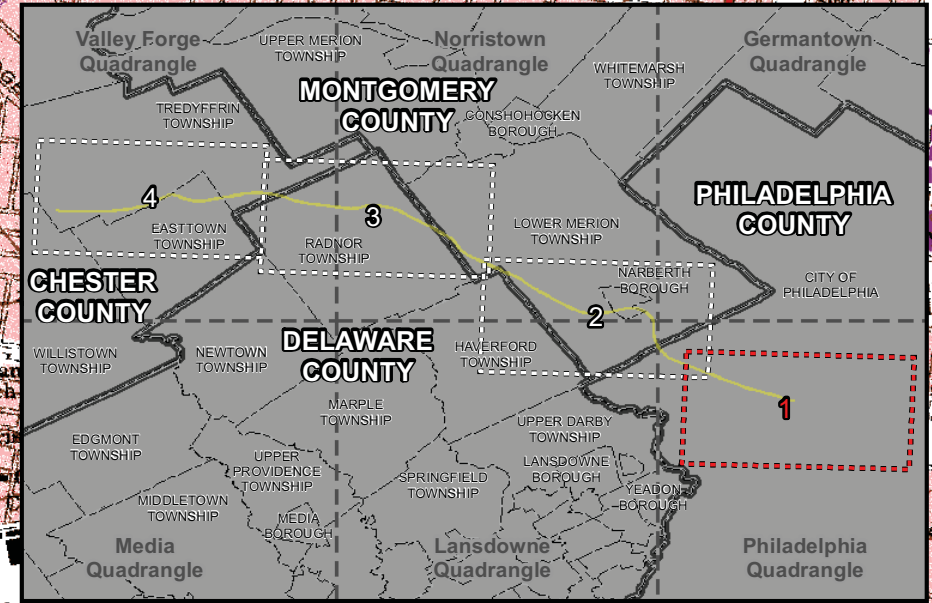
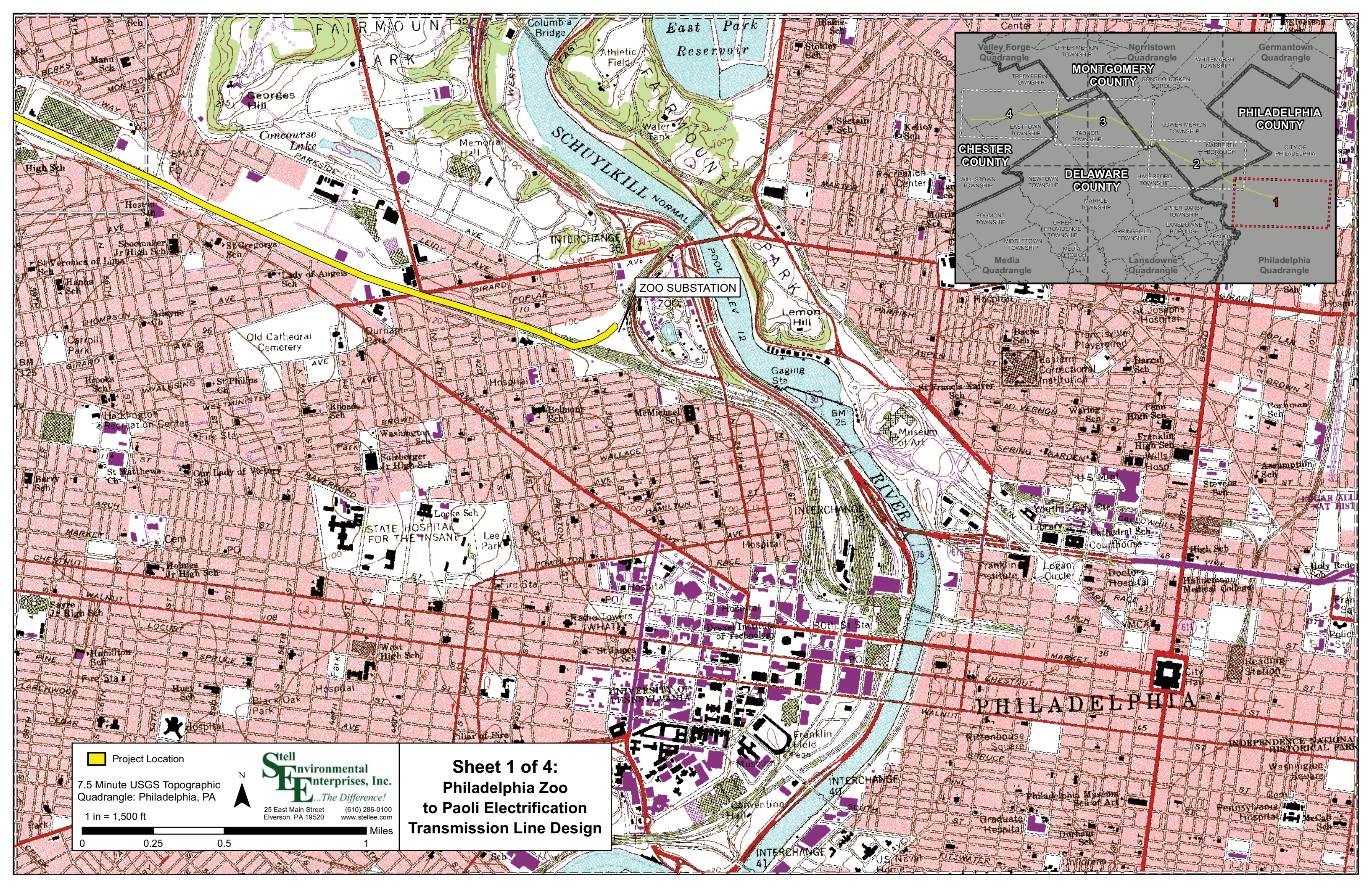


A dark blue vertical bar runs down the left side of the page. A blue arrow points to the right, overlapping the bar.

Appendix A

Topographic Maps


Several thin, curved lines in shades of blue and grey originate from the bottom left corner and curve upwards and to the right, creating a decorative graphic element.



ZOO SUBSTATION

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 (610) 286-0100
 www.stell.com

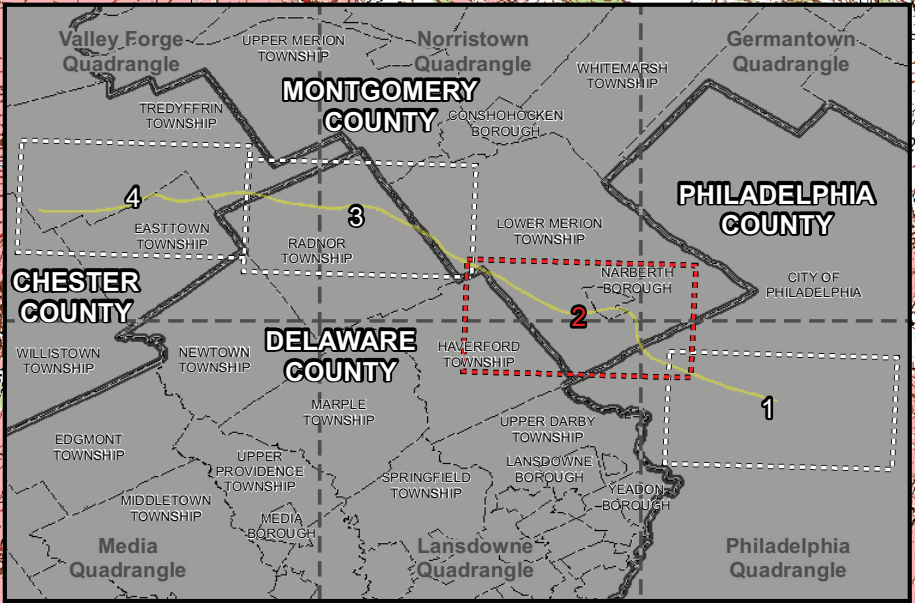
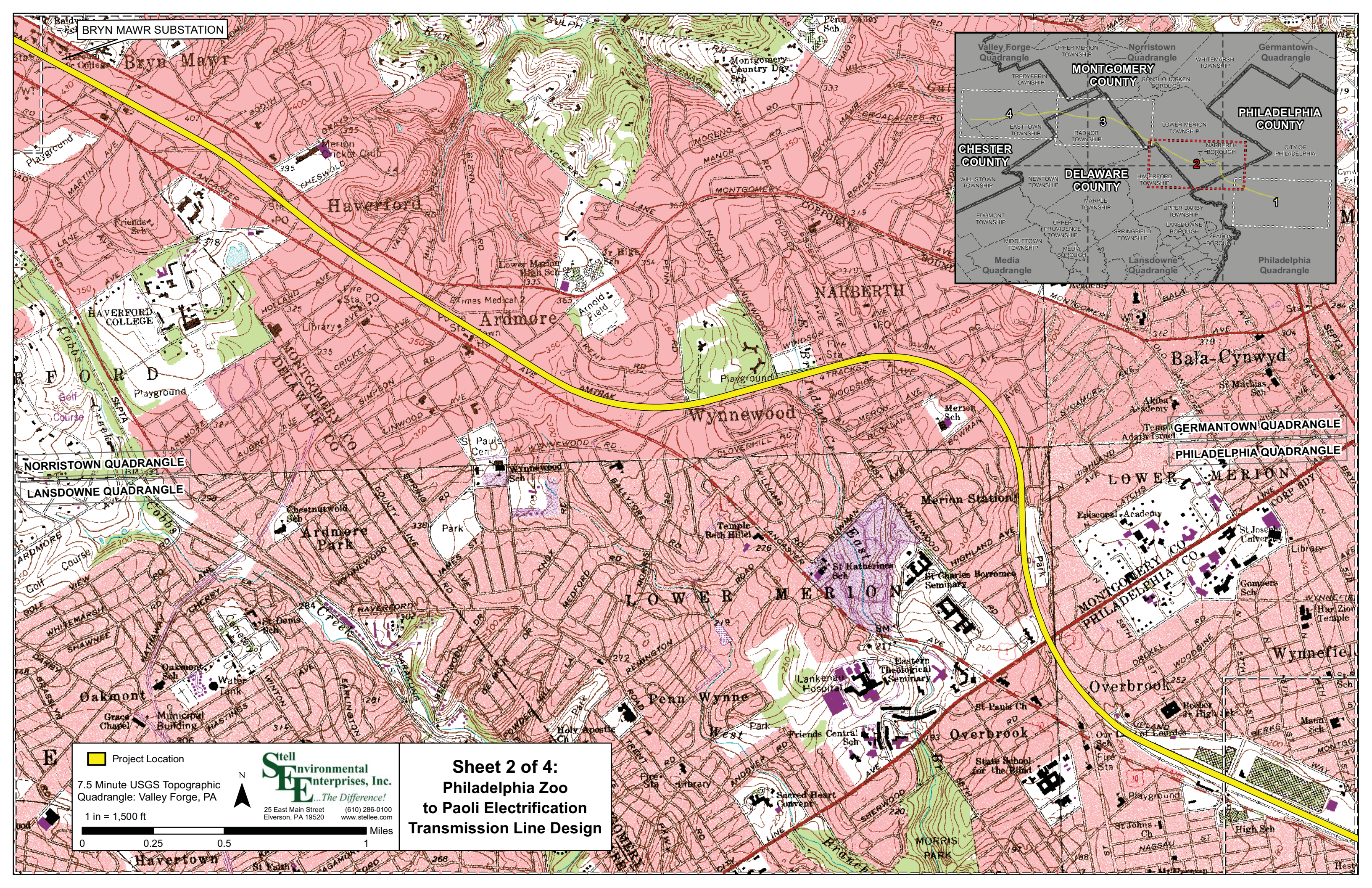
**Sheet 1 of 4:
 Philadelphia Zoo
 to Paoli Electrification
 Transmission Line Design**

 Project Location

7.5 Minute USGS Topographic
 Quadrangle: Philadelphia, PA

1 in = 1,500 ft

0 0.25 0.5 1 Miles



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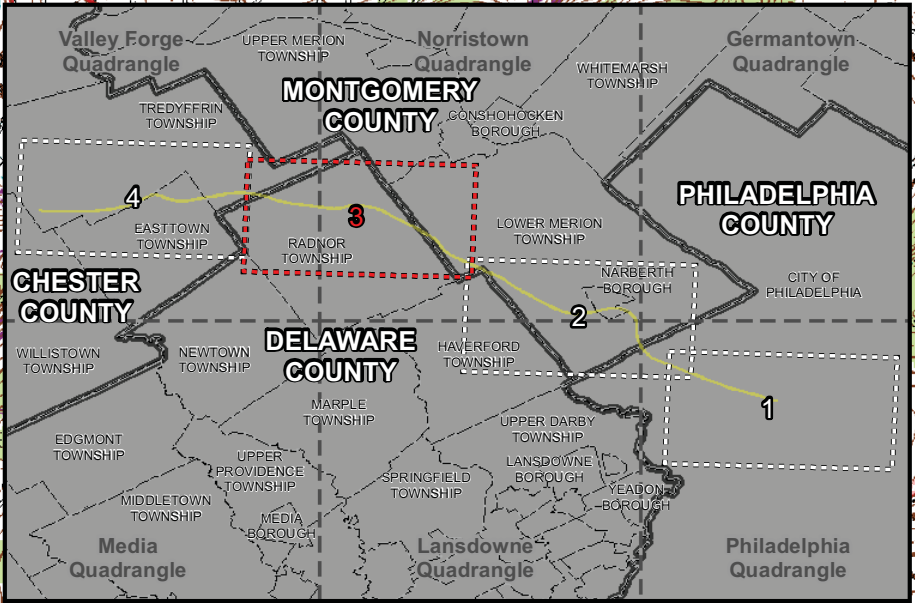
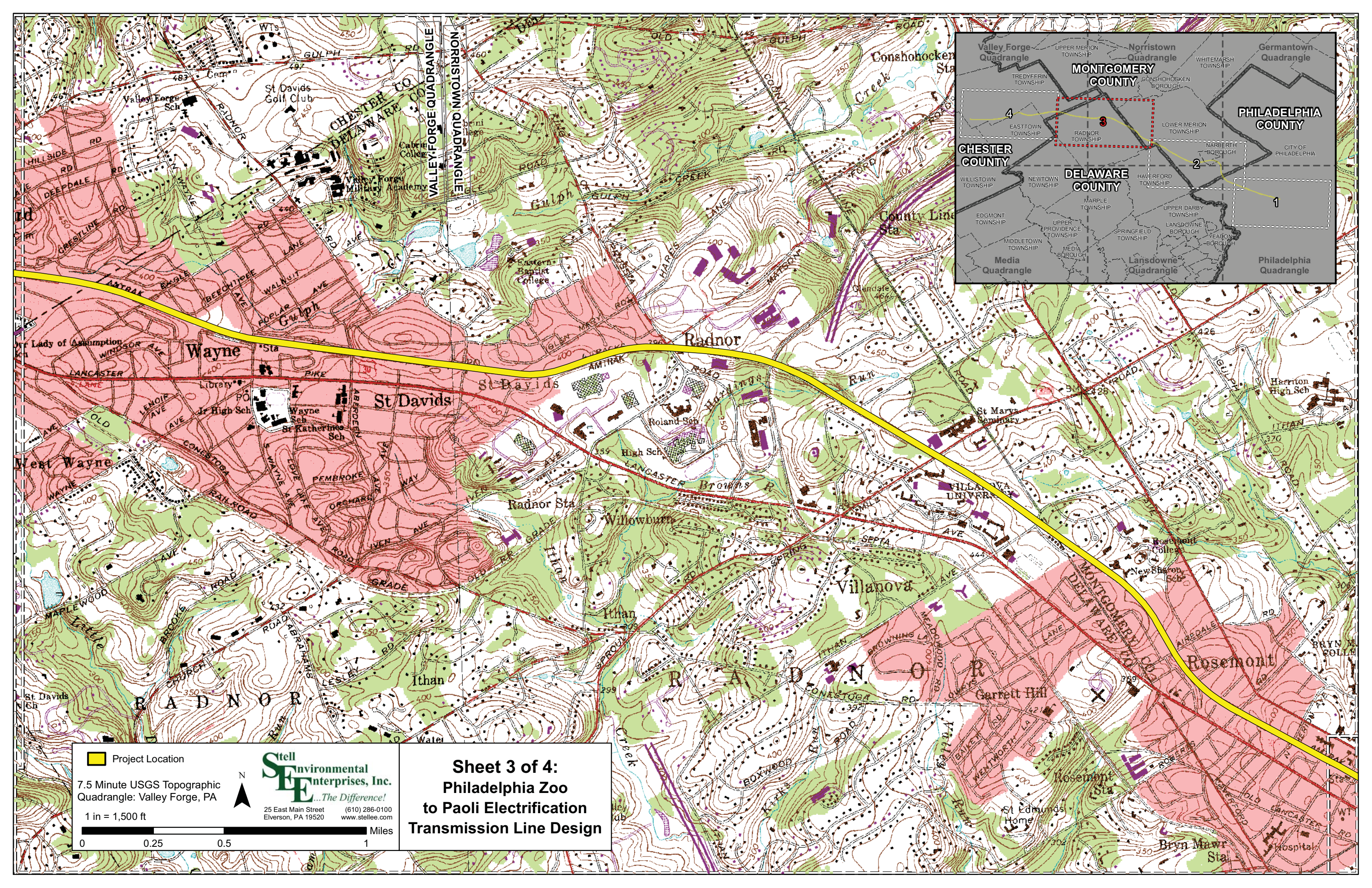
**Sheet 2 of 4:
 Philadelphia Zoo
 to Paoli Electrification
 Transmission Line Design**

Project Location

7.5 Minute USGS Topographic
 Quadrangle: Valley Forge, PA

1 in = 1,500 ft

0 0.25 0.5 1 Miles



Project Location

7.5 Minute USGS Topographic
Quadrangle: Valley Forge, PA

1 in = 1,500 ft

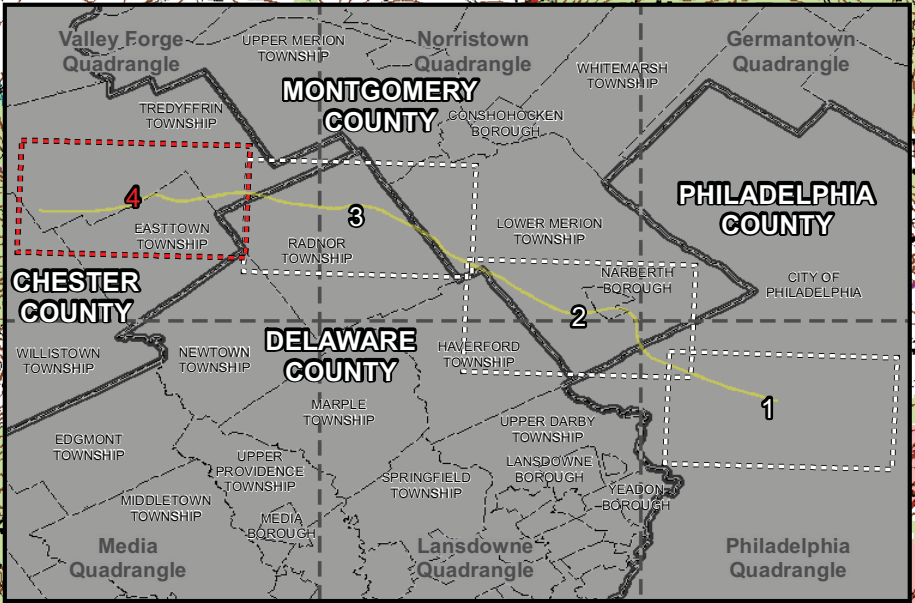
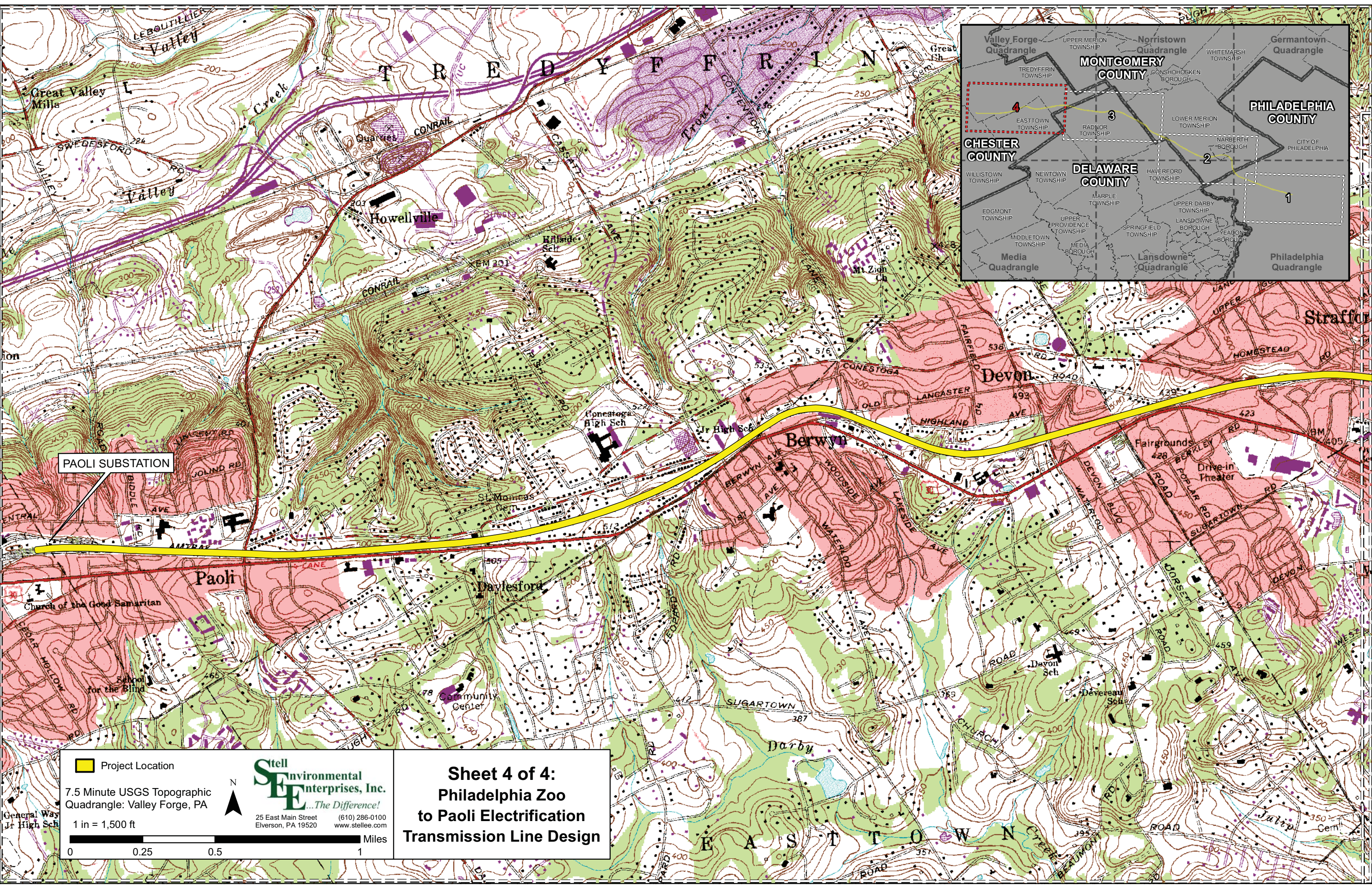
0 0.25 0.5 1 Miles

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(610) 286-0100
www.stellee.com

**Sheet 3 of 4:
Philadelphia Zoo
to Paoli Electrification
Transmission Line Design**

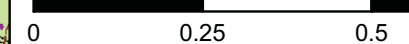


PAOLI SUBSTATION

Project Location

7.5 Minute USGS Topographic
Quadrangle: Valley Forge, PA

1 in = 1,500 ft



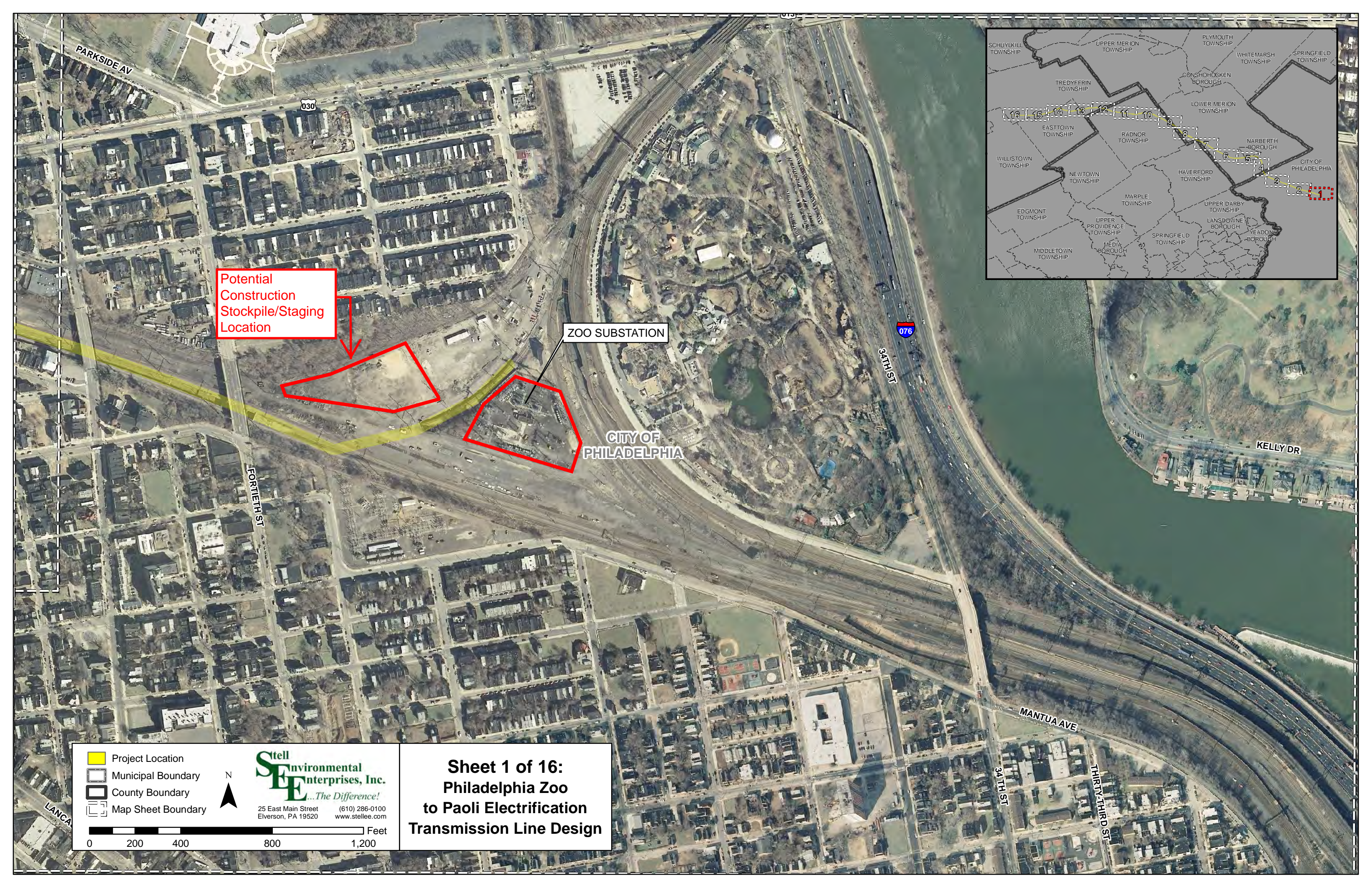
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Enterprises, Inc.
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**Sheet 4 of 4:
Philadelphia Zoo
to Paoli Electrification
Transmission Line Design**



Appendix B





Aerial Photographs



Potential
Construction
Stockpile/Staging
Location

ZOO SUBSTATION

CITY OF
PHILADELPHIA

-  Project Location
-  Municipal Boundary
-  County Boundary
-  Map Sheet Boundary

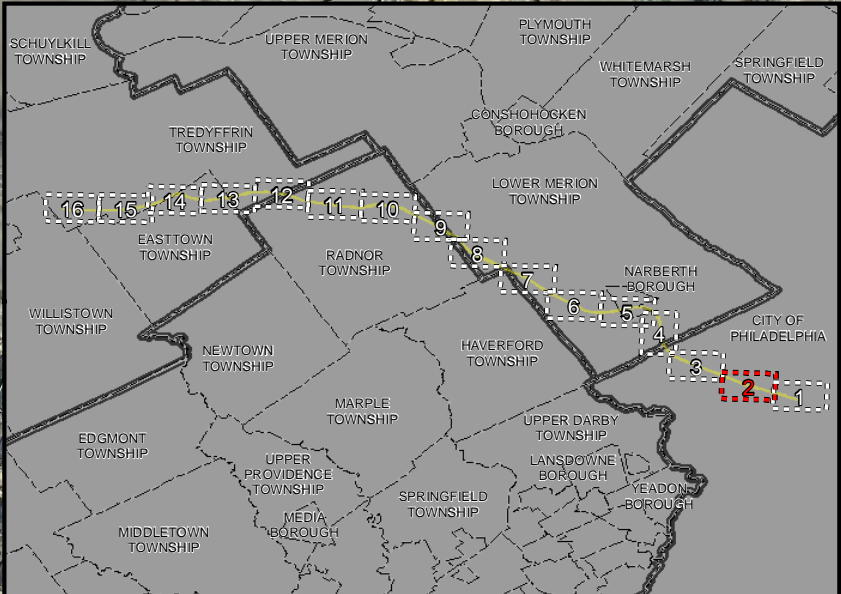
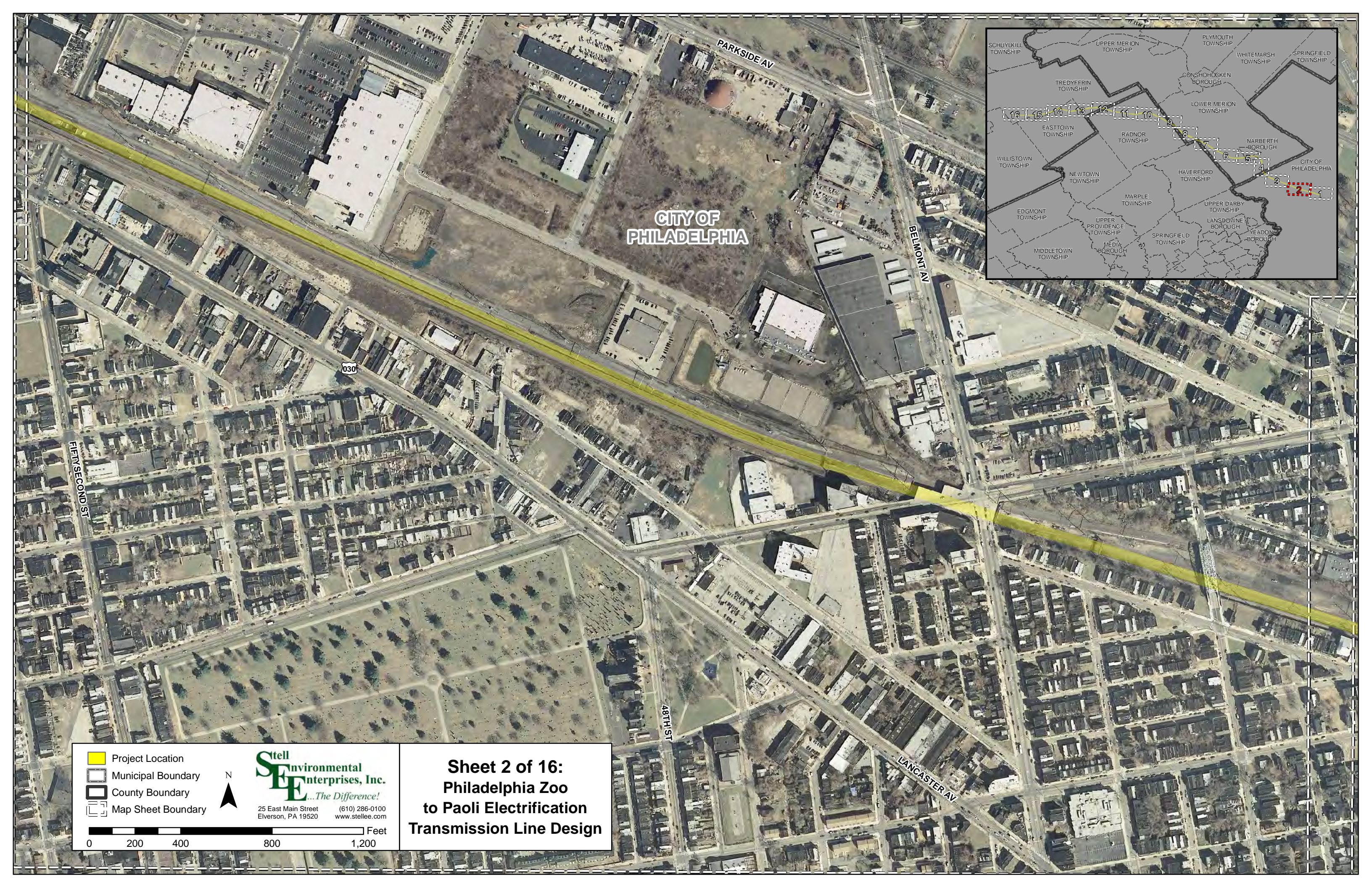


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**Sheet 1 of 16:
Philadelphia Zoo
to Paoli Electrification
Transmission Line Design**



CITY OF PHILADELPHIA

PARKSIDE AV





BELMONT AV

FIFTYSECOND ST

030

48TH ST

LANCASTER AV

-  Project Location
-  Municipal Boundary
-  County Boundary
-  Map Sheet Boundary



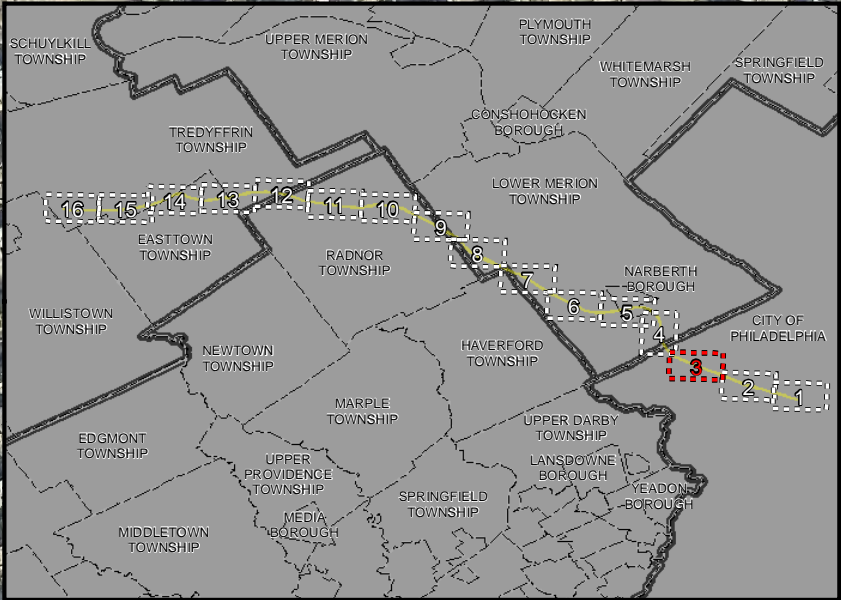
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Sheet 2 of 16:
Philadelphia Zoo
to Paoli Electrification
Transmission Line Design



CITY OF PHILADELPHIA

030





SIXTYTHIRD ST

59TH ST

57TH ST

JEFFERSON ST

LANSDOWNE AVE

-  Project Location
-  Municipal Boundary
-  County Boundary
-  Map Sheet Boundary

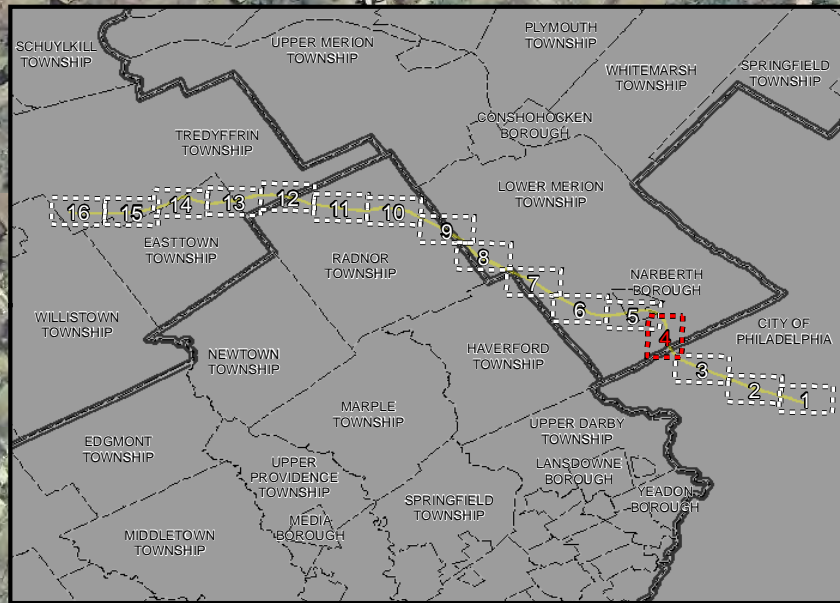


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Sheet 3 of 16:
Philadelphia Zoo
to Paoli Electrification
Transmission Line Design



Merion Botanical Park

CITY OF PHILADELPHIA

SIXTYTHIRD ST

PHILADELPHIA COUNTY
MONTGOMERY COUNTY

LOWER MERION TOWNSHIP

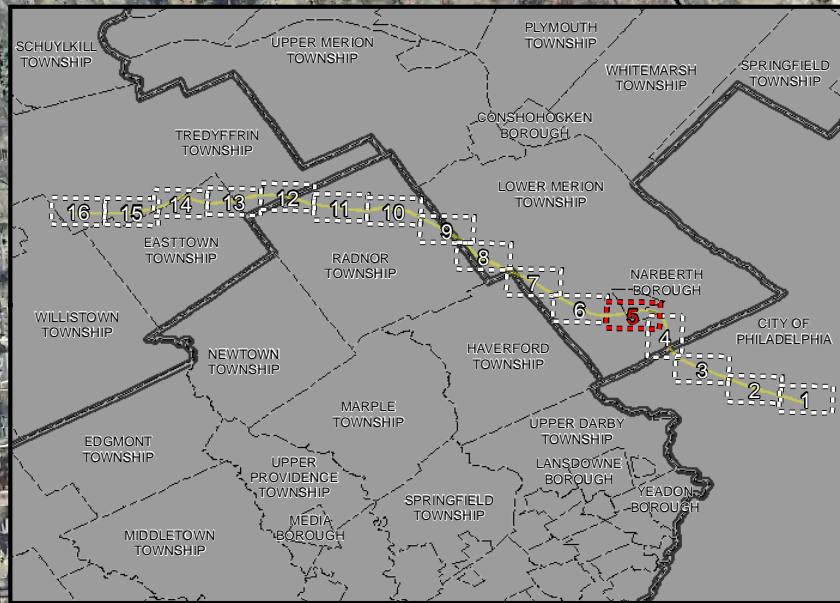
BOWMAN AV

WYNEWOOD RD

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0 200 400 800 1,200 Feet

**Sheet 4 of 16:
 Philadelphia Zoo
 to Paoli Electrification
 Transmission Line Design**



Narberth Playground

NARBERTH
BOROUGH





WYNNEWOOD RD


Haverford Av


BOWMAN AV


LOWER MERION
TOWNSHIP

030

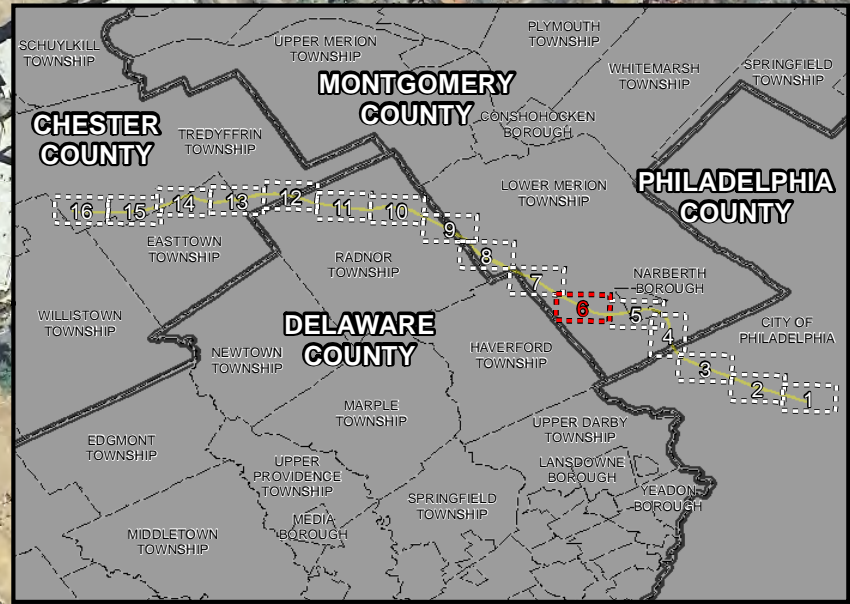
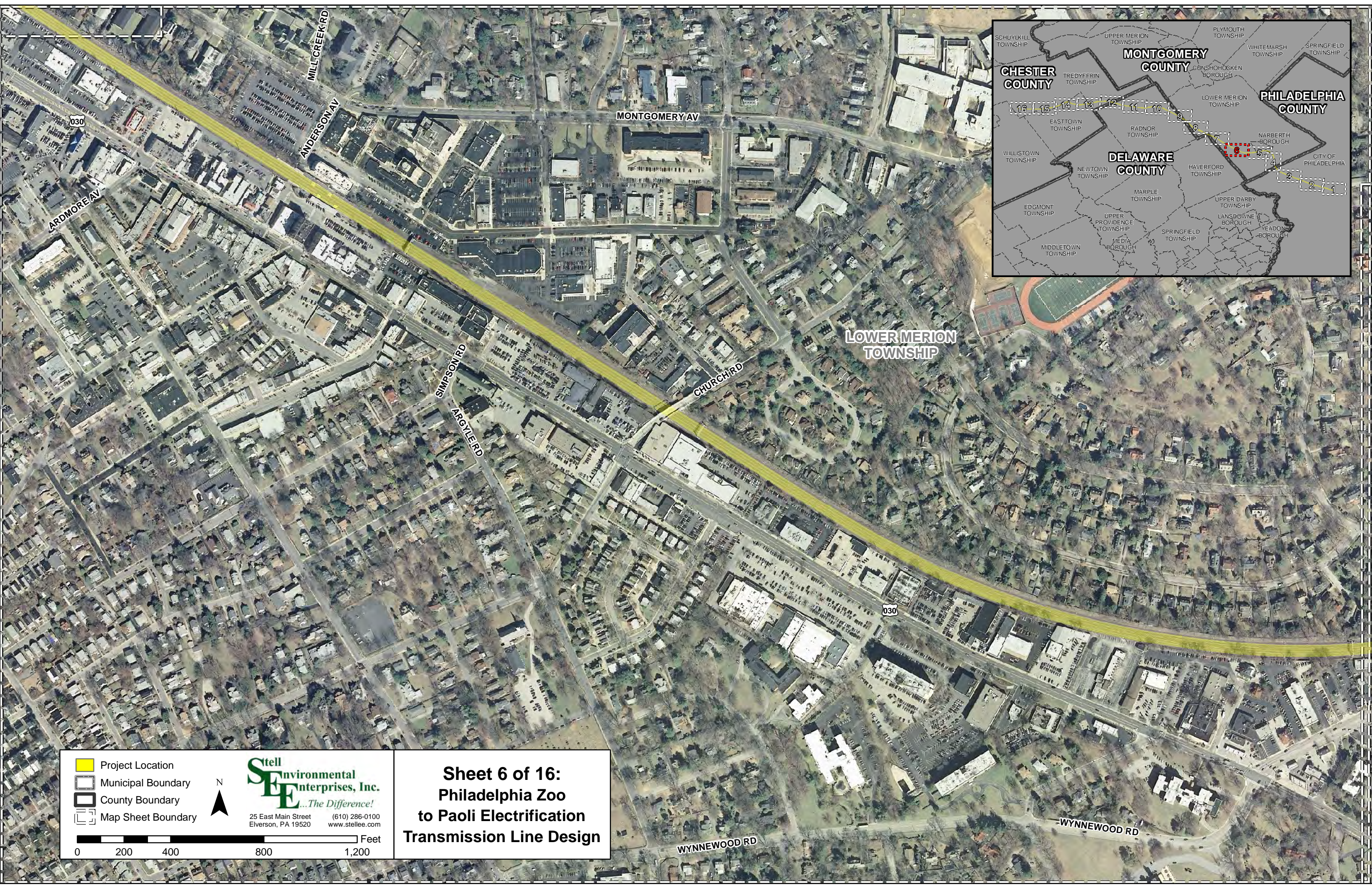
 Project Location
 Municipal Boundary
 County Boundary
 Map Sheet Boundary

 N


 25 East Main Street Elverson, PA 19520 (610) 286-0100 www.stellee.com

 0 200 400 800 1,200 Feet

Sheet 5 of 16:
Philadelphia Zoo
to Paoli Electrification
Transmission Line Design



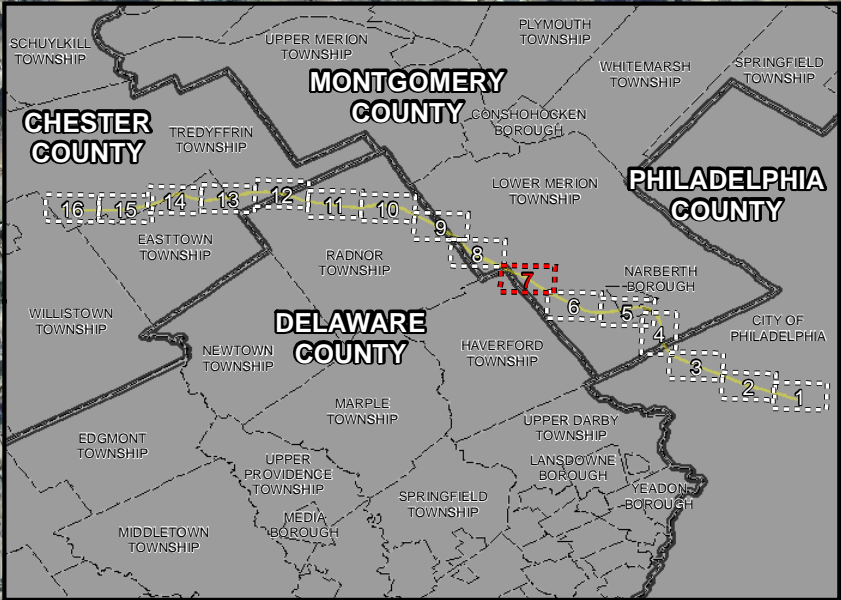
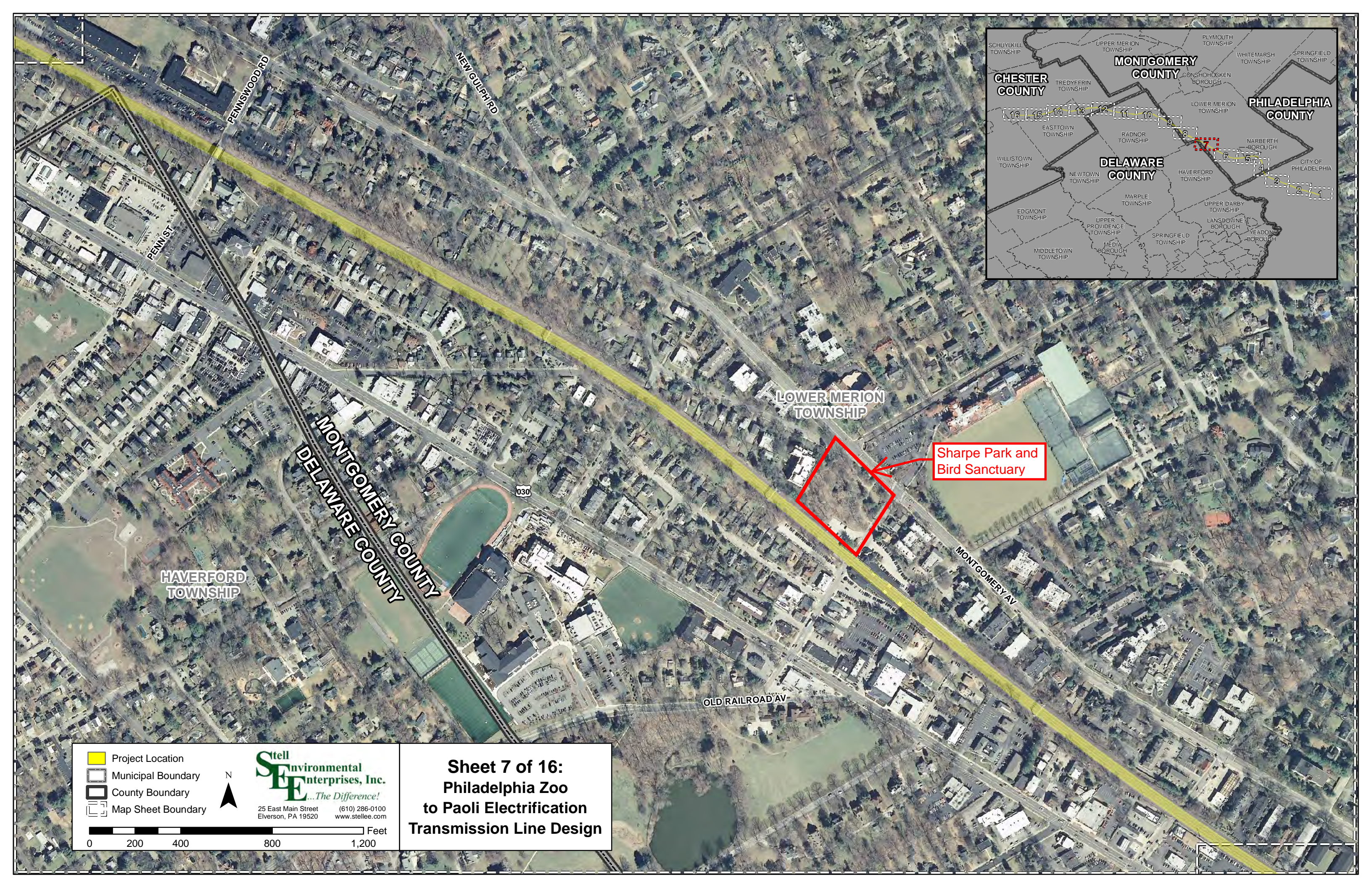
Project Location
 Municipal Boundary
 County Boundary
 Map Sheet Boundary

N

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0 200 400 800 1,200 Feet

Sheet 6 of 16:
Philadelphia Zoo
to Paoli Electrification
Transmission Line Design



LOWER MERION
TOWNSHIP





Sharpe Park and
Bird Sanctuary

HAVERFORD
TOWNSHIP

MONTGOMERY COUNTY
DELAWARE COUNTY

OLD RAILROAD AV

MONTGOMERY AV

-  Project Location
-  Municipal Boundary
-  County Boundary
-  Map Sheet Boundary

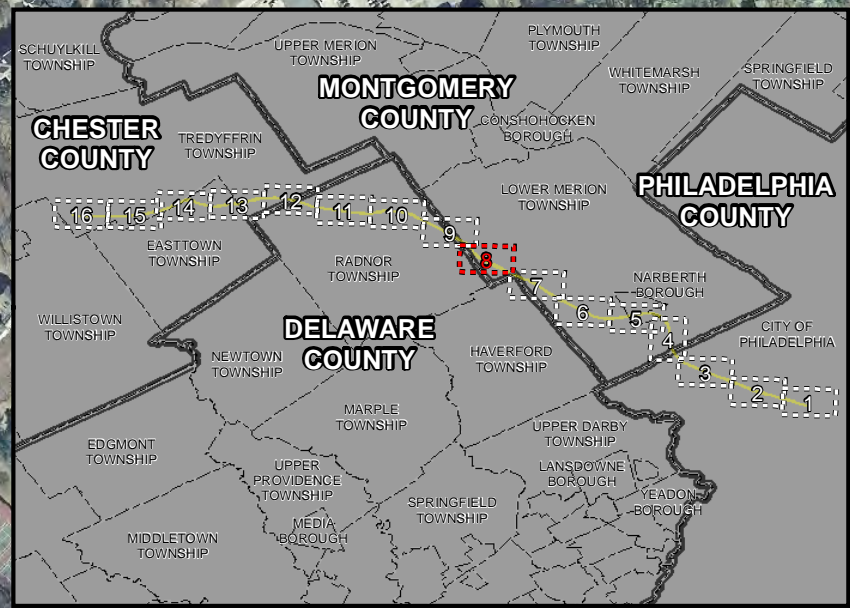
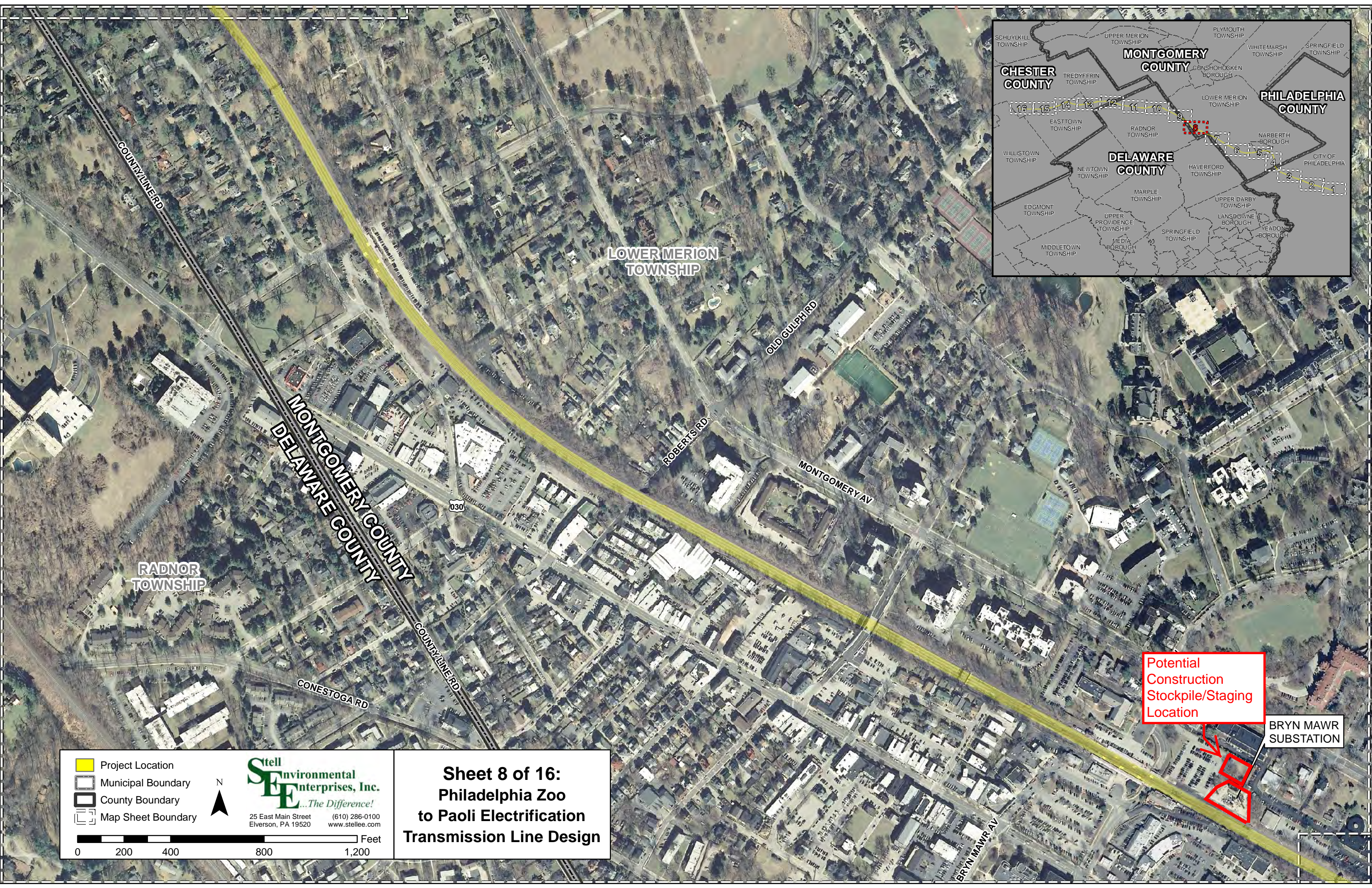


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Sheet 7 of 16:
Philadelphia Zoo
to Paoli Electrification
Transmission Line Design








RADNOR TOWNSHIP


LOWER MERION TOWNSHIP

Potential Construction Stockpile/Staging Location

BRYN MAWR SUBSTATION

 Project Location
 Municipal Boundary
 County Boundary
 Map Sheet Boundary

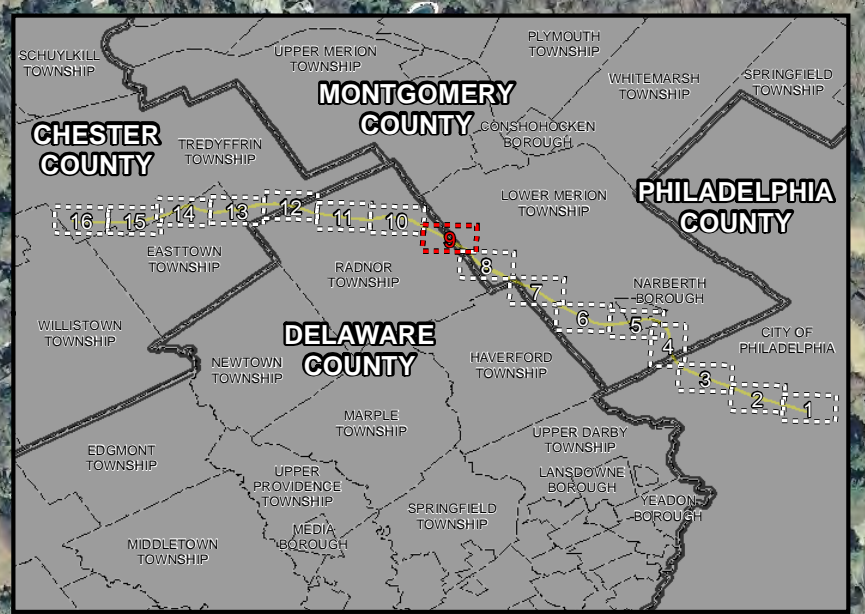
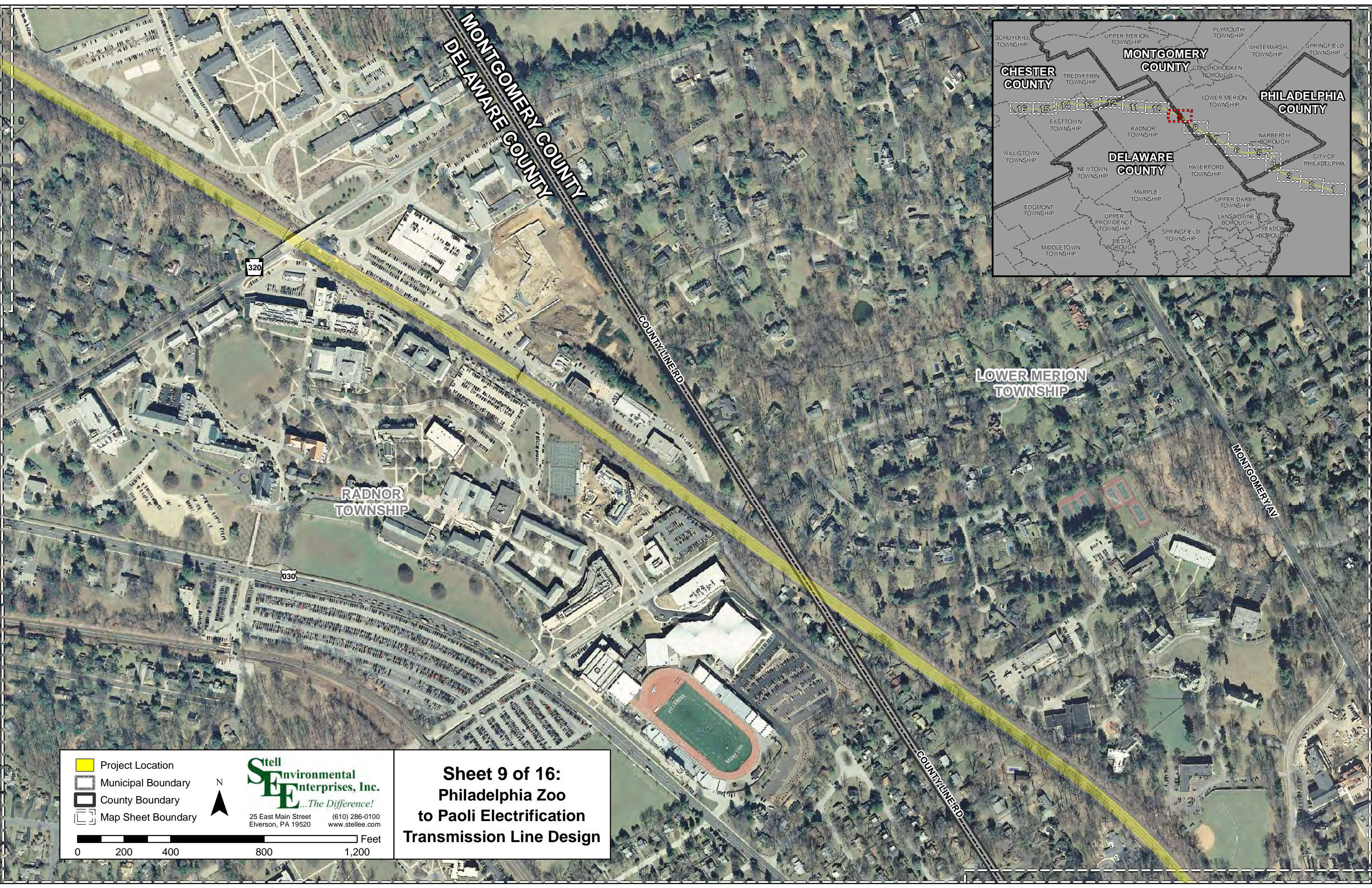









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0 200 400 800 1,200 Feet


Sheet 8 of 16:
Philadelphia Zoo
to Paoli Electrification
Transmission Line Design



 Project Location
 Municipal Boundary
 County Boundary
 Map Sheet Boundary

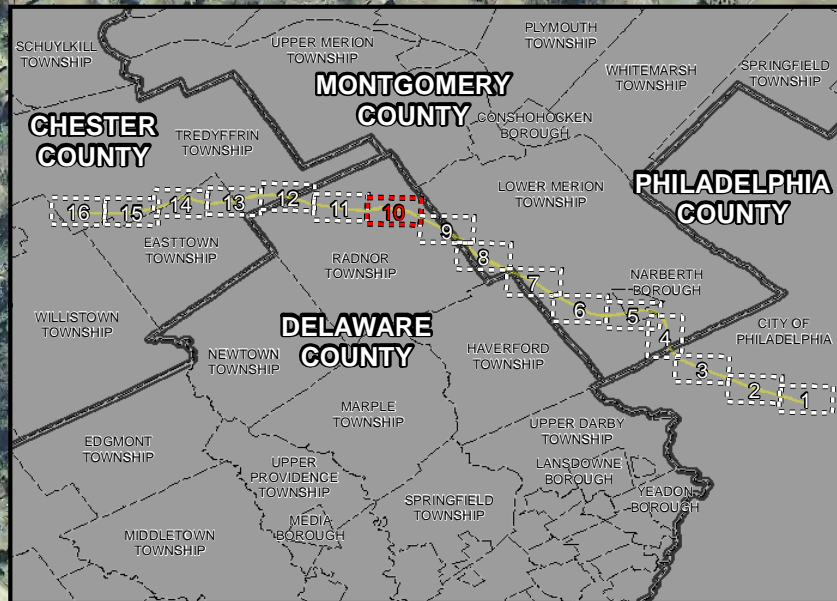
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Sheet 9 of 16:
Philadelphia Zoo
to Paoli Electrification
Transmission Line Design

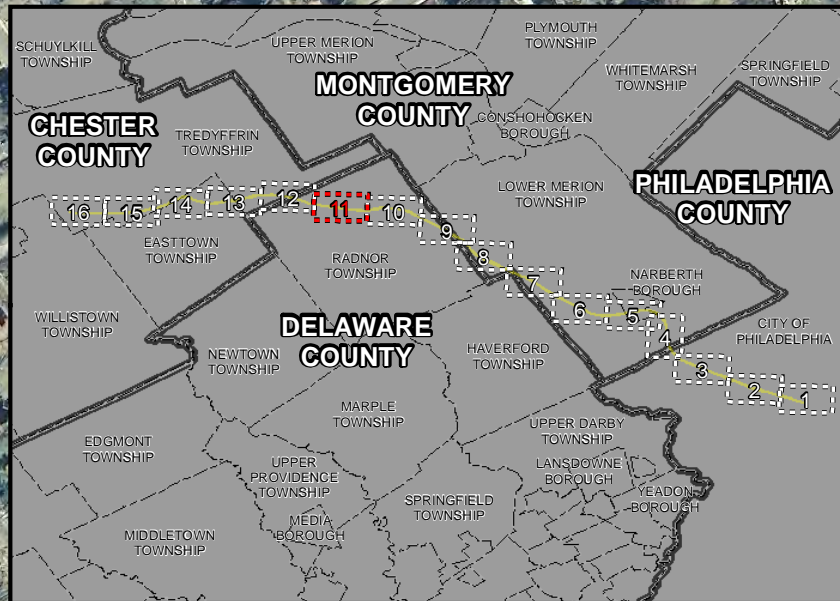


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Legend:
 ■ Project Location
 □ Municipal Boundary
 □ County Boundary
 □ Map Sheet Boundary

Scale: 0 200 400 800 1,200 Feet

**Sheet 10 of 16:
 Philadelphia Zoo
 to Paoli Electrification
 Transmission Line Design**

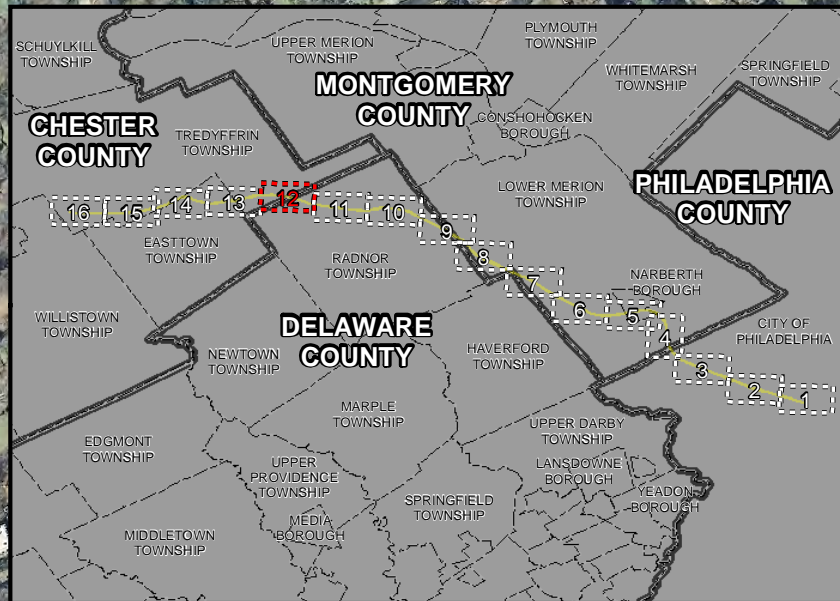


**RADNOR
TOWNSHIP**

Project Location
 Municipal Boundary
 County Boundary
 Map Sheet Boundary

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Enterprises, Inc.
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Sheet 11 of 16:
Philadelphia Zoo
to Paoli Electrification
Transmission Line Design



TREDYFFRIN
TOWNSHIP

CHESTER COUNTY
DELAWARE COUNTY

North Wayne Park

RADNOR
TOWNSHIP

EAGLE RD

OLD EAGLE SCHOOL RD

030

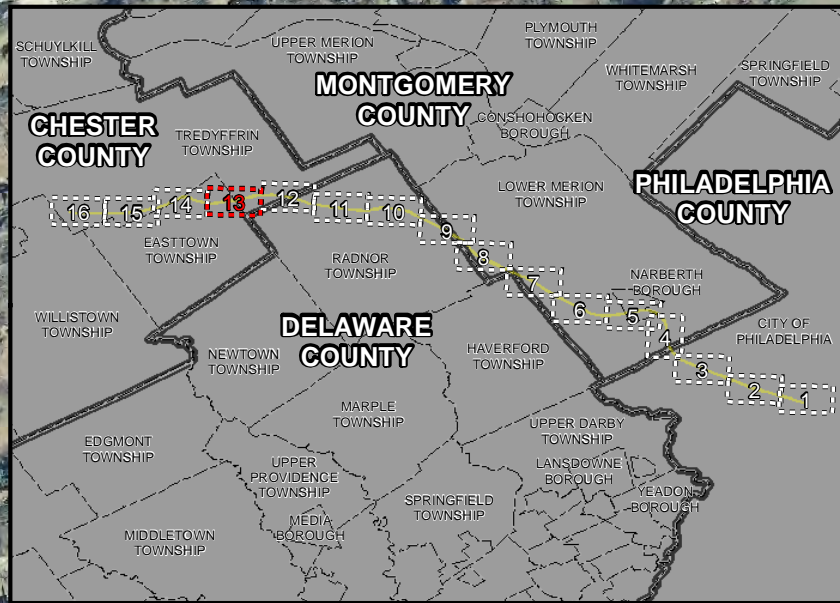
CONESTOGA RD

W RD

Project Location
 Municipal Boundary
 County Boundary
 Map Sheet Boundary

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Sheet 12 of 16:
Philadelphia Zoo
to Paoli Electrification
Transmission Line Design



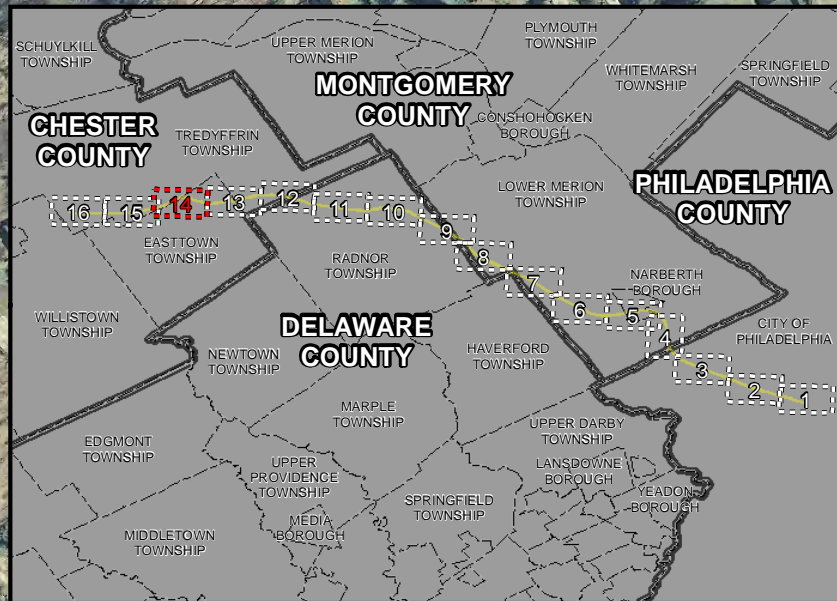
Project Location
 Municipal Boundary
 County Boundary
 Map Sheet Boundary

N

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0 200 400 800 1,200 Feet

Sheet 13 of 16:
Philadelphia Zoo
to Paoli Electrification
Transmission Line Design

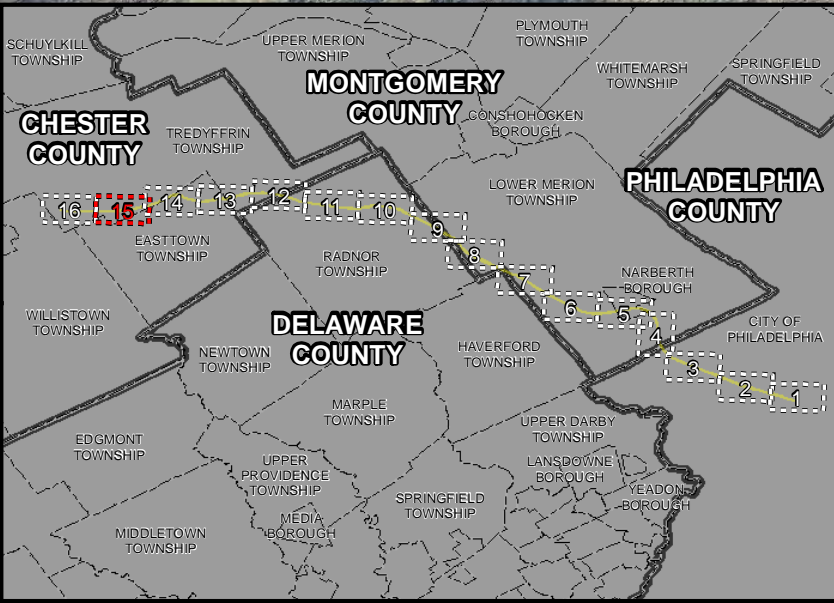


Project Location
 Municipal Boundary
 County Boundary
 Map Sheet Boundary

N
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0 200 400 800 1,200 Feet

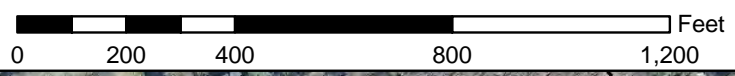
Sheet 14 of 16:
Philadelphia Zoo
to Paoli Electrification
Transmission Line Design



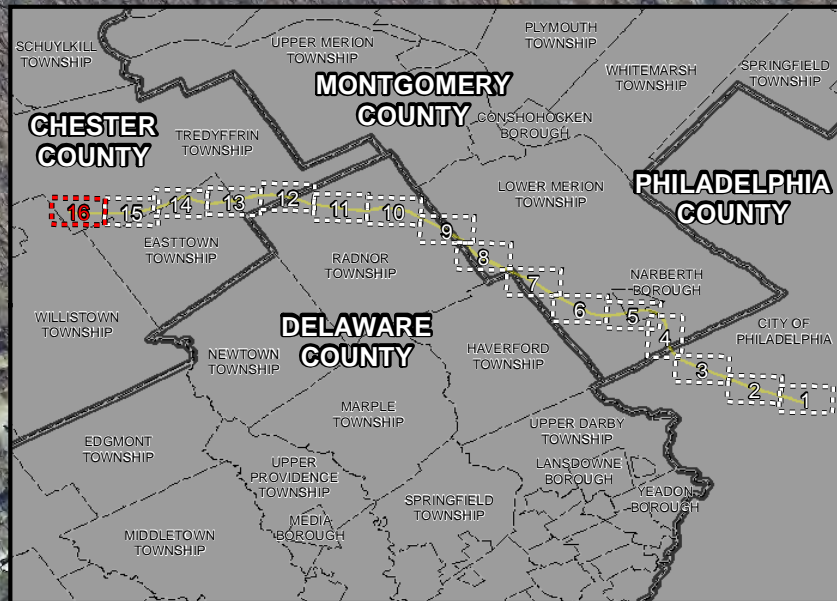
- Project Location
- Municipal Boundary
- County Boundary
- Map Sheet Boundary



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**Sheet 15 of 16:
 Philadelphia Zoo
 to Paoli Electrification
 Transmission Line Design**



Potential
Construction
Stockpile/Staging
Location

PAOLI SUBSTATION



WILLISTOWN
TOWNSHIP

TREDYFFRIN
TOWNSHIP

EASTTOWN
TOWNSHIP

Project Location
 Municipal Boundary
 County Boundary
 Map Sheet Boundary

N
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0 200 400 800 1,200 Feet

Sheet 16 of 16:
Philadelphia Zoo
to Paoli Electrification
Transmission Line Design



Appendix D

Cultural Resources Mapping and
Correspondence

PA Bureau of Historic Preservation:
Archaeology Concurrence Letter 1

11/15/11

RECEIVED NOV 17 2011



Commonwealth of Pennsylvania
Pennsylvania Historical and Museum Commission
Bureau for Historic Preservation
Commonwealth Keystone Building, 2nd Floor
400 North Street
Harrisburg, PA 17120-0093
www.phmc.state.pa.us

November 15, 2011

David Durofchalk
Stell Environmental Enterprises, Inc.
25 East Main Street
Elverson, PA 19520

TO EXPEDITE REVIEW USE
BHP REFERENCE NUMBER

Re: ER 2012-0005-042-A
FTA: Zoo to Paoli Electrification Transmission Line Project
AMTRAK, Chester, Delaware, Montgomery, Philadelphia Counties

Dear Mr. Durofchalk:

The Bureau for Historic Preservation (the State Historic Preservation Office) has reviewed the above named project in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended in 1980 and 1992, and the regulations (36 CFR Part 800) of the Advisory Council on Historic Preservation as revised in 1999 and 2004. These regulations require consideration of the project's potential effect upon both historic and archaeological resources.

Thank you for submitting the additional information for the above referenced project. Based on this supplemental information, it is our opinion that no archaeological resources will be affected by this project. Your cooperation in dealing with this matter is appreciated.

Your request does not include sufficient information. We are unable to proceed with our review of the affect of this project on historic structures until additional information is provided. A meeting in our offices has been scheduled for Monday, November 28, 2011 at 1:00 PM to discuss this project.

If you need further information regarding archaeological resources, please contact Mark Shaffer at (717) 783-9900. If you need further information concerning historic structures, please contact Susan Zacher at (717) 783-9920.

Sincerely,

A handwritten signature in blue ink that reads "Susan Zacher for".

Douglas C. McLearn, Chief
Division of Archaeology &
Protection

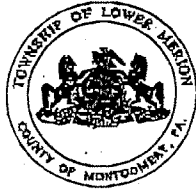
DCM/smz

Lower Merion Historical Commission Comment Letter

5/25/12

TOWNSHIP
OF
LOWER MERION

MONTGOMERY COUNTY



DEPARTMENT OF BUILDING
REGULATIONS AND PERMITS

75 E. Lancaster Ave.
Ardmore, Pa. 19003
Telephone: (610) 645-6200
TDD: (610) 645-6277

OUR FAX NUMBER: (610) 649-9598

FAX TRANSMITTAL SHEET

TO: David Durofchalk

FAX TELEPHONE NUMBER: (610)-286-0110

FROM: Andrea Campisi

DATE: 5-25-2012

NUMBER OF PAGES, INCLUDING THIS SHEET 2

IF ANY PROBLEMS, PLEASE CALL: _____

AT (610) 645-6112

COMMENT: _____

SECTION 106 PUBLIC CONSULTATION

FEDERAL RAILROAD ADMINISTRATION (FRA)
PHILADELPHIA ZOO TO PAOLI ELECTRIFICATION TRANSMISSION LINE PROJECT
CHESTER, DELAWARE, MONTGOMERY & PHILADELPHIA COUNTIES

Date: 5/25/2012

Name: Andrea M. Campisi, Senior Planner

Organization/Affiliation: Lower Merion Township Historical Commission and
Historic Architectural Review Board

Telephone/Cell Phone Number: 610-645-6112

Email Address: acampisi@lowermerion.org

Please identify any properties in the project area of local importance or value:

The existing R-5 Rail line train stations in Lower Merion Township, in addition to other locally and nationally listed, eligible and potentially eligible historic resources and districts (i.e., "Historic Properties"), which have contributed to the formation and collective cultural history of the Main Line Railroad Suburbs throughout the 19th and 20th early Centuries.

Suggested means to enhance the project:

Careful consideration of the potential impacts of the proposed project upon locally and nationally listed, eligible and potentially eligible historic resources and districts (i.e., "Historic Properties") in Lower Merion Township, as well as possible mitigation measures for lessening or eliminating adverse impacts upon these resources, with full and open participation of local Consulting Parties.

Other Comments/Suggestions:

The successful completion of the Section 106 Review process hinges upon the early and successful interaction of the lead agency and their consultants with local Consulting Parties to identify and evaluate the potential adverse effects upon the Township's cultural and environmental resources. We urge the Agency to actively engage the local Consulting Parties in all phases of this process, and not to minimize or marginalize local input.

