENCIES

Luzerne County Conservation District
325 Smiths Pond Road
Shavertown, Pennsylvania 18708
ATTN: Josh Longmore, Executive Director

Luzerne County Planning Commission
Penn Place Building
20 North Pennsylvania Avenue
Wilkes-Barre, Pennsylvania 19712
ATTN: N. Brian Caverly, Chair

Carbon County Conservation District
5664 Interchange Road
Lehighton, Pennsylvania 18235
ATTN: Roger Shoenberger, Chair

Carbon County Planning Commission
2 Hazard Square
Jim Thorpe, Pennsylvania 18229
ATTN: Fred Bresswein, Chair

Northampton County Conservation District
14 Gracedale Avenue
Nazareth, Pennsylvania 18064
ATTN: Unknown

Northampton County Planning Commission
Lehigh Valley Planning Commission
961 Marcon Boulevard #310,
Allentown, Pennsylvania 18109
ATTN: Becky A. Bradley, Executive Director

MUNICIPALITIES

Luzerne County

Hazel Township
P.O. Box 506
Harleigh, Pennsylvania 18225
Attn: Jim Montone, Chair

Carbon County

Banks Township
P.O. Box 231
Treskow, Pennsylvania 18254
ATTN: Joseph Clark, Chair

Franklin Township
900 Fairyland Road
Lehighton, Pennsylvania 18235
ATTN: Brenda Neeb, Secretary

Lehigh Township
1741 South Lehigh Gorge Drive
Weatherly, Pennsylvania 18255
ATTN: Carol Lenahan, Secretary

Lower Towamensing Township
595 Hahns Dairy Road
Palmerton, Pennsylvania 18071
ATTN: Christine Wentz, Secretary

Packer Township
2234 Hudson Drive
Weatherly, Pennsylvania 18255
ATTN: Stephanie Stolpe, Secretary

Penn Forest Township
2010 State Route 903
Jim Thorpe, Pennsylvania 18229
ATTN: Susan Gibiser, Secretary

Towamensing Township
120 Stable Road
Lehighton, Pennsylvania 18235
ATTN: Brenda L. Drew, Secretary

Jim Thorpe Borough
101 East Tenth Street
Jim Thorpe, Pennsylvania 18229
ATTN: Louise McClafferty, Secretary

Northampton County
Allen Township
4714 Indian Trail Road18067
Northampton, Pennsylvania
ATTN: Dale Hassler, Chair

Lehigh Township
1069 Municipal Road
Walnutport, Pennsylvania 18088
ATTN: Michael Jones, Chair

LANDOWNERS

2J 2N BROTHERS LLC 100 COMMERCE DR HAZLETON, PA 182024500	ABRAHAM, JAMIE E & SARA E 1975 STONEY RIDGE RD PALMERTON, PA 180715834
AGAPE FAITH MINISTRIES 2705 WILLOW ST COPLAY, PA 180372012	AHNER, JARED B & MEGAN M 191 EVERGREEN RD LEHIGHTON, PA 182359264
ALEXANDER, LAWRENCE HALL 815 CHIPPY CIR JIM THORPE, PA 182291638	ALTENBURG, SLAYTON W 714 GETZ DAWL RD PALMERTON, PA 180713441
AMERICAN ZINC RECYCLING CORP 3010 WESTCHESTER AVE PURCHASE, NY 105772535	AMPAL INC 2115 LITTLE GAP RD PALMERTON, PA 180715109
ARDLE, DORIS M 195 SUNSET DR LEHIGHTON, PA 18235	BALLIET, GAY L 4506 CHERRYVILLE RD NORTHAMPTON, PA 180679423
BAMERT, MAUREEN O & FINKBEINER, KEITH D 4006 SYCAMORE DR NORTHAMPTON, PA 180679538	BARRY, MARVIN J & CHRISTINE G 932 LARK ST LEHIGHTON, PA 182358903
BARTHOLOMEW FAMILY TRUST 620 HEMLOCK ST LEHIGHTON, PA 182359328	BAUCHSPIES, JEFFREY W & PAMELA M 193 OLD MILL RD LEHIGHTON, PA 182359082
BECKER, RICHARD R 3814 APPLE RD NORTHAMPTON, PA 180679121	BEERS, DUANE & RUTH, WILSON 400 MAURY RD LEHIGHTON, PA 182359102