1098

AMTRAK

PA Bureau of Historic Preservation:
Archaeology Concurrence Letter 2

1/15/13



RECEIVED JAN 17 2013

Commonwealth of Pennsylvania
Pennsylvania Historical and Museum Commission
Bureau for Historic Preservation
Commonwealth Keystone Building, 2nd Floor
400 North Street
Harrisburg, PA 17120-0093
www.phmc.state.pa.us

January 15, 2013

Stell Environmental Enterprises, Inc.
Attn: Allen Heist, PMP
25 East Main Street
Elverson, PA 19520

RE: ER# 2012-0005-042-B
FRA: Phase IA Geomorphology/
Archaeology Reconnaissance Survey
Report, Amtrak-Zoo to Paoli
Electrification Transmission Line Project,
Chester, Delaware and Philadelphia
Counties

Dear Mr. Heist:

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

We agree with the recommendations of this report. In our opinion, no archaeological resources will be affected by this project.

Please provide three additional copies of this report (one copy unbound) for our files and for distribution to the other report repositories. We appreciate your cooperation.

If you have any questions or comments concerning our review, please contact Mark Shaffer at (717) 783-9900.

Sincerely,

Douglas C. McLearn, Chief
Division of Archaeology and Protection



Haverford Station

Haverford Township Historical Commission Letter

7/8/13

HAVERFORD TOWNSHIP HISTORICAL COMMISSION
Township of Haverford, Pennsylvania
2325 Darby Road
Havertown PA 19083
(610) 446-1000

8 July 2013

Mr. Allen E. Heist
Project Manager
Stell Environmental Enterprises, Inc.
25 East Main Street
Elverson, PA 19520

Re: Amtrak Philadelphia Zoo to Paoli Electrification Transmission Line Project

Dear Mr. Heist:

This letter is in response to your email communication on June 6, 2013, requesting comment from the Haverford Township Historical Commission pertaining to Section 106 requirements for the above-referenced project, which spans from the Philadelphia Zoo through the Paoli train station, crossing through Haverford Township. Your email included several attachments containing extensive documentation pertaining to this project, including three (3) drawings dated 10/31/12, six (6) photographs, two renderings of the proposed view, a map of the impacted area, and two Executive Summaries entitled "Determination of Effects Report" and "Phase IA Archaeology Report", respectively.

The Historical Commission has reviewed the documents and discussed the project at our monthly meeting held June 17, 2013. The Commissioners noted no concerns with regard to the impact of this project on any existing historical resources within Haverford Township.

Thank you for contacting the Haverford Township Historical Commission, and for the opportunity to comment on this project.

Sincerely,



Stacey B. Mattox, Chair
Haverford Township Historical Commission

Haverford Station Neighborhood Coalition Letter

7/11/13

Allen Heist

From: Bert Wescott [BWescott@burns-group.com]
Sent: Tuesday, July 16, 2013 1:50 PM
To: Daren Petroski; Allen Heist
Subject: FW: Amtrak electrification project
Attachments: LtrFRAreAmtrak071113.docx

FYI

Herbert H. Wescott III, P.E. | Burns Engineering, Inc.
direct: 215-979-7700 x 7742 | cell: 215-495-5014 | fax: 215-405-2510
email: bwescott@burns-group.com | www.burns-group.com

This e-mail, including any attachments, may contain privileged and confidential information for the sole use of the intended recipient(s). Do not forward without the sender's permission. If you are not the intended recipient of this email, please contact the sender by replying and delete all copies of the message.

From: michelle.fishburne@dot.gov [mailto:michelle.fishburne@dot.gov]
Sent: Tuesday, July 16, 2013 1:36 PM
To: Bert Wescott
Subject: FW: Amtrak electrification project

FYI

From: Sharon James
Sent: Thursday, July 11, 2013 8:42 PM
To: Fishburne, Michelle (FRA)
Cc: Daren Petroski
Subject: Amtrak electrification project

Michelle: attached is our neighborhood coalition's letter. I will look forward to hearing from you at your convenience. Please feel free to contact me.

Sincerely,
Sharon Sorokin James
Haverford Station Historic District Neighborhood Coalition

Total Control Panel

[Login](#)

To: bwescott@burns-group.com
From:
prvs=9022a1df9=michelle.fishburne@dot.gov

You received this message because the domain dot.gov is on the enterprise allow list. Please contact your administrator to block messages from the domain dot.gov

Haverford Station Historic District Neighborhood Coalition

July 11, 2013

United States Department of Transportation
Federal Railway Administration
1200 New Jersey Avenue SE
Washington, DC 20590
Attention: Michelle Fishburne, PE
Environmental Protection Specialist

Bureau for Historic Preservation
Pennsylvania Historical and Museum Commission
State Historic Preservation Office
Commonwealth Keystone Building, 2nd floor
400 North Street
Harrisburg, PA 17120-0093
Attention: Barbara Frederick
State Historic Preservation Officer

Amtrak
c/o Burns Engineering
Attention: Daren Petroski, PE, VP
dpetroski@burns-group.com

Re: High Tension Power Line Project Main Line

Ladies and Gentlemen:

On behalf of the Haverford Station Historic District Neighborhood Coalition ("Coalition"), I am writing to you to express our concerns and questions regarding the high tension electrification project that Amtrak proposes to install in the Haverford Station Historic District ("Historic District"). While we recognize that this project is important for the mass transit service in our community and will surely go forward, as it goes forward, we urge the Federal Railway Administration to require appropriate mitigation of the negative impact of this project on the Haverford Station Historic District ("Historic District").

Amtrak has applied for a categorical exclusion from a Section 106 environmental review. The essence of its argument is that as the train line already exists, an increase in the height of catenaries, number of power lines, and voltage/tension of power, all of those increases have no further deleterious effect on the neighborhood, which includes the Historic District. This argument lacks logic and is factually incorrect. The project will result in a degradation of the Historic District as well as other adjacent neighborhoods unless the project's spillover impact is mitigated. We

ask today for an appropriate investigation of the spillover effects.¹ If the Federal Railway Administration finds that a categorical exclusion is appropriate under the circumstances, nonetheless we ask that as part of the review and mitigation process, Amtrak be required to undertake an investigation and analysis sufficiently robust to fully identify the adverse spillover effects of the project on the Historic District, and to develop and implement a mitigation plan sufficient to offset such effects on the Historic District.

The Coalition's specific long-term concerns are as follows, and will be discussed in more detail below:

1. Deforestation (tree and foliage clearing) in the Historic District;
2. Viewshed impact on the Historic District;
3. Flooding impact on the Historic District;
- Safety impact on adjacent homes and activities within the Historic District (including impact on Historic resources from vibrations from construction and from faster trains, and potential for derailment of faster trains), and
4. Aesthetic (look, color and placement of the catenaries) impact on the Historic District.

Our specific transitory (i.e. nonpermanent) concerns are as follows, and will also be discussed in more detail below:

- Noise disruption and lighting issues during construction,
- Safety issues during construction, and
- Cell phone disruptions.

A bit of background will probably be helpful. While many homes in the Historic District grew up around and because of the railroad line, thus being an integral part of the fabric of the historic railway line, some of the homes, including 52 Booth Lane, Haverford and several other homes on Old Lancaster Avenue, predate the railroad and have historic significance on their own and as part of the Historic District. All of the Historic District is impacted, positively and negatively, by the proximity of the railway line. While we all appreciate the convenience of proximity to the train, most of us have struggled with the spillover effects of Amtrak's train line. In the last decade and a half or so, flooding due to excessive runoff from the railway right of way has been a continuing problem for the Historic District. When Amtrak did not sufficiently address the flooding issues², the neighborhood benefitted from the efforts of Representative Gerlach who personally toured the right of way areas. He facilitated a project in which Amtrak deepened and improved what had been a

¹ For example, Amtrak was not aware that its project went through the Haverford Historic District, nor that it borders the Sharpe Bird Sanctuary, until it was pointed out to them by the author of this letter at a public meeting.

² Despite repeated phone calls, letters and entreaties, it took federal political intervention for Amtrak to respond effectively. At the time the drainage project occurred, the neighborhood had not yet been designated an Historic district.

shallow and ineffective drainage ditch running through the right of way. Those efforts have to some degree, absent a significant shift in the foliation of the drainage area, alleviated some of the flooding issues. It was a long and protracted effort to obtain Amtrak's cooperation regarding the impact its activities have had on this neighborhood, and we raise this past (and continuing) relationship to provide the background and context for the neighborhood's concern about bringing Amtrak to the table in a positive and cooperative manner.³

The Coalition sent representatives to the public meetings held for township officials and for the public in May of 2013. We also met privately as a group of concerned citizens to consider collectively the impact of Amtrak's project on the Historic District – our homes. It should be noted that many citizens of this neighborhood are customers of Amtrak and are well aware of the need to balance public transportation needs with the concerns of the neighborhood through which that public transportation passes. We firmly believe that with a cooperative effort this project can go forward in a manner that respects the Historic District it serves rather than cutting an errant and thoughtless swath through a densely settled, historically designated neighborhood.

Specific Long-Term Concerns:

1. **Deforestation/Defoliation: What tree cutting, trimming and foliage removal will occur and in what specific locations?** Amtrak has stated in public that it has not yet formulated its "tree removal plan" and that it has no plans for herbicide usage. As it has no plans developed at all yet, we want to be sure that its "no plans" doesn't develop later into a plan that depends upon extensive tree removal and herbicide⁴ unless the impacts of that plan are properly and fully mitigated. Impacts include negative impact on viewshed from the historic districts.⁵ This is of great concern both due to the impact on the viewshed from the Historic District and due to the adverse impact it will have on the storm water issues in the neighborhood.⁶ Given the obvious and scientifically recognized

³ We also note that Amtrak has not regularly maintained the drainage area, which is frequently filled with downed branches (which its contactors often leave rather than remove after tree trimming) and other debris, impacting the effectiveness of the drainage area.

⁴ During previous Amtrak projects, there have been notable instances of excessive herbicide usage which ran off into private gardens, destroying them and exposing neighbors and their pets to the herbicide.

⁵ The increased height of the catenaries will be visible over the tree line and from further distances from which the present catenaries are visible; also the train tracks and trains will be more visible without the greenery barriers which are presently ubiquitous in most areas of the Historic District.

⁶ Prior to the drainage ditch dredging and improvement, some of the neighbors were considering an inverse condemnation action against Amtrak on the grounds

impacts of global climate change, resulting in the increase and severity of storms, maintaining an adequate storm water runoff plan is necessary. Clear cutting of trees and foliage will only exacerbate the problem.

2. **What is the mitigation/tree and foliage replacement plan?** At the public meeting Amtrak's representative said Amtrak has *no greening or mitigation plan* for this project. A specific and long-term mitigation agreement should be required to protect the Historic District. The agreement should define the trees and other foliage to be removed (or an ascertainable criteria for removal), the management over time of foliage incursion and removal, and a greening plan for replacing, on a tree by tree basis, each tree removed with healthy trees of similar size to those that are removed. If trees cannot be safely placed within the right of way due to proximity to the high power lines (and we absolutely agree that safety is paramount), then Amtrak should provide mature trees to the adjacent property owners for appropriate mitigation placement on their properties. A greening plan should help mitigate viewshed impact, flooding impact caused by tree and foliage removal, and the noise impact of trains.
3. **Safety Impact:** We request that Amtrak provide maps (to scale) that delineate the width of the right of way and the location of all adjacent homes within the Historic District which border the right of way. This is necessary to determine whether there are any restrictions that homeowners must take due to their proximity to the planned power lines. The map will also be helpful in determining the impact of tree clearing on sight lines, greenery barriers and other impacts on the Historic District homes. While the train line, in some cases, pre-dates the homes (and in others, post dates them), the timing of the construction of the homes is irrelevant to the safety caused by an increased or "upgraded" usage of the right of way. We also request that Amtrak communicate in writing any recommended safety measures regarding use of adjacent properties.⁷
4. **Aesthetic Considerations.** The present catenaries are a pale green which is not hugely intrusive as a color, particularly during the spring, summer and fall. The proposed catenaries are more of a bronze color.

that Amtrak was using their properties as stormwater run-off basins. Amtrak is on notice of the issue, and we want to avoid a repeat of what was a prolonged, difficult and damaging intrusion onto neighborhood private property by Amtrak stormwater.

⁷ We note that a number of other state power authorities have safety manuals for contractors working in the vicinity of high tension power lines. We would like to be aware of any safety measures that are necessary to avoid danger to homeowners. While we are researching this on our own, including with references to OSHA, NIST, ASTM and other national guidelines, as we are not experts in this area, and as Amtrak is causing the impact, they ought to provide an affirmative list. The burden should not be on the Coalition to determine the appropriate safety measures for homeowners.

Amtrak's representatives stated that painting the catenaries would cause maintenance problems. We agree that maintenance problems and flaking paint are to be avoided. However, none of the neighbors are aware that the present catenaries have been painted, nor do they appear to be flaking. Therefore, we would like Amtrak to disclose whether the current catenaries are painted or whether their green color is embedded in the material of which they are comprised. Second, whether a somewhat lighter and greener color could be embedded into the material from which the new catenaries will be fabricated, thus minimizing the impact of the catenaries on the viewshed. Third, we would like to know the length of time that a double set of catenaries (i.e. new and old) will be in place, as a 100% increase in the catenaries during the five year construction period will have a very negative impact on the neighborhood.⁸

5. **Timing of Construction.** We are concerned that construction will take place late at night, with loud sounds and bright lights disturbing the sleep of the Historic District residents, including that of the many young children who reside in it. We are also concerned about disruption to the enjoyment of our outdoor spaces during the weekends. That said, we recognize that construction must occur at some time, and it is not effective to conduct construction during rush hour due to the impact on commuters. Therefore we request that the mitigation agreement prohibit weekday construction after 10 pm and before 7 am, and permit weekend construction only between 5 pm to 10 pm. We also request that the mitigation agreement require notices to neighborhoods (to each home) at least two weeks in advance of any scheduled construction, with the scheduled hours of construction, the nature of the disruption, and a 24 hour telephone number for emergency contact and the name and cell phone number of Amtrak's project manager. This should facilitate communication and the resolution of problems early on.
6. **Issues that Amtrak has purported to provide answers about:**
 - Amtrak has stated that there will be no cell phone or WiFi interference from the new power lines, that the faster trains which use the tracks after the new power lines are installed

⁸ This would require Amtrak to provide a construction schedule which we understand may not be obtainable at this time; however, the mitigation agreement should provide for the production of a construction schedule at the appropriate time and also provide for specific actions to mitigate the impact of construction, including a shorter, rather than longer, duration, for the existence of a double set of catenaries, as that will reduce the viewshed impact. We would also like to better understand the financing of the project, at the appropriate time, to alleviate our concern that the old catenaries might end up remaining in place due to a lack of funding for removal. Additionally, we would like to know assurances as to the amount of liability insurance Amtrak maintains in the event of a construction casualty that affects adjacent properties.

will not increase vibrations on nearby structures or otherwise create a greater risk; that there is no danger to adjacent properties from falling high tension lines; that there are no alternate design possibilities (although we believe the lines could be run underground through the Historic District, which while more expensive, would only be for approximately one mile and would significantly mitigate adverse impacts); that that there are no restrictions on residents activities in their own yards, irrespective of the distance between the yards and the power lines; that there will be no impact on the birds in the bird sanctuary adjacent to the Haverford Train Station; that there is no adverse health impact on the residents (although studies appear to be inconclusive, rather than conclusive one way or the other). As a matter of course, we would like some kind of independent confirmation of Amtrak's assertions. If Amtrak is not going to undertake a Section 106 review, then we request they provide the independent confirmation through some other appropriate and reputable means that includes an analysis of the facts and science and not simply a conclusion.

Please note that while our Coalition expects to be a part of the process (and we appreciate the opportunity to participate), and we expect to take all appropriate steps to protect our homes and our neighborhood, we also expect to be realistic, professional and cooperative in the process, to consider other points of view, and to work to balance and resolve the problems as they arise. We expect to hold Amtrak to the same standard, as well as to all legal standards imposed on it.

Thank you for your time and consideration.

Sincerely,

Sharon Sorokin James
on behalf of the Haverford Station Historic District Neighborhood Coalition

cc: All members of the Haverford Station Historic District Neighborhood Coalition
Representative James Gerlach
Senator Robert Casey
Senator Patrick Toomey
Lower Merion Board of Commissioners
Historic Architectural Review Board of Lower Merion
Radnor Township Board of Commissioners
Historic Architectural Review Board of Radnor Township

PA Bureau of Historic Preservation : National Register
of Historic Places Eligibility Initial Response Letter

3/16/15



Commonwealth of Pennsylvania
Pennsylvania Historical and Museum Commission
Bureau for Historic Preservation
Commonwealth Keystone Building, 2nd Floor
400 North Street
Harrisburg, PA 17120-0093
www.phmc.state.pa.us

16 March 2015

Mr. Allen Heist, PMP
Stell Environmental
25 East Main Street
Elverson, PA 19520

Re: ER 2012-0005-042-N
FRA: Amtrak Zoo to Paoli Electrification Project
Identification of Historic Properties/Determination of
Eligibility

Dear Mr. Heist:

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

We offer the following comments on the identification of historic properties for the above-referenced project.

Historic Structures

Based on the information provided, it is the opinion of the State Historic Preservation Officer that the following properties are **not eligible** for listing in the National Register of Historic Places:

- **Thomas Campbell House (Key No. 065457)** is **not eligible** due to a lack of integrity as a result of the late-20th-century additions and changes.
- **Llanogellen/South Devon Park Apartments (Key No. 201350)** is **not eligible** due to lack of integrity resulting from the ca. 1970 conversion to an apartment complex.

Based on the information provided, it is the opinion of the State Historic Preservation Officer that the following property is **eligible** for listing in the National Register of Historic Places:

- **Clonmel-Rosslevyn (Key No. 065460)** is **eligible** under Criterion C in the area of Architecture for the year ca. 1910. Although the residence may not be the most prominent example along the Main Line, the property conveys architectural significance as a *circa*-1910 Tudor Revival-style residence by the prominent local architects Baily & Bassett. The appropriate boundary may include the gate house and stable historically associated with the property.

We are unable to complete our review of the following properties:

We request additional information for the **Eagle Hotel (Key No. 065458)**. Please provide more detail explaining the additions and renovations to the hotel building, so that we can better understand if it retains the integrity necessary to convey 19th-century significance as an inn or tavern associated with travelers along the turnpike or railroad. Also, assess if the property has any 20th-century significance for its association with the

Rosato family and their medical practices, and whether the current integrity of the property would convey that significance. Provide a site plan sketch that indicates the additions and illustrates the evolution of the building's footprint.

We request additional information for the **Devereux Foundation (Key No. 201351)**. Please provide more information about the development of Helena Devereux's private school and the impact of her programming on the evolution of education for special-needs children in the 20th century, at least to 1960. A biography for Ms. Devereux, *Reaching the Mind, Touching the Spirit*, available at the foundation's website should be a helpful reference: http://www.devereux.org/site/PageServer?pagename=about_helena_trafford_devereux Consider whether changes to the property(ies) as the school developed would fall within a potential period of significance, directly relate to the new function of the buildings, and therefore not compromise overall integrity. We are especially interested in the potential for the facility to be significant under Criterion A, for association with the educational trends for special-needs children, and the potential for Criterion B significance, for association with the productive life of Helena Devereux. We are aware of one other school in Pennsylvania that may be helpful for context, the Melmark School in Delaware County, and there may be others to identify, as well.

If you need further information concerning this review, please contact Emma Diehl at (717) 787-9121.

Sincerely,



Andrea L. MacDonald, Chief
Division of Preservation Services

ALM/ekd

**PA Bureau of Historic Preservation: National Register of Historic
Places Eligibility Additional Information Response Letter**

4/24/15



Commonwealth of Pennsylvania
Pennsylvania Historical and Museum Commission
Bureau for Historic Preservation
Commonwealth Keystone Building, 2nd Floor
400 North Street
Harrisburg, PA 17120-0093
www.phmc.state.pa.us

24 April 2015

Patricia H. Baker
Stell Environmental
25 East Main Street
Elverson, PA 19520

Re: ER 2012-0005-042-O
FRA: Amtrak Zoo to Paoli Electrification Project
FedEx Ground Hub and Roadway Improvements
Determination of Eligibility: Additional Information

Dear Ms. Baker:

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

We offer the following comments on the additional information submitted regarding the identification of historic properties for the above-referenced project.

Based on the additional information received, we concur with the preparer that the **Devereux Foundation (Key No. 201351)** is **eligible** for listing in the National Register of Historic Places under Criterion A in the area of Education and under Criterion B for its association with Helena Trafford Devereux. The period of significance begins in 1918, the date Helena Devereux began acquiring the property for use as a school, and extends to 1965, the 50 year age criteria consideration. The boundary would include the existing 7.8-acre parcel, with the existing four buildings considered contributing.

Based on the additional information received, it is the opinion of the State Historic Preservation Officer that the **Eagle Hotel (Key No. 065458)** is **not eligible** for listing in the National Register of Historic Places due to a lack of integrity. If the property does retain significance related to its use as a railroad hotel, it no longer retains integrity to convey any significance from the period of use.

We concur with the scope and level of effort utilized to identify historic properties for this project appropriate pursuant to 36 CFR 800.4. Our determination of eligibility is based upon the information provided and available in our files for review. If National Register designation for this property is sought in the future, additional documentation of the property's significance and integrity may be required to both verify this determination of eligibility and satisfy the requirements of the National Park Service (36 CFR Part 60). Thus, the outcome of the National Register listing process cannot be assured by this determination of eligibility.

2012-0005-042-O

P. Baker

Page 2 of 2

If you need further information concerning this review, please contact Emma Diehl at (717) 787-9121.

Sincerely,

A handwritten signature in blue ink that reads "Andrea L. MacDonald". The signature is written in a cursive style with a large, stylized initial 'A'.

Andrea L. MacDonald, Chief
Division of Preservation Services

ALM/ekd

Federal Railroad Administration:
Signed Tribal Consultation Letters

8/26/15



U.S. Department
of Transportation

1200 New Jersey Avenue, SE.
Washington, D.C. 20590

**Federal Railroad
Administration**

Arnold Printup,
Historic Preservation Officer
St. Regis Mohawk Tribe
412 State Route 37
Hogansburg, NY 13655

AUG 26 2015

Re: Initiation of Government-to-Government Consultation with Native
American Tribal Governments pursuant to Section 106 of the National
Historic Preservation Act (36 CFR 800.2(c)(2)(ii))

Dear Mr. Printup,

In accordance with Section 106 of the National Historic Preservation Act, the Federal Railroad Administration (FRA) is conducting a cultural resources investigation for the National Railroad Passenger Corporation (Amtrak)'s Zoo to Paoli Electrification Transmission Line Project in Chester, Delaware, Montgomery, and Philadelphia counties, Pennsylvania. The proposed project received federal funds from the Secretary of the United States Department of Transportation via the FRA and includes upgrading the existing railroad's overhead electrification system.

The proposed Amtrak Zoo to Paoli Electrification Transmission Line Project is approximately 20 miles long and extends northwest from the Zoo Substation, in West Philadelphia, through several municipalities within Montgomery, Delaware, and Chester counties, before terminating at the Paoli Substation in Chester County. The project area follows Amtrak's Keystone Corridor, which extends along the original Pennsylvania Railroad Main Line (Philadelphia to Harrisburg), considered by the Pennsylvania Historical and Museum Commission (PHMC) to be a historic district that is eligible for listing in the National Register of Historic Places (NRHP). Both Amtrak and the Southeastern Pennsylvania Transportation Authority (SEPTA) use the corridor for its rail service.

Amtrak plans to upgrade the existing overhead electrification system (catenary) along the Pennsylvania Railroad Main Line (Philadelphia to Harrisburg), between the Zoo and Paoli substations. The project will result in the continuation and improvement of electric passenger train service for both Amtrak and SEPTA, and involves replacing the existing catenary structures with new ones and incorporating the new transmission line into the

replacement of the poles between 52nd Street and Paoli and replacing the Bryn Mawr Switching Station with a new traction power substation.

The proposed electrification improvement work will occur within the Amtrak right-of-way (ROW), with only the catenary structures (poles) and head-spans replaced. The overhead contact system is in reasonable condition and will not be replaced. After the installation of new poles and removal of existing ones, the catenary system will be detached from the old poles and attached to the new ones. All work will be performed in areas of previous construction activity and ground disturbance. The project work will involve:

- Construction of new 138kV transmission lines within Amtrak ROW to replace aging and inaccessible transmission lines that are not on Amtrak ROW. The power feed to the former transmission lines will be deactivated, but the infrastructure will not be physically altered.
- 1-for-1 replacement of deteriorated catenary structures within Amtrak right-of-way, which will henceforth carry both the catenary lines and the transmission lines. The new structures will be taller to accommodate the added traction power transmission lines.
- Construction of an additional gantry at Paoli substation.
- Demolition of the obsolete switching station at Bryn Mawr (also known as the Bryn Mawr Substation) and the construction of a new traction power substation in the same location but on a slightly larger footprint.

We have enclosed for your reference an overview map showing the 25-mile length of the project corridor, and four maps depicting the project corridor on USGS quadrangle sheets. Due to the nature of the project, the Area of Potential Effects (APE) for archaeology is within the footprint of the existing rail corridor.

In 2012, a Phase IA geomorphology and archaeology reconnaissance survey was completed for the project, the results of which are presented in the *Phase IA Geomorphology / Archaeology Reconnaissance Report*. The survey included intensive background research and a field survey of the entire project APE for archaeology to determine the probabilities for the presence of intact, significant historic and precontact archaeological resources that might be adversely impacted by the project construction. One previously recorded historic archaeological site noted as adjacent to the existing project right-of-way was field checked and determined to be located entirely outside the current project APE. No other areas suitable for subsurface testing were found within the project APE for archaeology. Therefore, the project, as currently designed, will not impact any known NRHP-eligible archaeological properties. The PHMC, or Pennsylvania State Historic Preservation Office (SHPO), concurred with this finding in a letter dated January 15, 2013. An Unanticipated Discoveries Plan is being prepared for this project.

As the lead Federal agency, FRA is contacting you to begin Government-to-Government consultation on this project. FRA is available for formal Government-to-Government consultation at your request. We also invite you to meet with either FRA or Amtrak representatives for the purpose of sharing information. Through consultation, we hope to incorporate into the cultural resource survey process your concerns for locations of traditional or cultural significance, and provide an opportunity for participation in the process to identify cultural resources, effects of the project on significant resources, and resolution of any adverse effects which may result from the proposed action. If you are interested, Amtrak and FRA will continue to be available for consultation with your Tribe and will ensure you are kept informed as the project progresses and new information becomes available.

FRA in coordination with SHPO, anticipates the removal of the existing catenary will be an adverse effect on the section of the Pennsylvania Railroad Main Line (Philadelphia to Harrisburg) between the Zoo and Paoli substations. FRA is drafting a Memorandum of Agreement (MOA) in consultation with SHPO to further coordinate the design aspects of the project and to mitigate the adverse effects of the project on the Pennsylvania Main Line Railroad (Philadelphia to Harrisburg). The Unanticipated Discoveries Plan will be attached to the MOA being prepared for this project. FRA would appreciate your input on the project regarding Tribal resources and knowing if your Tribe has any interest in participating in the development of the MOA.

We would appreciate receiving your response within 30 days of the receipt of this letter. If we do not receive a response, we will continue with the development of the project through the Section 106 consultation process. If you have any questions about the project, please do not hesitate to contact Ms. Michelle W. Fishburne, the region Environmental Protection Specialist, at 202-493-0398 or by email at michelle.fishburne@dot.gov.

Sincerely,



for David Valenstein
Chief, Environmental and Systems Planning Division

Cc: Raymond G. Verrelle, Jr., PE, Amtrak
Edward LaGuardia, Jr., Amtrak
Johnette Davies, Amtrak, Sr. Historic Preservation Specialist
Douglas C. McLearn, Chief, Division of Archaeology and Protection, Bureau for
Historic Preservation, PHMC



U.S. Department
of Transportation

1200 New Jersey Avenue, SE.
Washington, D.C. 20590

**Federal Railroad
Administration**

AUG 26 2015

Joseph Blanchard
Absentee-Shawnee Tribe of Oklahoma
2025 S. Gordon Cooper Drive
Shawnee, OK 74801

Re: Initiation of Government-to-Government Consultation with Native
American Tribal Governments pursuant to Section 106 of the National
Historic Preservation Act (36 CFR 800.2(c)(2)(ii))

Dear Mr. Blanchard,

In accordance with Section 106 of the National Historic Preservation Act, the Federal Railroad Administration (FRA) is conducting a cultural resources investigation for the National Railroad Passenger Corporation (Amtrak)'s Zoo to Paoli Electrification Transmission Line Project in Chester, Delaware, Montgomery, and Philadelphia counties, Pennsylvania. The proposed project received federal funds from the Secretary of the United States Department of Transportation via the FRA and includes upgrading the existing railroad's overhead electrification system.

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Amtrak plans to upgrade the existing overhead electrification system (catenary) along the Pennsylvania Railroad Main Line (Philadelphia to Harrisburg), between the Zoo and Paoli substations. The project will result in the continuation and improvement of electric passenger train service for both Amtrak and SEPTA, and involves replacing the existing catenary structures with new ones and incorporating the new transmission line into the

replacement of the poles between 52nd Street and Paoli and replacing the Bryn Mawr Switching Station with a new traction power substation.

The proposed electrification improvement work will occur within the Amtrak right-of-way (ROW), with only the catenary structures (poles) and head-spans replaced. The overhead contact system is in reasonable condition and will not be replaced. After the installation of new poles and removal of existing ones, the catenary system will be detached from the old poles and attached to the new ones. All work will be performed in areas of previous construction activity and ground disturbance. The project work will involve:

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In 2012, a Phase IA geomorphology and archaeology reconnaissance survey was completed for the project, the results of which are presented in the *Phase IA Geomorphology / Archaeology Reconnaissance Report*. The survey included intensive background research and a field survey of the entire project APE for archaeology to determine the probabilities for the presence of intact, significant historic and precontact archaeological resources that might be adversely impacted by the project construction. One previously recorded historic archaeological site noted as adjacent to the existing project right-of-way was field checked and determined to be located entirely outside the current project APE. No other areas suitable for subsurface testing were found within the project APE for archaeology. Therefore, the project, as currently designed, will not impact any known NRHP-eligible archaeological properties. The PHMC, or Pennsylvania State Historic Preservation Office (SHPO), concurred with this finding in a letter dated January 15, 2013. An Unanticipated Discoveries Plan is being prepared for this project.

As the lead Federal agency, FRA is contacting you to begin Government-to-Government consultation on this project. FRA is available for formal Government-to-Government consultation at your request. We also invite you to meet with either FRA or Amtrak representatives for the purpose of sharing information. Through consultation, we hope to incorporate into the cultural resource survey process your concerns for locations of traditional or cultural significance, and provide an opportunity for participation in the process to identify cultural resources, effects of the project on significant resources, and resolution of any adverse effects which may result from the proposed action. If you are interested, Amtrak and FRA will continue to be available for consultation with your Tribe and will ensure you are kept informed as the project progresses and new information becomes available.

FRA in coordination with SHPO, anticipates the removal of the existing catenary will be an adverse effect on the section of the Pennsylvania Railroad Main Line (Philadelphia to Harrisburg) between the Zoo and Paoli substations. FRA is drafting a Memorandum of Agreement (MOA) in consultation with SHPO to further coordinate the design aspects of the project and to mitigate the adverse effects of the project on the Pennsylvania Main Line Railroad (Philadelphia to Harrisburg). The Unanticipated Discoveries Plan will be attached to the MOA being prepared for this project. FRA would appreciate your input on the project regarding Tribal resources and knowing if your Tribe has any interest in participating in the development of the MOA.

We would appreciate receiving your response within 30 days of the receipt of this letter. If we do not receive a response, we will continue with the development of the project through the Section 106 consultation process. If you have any questions about the project, please do not hesitate to contact Ms. Michelle W. Fishburne, the region Environmental Protection Specialist, at 202-493-0398 or by email at michelle.fishburne@dot.gov.

Sincerely,



for David Valenstein
Chief, Environmental and Systems Planning Division

Cc: Edwina Butler-Wolfe, Governor, Absentee-Shawnee Tribe of Oklahoma
Raymond G. Verrelle, Jr., PE, Amtrak
Edward LaGuardia, Jr., Amtrak
Johnette Davies, Amtrak, Sr. Historic Preservation Specialist
Douglas C. McLearn, Chief, Division of Archaeology and Protection, Bureau for
Historic Preservation, PHMC



U.S. Department
of Transportation

1200 New Jersey Avenue, SE.
Washington, D.C. 20590

**Federal Railroad
Administration**

Jason Ross
Delaware Nation
31064 State Highway 281
Anadarko, OK 73005

AUG 26 2015

Re: Initiation of Government-to-Government Consultation with Native
American Tribal Governments pursuant to Section 106 of the National
Historic Preservation Act (36 CFR 800.2(c)(2)(ii))

Dear Mr. Ross,

In accordance with Section 106 of the National Historic Preservation Act, the Federal Railroad Administration (FRA) is conducting a cultural resources investigation for the National Railroad Passenger Corporation (Amtrak)'s Zoo to Paoli Electrification Transmission Line Project in Chester, Delaware, Montgomery, and Philadelphia counties, Pennsylvania. The proposed project received federal funds from the Secretary of the United States Department of Transportation via the FRA and includes upgrading the existing railroad's overhead electrification system.

The proposed Amtrak Zoo to Paoli Electrification Transmission Line Project is approximately 20 miles long and extends northwest from the Zoo Substation, in West Philadelphia, through several municipalities within Montgomery, Delaware, and Chester counties, before terminating at the Paoli Substation in Chester County. The project area follows Amtrak's Keystone Corridor, which extends along the original Pennsylvania Railroad Main Line (Philadelphia to Harrisburg), considered by the Pennsylvania Historical and Museum Commission (PHMC) to be a historic district that is eligible for listing in the National Register of Historic Places (NRHP). Both Amtrak and the Southeastern Pennsylvania Transportation Authority (SEPTA) use the corridor for its rail service.

Amtrak plans to upgrade the existing overhead electrification system (catenary) along the Pennsylvania Railroad Main Line (Philadelphia to Harrisburg), between the Zoo and Paoli substations. The project will result in the continuation and improvement of electric passenger train service for both Amtrak and SEPTA, and involves replacing the existing catenary structures with new ones and incorporating the new transmission line into the

replacement of the poles between 52nd Street and Paoli and replacing the Bryn Mawr Switching Station with a new traction power substation.

The proposed electrification improvement work will occur within the Amtrak right-of-way (ROW), with only the catenary structures (poles) and head-spans replaced. The overhead contact system is in reasonable condition and will not be replaced. After the installation of new poles and removal of existing ones, the catenary system will be detached from the old poles and attached to the new ones. All work will be performed in areas of previous construction activity and ground disturbance. The project work will involve:

- Construction of new 138kV transmission lines within Amtrak ROW to replace aging and inaccessible transmission lines that are not on Amtrak ROW. The power feed to the former transmission lines will be deactivated, but the infrastructure will not be physically altered.
- 1-for-1 replacement of deteriorated catenary structures within Amtrak right-of-way, which will henceforth carry both the catenary lines and the transmission lines. The new structures will be taller to accommodate the added traction power transmission lines.
- Construction of an additional gantry at Paoli substation.
- Demolition of the obsolete switching station at Bryn Mawr (also known as the Bryn Mawr Substation) and the construction of a new traction power substation in the same location but on a slightly larger footprint.

We have enclosed for your reference an overview map showing the 25-mile length of the project corridor, and four maps depicting the project corridor on USGS quadrangle sheets. Due to the nature of the project, the Area of Potential Effects (APE) for archaeology is within the footprint of the existing rail corridor.

In 2012, a Phase IA geomorphology and archaeology reconnaissance survey was completed for the project, the results of which are presented in the *Phase IA Geomorphology / Archaeology Reconnaissance Report*. The survey included intensive background research and a field survey of the entire project APE for archaeology to determine the probabilities for the presence of intact, significant historic and precontact archaeological resources that might be adversely impacted by the project construction. One previously recorded historic archaeological site noted as adjacent to the existing project right-of-way was field checked and determined to be located entirely outside the current project APE. No other areas suitable for subsurface testing were found within the project APE for archaeology. Therefore, the project, as currently designed, will not impact any known NRHP-eligible archaeological properties. The PHMC, or Pennsylvania State Historic Preservation Office (SHPO), concurred with this finding in a letter dated January 15, 2013. An Unanticipated Discoveries Plan is being prepared for this project.

As the lead Federal agency, FRA is contacting you to begin Government-to-Government consultation on this project. FRA is available for formal Government-to-Government consultation at your request. We also invite you to meet with either FRA or Amtrak representatives for the purpose of sharing information. Through consultation, we hope to incorporate into the cultural resource survey process your concerns for locations of traditional or cultural significance, and provide an opportunity for participation in the process to identify cultural resources, effects of the project on significant resources, and resolution of any adverse effects which may result from the proposed action. If you are interested, Amtrak and FRA will continue to be available for consultation with your Tribe and will ensure you are kept informed as the project progresses and new information becomes available.

FRA in coordination with SHPO, anticipates the removal of the existing catenary will be an adverse effect on the section of the Pennsylvania Railroad Main Line (Philadelphia to Harrisburg) between the Zoo and Paoli substations. FRA is drafting a Memorandum of Agreement (MOA) in consultation with SHPO to further coordinate the design aspects of the project and to mitigate the adverse effects of the project on the Pennsylvania Main Line Railroad (Philadelphia to Harrisburg). The Unanticipated Discoveries Plan will be attached to the MOA being prepared for this project. FRA would appreciate your input on the project regarding Tribal resources and knowing if your Tribe has any interest in participating in the development of the MOA.

We would appreciate receiving your response within 30 days of the receipt of this letter. If we do not receive a response, we will continue with the development of the project through the Section 106 consultation process. If you have any questions about the project, please do not hesitate to contact Ms. Michelle W. Fishburne, the region Environmental Protection Specialist, at 202-493-0398 or by email at michelle.fishburne@dot.gov.

Sincerely,



for
David Valenstein
Chief, Environmental and Systems Planning Division

Cc: Raymond G. Verrelle, Jr., PE, Amtrak
Edward LaGuardia, Jr., Amtrak
Johnette Davies, Amtrak, Sr. Historic Preservation Specialist
Douglas C. McLearn, Chief, Division of Archaeology and Protection, Bureau for
Historic Preservation, PHMC



U.S. Department
of Transportation

1200 New Jersey Avenue, SE.
Washington, D.C. 20590

**Federal Railroad
Administration**

Kim Jumper,
Tribal Historic Preservation Officer
Shawnee Tribe
29 South 69a Highway
Miami OK 74354

AUG 26 2015

Re: Initiation of Government-to-Government Consultation with Native
American Tribal Governments pursuant to Section 106 of the National
Historic Preservation Act (36 CFR 800.2(c)(2)(ii))

Dear Ms. Jumper,

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Sincerely,



 David Valenstein
Chief, Environmental and Systems Planning Division

Cc: Ron Sparkman, Chairman, Shawnee Tribe
Raymond G. Verrelle, Jr., PE, Amtrak
Edward LaGuardia, Jr., Amtrak
Johnette Davies, Amtrak, Sr. Historic Preservation Specialist
Douglas C. McLearn, Chief, Division of Archaeology and Protection, Bureau for
Historic Preservation, PHMC



U.S. Department
of Transportation

1200 New Jersey Avenue, SE.
Washington, D.C. 20590

**Federal Railroad
Administration**

AUG 26 2015

Robin Dushane
Cultural Preservation Officer
Eastern Shawnee Tribe of Oklahoma
P. O. Box 350
Seneca, MO 64865

Re: Initiation of Government-to-Government Consultation with Native
American Tribal Governments pursuant to Section 106 of the National
Historic Preservation Act (36 CFR 800.2(c)(2)(ii))

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Chief, Environmental and Systems Planning Division

Cc: Raymond G. Verrelle, Jr., PE, Amtrak
Edward LaGuardia, Jr., Amtrak
Johnette Davies, Amtrak, Sr. Historic Preservation Specialist
Douglas C. McLearn, Chief, Division of Archaeology and Protection, Bureau for
Historic Preservation, PHMC



U.S. Department
of Transportation

1200 New Jersey Avenue, SE.
Washington, D.C. 20590

**Federal Railroad
Administration**

AUG 26 2015

Ms. Susan Bachor
Delaware Tribe Historic Preservation Representative
Temple University
1115 West Polett Walk
Philadelphia, PA 19122

Re: Initiation of Government-to-Government Consultation with Native
American Tribal Governments pursuant to Section 106 of the National
Historic Preservation Act (36 CFR 800.2(c)(2)(ii))

Dear Ms. Bachor,

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Sincerely,



for David Valenstein
Chief, Environmental and Systems Planning Division

Cc: Raymond G. Verrelle, Jr., PE, Amtrak
Edward LaGuardia, Jr., Amtrak
Johnette Davies, Amtrak, Sr. Historic Preservation Specialist
Douglas C. McLearn, Chief, Division of Archaeology and Protection, Bureau for
Historic Preservation, PHMC



U.S. Department
of Transportation

1200 New Jersey Avenue, SE.
Washington, D.C. 20590

**Federal Railroad
Administration**

AUG 26 2015

Sherry White,
THPO
W13447 Camp 14 Road
Bowler, WI 54416

Re: Initiation of Government-to-Government Consultation with Native
American Tribal Governments pursuant to Section 106 of the National
Historic Preservation Act (36 CFR 800.2(c)(2)(ii))

Dear Ms. White,

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Cc: Raymond G. Verrelle, Jr., PE, Amtrak
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Historic Preservation, PHMC



U.S. Department
of Transportation

1200 New Jersey Avenue, SE.
Washington, D.C. 20590

**Federal Railroad
Administration**

Tony Gonyea, Faithkeeper
Onondaga Nation
RR#1 Box 245
Onondaga Nation
Nedrow, NY 13120

AUG 26 2015

Re: Initiation of Government-to-Government Consultation with Native
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The proposed Amtrak Zoo to Paoli Electrification Transmission Line Project is approximately 20 miles long and extends northwest from the Zoo Substation, in West Philadelphia, through several municipalities within Montgomery, Delaware, and Chester counties, before terminating at the Paoli Substation in Chester County. The project area follows Amtrak's Keystone Corridor, which extends along the original Pennsylvania Railroad Main Line (Philadelphia to Harrisburg), considered by the Pennsylvania Historical and Museum Commission (PHMC) to be a historic district that is eligible for listing in the National Register of Historic Places (NRHP). Both Amtrak and the Southeastern Pennsylvania Transportation Authority (SEPTA) use the corridor for its rail service.

Amtrak plans to upgrade the existing overhead electrification system (catenary) along the Pennsylvania Railroad Main Line (Philadelphia to Harrisburg), between the Zoo and Paoli substations. The project will result in the continuation and improvement of electric passenger train service for both Amtrak and SEPTA, and involves replacing the existing

catenary structures with new ones and incorporating the new transmission line into the replacement of the poles between 52nd Street and Paoli and replacing the Bryn Mawr Switching Station with a new traction power substation.

The proposed electrification improvement work will occur within the Amtrak right-of-way (ROW), with only the catenary structures (poles) and head-spans replaced. The overhead contact system is in reasonable condition and will not be replaced. After the installation of new poles and removal of existing ones, the catenary system will be detached from the old poles and attached to the new ones. All work will be performed in areas of previous construction activity and ground disturbance. The project work will involve:

- Construction of new 138kV transmission lines within Amtrak ROW to replace aging and inaccessible transmission lines that are not on Amtrak ROW. The power feed to the former transmission lines will be deactivated, but the infrastructure will not be physically altered.
- 1-for-1 replacement of deteriorated catenary structures within Amtrak right-of-way, which will henceforth carry both the catenary lines and the transmission lines. The new structures will be taller to accommodate the added traction power transmission lines.
- Construction of an additional gantry at Paoli substation.
- Demolition of the obsolete switching station at Bryn Mawr (also known as the Bryn Mawr Substation) and the construction of a new traction power substation in the same location but on a slightly larger footprint.

We have enclosed for your reference an overview map showing the 25-mile length of the project corridor, and four maps depicting the project corridor on USGS quadrangle sheets. Due to the nature of the project, the Area of Potential Effects (APE) for archaeology is within the footprint of the existing rail corridor.

In 2012, a Phase IA geomorphology and archaeology reconnaissance survey was completed for the project, the results of which are presented in the *Phase IA Geomorphology / Archaeology Reconnaissance Report*. The survey included intensive background research and a field survey of the entire project APE for archaeology to determine the probabilities for the presence of intact, significant historic and precontact archaeological resources that might be adversely impacted by the project construction. One previously recorded historic archaeological site noted as adjacent to the existing project right-of-way was field checked and determined to be located entirely outside the current project APE. No other areas suitable for subsurface testing were found within the project APE for archaeology. Therefore, the project, as currently designed, will not impact any known NRHP-eligible archaeological properties. The PHMC, or Pennsylvania State Historic Preservation Office (SHPO), concurred with this finding in a letter dated January 15, 2013. An Unanticipated Discoveries Plan is being prepared for this project.


As the lead Federal agency, FRA is contacting you to begin Government-to-Government consultation on this project. FRA is available for formal Government-to-Government consultation at your request. We also invite you to meet with either FRA or Amtrak representatives for the purpose of sharing information. Through consultation, we hope to incorporate into the cultural resource survey process your concerns for locations of traditional or cultural significance, and provide an opportunity for participation in the process to identify cultural resources, effects of the project on significant resources, and resolution of any adverse effects which may result from the proposed action. If you are interested, Amtrak and FRA will continue to be available for consultation with your Tribe and will ensure you are kept informed as the project progresses and new information becomes available.

FRA in coordination with SHPO, anticipates the removal of the existing catenary will be an adverse effect on the section of the Pennsylvania Railroad Main Line (Philadelphia to Harrisburg) between the Zoo and Paoli substations. FRA is drafting a Memorandum of Agreement (MOA) in consultation with SHPO to further coordinate the design aspects of the project and to mitigate the adverse effects of the project on the Pennsylvania Main Line Railroad (Philadelphia to Harrisburg). The Unanticipated Discoveries Plan will be attached to the MOA being prepared for this project. FRA would appreciate your input on the project regarding Tribal resources and knowing if your Tribe has any interest in participating in the development of the MOA.

We would appreciate receiving your response within 30 days of the receipt of this letter. If we do not receive a response, we will continue with the development of the project through the Section 106 consultation process. If you have any questions about the project, please do not hesitate to contact Ms. Michelle W. Fishburne, the region Environmental Protection Specialist, at 202-493-0398 or by email at michelle.fishburne@dot.gov.

Sincerely,



 David Valenstein
Chief, Environmental and Systems Planning Division

Cc: Raymond G. Verrelle, Jr., PE, Amtrak
Edward LaGuardia, Jr., Amtrak
Johnette Davies, Amtrak, Sr. Historic Preservation Specialist
Douglas C. McLearn, Chief, Division of Archaeology and Protection, Bureau for
Historic Preservation, PHMC

PA Bureau of Historic Preservation:
Adverse Effects Concurrence Letter

10/8/15



Commonwealth of Pennsylvania
Pennsylvania Historical and Museum Commission
Bureau for Historic Preservation
Commonwealth Keystone Building, 2nd Floor
400 North Street
Harrisburg, PA 17120-0093
www.phmc.state.pa.us

8 October 2015

David Valenstein
Chief, Environmental and Systems Planning Division
Federal Railroad Administration
1200 New Jersey Avenue SE
Washington DC 20590

Re: 2012-0005-042-R and V
Zoo to Paoli Electrification Transmission Line Upgrade
Chester, Delaware, Montgomery, and Philadelphia Counties

Dear Mr. Valenstein:

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

We are in agreement that the above listed project will adversely affect historic properties due to the removal and replacement of catenary structures and the Bryn Mawr Substation, contributing resources to the Pennsylvania Railroad Main Line (Philadelphia to Harrisburg) (Key No. 105675). We are of the opinion that there has been adequate consultation with our office and the consulting parties regarding ways to avoid, minimize, or mitigate effects on historic properties. We look forward to a review of a draft Memorandum of Agreement that includes the mitigation measures discussed at the September 2, 2015 meeting and outlined in the associated follow up memorandum of September 29, 2015. Finally, to comply with the regulations of the Advisory Council on Historic Preservation, you must follow the procedures outlined in 36 CFR 800.6, when the effect is adverse.

Please contact Barbara Frederick at (717) 772-0921 for further information regarding this review.

Sincerely,

A handwritten signature in black ink, appearing to read "D. McLearn".

Douglas C. McLearn, Chief
Division of Archaeology & Protection

DCM/bcf

cc: Allen Heist, Stell Environmental
Michelle Fishburne, FRA
Johnette Davies, Amtrak

PA State Historic Preservation Office:
Construction Entrance Impact Response

1/7/16



Pennsylvania State Historic Preservation Office

PENNSYLVANIA HISTORICAL AND MUSEUM COMMISSION

January 7, 2016

Mr. David Valenstein
Division Chief, Environmental and Corridor Planning
U.S. Department of Transportation
Federal Railroad Administration
1200 New Jersey Avenue, SE.
Washington, D.C. 20590

RE: ER 2012-0005-42-W
FRA: Amtrak Zoo to Paoli Electrification Transmission Project
Area of Potential Effects (APE) Addendum, Chester, Delaware, Montgomery and Philadelphia Counties

Dear Mr. Valenstein:

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

Based on the information provided in your correspondence of December 22, 2015 to our office, we concur with your finding that no further archaeological investigation is necessary for the proposed 20' by 50' construction entrance area adjacent to the proposed Bryn Mawr substation footprint.

If you have any questions or comments concerning our review, please contact Mark Shaffer at (717) 783-9900 or MShaffer@pa.gov.

Sincerely,

Douglas C. McLearen, Chief
Division of Archaeology and Protection

cc: ~~Johnette Davies, Amtrak~~

Advisory Council on Historic Preservation:
Consultation Response

6/27/16



Preserving America's Heritage

June 27, 2016

Ms. Laura A. Shick
Environmental Protection Specialist
Federal Railroad Administration
Office of Railroad Policy and Development
1200 New Jersey Avenue, SE
Washington, DC 20590

Ref: *Amtrak Electrification Transmission Line Project between the Philadelphia Zoo & Paoli Substations Philadelphia and Harrisburg, Pennsylvania*

Dear Ms. Shick:

The Advisory Council on Historic Preservation (ACHP) has received your notification and supporting documentation regarding the adverse effects of the referenced undertaking on a property or properties listed or eligible for listing in the National Register of Historic Places. Based upon the information provided, we have concluded that Appendix A, *Criteria for Council Involvement in Reviewing Individual Section 106 Cases*, of our regulations, "Protection of Historic Properties" (36 CFR Part 800), does not apply to this undertaking. Accordingly, we do not believe that our participation in the consultation to resolve adverse effects is needed. However, if we receive a request for participation from the State Historic Preservation Officer (SHPO), Tribal Historic Preservation Officer (THPO), affected Indian tribe, a consulting party, or other party, we may reconsider this decision. Additionally, should circumstances change, and it is determined that our participation is needed to conclude the consultation process, please notify us.

Pursuant to 36 CFR §800.6(b)(1)(iv), you will need to file the final Memorandum of Agreement (MOA), developed in consultation with the Pennsylvania State Historic Preservation Office (SHPO), and any other consulting parties, and related documentation with the ACHP at the conclusion of the consultation process. The filing of the MOA, and supporting documentation with the ACHP is required in order to complete the requirements of Section 106 of the National Historic Preservation Act.

Thank you for providing us with the notification of adverse effect. If you have any questions or require further assistance, please contact Christopher Wilson at 202-517- 0229 or via e-mail at cwilson@achp.gov.

Sincerely,

LaShavio Johnson
Historic Preservation Technician
Office of Federal Agency Programs

PA State Historic Preservation Office:

Design Revisions Response

7/19/16



Pennsylvania State Historic Preservation Office

PENNSYLVANIA HISTORICAL AND MUSEUM COMMISSION

19 July 2016

Michael M. Johnsen
Acting Division Director, Environmental and Corridor Division
Federal Railroad Administration
1200 New Jersey Avenue SE
Washington DC 20590

Re: 2012-0005-042-X
Zoo to Paoli Electrification Transmission Line Upgrade,
Addendum to Determination of Effects Report
Chester, Delaware, Montgomery, and Philadelphia
Counties

Dear Mr. Johnsen:

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

Above Ground Resources

We are in agreement that the above listed project will adversely affect historic properties due to the removal and replacement of catenary structures and the Bryn Mawr Substation, contributing resources to the Pennsylvania Railroad Main Line (Philadelphia to Harrisburg) (Key No. 105675). We are also in agreement that the proposed design revisions presented in your letter of June 17, 2016 (and associated reporting documentation), will not adversely affect any other historic properties within the Area of Potential Effect (APE). We look forward to receipt of consulting party comments on the addendum to the effect report and review of the revised draft of the Memorandum of Agreement.

For additional information concerning this review, please contact Barbara Frederick at bafrederic@pa.gov or (717) 772-0921.

Sincerely,

Douglas C. McLearn, Chief
Division of Archaeology and Protection

DCM/bcf

cc: Johnette Davies, AMTRAK

Memorandum of Agreement

2/24/17

**MEMORANDUM OF AGREEMENT
AMONG
THE FEDERAL RAILROAD ADMINISTRATION,
THE NATIONAL RAILROAD PASSENGER CORPORATION,
THE RAILROAD MUSEUM OF PENNSYLVANIA, SOUTHEASTERN PENNSYLVANIA
TRANSPORTATION AUTHORITY, AND THE
PENNSYLVANIA STATE HISTORIC PRESERVATION OFFICE
REGARDING THE AMTRAK ZOO TO PAOLI ELECTRIFICATION
TRANSMISSION LINE PROJECT
IN PHILADELPHIA, MONTGOMERY, DELAWARE, AND
CHESTER COUNTIES, PENNSYLVANIA**

WHEREAS, the National Railroad Passenger Corporation (Amtrak) proposes the Amtrak Zoo to Paoli Electrification Transmission Line Project (Project) to modernize and upgrade the electrification system on a 20-mile section of Amtrak’s Keystone Corridor between the Philadelphia Zoo Substation (Zoo Substation) in Philadelphia and the Paoli Substation in Paoli, extending through portions of Philadelphia, Montgomery, Delaware, and Chester Counties, Pennsylvania; and

WHEREAS, Amtrak has determined that implementation of the Project requires upgrades or replacement of the 80- to-100-year-old system elements with approximately 325 new catenary structures, transmission lines, signal power lines, and replacement of the existing 100-year-old Bryn Mawr Substation; and

WHEREAS, the Federal Railroad Administration (FRA) provided funding for design and review of the Project pursuant to the National Environmental Policy Act (42 U.S.C. § 4321 et. seq.) (NEPA), and anticipates providing financial assistance for construction of the Project; and

WHEREAS the Project would be an “Undertaking” under Section 106 of the National Historic Preservation Act, as amended (54 U.S.C. § 306108) (Section 106) if FRA provides financial assistance for construction of the Project; and

WHEREAS, FRA, and Amtrak on behalf of FRA, has consulted with the Pennsylvania Historical and Museum Commission, which acts as the State Historic Preservation Office (PA SHPO), pursuant to authority provided by the Advisory Council on Historic Preservation (ACHP) regulations implementing Section 106 (36 CFR Part 800), including participating in the consultation process; and

WHEREAS, in a letter dated February 9, 2012, FRA and Amtrak invited 41 organizations, institutions, governmental agencies, elected officials, and individuals to participate as Consulting Parties for the purposes of Section 106, including the resolution of adverse effects of the Project, and the following Consulting Parties actively participated in consultation:

Preservation Alliance for Greater Philadelphia
Delaware Valley Association of Rail Passengers, Inc.
Haverford Township Historical Commission
Lower Merion Township Historic Architectural Review Board
Radnor Township Historic Architectural Review Board
National Railway Historical Society, Philadelphia Chapter, Inc.

Haverford Station Historic District Neighborhood Coalition
Railroad Museum of Pennsylvania; and

WHEREAS, in a letter dated August 26, 2015, FRA invited potentially interested Native American Tribes to consult and sought comments from the following Tribes for the purposes of complying with Section 106 and the requirements of government-to-government consultation: Absentee-Shawnee Tribe of Oklahoma; Delaware Nation; Delaware Tribe of Indians; Eastern Shawnee Tribe of Oklahoma; Onondaga Nation; St. Regis Mohawk Tribe; Shawnee Tribe; and the Stockbridge-Munsee Band of the Mohican Nation of Wisconsin; and only the Delaware Tribe provided comments; and

WHEREAS, the Railroad Museum of Pennsylvania (RRMPA) and Southeastern Pennsylvania Transportation Authority (SEPTA), the latter of which is the lessee of the Bryn Mawr Station from Amtrak pursuant to that certain Lease Agreement between National Railroad Passenger Corporation and Southeastern Pennsylvania Transportation Authority dated January 1, 1987, as amended, participated in the consultation and have been invited to be Signatories to this Memorandum of Agreement (MOA) because they will be responsible for executing portions of the mitigation stipulations herein; and FRA, Amtrak, and PA SHPO are also Signatories to this MOA; and

WHEREAS, FRA is the lead federal agency for the Project under NEPA and is preparing an Environmental Assessment for the Project, and under 36 C.F.R. § 800.8 FRA has coordinated the Section 106 and NEPA processes; and

WHEREAS, FRA and Amtrak have established the Area of Potential Effects (APE), as defined in 36 CFR § 800.16(d), to include the segment of the right-of-way (roughly 100 feet in width) from its point of departure from Amtrak's Zoo Substation in Philadelphia, Pennsylvania, to Paoli Substation, in Paoli (Tredyffrin and Willistown Townships), Pennsylvania, for a distance of approximately 20 miles, as described and shown in the report entitled *Historic Resources Study/Determination of Eligibility, Zoo to Paoli Electrification Transmission Line Project, Chester, Delaware, Montgomery, and Philadelphia Counties, Pennsylvania, E.R. #2012-0005-42* dated February 2015, and PA SHPO concurred with Amtrak's efforts to identify historic properties within this APE on April 24, 2015; and

WHEREAS, FRA and Amtrak have identified 27 historic properties in the APE, and the PA SHPO concurred with this identification on March 16, 2015, and April 24, 2015; and

WHEREAS, one of the identified historic properties in the APE is the Pennsylvania Railroad Main Line (Philadelphia to Harrisburg) (Key No. 105675), which was determined eligible for listing in the National Register of Historic Places (NRHP) by the PA SHPO on September 14, 1993, and again on November 16, 2007; and

WHEREAS, the existing catenary structures and the Bryn Mawr Substation building are Contributing Resources to the NRHP-eligible Pennsylvania Railroad Main Line (Philadelphia to Harrisburg); and

WHEREAS, through consultation, FRA determined that the Project will have an Adverse Effect on one historic property within the APE, namely, the Pennsylvania Railroad Main Line (Philadelphia to Harrisburg), because of the removal of the existing catenary structures and the Bryn Mawr Substation building, as discussed in the *Determination of Effects Report*, dated August

2015; and the same report describes the no adverse and no effect findings regarding other historic properties in the APE; and the PA SHPO concurred with these findings on October 8, 2015; and

WHEREAS, through consultation, FRA determined that revisions to the design of certain catenary structures associated with the Project would have no additional adverse effects on historic properties, as discussed in an *Addendum to the Determination of Effects Report*, dated June 2016, and the PA SHPO concurred with this finding on July 19, 2016; and

WHEREAS, FRA and Amtrak have explored options to avoid the adverse effect to the Pennsylvania Railroad Main Line and concluded that such options are not practicable, as discussed in the August 2015 Determination of Effects Report; and

WHEREAS, all actions necessary to implement the Project will occur in areas disturbed by previous construction, as documented in the *Phase IA Geomorphology/Archaeology Reconnaissance Survey Report* dated December 2012 and in a subsequent letter to PA SHPO dated December 22, 2015; and FRA determined and PA SHPO concurred on January 25, 2013 and January 7, 2016, respectively, that no archaeological investigations are necessary for the Project; and

WHEREAS, FRA and Amtrak conducted public involvement meetings from 2012 through 2015, which included meetings with public officials, general public meetings, and meetings with the Section 106 Consulting Parties; and

WHEREAS, FRA received a request for additional information from the Delaware Tribe of Indians in a letter dated October 2, 2015 and FRA submitted the requested information on December 22, 2015, which included a copy of the *Phase IA Geomorphology/Archaeology Reconnaissance Survey Report*, the Unanticipated Discoveries Plan, and mapping showing the proposed footprint and construction entrance at the Bryn Mawr Substation; and no other tribes provided comments or requested additional information regarding the Project; and

WHEREAS, on June 21, 2016 FRA notified the ACHP of the determination of adverse effect in accordance with 36 CFR § 800.6(a)(1), and in a letter dated June 27, 2016, the ACHP declined to participate in the consultation process;

NOW, THEREFORE, FRA, Amtrak, RRMPA, PA SHPO, and SEPTA, only to the extent these stipulations are applicable to SEPTA, (each, a Signatory and together the Signatories) agree that the Project, if it becomes an Undertaking, will be implemented in accordance with the following stipulations in order to minimize impacts and mitigate adverse effects on historic properties, and that these stipulations will govern the Undertaking and all of its parts until this MOA expires or it is terminated.

STIPULATIONS

FRA will ensure that the following measures are carried out:

I. Applicability

- A. This MOA would apply to FRA's Undertaking and would only bind FRA if FRA provides financial assistance for the construction of the Project.

- B. This MOA may apply should another Federal agency have an Undertaking as part of the Project; that agency may agree to comply with the terms of this MOA and become a Signatory to fulfill its Section 106 responsibilities as provided for in Stipulation V.E.

II. Professional Qualification Standards

Amtrak will ensure that all historic preservation and documentation work carried out pursuant to this MOA will be done by or under the direct supervision of a qualified professional or qualified professionals in the discipline of architectural history who meet[s] the relevant standards outlined in the *Secretary of the Interior's Professional Qualification Standards for Architectural Historians* (48 FR 44738-9).

III. Minimization Measures

- A. As a result of consultation, Amtrak has decreased the proposed catenary structure heights to the extent feasible without adversely impacting railroad safety and operations.
- B. Amtrak commits to a tree trimming program to facilitate Project construction in lieu of removing multiple trees. Selected trees may be removed within Amtrak's right-of-way. Trimming will adhere to the program outlined in tree trimming plans dated March 17, 2016, and appended to this MOA as Attachment 1.
- C. Amtrak commits to the placement of new catenary structures as near as practicable to the existing structures, and that existing catenary structures will be removed, to minimize visual effects.
- D. Amtrak commits to avoiding physical impacts to the following historic train stations located along the Project corridor: Overbrook, Merion, Wynnewood, Haverford, Villanova, Radnor, Wayne, and Stafford.

IV. Mitigation Measures

- A. Documentation
 - 1. Amtrak will record the existing Bryn Mawr Substation and related catenary system to Historic American Engineering Record (HAER) Documentation Level II, as outlined in the publication, *Secretary of the Interior's Standards and Guidelines for Architectural and Engineering Documentation: HABS/HAER Standards*, available on <http://www.nps.gov/hdp/standards/standards.pdf>. Documentation Level II includes a narrative with the history and description of the resource, archival photographs, and copies of selected existing historic drawings. Amtrak's current existing conditions drawings may be supplemented with new measured drawings, to the extent that it is necessary to sufficiently

document the resources. The documentation will describe the design of the existing Bryn Mawr Substation as well as the design of the catenary system in the Project APE, including all four types of catenary structures present along the railroad right-of-way. Amtrak will consult with PA SHPO to determine the extent of the documentation (e.g., format and length of narrative, quantity of photographs, and extent of documentation using historic or new measured drawings) prior to beginning the work. Prior to beginning field documentation, Amtrak will consult with RRMPA to use its collections and expertise as described in Stipulation IV.A.2. Amtrak will provide the draft documentation to PA SHPO for review and comment as described in Stipulation V.B. Amtrak will complete the agreed-upon photographic documentation prior to beginning demolition activities. Amtrak will deposit the final documentation of the existing Bryn Mawr Substation and related catenary system at RRMPA, the State Museum of Pennsylvania, and the Lower Merion Historical Society.

2. RRMPA will provide Amtrak with access to its collections and technical expertise to inform the content of the documentation effort described in Stipulation IV.A.1, including important views or details to capture in photographs and drawings. RRMPA may, at its discretion, provide historic images or drawings to Amtrak for inclusion in the documentation package.

B. Interpretation

1. Interpretive Signage - Amtrak will provide an interpretive sign inside the Bryn Mawr Station building that focuses on the history of the Pennsylvania Railroad Main Line, with particular attention to the importance of the electrification of the route. Amtrak will submit the draft content of this sign to PA SHPO, SEPTA, and Lower Merion Township Historic Architectural Review Board for review and comment as described in Stipulation V.B. The final draft content of this sign will be submitted to PA SHPO for review and comment. Amtrak will install the agreed-upon sign in the Bryn Mawr Station in a specific location that is agreed upon by SEPTA, and Amtrak will be responsible for the maintenance of the sign, and the replacement or repair of the sign should it be damaged for any reason or vandalized after installation for a period of five years after Project construction is complete. SEPTA has no responsibility for sign maintenance or replacement.
2. Equipment Donation - Amtrak will donate materials and elements of the catenary system that Amtrak or its contractors remove from the existing Bryn Mawr Substation to RRMPA for use in their upcoming new exhibits about the history of railroad electrification or for other exhibits, or to achieve other preservation purposes, as RRMPA may determine at its discretion. To the extent available, and at its discretion, Amtrak may also donate other materials, such as a pantograph, hangers, insulators, signage, and digital photographs for use in RRMPA exhibits. Acceptance of

materials will be at the discretion of the RRMPA. RRMPA will appropriately credit all photographs and other donations provided by Amtrak. The donation of documents, photographs, and other corporate records will be governed by Amtrak's Records Management and other applicable policies. Amtrak will accompany RRMPA staff on a tour of the existing Bryn Mawr Substation prior to demolition so that RRMPA can identify materials it would like to receive as donations. Amtrak will make items available and RRMPA will retrieve them from the existing Bryn Mawr Substation property at its own expense. Because the construction schedule for the Project is uncertain, Amtrak will work with RRMPA and FRA to coordinate the timing of Project activities and donations for exhibits to the extent possible. All donated materials will be provided to RRMPA on an "as-is, where-is" basis. Prior to removal of any materials, RRMPA will provide Amtrak with a full release from all claims, suits, damages, costs, etc. for the donated materials.

3. Conservation Allowance - Once the nature and extent of donated materials is determined as set forth in Stipulation IV.B.2 above, FRA, Amtrak, RRMPA, and PA SHPO will consult to determine an appropriate one-time financial contribution from Amtrak to RRMPA dedicated to the conservation of donated materials.
4. Oral History Opportunity - Amtrak will make reasonable efforts to identify and provide to RRMPA contact information for current or former Amtrak Electric Traction Department employees who are willing to participate in oral history interviews. RRMPA will provide to Amtrak a description of the oral history process and proposed discussion topics for Amtrak to share with potential interviewees so that they can make an informed decision about their participation in an interview. Amtrak does not guarantee the participation of any current or former employee in the interviews. Amtrak retains the right to screen contents of the interviews intended for public access to ensure that sensitive security and operations information is not shared with the public. RRMPA will deposit transcripts and other relevant documentation of the interviews, subject to Amtrak security approval, at RRMPA, the PA State Archives, and Amtrak.

C. Design

1. Amtrak will replace the existing Bryn Mawr Substation building with two new substation buildings. Amtrak will design the exterior of these two new buildings with buff brick walls consistent with the brick of the existing Bryn Mawr Substation building. The design will be consistent with the materials, color, and texture of the existing Bryn Mawr Substation building, but will not mimic the historic building to make it clear that the new buildings are non-historic and do not create a false sense of history. Amtrak will submit the proposed design to PA SHPO for review and comment as described in

Stipulation V.B. Design documents will be shared at 30%, 60%, and 90% design.

2. Amtrak will incorporate the “Bryn Mawr Substation” sign currently on the existing Bryn Mawr Substation building into a new retaining wall or other landscape feature adjacent to the new Bryn Mawr Substation site. Amtrak will submit its proposed conceptual design to PA SHPO and the Lower Merion Township Historic Architectural Review Board for review and comment as described in Stipulation V.B.
3. Amtrak will offer the bricks from the existing Bryn Mawr Substation building for salvage upon removal of the building. Amtrak will notify Consulting Parties and the public when the bricks will be available and will take requests for the materials. Amtrak will not deliver the brick, but will make it available for pick-up for a specified, reasonable period of time. Amtrak cannot guarantee the amount or number of salvageable bricks. Amtrak will provide all materials for salvage on an “as-is, where-is” basis, and will make no warranty as to condition, suitability, serviceability, or degree of contamination for any intended subsequent use. Amtrak will prepare and deliver a written receipt to that effect to every recipient for their review and signature, and the receipts will become a part of the official Project record. Recipients will sign a release indemnifying Amtrak and Signatories of this Agreement against any and all claims arising from the acquisition and use of salvaged materials. At the end of the retention period, Amtrak may sell or dispose of the remaining unused materials in accordance with applicable statutes and regulations.

V. General Provisions

A. Effective Date

This MOA will be effective as of the date of obligation of Federal financial assistance to construct the improvements and upgrades required for the Project following execution of this MOA by all Signatories.

B. Document Review

Unless otherwise stated in the stipulations, the Signatories will provide comments on the documents they review as set forth below:

1. The Signatories specified in each item under Stipulation IV above will have up to thirty (30) calendar days from the date of receipt to review and provide written comments to Amtrak on documents stipulated in this MOA.
2. Amtrak will ensure any written comments received within the timeframe are considered and incorporated, as appropriate, into the documentation.
3. If the specified Signatories do not submit written comments to Amtrak within thirty (30) calendar days of receipt of any document, it is understood the non-responding Signatories have no comments on the submittal.

4. If the Signatories object to or recommend extensive revisions to submissions stipulated in the MOA, Amtrak will work expeditiously to respond to the recommendations and resolve disputes.
5. If Amtrak cannot resolve the disputes, and if further consultation with the Signatories is deemed unproductive by any Signatory, the Signatories will adhere to the dispute resolution procedures detailed under Stipulation V.G.
6. The Signatories acknowledge the timeframes set forth in this MOA will be the maximum allowed under normal circumstances. In exigent circumstances (e.g., concerns over construction suspensions or delays), all Signatories agree to expedite their respective document review and dispute resolution obligations.

C. Project Changes

If Amtrak proposes changes to the Project that may result in additional or new effects on historic properties, Amtrak will notify FRA and the PA SHPO of such changes. Before Amtrak takes any action that may result in additional or new effects on historic properties, Amtrak, FRA and PA SHPO will consult to determine the appropriate course of action.

D. Amendment

Any Signatory to this MOA may request that it be amended. The amendment will be effective on the date a copy signed by all of the Signatories is filed with the ACHP.

E. Use of this MOA by Other Federal Agencies

In the event that a Federal agency other than FRA is considering financial assistance, permits, licenses, or approvals for the Project, such Federal agency may become a Signatory to this MOA as a means of complying with Section 106. To become a Signatory to this MOA, the agency official must provide written notice to the Signatories that the agency agrees to the terms of the MOA, specifying the extent of the agency's intent to participate in the MOA, and identifying the lead Federal agency for the Undertaking. The participation of the agency is subject to approval by the Signatories, who must respond to the written notice within 30 days or the approval will be considered implicit. Any other modifications to the MOA will be considered in accordance with Stipulation V.D.

F. Termination

If any Signatory to this MOA determines that its terms will not or cannot be carried out, that Signatory will immediately consult with the other Signatories to attempt to develop an Amendment per Stipulation V.D. If within thirty (30) days (or another time period agreed to by all Signatories) an amendment cannot be reached, any

Signatory may terminate the MOA upon written notification to the other Signatories.

Once the MOA is terminated, and prior to work continuing or initiating on the Undertaking, FRA must either (a) execute an MOA pursuant to 36 CFR § 800.6 or (b) request, take into account, and respond to the comments of the ACHP under 36 CFR § 800.7. FRA will notify the Signatories as to the course of action it will pursue.

G. Dispute Resolution

Should any Signatory to this MOA object at any time to any actions proposed or the manner in which the terms of this MOA are implemented by providing written notice of such objection to FRA, FRA will consult with the Signatory to resolve the objection. If FRA determines that the objection cannot be resolved, FRA will:

1. Forward all documentation relevant to the dispute, including the FRA's proposed resolution, to the ACHP and request that the ACHP provide FRA with its advice on the resolution of the objection within thirty (30) calendar days of receiving the documentation. FRA will prepare a written response to the objection, which will constitute the FRA's decision regarding the objection, that takes into account any timely advice or comments regarding the dispute from the ACHP and the Signatories and provide the ACHP and Signatories with a copy of this written response. FRA will then proceed according to its decision.
2. If the ACHP does not provide its advice regarding the dispute within the thirty (30) calendar day time period, FRA may make a decision on the dispute and proceed accordingly. FRA will document this decision in a written response to the objection that takes into account any timely comments regarding the dispute from the Signatories and provide the ACHP and Signatories with a copy of such written response.
3. The Signatories remain responsible for carrying out all other actions subject to the terms of this MOA that are not the subject of the dispute.

H. Duration

This MOA will be valid for five (5) years following the Effective Date, or when the Signatories have agreed to terminate the MOA, whichever comes first. If the terms of this MOA have not been implemented within five years of its Effective Date, this MOA will be considered null and void. In such event, FRA or Amtrak will notify the other Signatories to this Agreement, and if FRA chooses to continue with the Undertaking, will reinitiate review of the Undertaking in accordance with 36 CFR Part 800. Prior to such time, FRA may consult with the other Signatories to reconsider the terms of the MOA and amend it in accordance with Stipulation V.D above.

I. Monitoring and Reporting

Each year following the Effective Date of this MOA until it expires or is terminated, Amtrak will provide all Signatories to this MOA a summary report detailing work undertaken pursuant to its terms. Such report will include any scheduling changes proposed, any problems encountered, and any disputes and objections received in FRA's efforts to carry out the terms of this MOA.

J. Unanticipated Discoveries Plan

In consultation with FRA, Amtrak has developed an Unanticipated Discoveries Plan for human and non-human archaeological resources in the event that any unanticipated archaeological resources are encountered during construction of the Project. The Unanticipated Discoveries Plan is appended to this MOA as Attachment 2. In the event of the Unanticipated Discovery of human or non-human archaeological resources, Amtrak will cease work in the affected area and implement the Unanticipated Discoveries Plan.

EXECUTION of this MOA, and implementation of its terms, evidences that FRA, Amtrak, and PA SHPO have taken into account the effects of the Project on historic properties, and that FRA and Amtrak have satisfied their responsibilities under Section 106 of the Act and implementing regulations codified in 36 CFR Part 800 with regard to a future Undertaking.

**MEMORANDUM OF AGREEMENT
AMONG
THE FEDERAL RAILROAD ADMINISTRATION,
THE NATIONAL RAILROAD PASSENGER CORPORATION,
THE RAILROAD MUSEUM OF PENNSYLVANIA, SOUTHEASTERN PENNSYLVANIA
TRANSPORTATION AUTHORITY, AND THE
PENNSYLVANIA STATE HISTORIC PRESERVATION OFFICE
REGARDING THE AMTRAK ZOO TO PAOLI ELECTRIFICATION
TRANSMISSION LINE PROJECT
IN PHILADELPHIA, MONTGOMERY, DELAWARE, AND
CHESTER COUNTIES, PENNSYLVANIA**

FEDERAL RAILROAD ADMINISTRATION (FRA)

By: _____ Date: _____
Marlys Osterhues, Chief, Environmental and Corridor Planning Division

**MEMORANDUM OF AGREEMENT
AMONG
THE FEDERAL RAILROAD ADMINISTRATION,
THE NATIONAL RAILROAD PASSENGER CORPORATION,
THE RAILROAD MUSEUM OF PENNSYLVANIA, SOUTHEASTERN PENNSYLVANIA
TRANSPORTATION AUTHORITY, AND THE
PENNSYLVANIA STATE HISTORIC PRESERVATION OFFICE
REGARDING THE AMTRAK ZOO TO PAOLI ELECTRIFICATION
TRANSMISSION LINE PROJECT
IN PHILADELPHIA, MONTGOMERY, DELAWARE, AND
CHESTER COUNTIES, PENNSYLVANIA**

NATIONAL RAILROAD PASSENGER CORPORATION (AMTRAK)

By: _____ Date: _____
Charles W. Moorman, President and Chief Executive Officer

APPROVED AS TO FORM:

BY: _____
Counsel for National Railroad Passenger Corporation

**MEMORANDUM OF AGREEMENT
AMONG
THE FEDERAL RAILROAD ADMINISTRATION,
THE NATIONAL RAILROAD PASSENGER CORPORATION,
THE RAILROAD MUSEUM OF PENNSYLVANIA, SOUTHEASTERN PENNSYLVANIA
TRANSPORTATION AUTHORITY, AND THE
PENNSYLVANIA STATE HISTORIC PRESERVATION OFFICE
REGARDING THE AMTRAK ZOO TO PAOLI ELECTRIFICATION
TRANSMISSION LINE PROJECT
IN PHILADELPHIA, MONTGOMERY, DELAWARE, AND
CHESTER COUNTIES, PENNSYLVANIA**

RAILROAD MUSEUM OF PENNSYLVANIA

By: _____ Date: _____
Brenda Reigle, Director, Bureau of Historic Sites and Museums
Pennsylvania Historical and Museum Commission

**MEMORANDUM OF AGREEMENT
AMONG
THE FEDERAL RAILROAD ADMINISTRATION,
THE NATIONAL RAILROAD PASSENGER CORPORATION,
THE RAILROAD MUSEUM OF PENNSYLVANIA, SOUTHEASTERN PENNSYLVANIA
TRANSPORTATION AUTHORITY, AND THE
PENNSYLVANIA STATE HISTORIC PRESERVATION OFFICE
REGARDING THE AMTRAK ZOO TO PAOLI ELECTRIFICATION
TRANSMISSION LINE PROJECT
IN PHILADELPHIA, MONTGOMERY, DELAWARE, AND
CHESTER COUNTIES, PENNSYLVANIA**

SOUTHEASTERN PENNSYLVANIA TRANSPORTATION AUTHORITY (SEPTA)

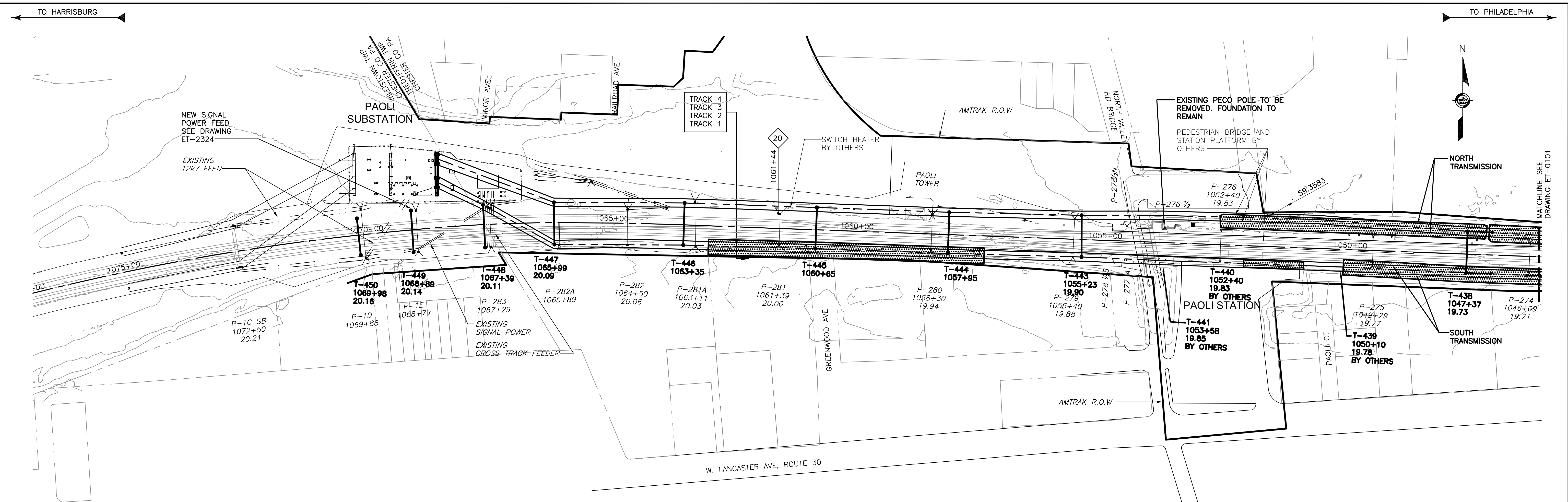
By: _____ Date: _____
Robert L. Lund, Assistant General Manager, EM&C

**MEMORANDUM OF AGREEMENT
AMONG
THE FEDERAL RAILROAD ADMINISTRATION,
THE NATIONAL RAILROAD PASSENGER CORPORATION,
THE RAILROAD MUSEUM OF PENNSYLVANIA, SOUTHEASTERN PENNSYLVANIA
TRANSPORTATION AUTHORITY, AND THE
PENNSYLVANIA STATE HISTORIC PRESERVATION OFFICE
REGARDING THE AMTRAK ZOO TO PAOLI ELECTRIFICATION
TRANSMISSION LINE PROJECT
IN PHILADELPHIA, MONTGOMERY, DELAWARE, AND
CHESTER COUNTIES, PENNSYLVANIA**

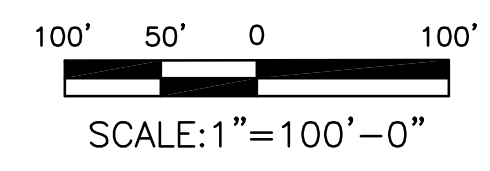
PENNSYLVANIA STATE HISTORIC PRESERVATION OFFICE (PA SHPO)

By: _____ Date: _____
Andrea MacDonald, Director, Bureau for Historic Preservation, and Deputy State
Historic Preservation Officer

**ATTACHMENT 1:
TREE TRIMMING PLANS**

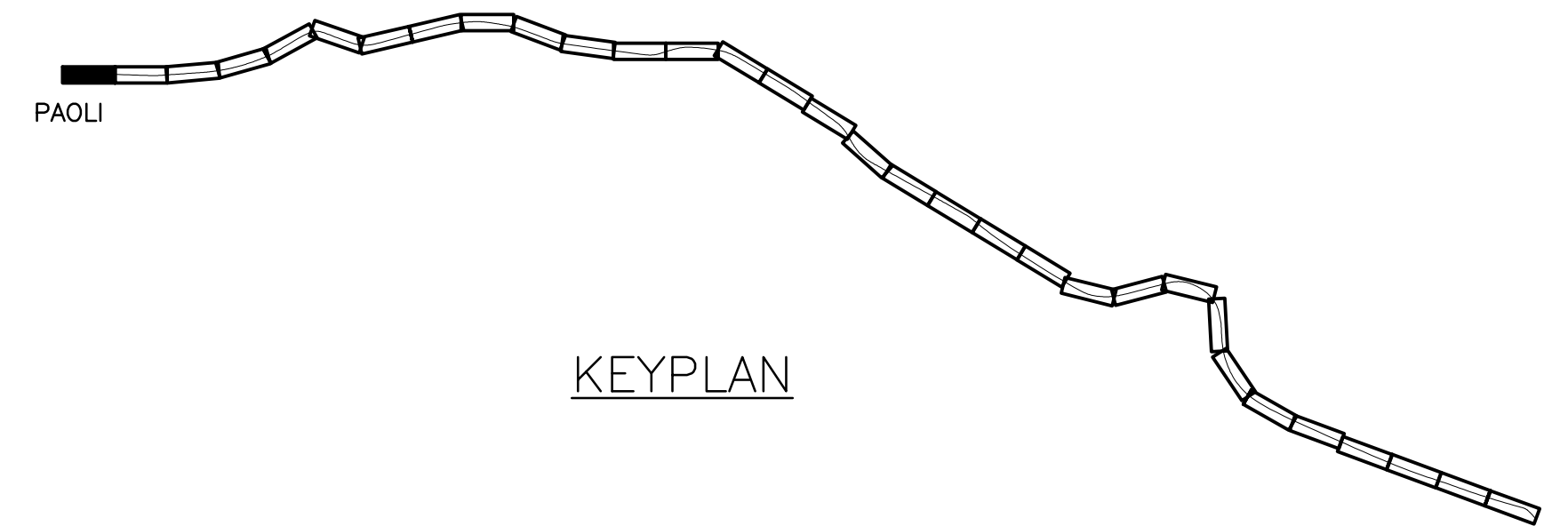


TREE PRUNING SITE PLAN



PROPOSED LIMITS OF TREE TRIMMING. SEE DETAIL ON SHEET C-0232 FOR MORE INFORMATION.