BELARDO, LAUREN 3817 LONG RUN RD LEHIGHTON, PA 182358876	BELTZ, THOMAS G 199 AIRPORT RD LEHIGHTON, PA 182359308
BERGER, LARRY C 100 HEMP HILL LN PALMERTON, PA 18071	BIELING, CARL RICHARD & CONSTANCE 315 OAK ST PALMERTON, PA 180716433
BIG CREEK GRANGE 1559 215 FAIRVIEW ST LEHIGHTON, PA 182352814	BINDER, DARYL & LINDA 261 FREEDOM DR WEATHERLY, PA 182552613
BIRD, ELMER L & FRANCINE G 4124 MOUNTAIN VIEW DR WALNUTPORT, PA 180889341	BLISS, AMELIA L & FRITCHMAN, DARRICK J 5260 LAKE VIEW ST GERMANSVILLE, PA 180532024
BONAO HOME REMODELING INC 1041 W 19TH ST HAZLE TOWNSHIP, PA 182022238	BOND, KENNETH ROBERT 751 STATE ROUTE 903 JIM THORPE, PA 182293538
BONNER, BRIAN & EILEEN 450 BONN CT HAZLETON, PA 182017870	BONNER, CARMELLA E & NEAL J 525 MT PLEASANT LN HAZLE TOWNSHIP, PA 18202
BONNERS TRUCKING & EXCAVATING INC 500 MT PLEASANT LN HAZLE TOWNSHIP, PA 182028235	BONSER, ERIC S 110 WINDY ACRES LN PALMERTON, PA 180715855
BOROUGH OF JIM THORPE 101 E 10TH ST JIM THORPE, PA 182292528	BOWERSOX, ROBERT C & BARBARA A 5781 INDIAN TRAIL RD NORTHAMPTON, PA 180679144

BOYER FARM INC 510 BOYER FARM RD PALMERTON, PA 180716004	BRADSHAW, JERRY & GRENKE, CAROL A 318 SUNSET TER PALMERTON, PA 180715465
BRAY, LAURA J 618 MONASTERY PL NORTHAMPTON, PA 180679522	BRUNST, BARRY J & MARIE F 4055 WOOD DR WALNUTPORT, PA 180889210
BURGER, LORA 2780 WALNUT DR PALMERTON, PA 180715434	BURTON, KAREN M 3863 APPLE RD NORTHAMPTON, PA 180679121
BUTLER ENTERPRISES INC 15 E BROAD ST HAZLETON, PA 182016520	CARBON CO LION LIONESS FAIR ASSOC INC PO BOX 633 LEHIGHTON, PA 182350633
CARR, STEPHEN J 4070 MOUNTAIN VIEW DR WALNUTPORT, PA 180889327	CASTAGNA, JAMES V & DIANE S 1023 HONEYSUCKLE RD WALNUTPORT, PA 180889762
CIHYLIK, NICHOLAS W & JUDITH E 3960 CHERRYVILLE RD NORTHAMPTON, PA 180679424	CLARK, DAVID G & SUSAN K 4026 CEDAR DR WALNUTPORT, PA 180889535
CLOUGH, MELISSA A 612 MONASTERY PL NORTHAMPTON, PA 180679533	COMMONWEALTH OF PA (BROAD MOUNTAIN) 2001 ELMERTON AVE HARRISBURG, PA 17110
COMMONWEALTH OF PA (LEHIGH GORGE STATE PARK) 400 MARKET ST HARRISBURG, PA 17105	COMMONWEALTH OF PA (STATE GAME LANDS) 2001 ELMERTON AVE HARRISBURG, PA 17110

COMMONWEALTH OF PA DEPT OF CONSERVATION (BUREAU OF FACILITY DESIGN & CONSTRUCTION) PO BOX 8451 HARRISBURG, PA 171058451	COMMONWEALTH OF PENNSYLVANIA 2001 ELMERTON AVE HARRISBURG, PA 171109762
COMPTON, AMANDA E 3775 LONG RUN RD LEHIGHTON, PA 182358875	CONARTY, GEORGE R & LINDA A 285 EVERGREEN RD LEHIGHTON, PA 182359492
COSTENBADER THE MAR LEE 1420 LITTLE GAP RD PALMERTON, PA 180715032	COSTENBADER, JARED & KORTNEY 2015 STONEY RIDGE RD PALMERTON, PA 180715836
COSTENBADER, PHILL JASON & ALLISSA 2175 HAHNS DAIRY RD PALMERTON, PA 180715326	COXE, COURTNEY 195 TOWER RD WEATHERLY, PA 182552539
COXE, NELSON L & LYNN D 82 TOWER RD WEATHERLY, PA 182552536	CRESSLEY, MONROE B & BETTY ANN 830 RED HILL RD LEHIGHTON, PA 182359359
CUCHRAN, MICHAEL S 3835 APPLE RD NORTHAMPTON, PA 180679121	CULP, SEAN & KENDRA 152 TOWER RD WEATHERLY, PA 182552538
DAHLGREN, EMILY 623 BISHOPS PL NORTHAMPTON, PA 180679510	DELLEN, JESSE J 9 RIVERSIDE DR ETTERS, PA 173198984
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DOWD, JOHN & TINA 325 ELM ST LEHIGHTON, PA 182359326	DROST, ERICA LYNN & KAHR, MICHAEL 600 MONASTERY PL NORTHAMPTON, PA 180679533
DUNBAR, CHARLES A & IRMGARD F 650 DRIFT RD PALMERTON, PA 180716516	DUSCHAK, GREGORY F 702 RIDGE RD ANDREAS, PA 182113161
EATON, ANGIE L & GREGORY D 4039 BUTTERNUT DR WALNUTPORT, PA 180889337	EBERT, LINDA CAROL 207 YORKTOWN DR HAZLETON, PA 18201
ECKENSBERGER, ANNA L & PERKINS, GAY L 4506 CHERRYVILLE RD NORTHAMPTON, PA 180679423	EUSTACHE, MARIE CARLA 631 BISHOPS PL NORTHAMPTON, PA 180679509
EVELYN ESTATES LLC 613 3RD ST PALMERTON, PA 180711520	FASCHING, FRANCIS X & ARLINE PO BOX 391 HANOVER, VA 230690391
FEDERAL NATL MTG ASSN PO BOX 650043 OXFORD, AR 72565	FOX, JASON & LAUREN 124 SUNSET TERRACE DR PALMERTON, PA 18071
FRACK, BETTY LOUISE 3831 APPLE RD NORTHAMPTON, PA 180679121	FREDERICK, LARRY J & SOPHIE 841 S DOGWOOD RD WALNUTPORT, PA 180889537
FREDERICK, WILLIAM C & SHELLY L 606 MONASTERY PL NORTHAMPTON, PA 180679533	FREDERICKS, MICHELE 950 RED HILL RD LEHIGHTON, PA 182359359

FREYA LAND COMPANY (PAGNOTTI ENTERPRISES INC) 144 BROWN RD YATESVILLE, PA 186403723	FULKS, ROGER N 608 MONASTERY PL NORTHAMPTON, PA 180679533
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GEHRINGER, ROBERT 669 WASHINGTON ST EASTON, PA 180427408	GEORGE, JEFFREY 40 KENNETH LN PALMERTON, PA 180716456
GERRITY, JOHN & JEANNINE 614 MONASTERY PL NORTHAMPTON, PA 180679533	GOETSCH, ANTHONY PO BOX 207 YORKTOWN DR HAZLE TOWNSHIP, PA 18202
GOODWIN, THOMAS & JOAN 1631 SEIDERSVILLE RD BETHLEHEM, PA 180154223	GRAVER, STANLEY R & ELAINE 546 OLD MILL RD LEHIGHTON, PA 182359080
GREEN, ANNETTE E 1335 BLUE MOUNTAIN DR DANIELSVILLE, PA 180389738	GREEN, DENNIS R & THERESA I 3730 LONG RUN RD LEHIGHTON, PA 182358875
GREGA, JAMES B 2432 WETZEL RUN DR WEATHERLY, PA 182552914	GREGG, JOHN I & THERESA A 1108 BRENKMAN DR WEATHERLY, PA 182552522
HADDAD, JOEL S & BRITTANY 598 MONASTERY PL NORTHAMPTON, PA 180679521	HAHN, CHRIS D & HOLLY A 115 SUNSET TERRACE DR PALMERTON, PA 18071