- NOTES:**
1. THE PURPOSE OF THESE PLANS IS TO SHOW THE LOCATION AND LIMITS OF TREE PRUNING AND TREE FELLING TO PROVIDE SAFE ELECTRICAL CLEARANCES TO NEW AERIAL TRANSMISSION LINES.
 2. TWO WEEKS PRIOR TO ANY TREE PRUNING OR TREE FELLING WORK, CONTACT OWNERS OF PROPERTY ADJACENT TO AMTRAK RIGHT-OF-WAY WHERE WORK WILL BE PERFORMED.
 3. PERFORM TREE PRUNING AND TREE FELLING IN ACCORDANCE WITH ANSI-A300, STANDARDS FOR TREE MAINTENANCE. PRUNE TREES FOR ELECTRICAL LINE CLEARANCE BY DIRECTIONAL PRUNING; DO NOT "TOP" OR "ROUND" TREES. PERFORM TREE PRUNING AND TREE FELLING BY MECHANICAL MEANS ONLY, I.E. SAWING OR CLIPPING. DO NOT USE DEFOLIANTS OR HERBICIDES.
 4. ALL WORK IS TO BE PERFORMED UNDER THE DIRECT SUPERVISION OF A FULL-TIME, INTERNATIONAL SOCIETY OF ARBORCULTURE (ISA) CERTIFIED ARBORIST.
 5. ALL DEBRIS GENERATED BY TREE PRUNING AND TREE FELLING OPERATIONS IS TO BE REMOVED FROM AMTRAK'S RIGHT-OF-WAY AND DISPOSED OF LEGALLY OFF AMTRAK PROPERTY.
 6. ALL WORK IS TO BE PERFORMED FROM AMTRAK RIGHT-OF-WAY.
 7. LIMITS SHOWN ON PLAN ARE FOR CLEARANCE TO 138KV TRANSMISSION LINE. TREE PRUNING OR TREE FELLING FOR INSTALLATION OF NEW CATENARY STRUCTURES IS NOT SHOWN.



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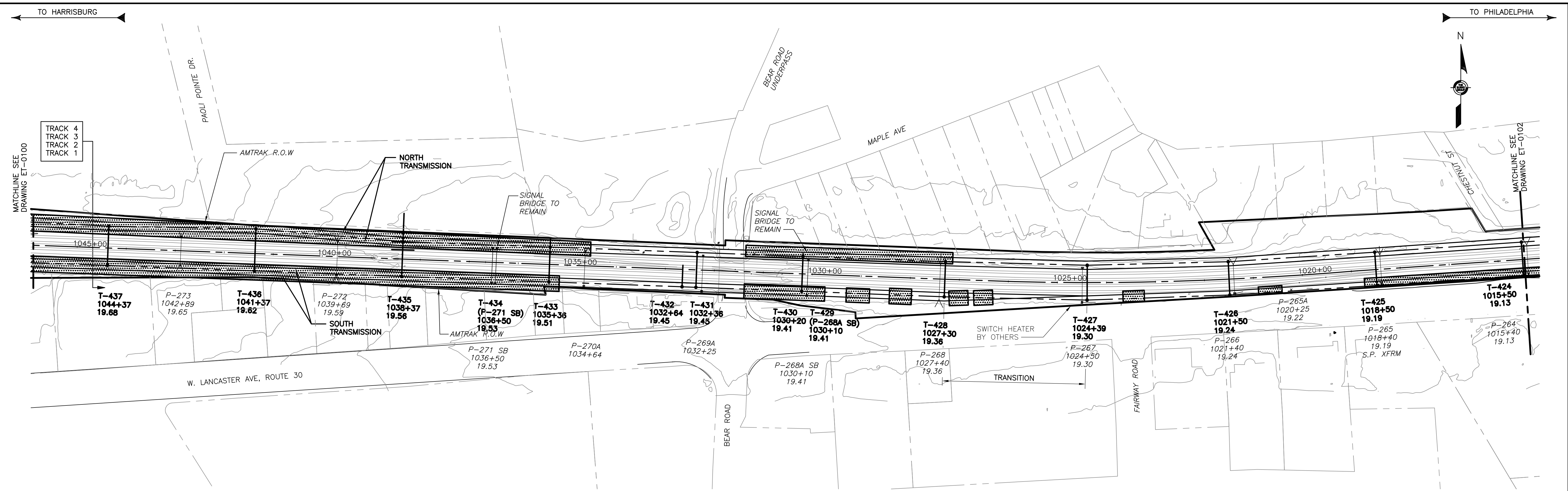


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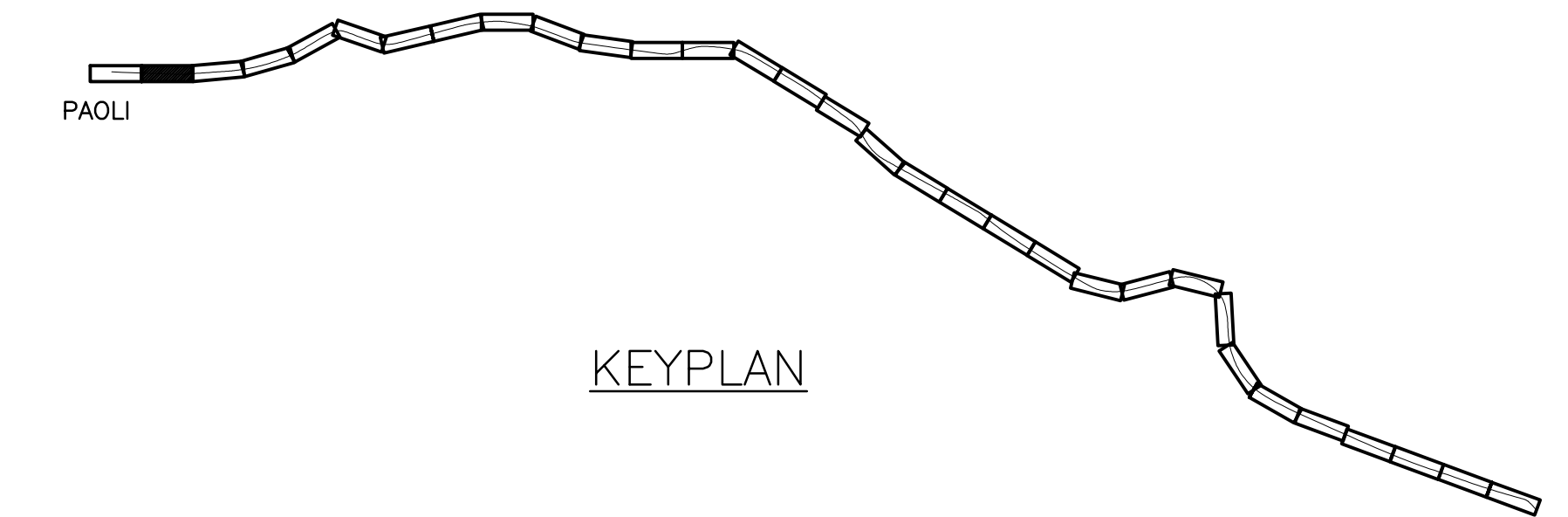
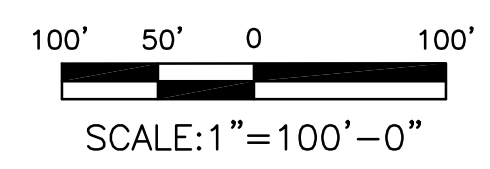
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ELECTRIFICATION
TREE PRUNING
STA. 1075+00 TO 1046+00**

Recommended: DP Drawn: WJC Checked: MJM Date: 03/17/16

File No.:	C-0200.DWG
Ref. No.:	2011-059
Sheet No.:	547 OF 565
C-0200	



TREE PRUNING SITE PLAN



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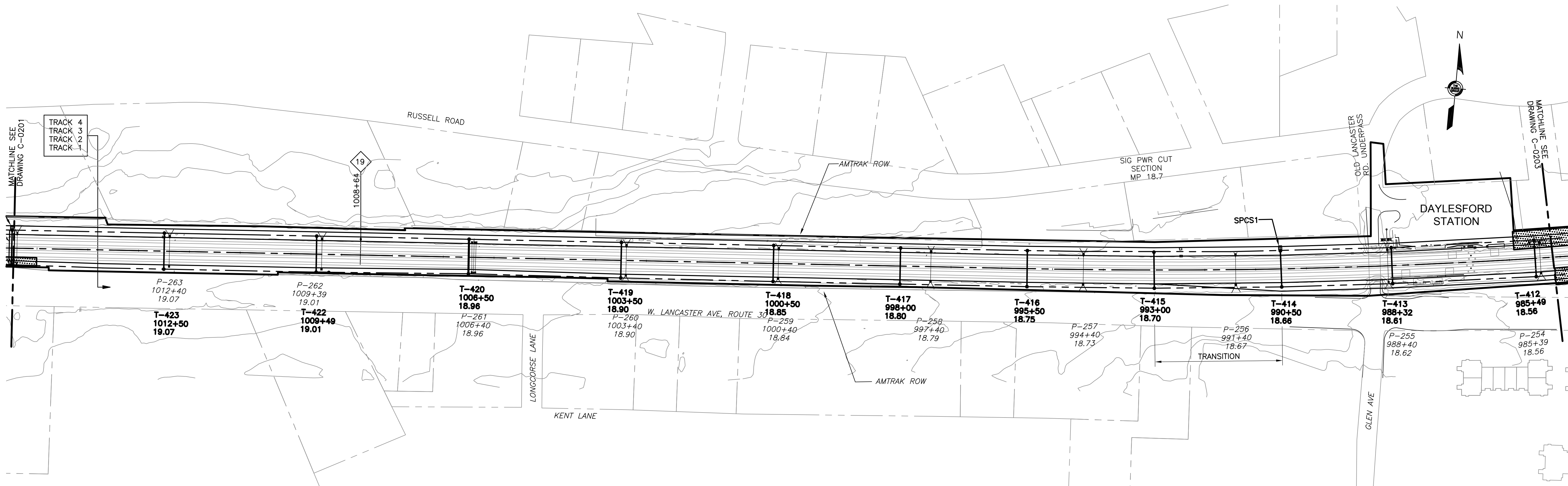
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ELECTRIFICATION
TREE PRUNING
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Recommended: DP Drawn: WJC Checked: MJM Date: 03/17/16

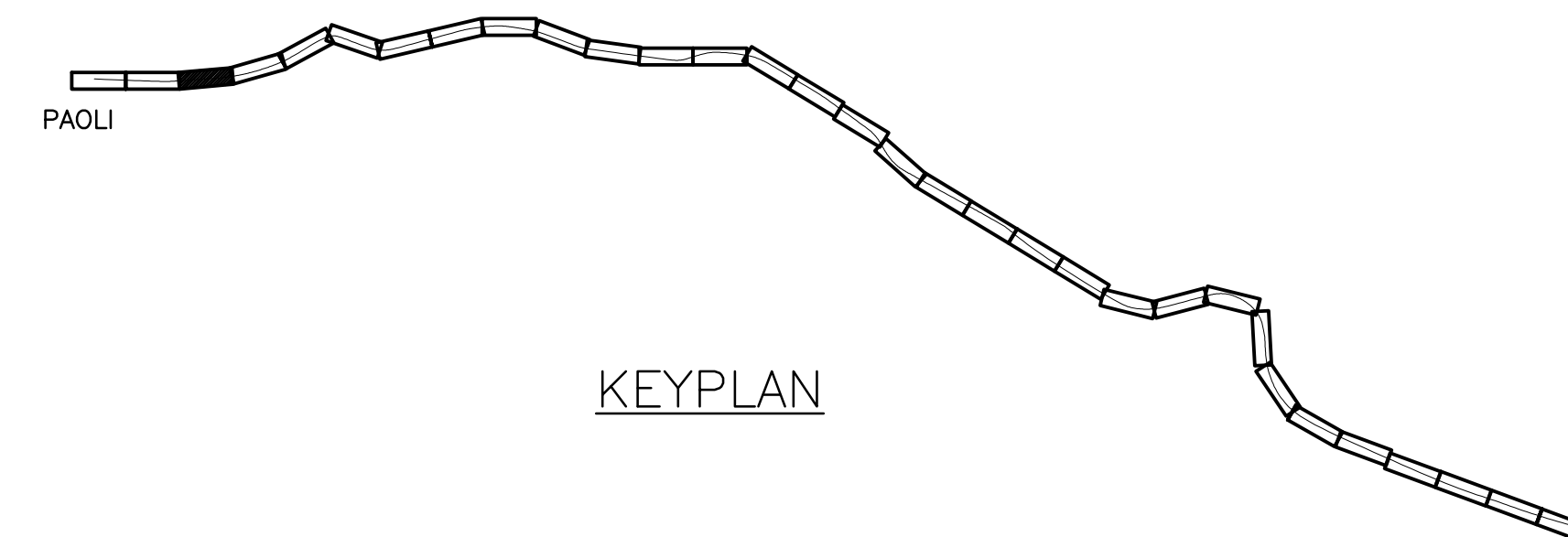
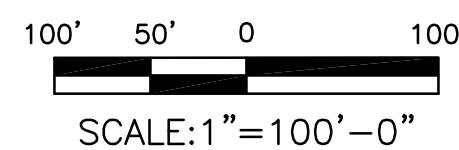
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Ref. No.:	2011-059
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C-0201	

TO HARRISBURG

TO PHILADELPHIA



TREE PRUNING SITE PLAN



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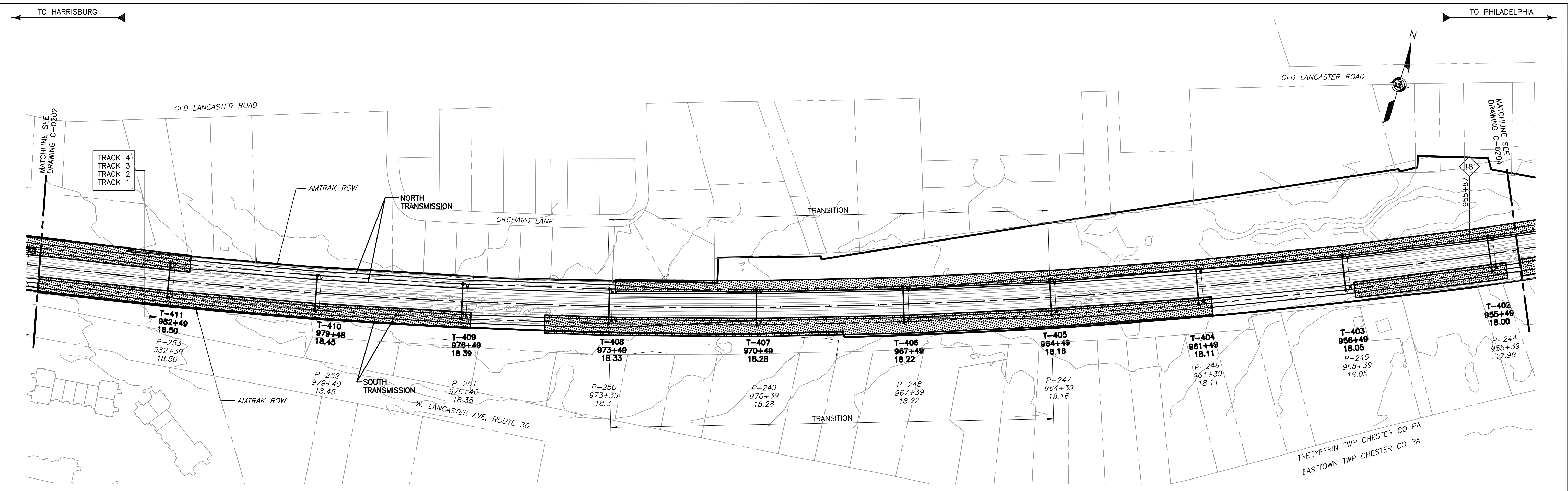
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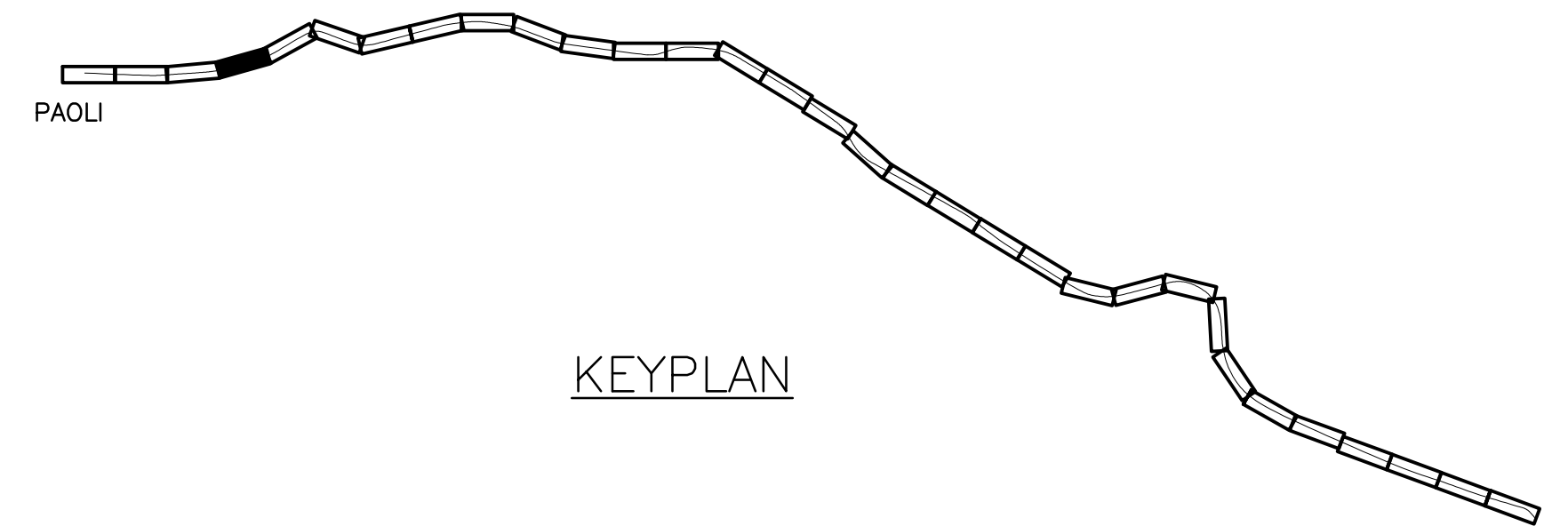
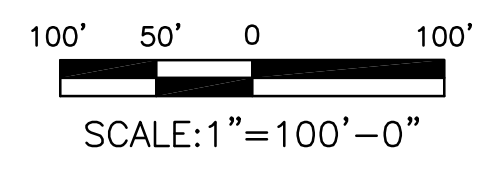
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ELECTRIFICATION
TREE PRUNING
STA. 1015+45 TO 985+00

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File No.:	C-0202.DWG
Ref. No.:	2011-059
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TREE PRUNING SITE PLAN



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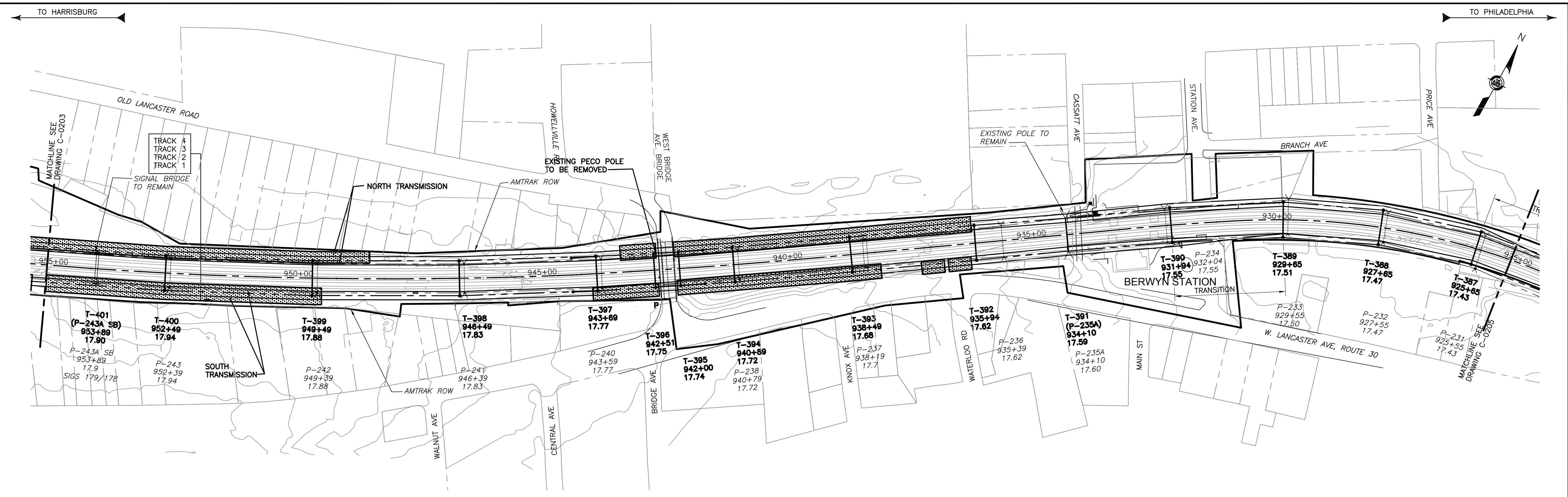
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ELECTRIFICATION
TREE PRUNING
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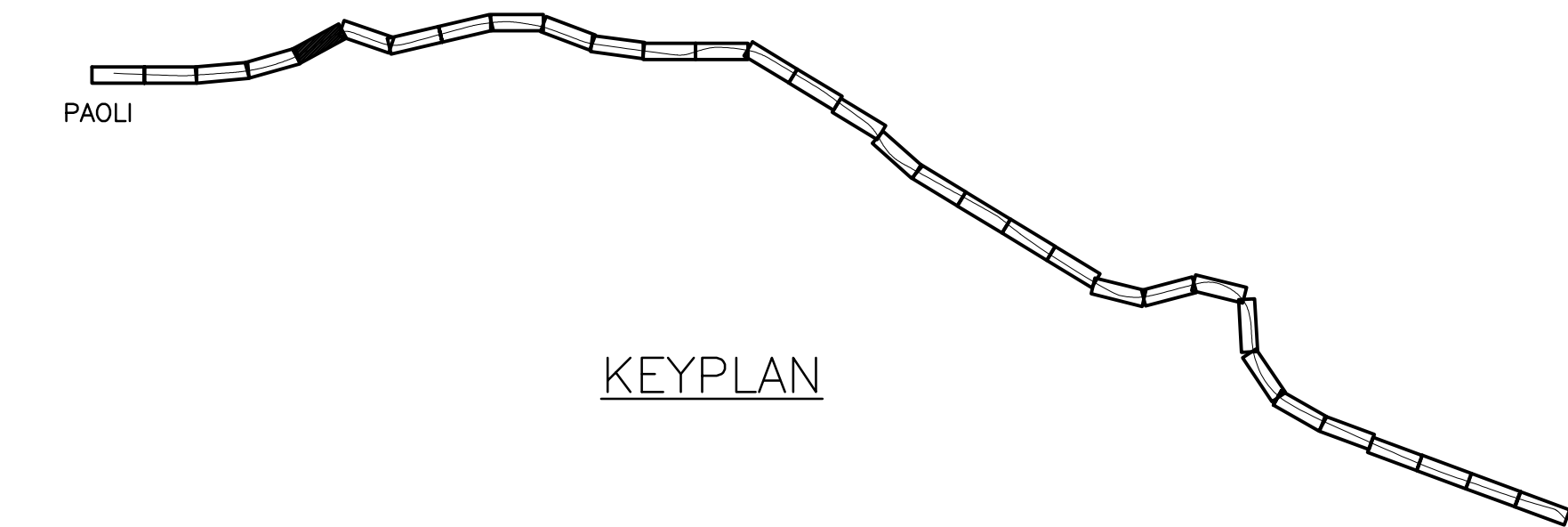
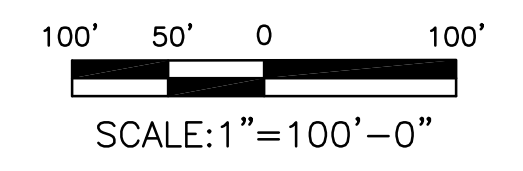
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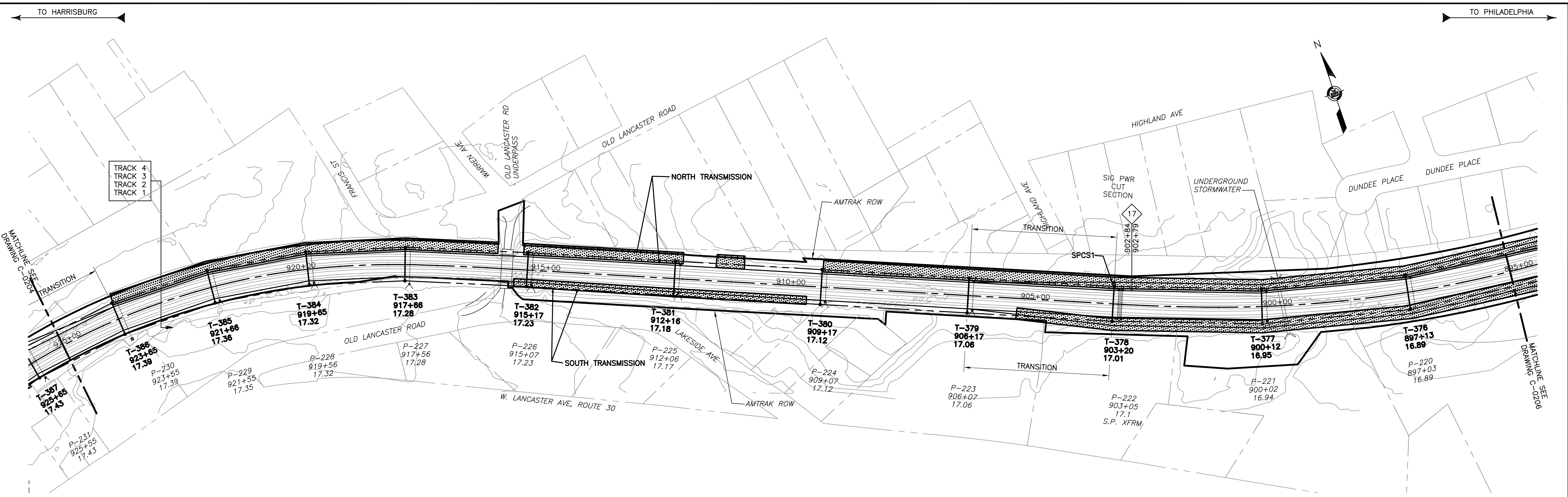


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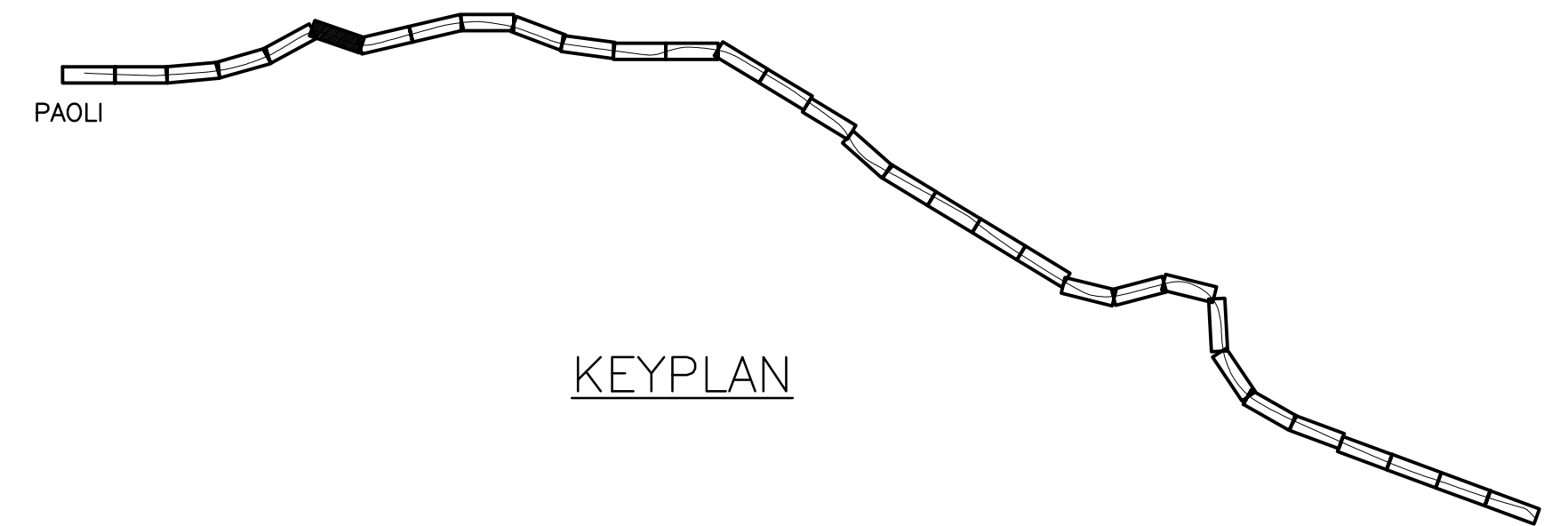
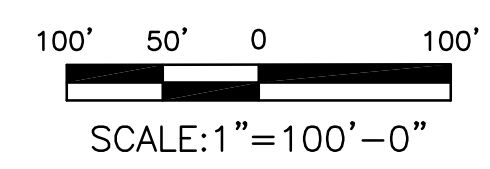
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ELECTRIFICATION
TREE PRUNING
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File No.:	C-0204/ING
Ref. No.:	2011-059
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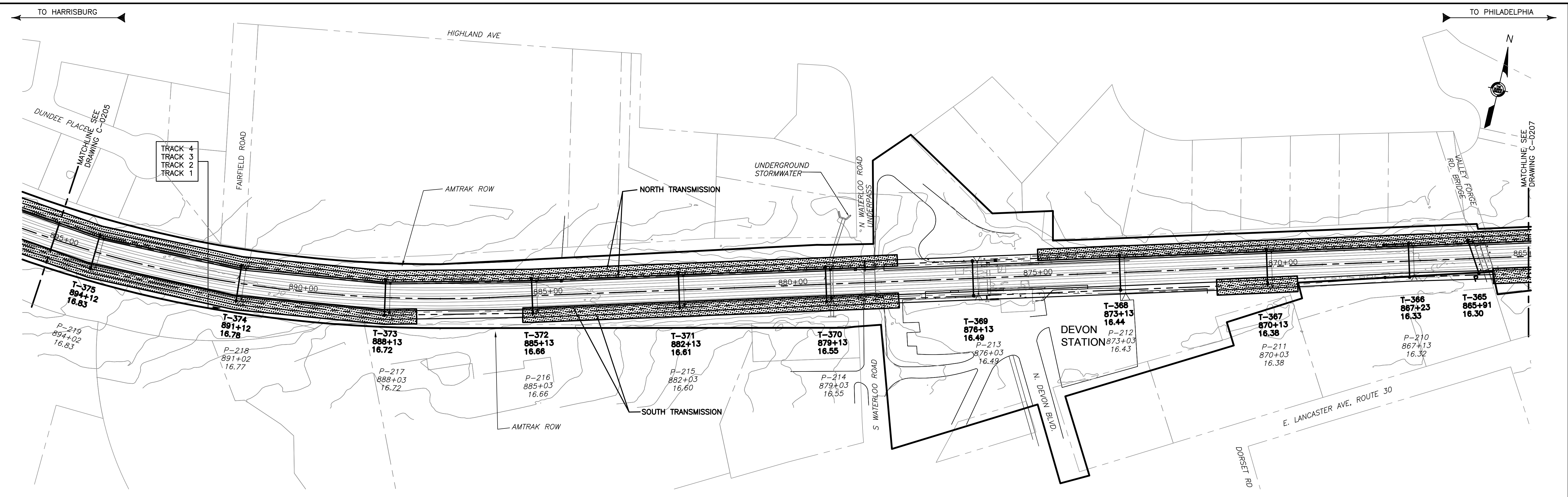


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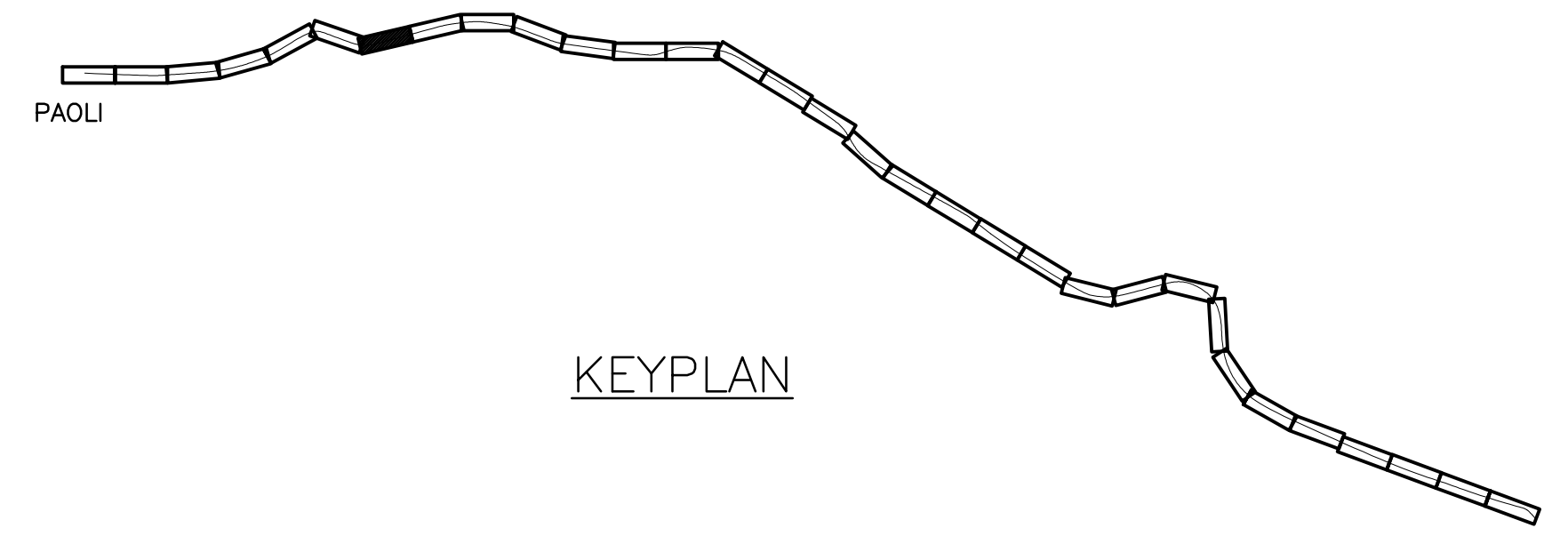
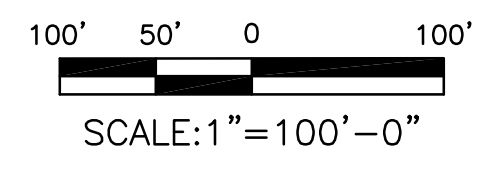
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PAOLI TO BRYN MAWR TRANSMISSION ELECTRIFICATION TREE PRUNING STA. 925+00 TO 895+00		File No.:	C-0205.DWG
		Ref. No.:	2011-059
Recommended: DP		Drawn: WJC	Checked: MJM
Date: 03/17/16		Sheet No.:	552 OF 565
		C-0205	



TREE PRUNING SITE PLAN



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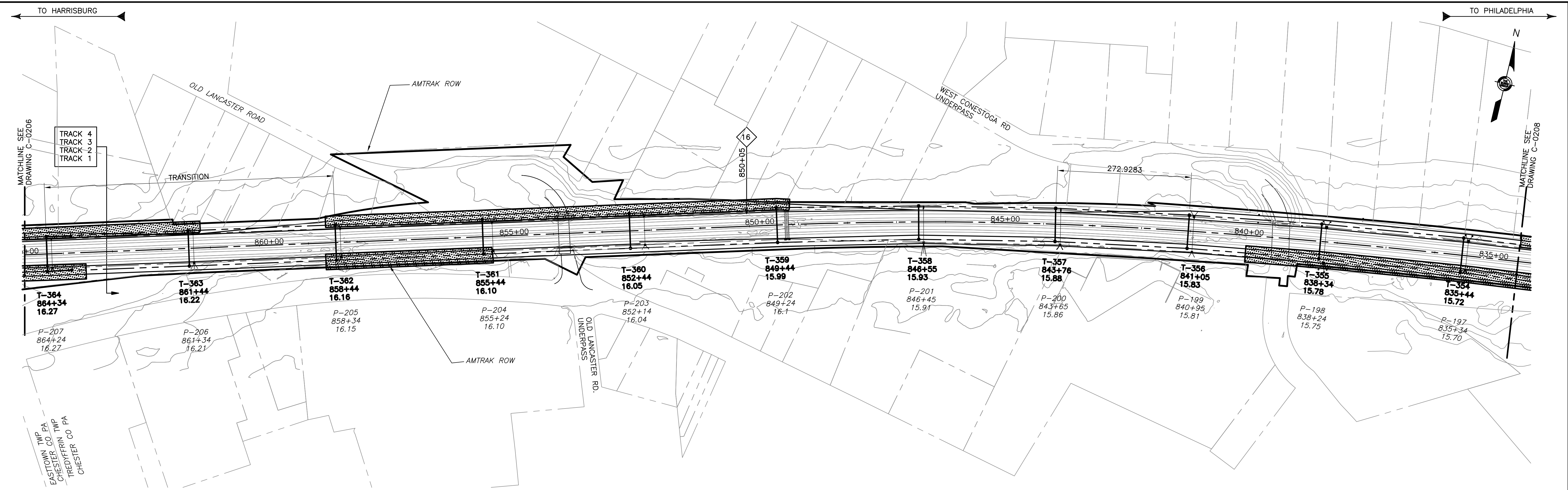


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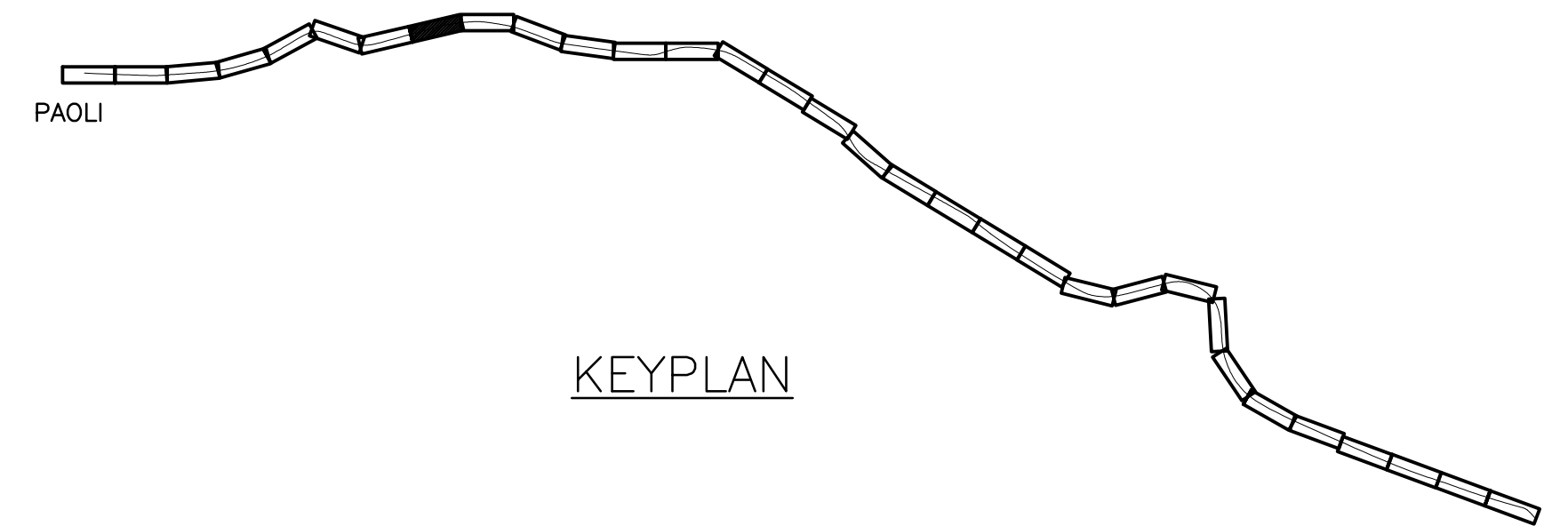
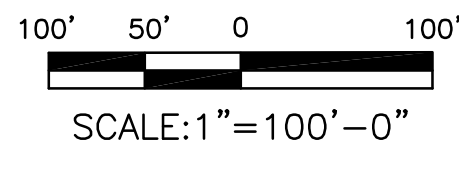
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TREE PRUNING SITE PLAN



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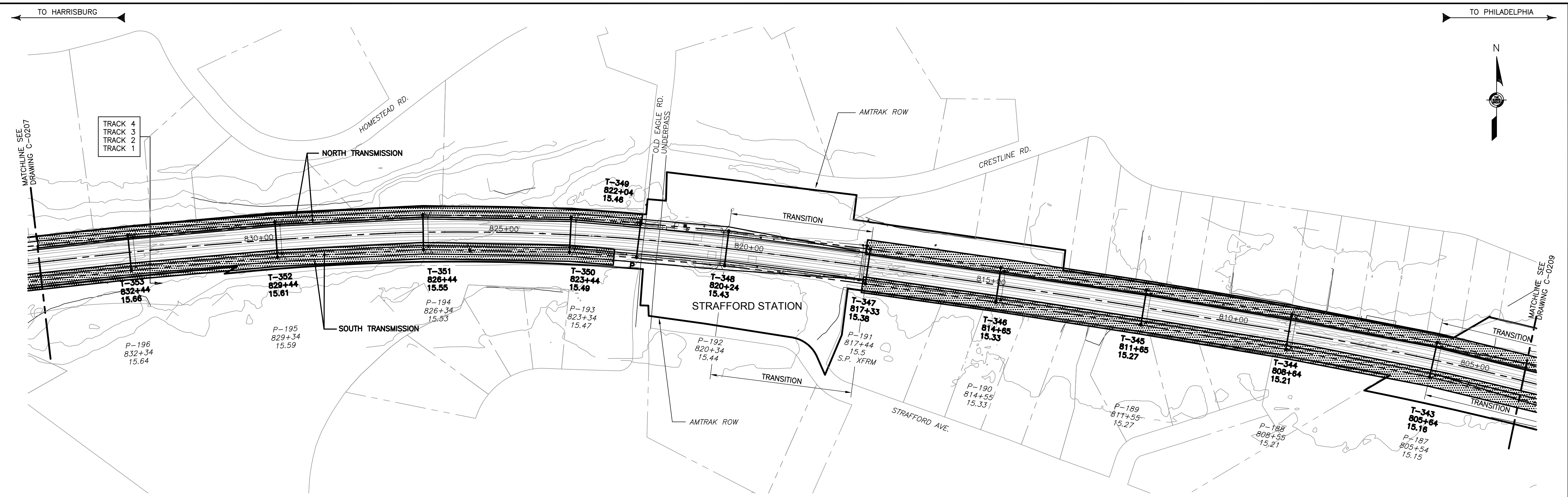
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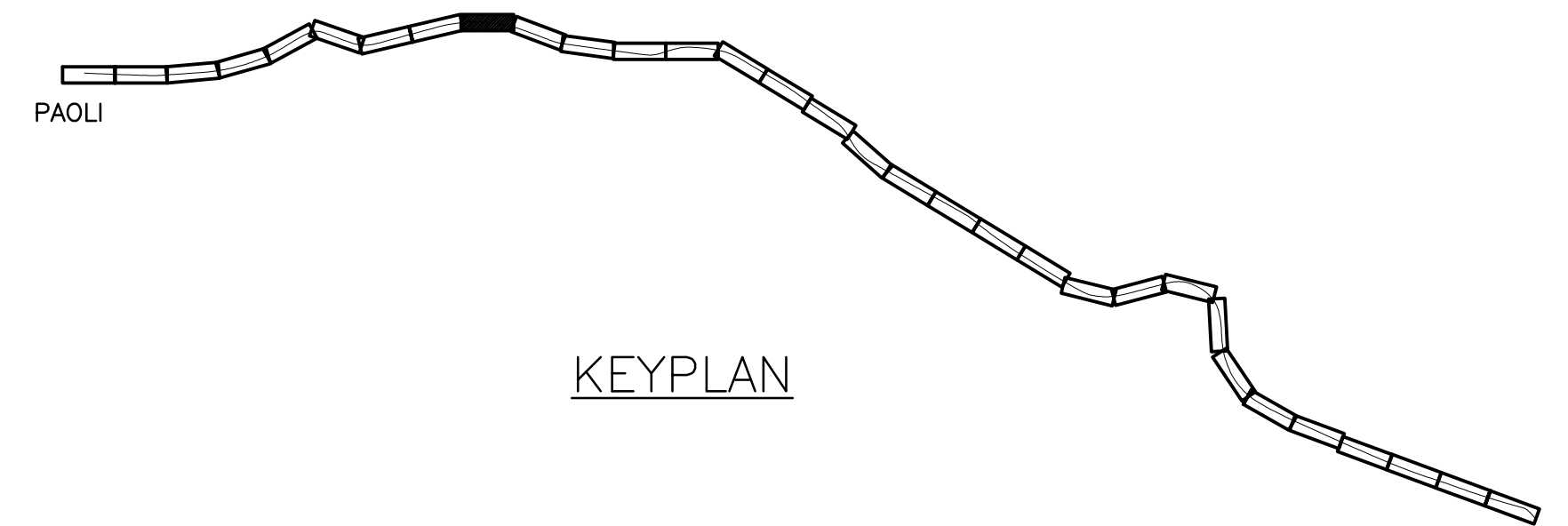
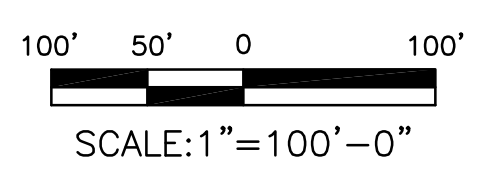
**ZOO TO PAOLI TRANSMISSION
ELECTRIFICATION
TREE PRUNING
STA. 865+00 TO 835+00**

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File No.:	C-0207.DWG
Ref. No.:	2011-059
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C-0207	



TREE PRUNING SITE PLAN



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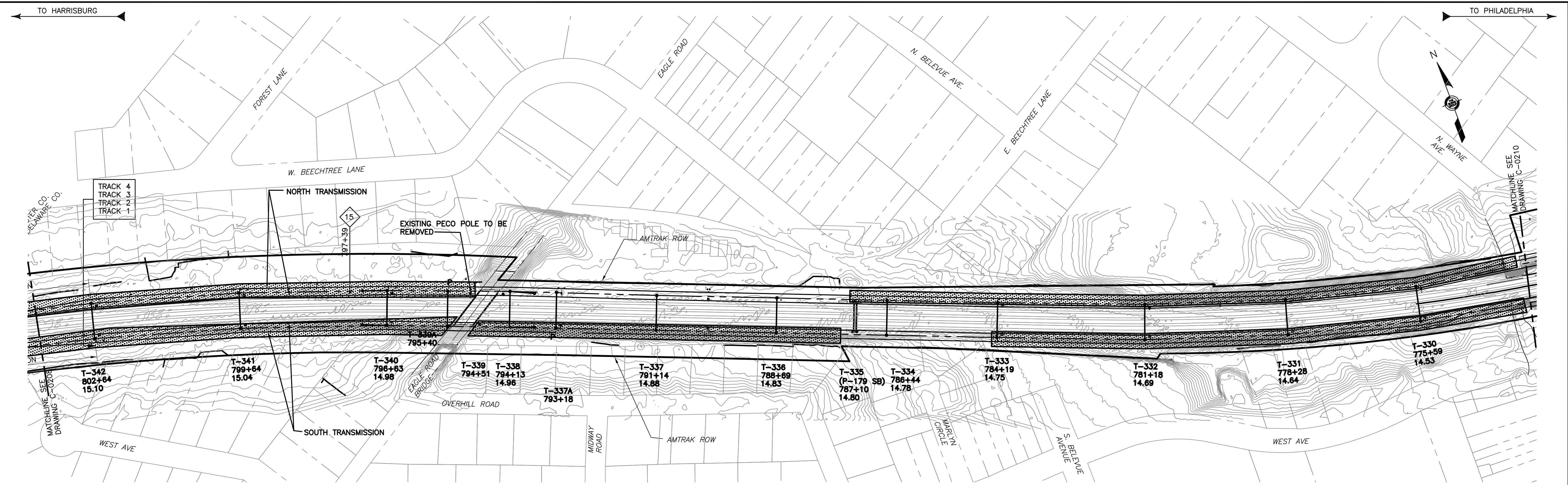


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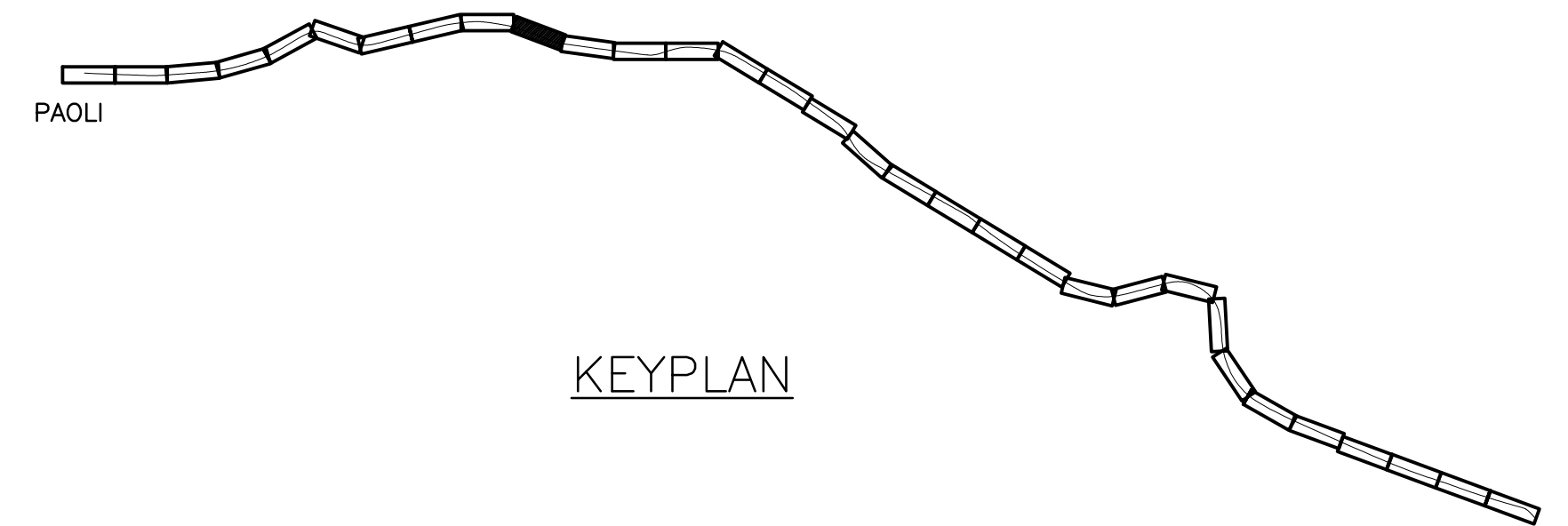
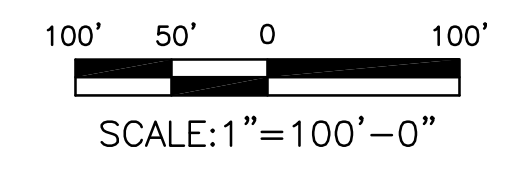
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File No.:	C-0208.DWG
Ref. No.:	2011-059
Sheet No.:	555 OF 936
C-0208	



TREE PRUNING SITE PLAN



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30TH Street Station—Philadelphia, Pennsylvania 19104

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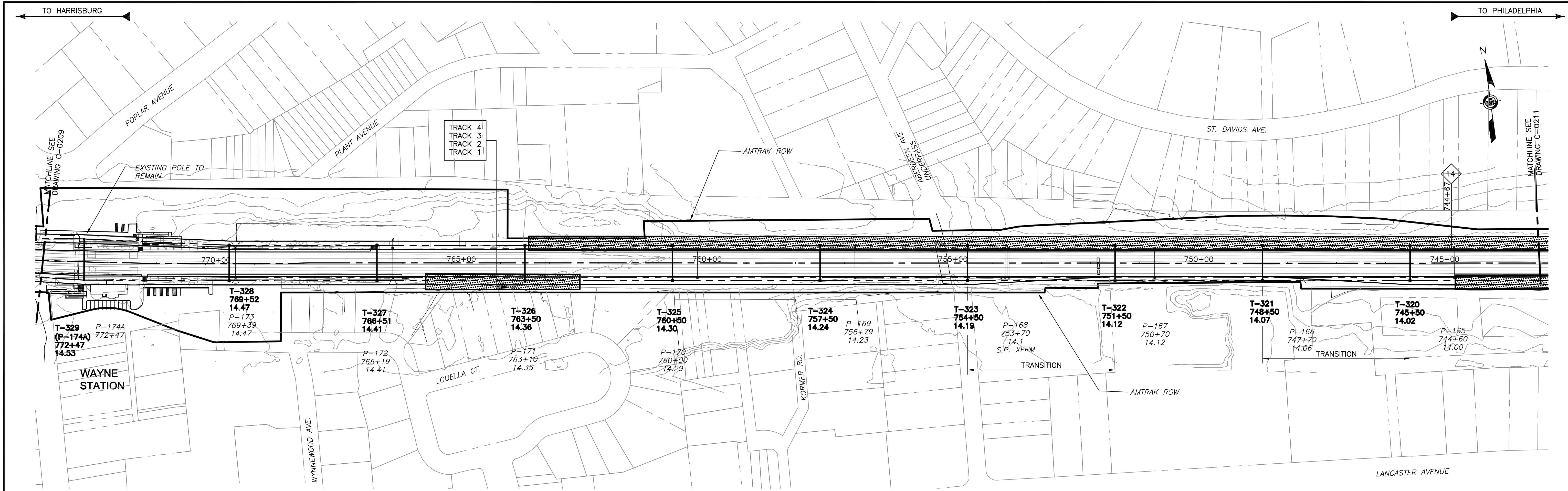


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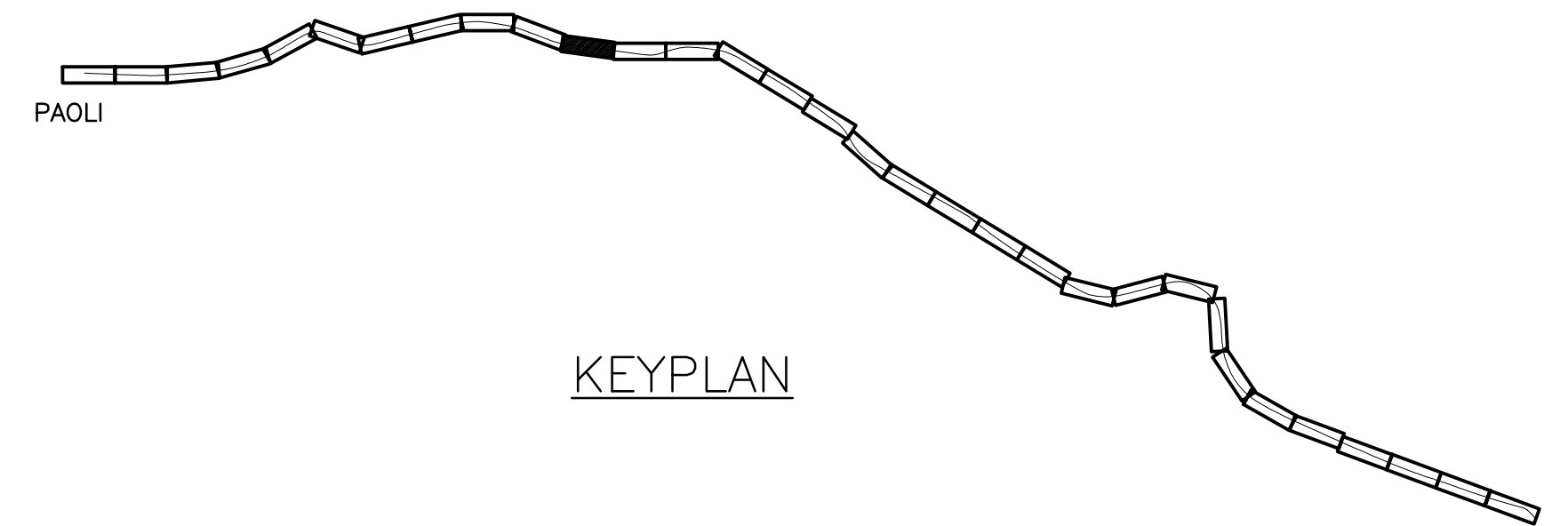
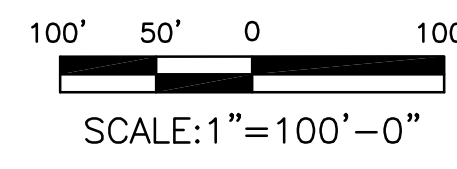
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ELECTRIFICATION
TREE PRUNING
STA. 804+00 TO 774+00**
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File No.:	C-0209.DWG
Ref. No.:	2011-059
Sheet No.:	556 OF 936
C-0209	



TREE PRUNING SITE PLAN



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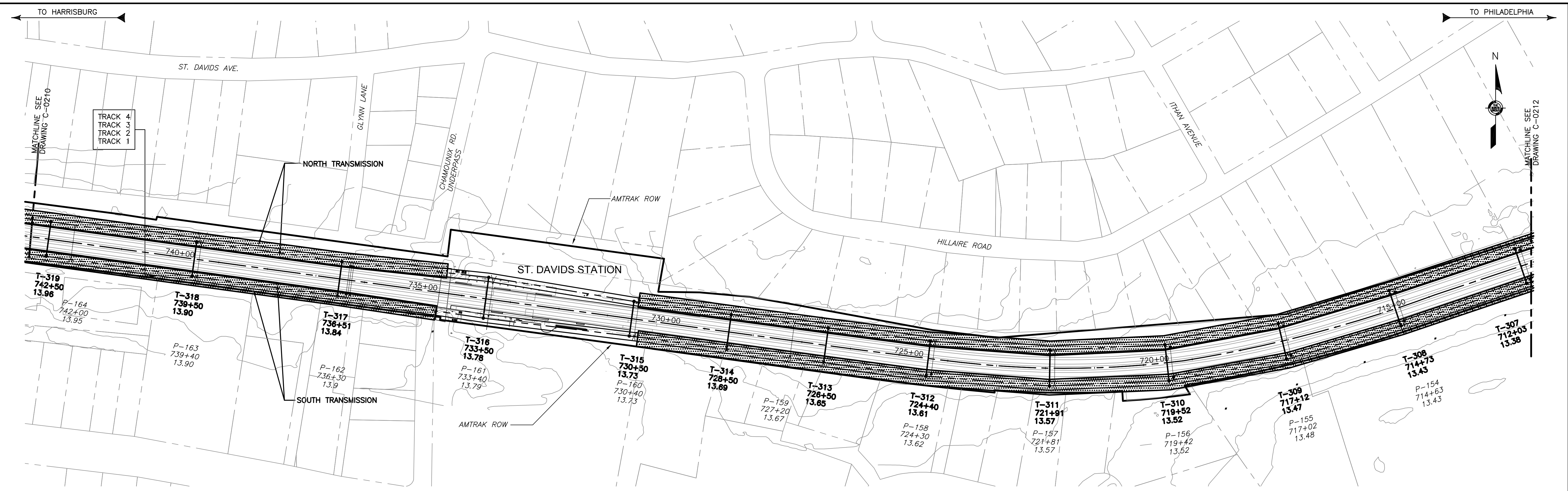
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TREE PRUNING
STA. 774+00 TO 744+00**

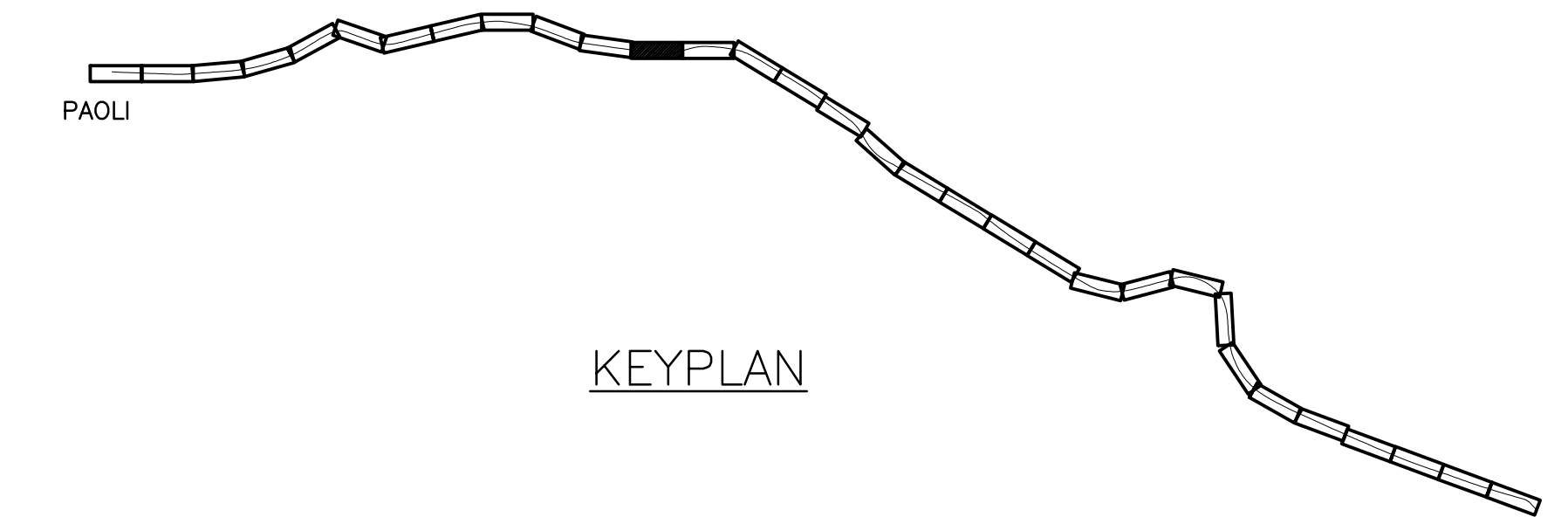
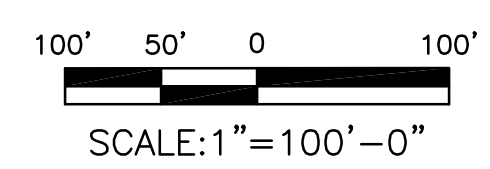
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File No.:	C-0210.DWG
Ref. No.:	2011-059
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C-0210



TREE PRUNING SITE PLAN



KEYPLAN

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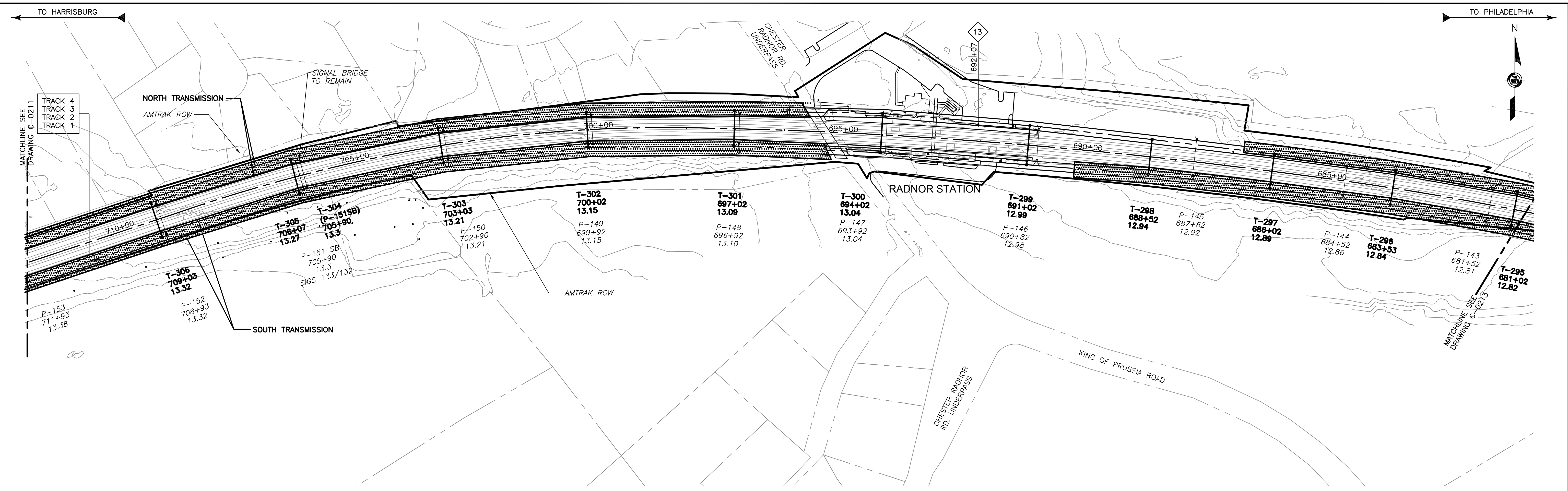
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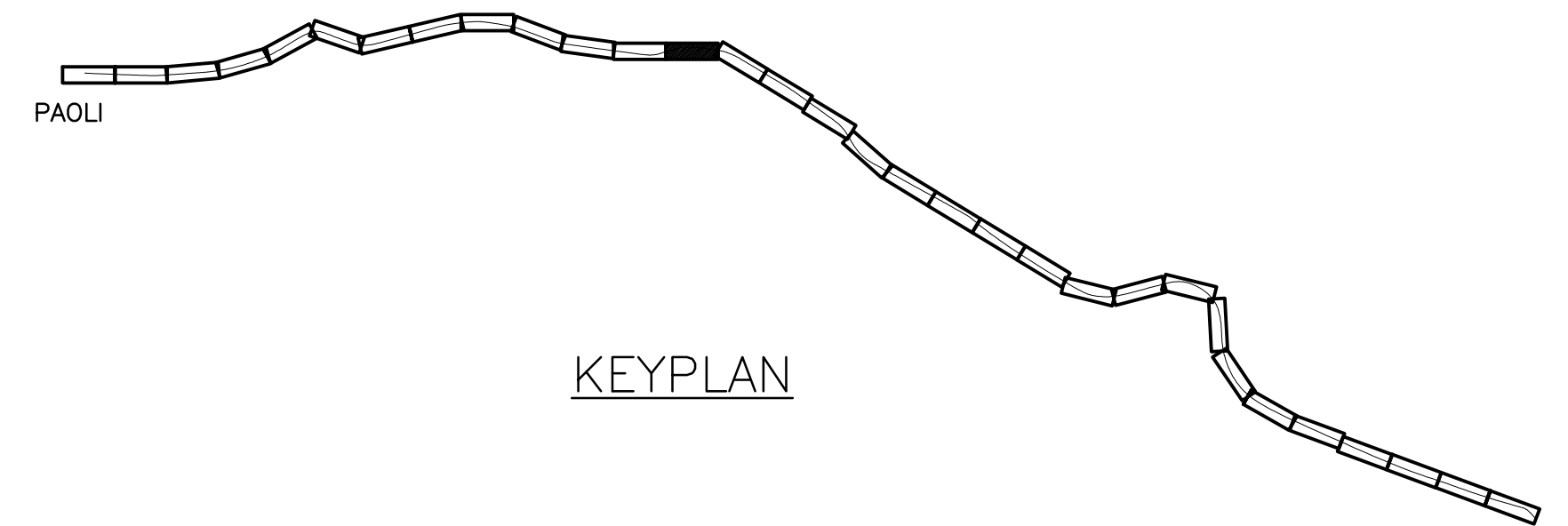
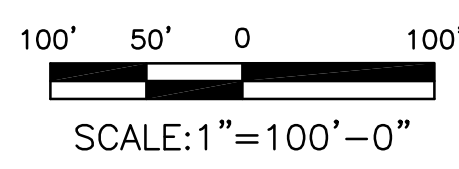
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ELECTRIFICATION
TREE PRUNING
STA. 744+00 TO 712+00**

Recommended: DP Drawn: WJC Checked: MJM Date: 12/19/14

File No.:	C-0211.DWG
Ref. No.:	2011-059
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C-0211	



TREE PRUNING SITE PLAN



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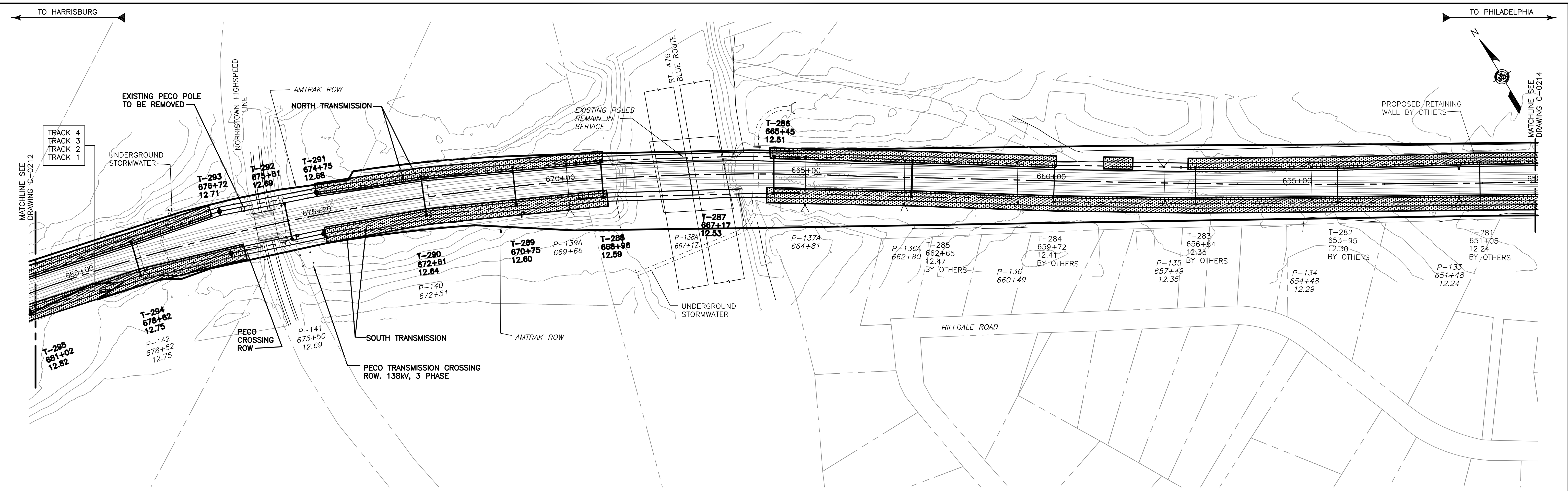
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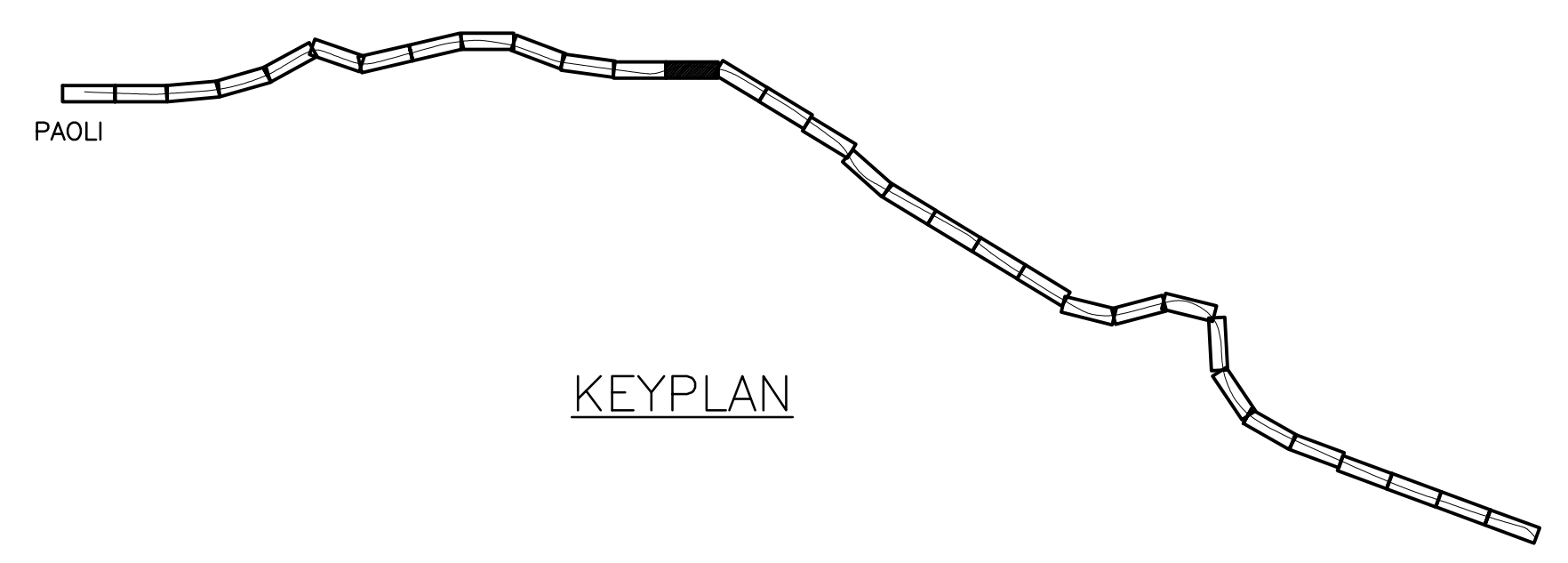
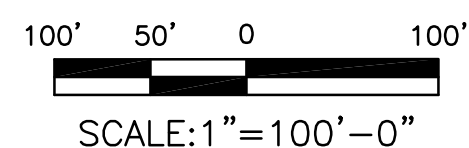
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ELECTRIFICATION
TREE PRUNING
STA. 712+00 TO 681+00**

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File No.:	C-0212.DWG
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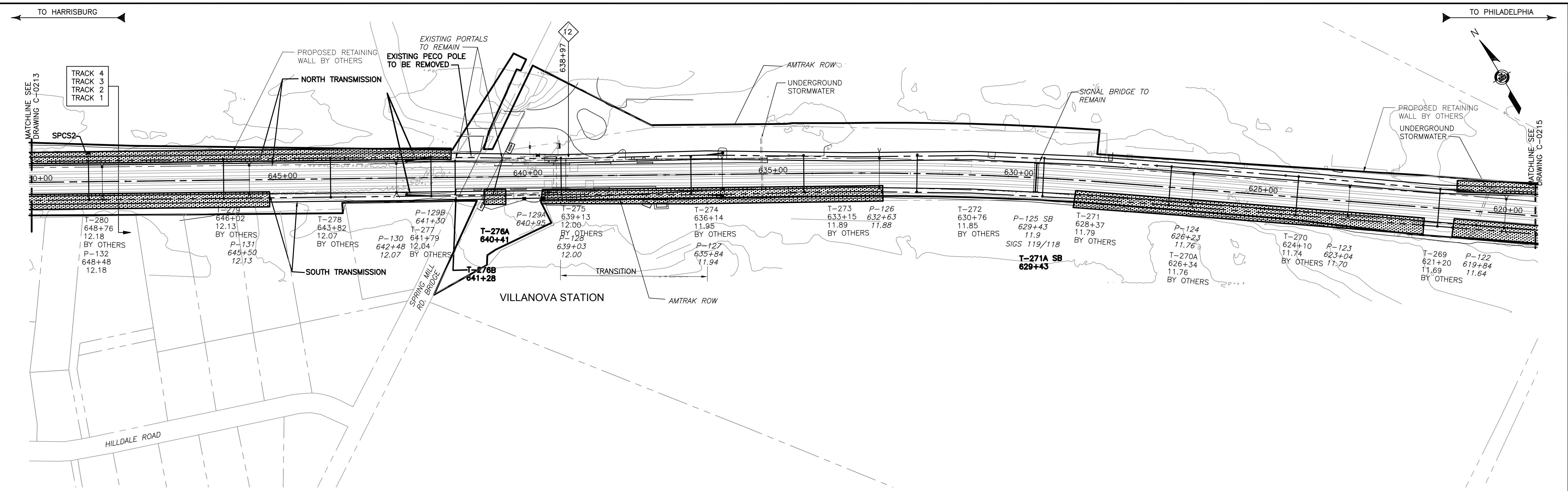