HAHNS CLOVERLEAF DAIRY INC 1770 HAHNS DAIRY RD PALMERTON, PA 180715333	HARMAN, LEANDRA & ALEX 621 BISHOPS PL NORTHAMPTON, PA 180679510
HAWK, DWIGHT D & MARY J 660 OAK ST PALMERTON, PA 180716438	HAYDT, MARC A 385 FOREST INN RD LEHIGHTON, PA 182355250
HAYDT, TRACY L 1815 HAZELWOOD RD PALMERTON, PA 180716166	HAZLETON CITY AUTH 38 S CHURCH ST HAZLETON, PA 18201
HAZLETON CITY WATER CHURCH ST HAZLETON, PA 18201	HILL, DAVID F & SUSAN E 4626 GLASGOW ST CENTER VALLEY, PA 180348737
HILLTOP CENTER LLC 3150 COFFEETOWN RD OREFIELD, PA 180692511	HINKLE, JEFFREY J & CLAIRE P 366 FREEDOM DR WEATHERLY, PA 182552614
HOFFMAN, TODD A & PAULA M 269 TOWER RD WEATHERLY, PA 182552541	HORNING, JOHN F & PHYLLIS A 190 SUNSET TER PALMERTON, PA 180715466
HUFF, KARINUS C 3993 CEDAR DR WALNUTPORT, PA 180889536	HYDRO, STEPHEN A & CECELIA L 1515 NORTH ST JIM THORPE, PA 182299451
INOCENCIO, ROD IVAN & MICHELLE 610 MONASTERY PL NORTHAMPTON, PA 180679533	IRIS USA INC 13423 W CACTUS RD SURPRISE, AZ 853799231

IVORY, GLADYS N 2185 INDIAN HILL RD LEHIGHTON, PA 182359265	J T MUNICIPAL AUTH 80 BROADWAY JIM THORPE, PA 182292022
JARDINE, GEORGE & MENSINGER, MARIE CHRISTINA 3997 CEDAR DR WALNUTPORT, PA 180889536	JEBHOLDINGS LLC 602 MONASTERY PL NORTHAMPTON, PA 180679533
JOHNSON, TROY E & SHERRY L 152 BELTZVILLE DR KUNKLETOWN, PA 180587763	JONES, DAVID H & BRENDA J 4084 BUTTERNUT DR WALNUTPORT, PA 180889337
KHALIL, MAAMARI 3874 APPLE RD NORTHAMPTON, PA 180679121	KILPATRICK, TIMOTHY M & LORI A 140 SUNSET TER PALMERTON, PA 180715466
KLEINTOP, JASON D 245 SUNRISE TERRACE LN LEHIGHTON, PA 182353821	KNEAS, JUSTIN 80 GREEN FOREST LN LEHIGHTON, PA 182359485
KOCH, NEIL E 3557 HOWERTOWN RD NORTHAMPTON, PA 180679430	KOCHIK, COLLEEN ANN & MICHAEL, THOMAS 721 HEMLOCK ST PALMERTON, PA 180719614
KONESCHUSKY, JAMES R & SALLY A 17 FREEDOM DR WEATHERLY, PA 182552609	KOSLOP, ROBERT J & DAVID 3731 CHURCH RD MOUNTAIN TOP, PA 187079039
KRESGE, LARRY M & FULK, CONNIE F 57 TOWER RD WEATHERLY, PA 182552537	KROMER, KURT W 421 EVERGREEN RD LEHIGHTON, PA 182359496