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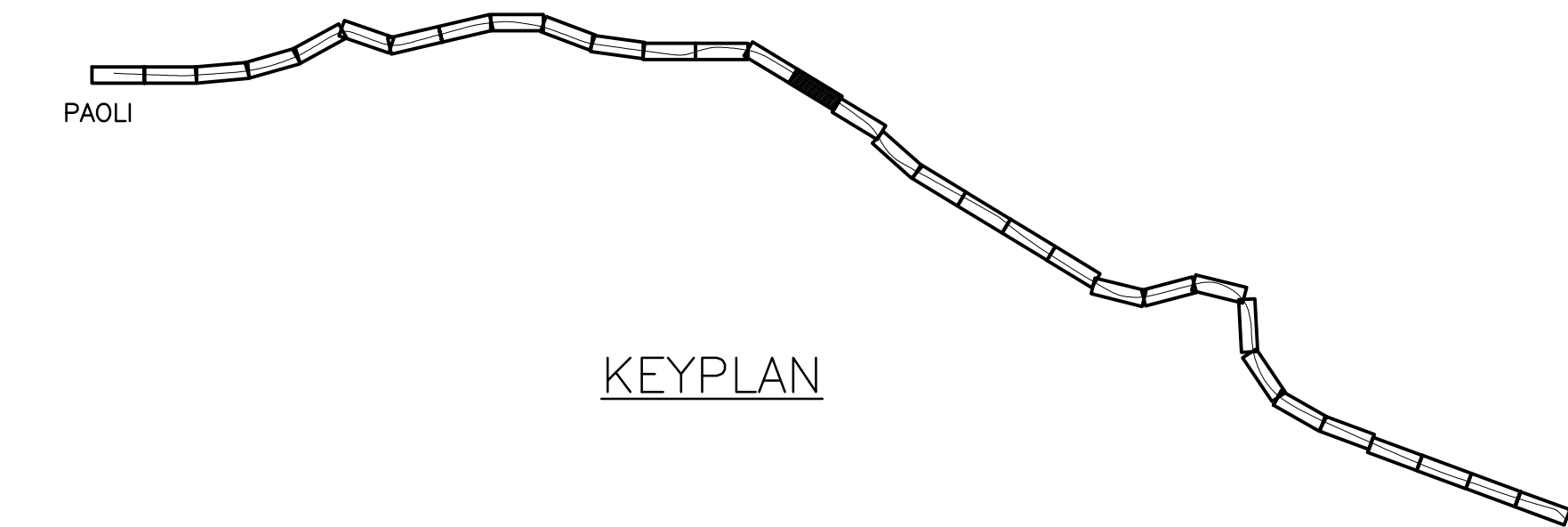
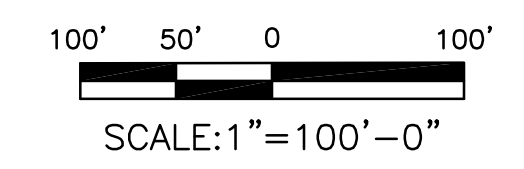
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		Ref. No.:	2011-059
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Date: 12/19/14		Sheet No: 560 OF 936	
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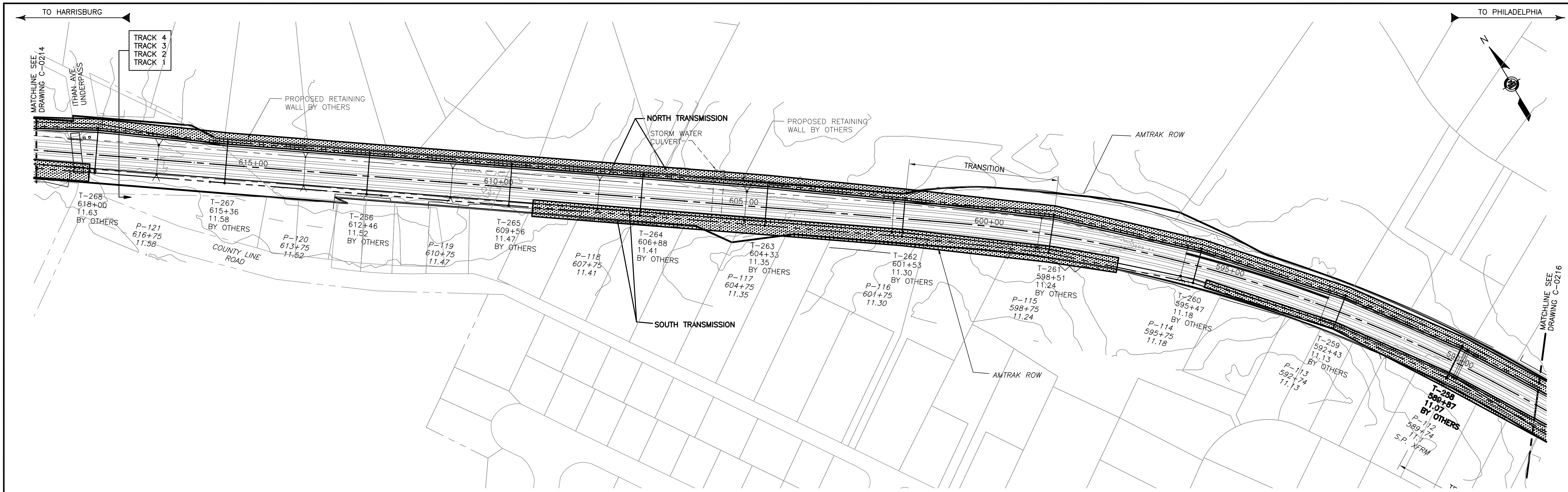


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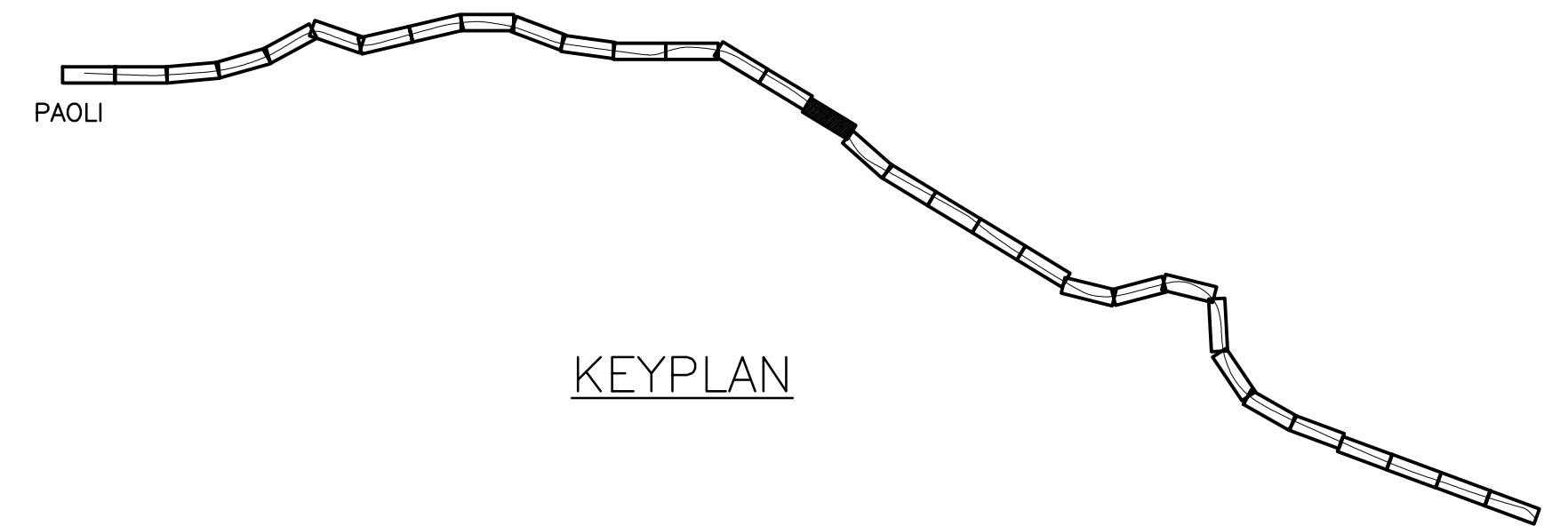
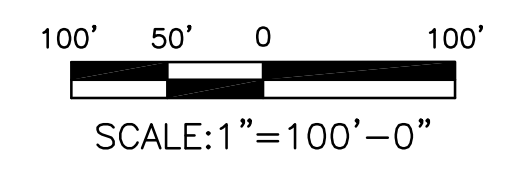
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File No.:	C-0214/103
Ref. No.:	2011-059
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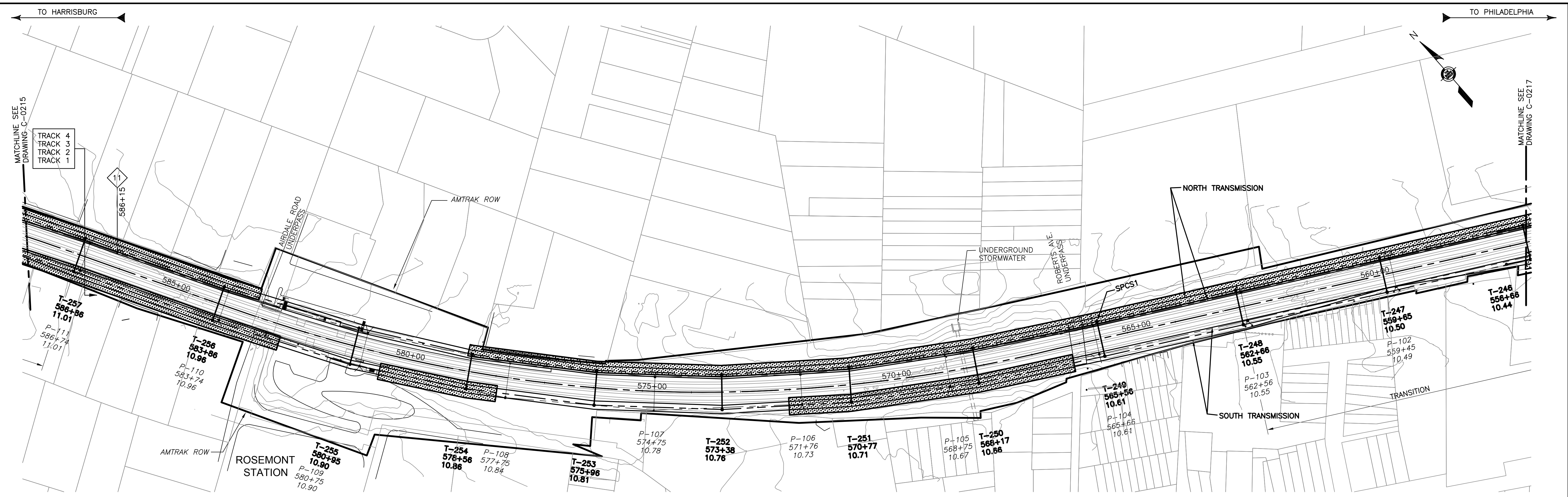
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TREE PRUNING
STA. 619+00 TO 588+00**

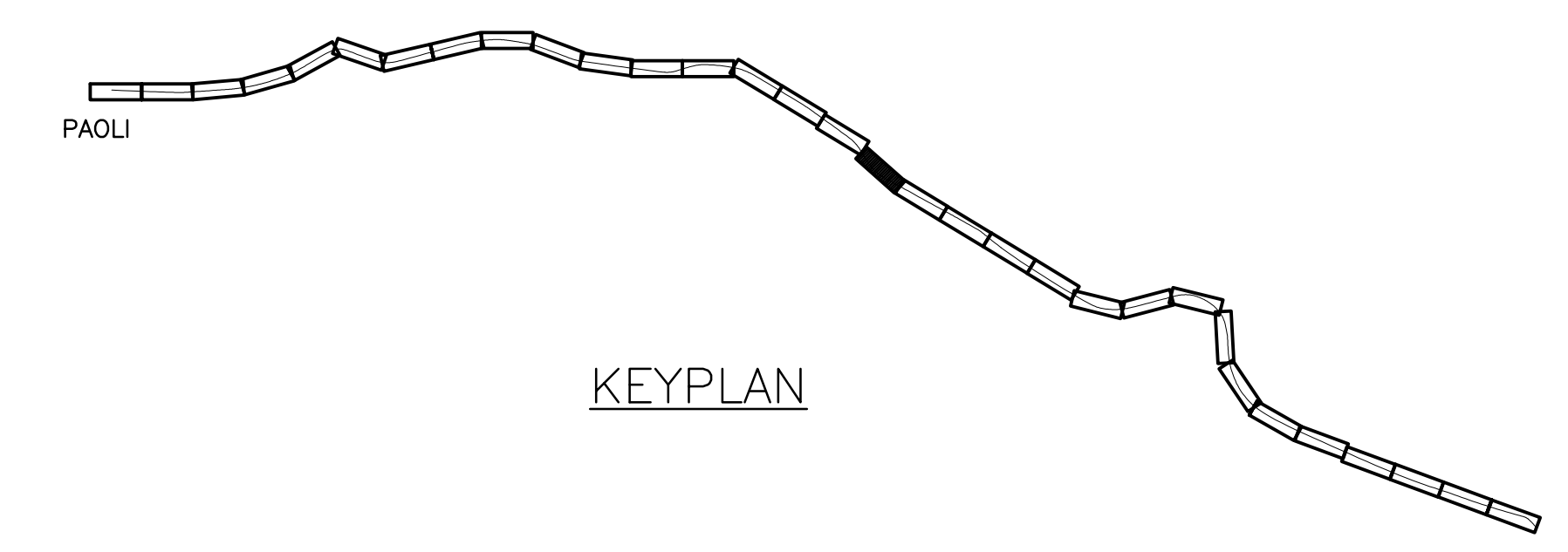
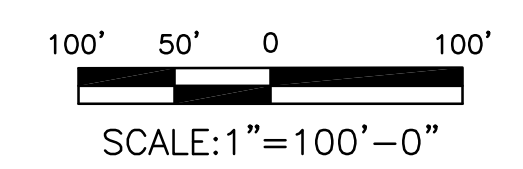
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Ref. No.:	2011-059
Sheet No.:	562 OF 936

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Recommended: DP Drawn: WJC Checked: MJM Date: 12/19/14



TREE PRUNING SITE PLAN



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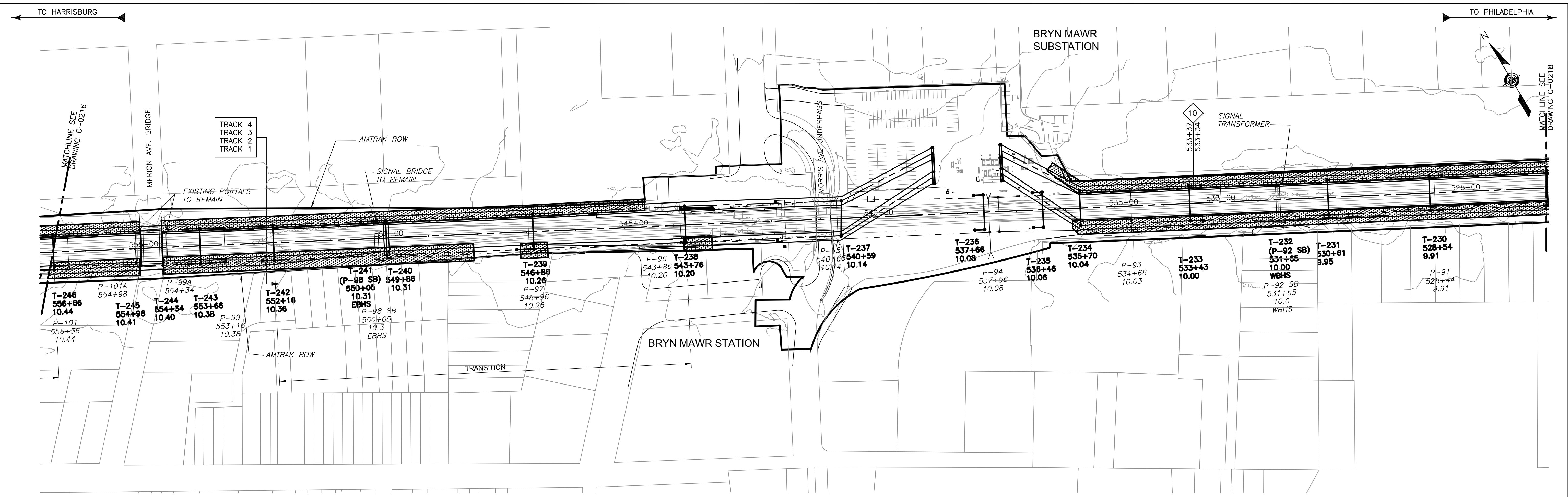
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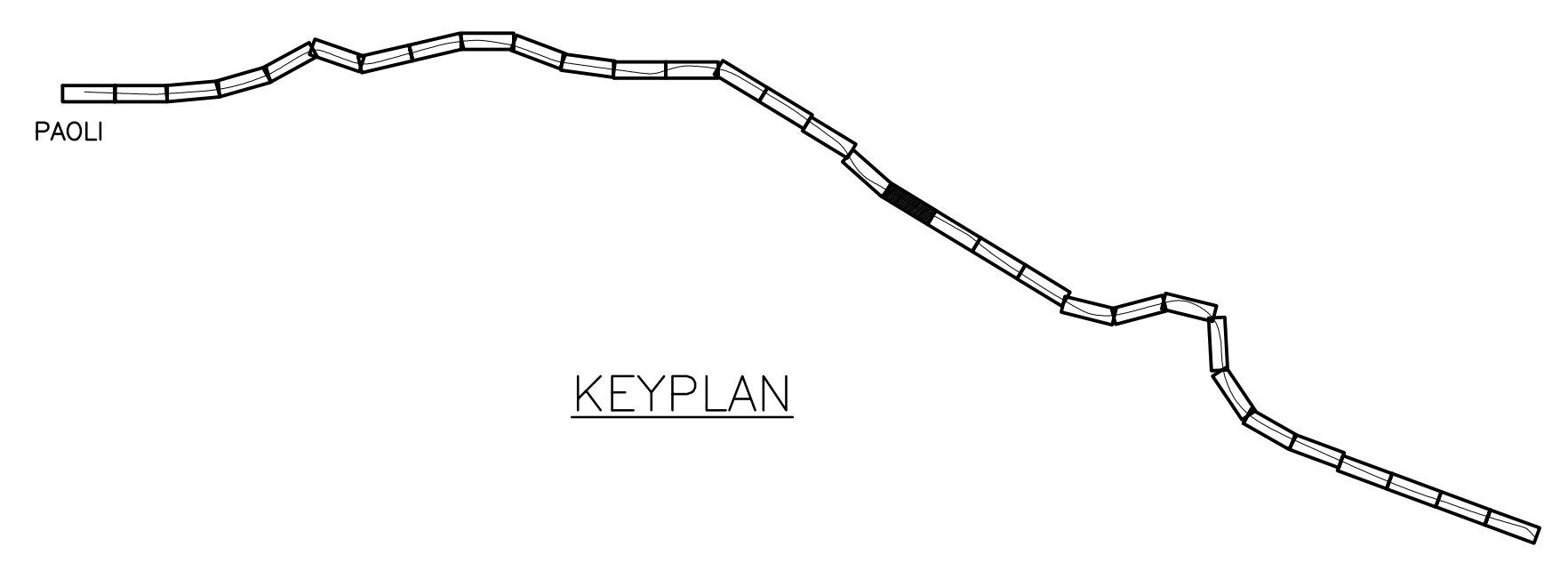
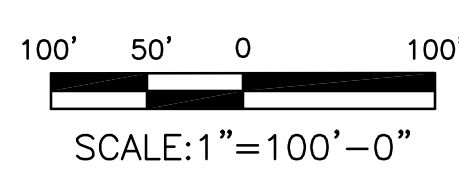
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ELECTRIFICATION
TREE PRUNING
STA. 588+00 TO 556+00**

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File No.:	C-0216.DWG
Ref. No.:	2011-059
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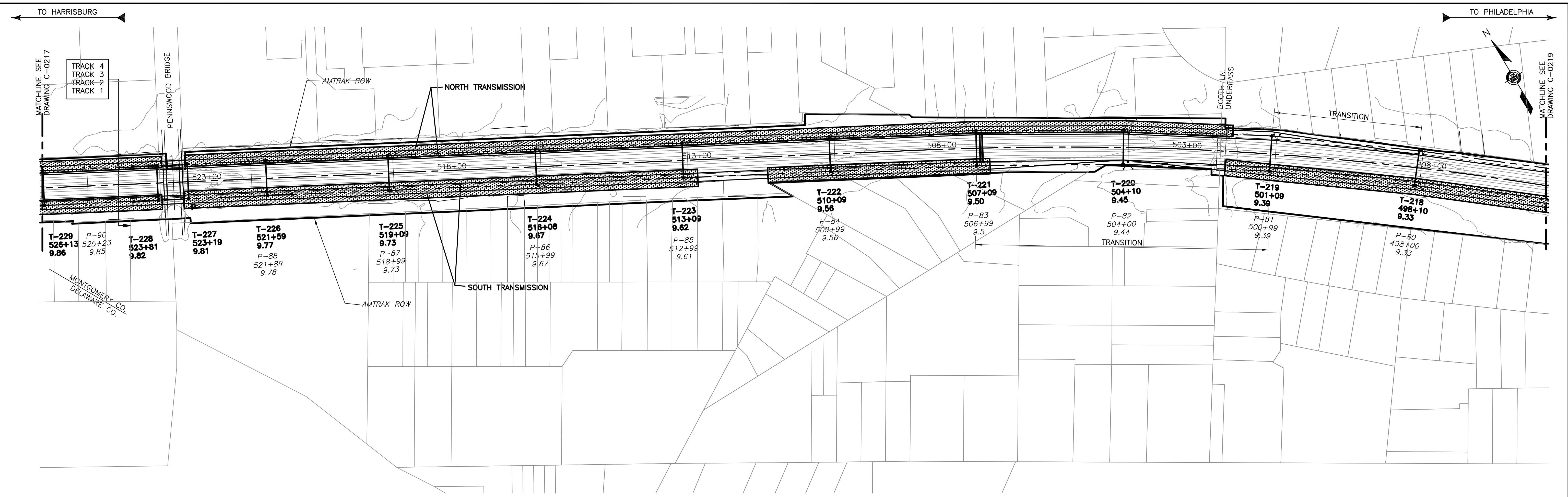
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TREE PRUNING
STA. 556+65 TO 526+00**

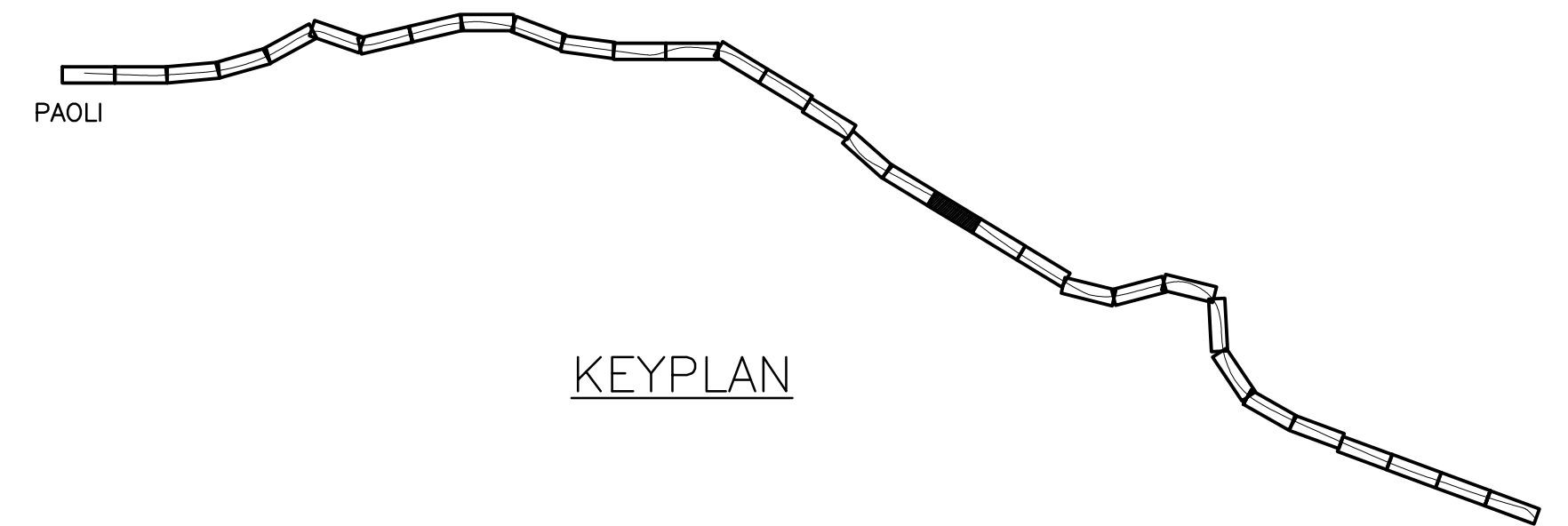
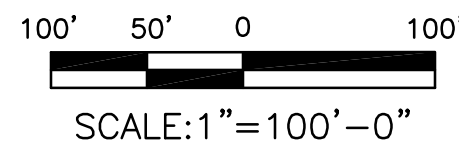
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File No.:	C-0217.DWG
Ref. No.:	2011-059
Sheet No.:	564 OF 936

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TREE PRUNING SITE PLAN



4:29:35 PM 3/14/2016 J:\2011\2011-059\Drawings\working drawings zoo to bryn mawr\civil\c-0218.dwg

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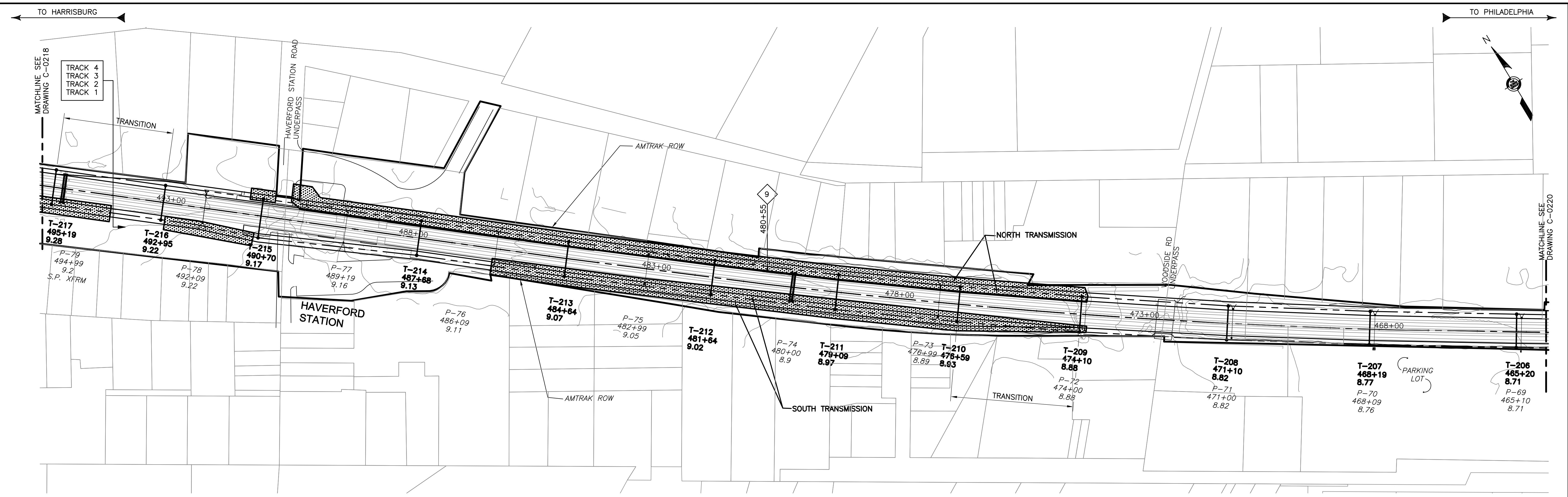


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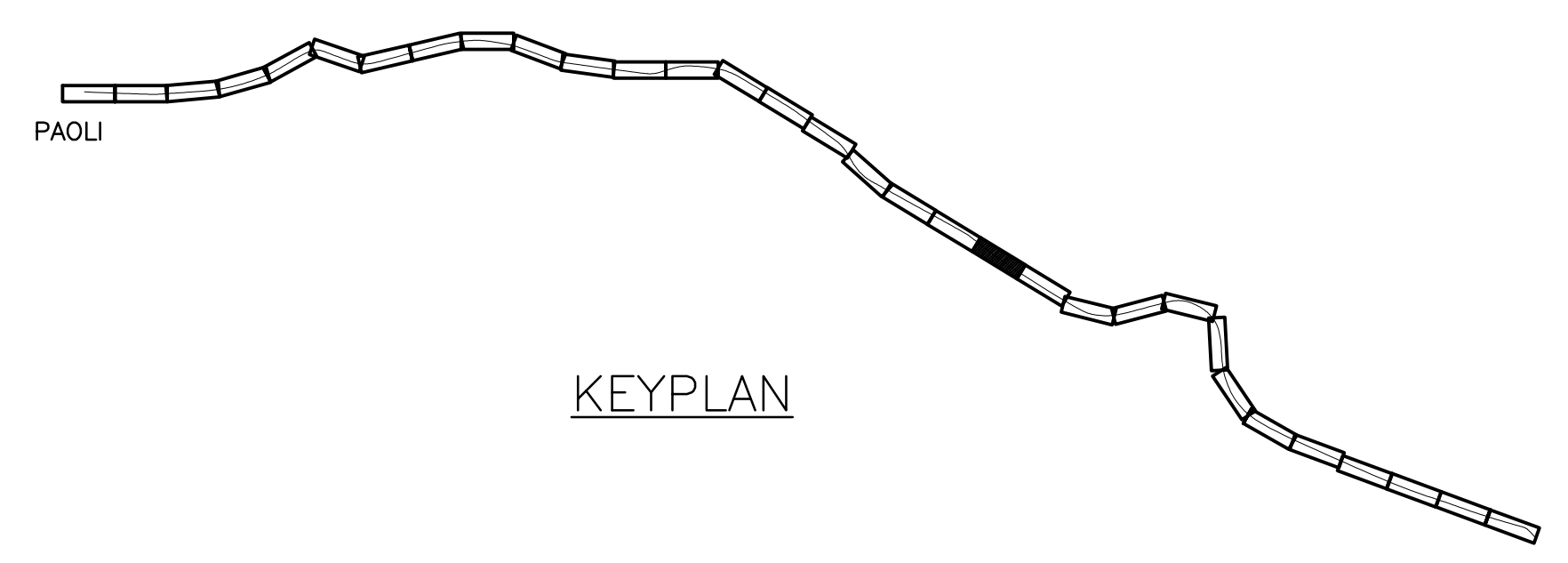
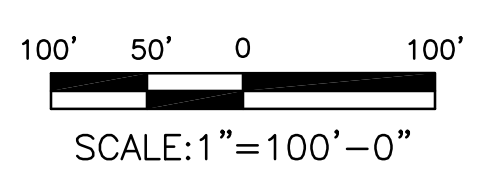
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ELECTRIFICATION
TREE PRUNING
STA. 526+00 TO 495+50**

Recommended: DP Drawn: WJC Checked: RSW Date: 03/17/16

File No.:	C-0218.DWG
Ref. No.:	2011-059
Sheet No.:	336 OF 347
C-0218	



TREE PRUNING SITE PLAN



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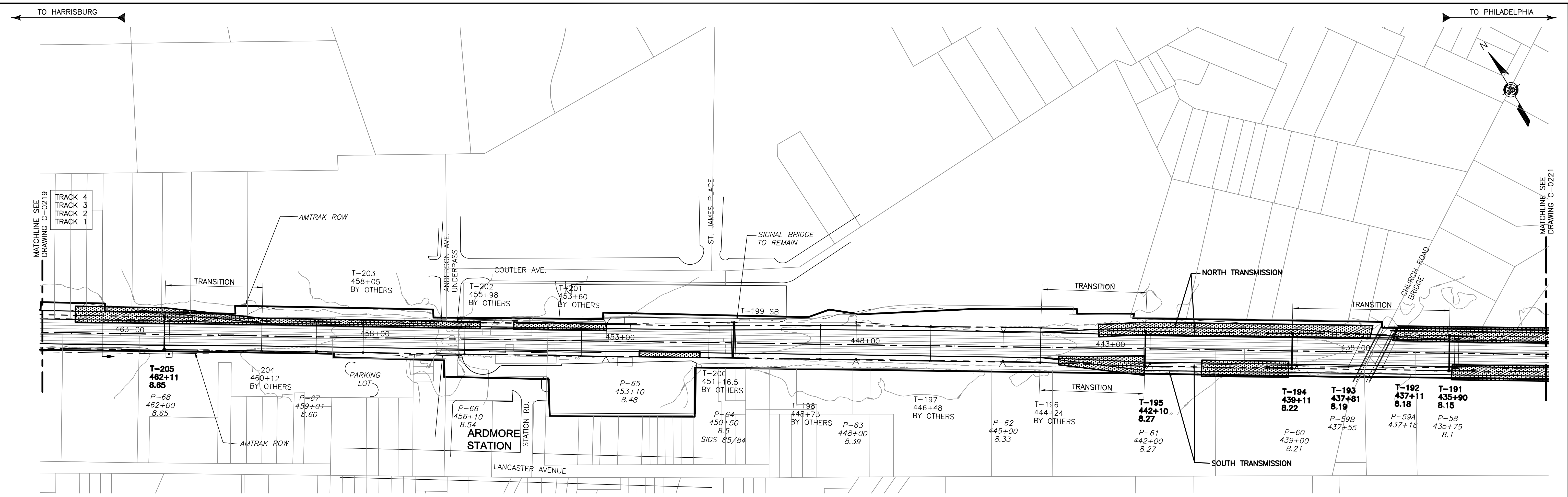
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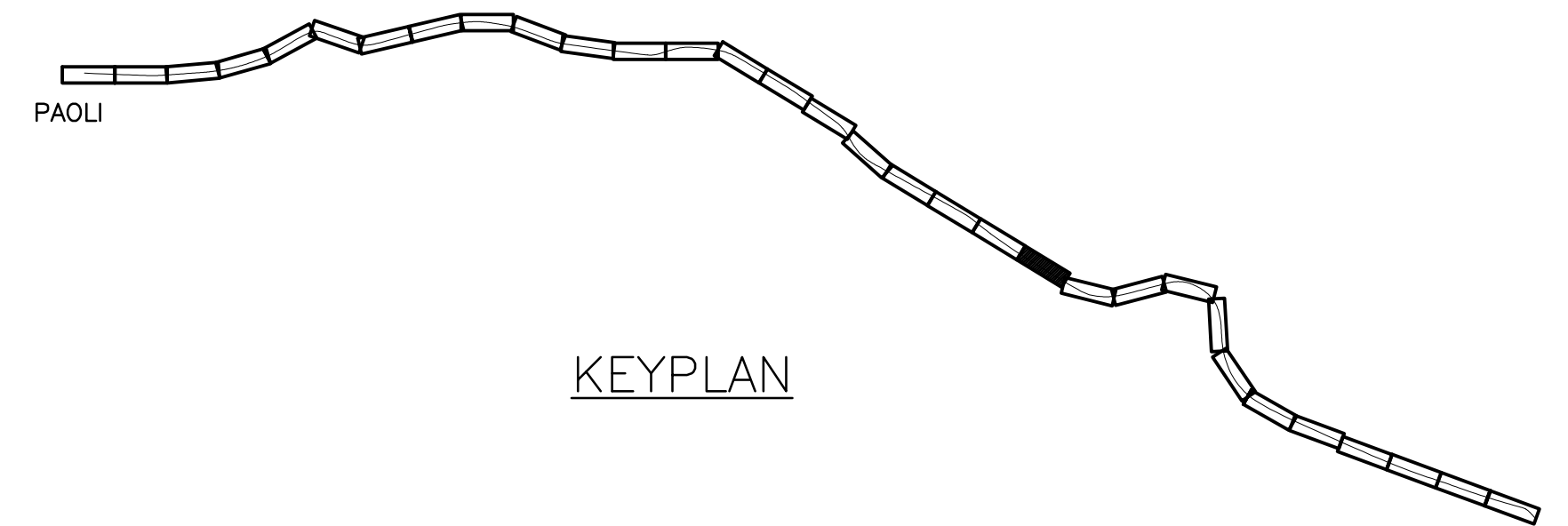
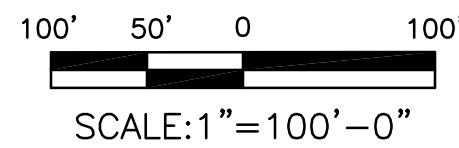
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ELECTRIFICATION
TREE PRUNING
STA. 495+50 TO 465+00
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File No.:	C-0219.DWG
Ref. No.:	2011-059
Sheet No.:	337 OF 347
C-0219	

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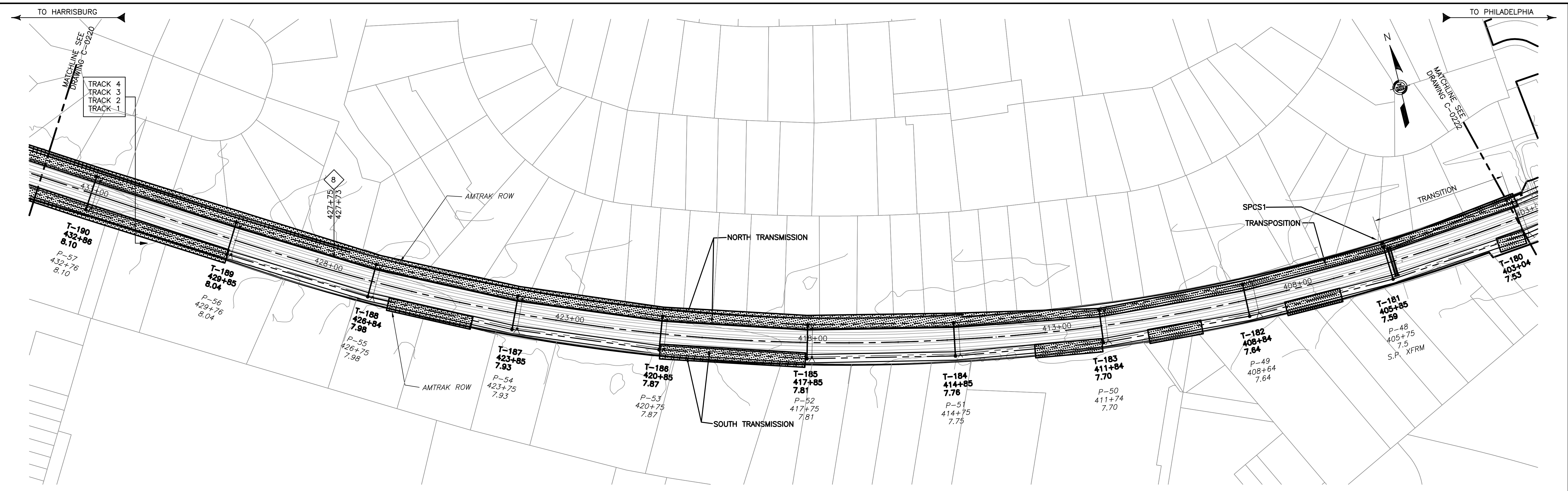
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National Railroad Passenger Corporation
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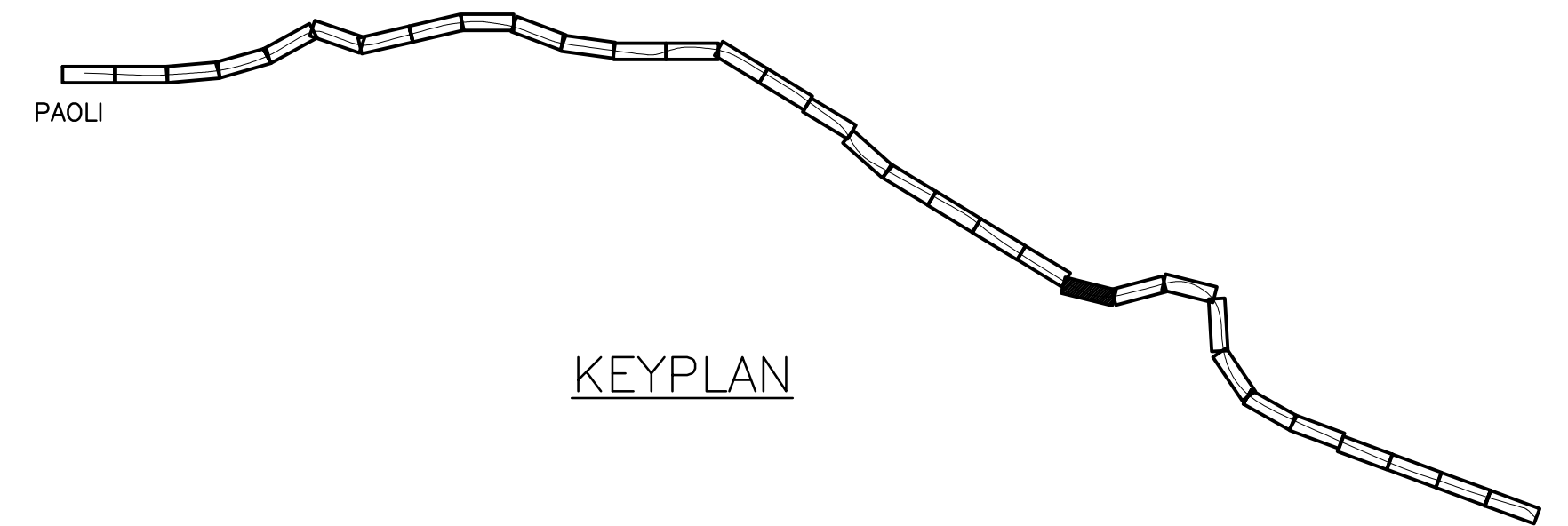
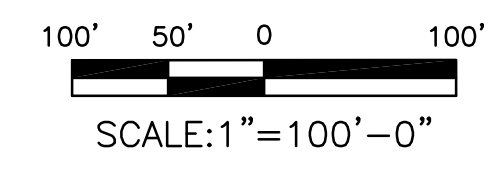


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File No.:	C-0220.DWG
Ref. No.:	2011-059
Sheet No.:	338 OF 347
C-0220	



TREE PRUNING SITE PLAN



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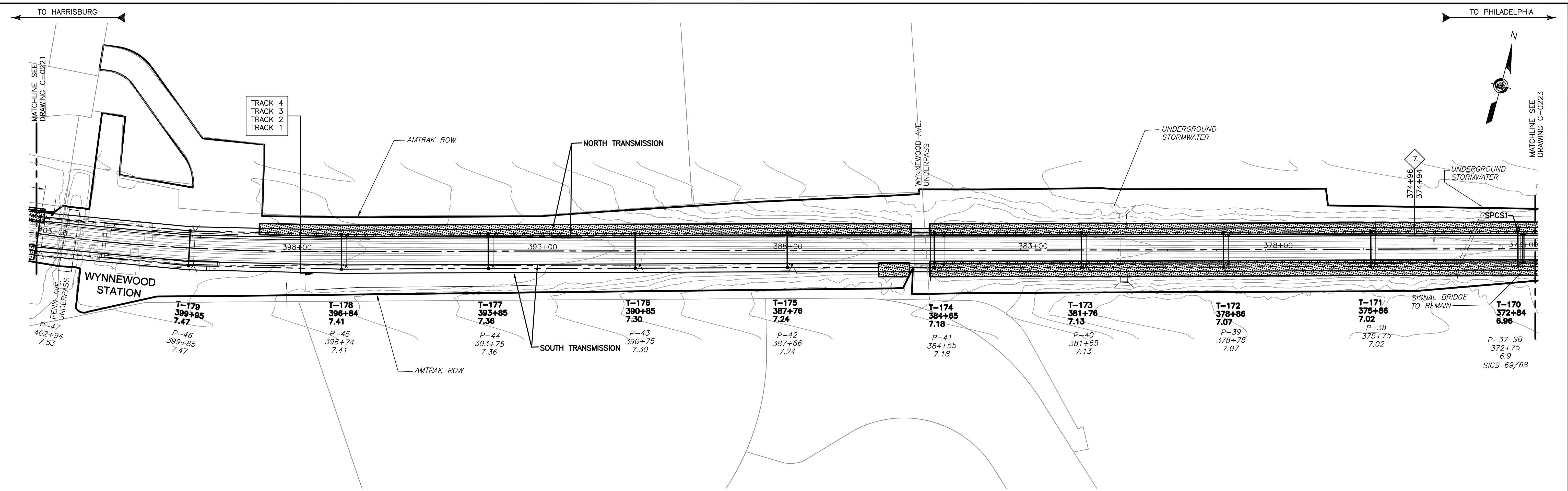
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STA. 434+00 TO 403+00**

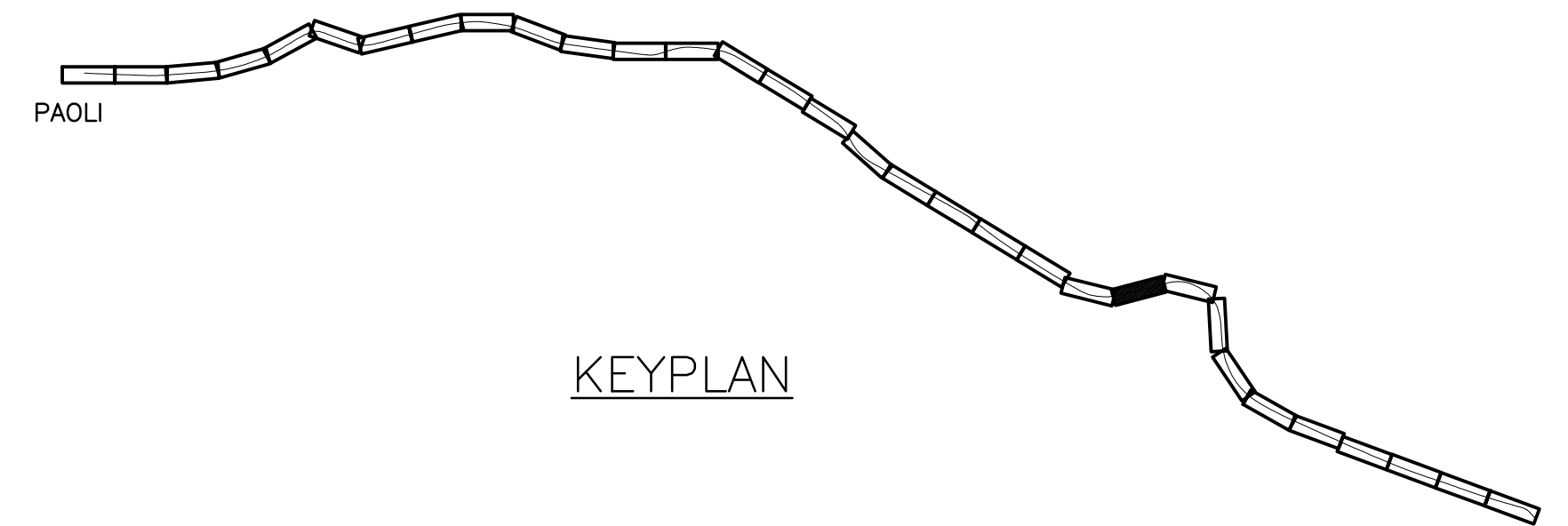
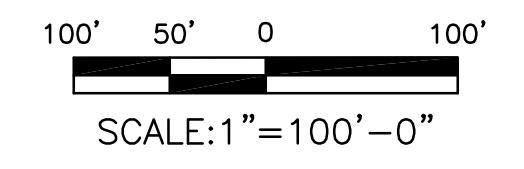
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File No.:	C-0221.DWG
Ref. No.:	2011-059
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TREE PRUNING SITE PLAN



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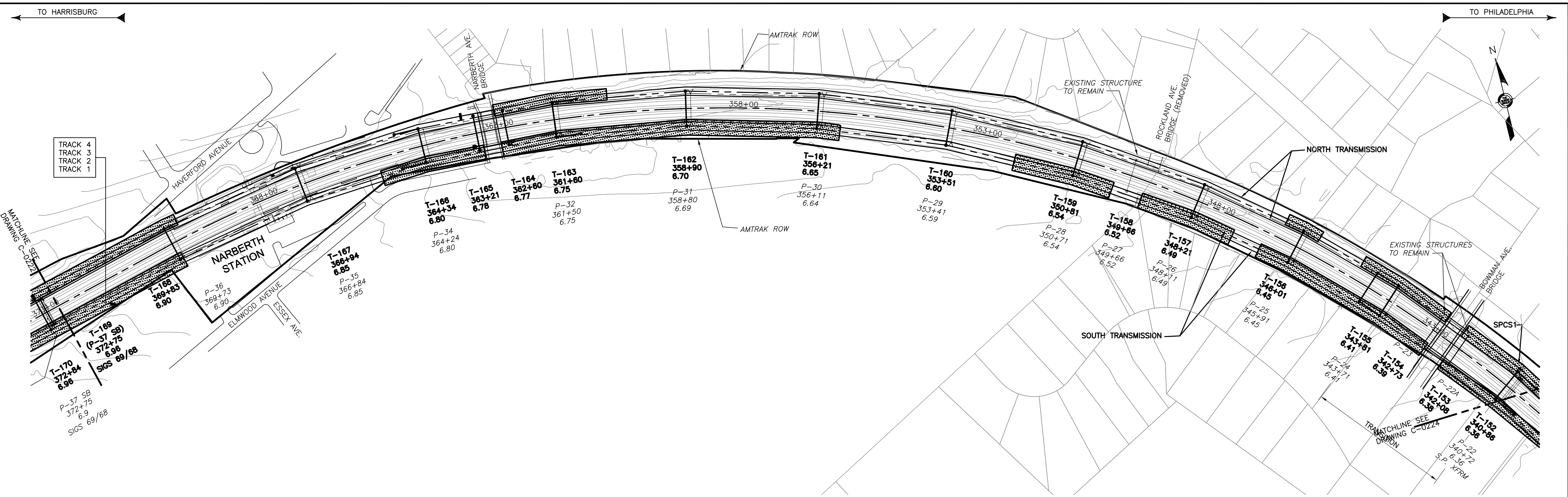
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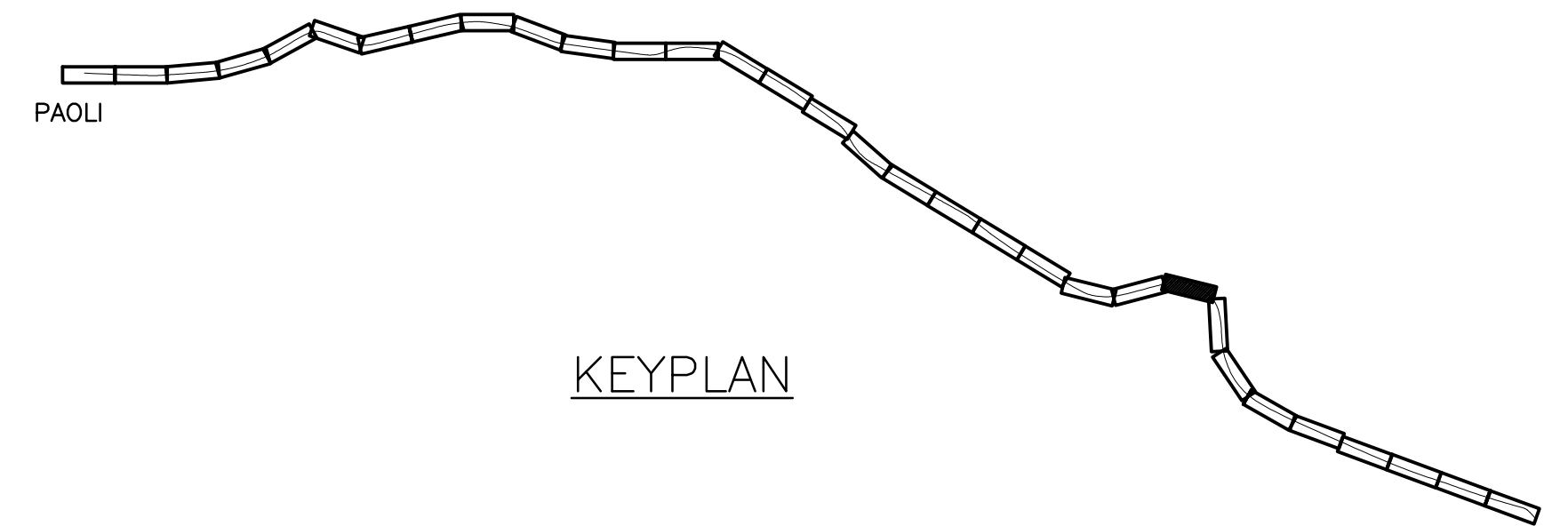
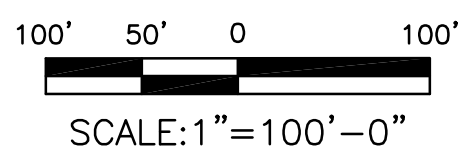
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File No.:	C-0222
Ref. No.:	2011-059
Sheet No.:	340 OF 347

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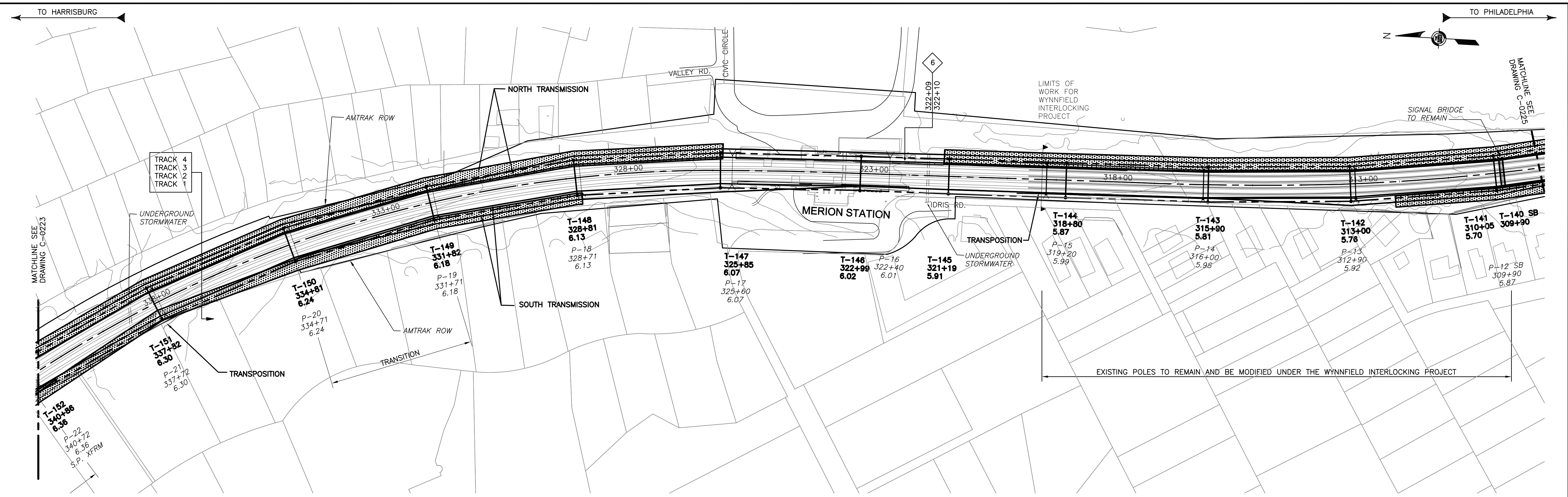
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**BRYN MAWR TO ZOO TRANSMISSION
ELECTRIFICATION
TREE PRUNING
STA. 372+50 TO 340+70**

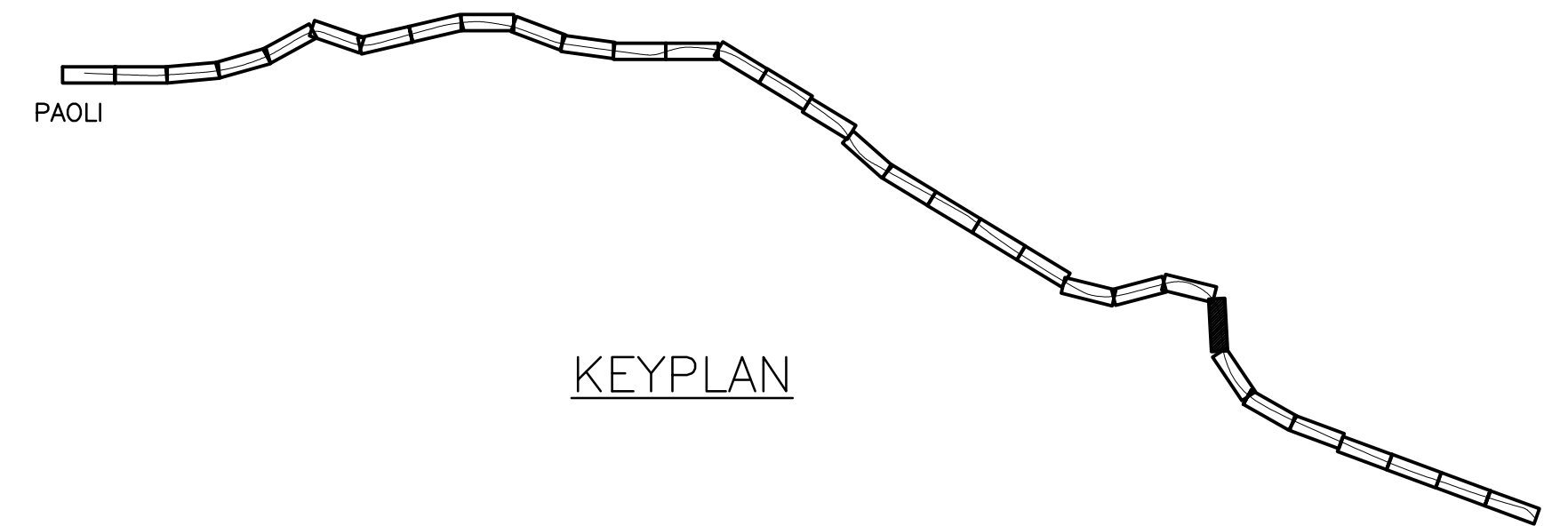
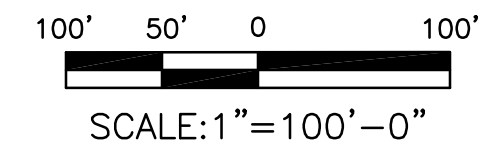
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Ref. No.:	2011-059
Sheet No.:	341 OF 347

C-0223



TREE PRUNING SITE PLAN



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No	Revisions	Date	By



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Engineering**

National Railroad Passenger Corporation
30TH Street Station-Philadelphia, Pennsylvania 19104

Approved	Date



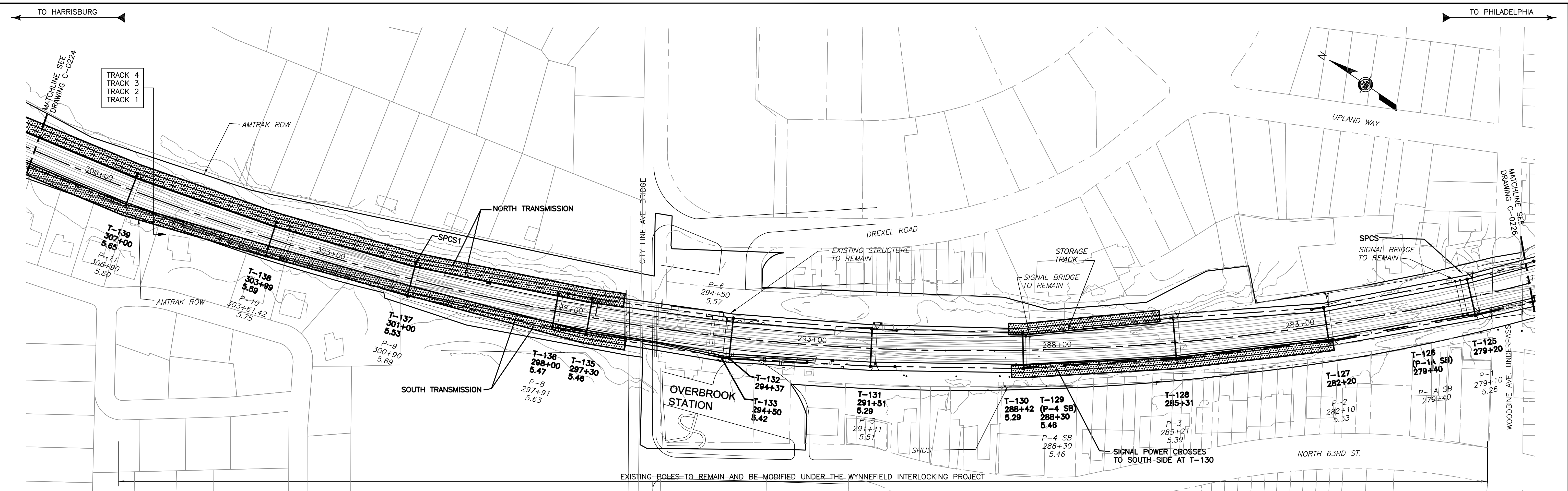
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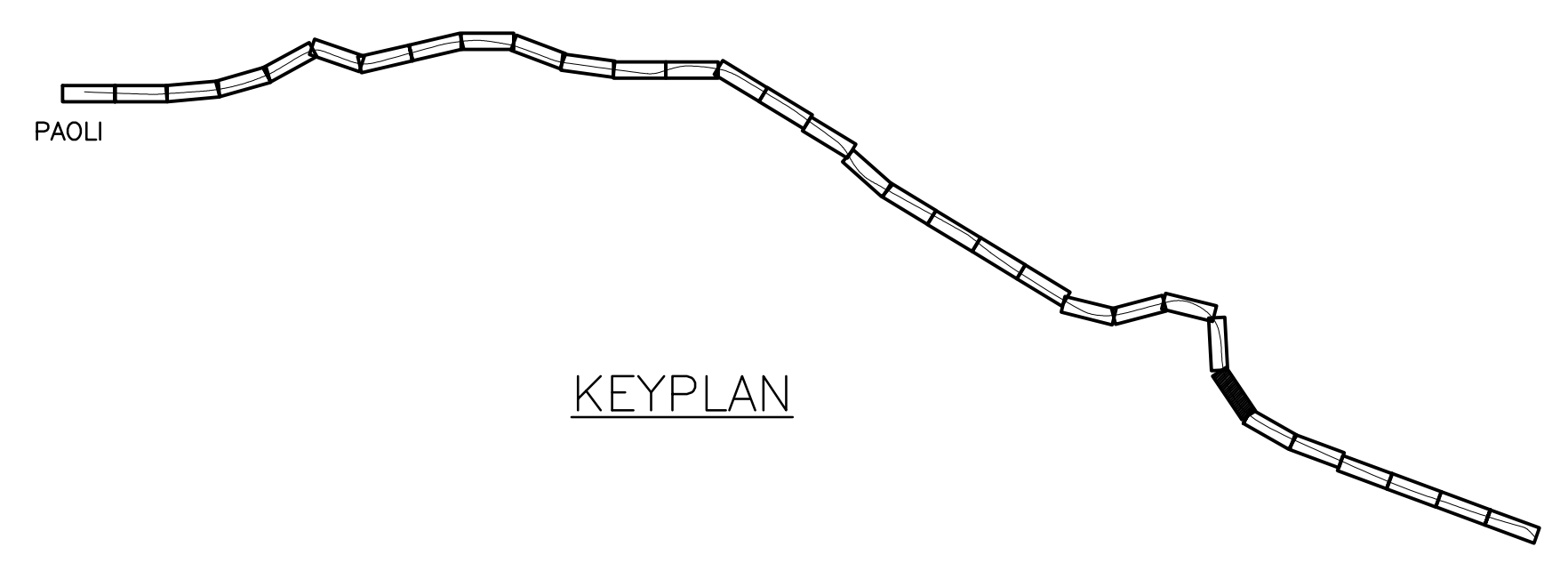
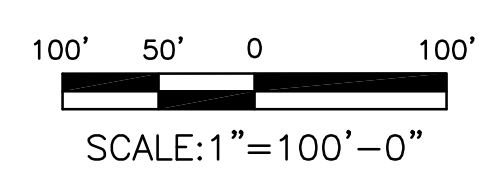
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ELECTRIFICATION
TREE PRUNING
STA. 340+70 TO 309+00**

Recommended: DP Drawn: WJC Checked: RSW Date: 03/17/16

File No.:	C-0224/ENG
Ref. No.:	2011-059
Sheet No.:	342 OF 347
C-0224	



TREE PRUNING SITE PLAN



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No	Revisions	Date	By



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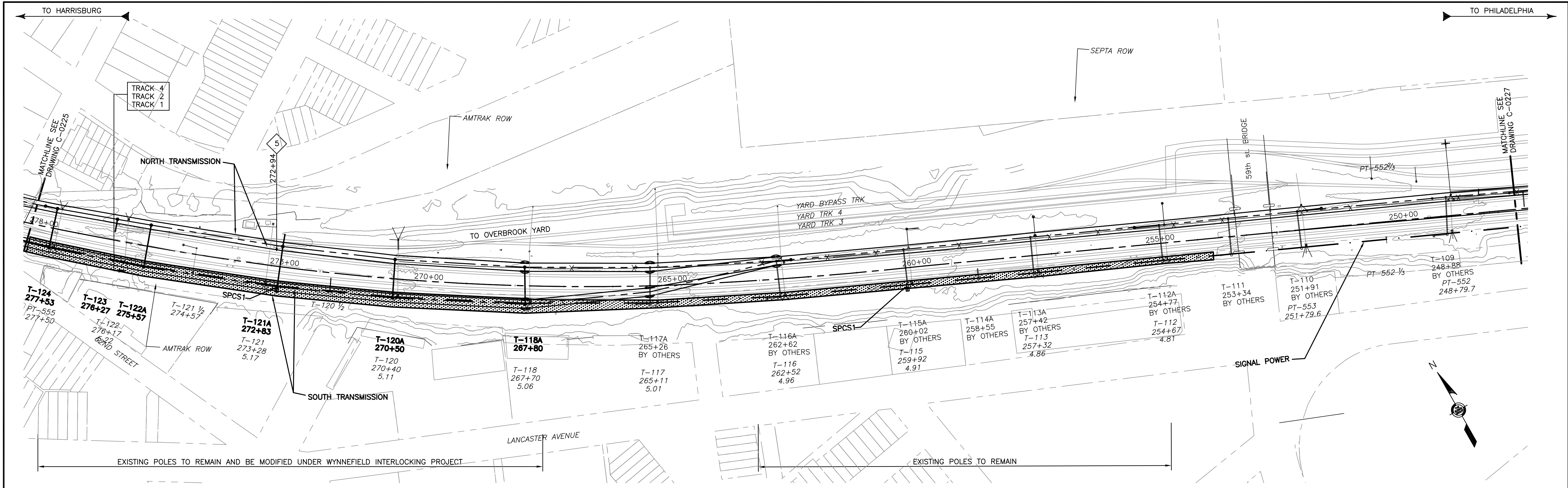
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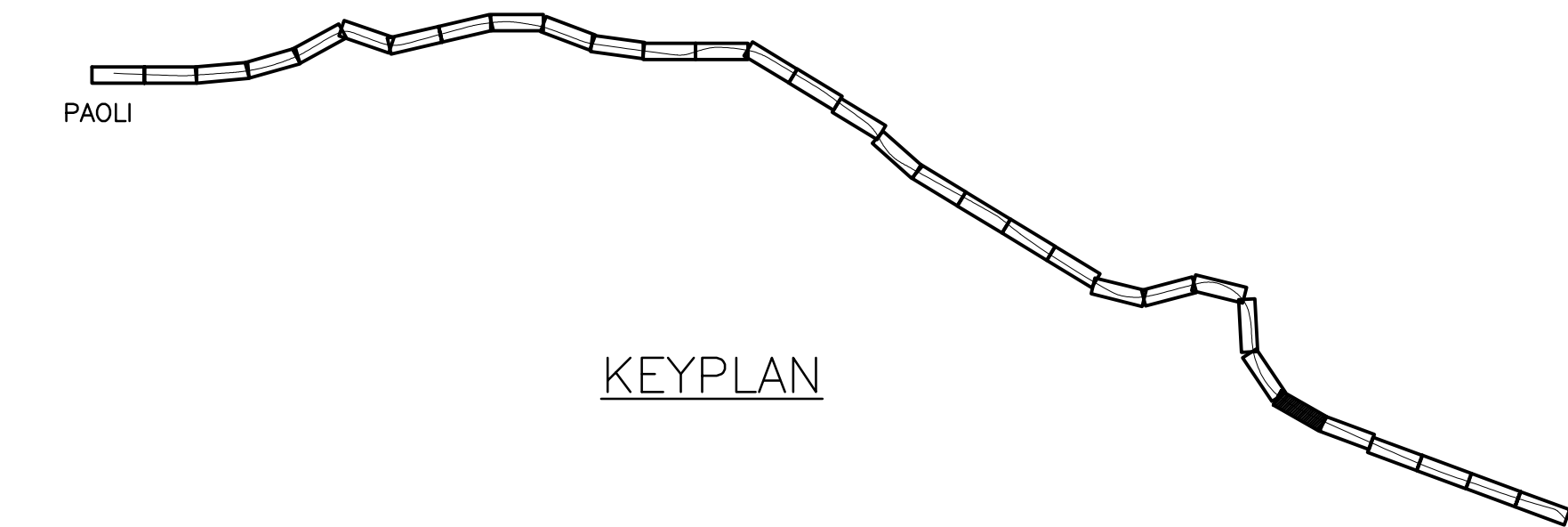
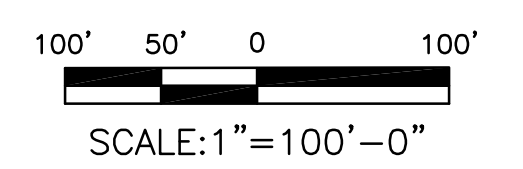
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Bryn Mawr to Zoo Transmission
ELECTRIFICATION
TREE PRUNING
STA. 309+00 TO 278+00
Recommended: DP Drawn: WJC Checked: RSW Date: 03/17/16

File No.:	C-0225.DWG
Ref. No.:	2011-059
Sheet No.:	343 OF 347
C-0225	

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TREE PRUNING SITE PLAN



KEYPLAN

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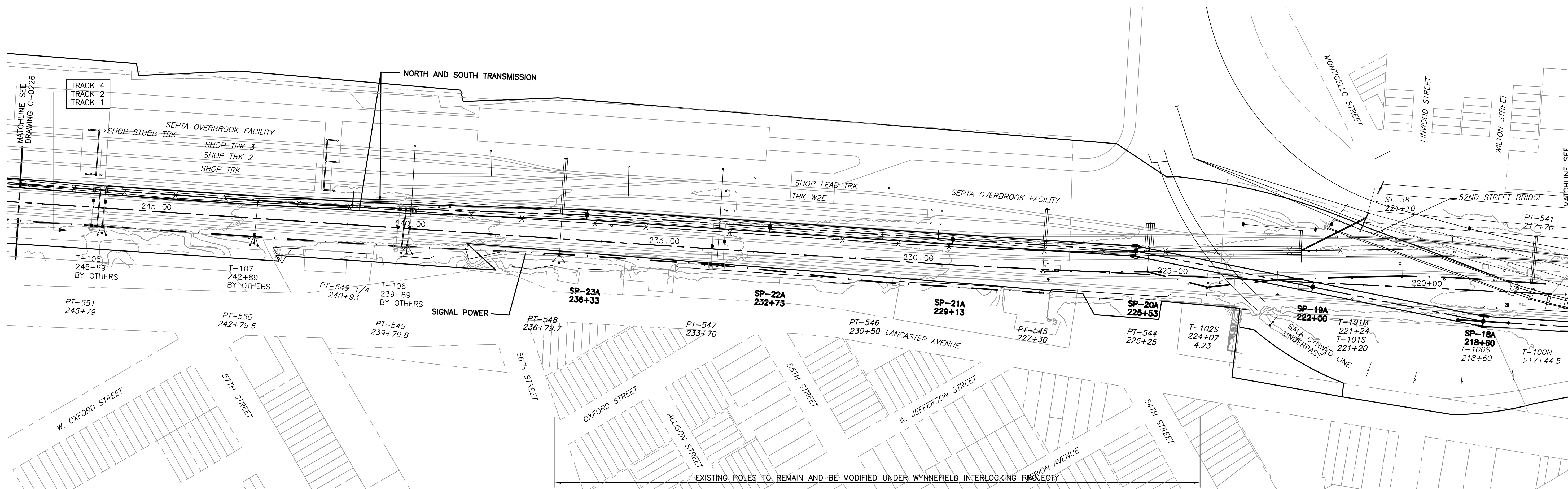


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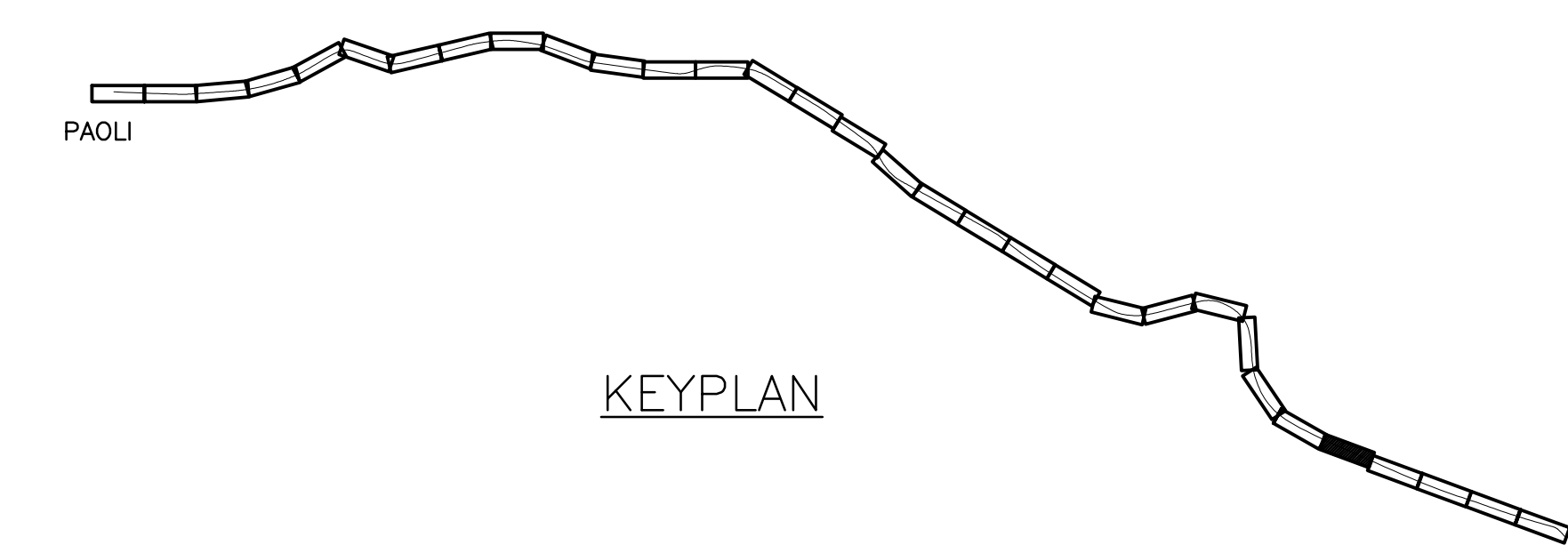
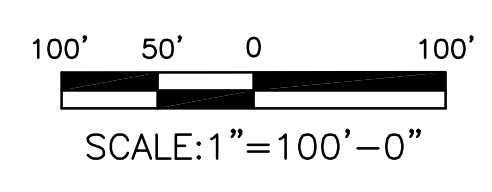
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ELECTRIFICATION
TREE PRUNING
STA. 278+00 TO 247+50**

Recommended: DP Drawn: WJC Checked: RSW Date: 03/17/16

File No.:	C-0226.DWG
Ref. No.:	2011-059
Sheet No.:	344 OF 347
C-0226	



TREE PRUNING SITE PLAN



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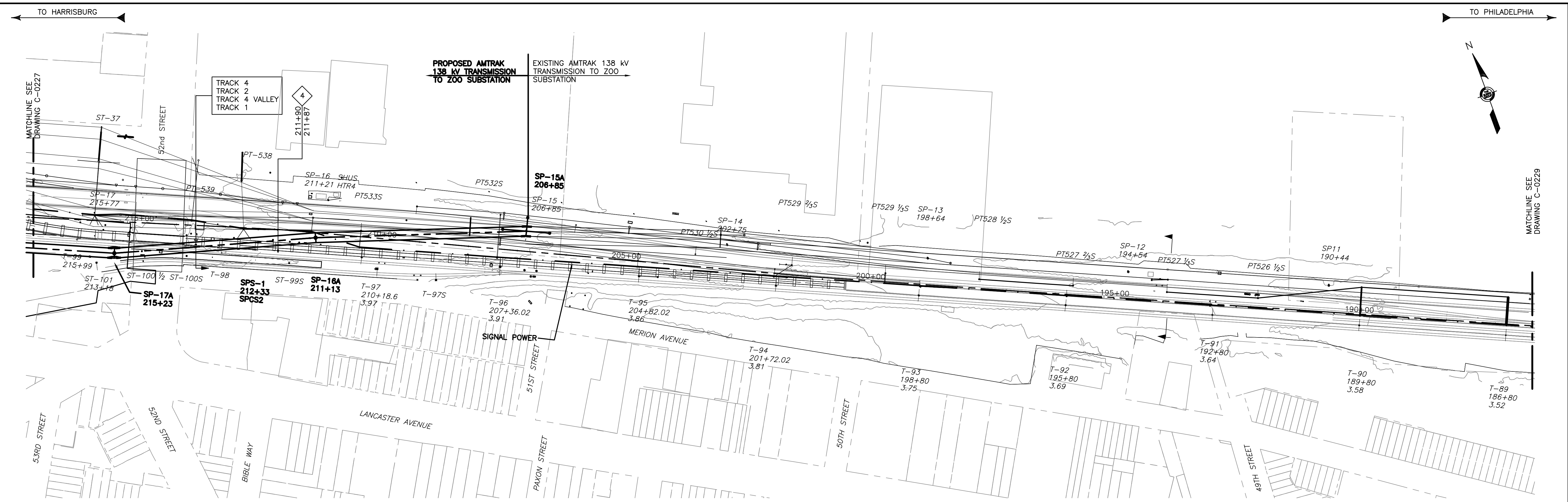
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ELECTRIFICATION
TREE PRUNING
STA. 247+50 TO 217+00**

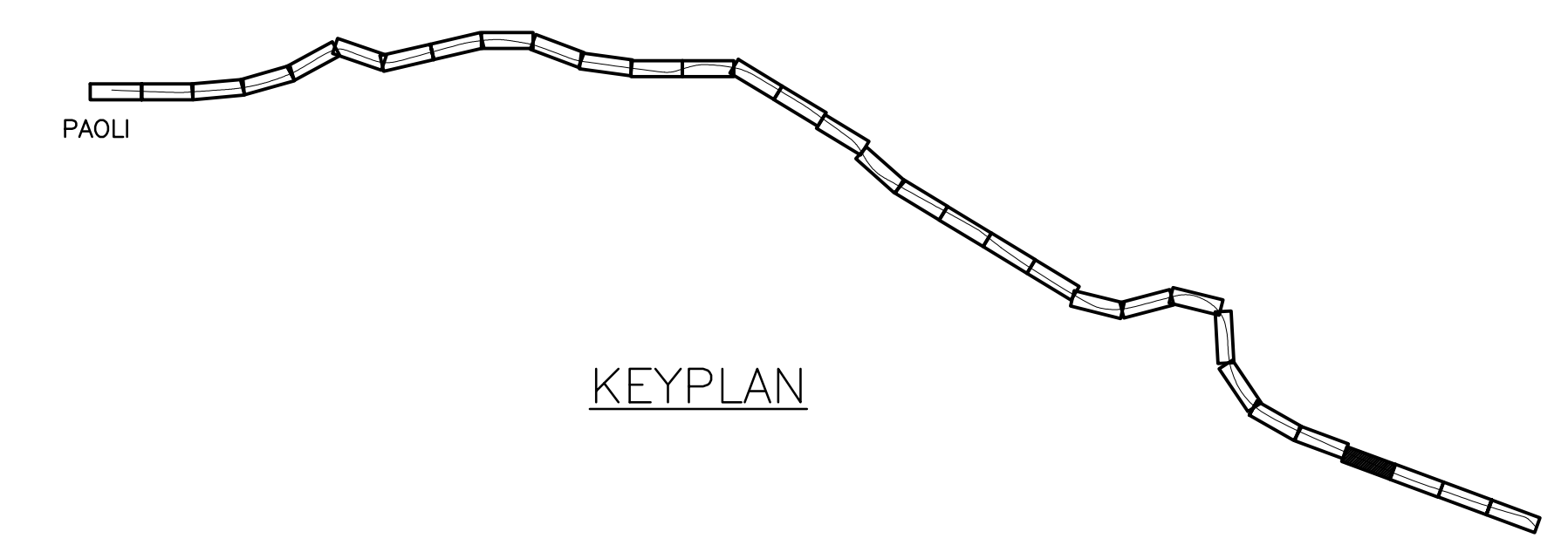
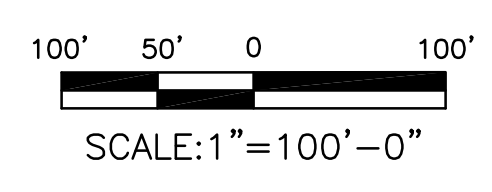
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File No.:	C-0227/16
Ref. No.:	2011-059
Sheet No.:	345 OF 347
C-0227	

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TREE PRUNING SITE PLAN



KEYPLAN

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No	Revisions	Date	By



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Approved	Date



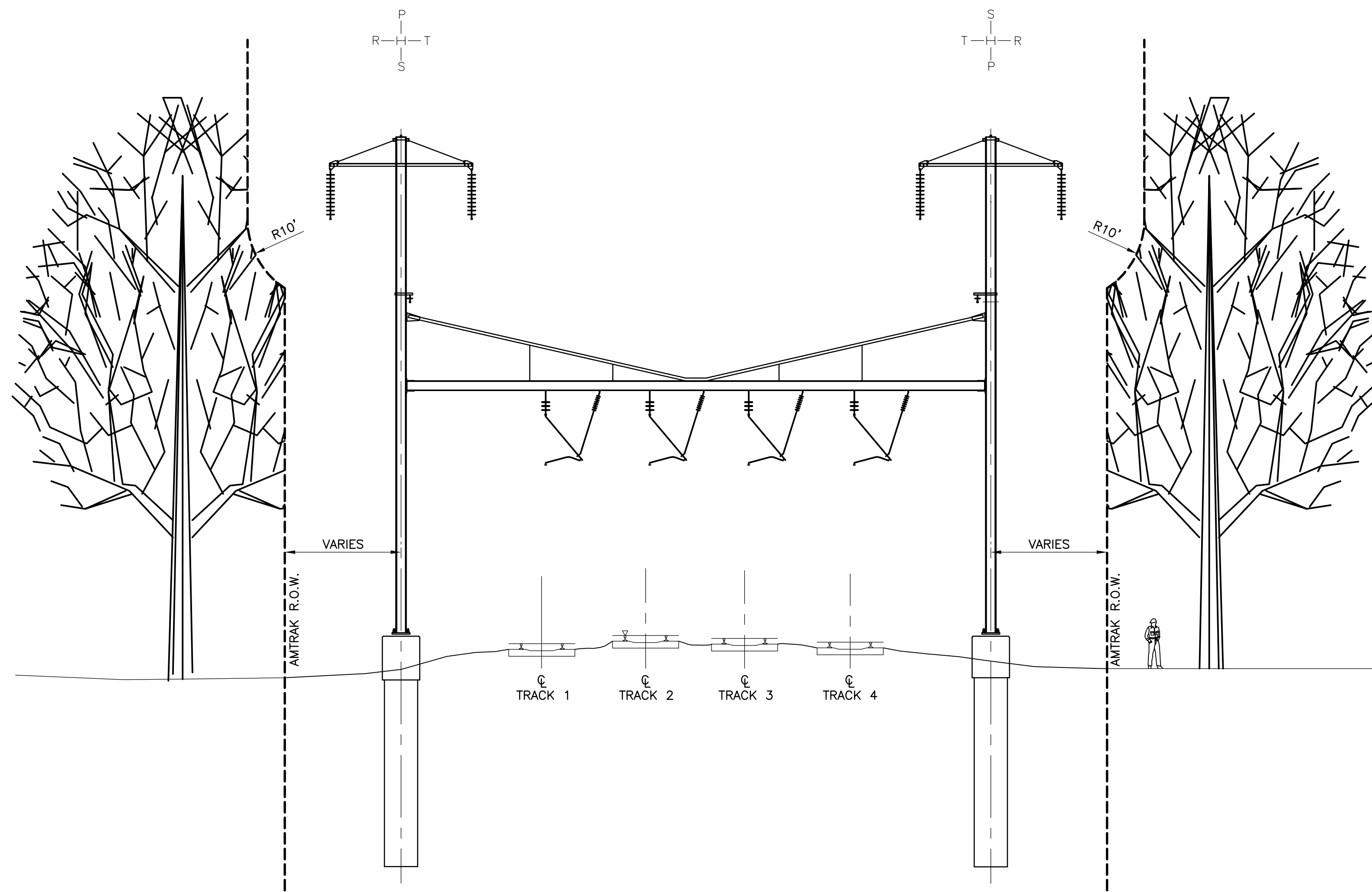
100% DESIGN SUBMISSION

Bryn Mawr to Zoo Transmission
ELECTRIFICATION
TREE PRUNING
STA. 217+00 TO 186+00

Recommended: DP Drawn: WJC Checked: RSW Date: 03/17/16

File No.:	C-0228.DWG
Ref. No.:	2011-059
Sheet No.:	346 OF 347
C-0228	

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TYPICAL TREE PRUNING DETAIL
LOOKING TOWARDS HARRISBURG

0 10 20
SCALE: 1"=10'-0"

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Approved	Date

Burns **Baker**
IN ASSOCIATION WITH
AECOM

BURNS ENGINEERING, INC. | 215 979-7700
TWO COMMERCE SQUARE, 2001 MARKET ST, SUITE 600
PHILADELPHIA, PA 19103

BRYN MAWR TO ZOO TRANSMISSION
ELECTRIFICATION
TREE PRUNING
TYPICAL TREE PRUNING DETAIL

Recommended: DP Drawn: WJC Checked: MJM Date: 03/17/16

File No.:	C-0232.DWG
Ref. No.:	2011-059
Sheet No.:	347 OF 347
C-0232	

**ATTACHMENT 2:
UNANTICIPATED DISCOVERIES PLAN**

UNANTICIPATED DISCOVERIES PLAN

AMTRAK'S PHILADELPHIA ZOO SUBSTATION TO PAOLI SUBSTATION ON THE PENNSYLVANIA MAIN LINE RAILROAD ELECTRIFICATION TRANSMISSION LINE PROJECT

Chester, Delaware, Montgomery, and Philadelphia Counties,
Pennsylvania

National Railroad Passenger Corporation (Amtrak)
60 Massachusetts Avenue, N.E.
Washington, D.C. 20002

PART 1 - GENERAL

This document is prepared pursuant to the requirements of a Memorandum of Agreement (MOA) among the Federal Railroad Administration (FRA), the Pennsylvania State Historic Preservation Office (PA SHPO), the National Railroad Passenger Corporation (Amtrak), the Southeastern Pennsylvania Transportation Authority (SEPTA), and the Railroad Museum of Pennsylvania (RRMPA), and dated **April XX, 2017**.

This document provides the procedure to be followed in the event human or non-human archaeological resources are encountered during construction of the project.

This document pertains to the work of the Contractor, the Contractor's subcontractors, the Contractor's material suppliers, the Contractor's equipment suppliers, and all individuals and companies associated with the Contractor's performance of the project (hereafter collectively referred to as Contractor). Contacts for Amtrak, the Contractor, and other appropriate parties will be provided prior to construction.

This document shall remain in force until the formal completion of the project, or the termination of the MOA, whichever comes first.

PART 2 – IDENTIFICATION OF RESOURCES

The following are considered examples of potential archaeological resources to be included in this Unanticipated Discoveries Plan (Plan):

- Human skeletal remains, including individual bones, groups of bones, bone fragments, dental fragments, etc.
- Articles of clothing, including cloth, leather, shoe leather, buckles, buttons, etc.
- Personal items, including rings, jewelry, beads, toys, coins, gun parts, funerary items, etc.
- Household and kitchen items, including intact or broken pieces of ceramics, glass and metal containers, cutlery, butchered bones and oyster shells, tobacco pipe remnants, etc.

- Architectural items, including window glass, nails, bricks, shaped building stones, etc.
- Possible prehistoric objects, including chipped stone tools (i.e., projectile points, drills, etc.), ceramics, groundstone, lithic debitage, animal bone, personal adornment items, etc.
- Areas of darkened soil that suggest possible cultural features, such as firepits, garbage pits, privies, foundations, postholes, etc.
- Unusual objects not identified herein that suggest human occupation.

It is possible any combination of these resources may be found during earthwork operations at locations where drilling occurs for pole footings, temporary fences, gates, signs and other appurtenances, and at locations where soil is disturbed, removed, relocated, or displaced along the right-of-way, such as at access points, staging areas, and the Bryn Mawr Substation construction location. The Contractor's supervisory personnel present during hours of construction should be provided with minimal training in the identification of archaeological resources.

PART 3 – PROCEDURE FOR IDENTIFYING UNANTICIPATED DISCOVERIES

1. If one or more of the potential archaeological resources (listed above) are encountered by the Contractor during earthwork operation, stop work in the vicinity of the resource immediately and notify the Amtrak Project Manager (to be named prior to construction). Do not resume work in the vicinity of the resource until specifically directed by the Amtrak Project Manager. The Contractor will ensure that any discoveries are protected from destruction, looting, and vandalism during stop-work episodes while a determination is made as to the importance of a find.
2. The Amtrak Project Manager will notify the Project's Environmental Consultant (including a Secretary of the Interior [SOI]-qualified archaeologist and the Project Manager), who, in consultation with the Amtrak Project Manager, will determine if it is necessary to conduct a field visit to inspect the encountered potential archaeological resource.
 - a. Should the Amtrak Project Manager and the Project's Environmental Consultant conclude it is not necessary to investigate the encountered potential archaeological resource any further, the Amtrak Project Manager will authorize work in the area to resume.
 - b. Should the Amtrak Project Manager and the Project's Environmental Consultant conclude it is necessary to further investigate the encountered potential archaeological resource, the SOI-qualified archaeologist with the Project's Environmental Consultant will conduct a field visit within 24 hours.
3. Should the field visit indicate the encountered materials are not potential archaeological resources, the Project's SOI-qualified archaeologist will notify the Amtrak Project Manager, who will authorize work in the area to resume.

4. Should the field visit confirm the encountered materials are potential archaeological resources, the Project's SOI-qualified archaeologist will inform the Amtrak Project Manager and then notify:
- the PA SHPO (Douglas McLearn, Chief, Archaeology and Protection, Bureau for Historic Preservation at 717.772.0925), and
 - FRA (Laura Shick, Federal Preservation Officer at 202.366.0340).
- a. FRA will determine if it is appropriate to notify Native American groups to invite consultation and review of any discovered potential pre-contact human remains. Per PA SHPO guidelines for the treatment of human remains, work will stop and the coroner and SHPO will be notified.
- b. FRA, in consultation with Native American tribe(s), will determine the appropriate treatment of the discovered potential pre-contact human remains and associated funerary objects. The Project's SOI-qualified archaeologist will notify the PA SHPO and Amtrak's Project Manager of the treatment.
- The treatment of all encountered pre-contact human remains and associated funerary objects will be subject to the regulations promulgated in the Native American Graves Protection and Repatriation Act (NAGPRA), 25 U.S.C. 3001 *et.seq.*
 - The treatment of all encountered archaeological resources will be subject to the regulations stipulated in the *Guidelines for Archaeological Investigations* by the PA SHPO.
- c. Amtrak's Project Manager will notify the Contractor of any required modifications to the project timetable or aspects of the contract.
- d. FRA will notify the Project's Environmental Consultant when work in the area of the potential archaeological resource may resume. The Project's Environmental Consultant will notify the Amtrak Project Manager, who in turn will notify the Contractor.

- End of Document -

PA State Historic Preservation Office:

Concurrence on Section 4(f)

3/7/17



Pennsylvania State Historic Preservation Office

PENNSYLVANIA HISTORICAL AND MUSEUM COMMISSION

7 March 2017

Laura Schick
Federal Preservation Officer
Environmental & Corridor Planning Division
Office of Railroad Policy and Development
USDOT Federal Railroad Administration
1200 New Jersey Avenue, SE
Washington, DC 20590

Re: 2012-0005-042-AA
Zoo to Paoli Electrification Transmission Project
Chester, Delaware, Montgomery, and Philadelphia
Counties

Dear Ms. Schick:

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

The PA SHPO, as an agency with jurisdiction over Section 4(f) properties, agrees with the *de minimis* impact determination for the following five (5) National Register-eligible or -listed properties, as outlined in your letter of December 19, 2016:

- Merion Station (Key # 097341)
- Haverford Station (Key # 079593)
- Villanova Station (Key # 827801)
- Wayne Station (Key # 106136)
- Strafford Station (Key # 079668)

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

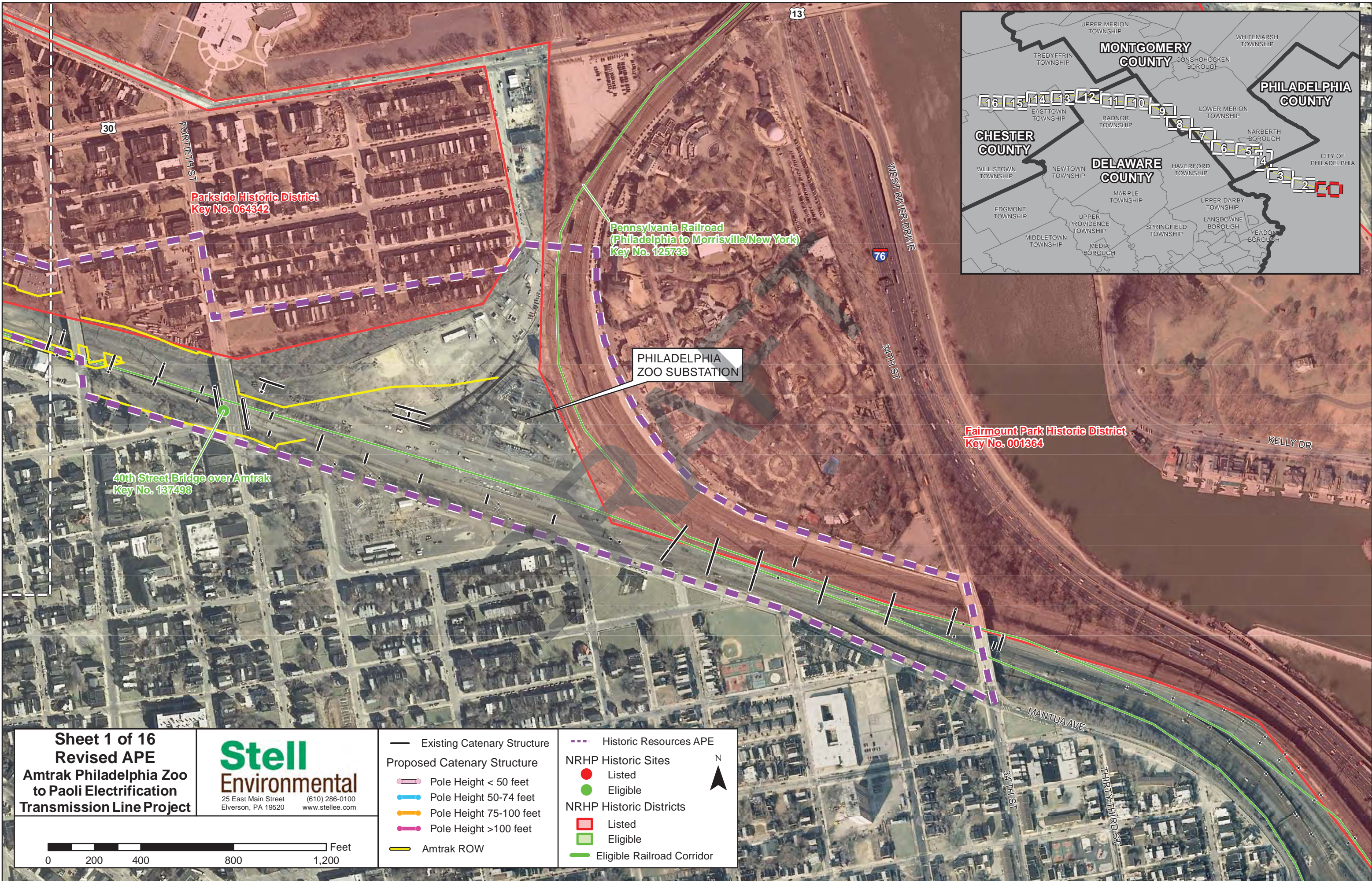
Sincerely,

Douglas C. McLearn, Chief
Division of Archaeology and Protection

cc: Brenda Reigle, PHMC Sites and Museums
Johnette Davies, AMTRAK

Catenary Height Aerial Maps

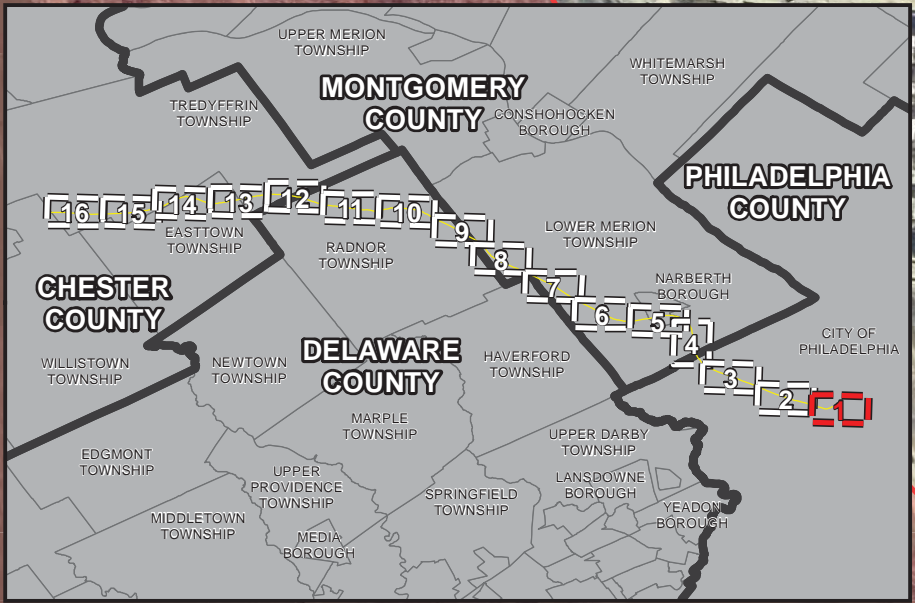
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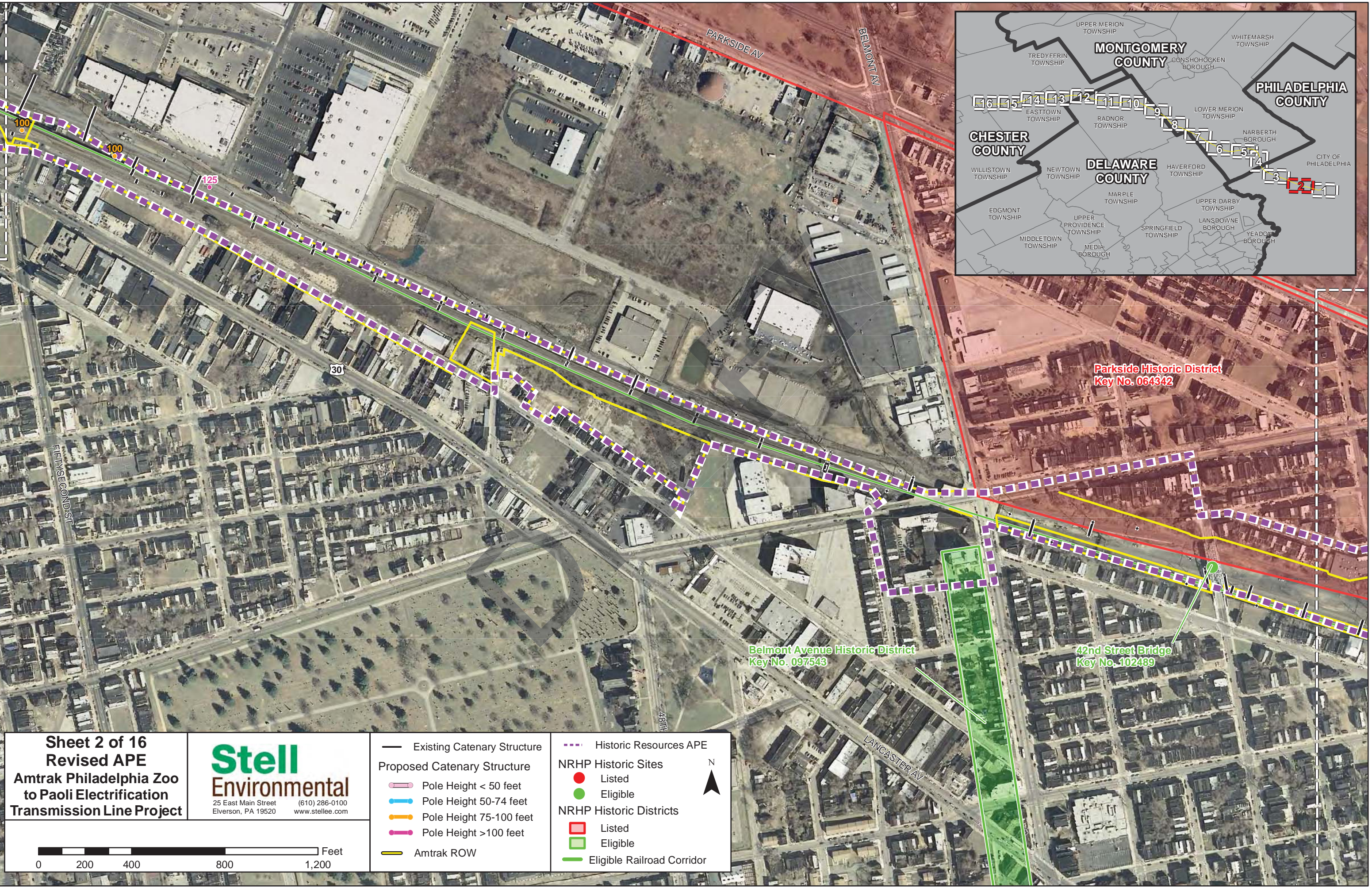
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Revised APE
Amtrak Philadelphia Zoo to Paoli Electrification
Transmission Line Project



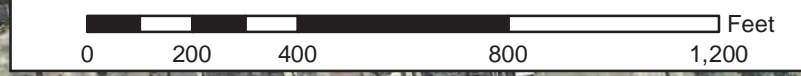
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| Proposed Catenary Structure | ● NRHP Historic Sites |
| ○ Pole Height < 50 feet | ● Listed |
| ○ Pole Height 50-74 feet | ● Eligible |
| ○ Pole Height 75-100 feet | NRHP Historic Districts |
| ○ Pole Height >100 feet | □ Listed |
| — Amtrak ROW | □ Eligible |
| | — Eligible Railroad Corridor |



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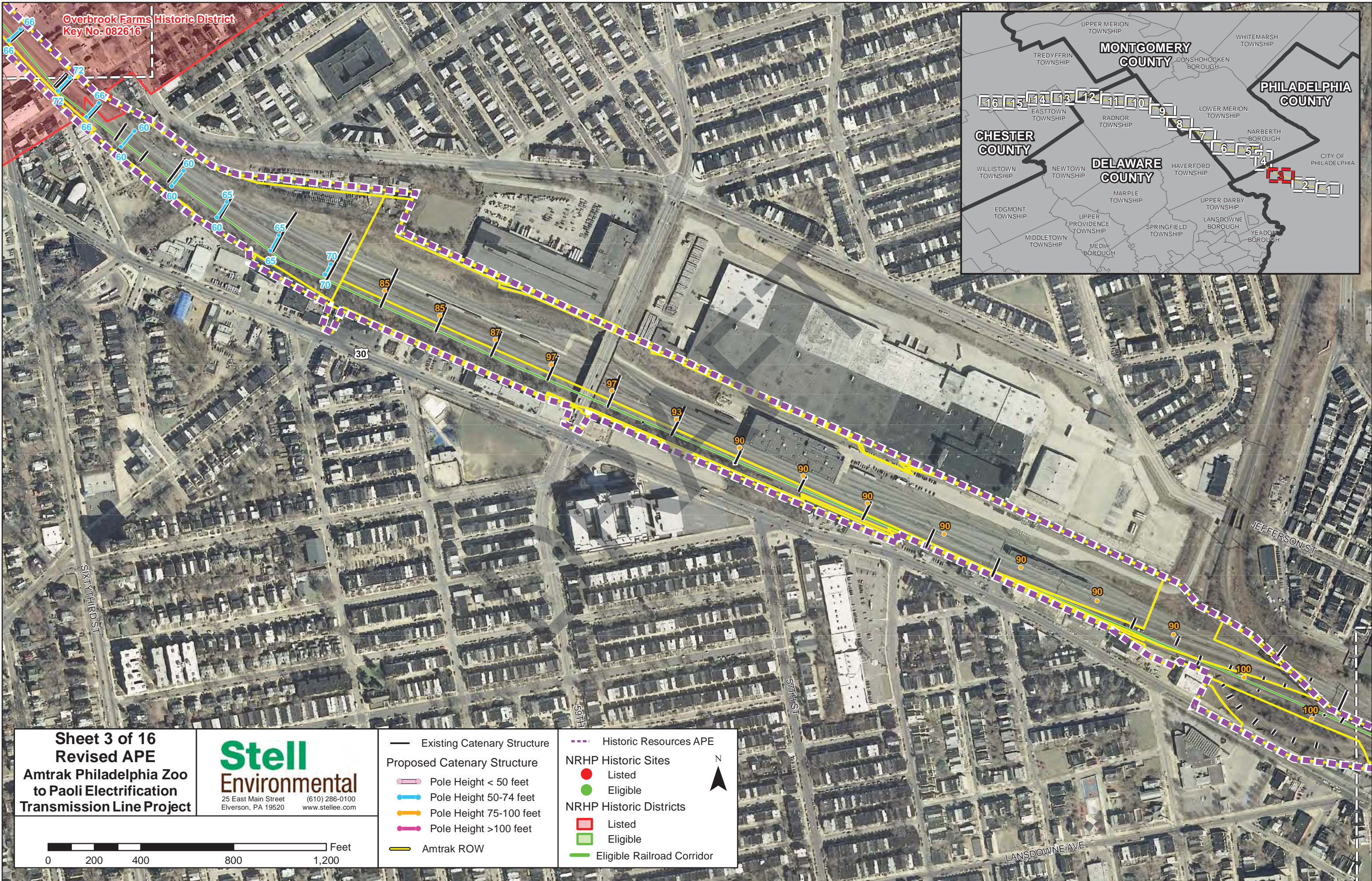
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Amtrak Philadelphia Zoo to Paoli Electrification Transmission Line Project



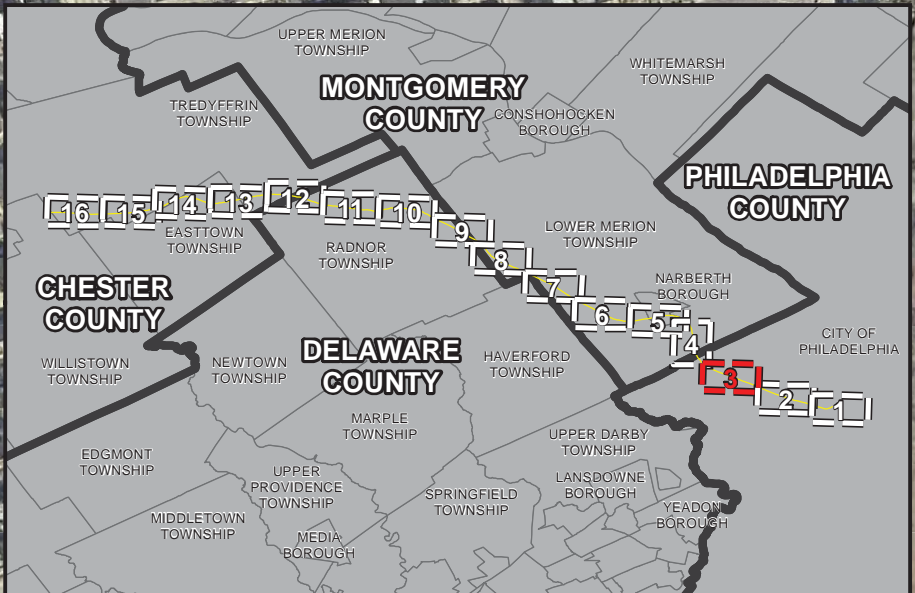
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| ● Pole Height 50-74 feet | ● Eligible |
| ● Pole Height 75-100 feet | NRHP Historic Districts |
| ● Pole Height >100 feet | ■ Listed |
| — Amtrak ROW | ■ Eligible |
| | — Eligible Railroad Corridor |



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Overbrook Farms Historic District
 Key No. 082616



Sheet 3 of 16
 Revised APE
 Amtrak Philadelphia Zoo
 to Paoli Electrification
 Transmission Line Project

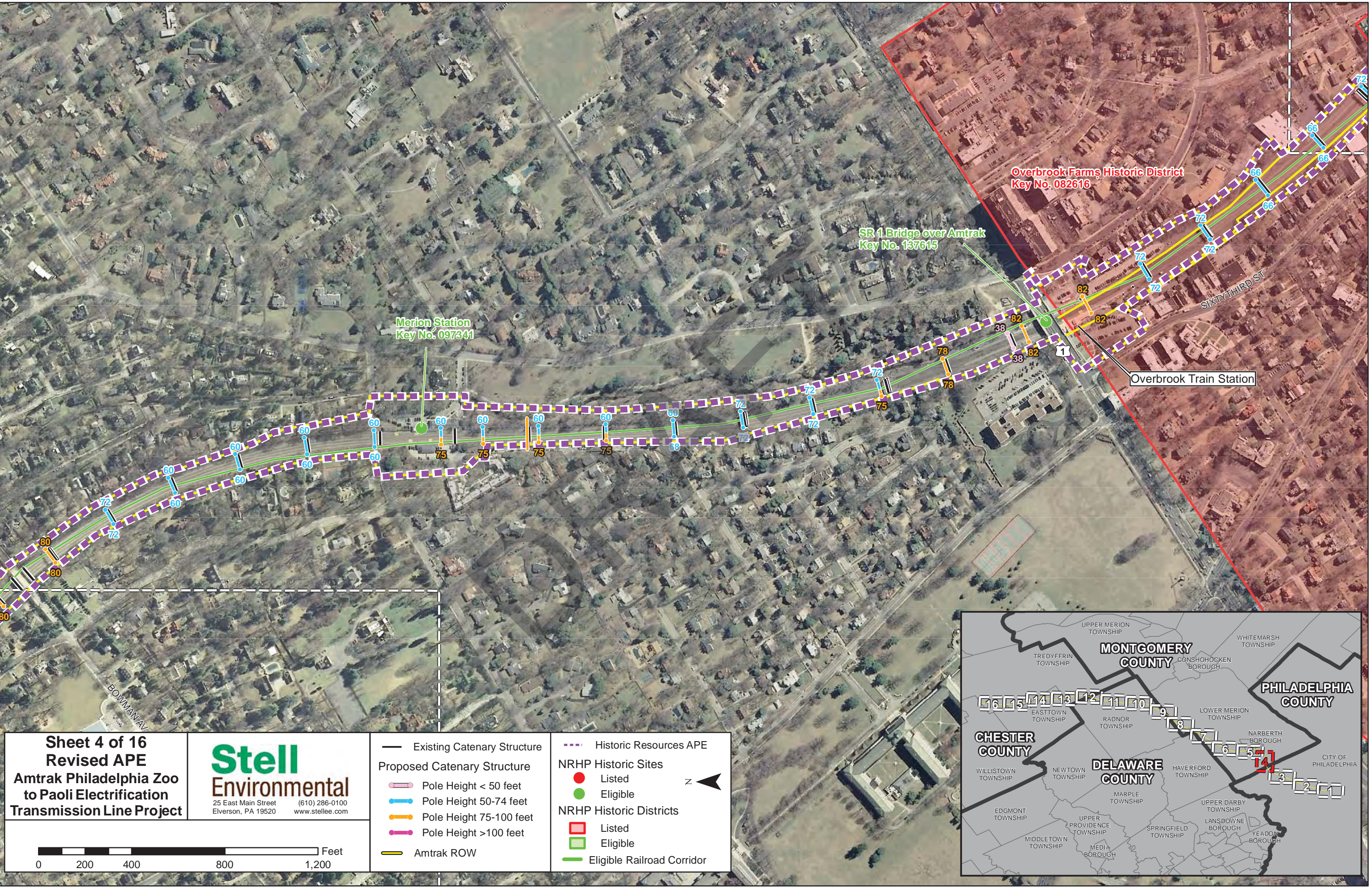
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| Proposed Catenary Structure | ● NRHP Historic Sites |
| ○ Pole Height < 50 feet | ● Listed |
| ○ Pole Height 50-74 feet | ● Eligible |
| ○ Pole Height 75-100 feet | NRHP Historic Districts |
| ○ Pole Height >100 feet | ■ Listed |
| — Amtrak ROW | ■ Eligible |
| | — Eligible Railroad Corridor |

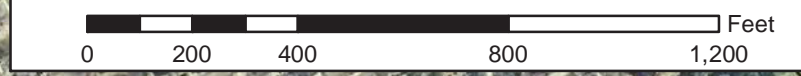


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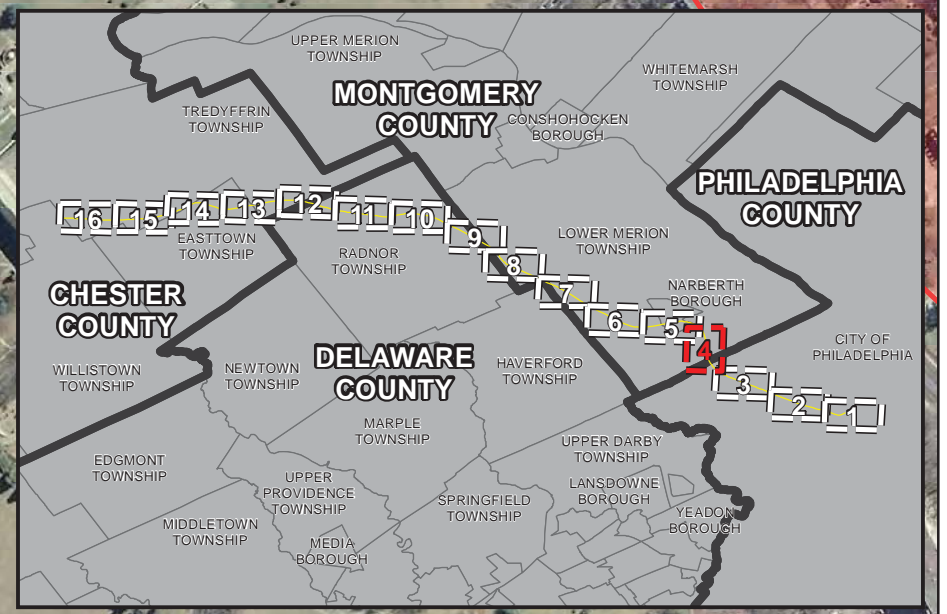


Sheet 4 of 16
Revised APE
Amtrak Philadelphia Zoo to Paoli Electrification Transmission Line Project

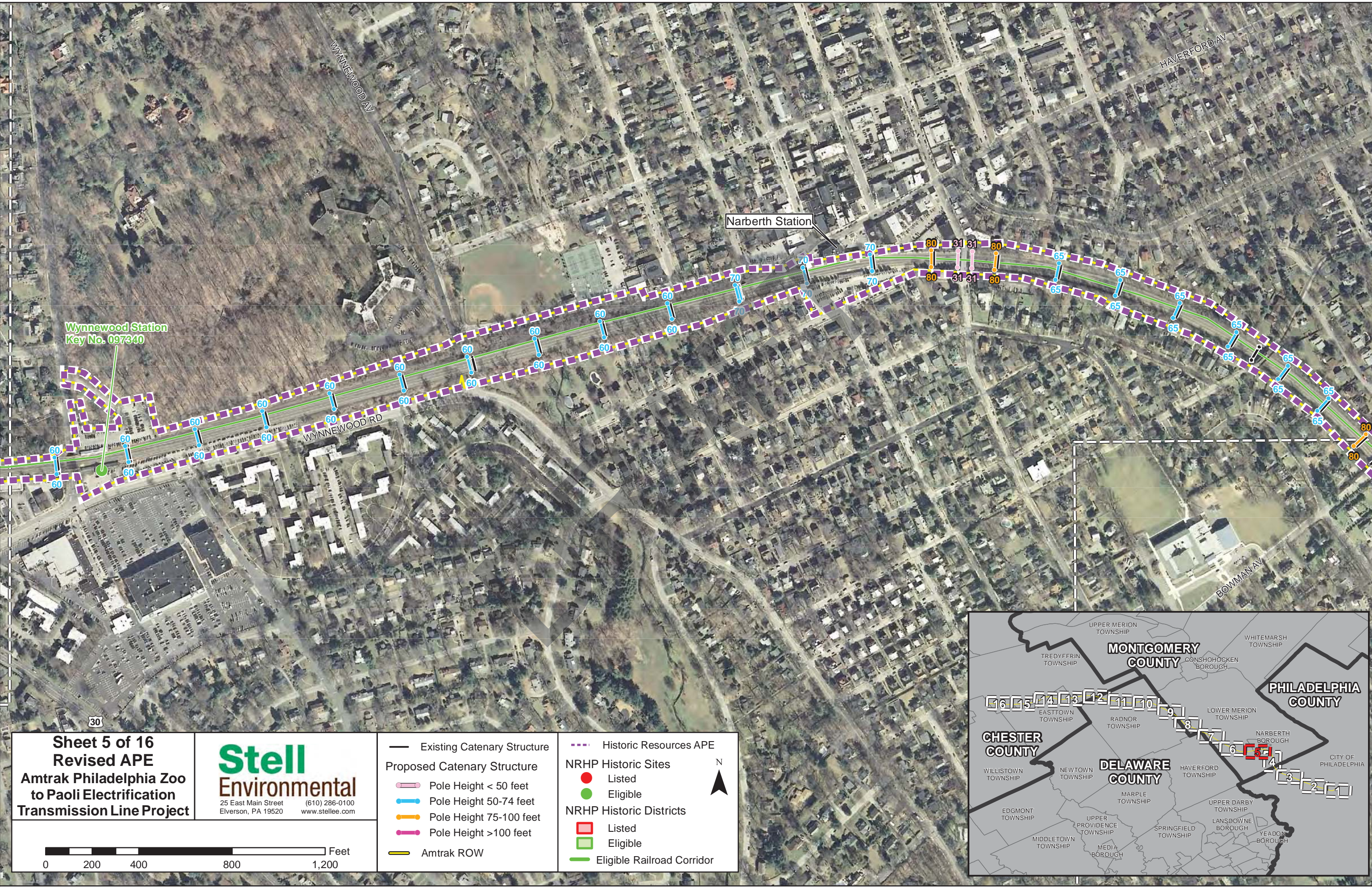
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- Existing Catenary Structure
- Proposed Catenary Structure
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 - Pole Height 50-74 feet
 - Pole Height 75-100 feet
 - Pole Height >100 feet
 - Amtrak ROW
- Historic Resources APE
- NRHP Historic Sites
 - Listed
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- NRHP Historic Districts
 - Listed
 - Eligible
- Eligible Railroad Corridor



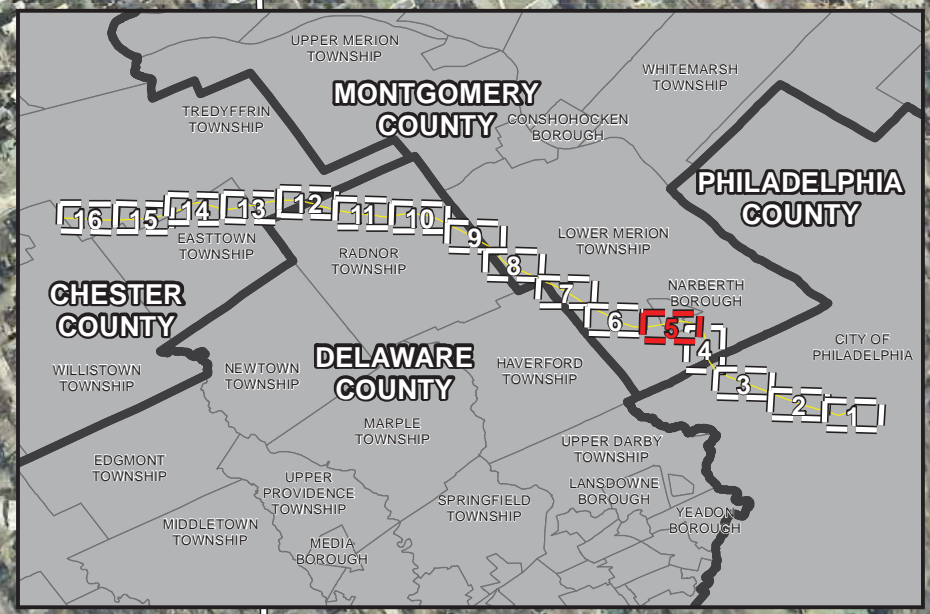
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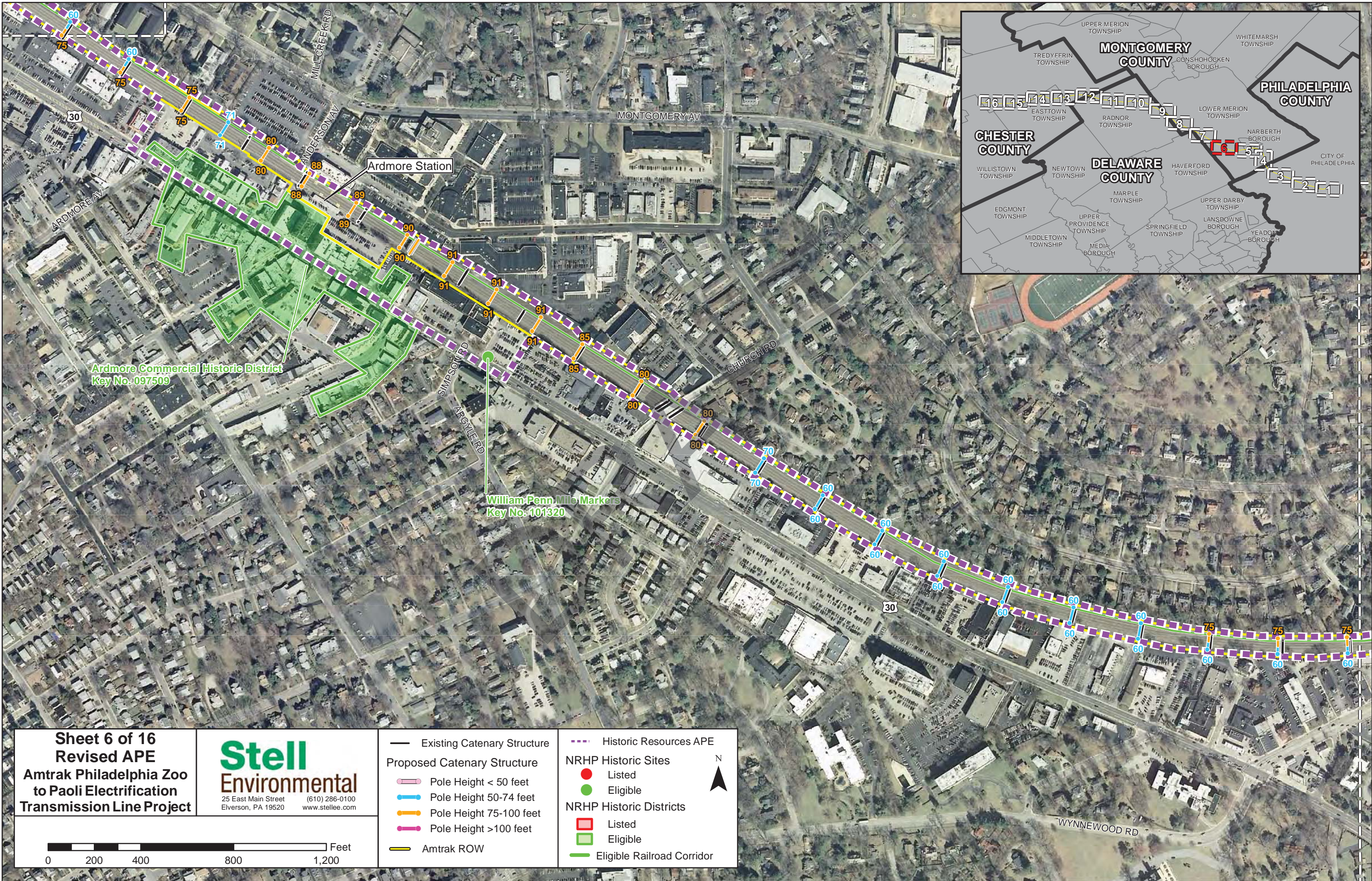


Sheet 5 of 16
Revised APE
Amtrak Philadelphia Zoo to Paoli Electrification Transmission Line Project

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| — Existing Catenary Structure | --- Historic Resources APE |
| Proposed Catenary Structure | NRHP Historic Sites |
| Pole Height < 50 feet | Listed |
| Pole Height 50-74 feet | Eligible |
| Pole Height 75-100 feet | NRHP Historic Districts |
| Pole Height >100 feet | Listed |
| Amtrak ROW | Eligible |
| | Eligible Railroad Corridor |





Sheet 6 of 16
Revised APE
Amtrak Philadelphia Zoo to Paoli Electrification Transmission Line Project



- Existing Catenary Structure
- Proposed Catenary Structure
 - Pole Height < 50 feet
 - Pole Height 50-74 feet
 - Pole Height 75-100 feet
 - Pole Height >100 feet
 - Amtrak ROW
- Historic Resources APE
- NRHP Historic Sites
 - Listed
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 - Eligible Railroad Corridor



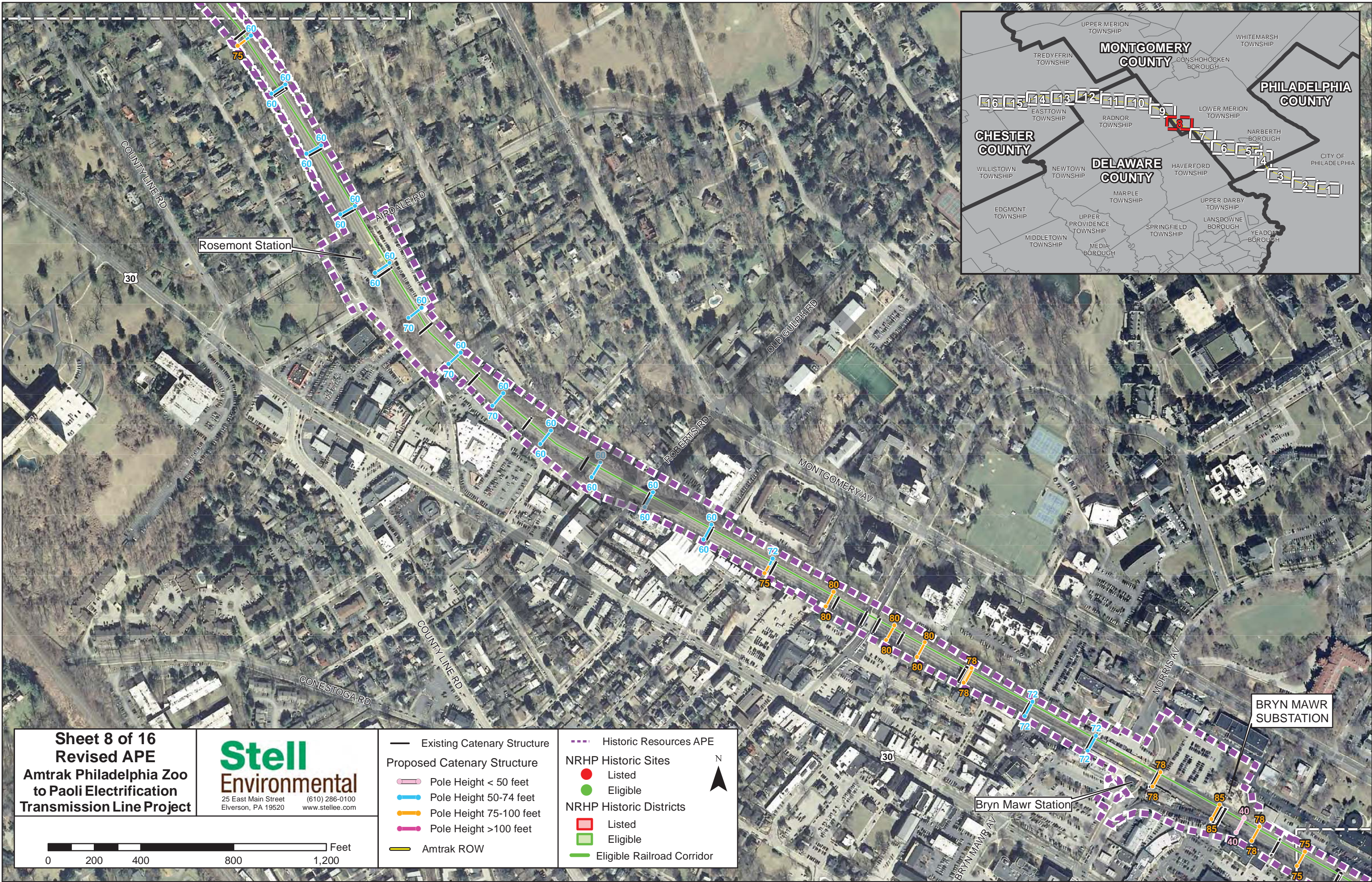


Sheet 7 of 16
Revised APE
Amtrak Philadelphia Zoo to Paoli Electrification Transmission Line Project



- Existing Catenary Structure
- Proposed Catenary Structure
 - Pole Height < 50 feet
 - Pole Height 50-74 feet
 - Pole Height 75-100 feet
 - Pole Height >100 feet
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 - Eligible
 - Eligible Railroad Corridor



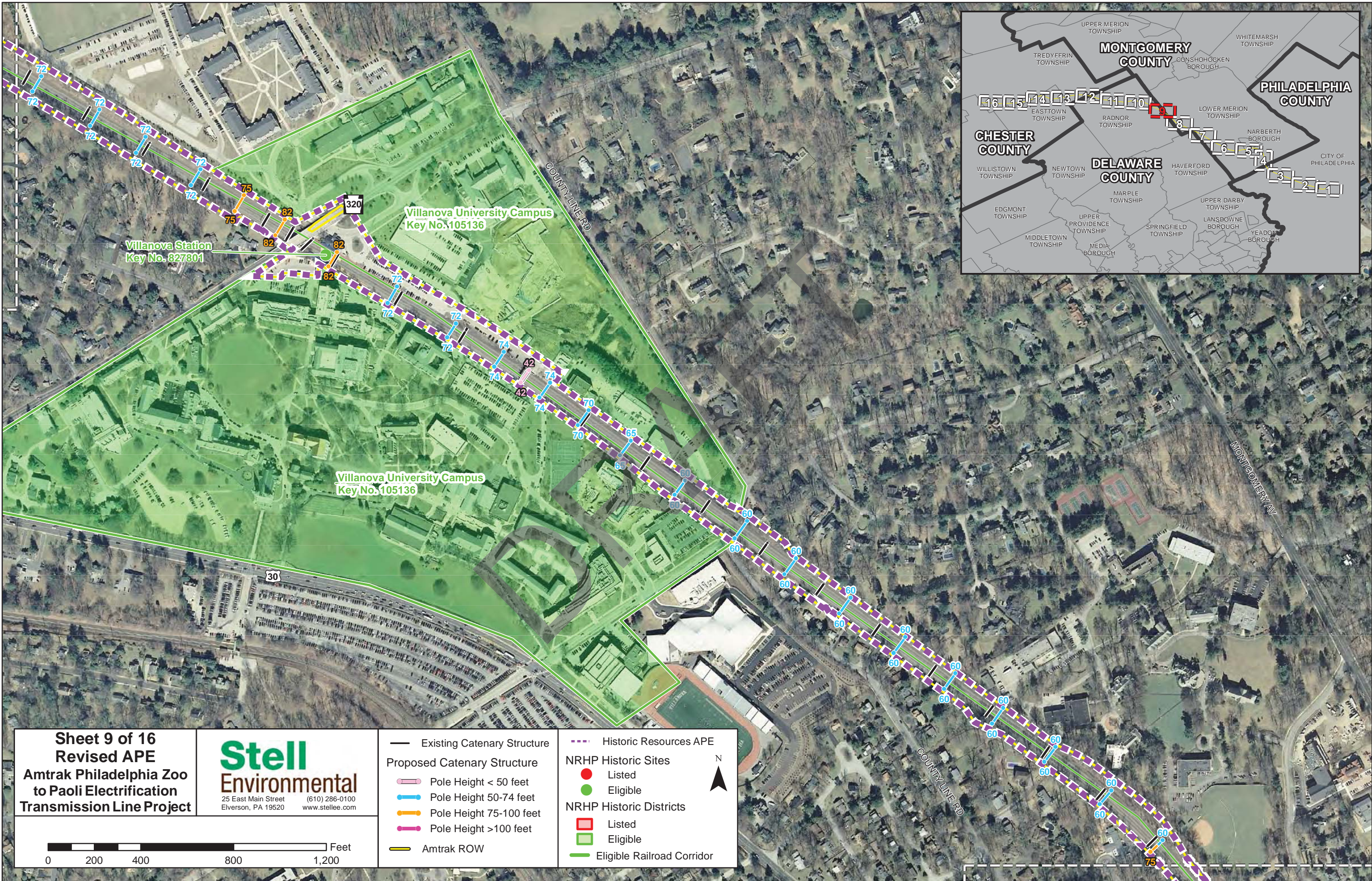


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Revised APE
Amtrak Philadelphia Zoo to Paoli Electrification Transmission Line Project



- Existing Catenary Structure
- Proposed Catenary Structure
 - Pole Height < 50 feet
 - Pole Height 50-74 feet
 - Pole Height 75-100 feet
 - Pole Height >100 feet
 - Amtrak ROW
- Historic Resources APE
- NRHP Historic Sites
 - Listed
 - Eligible
- NRHP Historic Districts
 - Listed
 - Eligible
 - Eligible Railroad Corridor





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Revised APE
Amtrak Philadelphia Zoo to Paoli Electrification Transmission Line Project

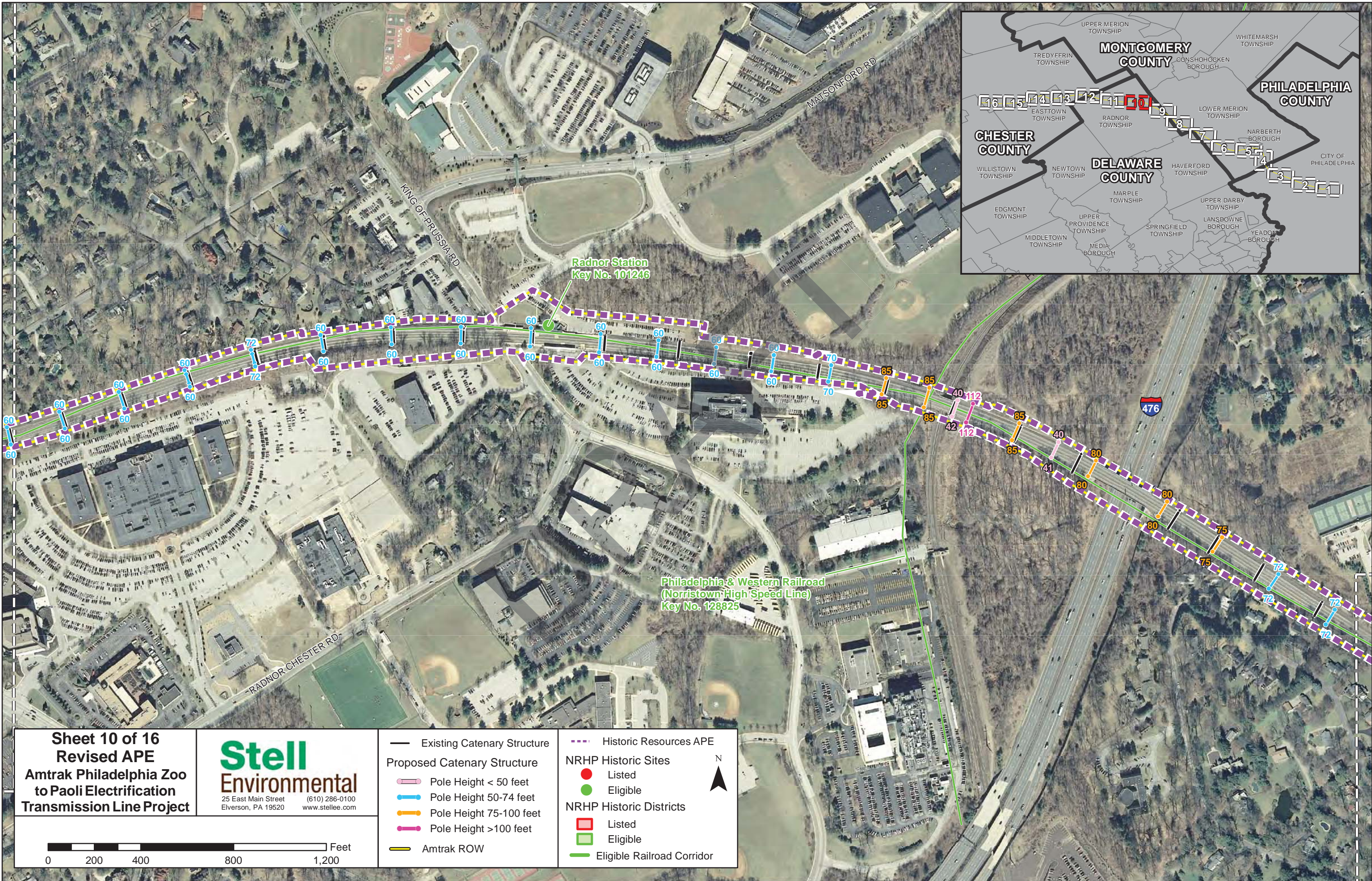
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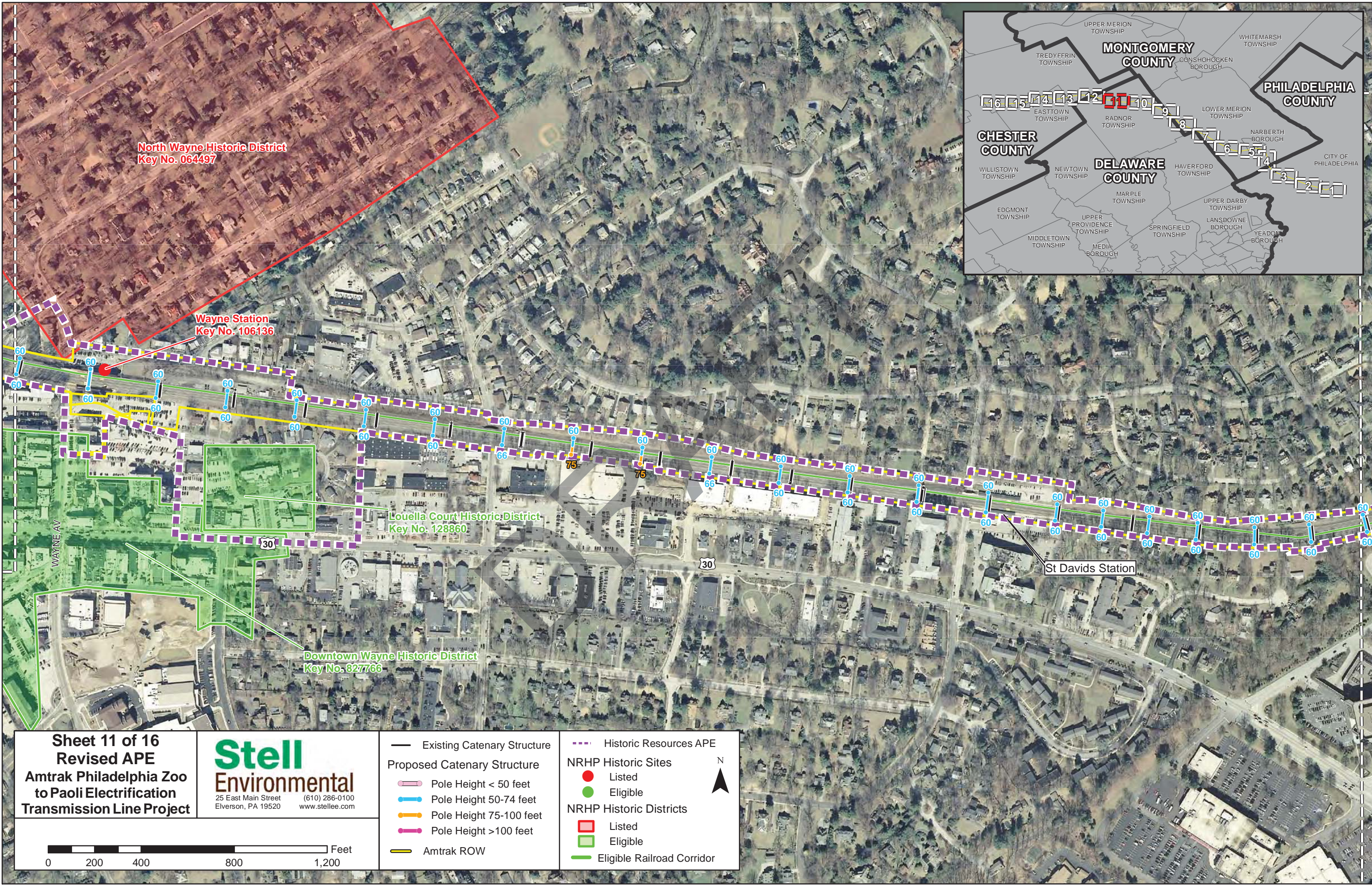
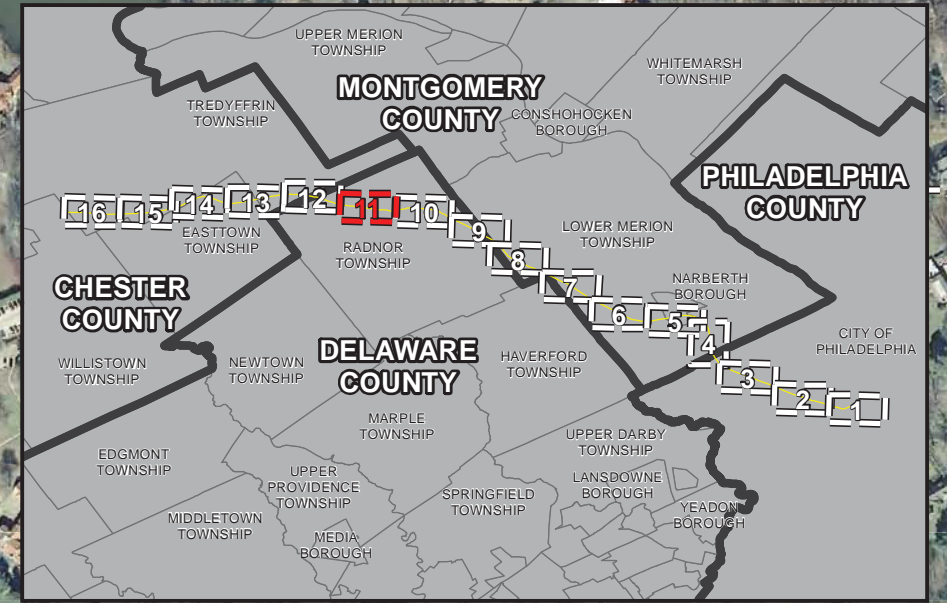
Sheet 10 of 16
Revised APE
Amtrak Philadelphia Zoo to Paoli Electrification
Transmission Line Project



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| — Existing Catenary Structure | --- Historic Resources APE |
| Proposed Catenary Structure | ● NRHP Historic Sites |
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| — Pole Height 50-74 feet | ● Eligible |
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| — Pole Height > 100 feet | ■ Listed |
| — Amtrak ROW | ■ Eligible |
| | — Eligible Railroad Corridor |



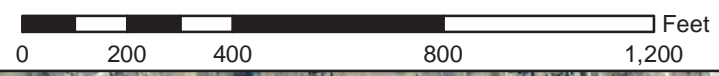
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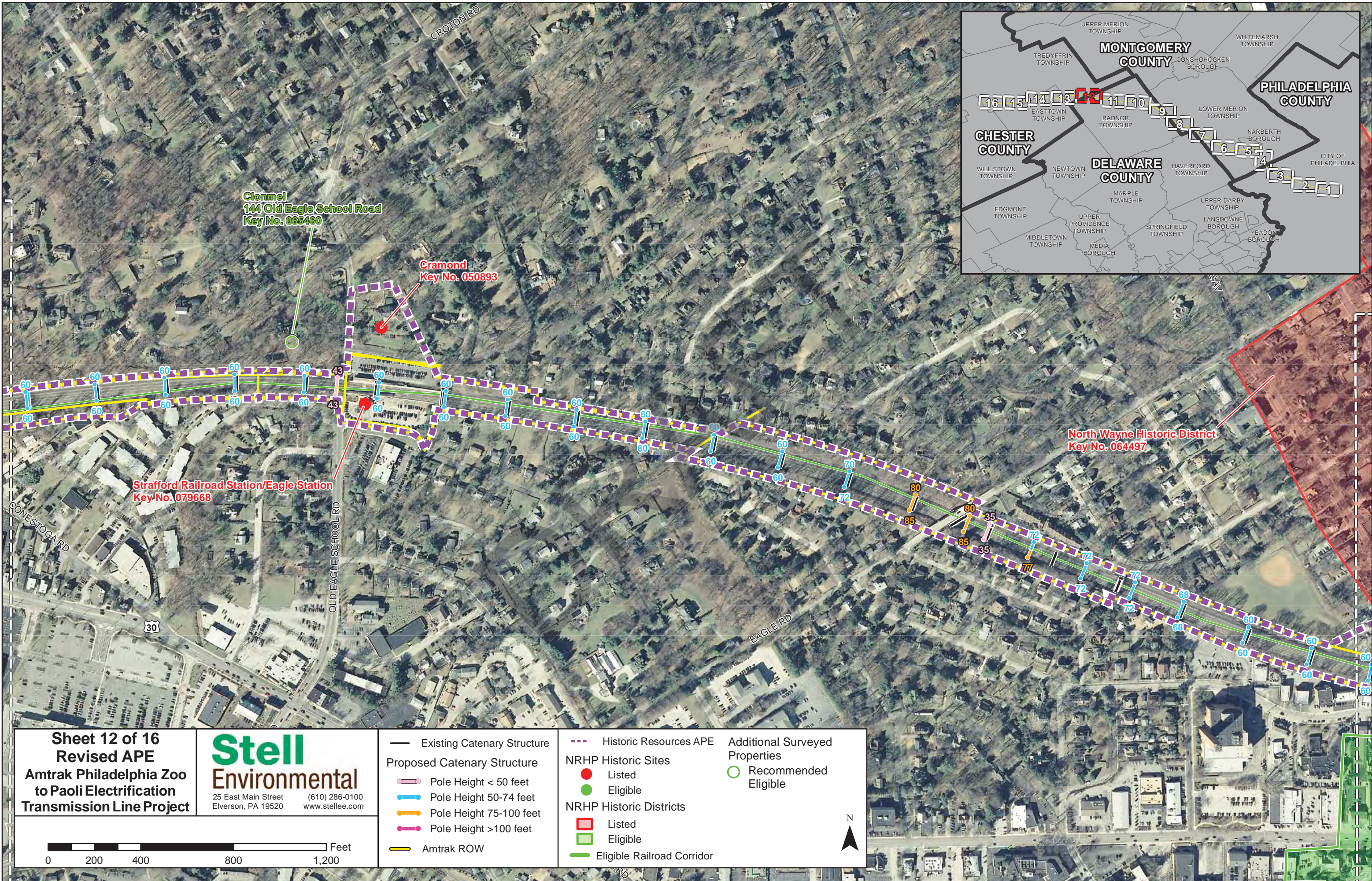
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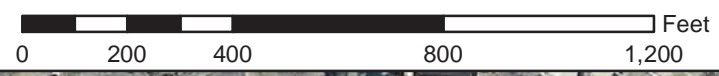


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Revised APE
Amtrak Philadelphia Zoo to Paoli Electrification Transmission Line Project

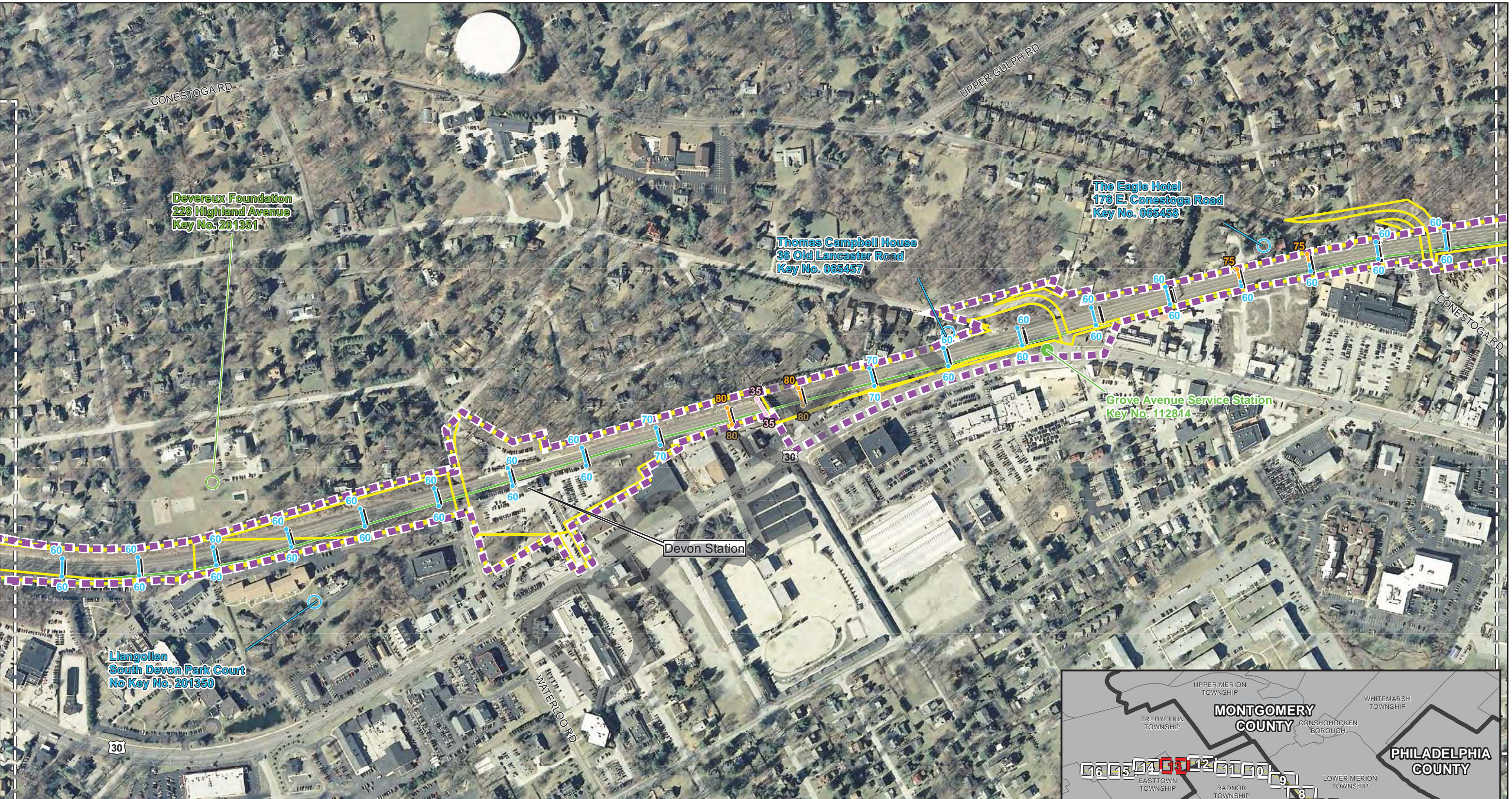
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- NRHP Historic Districts
 - Listed
 - Eligible
- Additional Surveyed Properties
 - Recommended Eligible
- Eligible Railroad Corridor



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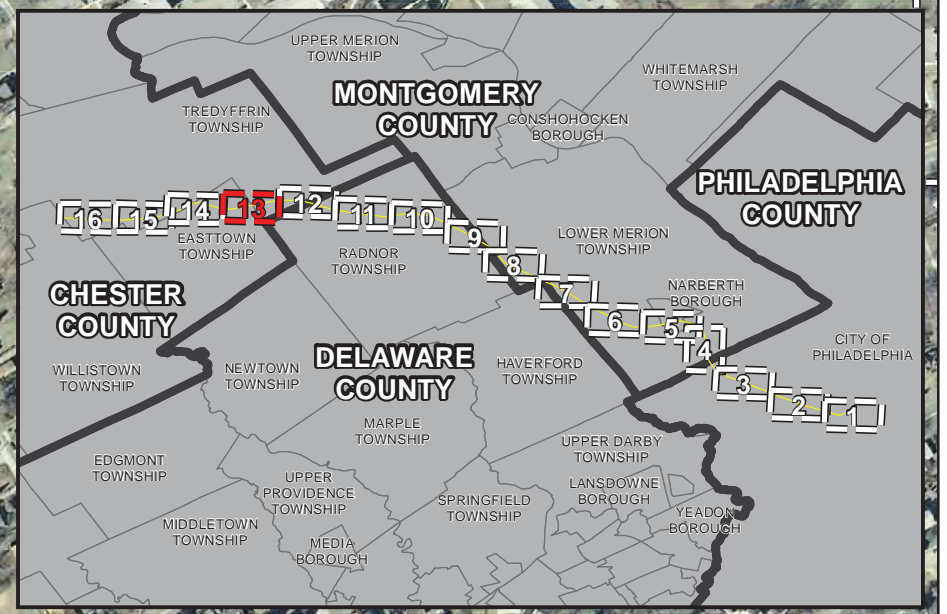


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Amtrak Philadelphia Zoo to Paoli Electrification Transmission Line Project

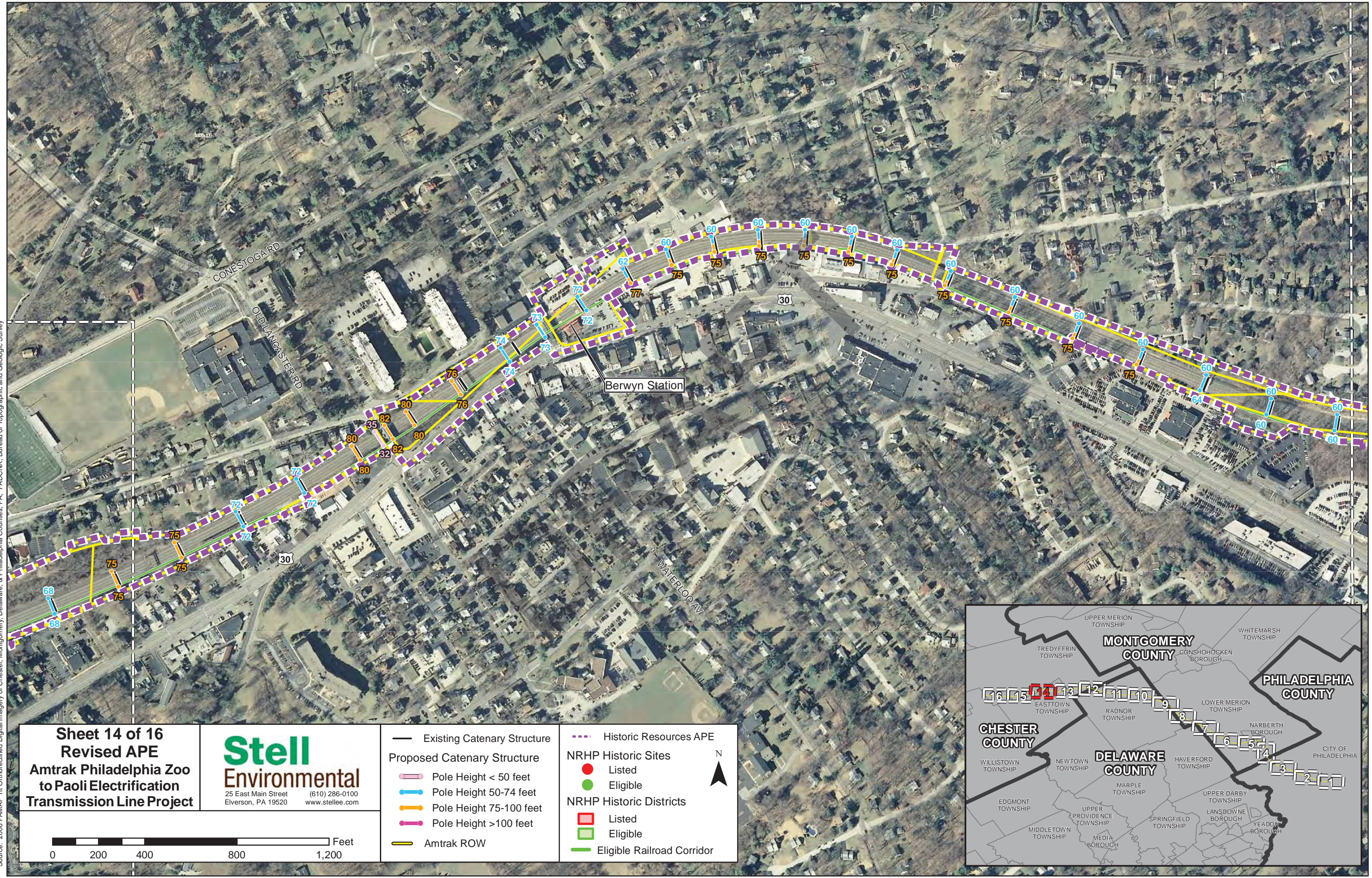
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 - Non-Eligible
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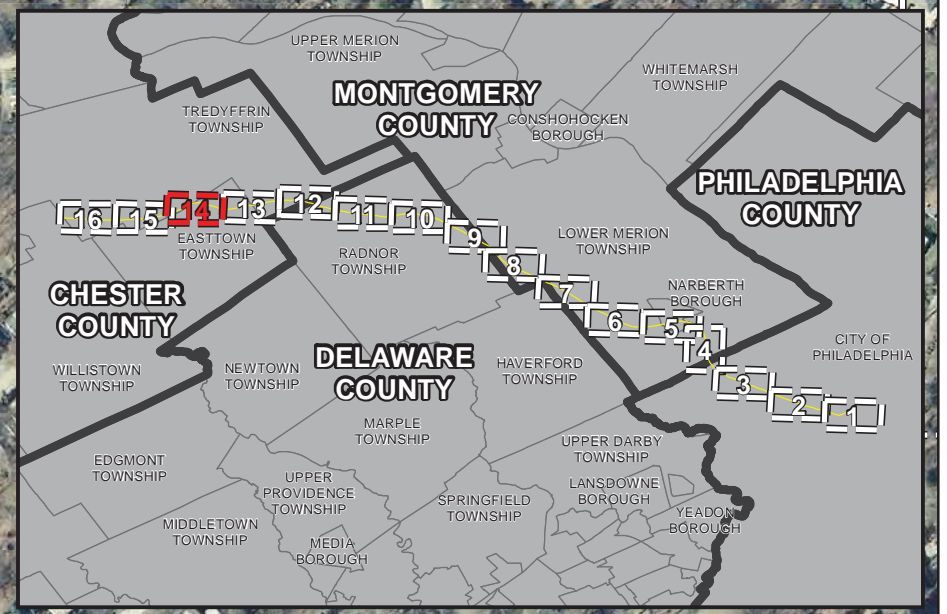
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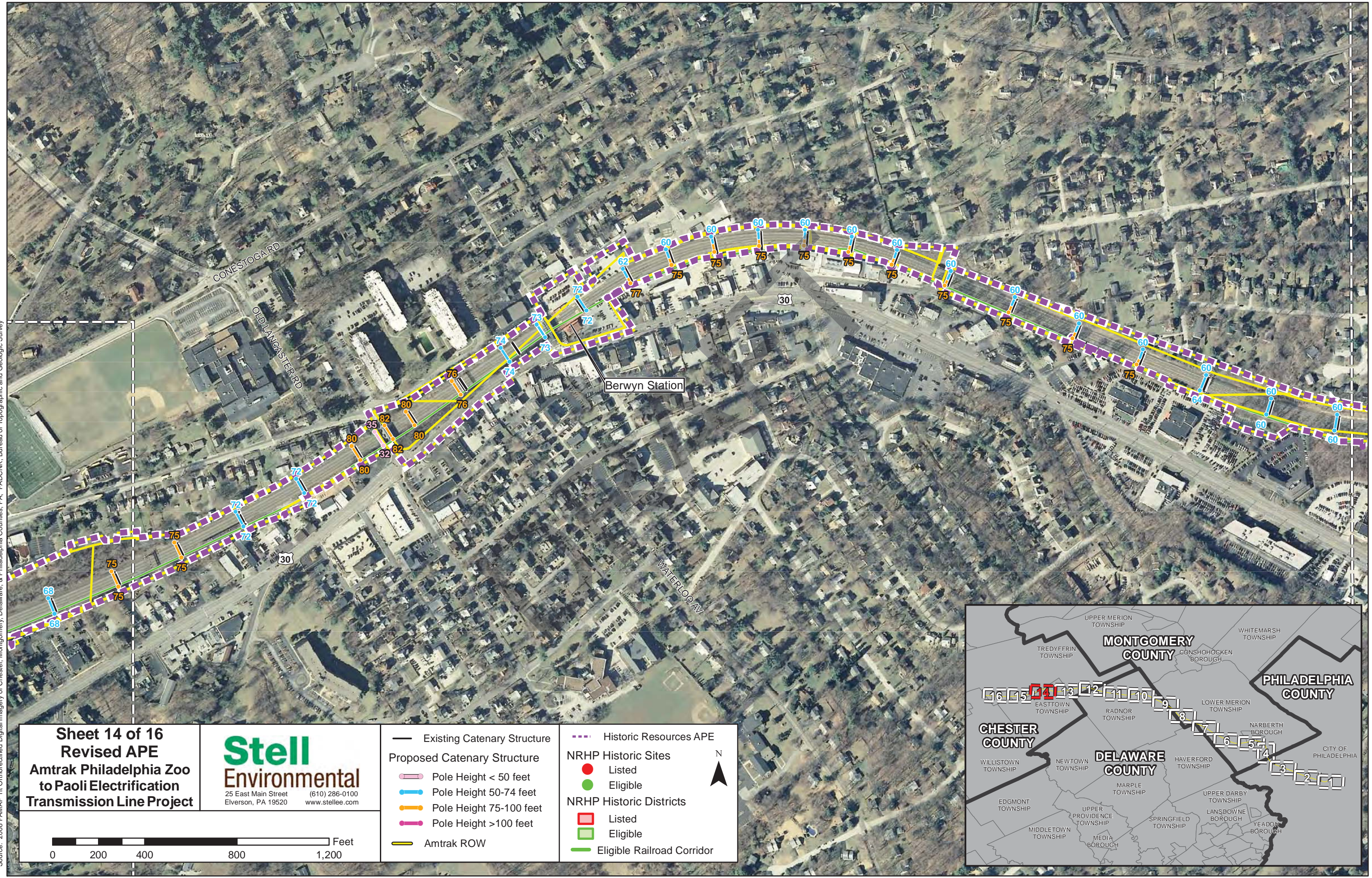
Sheet 14 of 16
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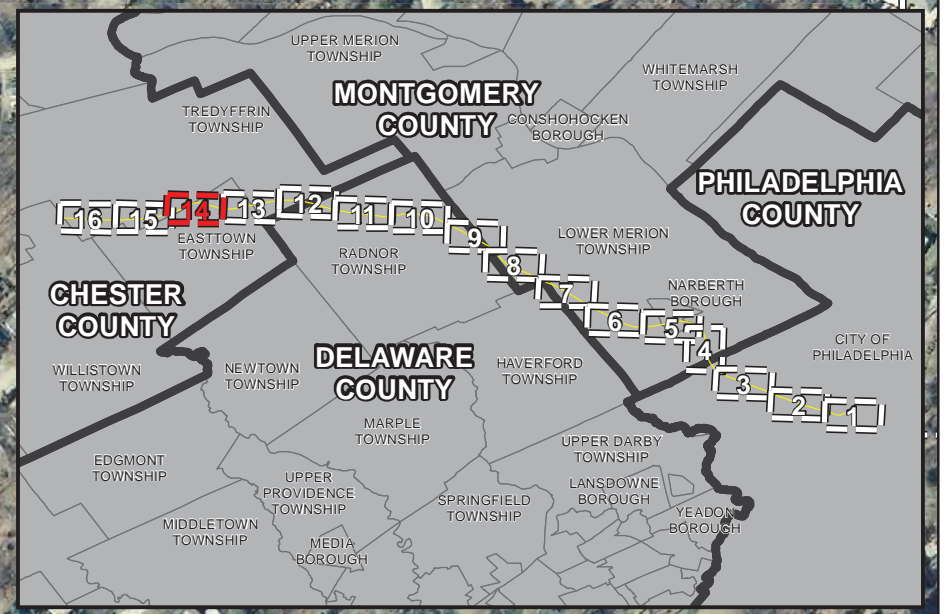
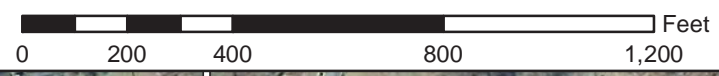
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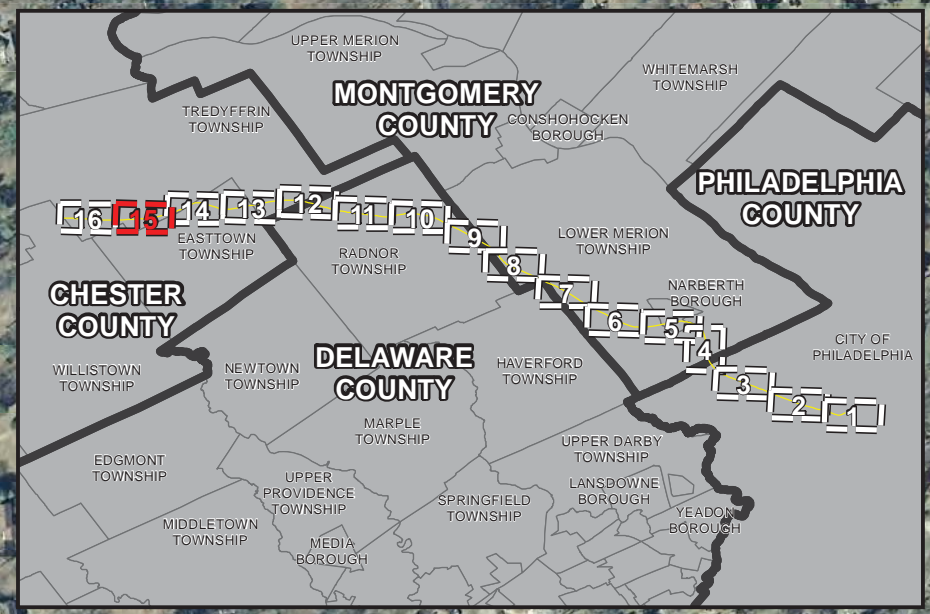
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|------------------------------------|--------------------------------|
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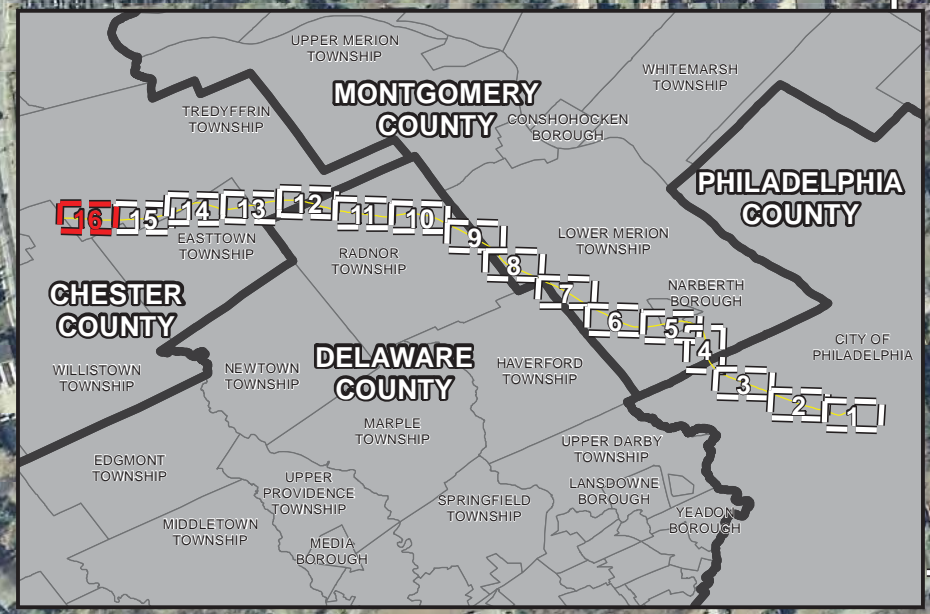
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Consulting Parties List

Consulting Parties

Representatives from the 52 organizations listed below were invited to participate as Consulting Parties in the Section 106 process and were sent eligibility, effects, and mitigation recommendations for review. Amtrak received and considered comments from the 14 organizations shown in red.