KUHNS, ERIC M & KARI M 78 OLD MILL RD LEHIGHTON, PA 182359082	KUNKLE, JOHN H & THERESA A 325 DRIFT RD PALMERTON, PA 180716511
LAKY, WILLIAM M & MICHELLE L 835 S DOGWOOD RD WALNUTPORT, PA 180889537	LANDI, GIOVANNI 601 FRONT ST CATASAUQUA, PA 180322411
LEAH ONE INC 1708 LOCUST ST PHILADELPHIA, PA 191036107	LEHIGHTON WATER AUTHORITY MUNICIPAL BLDG LEHIGHTON, PA 18235
LEHIGHTON WATER CO MAURY RD LEHIGHTON, PA 18235	LITTLE, WILLIAM D & BONITA L 617 BISHOPS PL NORTHAMPTON, PA 180679510
LONGENBACH, SCOTT D & RACHEL L 3695 MAGNOLIA DR NORTHAMPTON, PA 180679641	MACK, MARK T 4000 CHAPEL CT NORTHAMPTON, PA 180679525
MARCUCCI, ALAN A 582 GRAYSTONE DR CHERRYVILLE, PA 180359706	MATIS, RICHARD S & ELAINE M 4012 CEDAR DR WALNUTPORT, PA 180889535
MATULA IRREVOCABLE TRUST 1031 HONEYSUCKLE DR WALNUTPORT, PA 180889762	MAURER, ZACHERY M & JENNIFER 596 MONASTERY PL NORTHAMPTON, PA 180679521
MAY, BRADLEY J & CYNTHIA A 2868 INTERCHANGE RD LEHIGHTON, PA 182359356	MCCUTCHEON, MICHAEL 4038 CEDAR DR WALNUTPORT, PA 180889535

MCFARLAND, TY & AHNER, CHRISTINA L 175 MAURY RD LEHIGHTON, PA 182359036	MCHENRY, SCOTT & SARAH G 315 EVERGREEN RD LEHIGHTON, PA 182359494
MEHLIG, KENNETH & SANDRA 63 MEHLIG LN WEATHERLY, PA 182552535	MEHLIG, MARTIN D & NINA 150 COUNTRY VIEW LN KUNKLETOWN, PA 180587301
MEIXSELL, BRADLEY 616 MONASTERY PL NORTHAMPTON, PA 180679522	MERTZ FAMILY TRUST 3999 BUTTERNUT DR WALNUTPORT, PA 180889337
MERTZ, TODD 455 MAURY RD LEHIGHTON, PA 182359095	MEYERS, WILLIAM B & LOIS S 1469 BLUE MOUNTAIN DR DANIELSVILLE, PA 180389766
MILLER, THOMAS L & PEGGY ANN 4018 CEDAR DR WALNUTPORT, PA 180889535	MM3 PROPERTIES LLC 371 KNOLL DR LEHIGHTON, PA 182359237
MOATS, LLOYD & LORETTA 945 BLUE MOUNTAIN DR WALNUTPORT, PA 180889477	MONTES, TERRENCE S & RENEE M 72 SUNSET TER PALMERTON, PA 180715464
MOONEY, ANN M & SETH 7442 ROEBELENII CT SARASOTA, FL 342417122	MORRESI, MICHAEL A & MELISSA N 805 CHIPPY CIR JIM THORPE, PA 182291638
MOSER, RICHARD H 604 MONASTERY PL NORTHAMPTON, PA 180679533	MUFFLEY, JULIANN M & JOHN M 4049 BUTTERNUT DR WALNUTPORT, PA 180889337

MUTHARD, THOMAS L 1480 WINTERGREEN RD PALMERTON, PA 180716450	MYSTER, GLENN A 619 BISHOPS PL NORTHAMPTON, PA 180679510
NEEB, LARRY D & JUDITH E 815 DEER LN LEHIGHTON, PA 182356110	NEWHARD, GLORIA 3861 LEHIGH DR NORTHAMPTON, PA 180679771
NIEDERMEYER, CHRISTOPHER J 826 S DOGWOOD RD WALNUTPORT, PA 180889537	NORTHWOODS MANAGEMENT LLC 2846 MAIN ST BOX 12A MORGANTOWN, PA 195439486
OBERMAN, GLENN J 3881 SYCAMORE DR NORTHAMPTON, PA 180679650	ORBAN, JEROME M & KATHRYN A 3945 LEHIGH DR NORTHAMPTON, PA 180679665
OSWALD, WAYNE PAUL & DONNA M 3901 SYCAMORE DR NORTHAMPTON, PA 180679519	PAUKOVITS, TIMOTHY J & PATTI L 125 SUNSET TERRACE DR PALMERTON, PA 18071
PAULES, DAVID E & SHERI, L N 629 BISHOPS PL NORTHAMPTON, PA 180679509	PENNSYLVANIA COMMONWEALTH GAME COMMISSION 8000 DERRY ST HARRISBURG, PA 17105
PENNSYLVANIA LINES LLC 110 FRANKLIN RD ROANOKE, VA 240112147	PENNSYLVANIA LINES LLC (TAXATION DEPT) 1200 PEACHTREE ST ATLANTA, GA 303093579
PERSA, DAVID S & ADELE 1047 HONEYSUCKLE RD WALNUTPORT, PA 180889762	PETKOSH, DAMIAN & KOZAK, CARLA 2232 BROOMSTICK RD GREEN LANE, PA 180549577

PITTS, TIMOTHY L & WENDY G 3738 BAYBERRY DR DANIELSVILLE, PA 180389520	POSTUPACK, JAMES T & JULIA A 1495 CHINQUAPIN RD HOLLAND, PA 189661737
PRAMIK, DEREK 4001 CHAPEL CT NORTHAMPTON, PA 180679574	PRESTON, SHEILA 3877 APPLE RD NORTHAMPTON, PA 180679121
PRICE, M JEANNETTE 3610 ROMIG AVE READING, PA 196062932	RAMSEY PALMERTON LLC 2115 LITTLE GAP RD PALMERTON, PA 180715109
RAPEE, MARIVEL 6032 INDIAN TRAIL RD NORTHAMPTON, PA 180679145	READING BLUE MOUNTAIN & NORTHERN RAILROAD CO PO BOX 218 PORT CLINTON, PA 195490218
READING BLUE MT RAILROAD PO BOX 248 PORT CLINTON, PA 195490248	REAGAN, ROB R & SUSAN M 4029 BUTTERNUT DR WALNUTPORT, PA 180889337
REDLINE, KENNETH L & MELISSA 1600 NORTH ST JIM THORPE, PA 182291832	REDLINE, WAYNE A & JUNE A 1580 NORTH ST JIM THORPE, PA 182291805
REIFINGER, GLENN KEITH & MUIR, SUZANNE PO BOX 4036 JIM THORPE, PA 182294036	RIPSOM, ELIZABETH M & GEORGE A 33 PORTER RD CHELMSFORD, MA 018244012
RITTER, DAVID W & KEVIN D 1622 BRENKMAN DR WEATHERLY, PA 182552532	RIZZOTTO, PATRICIA A 5768 INDIAN TRAIL RD NORTHAMPTON, PA 180679124