Organizations Invited to Act as Consulting Parties
<p>Chester County</p> <ul style="list-style-type: none">• Chester County Planning Commission• Tredyffrin Easttown Historical Society• Chester County Historical Society• Easttown Township Historical Commission• Tredyffrin Township Historical Commission• Willistown Township Historical Commission
<p>Delaware County</p> <ul style="list-style-type: none">• Historic Preservation Section, Delaware County Planning Department• Delaware County Heritage Commission, Delaware County Planning Department• Delaware County Archives• Delaware County Historical Society• Delaware County Historical Society Research Library and Museum• Radnor Historical Society• Haverford Township Historical Commission• Haverford Township Historical Society• Radnor Township Historic and Architectural Review Board• North Wayne Protective Association
<p>Montgomery County</p> <ul style="list-style-type: none">• The Historical Society of Montgomery County• Lower Merion Township Historic Architectural Review Board (HARB)• Lower Merion Township Historical Commission

Organizations Invited to Act as Consulting Parties

- Lower Merion Township
- Wynnewood Civic Association
- Haverford Station Historic District Neighborhood Coalition
- Lower Merion Historical Society
- Lower Merion Federation of Civic Associations

Philadelphia County

- Wynnefield Residents Association
- East Parkside Community Revitalization Corporation
- Parkside Historic Preservation Corporation
- City of Philadelphia Parks and Recreation Department
- Fairmount Park Commission (now part of City of Philadelphia Parks and Recreation Department)
- Philadelphia Historical Commission
- Preservation Alliance for Greater Philadelphia

PA Railroad & Industrial History Organizations

- The Pennsylvania Railroad Technical & Historical Society (PRRT&HS)
- The Keystone (Journal of the PRRT&HS)
- PRRT&HS – Philadelphia Chapter
- National Railway Historical Society
- National Railway Historical Society - Philadelphia Chapter
- National Railway Historical Society - Delaware Valley Chapter
- Railroad Museum of PA
- Friends of the Railroad Museum of PA
- Society for Industrial Archaeology
- Delaware Valley Association of Rail Passengers

SHPO

- PHMC

Organizations Invited to Act as Consulting Parties

Tribal/American Indian

- Tuscarora Nation
- Absentee-Shawnee Tribe of Oklahoma
- Delaware Nation
- Delaware Tribe of Indians
- Eastern Shawnee Tribe of Oklahoma
- Onondaga Nation
- St. Regis Mohawk Tribe
- Shawnee Tribe
- Stockbridge-Munsee Band of the Mohican Nation of Wisconsin

Other

- Preservation PA



Appendix E

Report on Electric, Magnetic Fields and
Radio Noise

Report on Electric, Magnetic Fields and Radio Noise Along the Zoo-Paoli Rail Line



**Submitted to Amtrak
October 21, 2011**

Prepared By Thomas J McDermott
Principle High Voltage Transmission and Substation Engineer
AECOM Energy

Checked By Daren Petroski, PE
Project Manager (Zoo – Paoli Project)
Burns Engineering, Inc.

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EXECUTIVE SUMMARY

A new dual circuit, single phase, transmission line along Amtrak's Keystone Corridor between Zoo and Paoli will be installed including 16 miles of new transmission/ catenary structures between 52nd Street and Paoli and 16 miles of new transmission wire between 52nd Street and Paoli substations. The existing transmission conductors between the proposed cutover at 52nd Street and Zoo substation will remain. A new substation will be installed at Bryn Mawr to replace the existing switching substation. Modifications will be made at the existing Zoo and Paoli substations to accommodate the new transmission circuits.

A new signal power circuit will be installed along the route to assist in the staged replacement to the existing signal power circuit.

Installation of new transmission wires, insulated signal power wires, new signal power transformers, static wires, PECO distribution, relocation of fiber optic ground wire and modifications to catenary are included in the project.

With the re-configuration of the Zoo-Paoli electric services brought about by the project, the electric and magnetic field distributions at ground level along the tracks and at the station platforms which have been existent since the original electrification will be re-casted. This report presents the levels of electric and magnetic fields as they were measured before re-configuration and presents the estimates of the future levels of electric and magnetic fields after the construction and operation of the re-configured electrical services.

The measured level of magnetic field (at 25 Hz) ranged in values between 51.1 and 12 mG (milligauss = mG) as measured on the passenger platforms 1 meter above ground. These fields dropped significantly below these levels a few feet away from the railroad. The model created based on the proposed configuration does not significantly alter those observations. The magnetic field anticipated in the final installed condition are generally less than 70 mG directly under the lines (e.g. on the station platform) and fall off significantly away from the platform.

The measured level of power frequency electric fields measured (at 25 Hz) ranged in values between 868 and 155.6 V/m. The model created for the final configuration shows anticipated fields below 900 V/m in the final installed configuration.

It should be noted that these fields are small by comparison to utility transmission lines where the right of way magnetic fields are an order of magnitude larger and the electric fields are two orders of magnitude larger than what is anticipated adjacent to the Zoo-Paoli tracks.

The radio noise measured and modeled are significantly below levels that are associated with causing interference; both in dry and wet (rainy) weather.

From the perspective of the regulator, oversight or official guidance concerning the “safe” levels of electric or magnetic fields, the levels of both the electric and magnetic fields observed both by measurement and modeling are significantly below any level generally discussed as a criteria warranting concern. In particular the, International Commission on Non-Ionizing Radiation Protection, recognized document “Guidelines for Limiting Exposure to Time Varying Electric , Magnetic and Electromagnetic fields (up to 300 GHz)”, 1998 and re-affirmed in 2009, identifies the levels of 10,000 V/m and 2000 mG as criteria levels for 25-60 Hz fields. The state of Pennsylvania (where the transmission network will be operational) requires transmission lines be built in accordance with the requirements of the National Electrical Safety Code (NESC), which cites no restrictions for electric or magnetic field; the Federal government also has no national standard in this regard.

It is our conclusion that the levels of electric and magnetic fields and radio noise observed by measurement and model for this project, are well within acceptable guidelines.

INTRODUCTION

With the re-configuration of the Zoo-Paoli electric services brought about by the electrification Transmission project, the electric and magnetic fields distributions at ground level along the tracks and at the station platforms which have been existent since original construction will be re-casted. This report presents the levels of electric and magnetic fields as they were measured before re-configuration and presents the estimates of the future levels of electric and magnetic fields after the construction and operation of the re-configured electrical services.

In addition, measurements were also provided along the electrified railroad both at a point west of Paoli (Exton Station) and at a point along the route of the existing transmission line (Spring Mill station) for comparison.

The electric field is voltage, frequency and spatially dependent, while the magnetic field is current, frequency and spatially dependent. Figure 1 below shows the proposed configuration of the new Zoo-Paoli transmission structures:

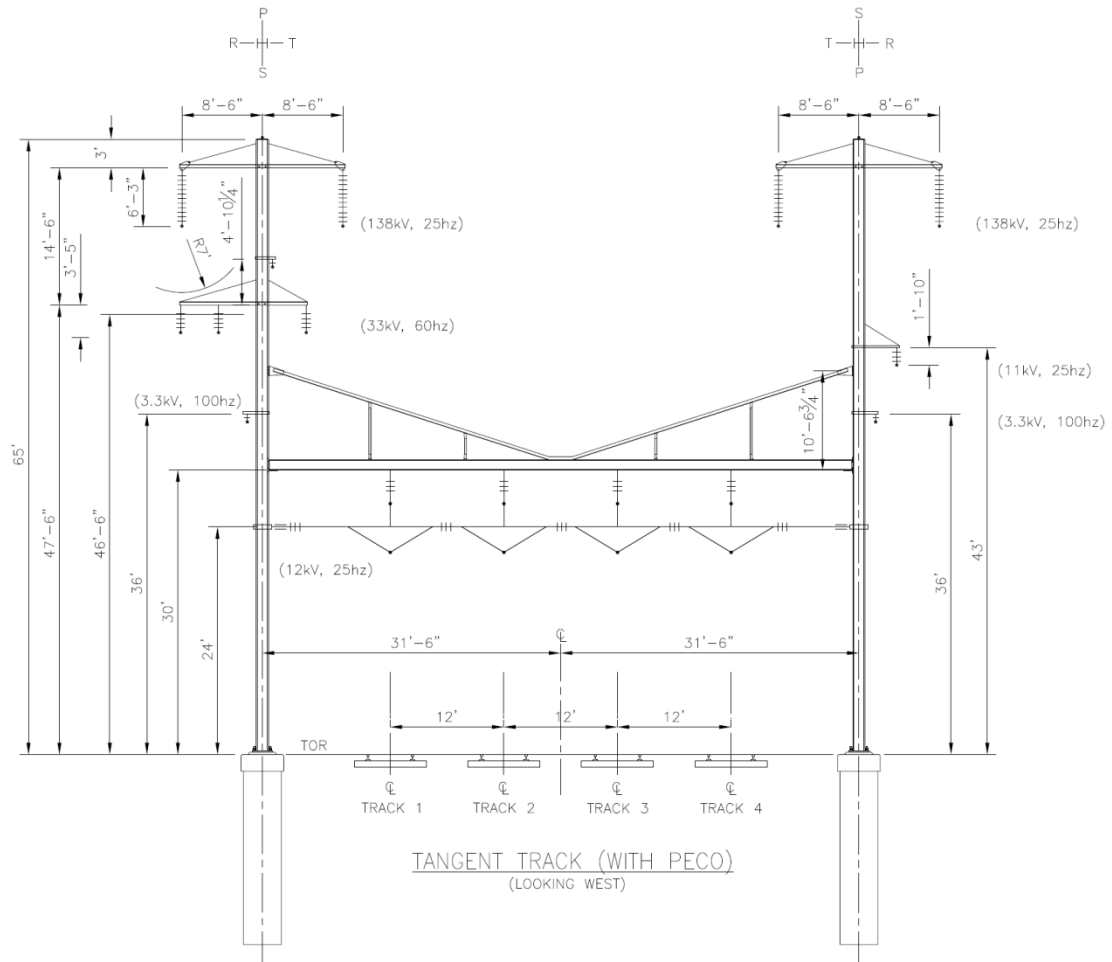


Figure 1

The proposed structures include not only the 25Hz Amtrak traction power 138kV and 12kV circuits and signal power (3.3kV, 100Hz), but also include the PECO 33kV, 60Hz three phase distribution system on the structures. The major difference between the existing and proposed configuration is the addition of the two 138 kV lines; while the 12 kV lines will be rebuilt on new structures, since they must follow the tracks, substantial geometric changes are not anticipated. It is assumed for the purposes of this study that the 100 Hz and 60 Hz circuits will be placed on the new structures in substantially the same positions in space as they are now but on the opposite side of the railroad.

In this report the levels of electric and magnetic fields under the future re-configuration conditions were compared to the present levels of fields (before re-configuration). In addition,

these future field levels were compared to current global health and safety guidance documents and relevant Federal and state requirements.

Within the scope of this study we also examined the radio noise (often called electromagnetic interference, EMI) produced by the re-configured arrangement. The radio noise is a function of voltage on the conductor and impressed across the hardware supporting the conductors from the structure. In addition to the voltages, the production of this noise is significantly dependent on weather conditions- wet vs. dry weather.

MEASUREMENT SURVEY

As part of the EMF / EMI study, base line, field measurements were conducted to document the magnetic and electric fields along the existing Zoo-Paoli Line. This line is currently configured with a four track, 12 kV, 25 Hz, catenary system, which remains in service after the 138 kV, 25 Hz transmission line is added, as shown in Figure 1. Also measurements were made at Exton, which provides data for a typical Amtrak dual 138 kV, 25 Hz transmission line / 12 kV, 25 Hz catenary line arrangement, also similar to Figure 1. And finally, measurements were made at Spring Mill for the existing, dual 138 kV, 25 Hz transmission lines which will be relocated onto the Zoo – Paoli Line.¹ Using this data, conclusions were drawn about existing fields and comparisons made with computer modeling data to predict the future Zoo-Paoli Line magnetic and electric fields.

Measurements were made with reference to the IEEE standard 644: Standard Procedures for Measurement of Power Frequency Electric and Magnetic Fields from AC Power Lines using instrumentation compliant with IEEE Standard 1308: Recommended Practice for Instrumentation: Specifications for Magnetic Flux Density and Electric Field Strength Meters -10Hz to 3kHz.

The instrumentation used included:

a. Power Frequency Electric and Magnetic Fields

- 1) Narda Safety Test Solutions, L3 Communications Company, model EHP-50C Electric Field and Magnetic Flux Density Measurement Device, serial number 000WX105010

b. Radio Noise

¹ The Amtrak 138 kV lines at Spring Mill are above the Schuylkill River bike path, which is the former Pennsylvania Railroad Norristown line right of way. The tracks and catenary are long gone from this route, but the adjacent Septa Norristown line is electrified with a 12-24 kV 25 Hz autotransformer system. The field measurements taken do not attempt to separate the effects of the two 25 Hz systems.

- 1) Rohde & Schwarz, model ES17 EMI Test Receiver, 20 Hz - 26 GHz, serial 830154/001

- 2) A.H.System, model AK-18G ; Active Monopole Antenna (9kHz-60MHz) model SAS-550-1B,
Biconical Antenna (20MHz -330Mhz) model SAS-542

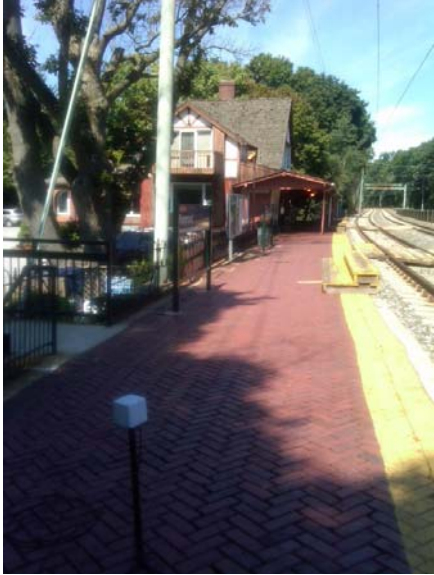
Measurements were taken on various station platforms along the Zoo-Paoli line. This was an area that was easily accessible and therefore was not susceptible to fouling the tracks; in addition it was an area that was most frequented by the general public. Further, using the platforms allowed us to establish more accurately our distances from the permanent landmarks for the purpose of recording the data.

Attached as Figure 2 are photos taken of the measurement setup at various stations.

Figure 2

Photos taken while making Electric-Magnetic Field Measurements and Radio Noise Measurements

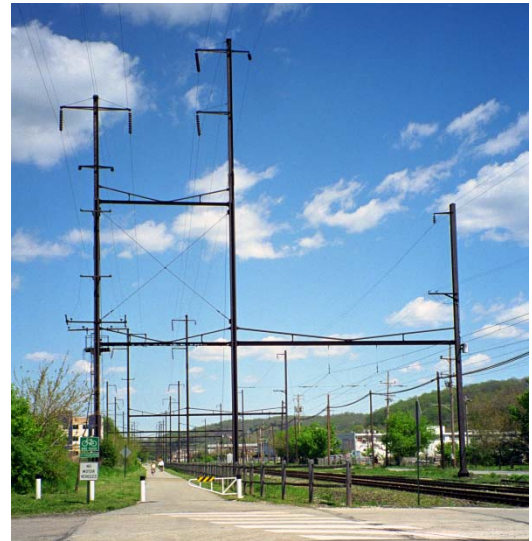
Radio Noise Active Monopole Antenna



Electric and Magnetic Field device Antenna



Radio Noise Active Rod



Amtrak's existing 1ED and 2ED 138 kV circuits on the Schuylkill River bike path adjacent to Septa's 12-24 kV autotransformer system at Conshohocken, Pa, west of Spring Mill.

Data was collected at nine (9) Zoo-Paoli stations, one station west of Paoli and a reference point at the Spring Mill station on the Norristown Line.

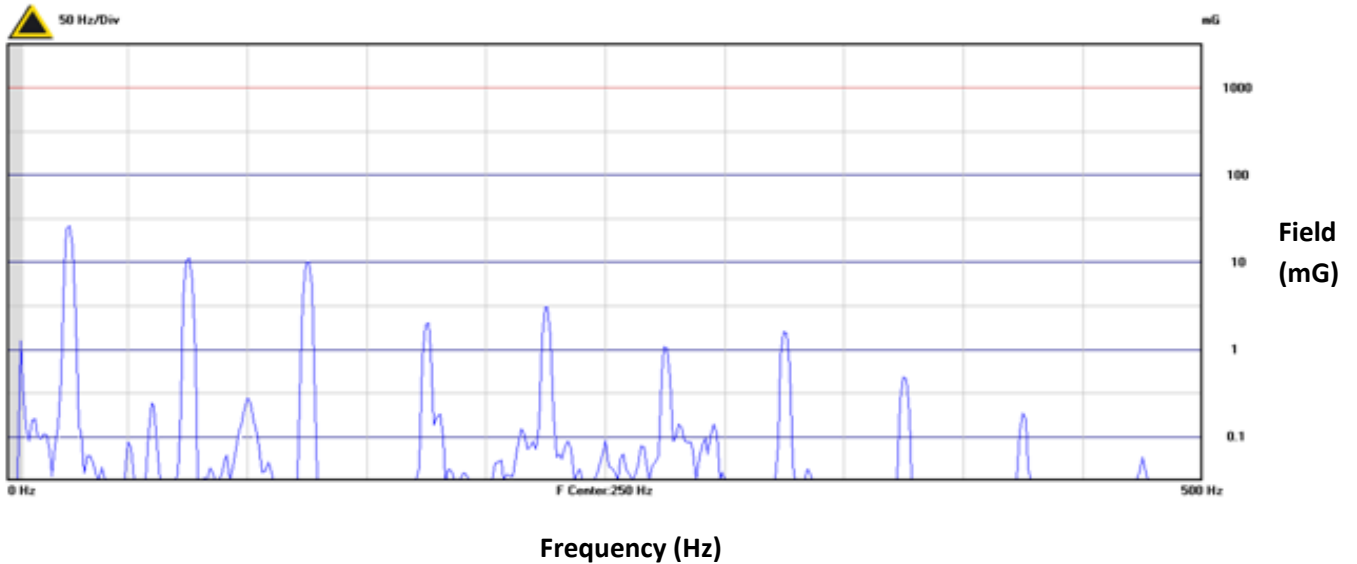
The electric and magnetic field data collected is represented in Table 1. As an additional representation of the data, Figure 3 and 4 provide spectra of the fields on the platform. It is obvious that the fields are rich in harmonics from the source and load conversion processes. The power flow data on the circuits at the time of the measurements was significantly below the current load flow information and did not exhibit large daily variation.

Table 1
Electric and Magnetic Field Data Collected Along the Zoo-Paoli Line August 31st, October 3rd and 4th 2011

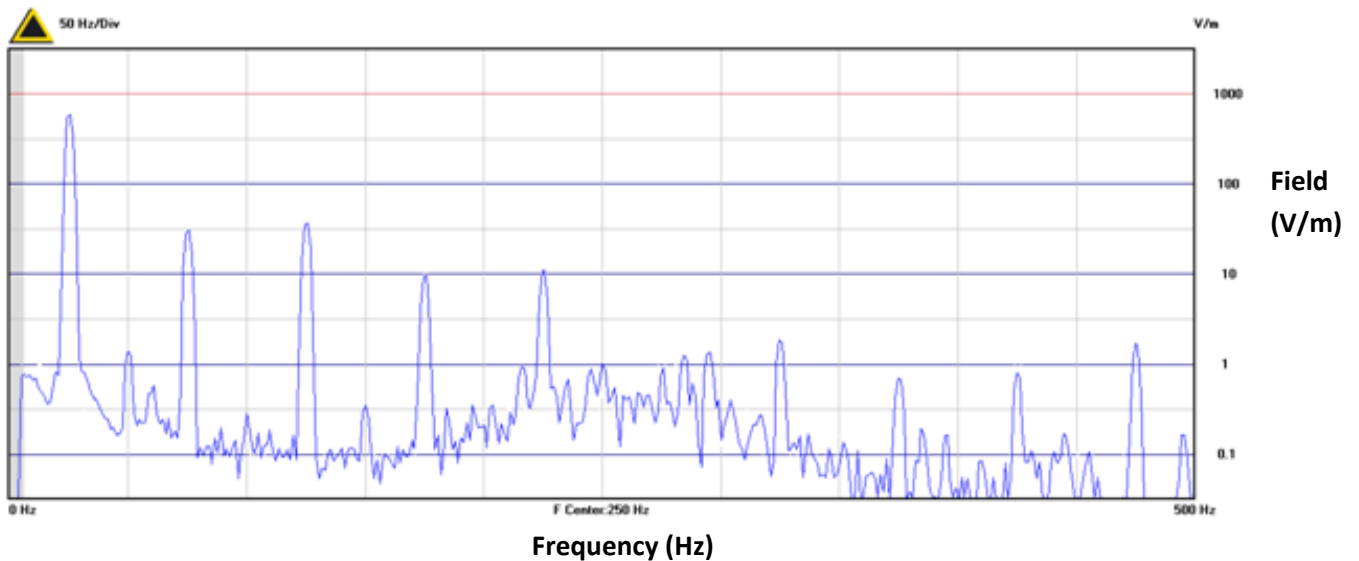
			25Hz		50Hz		60Hz		75Hz		100Hz		125Hz	
Location	Date	Time	B-field	E-field	B-field	E-field	B-field	E-field	B-field	E-field	B-field	E-field	B-field	E-field
			(mG)	(V/m)	(mG)	(V/m)	(mG)	(V/m)	(mG)	(V/m)	(mG)	(V/m)	(mG)	(V/m)
OverBrook	8/31/11	1016	31.6	575.2	0.2	1.1	1.1	0.6	9.1	13.0	0.6	9.3	3.8	10.1
Ardmore	8/31/11	1130	28.0	615.8	0.2	1.6	0.8	0.4	8.9	34.7	0.5	0.4	8.9	36.9
Rosemont	8/31/11	1200	26.3	597.5	0.1	1.4	0.2	0.5	11.3	30.5	0.3	0.3	10.2	36.7
Devon	10/4/11	1556	51.1	476.6	0.1	0.3	0.3	3.1	8.8	0.2	0.5	0.2	4.9	18.1
Paoli	10/4/11	1345	18.0	662.6	0.6	1.3	0.8	5.7	2.6		0.6	0.6	1.3	25.9
Bryn Mawr	10/4/11	1645	12.0	868.5	0.0	2.0	0.6	0.6	1.5	38.4	1.0	0.9	0.6	31.1
Wayne	10/6/11	0745	30.4	510.1	0.1	1.3	0.8	1.2	7.2	25.1	0.6	0.6	2.2	26.1
Haverford	10/6/11	0915	24.4	237.3	0.1	2.1	0.3	0.8	5.4	15.5	0.5	0.7	1.6	23.1
Wynnewood	10/6/11	1115	18.6	314.0	0.2	1.5	0.6	2.1	1.8	7.3	0.3	0.4	1.1	18.9
Spring Mill	10/6/11	1345	24.6	310.1	0.2	1.6	0.75	0.5	4.1	23	0.5	0.6	1.1	26.1
Exton	10/4/11	1115	2.6	155.8	0.0	0.1	0.2	0.5	0.2	8.8	0.1	0.4	0.4	5.3

			175Hz		225Hz		275Hz		325Hz		375Hz		425Hz	
Location	Date	Time	B-field	E-field	B-field	E-field	B-field	E-field	B-field	E-field	B-field	E-field	B-field	E-field
			(mG)	(V/m)	(mG)	(V/m)	(mG)	(V/m)	(mG)	(V/m)	(mG)	(V/m)	(mG)	(V/m)
OverBrook	8/31/11	1016	0.7	0.2	1.3	8.7	0.6	2.5			0.6	4.4		0.6
Ardmore	8/31/11	1130	1.2	14.0	1.8	5.0	0.9	4.3	1.0	4.6	0.4	4.6	0.2	
Rosemont	8/31/11	1200	2.0	9.7	3.1	10.9	1.1	0.9	1.6	1.9	0.5	0.7	0.2	0.8
Devon	10/4/11	1556	1.4	6.1	1.1	9.6	0.4	2.6	0.4	2.9	0.4	0.5	0.5	1.1
Paoli	10/4/11	1345	0.3	6.1	0.7	8.6	0.3	7.3			0.1	2.0		
Bryn Mawr	10/4/11	1645	0.3	9.3	0.3	12.8	0.2	3.8	0.2	5.4	0.1	0.5	0.1	1.0
Wayne	10/6/11	0745	0.7	2.9	0.4	6.2	0.4	2.7	0.2	2.1	0.6	2.1	0.1	0.4
Haverford	10/6/11	0915	0.5	4.1	1.0	4.1	0.4	2.8	0.2	4.1	0.3	1.8	0.2	0.6
Wynnewood	10/6/11	1115	0.4	5.1	0.3	8.7	0.3	3.1	0.2	2.6	0.3	1.3	0.2	1.0
Spring Mill	10/6/11	1345	0.3	5.6	0.5	7.1	0.9	2.1	0.2	1.7	0.24	0.4	0.16	1.1
Exton	10/4/11	1115	0.4	3.5	0.1	4.5	0.2	2.2	0.1	2.0		0.3		0.4

Figure 3



Magnetic Field on the platform at Rosemont Station August 31, 2011, 1200hrs



Electric Field on the platform at the Rosemont Station August 31, 2011, 1200hrs

There is high variability in the measured data of electric and magnetic fields. The principle focus of the data collection was to measure the fields where the public would stand. The data was not controlled for time of day (although the time was noted to observe differences of peak vs. off peak). The only parameter that seems to bear a correlation to the observed magnetic field levels is the distance from Zoo substation. The precise currents (or voltages) at the point of measurement were not available (we have data from distant terminals). It is reasonable to expect that currents and voltages will fluctuate during the day and with distance from the connection substations; all of which would affect the observed fields. In addition the distances from conductor to

measurement points, also bears significant influence on the observed results. Although the distance from the catenary to the measurement point was relatively consistent (as we stood at the middle of the platform), the distances to the other conductors was variable as presented at the individual locations.

The best use of the data is to recognize the variability and to understand the results on a statistical basis as the parameters of current, voltages and geometry cannot be controlled. From this perspective the important take away is that the pre-existing mean magnetic field is 24mG and the mean electric field is 500V/m.

For similar reasons comparison to the reference locations (e.g. Exton and Spring Mill) are ambiguous because of the variations among the test sites with geometries, currents and voltages.

The Radio Noise Data collected is shown in Table 2. The radio noise information is somewhat unremarkable. There did not seem to be any damage to the insulators and as such the low voltages being used would not have caused any corona (especially in the mostly dry days we were there) which would in part explain the very low radio noise measured.

COMPUTER MODELING

1. Electric and Magnetic Fields

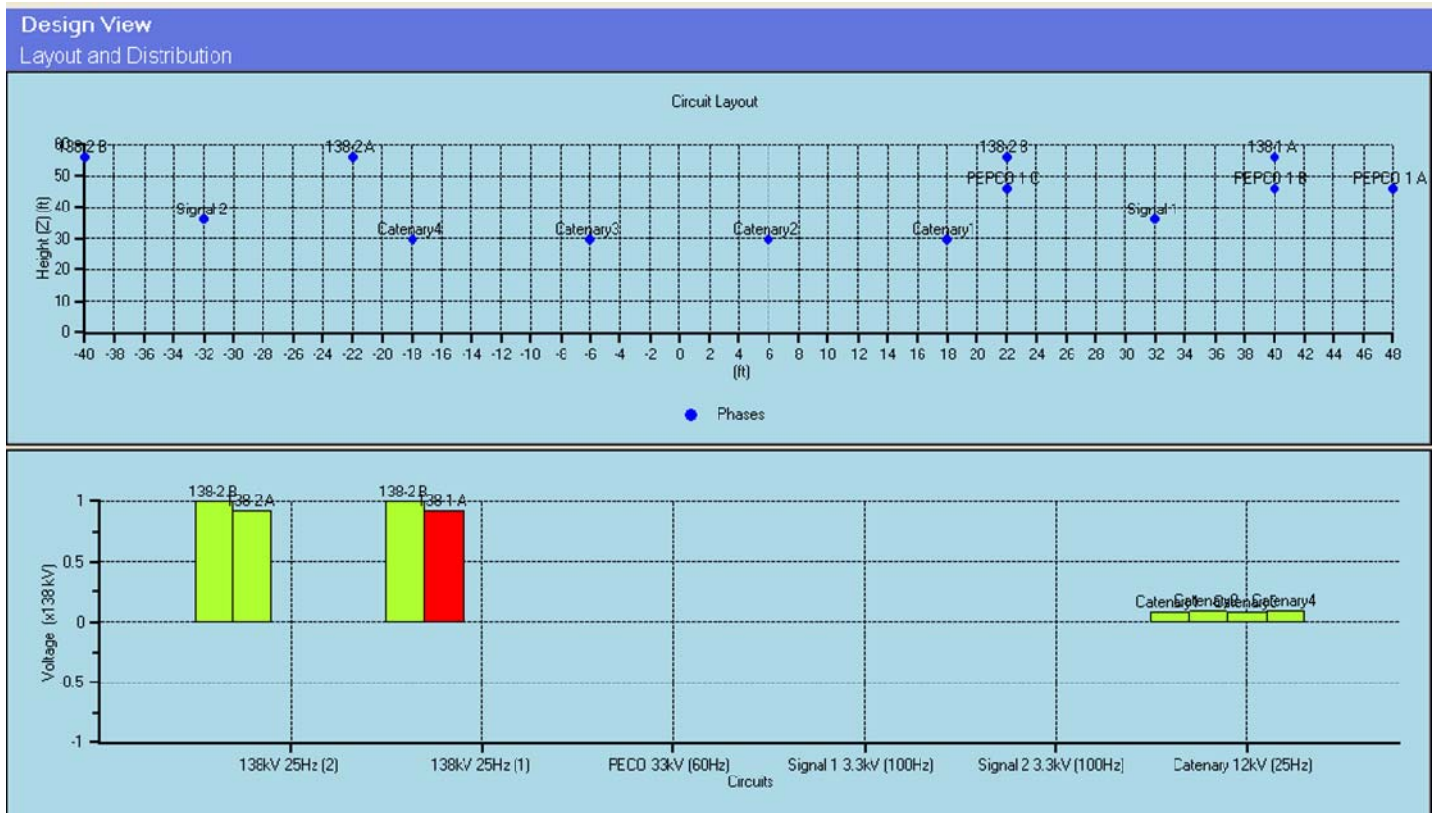
The new configuration of the Zoo – Paoli electrical service includes the relocated three phase, PECO 33kV (60 Hz) distribution line on the structures and consolidates the new Amtrak 138kV (25 Hz) on the structures as well. In addition to the geometries of the circuits on the structures, the other key parameters are the voltages, expected currents and frequencies of the various circuits. The basis of the currents used in the model were provided in the power flow analysis found in the 2010 SYSTRA study titled “Amtrak 138kV Stability Study”. The load flow test cases would present the worst case loadings for both heavy and light loading conditions referenced in the report. The report only supplies information at representative nodes in the system (the node of interest in this study was Zoo substation). One can only approximate the currents that might be seen further out on the system towards Paoli. Because of this limitation, the calculations that were performed represent worst case conditions.

Using the geometry shown in Figure 1, along with the voltages and frequencies indicated on the figure a computer model was formed to estimate the electric and magnetic fields and radio noise of the proposed configuration. The computer modeling tool is one that is well established in the power and rail industry. The base model is known as CDEGS software (Current Distribution, Electromagnetic Fields, Grounding and Soil Structure Analysis) authored by SES Technologies. In this instance we needed to use a portion of the software for the calculation of power frequency electric and magnetic fields and radio noise.

Figure 4 presents the data of the system configuration that was developed to represent the re-configured Zoo-Paoli line.

Figure 4

Data View of CDEGS Model of Zoo-Paoli Transmission Circuits



At the measurement point of interest (station platform), the electric and magnetic fields are composed of several fundamental frequencies 25 Hz, 60 Hz and 100 Hz and numerous harmonics (odd and even) from the source and load properties in each of the services, except for the commercial power (60 Hz) (see Figure 3). To calculate the resulting fields from each of these principle sources (it was not possible to predict the levels of harmonic currents from the information that is available), a standard measure point was taken (35 feet from the center of the track system) to present the results of the calculations as you might be standing on the platform. In addition we used 135 feet from the center of the track system to represent a position remote from the rail. All calculations were done at one meter above ground. Results from this model are shown in Table 3.

Table 3

**Calculated Electric and Magnetic Fields from the Re-configured Zoo-Paoli Electrification Project
(under typical loading conditions)**

Position from Center of Track	Magnetic Fields (mG)			Electric Fields (V/m)		
	25 Hz	60 Hz	100 Hz	25 Hz	60 Hz	100 Hz
35 feet	65.3	7.5	2.6	804	46.6	25.1
135 feet	28.2	1.2	1.0	333	28.5	1.7

2. Radio Noise

Using the same configuration files, the radio noise was calculated for several frequencies under foul weather conditions. The foul weather corona that is the source of the radio noise being calculated is both source frequency and voltage dependent and is a function of the observed frequency. The most significant factor is the impressed voltage on the conductor. This implies the overwhelming influence of the 138kV Amtrak 25 Hz power line in the present configuration. Results of this model are shown in Table 4.

Table 4

**Calculated Foul Weather Radio Noise at Selected Frequencies and Distances from the
Re-configured Zoo-Paoli Electrification Project**

Position from Center of Track	Radio Noise (dB μ v)	
	0.5 MHz	10 MHz
35 feet	38.8	-8
135 feet	30.9	-17.9

These calculations show the low frequency dependences of corona radio noise. When combined with the ambient data (before re-configuration) at the higher frequencies the radio broadcast will not be observable a few hundred feet from the center of the track.

REVIEW OF GUIDELINES

The studies relating to biological and human health effects from power frequency electric and magnetic fields has not developed beyond where it was in the late 1990's. There have been occasional reports in Journals which purport some association or theory with adverse outcomes and levels of magnetic fields. Table 5 shows recent (over the last 10 years) Journal reports that have been in the open literature. The most recent (2007) discusses the data associations with neurodegenerative diseases. Those reports were focused on occupational exposures and they are dependent on many surrogates for exposure (there were no direct measurements of the exposure fields). Further these studies could not control for other parameters that are known to influence neurodegenerative diseases. These findings were not replicated nor followed up in the community. They are raised only to complete the picture of what was advanced since the high-point of activity in this area in the very early 2000's.

Table 5

Update to Current Listing of Reports on Influence of Electric or Magnetic Power Frequency Fields

Exposure of workers in the electric power industry to electric and magnetic fields	Lindh, Andersson	National Institute of Occupational Health, Sweden	
Occupational Magnetic Field Exposure and Cardiovascular Mortality in a cohort of Electric Utility Workers	Sahl, Mezel, Kavet, et al	America Journal of Epidemiology	2002; 156:913-918
Magnetic field exposure and Cardiovascular disease mortality among electric utility worker	Savitz, Liao, et al.	America Journal of Epidemiology	1999; 149:135-42
Exposure to 60Hz magnetic fields in the electric utility work environment	Sahl, Kelsh, et al.	Bioelectromagnetics	1994; 15:21-32
Cohort and nested case control studies of hematopoietic cancers and brain cancer among electric utility workers	Sahl, Kelsh, et al.	Epidemiology	1993; 4:104-14
Exposure to electromagnetic fields and suicide among electric utility workers: a nested case control study	Wijngarrden, Savitz. Et al	Occup Environmental Med	2000; 57:258-263
Exposure assessment for power frequency electric and magnetic fields	Bracken	Am Ind Hyg Assoc Journal	1993; 54:165-167
Lung cancer in relation to employment in the electrical utility industry and exposure to magnetic fields	Savitz, Dufort, et al	Occupayional and Environmental Health, British Medical Journal	1997; 54; 396-402
Occupational exposures to magnetic fields and neurodegenerative disease risks	H Checkoway	Occup Environ Med.	2007; 64:790-791.
Mortality from Alzheimer's, motor neurone and Parkinson's disease in relation to magnetic field exposure: findings from the study of UK electricity generation and transmission workers: 1973-2004.	Sorahan T, Kheifets L	Occup Environ Med	2007; 64:820-826

Most significantly is that there has failed to be a concerted effort on the part of Federal or state regulators to set criteria based exposure limits for electric or magnetic fields. In fact, like many states, including Pennsylvania where the Zoo-Paoli re-configuration construction will take place, there is no specific guidance or criteria. There have been two or three Professional International bodies that have attempted to offer guidance based on cross-sections of views from various countries and disciplines. The most relevant of these is the World Health Organization and The International Commission on Non-Ionizing Radiation Protection (ICNIRP). These guidance documents are referenced in Table 6.

Table 6

Update to Current Listing of Guidance Documents from State or Professional Bodies on Influence of Electric or Magnetic Power Frequency Fields

Statement on EMF guideline	The International Commission on Non-Ionizing Radiation Protection	Health Physics	2009; 97:257-259;
EMF guidelines	The International Commission on Non-Ionizing Radiation Protection	Health Physics	1998; 74: 494-522
Extremely Low Frequency Fields Environmental Health Criteria	World Health Organization		2007
An Evaluation of the Possible Risks From Electric and Magnetic Fields (EMFs) From Power Lines, Internal Wiring, Electrical Occupations and Appliances	Neutra, DelPizzo, Lee,	California EMF Program	2002
IEEE Standard for Safety Levels With Respect to Human Exposure to Electromagnetic Fields, 0-3 kHz		IEEE	2002 C95.6

The position from either organization has not changed since the late 1990s; in fact in 2009 the ICNIRP re-affirmed its statements of 1998 with respect to power frequency electric and magnetic fields. In summary this body could find no evidence of direct interaction of these fields based on fundamental science or general medical associations. This left them with the criteria based only on heating which is measured by Specific Energy Absorption Rate (SAR) in the human body as a gauge of the effects of these fields. Based on that approach the ICNIRP, which continues to be the established global body to adjudicate these issues, the power frequency fields present in the Zoo Paoli instance would be assessed by Tables 5 & 6 of the 1998 document. Translating this table to the present circumstances, the criteria fields on the order of 2000mG and 10,000V/m, magnetic and electric fields, would have to be obtained to consider more detailed discussion of the effect of

the facility on the general public. As seen in Table 3 in this report the expected fields from re-configured Zoo-Paoli are many orders of magnitude below these levels

CONCLUSIONS

Prior to the re-configuration of the Zoo-Paoli electric services brought about by the electrification Transmission project, when measured on the station platform, the mean magnetic field (at 25 Hz) is 24 mG and the mean electric field (at 25 Hz) is 500 V/m. Post construction of the re-configuration of the electrical services, these fields are estimated to be 65 mG and 804 V/m.

Although there are no criteria standards for electric and magnetic fields that electric facilities are required to meet, the latest guidance document from the International Commission on Non-Ionizing Radiation Protection would suggest that the fields expected from the re-configuration are below any level that is of concern based on their comprehensive review of the scientific and medical literature.

The radio noise during foul weather post re-configuration has been calculated and the levels at various frequencies are not judged to be significant to standard radio services.



Appendix F

Soil Management Plan

Soil Management Plan



August 2012

Prepared for:
Amtrak

Prepared by:
Michael Baker Jr., Inc.
Moon Township, Pennsylvania

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1.0 INTRODUCTION

This Soil Management Plan (SMP) is for use as guidance related to the Amtrak Zoo to Paoli Transmission Line Project. The subject project area consists of catenary poles and lines located within Amtrak right-of-way (ROW) from approximately Mile Post 2 (Zoo) to Mile Post 20 (Paoli) on the Keystone Corridor East. The subject project area is located in Chester, Montgomery, Delaware, and Philadelphia Counties.

1.1 Report Objectives

A primary objective of this SMP is to specify waste management procedures and precautions for construction within known or suspected areas of environmental concern within the construction zone.

1.2 Contractor Responsibilities

The Contractor is to proceed with waste management activities in a manner that coincides with the overall construction sequencing for the project. The Contractor is required to provide sufficient crews to complete the job within the timeframe specified, and is to ensure that each employee has appropriate training and the proper personal protective equipment for the task(s) that he or she is to perform.

The waste management aspects of this project require a Contractor that is well qualified and able to demonstrate adequate experience in waste management operations similar to the operations specified herein. The Contractor must demonstrate experience and proficiency in the following areas:

- Development, implementation, and enforcement of site-specific Health and Safety Plans (HASPs)
- Site perimeter and worker breathing zone air monitoring
- Selection, use, and limitations of personal protective equipment
- Solid and liquid sampling protocols and analytical testing
- Contaminated materials excavation, handling, staging, storage, transportation, and disposal
- Contaminated liquids handling, storage, transportation, and disposal
- Identification, staging, sampling, analysis, containment, transportation, and disposal of contaminated and potentially hazardous substances
- Provision of properly trained, experienced, and certified site personnel, including a site safety officer

The Contractor assumes all responsibility for the development, implementation, and enforcement of the HASP and for protection of on-site personnel safety, health, and welfare.

The Contractor must provide at least one qualified health and safety officer on site. It is mandatory that the health and safety officer be present and monitor waste management activities on a continuous basis during excavation activities in suspected areas of environmental concern. The health and safety officer(s) must possess, at a minimum, the following qualifications: 40-hr training, 8-hr supervisory training, and annual refresher courses as required by Occupational Safety and Health Administration (OSHA) regulation 29 CFR Part 1910.120; current standard first aid and cardiopulmonary resuscitation (CPR) certification; and, experience with air monitoring instrumentation and sampling equipment. The health

and safety officer is required to have at least three years demonstrated continuous experience in waste management and must be experienced with all the health and safety issues that may be encountered.

1.3 Right to Inspect and Stop Work

Representatives of the Amtrak, the Pennsylvania Department of Environmental Protection (PADEP), the Engineer, and any governmental agency designated by the Amtrak are to have access to the work site, materials, records of personnel, and other relevant data and records, and the Contractor is to provide for such access and inspection.

Amtrak, PADEP, and their authorized representatives have the right, but not the obligation, to inspect and obtain copies of all written licenses, permits, or approvals issued by any governmental entity that are applicable to the performance of services; to inspect transportation vehicles, containers, and any facilities proposed for use; and to inspect the removal, transportation, storage, disposal, or treatment operations conducted in the performance of services.

If, during excavation or other operation, the Contractor discovers any additional areas of waste, contaminated soil, or drums and containers, the cessation of operations at that location and notification of the site safety officer and Amtrak are to occur immediately. The Amtrak, PADEP, and their authorized representatives have the right to stop work due to SMP or HASP violations.

2.0 SITE INFORMATION

The overall project goal for the Keystone Corridor East High Speed Rail Program is to improve the 105-mile Keystone Corridor East Amtrak rail line from Harrisburg to Philadelphia, within the counties of Dauphin, Lancaster, Chester, Montgomery, Delaware, and Philadelphia. Proposed changes include improvements to the interlockings (areas where trains change tracks); replacement and/or rehabilitation of the signal systems in areas where trains currently pass or follow each other; rehabilitation of the overhead electrical wires and poles (catenary and transmission lines); reactivation of an existing Express/3rd track between the Atglen interlocking and Paoli; relocation of an electrical substation at the Paoli Station; construction of high-level platforms at the Exton Station; and upgrades to the Ardmore Station. The Ardmore Transit Center includes a new multi-modal transit center, transit oriented mixed-use development, long-term parking facilities, and accessible infrastructure for all transportation services. The Keystone Corridor East High Speed Rail Program improvements, with the exception of the Ardmore Transit Center, are anticipated to be completed entirely within the existing ROW. The intent of the enhancements is to improve rail service by increasing the top operating speed from 110 mph to 125 mph, with the goal of reducing travel time between Harrisburg and Philadelphia to approximately 75 minutes.

One of the major improvement construction projects is to replace 80- to 100-year old catenary structures, which are in almost daily need of repair, with new structures. This will also bring Amtrak's 138kV transmission line for the system back onto the line that it serves. The transmission system presently serving the Harrisburg Line takes a circuitous route away from the railroad onto other ROWs that Amtrak can only access in a limited fashion. The structures for the existing transmission system are also nearing the end of their useful life. Replacing the switching station at Bryn Mawr with a traction power substation will address low-voltage conditions experienced by Amtrak and SEPTA trains in the middle of the existing 20-mile stretch between Zoo Substation and Paoli Substation. The project is needed to bring the line into a state of good repair and to help Amtrak meet its mandate for cost-effective maintenance of its system.

The newly installed catenary structures will involve excavating on average a total of 12 to 15 feet below ground surface. The existing catenary structures are mostly 40-50' tall. The proposed catenary structures will be 100' tall at bridges and 75' tall elsewhere. In addition, the proposed catenary structures will not include guy wire support; therefore the foundations for the structures will be deeper and more substantial.

3.0 SITE PREPARATION AND ENGINEERING CONTROLS

Waste management activities required at this site may include, but are not limited to, the following: excavation, sampling/analytical testing, on-site management, transport, and off-site disposal of contaminated soil. Associated waste management work may include: preparation, implementation, and enforcement of a site-specific HASP; construction and decommissioning of staging and decontamination areas; fugitive dust control; and, provisions for site security. The work also includes all waste management activities not covered by these special provisions, but that are required for compliance with local, state, and federal laws, regulations, and directives.

3.1 Health and Safety Plan

The Contractor is required to develop a HASP for all waste management activities. The HASP must be prepared in accordance with 29 CFR 1910.120. The HASP is to be written by a certified industrial hygienist, certified safety professional, or other qualified individual. The Amtrak and/or other responsible parties as deemed appropriate by Amtrak must review and accept the HASP prior to initiation of waste management activities at this site.

The primary purpose of the HASP is to address and provide for the safety of on-site personnel, including potential exposure to contaminated and/or hazardous materials at the site. The HASP is to include plans for protection of on-site personnel from the hazards associated with all types of wastes known or suspected to be present on site. The HASP also will provide a plan for response to potential emergency situations that may occur on site. The HASP shall address the minimization of off-site migration of contaminants through surface water controls, dust control, site control, and decontamination procedures as required. The HASP may require documentation of a tetanus shot for all site workers.

The HASP is to include a plan for monitoring of the breathing zone in areas that may present potential worker exposure. Monitoring to be conducted by the Contractor in support of waste management activities and/or as further directed by the Amtrak and/or other responsible parties as deemed appropriate by Amtrak, includes but is not limited to: visual monitoring and periodic air monitoring of all excavation and activities that may uncover or encounter contaminated materials; and, air monitoring as required to protect site personnel potentially exposed to those materials. In addition, the HASP shall include decontamination procedures for personnel, personal protective equipment, and sampling equipment required for waste management activities.

The HASP is to address actions required to safely and effectively deal with emergency situations that may occur during waste management activities. At a minimum, the following emergency response items must be addressed in the HASP: personnel roles, emergency recognition and prevention, evacuation procedures and routes, emergency decontamination, emergency equipment, and emergency medical treatment. The HASP also must address site security issues including site access control, public protection, and site communications.

Decontamination Facility

The Contractor shall include in the HASP a plan for decontamination of construction equipment and transport vehicles that leave from this area of the site. The plans shall include proposed grading, liner and water collection system, as well as a plan for treatment and/or disposal of the decontamination water. The decontamination facility plans will be submitted to the Amtrak for review and acceptance. The Contractor will be responsible for construction, operation, and decommissioning of the decontamination area and for collection and treatment of decontamination water.

Waste Staging Areas

The Contractor may propose alternative staging methods (i.e., roll-off boxes) or may determine that a staging area is not required if excavated waste materials will be directly loaded into trucks without delay. However, if the Contractor proposes to utilize one or more waste staging areas for contaminated soil, the layout/construction plans for the soil waste staging area must be submitted to the Amtrak and/or other responsible parties as deemed appropriate by Amtrak for review and acceptance. The plans shall include proposed location, liner and cover materials, and surface water controls for the waste staging area, and provisions for securing the area.

Fugitive Dust Control

The Contractor is to conduct operations and maintain the project site so as to minimize the creation and dispersion of dust. This is especially important in known areas of environmental concern. Dust control is to be implemented during all work activities conducted at the site, especially during excavation, handling, transport, and grading of contaminated soil or other potentially contaminated materials. Contaminated decontamination water collected during waste management activities may not be used for on-site dust control. For purposes of fugitive dust control, the Contractor is to provide clean water, free from salt, oil, and other deleterious material.

Site Control

The Contractor will institute site control measures to prevent exposure of unauthorized, unprotected persons to potential physical and chemical hazards within the construction zone. Site control and signage shall be utilized to prevent the entry of unauthorized individuals into the construction zone and to prevent or minimize potentially hazardous exposures to authorized individuals.

The Contractor is responsible for the control of all persons and vehicles entering and leaving site and waste management areas. To enter waste management areas, personnel must possess the required health and safety training in accordance with all applicable OSHA regulations and the accepted HASP. Contractor personnel are to allow no unauthorized visitors to enter restricted areas without the express permission of the Amtrak and/or other responsible parties as deemed appropriate by Amtrak. The Contractor is required to provide all visitors with appropriate safety and personal protective equipment.

Signs, indicating that unauthorized entry to restricted areas is prohibited, are to be posted at any restricted areas and at entrance roads to deter unauthorized site entry. Signs are to be posted directing all visitors to the authorized entrance or security point.

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4.0 CONTAMINATED SOIL MANAGEMENT

Based on knowledge of the ROW, areas of known soil contamination, associated with polychlorinated biphenyl (PCB) containing oils used in historical electrical transformers are present and potentially may be encountered during excavation of the catenary structures. Elevated levels of volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs) present in native soil and elevated levels of metals and SVOCs associated with historic urban fill material (slag, cinders, brick, etc.) could also be encountered during excavation for construction.

Accordingly, the Contractor shall exercise special precautions while excavating. These areas of environmental concern require special waste management practices, health and safety considerations, and/or precautions during construction. Soil materials excavated from these areas of environmental concern will require special handling and on-site management. Procedures for managing excavated soil within these areas of concern follow.

4.1 Health and Safety Considerations

The Contractor is responsible for development and implementation of an acceptable HASP. Among other things, a primary purpose of the HASP is to address and provide for the safety of all on-site personnel, including those that may encounter potential exposure to contaminated and/or hazardous materials at the site. With regard to worker protection, the HASP will include plans for protection of on-site personnel from hazards associated with wastes known or suspected to be present on site. The HASP is to include a plan for monitoring of the breathing zone in areas that may present potential worker exposure. In addition, the HASP shall include decontamination procedures for personnel and personal protective equipment for workers that may potentially be exposed to contaminated and/or hazardous materials at the site.

4.2 Excavation and Stockpiling

As the excavation proceeds within the known or suspected areas of potential environmental concern, the Contractor will monitor the excavation by visual inspection, detection of unusual odors, and by using a photo ionization detector (PID). The Contractor will look for one or more of the following:

- soil that is visibly contaminated (discolored, oily sheen, etc.)
- soil that has an unusual odor
- soil that exhibits elevated PID readings (5 ppm or greater, sustained for more than 1 minute in the breathing zone), or other action level specified in the Contractor's HASP

If one or more of the above conditions are observed/detected, excavation should cease immediately and the site health and safety officer should be notified so that the breathing zone in the vicinity of the affected soil can be monitored. At that point, the Contractor should refer to the HASP and consult the site health and safety officer to determine if it is safe to proceed with the excavation or if personal protective equipment is warranted. When it is determined to be safe to proceed with the excavation, the Contractor shall excavate the impacted soil and stockpile it separately from the other excavated soils in a roll-off box

or approved waste staging area designated for off-site disposal. If stockpiled, the soil must be contained, meaning covered with plastic sheeting and secured to prevent contaminant migration via precipitation.

4.3 On-Site Management of Contaminated Soils

Excess and unsuitable materials that will NOT be re-used as backfill must be managed in accordance with the provisions of the PADEP municipal or residual waste regulations. Excavated excess material and material that is deemed by PADEP to be unsuitable for beneficial re-use must be sampled and analyzed as required for off-site disposal. Excess contaminated or unsuitable material that will require off-site disposal must be transported to a permitted, approved recycling or disposal facility no later than 90 days after stockpiling.

The Contractor is responsible for sampling and the analytical testing of excess contaminated or unsuitable material that will require off-site disposal. Sampling frequency will be conducted in accordance with the United States Environmental Protection Agency (USEPA) guidance (USEPA, 1999), PADEP requirements, and/or as required by the selected off-site disposal facility. At a minimum, it is recommended that one grab sample be taken for every 200 cubic yards (CY) of material to be disposed offsite and analyzed for the parameters listed below.

At a minimum, the following analytical testing shall be completed:

<i>PCBs</i>	<i>Method SW 846 8082</i>
<i>VOCs</i>	<i>Method SW 846 8260B</i>
<i>SVOCs</i>	<i>Method SW 846 8270B</i>
<i>TCLP Volatiles</i>	<i>Method SW 846 1311/8260B</i>
<i>TCLP Semi-Volatiles</i>	<i>Method SW 846 1311/8270B</i>
<i>TCLP (8 RCRA Metals)</i>	<i>Method SW 846 1311/6010B</i>

TCLP analysis is not required for every sample; however, if analytical testing of soil shows that total analysis by any of the three methods listed above of any Resource Conservation and Recovery Act (RCRA)-regulated compound is greater than 20 times its regulatory TCLP limit, then TCLP testing shall be conducted for that parameter to determine if the material is classified as hazardous waste and therefore must be transported to an approved hazardous waste disposal facility.

Additional analytical requirements may be required by the disposal facility. The Contractor is responsible for sampling and the analytical testing outlined above, as well as for any additional analyses required by the selected off-site disposal facility.

4.4 Transport and Disposal

All off-site waste recycling/disposal facilities and waste transporters are to be licensed by the appropriate regulatory agency or agencies and are to be approved by Amtrak and/or PADEP prior to any waste leaving the site. It is the Contractor's responsibility to retain the services of appropriately permitted and approved solid waste recycling and/or disposal facilities. The Contractor is to provide evidence that the

facilities are willing and are permitted to accept waste material generated during this project. Any additional testing required for off-site disposal of the waste is the Contractor's responsibility.

Transportation of waste from the site is to be done in a safe and responsible manner, meeting all local, state, and federal regulations that may apply, and in such a way as to preclude injury or damage to citizens or private property and damage to the surrounding environment. Roll-off containers or truck beds shall be lined and suitable tarpaulin covers shall be utilized during transport to eliminate leaking loads and fugitive dust.

Recommended Off-Site Disposal Facilities Include:

Hazardous and/or PCB Containing Soil greater than 50 PPM

Chemical Waste Management, Inc. – Model City

1550 Balmer Road
Model City, New York 14107
1-(716)-754-8231

Wayne Disposal, Inc.

49350 North I-94 Service Drive
Belleville, Michigan 48111
1-(800)-592-5489

Non-Hazardous and/or Non PCB Containing Soil or less than 50 PPM

Grows North Landfill

100 New Ford Mill Road
Morrisville, PA 19067
1-(800)-869-5566

Tullytown Resource Recovery Facility Landfill

200 Bordentown Road
Tullytown, PA 19007
1-(215)-943-8114

4.5 Decontamination Water

Discharge of used decontamination water directly onto the ground or directly into surface water will not be permitted, unless a waiver is obtained from PADEP. Any necessary sampling and analyses required by PADEP to grant a waiver is the responsibility of the Contractor. Decontamination water must be collected, tested, and treated if necessary.



Appendix G

Public Officials, Public, and Consulting
Parties Meetings Summaries

Public Officials & Stakeholders Meetings

4/25/12 & 4/30/12



AMTRAK
NOTICE OF PUBLIC INFORMATION MEETINGS
Zoo to Paoli Electrification Transmission Line Project
Public Officials' Meetings

April 25, 2012
7:00 p.m.
Harcum College
Room 104; Academic Center

April 30, 2012
7:00 p.m.
Radnor Middle School
Auxiliary Gym

Amtrak will hold a meeting at the above referenced dates, times, and locations for elected and appointed officials, agency representatives, and special interest groups to introduce the Zoo to Paoli Electrification Transmission Line Project and to discuss and receive input on the project from the community.

The 105-mile Keystone Corridor East rail line, operating from Harrisburg to Philadelphia, Pennsylvania, has been identified by the Federal Railroad Administration (FRA) as one of ten corridors in the country for potential high-speed rail projects. Along the 20-mile segment of the corridor between the Zoo and the Paoli substations, Amtrak plans to upgrade the existing overhead electrification system and the substation at Paoli. Many of the existing 40-50 foot high overhead electrification system support structures within the right-of-way between the Zoo and Paoli substations will be replaced with new towers. The new towers will be approximately 60-75 feet high, with some towers reaching 100 feet high at overhead bridges. No additional right-of-way or property will be acquired for these improvements.

The meetings are intended to introduce the project, provide a project schedule, share current plans for the conceptual design, and present the results of preliminary research and data collection on environmental features and cultural resources within the corridor. Since feedback from the community is a vital aspect of a project of this nature, you are encouraged to attend one of the meetings to provide your input and identify project issues.

This meeting is being held in a physically accessible facility. Please notify Amtrak at least 48 hours prior to the meeting if you have special needs for which this agency will need to make arrangements. The telephone number for making special arrangements is 610-286-0100.

For further information regarding this project, contact Daniel P. Tasker at Amtrak, 215-349-1416, Taskerd@amtrak.com or Daren Petroski at Burns Engineering, Inc., 215-979-7700 x7749, DPetroski@burns-group.com. For further information regarding this meeting, contact Daren Petroski at Burns Engineering, Inc., 215-979-7700 x7749, DPetroski@burns-group.com or Allen Heist at Stell Environmental Enterprises, Inc., 610-286-0100, aheist@stellee.com.



ZOO TO PAOLI ELECTRIFICATION TRANSMISSION LINE PROJECT

SIGN IN SHEET

Meeting Date: APRIL 25, 2012

Meeting Location: HARLEM COLLEGE

NAME	ADDRESS	EMAIL
D. COPPILLIE		
C. McGARVAY	LOWER MERION TWP 75 E. LANCASTER AVE. HARMONY	cmcgarvay@lowermerion.org
Gideon Fry		gideon.fry@gmail.com
Carole Stryckland	Wynnewood Civic Assoc 452 Sabine Ave, Wynnewood PA 19096	cs@s@microstarpa.com
Alan Thomas		athomas@mainline media news.com
Angela Murray	Lower Merion Township 75 E LANCASTER AVE 19003	amurray@lowermerion.org
Joan and Dan DAquila	274 Hawthorn Lane Wynnewood, PA 19096	dl@jimb@msn.com



Federal 8(a)
PennDOT DBE
PA DGS WBE

**Project: Amtrak Electrification; Philadelphia Zoo to Paoli
Frequently Asked Questions¹:**

What is the purpose of the project?

This project proposes to meet several goals: 1) The 100 year old structures that support the existing overhead contact system, commonly called catenary, which provides electrical power to the trains, will be replaced; 2) The project will bring the electrical power transmission system back onto Amtrak-owned property from its present route which runs outside of Amtrak's current right-of-way; 3) By converting the switching station at Bryn Mawr to a traction power substation, the project will fill a critical gap in the power supply system.

Why is this project being considered now?

The existing catenary support structures on the Harrisburg Line between Zoo and Paoli are 100 years old and are beyond their useful life span. They are showing signs of significant deterioration and frequently require extensive repairs. In addition, the transmission lines that feed electricity to the system run on a much longer route using a combination of other railroad and public rights-of-way. These rights-of-way are difficult to access and consequently expensive to maintain. The structures that carry the transmission lines are also approaching the end of their useful life. Finally, the section between the Philadelphia Zoo and Paoli is the only segment of the Keystone Corridor that has not had a traction power upgrade. Amtrak typically spaces traction power substations every 10 miles. The section between Zoo and Paoli is 20 miles long. A consequence is that the existing trains operated by Amtrak and SEPTA experience low-voltage conditions in this section of railroad during periods of higher train density.

What changes in voltage are proposed?

The traction power voltage in the catenary is 12 kV and is not going to change. The voltage for the transmission lines being relocated back onto the Amtrak right-of-way will be 138 kV.

Why is the higher voltage needed?

It is more efficient to transmit electrical energy at high voltages.

How will the new structures differ from the existing ones?

The existing structures are between 45 and 65 feet tall. They consist of a pair of vertical poles outside of the outermost track that are joined together by wire head-spans. The poles are made of several circular steel tubes welded together. The diameter of the tube changes abruptly at the welded joint, so they are typically referred to as "stepped" tubes. They have

¹ Questions raised at the April 25, 2012 and April 30, 2012 Public Officials meetings and via emails; answers per the project engineers, consultants and Amtrak officials.

guy wires on the field side to counteract the forces from the head-spans. The structures are painted but in many cases the paint coating has failed and the structures are showing rust.

The new structures are different in that: 1) they will be taller - typically they will be 75 feet but where they cross highway overpasses, they will be 100 feet; 2) they will be steel and have a wide flange shape (like an "I" beam); 3) they will be galvanized and will retain their gray color rather than rusting; 4) they will have a k-frame in lieu of the head-span; 5) they will not have guy wires; and 6) the spacing across the tracks will be slightly wider to provide additional track clearance.

What will be the spacing between the new transmission towers?

The current spacing between structures varies between 250 and 320 feet. New poles will be installed adjacent to existing poles to allow the catenary wires to be transferred; therefore, the structure spacing will remain the same. The exception will be at locations where additional structures are required. For example, additional structures will be installed to allow the catenary to be permanently detached from highway overpasses.

How will Bryn Mawr substation be impacted?

Presently, the Bryn Mawr substation functions only as a switching station. In the proposed condition, it will be a traction power substation, where 138 kV electricity is converted to 12 kV electricity and fed into the catenary system. Due to the added functionality, it needs a larger footprint than the existing facility and will require taking about 10 parking spaces from the parking lot that SEPTA leases from Amtrak. The existing switching station building will be demolished and replaced with a smaller control building. The Bryn Mawr substation is being designed to be as compact as possible, while still meeting Amtrak and National Electric Safety Code requirements.

What is the purpose of increasing the power along the rail corridor?

The traction power itself is not being increased. It will remain at 12 kV. What is being proposed is an increase in the power density. Amtrak typically spaces traction power substations every 10 miles. The section between Zoo and Paoli is 20 miles long. As a result of such a long gap between substations and at the existing train densities operated by Amtrak and SEPTA, trains experience low-voltage conditions in this section of railroad. Bryn Mawr is roughly at the midpoint between the Zoo and Paoli. By converting Bryn Mawr from a switching station to a traction power substation, the low voltage conditions will be alleviated. The need to provide power is due to the density or number of trains operated by both Amtrak and SEPTA.

What is the cost of this upgrade? Where are the funds coming from?

A construction cost estimate is not available at this time. The cost estimate will be developed as the preliminary engineering progresses. The project will be federally funded and may include state funds as well.

What is NEPA and what is the NEPA process?

NEPA or National Environmental Policy Act of 1969 is the broad set of regulations that apply to federal agencies as well as activities that include federal funding. It requires consideration of the environmental consequences of proposed actions. The NEPA process consists of an evaluation of relevant environmental effects of a Federally funded project. There are three levels of analysis that may be undertaken to comply with the law including: 1) preparation of a Categorical Exclusion (CE), 2) preparation of an Environmental Assessment (EA) and Finding of No Significant Impact (FONSI); or 3) preparation and drafting of an Environmental Impact Statement (EIS). Impacts to the natural environment as well as historic, cultural, archaeological and other community impacts are included in the evaluations.

What environmental impacts are being reviewed with the project?

The existing rail line has been in use for over a hundred years and is considered a disturbed project site. It is unlikely that significant natural resources will be impacted along the rail line. Being located in a dense urban setting, the principle impacts are expected to be cultural and social. While there are no known archaeological resources within the railroad right-of-way, there are numerous historic resources identified along the corridor within 750 feet of the rail line. The rail line itself is considered an historic resource. It is anticipated that the visual impacts of the new transmission towers will be the principle impact of the upgrade. Appropriate mitigations to historic resources will be agreed upon with the Pennsylvania State Historic Preservation Officer (SHPO) at the Pennsylvania Historical and Museum Commission (PHMC).

Will the vibrations from the trains increase as a result of the increased voltages?

No.

Does the public have an opportunity to impact the design decisions of the project?

Yes – the Federal Rail Administration (FRA) will review the NEPA submission to determine if the techniques proposed to mitigate any impacts are sufficient. The FRA may require additional mitigation or evaluations if needed.

Will the proposed upgrade support high speed rail?

The proposed electrical upgrades are needed to support existing train density. While the project could support high-speed trains, it is not being advanced in anticipation of high speed trains.

Is SEPTA required to pay a portion of the costs for the upgrade?

SEPTA has an ongoing contract that includes payment for electrical power and use of Amtrak's track. SEPTA's support for funding this project is indeterminate at this stage.

Why are the new power lines proposed to be taller than the existing ones?

The heights of the proposed structures are a result of meeting both Amtrak's design requirements and the requirements of the National Electric Safety Code. The new poles will

be the minimum height necessary to meet those clearances. Additional height is needed for structures to provide required clearances at bridges and other crossings.

Is it possible to know which poles will need to be the taller structures?

The details of each structure's size will be established as the engineering continues. In general, the taller structures are required to take the transmission line up and over bridges that are crossing Amtrak. Taller structures are also required where the transmission wires are "stacked", one above the other, to keep construction within Amtrak's Right-of-Way.

Will the Amtrak project coordinate with efforts to relocate the Paoli Station and move the sub-station?

Yes.

Is there a project website where the public can direct questions or find updates?

Not at this time.

Is there anything specific that the emergency services providers should know?

The new sub-station at Bryn Mawr will be equipped with fire suppression equipment.

Will access to the Amtrak right-of-way be needed from any private or municipally owned properties?

Access points have not yet been determined.

Will the municipality have a chance to review the construction plans for the Bryn Mawr substation prior to construction?

Yes.

Will the old transmission lines that currently carry the higher voltages and run outside of the Amtrak right-of-way be removed?

Not at this time. They will be de-energized and made safe.

Will the old catenary support structures be removed once the new structures are in place?

All of the old catenary support structures currently within the Amtrak right-of-way will be removed once the new structures are in place.

When will construction take place?

Construction is anticipated to begin in Spring 2015 and last 5 years. In order to maintain service, construction will need to take place at night and over week-ends although construction will progress from one end of the corridor to the other so local construction impacts will be for much shorter durations. There will be no blasting involved with construction. Trees along the right-of-way will be trimmed back to within 10 feet of the proposed wire locations.

What is the proposed construction sequence?

Between Zoo and Bryn Mawr:

Stage 1

1. Install new foundations and poles on both the north and south side of the railroad and install k-frames to connect between poles.
2. Transfer fiber optic ground wire to new south pole.
3. Install new 138 kV transmission and static wire on new north and south poles.
4. Install 6.9 kV signal power cable on north pole.

Stage 2

1. Transfer and re-profile catenary.

Between Bryn Mawr and Paoli:

In this section, an existing PECO distribution circuit has to be transferred.

Stage 1

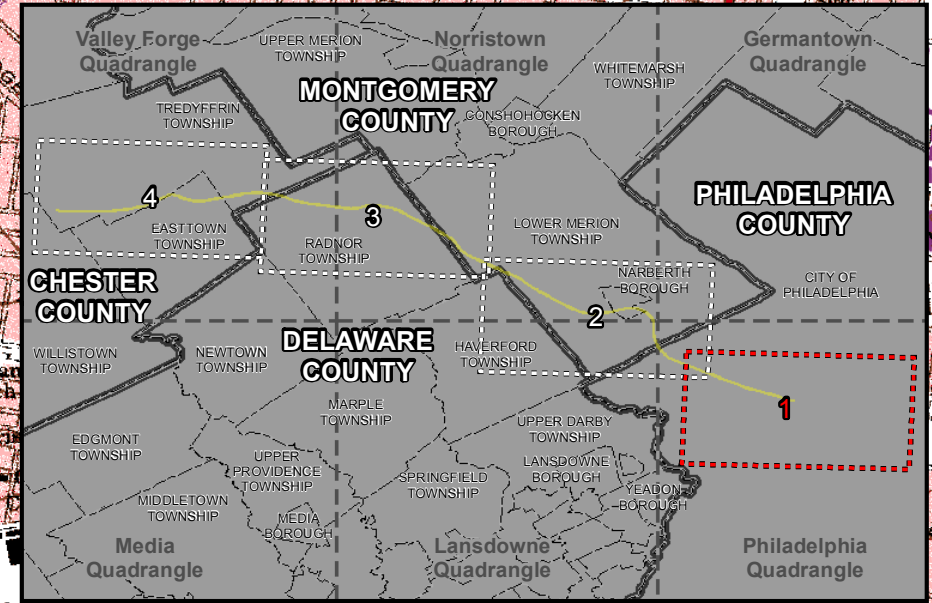
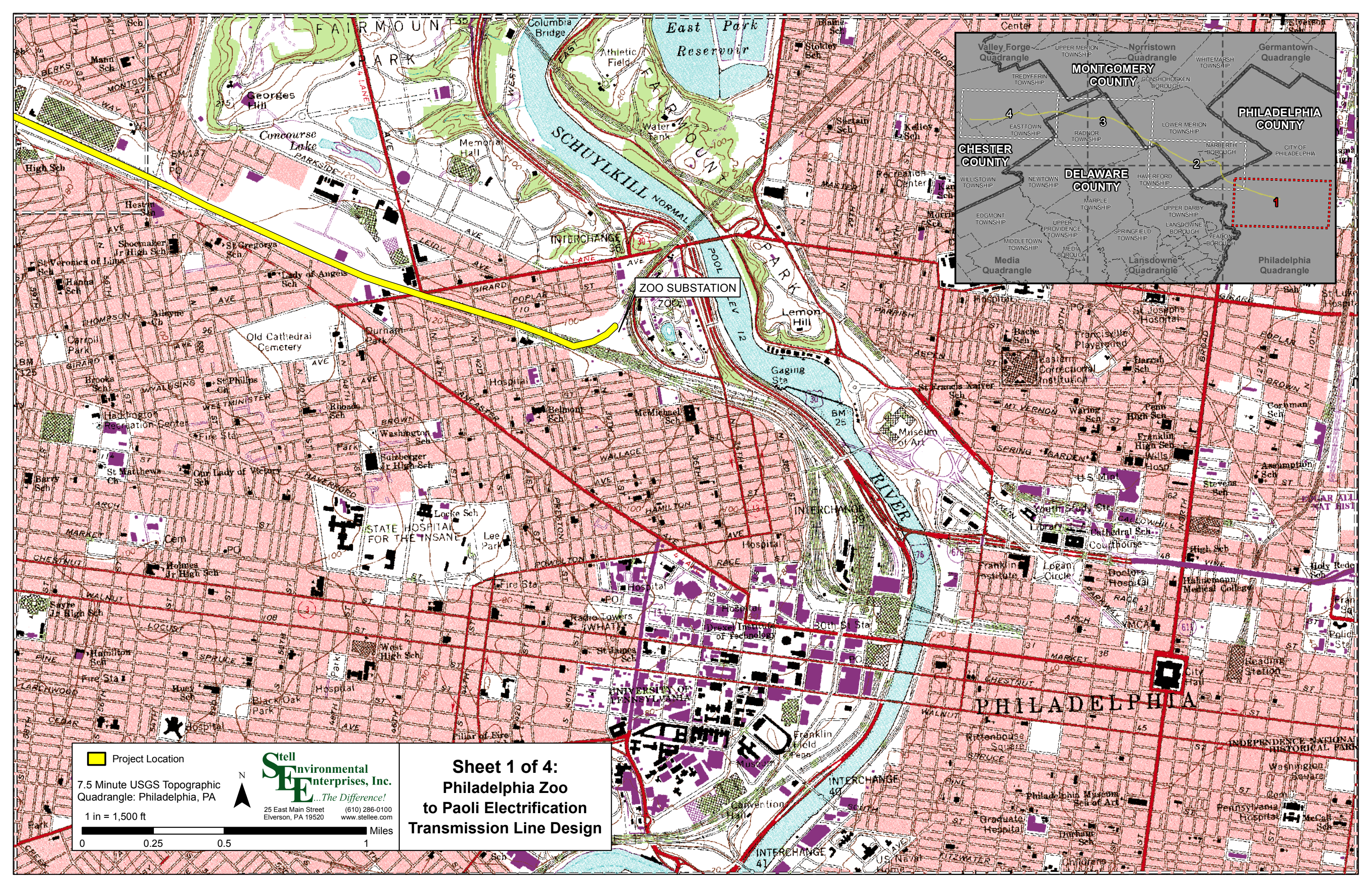
1. Install new foundations and poles on the south side of the railroad.
2. Transfer fiber optic ground wire and install new static wire, 138 kV transmission and replacement PECO 33 kV distribution cables on the south pole line.
3. Energize the new PECO 33 kV cables, de-energize and demolish the old 33 kV cables.

Stage 2

1. Install new foundations and poles on the north side of the railroad and install k-frames to connect between poles on the north and south side.
2. Install new static wire, 138 kV transmission and replacement PECO 33 kV distribution cables on the north pole line.
3. Install new 6.9 kV signal power cable.

Stage 3

1. Transfer and re-profile catenary.



ZOO SUBSTATION

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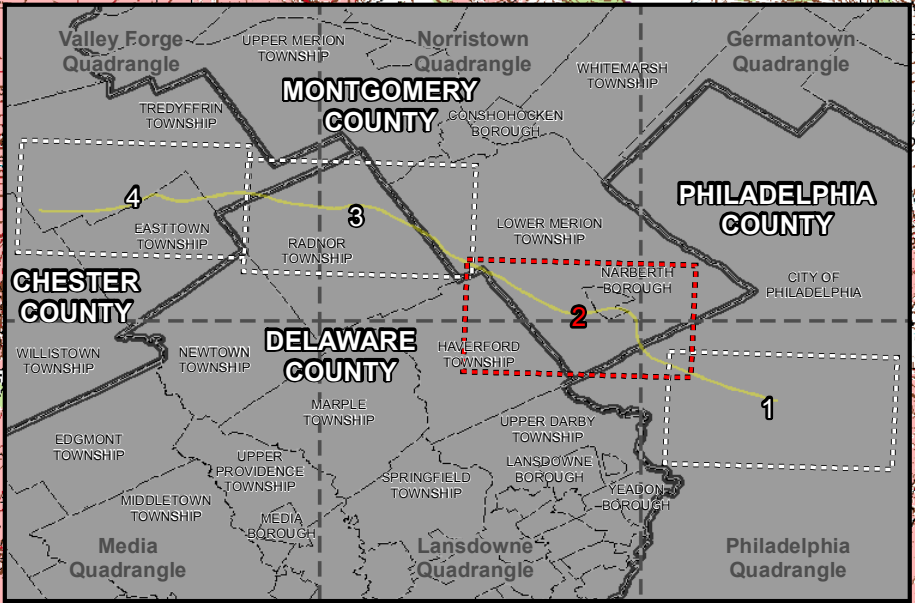
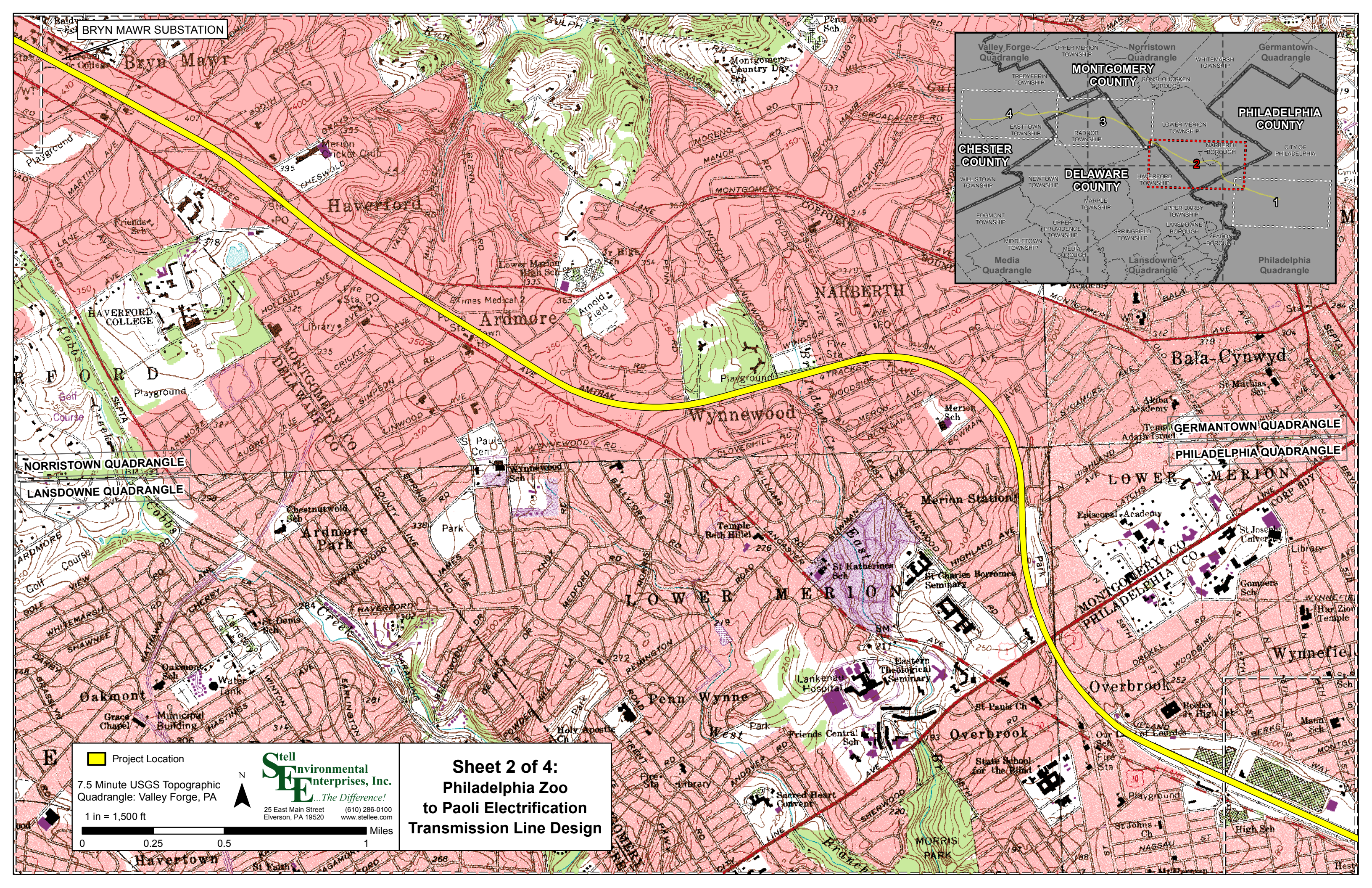
Project Location

7.5 Minute USGS Topographic Quadrangle: Philadelphia, PA

1 in = 1,500 ft

0 0.25 0.5 1 Miles

**Sheet 1 of 4:
 Philadelphia Zoo
 to Paoli Electrification
 Transmission Line Design**



NORRISTOWN QUADRANGLE
 LANSDOWNE QUADRANGLE

GERMANTOWN QUADRANGLE
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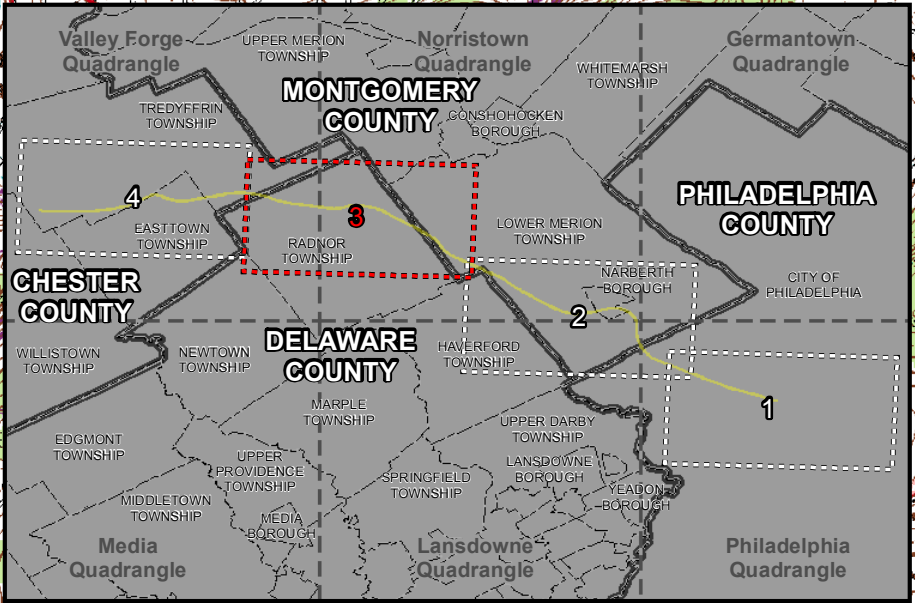
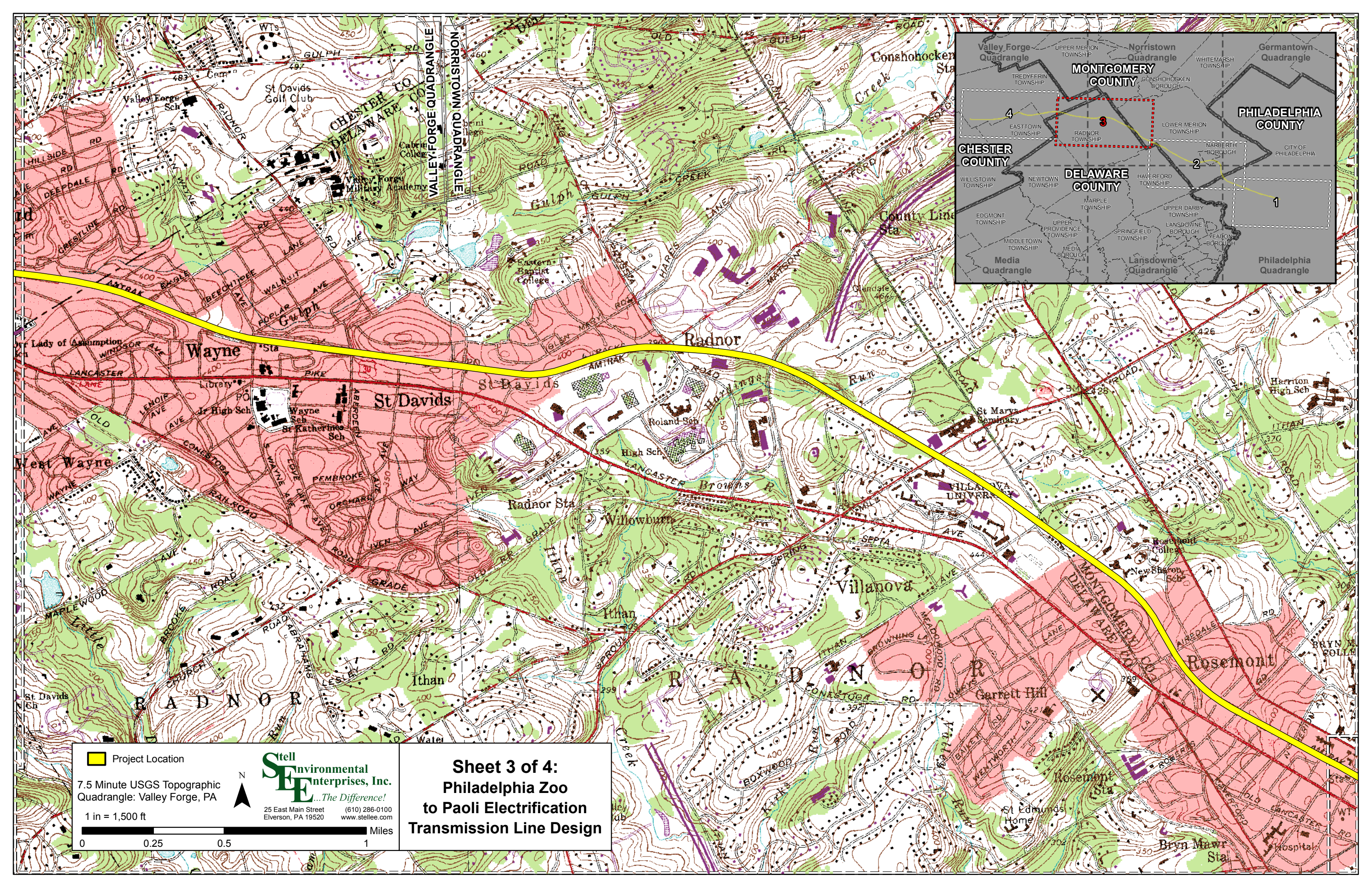
Project Location

7.5 Minute USGS Topographic
 Quadrangle: Valley Forge, PA

1 in = 1,500 ft

0 0.25 0.5 1 Miles

**Sheet 2 of 4:
 Philadelphia Zoo
 to Paoli Electrification
 Transmission Line Design**



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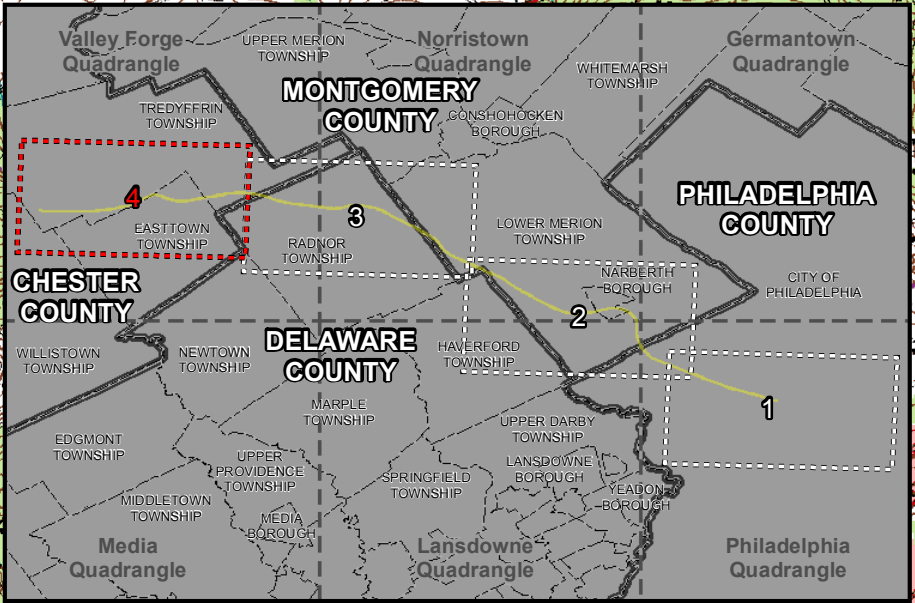
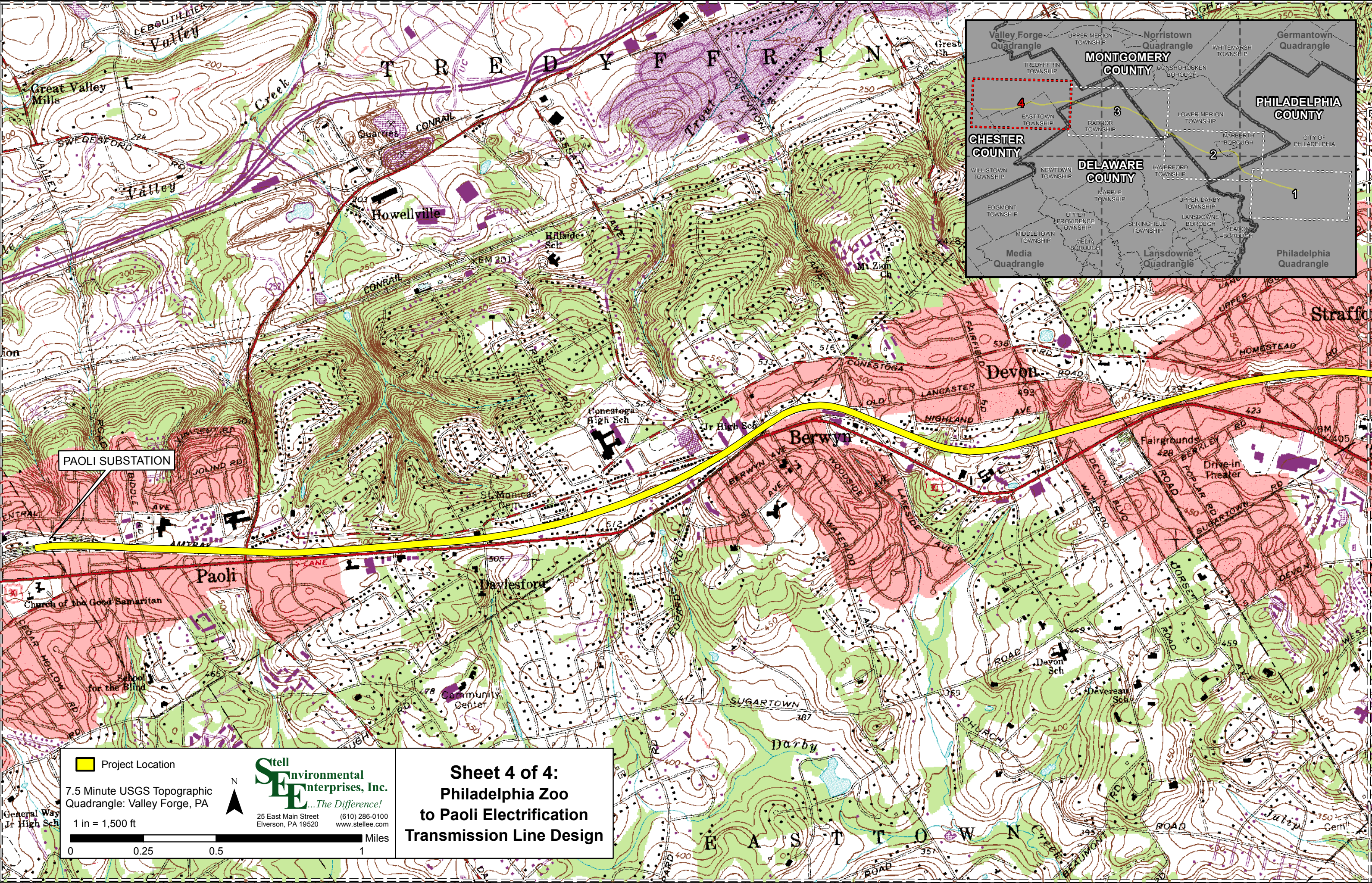
Project Location

7.5 Minute USGS Topographic
 Quadrangle: Valley Forge, PA

1 in = 1,500 ft

0 0.25 0.5 1 Miles

**Sheet 3 of 4:
 Philadelphia Zoo
 to Paoli Electrification
 Transmission Line Design**

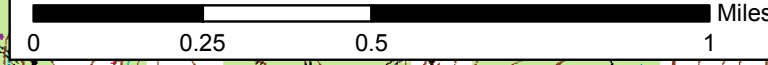


PAOLI SUBSTATION

Project Location

7.5 Minute USGS Topographic
Quadrangle: Valley Forge, PA

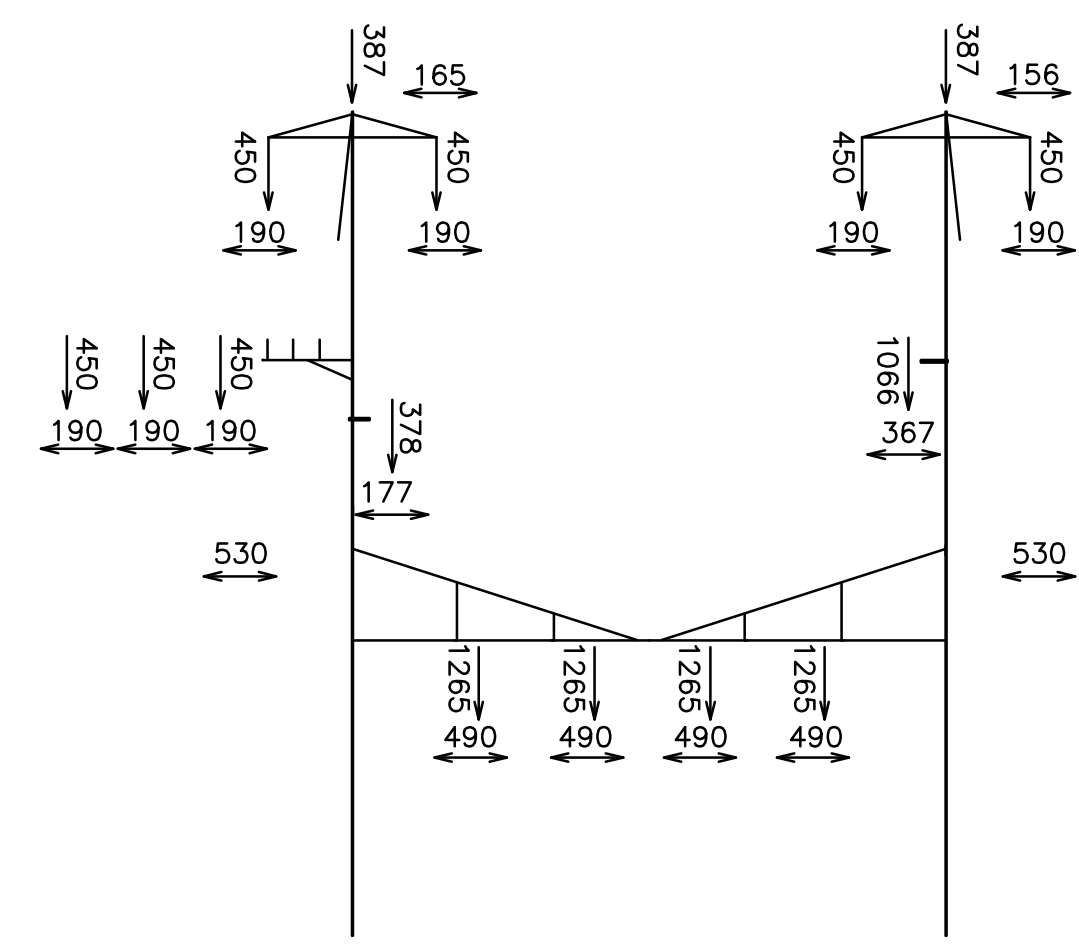
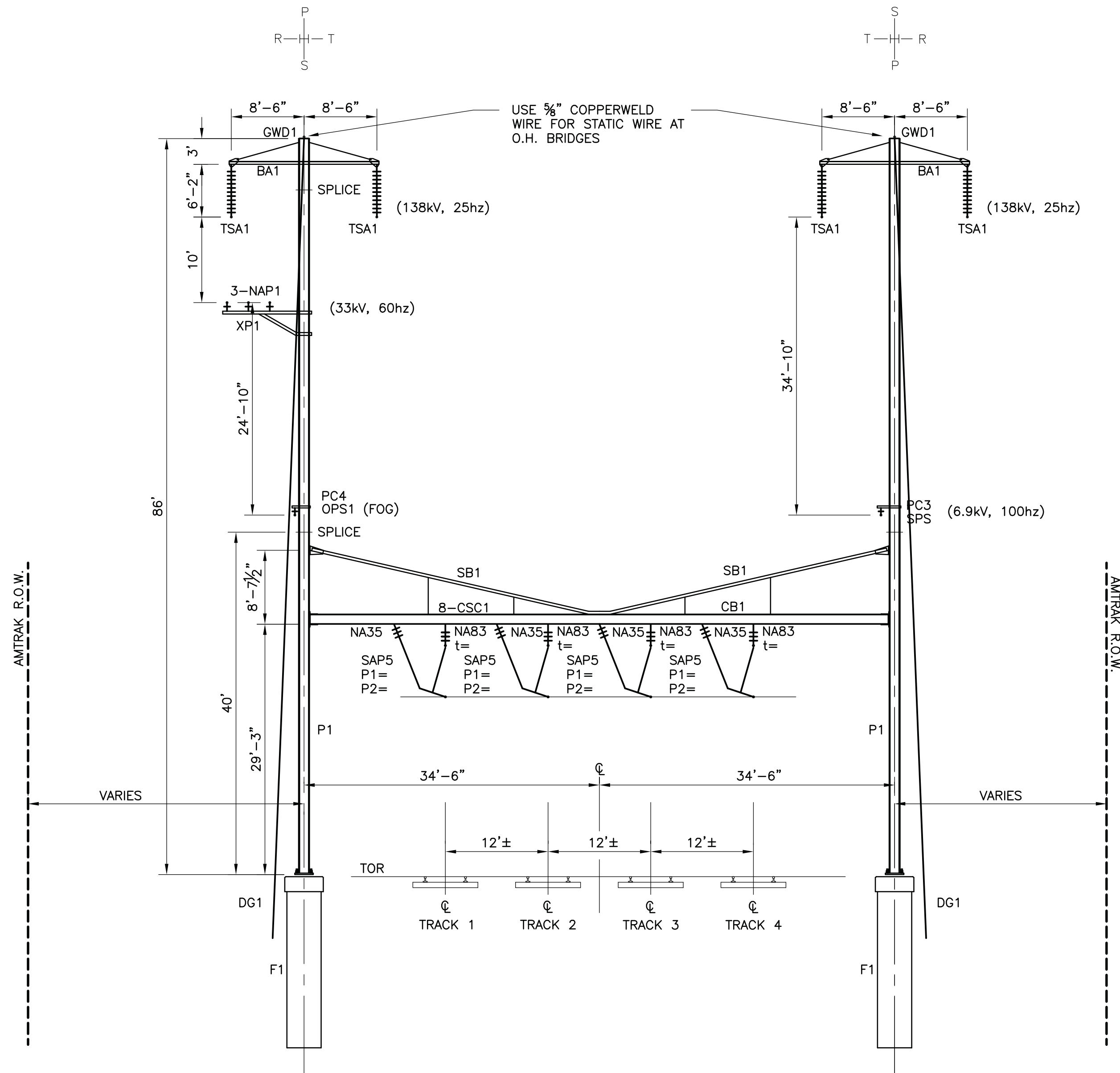
1 in = 1,500 ft



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**Sheet 4 of 4:
Philadelphia Zoo
to Paoli Electrification
Transmission Line Design**

BILL OF MATERIALS			
MARK	DESCRIPTION	REF. DWG.	QUANTITY
NA83	MESSENGER SUPPORT	ET-xx	4
NA35	MESSENGER SUPPORT	ET-xx	4
SAP5	REGISTRATION ASSEMBLY	ET-xx	4
GWD1	GROUND WIRE ASSEMBLY	ET-xx	2
TSA1	TRANSMISSION WIRE SUPPORT	ET-xx	4
NAP1	PECO WIRE SUPPORT	ET-xx	3
OPS1	FOG WIRE SUPPORT	ET-xx	1
SPS	SIGNAL POWER SUPPORT	ET-xx	1
PC3	SLIDING CLAMP	S-xx	1
PC4	SLIDING CLAMP	S-xx	1
P1	POLE	S-xx	2
F1	FOUNDATION	S-xx	2
SB1	SAG BRACE	S-xx	2
CB1	CROSS BEAM	S-xx	1
BA1	TRANSMISSION BRACKET -DOUBLE	S-xx	2
XP1	PECO BRACKET	S-xx	1
CSC1	SLIDING BRACKET	S-xx	8
DG1	DOWNGUY ASSEMBLY	S-xx	2
DGA	DOWNGUY ANCHOR FOUNDATION	S-xx	2



LOADING DIAGRAM
1/2" RADIAL ICE, 40 MPH WIND, 300' MAX SPAN
(NOT TO SCALE)

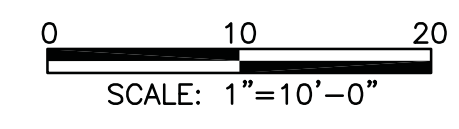
CLEARANCE NOTES:

1. CLEARANCE OF 138KV OVER ROADWAY SHALL BE 35' WORST CASE.
2. CLEARANCE OF 33KV PECO OVER ROADWAY SHALL BE 18.5' PER NESC RULE 232, TABLE 232-1.
3. CLEARANCE OF 33KV PECO OVER OTHER PECO WIRES SHALL BE 2' PER NESC RULE 233, TABLE 233-1.

WORK STATEMENT:

1. INSTALL FOUNDATIONS.
2. INSTALL POLES, CROSS BEAM AND SAG BRACES.
3. INSTALL TRANSMISSION BRACKETS.
4. INSTALL LONGITUDINAL DOWN GUYS.
5. INSTALL STATIC, TRANSMISSION, INSULATED SIGNAL POWER AND PECO WIRES.
6. TRANSFER FOG AND EXISTING INSULATED SIGNAL POWER WIRES TO NEW STRUCTURE.
7. INSTALL SLIDING BEAM CLAMPS AND MESSENGER SUPPORTS.
8. TRANSFER CATENARY WIRES TO NEW STRUCTURE.
9. ADJUST HANGERS IN CATENARY SPANS AND REPROFILE CATENARY.
10. DEMO OLD CAT POLES AND FOUNDATIONS.

STRUCTURE ERECTION DIAGRAM P-
STATION 00+0
LOOKING TOWARDS HARRISBURG



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No	Revisions	Date	By



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30TH Street Station-Philadelphia, Pennsylvania 19104

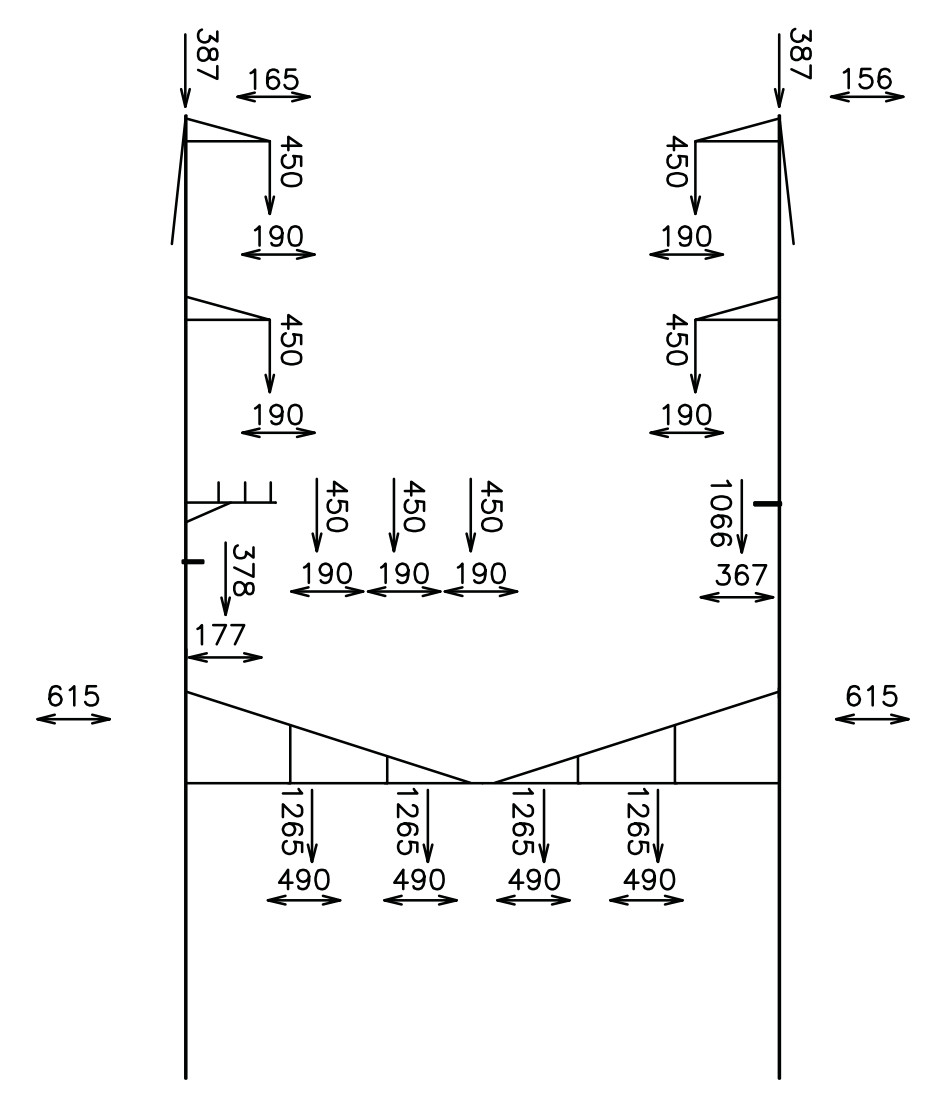
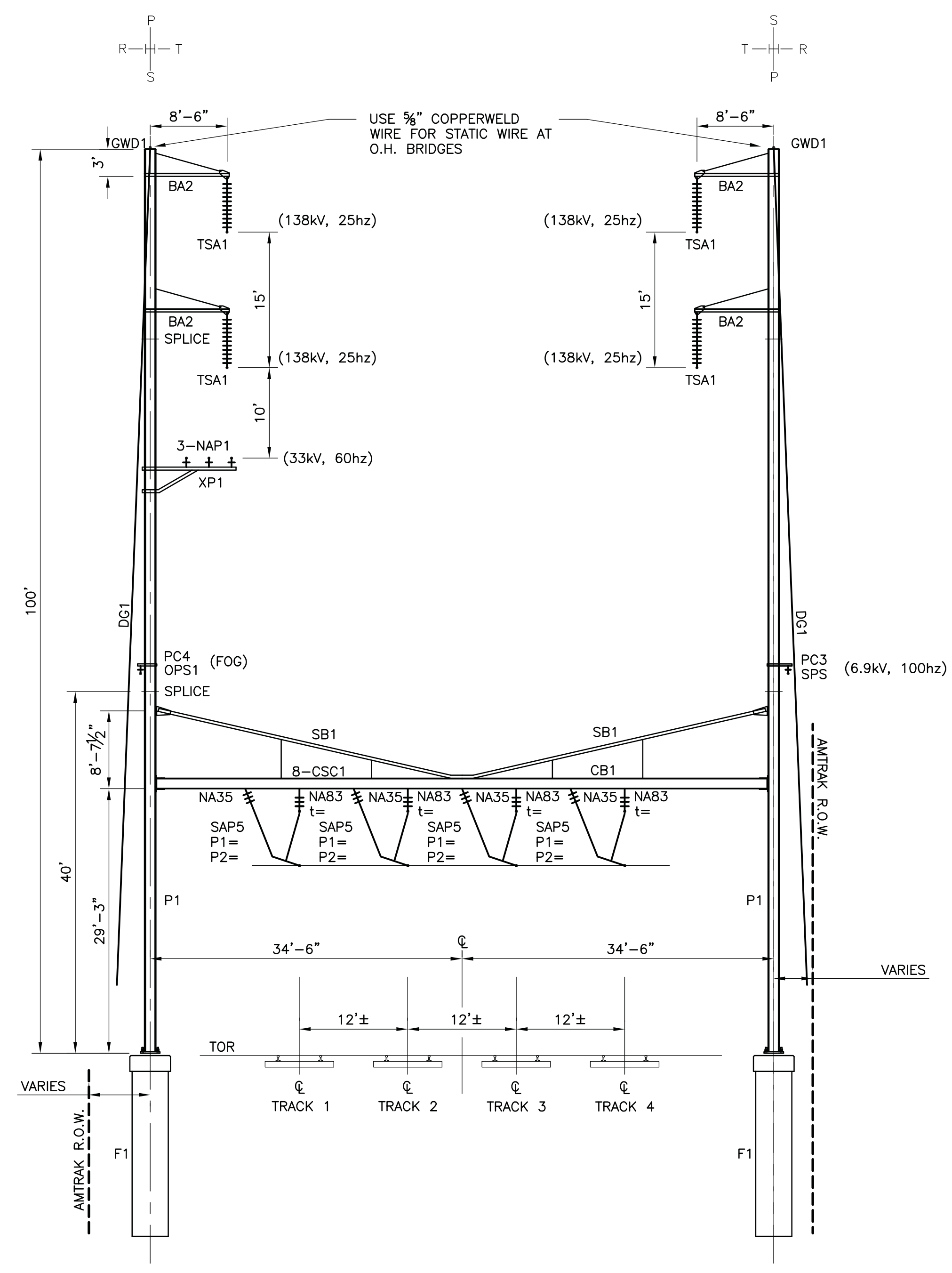
Approved	Date



ZOO TO PAOLI TRANSMISSION
ELECTRIFICATION
STRUCTURAL ERECTION DIAGRAM
TANGENT TRACK OH BRIDGE (WITH PECO)
Recommended: DP Drawn: CTS Checked: RW Date: 1/27/12

File No.:	
Ref. No.:	
Sheet No.:	X OF -
ET-1020	

BILL OF MATERIALS			
MARK	DESCRIPTION	REF. DWG.	QUANTITY
NA83	MESSENGER SUPPORT	ET-xx	4
NA35	MESSENGER SUPPORT	ET-xx	4
SAP5	REGISTRATION ASSEMBLY	ET-xx	4
GWS1	GROUND WIRE ASSEMBLY	ET-xx	2
TSA1	TRANSMISSION WIRE SUPPORT	ET-xx	4
NAP1	PECO WIRE SUPPORT	ET-xx	3
OPS1	FOG WIRE SUPPORT	ET-xx	1
SPS	SIGNAL POWER SUPPORT	ET-xx	1
PC3	SLIDING CLAMP	S-xx	1
PC4	SLIDING CLAMP	S-xx	1
P1	POLE	S-xx	2
F1	FOUNDATION	S-xx	2
SB1	SAG BRACE	S-xx	2
CB1	CROSS BEAM	S-xx	1
BA2	TRANSMISSION BRACKET - SINGLE	S-xx	4
XP1	PECO BRACKET	S-xx	1
CSC1	SLIDING BRACKET	S-xx	8
DG1	DOWNGUY ASSEMBLY	S-xx	2
DGA	DOWNGUY ANCHOR FOUNDATION	S-xx	2



LOADING DIAGRAM
1/2" RADIAL ICE, 40 MPH WIND, 300' MAX SPAN
(NOT TO SCALE)

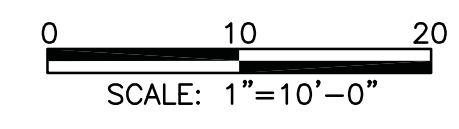
CLEARANCE NOTES:

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- DEMO OLD CAT POLES AND FOUNDATIONS.

STRUCTURE ERECTION DIAGRAM P-
STATION 00+0
LOOKING TOWARDS HARRISBURG



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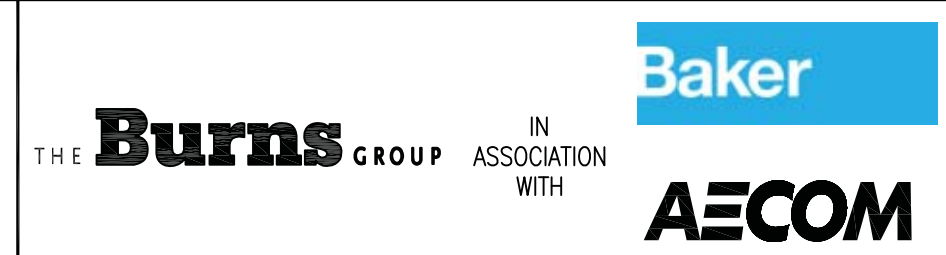
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30TH Street Station-Philadelphia, Pennsylvania 19104

Approved	Date

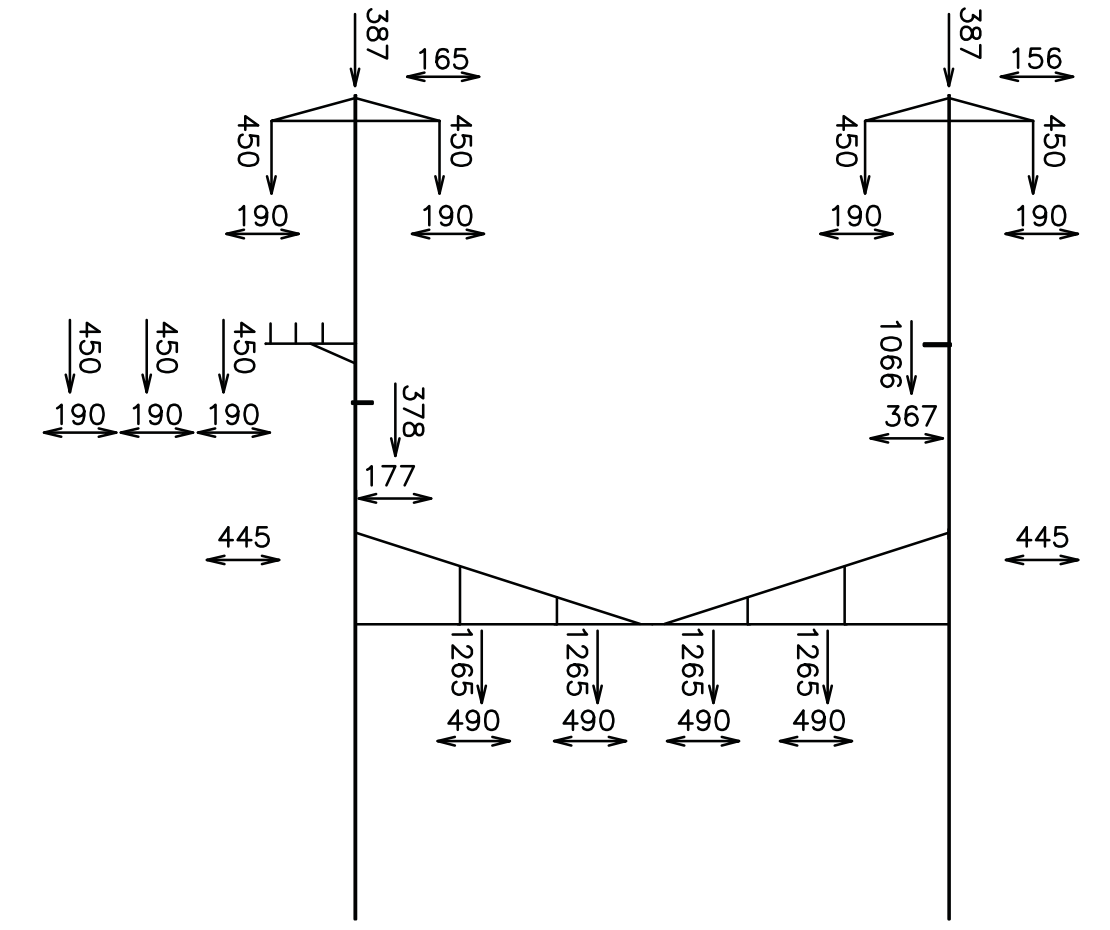


ZOO TO PAOLI TRANSMISSION
ELECTRIFICATION
STRUCTURAL ERECTION DIAGRAM
TANGENT TRACK, STACKED (WITH PECO)

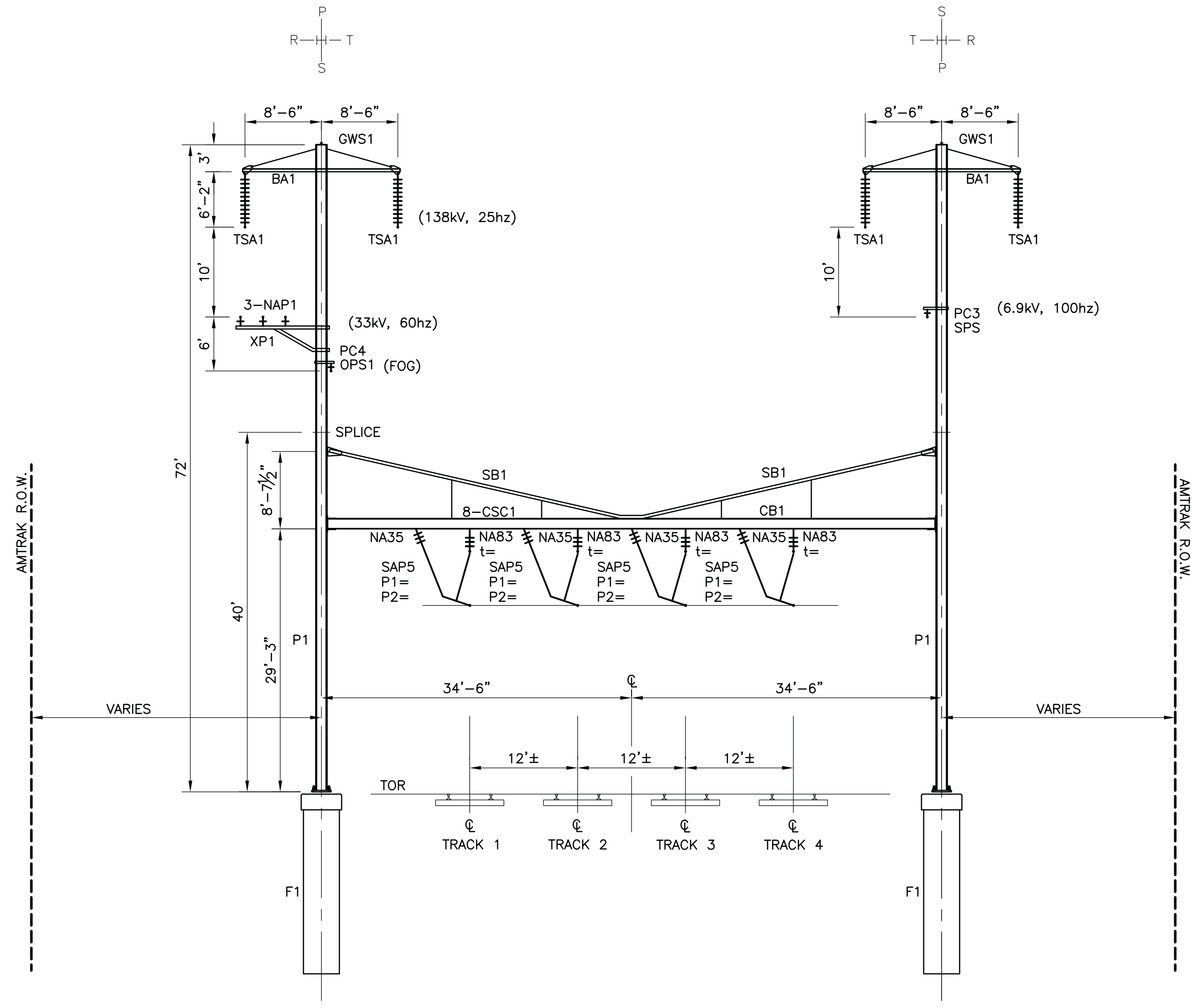
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Ref. No.:	
Sheet No.:	X OF -
ET-1021	

BILL OF MATERIALS			
MARK	DESCRIPTION	REF. DWG.	QUANTITY
NA83	MESSENGER SUPPORT	ET-xx	4
NA35	MESSENGER SUPPORT	ET-xx	4
SAP5	REGISTRATION ASSEMBLY	ET-xx	4
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OPS1	FOG WIRE SUPPORT	ET-xx	1
SPS	SIGNAL POWER SUPPORT	ET-xx	1
PC3	SLIDING POLE CLAMP	S-xx	1
PC4	SLIDING CLAMP	S-xx	1
P1	POLE	S-xx	2
F1	FOUNDATION	S-xx	2
SB1	SAG BRACE	S-xx	2
CB1	CROSS BEAM	S-xx	1
BA1	TRANSMISSION BRACKET -DOUBLE	S-xx	2
XP1	PECO BRACKET	S-xx	1
CSC1	SLIDING BRACKET	S-xx	8



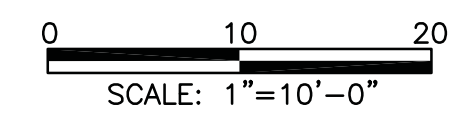
LOADING DIAGRAM
1/2" RADIAL ICE, 40 MPH WIND, 300' MAX SPAN
(NOT TO SCALE)



STRUCTURE ERECTION DIAGRAM P-
STATION 00+0
LOOKING TOWARDS HARRISBURG

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8. ADJUST HANGERS IN CATENARY SPANS AND REPROFILE CATENARY.
9. DEMO OLD CAT POLES AND FOUNDATIONS.



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15% DESIGN SUBMISSION

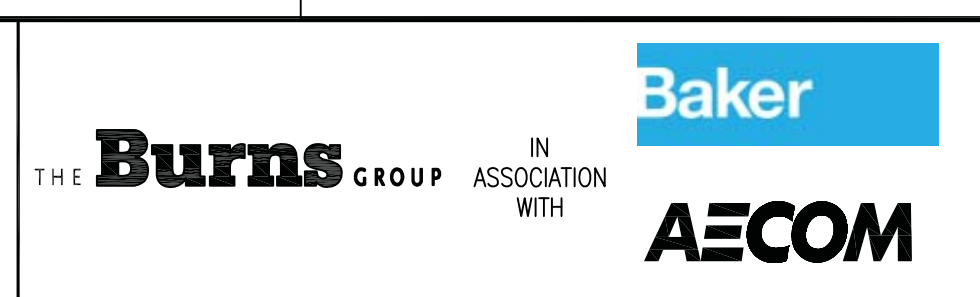
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No	Revisions	Date	By



OFFICE OF
Chief Engineer
Engineering
National Railroad Passenger Corporation
30TH Street Station-Philadelphia, Pennsylvania 19104

Approved	Date



ZOO TO PAOLI TRANSMISSION
ELECTRIFICATION
STRUCTURAL ERECTION DIAGRAM
TANGENT TRACK (WITH PECO)
Recommended: DP Drawn: CTS Checked: RW Date: 1/27/12

File No.:
Ref. No.:
Sheet No: X OF -
ET-1022



ZOO TO PAOLI ELECTRIFICATION TRANSMISSION LINE PROJECT

PUBLIC OFFICIAL'S SURVEY

Results from April 25 & 30

If you have any comments or opinions on the Zoo to Paoli Electrification Transmission Line Project, please send us an email at: ahleist@stellee.com or fill in the survey form below and return it a member of the project team.

Prior to the announcement of this meeting, were you aware of AMTRAK plans to upgrade the electric service system along the rail lines between the Philadelphia Zoo and Paoli?

Yes (3) No (3)

Do you feel that this meeting provided enough information to start the conversation about how the project may impact your community? Yes (5) No (0)

Are sufficient contacts provided to allow you to have your questions addressed? Yes (3)
No

Do you have any concerns regarding the proposed improvements associated with this project? If so, please describe:

Visual impacts of new poles; yet to be seen

Please provide any additional comments regarding the proposed improvements:

Contact info should be on handouts

Do you regularly travel by rail? Yes (1) No (4)

Daily Weekly Monthly (2)

If the service was faster/more efficient/more reliable, would you use it more frequently?

Yes (3) No (3)

Do you use the rail line to travel for: Business (3) Pleasure (4)

What do you like MOST about traveling by rail?

Convenience and parking

What do you like LEAST about traveling by rail?

Late evening schedules

From what station to what station do you travel most frequently?

Wayne to Center City; Exton, Ardmore

Thank you

Public Meeting Summary:

April 25, 2012: Harcum College, Room 104, Academic Center.

7 public attendees

2 surveys received

April 30, 2012, Radnor Middle School, Auxiliary Gym

9 attendees

4 surveys received

Survey summary:

PUBLIC OFFICIAL'S SURVEY

Results from April 25 & 30

If you have any comments or opinions on the Zoo to Paoli Electrification Transmission Line Project, please send us an email at: ahelist@stelllee.com or fill in the survey form below and return it a member of the project team.

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Yes (3) No (3)

Do you feel that this meeting provided enough information to start the conversation about how the project may impact your community? Yes (5) No (0)

Are sufficient contacts provided to allow you to have your questions addressed? Yes (3) No

Do you have any concerns regarding the proposed improvements associated with this project? If so, please describe:

Visual impacts of new poles; yet to be seen

Please provide any additional comments regarding the proposed improvements:

Contact info should be on handouts

Do you regularly travel by rail? Yes (1) No (4)

Daily Weekly Monthly (2)

If the service was faster/more efficient/more reliable, would you use it more frequently?

Yes (3) No (3)

Do you use the rail line to travel for: Business (3) Pleasure (4)

What do you like MOST about traveling by rail?

Convenience and parking

What do you like LEAST about traveling by rail?

Late evening schedules

From what station to what station do you travel most frequently?

Wayne to Center City; Exton, Ardmore

Thank you

Survey summary:

It appears that many municipal officials and community organizations were aware of the proposed project prior to the public announcement.

It also appears that the Project Team is providing sufficient information so far about the meetings and the initial project details.

Sufficient contacts are provided to address concerns but the contact info should be included in the handouts. (Additional handout being prepared for the June 6 meeting.)

The primary issue noted in the surveys (2) was the visual impact of the new, higher towers.

Most survey respondents were NOT rail riders.

Faster, more efficient and more reliable service would entice about half of respondents to use rail more frequently.

The use of rail for business vs pleasure was about evenly split.

The convenience and available parking are important factors in using rail.

Late evening schedules can be a deterrent to rail usage.

Origins of rail usage included: Wayne, Exton and Ardmore

General Public Meeting

6/6/12



AMTRAK'S ZOO TO PAOLI RAIL LINE ELECTRIC TRANSMISSION LINE PROJECT

May 11, 2012

FOR IMMEDIATE RELEASE:

Contact: Daniel P. Tasker, Program Director OCS/Transmission Upgrades; Amtrak
Ph: 215-349-1416
Email: Taskerd@amtrak.com

AMTRAK TO HOST PUBLIC OPEN HOUSE FOR ZOO TO PAOLI UPGRADE PROJECT

Philadelphia, PA- Amtrak will hold a public open house on June 6, 2012 at Villanova University's Connelly Center Cinema to introduce the Zoo to Paoli Electric Transmission Line Project and to gather public input on the project. The meeting will begin at 7:00 PM.

Amtrak plans to upgrade the existing overhead electric power system along the 20-mile segment of the Keystone Corridor between the Philadelphia Zoo and the Paoli substation as well as upgrade and expand the existing sub-station at the Bryn Mawr rail station. This section of the corridor is in dire need of electrical system upgrades to ensure safe and efficient rail travel in the future.

New towers are planned to carry the overhead electric system, replacing the existing structures. The existing towers, at approximately 44 feet tall, show signs of significant deterioration and will be replaced by new towers approximately 72 feet tall. A few towers may reach 100 feet tall at overhead bridges. All construction will take place within the existing Amtrak right of way, so no additional right-of-way or property will need to be acquired for these improvements. Construction is anticipated to start in 2015.

The June 6 open house will introduce the project to the public, provide a tentative project schedule, share conceptual plans for the design, and present the results of preliminary research on environmental and cultural resources within the corridor. Since feedback from the community is vital to ensuring a successful project, residents along the corridor are encouraged to attend this meeting to provide input and help identify project issues.

Villanova University's Connelly Center is a physically accessible facility. Please notify Stell Environmental Consulting at least 48 hours prior to the meeting if you have special needs for which this agency will need to make arrangements. The telephone number for making special arrangements is Crystal Gilchrist, 610.286.0100.

For further information regarding this project, contact Daniel P. Tasker at Amtrak, 215-349-1416, Taskerd@amtrak.com or Daren Petroski at Burns Engineering, Inc., 215-979-7700 x7749, DPetroski@burns-group.com. For further information regarding this meeting, contact Daren Petroski at Burns Engineering, Inc., 215-979-7700 x7749, DPetroski@burns-group.com or Allen Heist at Stell Environmental Enterprises, Inc., 610-286-0100,



ZOO TO PAOLI ELECTRIFICATION TRANSMISSION LINE PROJECT

SIGN IN SHEET

Meeting Date: June 6 2012

Meeting Location: Villanova U. Connelly Center

	NAME	ADDRESS	EMAIL
1	David Stewart	319 Dundee Place, Devon, PA 19333	dmstewart76@hotmail.com
2	Frank Tatnall	204 Hermitage Rd, Radnor, PA 19087	tatnall1@verizon.net
3	MARC HIRSCHLER	415 W. BEECHTREE LN WAYNE	mhirschler@verizon.net
4	PAUL ALLEN	454 ST. DAVIDS AVE - WAYNE 19087	allenppd@verizon.net
5	John Corbett	2746 Belmont Ave Phila, PA 19131 apt 115	JACORBETT70@MSN.COM
6	STEPHEN BURGO	BERWYN, PA 19312 1100 DUPOINTEAU ROAD	sburgo@tredyffrin.org
7	Mike Heaberg	430 Margo Lane Berwyn, PA 19312	mheaberg@hotmail.com
8	Grace Ziesing	109 Glyn Lane St. Davids, PA 19087	gziesing@verizon.net
9	John Vezutini	106 WALNUT AVE ^{Wayne} PA 19087	mmjv11@verizon.net
10	BOB SHAUD	201 N WAYNE AVE WAYNE	bshaud@yahoo.com
11	ROY FRIEDLANDER	850 CASSATT ROAD, SUITE 370 BERWYN, PA, 19312	RTFRIEDLANDER@CASEFOUNDATION.ORG
12	Andy Sharpe	1601 Walnut St., Suite 1129 Phila., PA 19102	sharpe@dvarp.org
			↳ willing to help distribute info.
	*Check Davis notes from <u>last fall</u>		



THE **Burns** GROUP ENGINEERING AND CONSTRUCTION



AMTRAK
Proposed Transmission Line Zoo to Paoli
Presentation at Public Meeting June 6, 2012

Agenda

- Project Team Introductions
- Meeting Focus
- Project Background and Status
- Conceptual Design
- Project Schedule
- Questions and Comments at boards

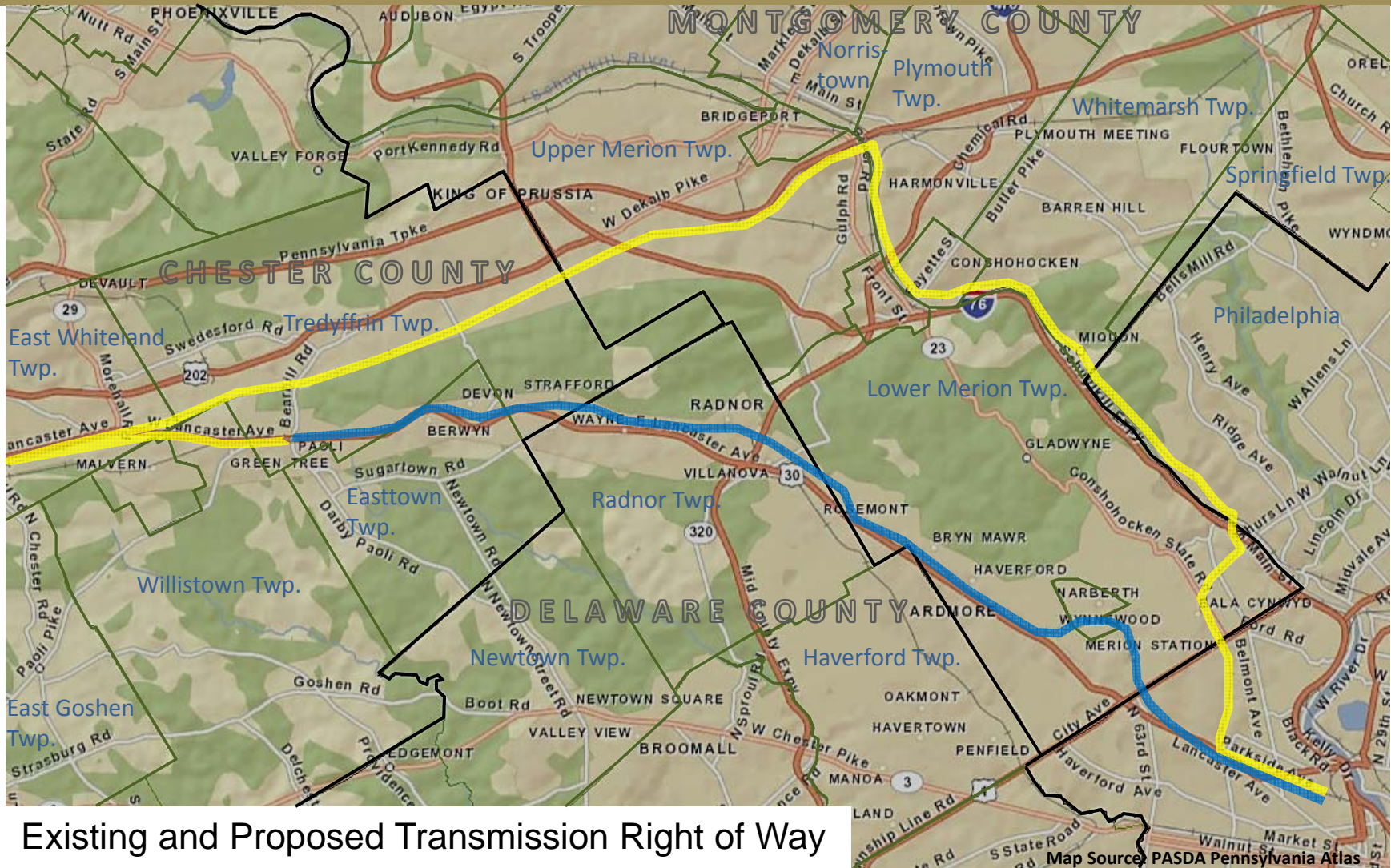
Project Team

- Burns Engineering – Lead Engineering Firm
- Michael Baker Jr. Inc. – Lead Environmental Firm
- Stell Environmental – Lead Cultural/ Historic Firm
- AECOM – Engineering Support

Meeting Focus

- **Information Dissemination**
 - Background
 - Conceptual Design
 - Schedule
- **Open up Communication Channel for Feedback**

Project Background and Status



Existing and Proposed Transmission Right of Way

Project Background and Status



Existing Transmission Right of Way

Project Background and Status



Existing Catenary Structures

Project Background and Status



Pole deterioration

Project Background and Status



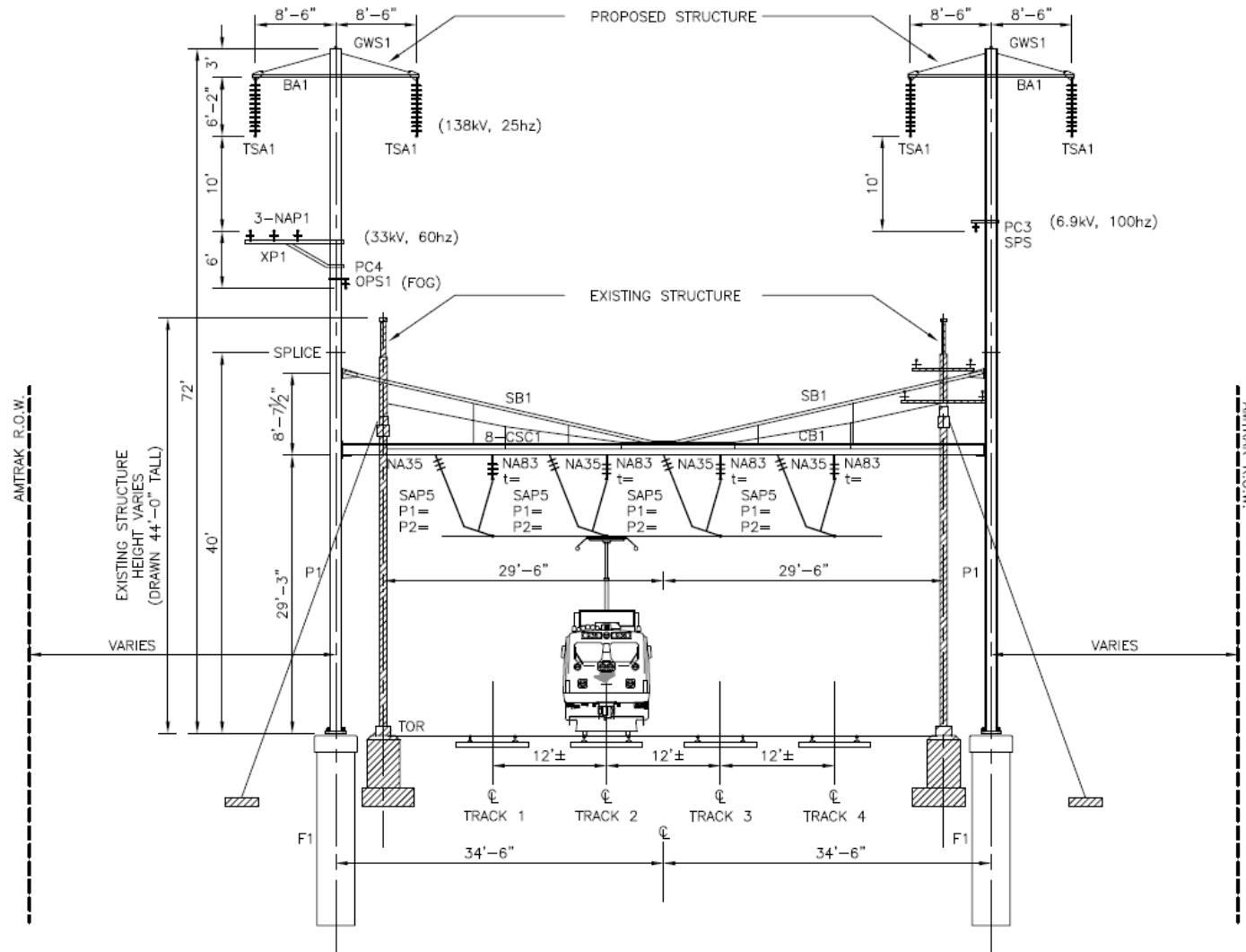
Beam failure (St. Davids), Foundation deterioration

Conceptual Design

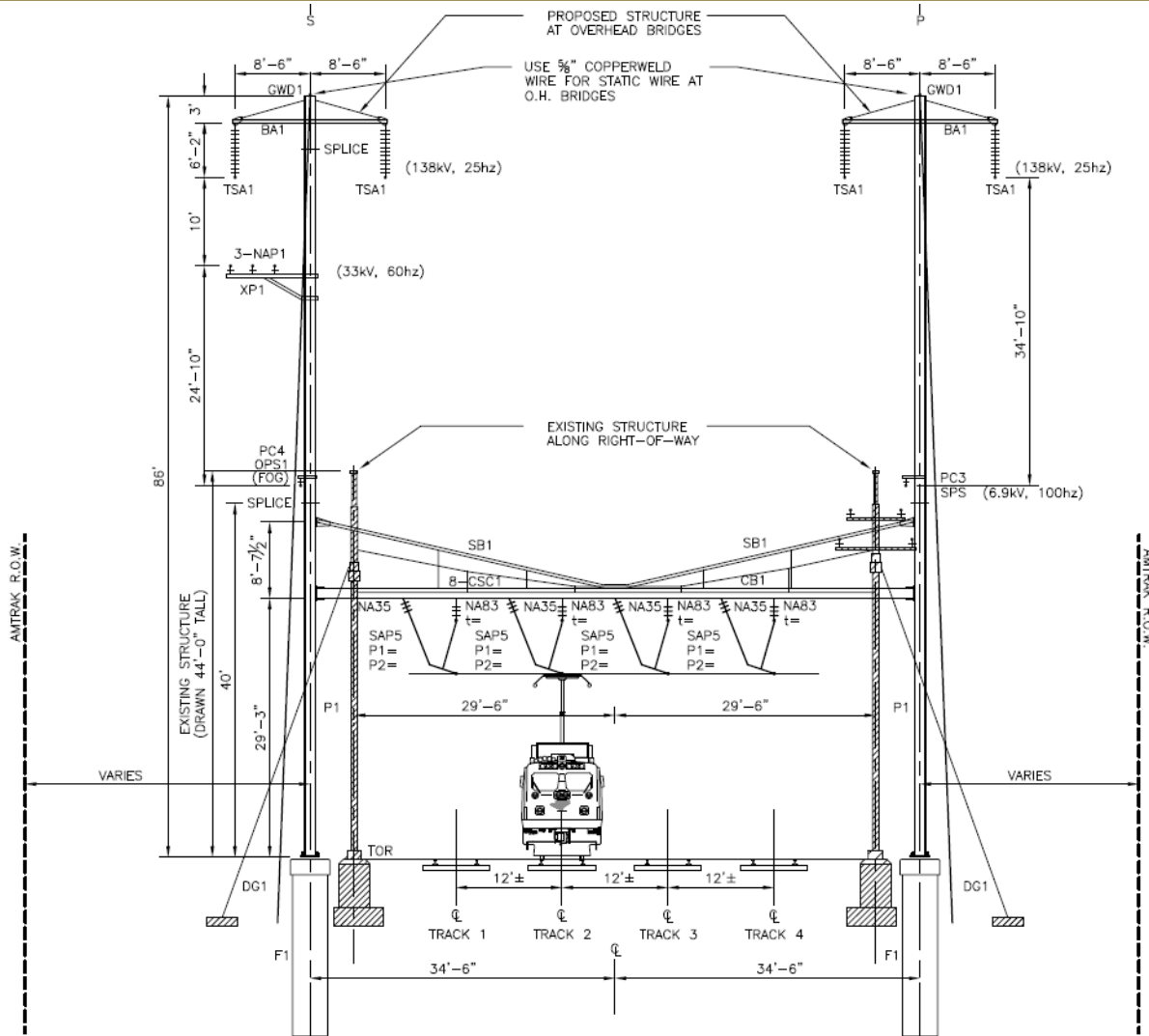


Similar Structures on Amtrak Northeast Corridor near Halethorpe Maryland

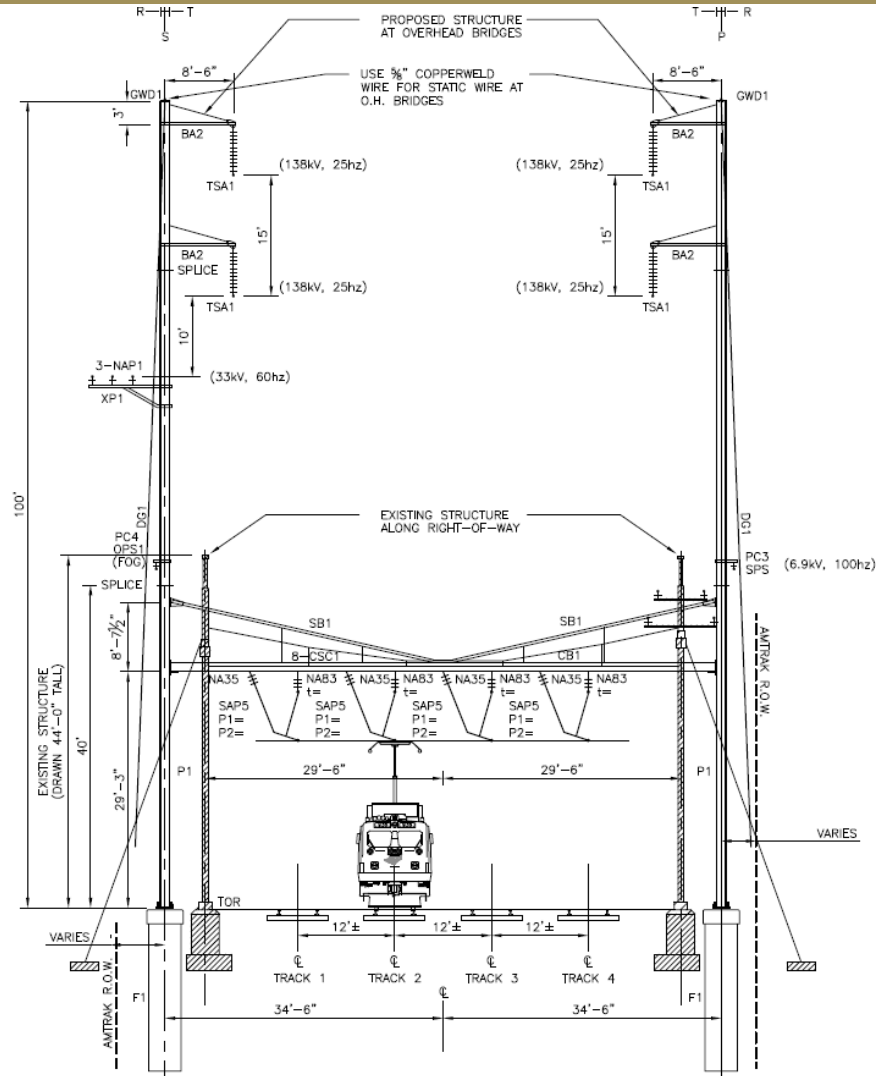
Conceptual Design – Typical (ET-1022)



Conceptual Design – Overhead Bridge (ET-1020)



Conceptual Design – Stacked (ET-1021)

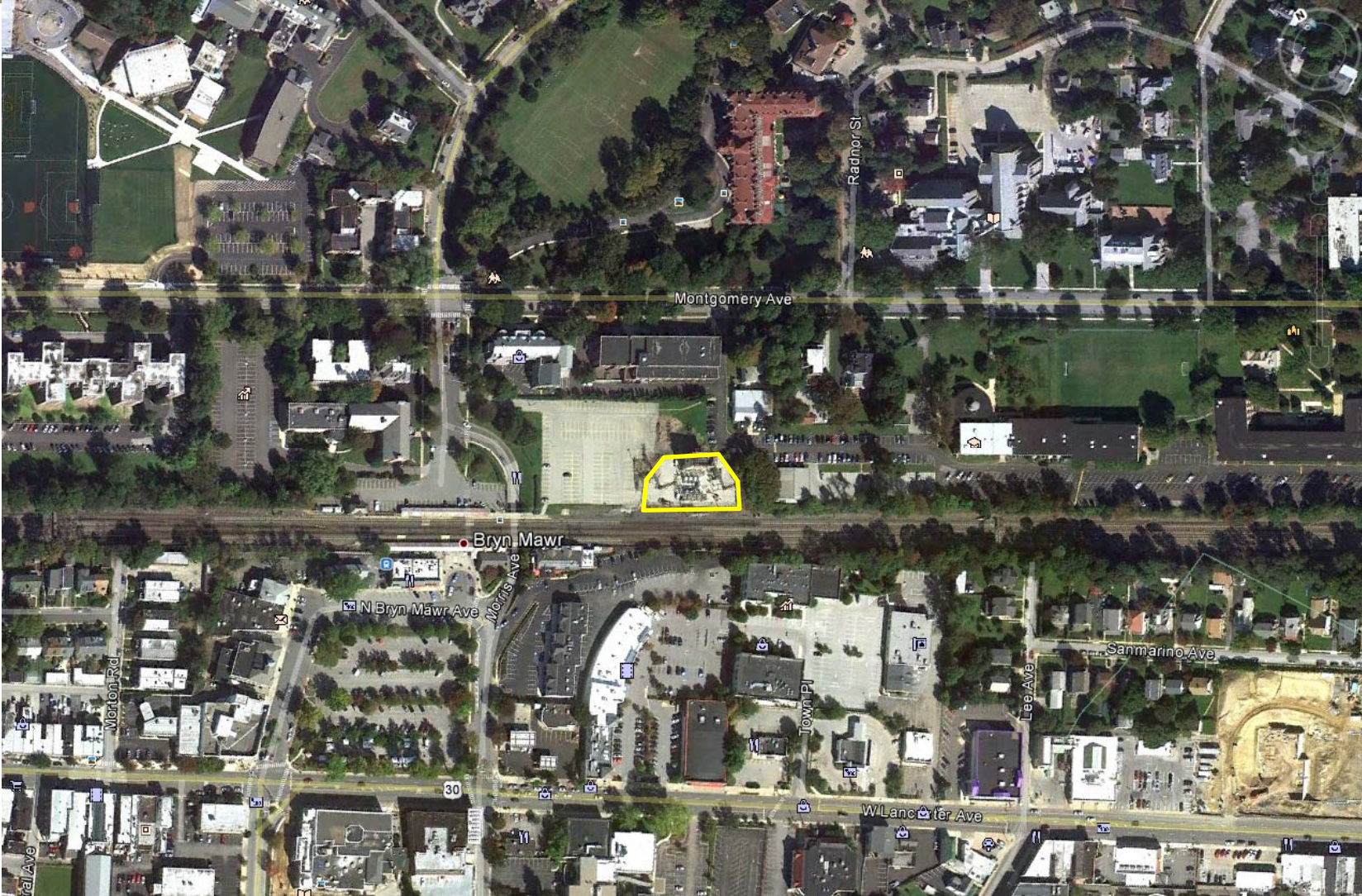


Project Background and Status

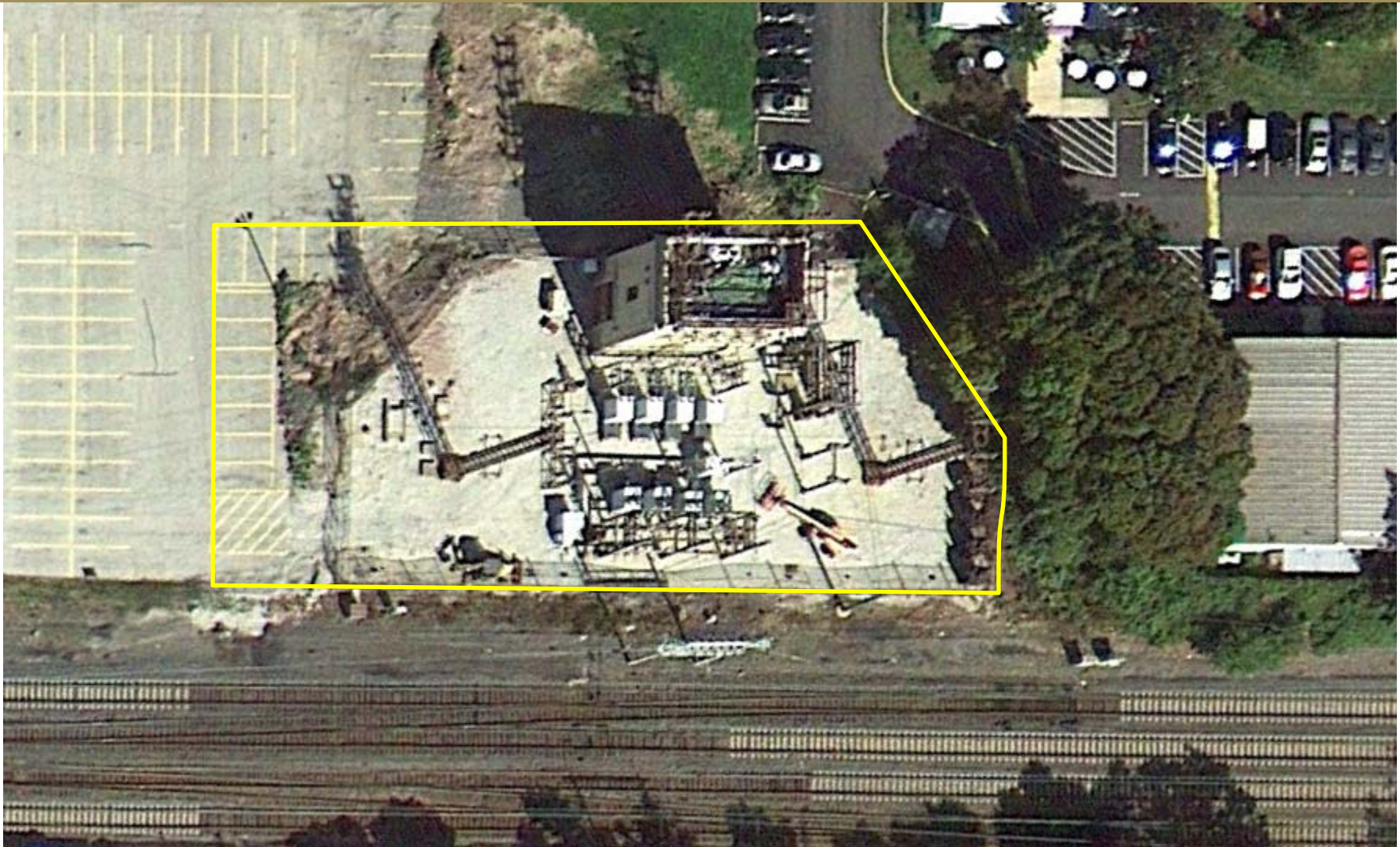


Existing Bryn Mawr Substation

Bryn Mawr Substation: Context



Conceptual Design – Bryn Mawr Substation



Conceptual Design – Paoli Substation



Paoli Substation, 138 kV Structures

Project Schedule

Design and Construction

- 15% Design – Submitted February 2012
- 30% Design – Late Winter 2013
- Final Design – Fall 2014
- Construction – Spring 2015 to 2020

NEPA

- Public Meeting – June 6, 2012
- 2nd Public Officials Presentation – March 2013
- 2nd Public Meeting – March 2013
- Cat Ex or FONSI – September 2013



THE **Burns** GROUP ENGINEERING AND CONSTRUCTION



Questions and Comments

Next Steps

Additional comments or questions can be sent to:

Concerns about historic resources:

Allen Heist, Stell Environmental Enterprises, Inc.

25 East Main Street, Elverson, PA 19520

Ph: (610) 286 - 0100

FAX: (610) 286- 0110

Concerns about overall design:

Herbert H. Wescott III, P.E., Burns Engineering, Inc.