ROMIG, TODD RANDALL & ASHLEY LOUISE 825 S DOGWOOD RD WALNUTPORT, PA 180889537	SCHELLER, GEOFFREY & SHARON L 4008 SYCAMORE DR NORTHAMPTON, PA 180679538
SERGENT, JARED GREGORY & NICOLE RENEE 3911 LEHIGH DR NORTHAMPTON, PA 180679665	SHAY, MARK T & SHERRY L 2110 LITTLE GAP RD PALMERTON, PA 180715108
SHELLY, RICHARD H & SUSAN E 4080 MOUNTAIN VIEW DR WALNUTPORT, PA 180889327	SHETAYH, ELIAS 189-99 W TILGHMAN ST ALLENTOWN, PA 181022519
SHETAYH, ZIAD & MEYADA 189-99 W TILGHMAN ST ALLENTOWN, PA 181022519	SHOENBERGER, CLARK R & ALTHEA B 1880 CHERRY HILL RD PALMERTON, PA 180719735
SHOENBERGER, DANIEL L & ANN L 1161 HEMLOCK ST PALMERTON, PA 180719609	SILVER, FREDERICK H 557 BELVIDERE CORNER RD MOUNT BETHEL, PA 183436226
SKRAPITS, JOHN R & IRINA A 803 FIR DR WALNUTPORT, PA 180889532	SNYDER, PAUL T & ANNA M 3222 INTERCHANGE RD LEHIGHTON, PA 182359356
SOLDERITZ, HELEN F & EMIL A 7313 NORTHGATE DR SLATINGTON, PA 180802242	SOLT, DELBERT L & CAROL A 2950 FAIRYLAND RD LEHIGHTON, PA 182358906
SPAIDE, HAROLD L & SHIRLEY J 120 ACHER RD WAPWALLOPEN, PA 186601716	SPORTELLI, LOUIS 125 DELAWARE AVE PALMERTON, PA 180711746

SPRING MT EST INC 1495 CHINPAUPIN RD HOLLAND, PA 18966	STEIGERWALT, NELSON E J 2223 INDIAN HILL RD LEHIGHTON, PA 182359265
STEINER, LOUIS & DORIS I 818 FIR DR WALNUTPORT, PA 180889586	SVEDE, ANDREW 47 MONTGOMERY ST GOSHEN, NY 109241514
SWJJ REAL ESTATE LLC 1059 QUAKAKE RD WEATHERLY, PA 182553121	TAYLOR, MARYANN & THOMAS W 4213 MOUNTAIN VIEW DR WALNUTPORT, PA 180889363
THEISEN, ADAM P 65 SUNSET TER PALMERTON, PA 180715464	TOWNSHIP OF HAZLE 101 W 27TH ST HAZLE TOWNSHIP, PA 18202
TRI SALES CO 7401 S CICERO AVE CHICAGO, IL 606295818	TURICK, DENNIS & JEAN ANN 3954 RECKER DR NORTHAMPTON, PA 180679511
VANDERSTEEN, AGREEMENT & JOHN B 195 MENDELSON DR PALMERTON, PA 180715468	WALCK, JAMES E & MARYLOU E 4059 BUTTERNUT DR WALNUTPORT, PA 180889337
WASHBURN, JAMES C & VICKI L 2489 INDIAN HILL RD LEHIGHTON, PA 182359428	WEIDENHAMMER, AMANDA J 4027 BUTTERNUT DR WALNUTPORT, PA 180889337
WENTZ, MATTHEW W & TARA L 845 CENTRE ST PALMERTON, PA 180719603	WENZ, RONALD A & JILL E 935 BROOKSIDE RD WESCOSVILLE, PA 181069441

WIEAND, MARY E 130 OAK ST PALMERTON, PA 180716428	YANKAUSKAS, JOHN M 4311 ROUTE 309 SCHNECKSVILLE, PA 180782513
YANKIEWICZ, ZACKERY & DALTON, JESSICA 4060 CEDAR DR WALNUTPORT, PA 180889739	YELLES, DOUGLAS A & DONNA M 4010 SYCAMORE DR NORTHAMPTON, PA 180679536
ZIEGENFUSS, ALTON D & NAOMI G 4105 WOOD DR WALNUTPORT, PA 180889737	ZIEGENFUSS, DANIEL JAMES 4116 WOOD DR WALNUTPORT, PA 180889737
USACE PHILADELPHIA DISTRICT 1650 ARCH ST PHILADELPHIA, PA 19103	

VERIFICATION

I, JOSEPH B. LOOKUP, being the Vice President of T&D Planning and Asset Management at PPL Services Corporation, hereby state that the facts above set forth are true and correct to the best of my knowledge, information and belief and that I expect PPL Electric Utilities Corporation to be able to prove the same at a hearing held in this matter. I understand that the statements herein are made subject to the penalties of 18 Pa.C.S. § 4904 relating to unsworn falsification to authorities.

Date: 03/25/2024

Joseph Lookup (Mar 25, 2024 14:11 EDT)

Joseph B. Lookup