1835 Market Street, Suite 300, Philadelphia, PA 19103

Ph: 215-979-7700 x 7742

FAX: 215-405-2510

Summary of questions and answers

(Some questions & answers have been slightly rephrased to make them clearer.)

Q: What will the noise level be during construction?

A: The construction sequence has not yet been determined so it is difficult to evaluate the noise level of the construction at this time.

Q: Will Amtrak employees or sub-contractors be taking access via private property during the construction?

A: All access for the construction should be via the rail line. Workers and equipment will be moved along the corridor on the rail to the greatest extent possible. Any additional access to the construction areas would be coordinated with individual property owners by way of access easements and will be kept to an absolute minimum.

Q: What is the planned spacing of the new towers?

A: The new towers will be based on the same spacing as the existing towers or between 250 and 320 feet.

Q: What is the status of the effort to evaluate the impacts of the construction on local cultural resources?

A: Currently, forty-six (46) National Register listed and eligible resources have been mapped within 750 feet of the rail corridor's centerline for information purposes only. Early coordination with PHMC in Harrisburg indicates that the area of potential effect (APE) will be much smaller than 750 feet. Since the existing rail line is an eligible resource, a mitigation plan will be prepared and approved by Harrisburg.

Q: Will there be additional cultural resources survey work?

A: Yes, research of cultural resources is continuing, including the existence of local districts and site. (It was reiterated that this is the beginning of the process and those who are aware of resources that have not been mapped yet, can provide important information to help make a more complete submission.)

Q: What about archaeological resources?

A: Additional research is anticipated; additional efforts will be determined by Harrisburg and the PHMC. There is one known archaeological site in the vicinity of the project, but since all work is to be completed within the existing right-of-way, this site will not be affected. Some archaeological investigation will need to be done as part of the Bryn Mawr substation expansion, but no resources are expected since this site has been previously disturbed.

Q: Has the Bryn Mawr Historic District been included?

A: Yes, if it is a National Register listed or eligible district. All attendees were invited to look more closely at the existing mapped resources and note any specific omissions.

(Following the meeting, it was confirmed that there are two historic resource sites in Bryn Mawr, but no historic district.

Q: Will the new towers carry more wires than are currently on the existing poles?

A: Yes; 2 more on each tower on either side of the rail line.

Q: Why will the new towers need to be so high?

A: The National Electrical Code and Amtrak both have clearance regulations that determine how much space must be between the power lines to maintain safety. The new towers must meet both sets of regulations.

Q: How does this project align with tower upgrades on other sections of the Harrisburg line?

A: No incompatibilities are anticipated.

Q: How many tracks will be removed from service during construction?

A: The current plan is to remove only one outer rail line from service at a time.

Q: What are the expectations for noise coming from the 138kV power lines?

A: Virtually nothing. There may be a high pitched hum during periods of high humidity.

Q: Based on the construction of approximately 400 new poles at an estimated cost of \$1/4 million per pole, the cost estimate for this project could be \$100 million or more. Has an alternative analysis been completed to evaluate just replacing the damaged poles rather than replacing all of them?

A: The number of poles that have reached the end of their useful life span is extensive and would lead to a significant mixing of older, deteriorating poles alongside the new replacements. These poles would need to be replaced soon anyway and would lead to multiple construction periods over the coming years. Also, partial replacement of the catenary towers only would still leave the power supply lines running many miles outside of the corridor, leaving Amtrak with 2 separate corridors to maintain going forward.

Q: With 400 pole locations and 2 poles at each location, there will be 800 poles at cell phone tower heights along the rail line from the Zoo to Paoli. What will be the visual impacts of these towers?

A: This is not really a fair comparison. The existing towers are already in place and about 50 feet tall. The new poles will only be about 10 – 15 feet taller in most cases.

Follow-up from resident: The new poles will be above the tree line?

A: Yes, some will be.

Follow-up from resident: Residents along the rail line should know what the alternatives are.

A: There really aren't any alternatives. Delaying this critical maintenance project will lead to significant rail delays or complete outages in the future. Replacement of these

structures and moving the power supply lines into the corridor are critical to maintaining rail service and needs to be completed.

Q: Given the attendance at the public meetings, it could be suggested that the public outreach efforts were not very successful. What else is being done to get information out to the public?

A: The meetings were posted in several local online "Patch" news outlets and other local newspapers including the Main Line Times. A press release was also sent to the Philadelphia Inquirer. This is also the initial round of meetings at the beginning of the design process. Additional meetings will be scheduled after more of the design has been completed.

Follow-up from resident: More meetings and more information is needed. Could announcements be posted at inbound train stations, local libraries, schools, etc?

A: The design team will consider additional options for public outreach.

Q: Will additional tree clearing be needed?

A: Yes it is likely that some additional tree trimming will be necessary.

Follow-up from resident: Given the new heights and the need for visual buffers, removing additional trees may be a big issue for adjacent residents.

Q: Will potential access needs be identified soon?

A: At this time, all construction access is being planned from the rail line and within the existing right-of-way.

Q: Will there be work at night?

A: Some is expected.

Q: What work will be required at ground level?

A: The excavation for the new poles will be done from a rail-mounted digger with an auger so there will be no pounding to drive the poles into the ground. No blasting is anticipated. No grade changes or additional excavation are proposed.

Q: Does this project account for the relocation of the Paoli station?

A: Yes, the new poles will end at the existing station with completion of the connecting section dependent upon which project gets there first. All projects along the rail line are being coordinated.

Q: At what point will the alternatives analysis be made public?

A: An alternatives analysis has not been done and none is scheduled. It is not possible to do selective replacement.

Q: When will the NEPA document be presented?

A: The draft document is planned for late spring or early summer 2013. The final document is scheduled for submission by September 2013.

Q: What will be discussed at the next meetings? Financials? Alternatives?

A: The next round of meetings would discuss the corridor impacts and the recommended mitigation efforts.

Total attendance: 12

Total surveys returned: 1

Public Outreach suggestions (CGG):

- Establish website with project outline, FAQ's, summary of NEPA requirements and a link for sending questions. **(High Priority)**
- Design and post announcements with website address at inbound stations between Paoli and the Zoo.
- Contact Diane Mastrall, Inquirer environmental reporter, to determine if the Inquirer would do a piece on the rail line and the need for the maintenance project.
- Seek local radio stations that could carry an interview with Amtrak design team; coordinate for interviews.
- Consider direct mailing to adjacent property owners. Amtrak to discuss with government affairs department.



ZOO TO PAOLI ELECTRIFICATION TRANSMISSION LINE PROJECT

June 6 Publically
only survey returned

PUBLIC OFFICIALS' SURVEY

If you have any comments or opinions on the Zoo to Paoli Electrification Transmission Line Project, please send us an email at: ahcrist@stellee.com or cgilchrist@stellee.com. Or you can fill in the survey form below and return it to a member of the project team.

Prior to the announcements for this meeting, were you aware of Amtrak plans to upgrade the electric service system along the rail lines between the Philadelphia Zoo and Paoli?

Yes No

Do you feel that this meeting provided enough information to start the conversation about how the project may impact your community? Yes No

Are sufficient contacts provided to allow you to have your questions addressed? Yes No

Do you have any concerns regarding the proposed improvements associated with this project? If so, please describe:

- 1) Night noise
- 2) poll height - too high
- 3) clearing of trees and branches

Please provide any additional comments regarding the proposed improvements:

Do you regularly travel by rail? Yes No
 Daily Weekly Monthly

If the service was faster/more efficient/more reliable, would you use it more frequently?
 Yes No

Do you use the rail line to travel for: Business Pleasure

What do you like MOST about traveling by rail?

No traffic hassles

What do you like LEAST about traveling by rail?

price per ticket

From what station to what station do you travel most frequently?

Devon to Suburban Station

THANK YOU

DAVID M. STEWART

319 Dundee Place

Devon, PA 19333-1446

610-687-8781

DMSStewart76@hotmail.com

June 7, 2012

Mr. Herbert H. Wescott III, P.E.
Burns Engineering, Inc.
Suite 300
1835 Market Street
Philadelphia, PA 19103-2964

Re: AMTRAK Zoo to Paoli Electrification Transmission Line Project

Dear Mr. Wescott:

I greatly appreciated the General Public Meeting held at Villanova University on June 6, 2012. The presentation was very informative. I was especially grateful for the hand-out material; the descriptive information did a great job answering most of my questions.

I have one request. During the meeting it was mentioned that the new towers (poles ?) would be placed at the same location as the old towers, 10 feet to the east or west. There is a tower right behind our .25 acre property (north of the tracks) in Easttown Township, approximately 1/2 mile west of the Devon station. If possible, I would greatly appreciate the new tower being located to the west of the existing tower. (I tried to read any identifying numbers written on the poles, but the characters were too small to identify. There was a plaque with an orange circle mounted on the pole.)

It is early in the design process but I would be grateful if you would keep my request in mind during the planning process.

Thanks in advance for considering this small detail.

Best regards,



David M. Stewart

RECEIVED - The Burns Group Philadelphia

JUN 11 2012

Burns Engineering, Inc.
1835 Market Street
Suite 300
Philadelphia, PA 19103

Public Officials & Stakeholders Meeting

5/28/13

From: [Allen Heist](#)
To: [Alex Charlton](#); [Andrea Campisi](#); [Andrew Meloney](#); [Ardmore Business Assn](#); [Ardmore Progressive Civic Assn](#); [Ardwood Civic Assn](#); [Barry Seymour](#); [Berwyn Fire Co](#); [Beverlee Barnes](#); [Bill Keilbaugh](#); [Business Assn of West Parkside](#); [Cecile Charlton](#); [Charles McGarvey](#); [Christian Busch](#); [Christopher McGinley](#); [Daniel Waters](#); [Delano Shane](#); [Douglas S. Cleland](#); [Easttown Twp Police Dept](#); [Elizabeth S. Rogan](#); [Gale Morrison](#); [Gary W. Smith](#); [Gene Williams](#); [Great Valley School District](#); [Hugh J. Murray Sr](#); [James Brown](#); [James Higgins](#); [Jeffrey D. Knueppel](#); [Jim Marino](#); [Joe Symick](#); [John E. Pickett](#); [Joyce Smith](#); [Kate Galer](#); [Kathy Bognosian](#); [Keith Jones](#); [Executive Director](#); [Kenneth Woodson](#); [Kevin Maurer](#); [Lawrence J. Gentile](#); [Linda Grobman](#); [Lt. Anthony Giaimo](#); [Lucinda Hudson](#); [Main Line Chamber of Commerce](#); [Marian T. Toland](#); [Mark J. Rupsis](#); [Merion Civic Assn](#); [Michael J. McGrath](#); [Mill Creek Community Partnership](#); [Mimi Gleason](#); [Narberth Borough Council](#); [North Ardmore Civic Assn](#); [North Wayne Protective Assn](#); [P. Timothy Phelps](#); [Paoli Business & Professional Assn](#); [Peggy Schmidt](#); [Phila City Planning Comm](#); [Phila Comm of Parks & Rec](#); [Phila Police District 16](#); [Phila Police District 19](#); [Phila Police District 92](#); [Radnor Fire Co](#); [Rick Young](#); [Rita E. Reves](#); [Rob Henry](#); [Robert Cousar](#); [Robert Morro](#); [Robert Zienkowski](#); [Ronald T. Bailey](#); [Shortridge Civic Assn](#); [State Senator Andrew E. Dinniman](#); [State Senator Edwin B. Erickson](#); [State Senator Vincent J. Hughes](#); [Stephen Burgo](#); [Steve Nelson](#); [Tredyffrin Twp B/S](#); [Villanova Univ](#); [William Colarulo](#); [Willistown Conservation Trust](#); [Wynnewood Civic Assn](#)
Cc: ["Bert Wescott"](#); [Daren Petroski](#)
Subject: Public Officials" Meeting - Amtrak Zoo to Paoli Electrification Project
Date: Friday, May 03, 2013 1:13:00 PM
Attachments: [Public Officials Mtgs invitation - Ph B SEE FINAL.docx](#)
[Public Officials Document1.pdf](#)
[Renderings - Catenary Structures.PDF](#)
Importance: High

Stakeholder,

Find attached the notice for two (2) public officials' meetings to be held on May 28 and May 29 to provide updates and receive comments on the Amtrak Zoo to Paoli Electrification Project. These are a follow-up to meetings held in April 2012. Also attached is a project description and renderings of the proposed new catenary structures to be installed along the corridor. You are encouraged to attend one of these meetings to provide your input and to help identify project issues. Contact information for further information about the project and the meetings is included at the bottom of the notice.

Allen G. Heist
Project Manager

Stell Environmental Enterprises, Inc. • 25 East Main Street • Elverson, PA 19520

Phone 610-286-0100 • **Fax** 610-286-0110 • **Cell** 484-885-3394

Email ahleist@stelllee.com • **Web** www.stelllee.com

2012 Gold Award Winner, *Environmental Business Journal* Achievement Award, Small Firms Woman-Owned, SBA 8(a) Certified, SDB

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AMTRAK
NOTICE OF PUBLIC INFORMATION MEETINGS
Zoo to Paoli Electrification Transmission Line Project
Public Officials' Meetings

May 28, 2013
7:00 p.m.
Lower Merion Township Bldg.
Main Meeting Room
75 East Lancaster Avenue
Ardmore, PA

May 29, 2013
7:00 p.m.
Radnor Township Bldg.
Main Meeting Room
301 Iven Avenue
Wayne, PA

Amtrak will hold a meeting at the above referenced dates, times, and locations for elected and appointed officials, agency representatives, and special interest groups to provide updated information on Amtrak's Zoo to Paoli Electrification Transmission Line, provide a project schedule, share plans for the design, and present the results of preliminary research on environmental and cultural resources within the corridor.

The 105-mile Keystone Corridor East rail line, operating from Harrisburg to Philadelphia, Pennsylvania, has been identified by the Federal Railroad Administration (FRA) as one of ten corridors in the country for potential high-speed rail projects. Along the 20-mile segment of the corridor between the Zoo and the Paoli substations, Amtrak plans to upgrade the existing overhead electrification system and the substation at Bryn Mawr. The existing 40-50 foot high overhead electrification system support structures within the right-of-way between the Zoo and Paoli substations, which are seriously deteriorated, will be replaced with new towers. The new towers will be approximately 60-75 feet high, with some towers reaching 100 feet high at overhead bridges. No additional right-of-way or property will be acquired for these improvements.

Since feedback from the community is a vital aspect of a project of this nature, you are encouraged to attend one of the meetings to provide your input and identify project issues. If you are unable to attend either of the meetings noted above, a general public will be held June 6, 2013 at 7:00 PM at Villanova University's Connelly Center Cinema.

These meetings are being held in physically accessible facilities. Please notify Amtrak at least 48 hours prior to the meeting if you have special needs for which this agency will need to make arrangements. The telephone number for making special arrangements is 610-286-0100.

For further information regarding this project, contact Daniel P. Tasker at Amtrak, 215-349-1416, Taskerd@amtrak.com or Daren Petroski at Burns Engineering, Inc., 215-979-7700 x7749, DPetroski@burns-group.com. For further information regarding this meeting, contact Daren Petroski at Burns Engineering, Inc., 215-979-7700 x7749, DPetroski@burns-group.com or Allen Heist at Stell Environmental Enterprises, Inc., 610-286-0100, aheist@stellee.com.



Summary of Preliminary Design Analysis for Existing Catenary Structures and Bryn Mawr Substation Building

The New York-Washington-Harrisburg portion of Amtrak was electrified by the Pennsylvania Railroad (PRR) in several stages between 1915 and 1940. The Philadelphia to Paoli route was the first stage of this program, built with 11 kV catenary (later raised to 12 kV) and a parallel 44 kV transmission network. The Philadelphia to Paoli route was eventually surrounded with the “final” PRR configuration of 12 kV catenary paralleled with 138 kV transmissions. Sometime after World War II, the 44 kV network was abandoned, leaving the original Philadelphia to Paoli route fed from the transmission network only at Zoo and Paoli substations, and Bryn Mawr substation was reduced to a switching station. Some of the original catenary structure aerial envelope that had been used for the 44 kV network was made available to PECO for a medium voltage commercial frequency line.

The 138 kV network had been built on the PRR Norristown line, providing a route for power to be transported between Safe Harbor via Parkesburg, to Zoo Substation in Philadelphia. The Norristown service was eventually given up, but the transmission lines remain on that right-of-way, which is now the Schuylkill Bikeway for much of its length. Some portions of the former Norristown Line are difficult to access.

The 22 miles between Zoo and Paoli now represent the longest distance between 138 kV substations on the entire electrified line. Maintenance of the transmission lines on the former Norristown line is difficult, for several reasons (the bikeway is a public park, some poles are shared with the ex-Reading Norristown line now operated by SEPTA, some parts of the transmission line right-of-way are accessible only by hiking over rough territory). To reinforce the power supply to the busy Philadelphia-Paoli route, and to consolidate rights of way and ease maintenance, Amtrak wants to build two new 138 kV lines between Paoli and Zoo over the Paoli railroad right-of-way.



Figure 1 - Existing Transmission Right of Way



Zoo to Paoli - 138 kV Transmission Lines

Once built, the configuration of the Philadelphia to Paoli line would match most of the rest of Amtrak's 25 Hz railroad. Substation spacing between Philadelphia and Paoli would be about 10 miles, which is somewhat longer than exists over most of the New York to Washington line, but is not unreasonable with service levels currently supported with only the Bryn Mawr switching station.

Design issues with the installation of the new 138 kV transmission lines and new step down substation include the replacement of the existing catenary structures along the route and the removal of the Bryn Mawr substation building.



Catenary Structures – The existing catenary structures along the route are constructed with tapered tubular poles that are placed on either side of the right-of-way (RoW). The catenary for the line is supported from the poles via cross spans with back guys. The height of the existing structures varies with the majority of the structures being approximately 45 feet tall.



Figure 3 - Existing Catenary Structures

The structures are intended for replacement with PRR traditional H-sections with cross beams as seen in Figure 4, due to the following reasons:

- The original design of the existing catenary structures and foundations did not account for the additional structural loads which will be imposed by the addition of the new transmission lines.
- The conditions of the existing structures are marginal to poor and would need significant rehabilitation to remain in service.
- The height of the existing structures is inadequate to meet the Amtrak and National Electric Safety Code (NESC) requirements for clearances from 138 kV circuits.



Figure 4 - Typical K Frame Structure

Substation Building – The existing substation building at Bryn Mawr was originally used for the operation of the 44 kV distribution system as well as supporting the 44 kV and 12 kV electrical equipment. The 44 kV equipment at the substation was abandoned in the 1940's and is not currently in service. The existing site is as seen in Figure 2.

The new equipment required for the substation includes 2 each 4.5 MVA traction power transformers (12' H x 10'W x 8'L); new transmission switching structures on the east and west end of the substation with aerial cables connecting between them

Due to the limited area available at the site and the significant additions required to the site the existing substation building will need to be removed to fit the new substation on the available land. See preliminary substation layout included below.

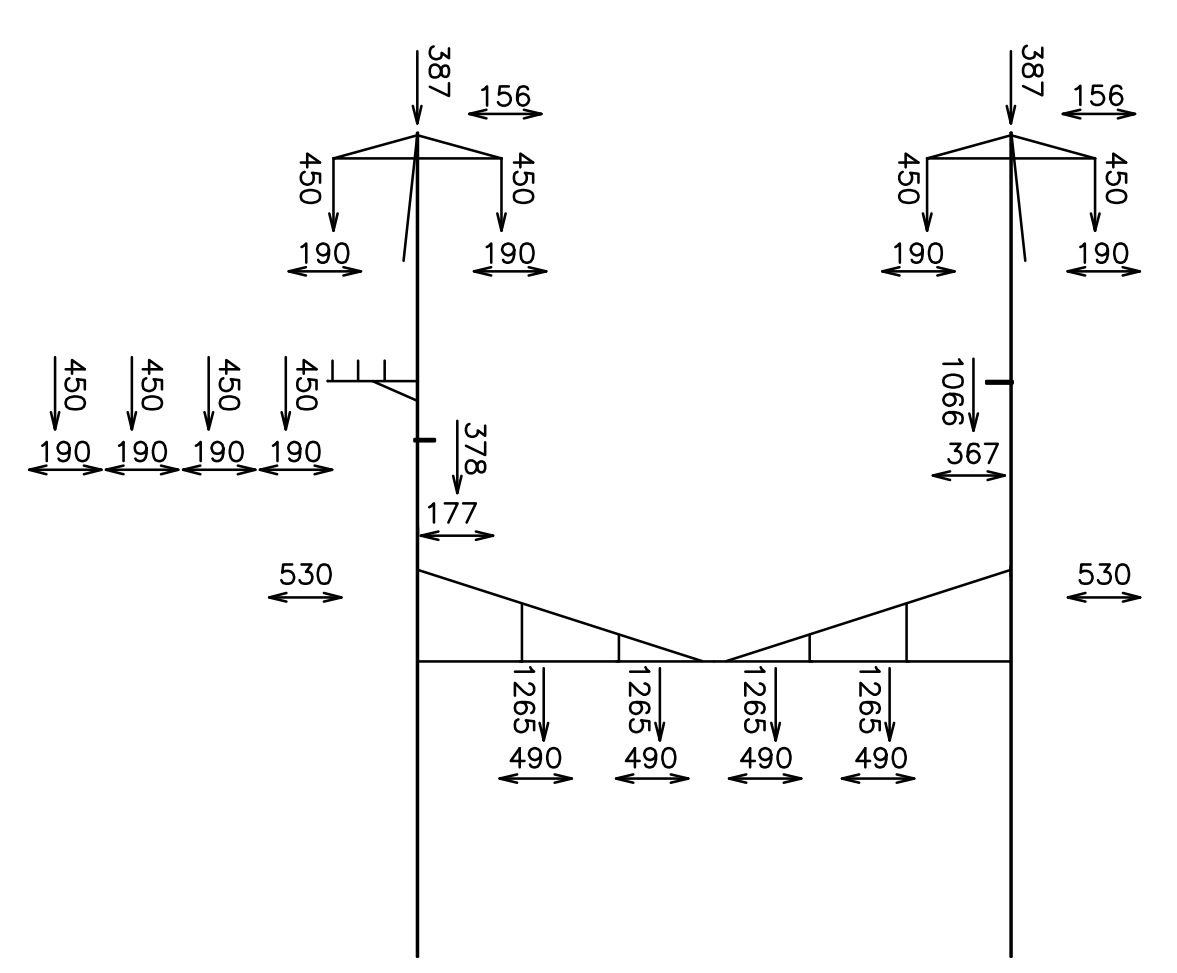
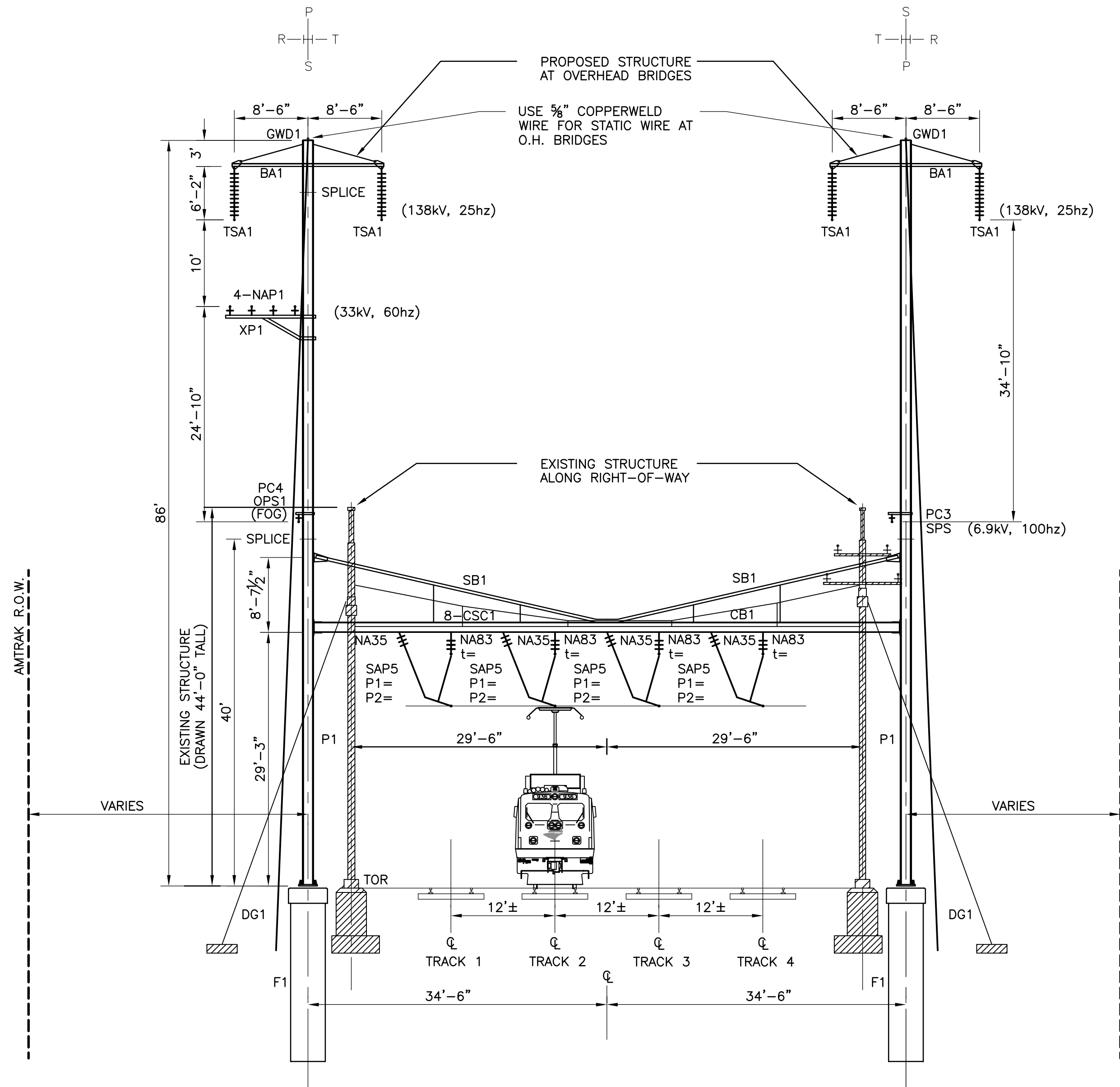


Figure 5 - Bryn Mawr Aerial Photo



Figure 6 - Paoli Substation, 138 kV Structures

BILL OF MATERIALS			
MARK	DESCRIPTION	REF. DWG.	QUANTITY
NA83	MESSENGER SUPPORT	ET-xx	4
NA35	MESSENGER SUPPORT	ET-xx	4
SAP5	REGISTRATION ASSEMBLY	ET-xx	4
GWD1	GROUND WIRE ASSEMBLY	ET-xx	2
TSA1	TRANSMISSION WIRE SUPPORT	ET-xx	4
NAP1	PECO WIRE SUPPORT	ET-xx	4
OPS1	FOG WIRE SUPPORT	ET-xx	1
SPS	SIGNAL POWER SUPPORT	ET-xx	1
PC3	SLIDING CLAMP	S-xx	1
PC4	SLIDING CLAMP	S-xx	1
P1	POLE	S-xx	2
F1	FOUNDATION	S-xx	2
SB1	SAG BRACE	S-xx	2
CB1	CROSS BEAM	S-xx	1
BA1	TRANSMISSION BRACKET -DOUBLE	S-xx	2
XP1	PECO BRACKET	S-xx	1
CSC1	SLIDING BRACKET	S-xx	8
DG1	DOWNGUY ASSEMBLY	S-xx	2
DGA	DOWNGUY ANCHOR FOUNDATION	S-xx	2



LOADING DIAGRAM
1/2" RADIAL ICE, 40 MPH WIND, 300' MAX SPAN
(NOT TO SCALE)

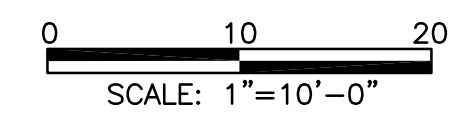
CLEARANCE NOTES:

- CLEARANCE OF 138KV OVER ROADWAY SHALL BE 35' WORST CASE.
- CLEARANCE OF 33KV PECO OVER ROADWAY SHALL BE 18.5' PER NESC RULE 232, TABLE 232-1.
- CLEARANCE OF 33KV PECO OVER OTHER PECO WIRES SHALL BE 2' PER NESC RULE 233, TABLE 233-1.

WORK STATEMENT:

- INSTALL FOUNDATIONS.
- INSTALL POLES, CROSS BEAM AND SAG BRACES.
- INSTALL TRANSMISSION BRACKETS.
- INSTALL LONGITUDINAL DOWN GUYS.
- INSTALL STATIC, TRANSMISSION, INSULATED SIGNAL POWER AND PECO WIRES.
- TRANSFER FOG AND EXISTING INSULATED SIGNAL POWER WIRES TO NEW STRUCTURE.
- INSTALL SLIDING BEAM CLAMPS AND MESSENGER SUPPORTS.
- TRANSFER CATENARY WIRES TO NEW STRUCTURE.
- ADJUST HANGERS IN CATENARY SPANS AND REPROFILE CATENARY.
- DEMO OLD CAT POLES AND FOUNDATIONS.

STRUCTURE ERECTION DIAGRAM P-
STATION 00+0
LOOKING TOWARDS HARRISBURG



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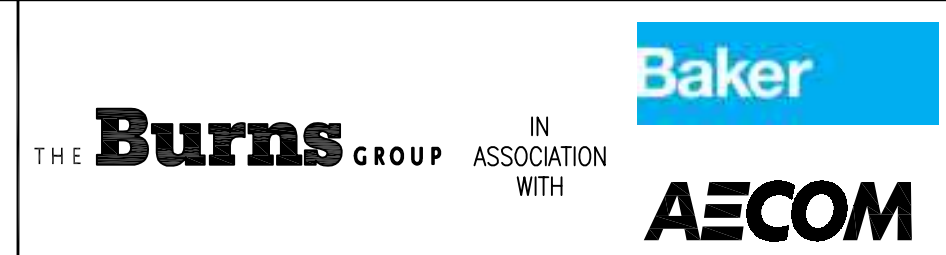
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30TH Street Station-Philadelphia, Pennsylvania 19104

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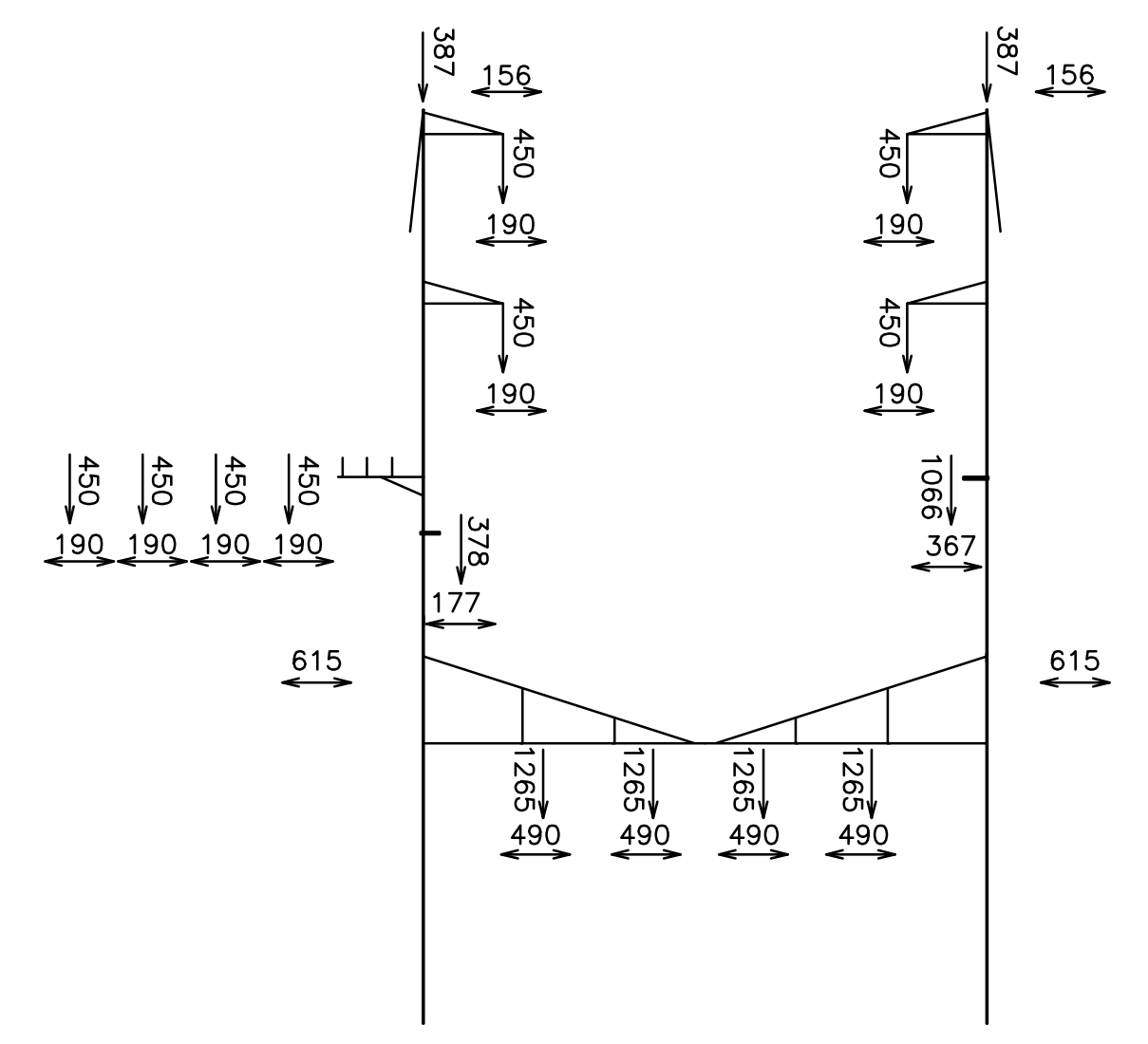
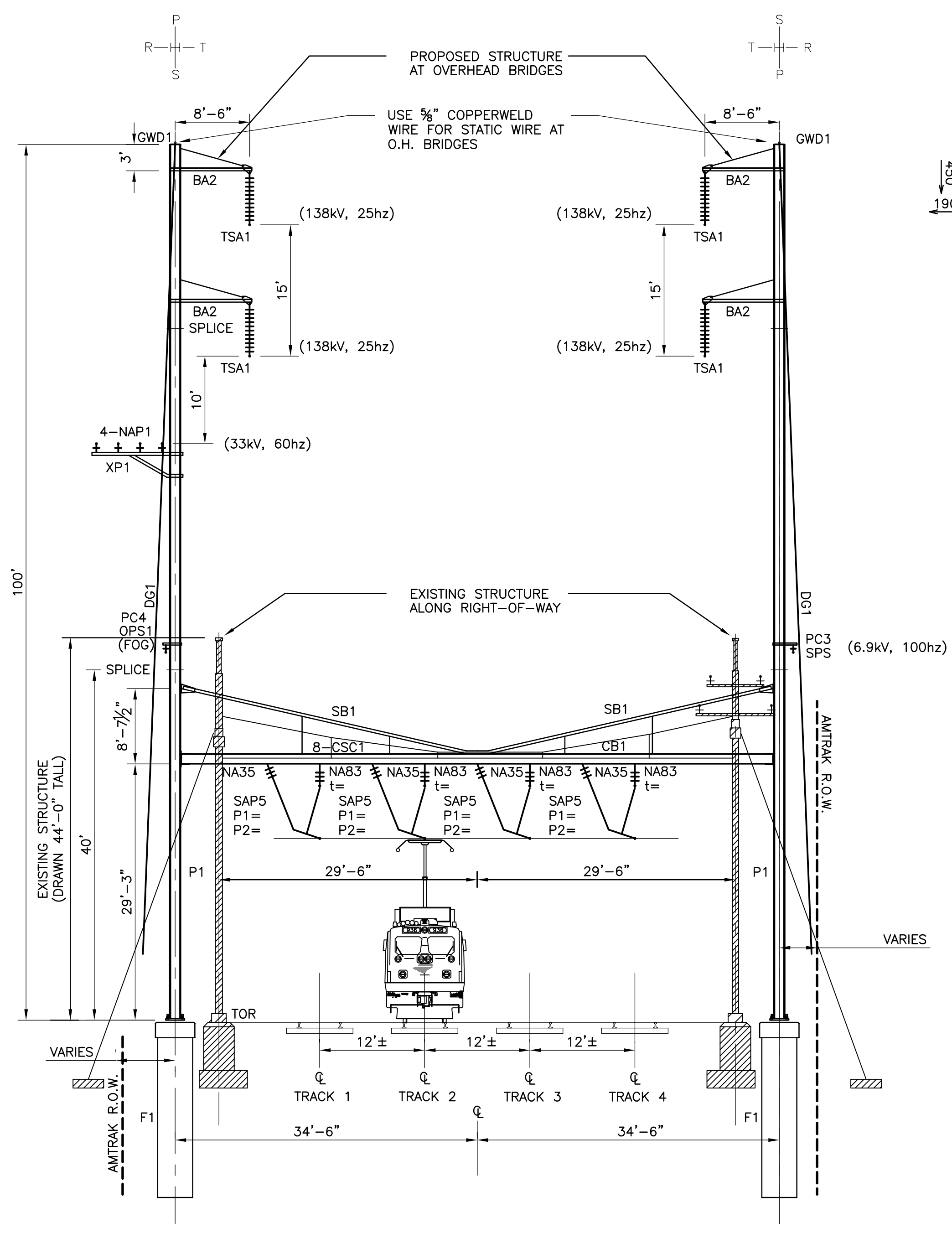


ZOO TO PAOLI TRANSMISSION
ELECTRIFICATION
STRUCTURAL ERECTION DIAGRAM
TANGENT TRACK OH BRIDGE (WITH PECO)

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File No.:	
Ref. No.:	
Sheet No.:	X OF -
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BILL OF MATERIALS			
MARK	DESCRIPTION	REF. DWG.	QUANTITY
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NA35	MESSENGER SUPPORT	ET-xx	4
SAP5	REGISTRATION ASSEMBLY	ET-xx	4
GWS1	GROUND WIRE ASSEMBLY	ET-xx	2
TSA1	TRANSMISSION WIRE SUPPORT	ET-xx	4
NAP1	PECO WIRE SUPPORT	ET-xx	4
OPS1	FOG WIRE SUPPORT	ET-xx	1
SPS	SIGNAL POWER SUPPORT	ET-xx	1
PC3	SLIDING CLAMP	S-xx	1
PC4	SLIDING CLAMP	S-xx	1
P1	POLE	S-xx	2
F1	FOUNDATION	S-xx	2
SB1	SAG BRACE	S-xx	2
CB1	CROSS BEAM	S-xx	1
BA2	TRANSMISSION BRACKET - SINGLE	S-xx	4
XP1	PECO BRACKET	S-xx	1
CSC1	SLIDING BRACKET	S-xx	8
DG1	DOWNGUY ASSEMBLY	S-xx	2
DGA	DOWNGUY ANCHOR FOUNDATION	S-xx	2



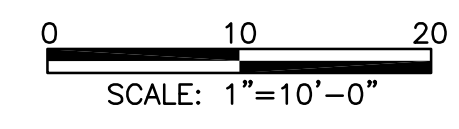
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2. INSTALL POLES, CROSS BEAM AND SAG BRACES.
3. INSTALL TRANSMISSION BRACKETS.
4. INSTALL LONGITUDINAL DOWN GUYS.
5. INSTALL STATIC, TRANSMISSION, INSULATED SIGNAL POWER AND PECO WIRES.
6. TRANSFER FOG AND EXISTING INSULATED SIGNAL POWER WIRES TO NEW STRUCTURE.
7. INSTALL SLIDING BEAM CLAMPS AND MESSENGER SUPPORTS.
8. TRANSFER CATENARY WIRES TO NEW STRUCTURE.
9. ADJUST HANGERS IN CATENARY SPANS AND REPROFILE CATENARY.
10. DEMO OLD CAT POLES AND FOUNDATIONS.

STRUCTURE ERECTION DIAGRAM P-
STATION 00+0
LOOKING TOWARDS HARRISBURG



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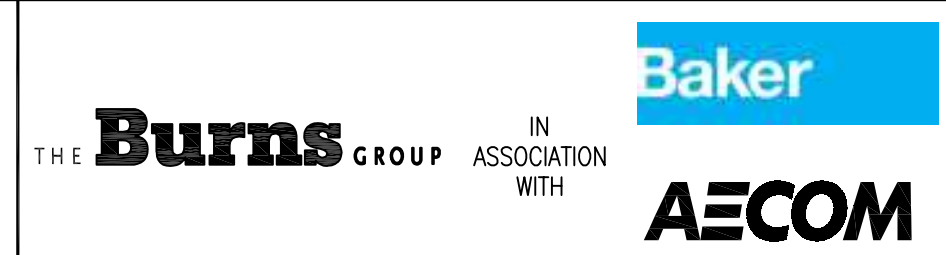
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30TH Street Station-Philadelphia, Pennsylvania 19104

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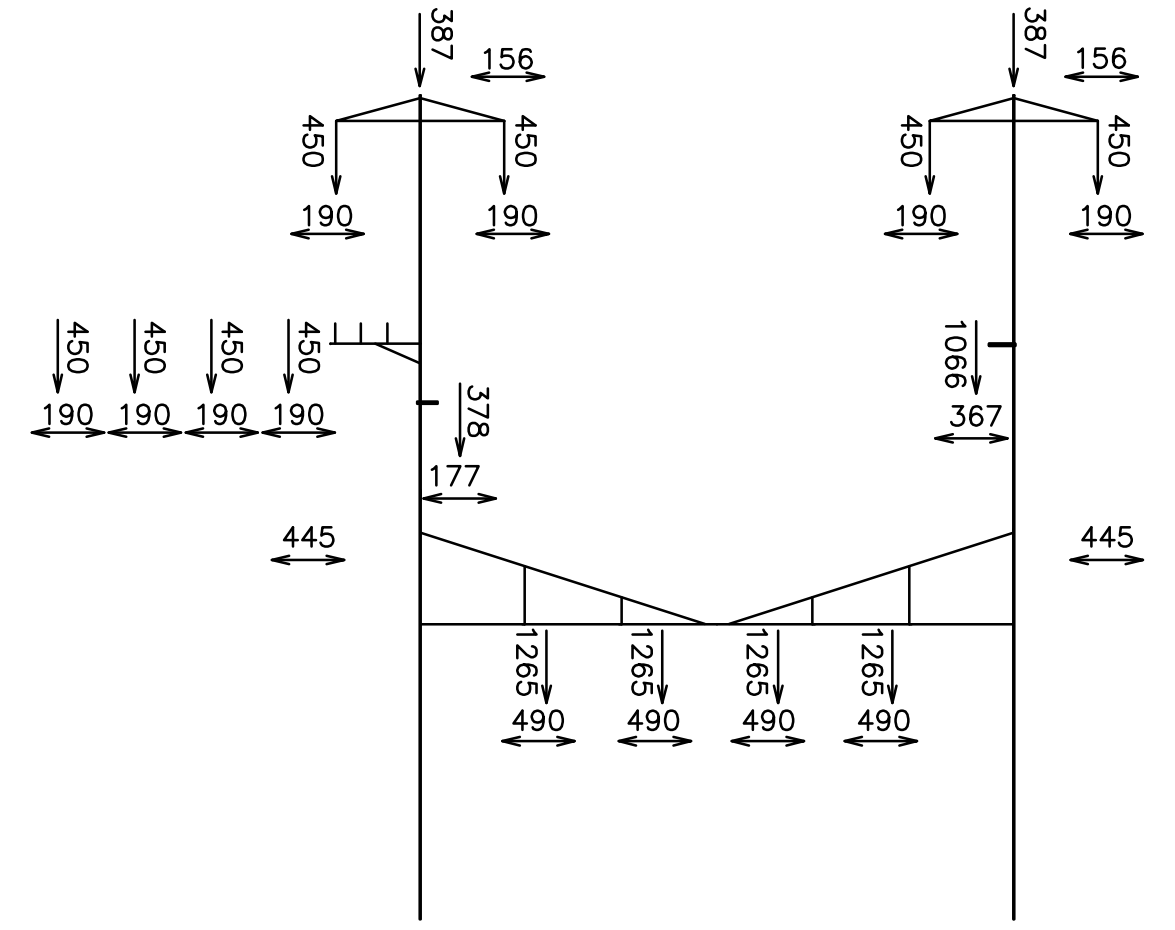


ZOO TO PAOLI TRANSMISSION
ELECTRIFICATION
STRUCTURAL ERECTION DIAGRAM
TANGENT TRACK, STACKED (WITH PECO)

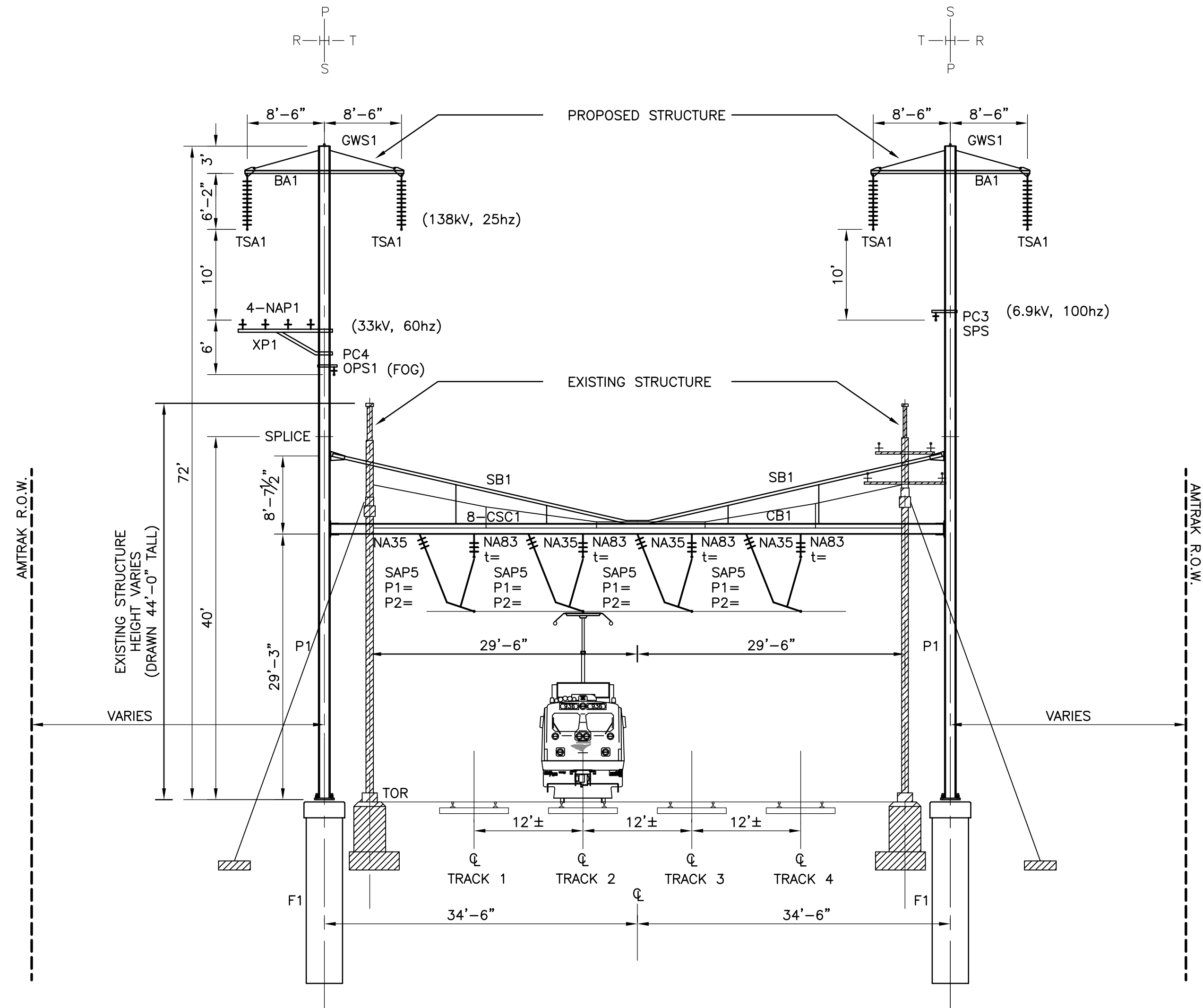
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Sheet No.:	X OF -
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BILL OF MATERIALS			
MARK	DESCRIPTION	REF. DWG.	QUANTITY
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NA35	MESSENGER SUPPORT	ET-xx	4
SAP5	REGISTRATION ASSEMBLY	ET-xx	4
GWS1	GROUND WIRE ASSEMBLY	ET-xx	2
TSA1	TRANSMISSION WIRE SUPPORT	ET-xx	4
NAP1	PECO WIRE SUPPORT	ET-xx	4
OPS1	FOG WIRE SUPPORT	ET-xx	1
SPS	SIGNAL POWER SUPPORT	ET-xx	1
PC3	SLIDING POLE CLAMP	S-xx	1
PC4	SLIDING CLAMP	S-xx	1
P1	POLE	S-xx	2
F1	FOUNDATION	S-xx	2
SB1	SAG BRACE	S-xx	2
CB1	CROSS BEAM	S-xx	1
BA1	TRANSMISSION BRACKET -DOUBLE	S-xx	2
XP1	PECO BRACKET	S-xx	1
CSC1	SLIDING BRACKET	S-xx	8



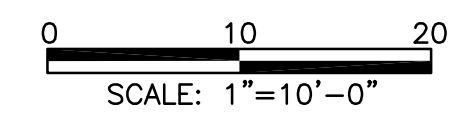
LOADING DIAGRAM
1/2" RADIAL ICE, 40 MPH WIND, 300' MAX SPAN
(NOT TO SCALE)



STRUCTURE ERECTION DIAGRAM P-
STATION 00+0
LOOKING TOWARDS HARRISBURG

WORK STATEMENT:

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2. INSTALL POLES, CROSS BEAM AND SAG BRACES.
3. INSTALL TRANSMISSION BRACKETS.
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8. ADJUST HANGERS IN CATENARY SPANS AND REPROFILE CATENARY.
9. DEMO OLD CAT POLES AND FOUNDATIONS.



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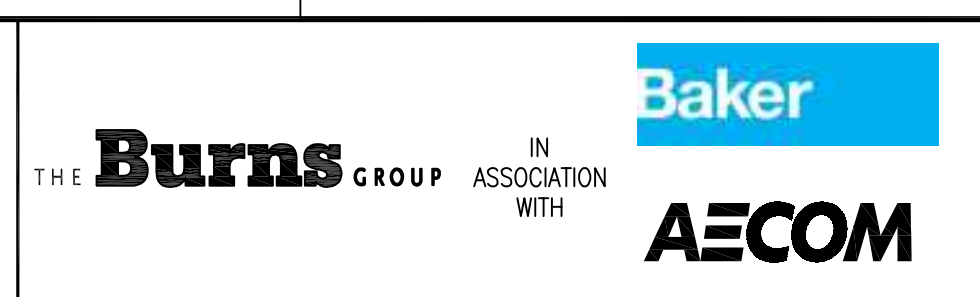
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ZOO TO PAOLI TRANSMISSION
ELECTRIFICATION
STRUCTURAL ERECTION DIAGRAM
TANGENT TRACK (WITH PECO)
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Allen Heist

From: North Wayne NWPA [northwayneprotectiveassoc@gmail.com]
Sent: Wednesday, May 15, 2013 9:40 AM
To: Allen Heist; Gale Morrison; mhirschler@verizon.net
Cc: Alex Charlton; Andrea Campisi; Andrew Meloney; Ardmore Business Assn; Ardmore Progressive Civic Assn; Ardwood Civic Assn; Barry Seymour; Berwyn Fire Co; Beverlee Barnes; Bill Keilbaugh; Business Assn of West Parkside; Cecile Charlton; Charles McGarvey; Christian Busch; Christopher McGinley; Daniel Waters; Delano Shane; Douglas S. Cleland; Easttown Twp Police Dept; Elizabeth S. Rogan; Gale Morrison; Gary W. Smith; Gene Williams; Great Valley School District; Hugh J. Murray Sr; James Brown; James Higgins; Jeffrey D. Knueppel; Jim Marino; Joe Syrnick; John E. Pickett; Joyce Smith; Kate Galer; Kathy Bognosian; Keith Jones, Executive Director; Kenneth Woodson; Kevin Maurer; Lawrence J. Gentile; Linda Grobman; Lt. Anthony Giaimo; Lucinda Hudson; Main Line Chamber of Commerce; Marian T. Toland; Mark J. Rupsis; Merion Civic Assn; Michael J. McGrath; Mill Creek Community Partnership; Mimi Gleason; Narberth Borough Council; North Ardmore Civic Assn; P. Timothy Phelps; Paoli Business & Professional Assn; Peggy Schmidt; Phila City Planning Comm; Phila Comm of Parks & Rec; Phila Police District 16; Phila Police District 19; Phila Police District 92; Radnor Fire Co; Rick Young; Rita E. Reves; Rob Henry; Robert Cousar; Robert Morro; Robert Zienkowski; Ronald T. Bailey; Shortridge Civic Assn; State Senator Andrew E. Dinniman; State Senator Edwin B. Erickson; State Senator Vincent J. Hughes; Stephen Burgo; Steve Nelson; Tredyffrin Twp B/S; Villanova Univ; William Colarulo; Willistown Conservation Trust; Wynnewood Civic Assn; Bert Wescott; Daren Petroski
Subject: Re: Public Officials' Meeting - Amtrak Zoo to Paoli Electrification Project

Issues I know we want to discuss:

1. Following noise ordinances while the work is done. The track fortification in Wayne was done at night and was very loud.
2. Following shade tree commission mandates on tree replacement.
3. Commitment on not to exceed noise decibel levels from the power equipment, with lifetime commitment to replace equipment that exceeds it.
4. Fence **replacements** where they are disturbed.
5. Net zero additional impervious surface, i.e. net zero additional stormwater runoff. Foundations for catenaries and all equipment must not add to local stormwater control burden.

Gale Morrison
North Wayne Protective Association

On Fri, May 3, 2013 at 1:13 PM, Allen Heist <AHeist@stellee.com> wrote:

Stakeholder,

Find attached the notice for two (2) public officials' meetings to be held on May 28 and May 29 to provide updates and receive comments on the Amtrak Zoo to Paoli Electrification Project. These are a follow-up to meetings held in April 2012. Also attached is a project description and renderings of the proposed new catenary

structures to be installed along the corridor. You are encouraged to attend one of these meetings to provide your input and to help identify project issues. Contact information for further information about the project and the meetings is included at the bottom of the notice.

Allen G. Heist

Project Manager

Stell Environmental Enterprises, Inc. • 25 East Main Street • Elverson, PA 19520

Phone 610-286-0100 • **Fax** 610-286-0110 • **Cell** 484-885-3394

Email aheist@stellce.com • **Web** www.stellce.com

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Amtrak Zoo – Paoli Re-Electrification Project

Public Official's Meeting May 28, 2013

Lower Merion Township Building, Montgomery County, PA

Name	Title	Organization/Affiliation	Email Address
1. Angela Murray	Asst. Director / B & P	Lower Merion TWP	AMurray@lowermerion.org
2. Mark Patrick Curran	General Manager	Suburban Square	mcurran@ximicorealty.com
3. Sarah Cuzzolina	Acting Exec. Director	Business Association of West Parkade	bcawp@Philabtc.com
4. Sharon Sordkin	Historic Arch ^{Historic} Member	HARB - LMT	ssordkinjames@gmail.com
5. Cheryl Allison	Staff writer	Main Line Times	callison@mainline media news.com
6. Philip Franks	Resident	LM HARB	pefranks@PTAdesign.com
7. Jody Ho Hon	MCPC	Exec Director	jholton1@montcopa.org
8. S LINDNER	COMMISSIONER	LOWER MERION TWP	SLINDNER@LOWERMERION.ORG
9. Hank Wilson	PRESIDENT	BRYN MAWR CIVIC ASSN	CDWEEKLEPOINT@EARTHINK.NET
10. Scott Zeler	LMT Commissioner	LMT	scottzeler@comcast.net
11. Ann Coyd	Resident		acoyd@yelico.com
12. Tom Coyd	/		/
13. Leslie Anderson	Co-Chair ^{of} residents	L-MT	chouander@gmail.com
14. Hala Imms	Resident	LMT	hala.imms@profexroads.com



Amtrak Zoo – Paoli Re-Electrification Project

Public Official's Meeting May 28, 2013

Lower Merion Township Building, Montgomery County, PA

Name	Title	Organization/Affiliation	Email Address
15. BRIAN Gordon	Commission 12th Ward	Lower Merion Twp	briangordon4@arc.com
16.			
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Amtrak – Zoo to Paoli Re-Electrification Project

Phase B Public Officials Meeting Summaries

May 28, 2013 at Lower Merion Township Building

Project Team Attendees: Bert Wescott, Burns Engineering; Daren Patroski, Burns Engineering; Allen Heist, Stell Environmental Enterprises, Inc. (SEE); Crystal Gilchrist, SEE; Lauren Archibald, SEE; Dan Tasker, Amtrak.

The presentation began at 7:05 PM with introductions by Daren Petroski, followed by the details of the proposed project. Questions were asked throughout the presentation and are summarized below. Some questions have been rephrased to be more concise.

Q: Why is the project being evaluated under a Categorical Exclusion rather than a full Environmental Impact Statement?

A: Due to the previously disturbed nature of the existing right-of-way and the fact that all work will take place within the existing right of way, the Federal Railway Administration (FRA) indicated that a CE would be sufficient for environmental clearance of the project.

Q: What about the placement of the high power lines through residential neighborhoods?

A: There are no regulations that would prohibit these power lines within residential areas.

Q: Will new structures require widening of the existing right of way? It was noted that funds from the Homeland Security budget were provided to Amtrak approximately 5 years ago to widen the right of way and trim trees along adjacent properties and to use herbicides to reduce vegetation.

A: All vegetation clearing must take place within the existing right of way.

Follow-up Q: That's understood, but will the project require more right of way clearing?

A: Only if vegetation is in the right of way and would interfere with the construction process. The current design of the poles will require an additional setback from the tracks but the new poles will not need guide wires so the overall width or footprint of the structures will be less.

Q: Are there any safety issues with electrical current in the lines and adjacent to properties?

A: Current research indicates that the proposed lines will be orders of magnitude less than what the World Health Organization suggests would require further study, about 12 times less than that standard.

Q: Will the wires be further above the homes?

A: Existing lines will be in the same locations; the new power system wires will be above the existing wires.

Q: Regarding electro-magnetic impacts to adjacent properties – have studies been done stating that there are no impacts or is has not enough research been done with enough detail to know?

A: Organizations that have had concerns in the past have not disputed the current standards.

Q: Should adjacent homes be concerned with safety issues like arching between electric lines?

A: No, the safe approach distance to the new wire will be 15 feet and there should be no arching.

Q: Regarding the varying heights of the new poles – why so high and why the variation?

A: PECO currently leases space on some of the towers and that lease will continue. PECO's lease is from Villanova west. In those locations the towers will be about 86 feet high to accommodate the additional line and clearances. From Villanova east, there is no PECO lease and the towers can be shorter, about 60 feet. Where there are bridges, the towers will need to extend up to 100 feet in order to clear the bridges.

Q: What about the impacts on home values?

A: That is a question we cannot answer.

Follow-up Q: Where these towers have been installed, have there been complaints about the visual effects?

A: These poles are installed in the Washington D.C. area and there have been no complaints to Amtrak about the visual impacts of the towers.

Resident Statement: There are negative impacts to real estate; there are studies on these impacts.

Q: Can we see where the new towers will be located in terms of our homes?

A: The new towers will basically be in just about the same positions as the old poles.

Q: Will access across private property be needed during construction?

A: Current construction is planned to take place from the track side. If additional access is required, the contractor will be responsible for negotiating with adjacent properties to arrange access, though none is anticipated at this time.

Q: Scott Zelov, Lower Merion Twp Commissioner: What about the removal of parking spaces at the Bryn Mawr station due to the additional space needed to construct the new Bryn Mawr Substation? Further, Bryn Mawr Master Plan proposed a parking structure at the existing surface parking lot adjacent to the substation. Please make this part of the public record and please reduce the size of the substation if possible.

A: The standard size for this type of substation would be 230 feet by 150 feet. The Bryn Mawr Substation is currently designed at 210 feet by 120 feet. There are very few alternatives to build a substation on a smaller footprint. The current design is already a more expensive option to keep the substation as small as possible. The current area of the substation is owned by Amtrak and leased to SEPTA.

Q: Can the new power lines go underground through the historic areas?

A: While it might be feasible to do that, the overall costs would be about 10 times higher. Also, there is no space in the right-of-way to conveniently dig trenches for the electric line; one of the rail lines would have to be removed.

Q: Can you please review the schedule again?

A: Currently the 30% plans have been submitted. Work is continuing on the 60% plans. Final design will be completed in 2014 with construction beginning in 2015 and continuing to 2020. The Categorical Exclusion is anticipated to be approved by the end of 2013.

Q: What is the total budget at this time?

A: Current ballpark estimate is \$120 million. The project is not currently funded.

Q: Getting back to NEPA and the EIS – why again is there no EIS?

A: FRA ruled that the CE would be acceptable.

Q: When will the CE happen and will there be an opportunity to give comments to FRA?

A: Please fill out the questionnaires; they are part of the official public record. Regarding commenting directly to FRA, we cannot answer that question.

Q: Please let treed buffers grow back, we want to protect the visual fabric of the community.

A: Again, the completion of questionnaire was emphasized.

Q: Is this project being done to accommodate higher speed trains?

A: The primary reasons for the project are to maintain current service and correct current low voltage problems, not to directly allow higher speeds.

Q: Will the substation make any noise?

A: The sound of the substation will be a barely perceptible hum. You will not hear that unless you are standing immediately adjacent to the substation.

Q: Are these larger catenary poles already built anywhere?

A: Yes, all of the Washington to New York corridor and all of the Philadelphia to Harrisburg line expect for the area between the Philadelphia Zoo and Paoli.

Q: Will more trees be cleared due to construction?

A: The right of way is pretty clear at the moment; there are no plans for additional widespread clearing except at isolated locations where the higher poles will require some trimming of existing vegetation.

Q: Will drainage ways be cleared again?

A: That is a track maintenance issue that is not associated with this project.

Q: Does the proposed 138 kV system exist currently and if so, for how long?

A: The Main Line was constructed with the 138kV power system in 1932. Also the main line from Paoli to Harrisburg has the 138kV system in place.

Q: What about the health issues associated with high power lines?

A: This project is orders of magnitude below the standards set by the World Health Organization.

Q: Need to reiterate – the clearing of the trees in the past was a problem. More buffer is needed.

A: The last right of way clearance was sloppily done.

Resident comment: My flowers (that were in the right of way) were trampled, why not pick up trash instead?

A: Where trees and vegetation are among the power lines, there is the potential for fires. Trees need to be kept out of the power lines.

Q: Why is Amtrak not responsible to contact every adjacent resident?

A: Meetings are advertized in local papers. This particular meeting is focused on public officials who were specifically invited. The general public meeting will be June 6 at Villanova. Press releases for that meeting were sent to the Philadelphia Inquirer and the local Patch online papers in the communities along the rail line.

Q: Can we get copies of all the studies?

A: Per Dan Tasker, Amtrak Project Manager – We can send copies of the presentation. Also, the CE will become public record when the FRA posts it.

Q: At my home, I see green triangular structures – will that change?

A: These are lattice structures that will be replaced by the new towers.

Q: My neighborhood was just designated as historic. Was it included?

A: After the presentation, we can check the map and if it is not there, we will update as needed.

Q: Business Association of Parkside: Will repairs be addressed prior to the new construction?

A: Maintenance is a different type of project.

The presentation and question/answer period wrapped up about 8:45 PM.

**AMTRAK'S ZOO TO PAOLI TRANSMISSION LINE PROJECT
PUBLIC OFFICIALS' SURVEY**

May 28, 2013 at Lower Merion Township Building
May 29, 2013 at Radnor Township Building

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Has the Amtrak Zoo to Paoli Re-Electrification Project been discussed at municipal public meetings since the Public Officials' meetings held on April 25 and April 30 of 2012?
 Yes No

Do you feel that the Public Officials' meetings have provided enough information to understand the purpose and need for the project as well as how the project may impact your community?
 Yes No

Are sufficient project contacts provided to allow you to have your questions addressed?
 Yes No

Do you have any concerns regarding the proposed improvements associated with this project? If so, please describe:

*An understanding of the costs + benefits of this project. Eg. \$120M gets us ^{AMTRAK} less maintenance costs (\$x/yr)
- fewer delays
- ~~fewer delays~~*

Please provide any additional comments regarding the proposed improvements:

transmission lines: What are PUC / FER C regulations for tree clearing for ~~transmission lines~~ Is it different than just the railroad catenary?

Are there other community groups that you feel should be included in the discussions about this project? Yes No Please list them with a contact name and email, if possible.

*Narberth Civic Association: nca@narberthcivic.org
Shortridge Civic Association: admin@shortridgecivic.org*

Advertising in the paper, only, is not sufficient. Near neighbors should be notified, Websites? for the project?

**AMTRAK'S ZOO TO PAOLI TRANSMISSION LINE PROJECT
PUBLIC OFFICIALS' SURVEY**

**May 28, 2013 at Lower Merion Township Building
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We would also like to better understand how you use the rail network in your community.

Do you regularly travel by rail? Yes No Daily Weekly Monthly

If the service was faster/more efficient/more reliable, would you use it more frequently?
 Yes No

Do you use the rail line to travel for: Business Pleasure

What do you like MOST about traveling by rail?

What do you like LEAST about traveling by rail?

From what station to what station do you travel most frequently?

If you have additional comments or questions about the Zoo to Paoli Re-Electrification Project,
please send us an email at: ahleist@stellee.com or cgilchrist@stellee.com.

ZOO TO PAOLI RE-ELECTRIFICATION PROJECT



**AMTRAK'S ZOO TO PAOLI TRANSMISSION LINE PROJECT
PUBLIC OFFICIALS' SURVEY**

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 Yes No

Are sufficient project contacts provided to allow you to have your questions addressed?
 Yes No

Do you have any concerns regarding the proposed improvements associated with this project? If so, please describe:

The Bryn Mawr Substation needs to be redesigned to protect the existing parking spaces or at least the same number of parking spaces currently available.

Please provide any additional comments regarding the proposed improvements:

Are there other community groups that you feel should be included in the discussions about this project? Yes No Please list them with a contact name and email, if possible.

There needs to be a more assertive public outreach effort, particularly to residents that live adjacent to the corridor.

**AMTRAK'S ZOO TO PAOLI TRANSMISSION LINE PROJECT
PUBLIC OFFICIALS' SURVEY**

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Do you regularly travel by rail? Yes No Daily Weekly Monthly

If the service was faster/more efficient/more reliable, would you use it more frequently?
 Yes No

Do you use the rail line to travel for: Business Pleasure

What do you like MOST about traveling by rail?

*It is easy and less stressful than driving - especially
to and from Center City*

What do you like LEAST about traveling by rail?

The disappointing character of most stations

From what station to what station do you travel most frequently?

*Prep Manor or Ardmore or Haverford stations
to Suburban station in Center City*

If you have additional comments or questions about the Zoo to Paoli Re-Electrification Project,
please send us an email at: ahleist@stellee.com or cgilchrist@stellee.com.

ZOO TO PAOLI RE-ELECTRIFICATION PROJECT



**AMTRAK'S ZOO TO PAOLI TRANSMISSION LINE PROJECT
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 Yes No

Do you feel that the Public Officials' meetings have provided enough information to understand the purpose and need for the project as well as how the project may impact your community?
 Yes No

Are sufficient project contacts provided to allow you to have your questions addressed?
 Yes No

Do you have any concerns regarding the proposed improvements associated with this project? If so, please describe:

The Business Association of West Parkside wants to request consideration during the construction to repair the cited overpass at 52nd + Lancaster which is a danger to the community. Also in light of the improvements the Business Association of West Parkside requests that Amtrak considers adding a stop @ grade just east of 52nd + Lancaster while dealing with electrical improvements.

Are there other community groups that you feel should be included in the discussions about this project? Yes No Please list them with a contact name and email, if possible.

**AMTRAK'S ZOO TO PAOLI TRANSMISSION LINE PROJECT
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We would also like to better understand how you use the rail network in your community.

Do you regularly travel by rail? Yes No Daily Weekly Monthly

If the service was faster/more efficient/more reliable, would you use it more frequently?
 Yes No

Do you use the rail line to travel for: Business Pleasure

What do you like MOST about traveling by rail?

Being able to read ~~at~~ + do work while on
the train + not having to be concerned with
parking.

What do you like LEAST about traveling by rail?

the unreliability of the service. There is
also a lack of stops in the areas that I often
travel to.

From what station to what station do you travel most frequently?

I would travel from 30th to Parkside + 52nd
if available.

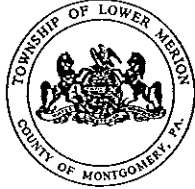
If you have additional comments or questions about the Zoo to Paoli Re-Electrification Project,
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ZOO TO PAOLI RE-ELECTRIFICATION PROJECT



**TOWNSHIP
OF
LOWER MERION**

MONTGOMERY COUNTY



DEPARTMENT OF BUILDING AND PLANNING

75 E. Lancaster Ave.
Ardmore, PA 19003-2376
Telephone: (610) 645-6200
FAX: (610) 649-9598

Mr. Allen G. Heist
Project Manager
Stell Environmental Enterprises, Inc.
25 East Main Street
Elverson, PA 19520

Re: **SECTION 106 PUBLIC CONSULTATION**
FEDERAL RAILROAD ADMINISTRATION (FRA)
PHILADELPHIA ZOO TO PAOLI ELECTRIFICATION TRANSMISSION LINE
PROJECT

Dear Mr. Heist:

Enclosed is the completed Public Officials' Survey distributed at the meeting held at Lower Merion Township on May 28, 2013. In addition, please accept the following comments submitted on behalf of Lower Merion Township in response to the above referenced project and request for comments.

Properties and Districts of Local Historic Importance:

The towns of Ardmore and Haverford are both historic districts in Lower Merion Township and contain many individual historic buildings and resources that are proximate to the Paoli/Thorndale line. Haverford was not identified as a local historic district in the draft Section 106 review and should be included. Although the town of Bryn Mawr is not a designated Historic District, the area contains many National Register eligible or listed resources that could suffer adverse impacts from the project.

Since the Main Line of the Pennsylvania Railroad is itself a National Register Historic resource, the Township suggests that the Area of Potential Effect (APE) be expanded to include the areas on either side of the Main Line of the Pennsylvania Railroad between Montgomery and Lancaster Avenues. These areas include significant historic buildings in Bala Cynwyd, Merion, Wynnewood, and Rosemont and should be evaluated for potential adverse effects from the project. Many residential properties are located along the Paoli Line throughout Lower Merion Township and impacts to individual properties should be considered. Concern is expressed for visual and view-shed impacts from the increased height of the proposed new catenary structures and to impacts to landscape improvements including trees, shrubs and flowers.

The proposed project includes the demolition of the Bryn Mawr substation and replacement with a much larger building utilizing an expanded footprint that will impact the historic Paoli Line, the historic Bryn Mawr Station and the surrounding SEPTA parking area. The removal of twelve parking spaces from the already limited and crowded parking lot is a serious adverse impact to the surrounding Bryn Mawr area. The area of adverse impact has been identified in the "Bryn Mawr Master Plan" that was completed in July 2006. This area has been identified as the site for a future structured parking garage that would allow for increased ridership by SEPTA commuters and surrounding institutional uses and businesses. The removal of land from the site could impact the future potential for parking expansion. The Township recommends that the replacement of the sub-station be limited to the existing site with no removal of existing parking or further reduction of land area for future parking expansion.

In addition, the Bryn Mawr area surrounding the historic Bryn Mawr Station and village area has been designated as a Transit Revitalization Investment District (TRID) that qualifies for increased funding for public improvements under the PA TRID Act. The TRID district encompasses phase two planning and implementation of the Bryn Mawr Master Plan including planning, financing and implementing transit supportive development and infrastructure improvements in the core business area of Bryn Mawr.

Concern is also expressed for the removal of old catenary structures both on the Paoli line and on other lines affected such as the Cynwyd line. Leaving abandoned wires or poles in place is not recommended with a strong preference for full removal.

Suggested Measures to Mitigate Adverse Effects:

The Township recommends that Amtrak and its project consultants continue to coordinate mitigation of adverse effects with the Lower Merion Historical Architectural Review Board (HARB) to implement recommendations. In addition to HARB, the involvement of and final approval of proposed mitigation measures should be sought from the Pennsylvania Historical and Museum Commission. Direct notification of all property owners immediately adjacent to the rail line should be provided with opportunities given to review adverse impacts to individual properties.

Further clarification is needed as to the impact to mature trees and shrubs along the Paoli Line. A landscape plan should be included that fully describes what resources will be impacted, private property screening methodology explained, and replacement and future maintenance plans described. Further clarification is requested as to how the project will be installed, old infrastructure removed and in what timeframe. Explanation of the need for access to adjoining private property, hours of project work, impacts from noise and debris, after-hours illumination, and other construction concerns such as drilling, pile driving or earth movement should be fully described and provided to the public and individual property owners.

Concern is expressed for any public health and safety impacts from the construction and installation of proposed new infrastructure and any impacts to the normal operation of the railroad including SEPTA commuters and Amtrak riders.

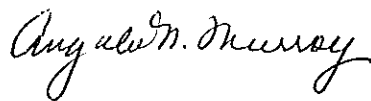
Other Comments/Suggestions:

The Township recommends that Amtrak or their consultants establish a project web site that is accessible to the public that includes all the information on the proposed Zoo to Paoli Electrification project. As the project moves through the design and engineering process, the information should be added with notification to the public that the project has advanced through its stages. It is recommended that descriptive information on how similar projects were completed in the Northeast Corridor be provided to include both before and after pictures and specifics and visuals describing how the construction was carried out.

Further, the public should be given the opportunity to join a distribution list for updates on the advance of the project through its stages. Direct connection to the website from notifications should be provided.

Lower Merion Township appreciates the opportunity to provide comment and response to Amtrak and its consultants relating to the Zoo to Paoli Transmission Line Project. We welcome you to return to the Township and offer the continued use of our facilities for future updates and public meetings. Please let us know if you require additional information or if we can offer additional suggestions.

Sincerely,



Angela N. Murray AICP
Assistant Director

CC: President and members of the Board of Commissioners
Douglas S. Cleland, Township Manager
Bob Duncan, Director
Mike Wylie, Zoning Officer
Daniel Tasker, Amtrak
Daren Petroski, Burns Engineering, Inc.
Bert Wescott, Burns Engineering, Inc.
Barbara Frederick, PHMC
Michelle Fishburne, FRA

**AMTRAK'S ZOO TO PAOLI TRANSMISSION LINE PROJECT
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Do you have any concerns regarding the proposed improvements associated with this project? If so, please describe:

SEE LETTER ENCLOSED

Please provide any additional comments regarding the proposed improvements:

SEE LETTER ENCLOSED

Are there other community groups that you feel should be included in the discussions about this project? Yes No Please list them with a contact name and email, if possible.

SEE LETTER ENCLOSED.

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 Yes No

Do you use the rail line to travel for: Business Pleasure

What do you like MOST about traveling by rail?

Not driving or wasting time in traffic.

What do you like LEAST about traveling by rail?

UNKNOWN DELAYS. Cost of tickets
Cost of parking at 30th St. Station

From what station to what station do you travel most frequently?

CENTER City / ARDMORE
30th St. Station / New York City

If you have additional comments or questions about the Zoo to Paoli Re-Electrification Project,
please send us an email at: ahleist@stellee.com or cgilchrist@stellee.com.

ZOO TO PAOLI RE-ELECTRIFICATION PROJECT





presentation pur- pt

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Angela N. Murray, AICP
Assistant Director, Building and Planning Department
Township of Lower Merion

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Fax: (610) 649-9598
amurray@lowermerion.org



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**AMTRAK'S ZOO TO PAOLI TRANSMISSION LINE PROJECT
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SEE LETTER ENCLOSED

Please provide any additional comments regarding the proposed improvements:

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SEE LETTER ENCLOSED.

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ZOO TO PAOLI RE-ELECTRIFICATION PROJECT



Allen Heist

From: Crystal Gilchrist
Sent: Monday, June 10, 2013 8:41 AM
To: Hala Imms
Cc: Wilkinson, Jr., Thomas; Allen Heist; Daren Petroski; Bert Wescott (Business Fax); Murray, Angela
Subject: RE: Amtrak's Zoo to Paoli Transmission Line project - survey

Hello,

Thank you for your thoughtful comments about the Amtrak project. I have included members of the project team in this reply so your concerns have been passed along as part of the official record. It will be added to the other comments that were provided at the two public official's meetings (May 28 & 29) as well as the consulting parties and general public meetings held June 6.

All of the concerns that were raised will be taken into account as the team moves to completion the final plans later next year. As this is a long process, it may be a while before more information is available. Please do keep in touch with your municipal folks as the process continues.

Regards,
Crystal

Crystal Gilchrist, AICP
Project Manager
Stell Environmental Enterprises, Inc. • 25 East Main Street • Elverson, PA 19520 Phone 610-286-0100 • Fax 610-286-0110 • Cell 484-366-3798
Email cgilchrist@stellee.com • Web www.stellee.com

2012 Gold Award Winner, Environmental Business Journal Achievement Award, Small Firms

Woman-Owned, SBA 8(a) Certified, SDB

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-----Original Message-----

From: Hala Imms [<mailto:Hala.Imms@prufoxroach.com>]
Sent: Saturday, June 08, 2013 2:51 PM
To: Crystal Gilchrist
Cc: Wilkinson, Jr., Thomas
Subject: Amtrak's Zoo to Paoli Transmission Line project - survey

Crystal,

I attended the May 28 meeting at Lower Merion Township building to hear the presentation and represent the Haverford Civic Association as a board member. I have cc'd our president also and listed the numerous concerns from the neighbors and homeowners adjacent to the railway.

1- Historic - the area between Haverford and Bryn Mawr train stations is predominantly "Historic" per Lower Merion and HARB and was noted 5 years ago. Please take this into consideration when working in our area. The taller towers will make it more visible to everyone taking away from the historic area. Is there a better way to space the new towers along these historic blocks?

2 - Conservancy - The trees are an excellent enhancement to our historic neighborhood and help shield the view plus reduce noise level from the trains. If Amtrak needs to clear some trees to work, they should be replaced. Evergreens are excellent and do not lose leaves in the fall which can impact rail schedules. The previous arborists did a terrible job between Haverford Station towards Bryn Mawr by clearing, trampling established floral gardens created by residents to beautify the land and logs are still laying along the banks leaving a desolate ambiance. Merion Station was drastically cut by all trees and bushes allowing the area to be fully exposed and it looks terrible for the Main Line neighborhood. Trees are good for safety as a barrier too while also helping to maintain our property values.

3 - Notification of construction- I received the email notice a couple days before the meeting on May 28. The reporter for the Main Line Times did not even see the small notice placed in her paper and was only made aware of the meeting from a concerned citizen. Residents adjacent to the rail project should be directly notified in advance via mail with approximate dates and times for construction. Will construction take place during normal working hours and comply with Lower Merion's hours for work with appropriate noise levels during the week and weekends so people are able to rest.

4 - Map - Will the new towers be adjacent to the current ones or placed elsewhere so the neighboring residents are aware. Is there a map showing placement of each tower along the railway for this project and can it be shared?

5 - Environmental impact - There are studies showing EMF - electric magnetic fields can cause health hazards regardless of the studies mentioned in your meeting. Will the lines be insulated? What exact studies has Amtrak completed to see if the clearance for higher powered lines extends closer to residences and public areas vs long term health hazards?

Thank you for reviewing and forwarding these concerns to the appropriate persons. I look forward to your continuous communication of the project's updates and schedule hoping Amtrak can be a good neighbor since most of the residents adjacent to the right of way has cared for the land at their expense and helps enhance the ride for your commuters.

Best regards,

Hala

Hala Imms

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Public Officials & Stakeholders Meeting

5/29/13

From: [Allen Heist](#)
To: [Alex Charlton](#); [Andrea Campisi](#); [Andrew Meloney](#); [Ardmore Business Assn](#); [Ardmore Progressive Civic Assn](#); [Ardwood Civic Assn](#); [Barry Seymour](#); [Berwyn Fire Co](#); [Beverlee Barnes](#); [Bill Keilbaugh](#); [Business Assn of West Parkside](#); [Cecile Charlton](#); [Charles McGarvey](#); [Christian Busch](#); [Christopher McGinley](#); [Daniel Waters](#); [Delano Shane](#); [Douglas S. Cleland](#); [Easttown Twp Police Dept](#); [Elizabeth S. Rogan](#); [Gale Morrison](#); [Gary W. Smith](#); [Gene Williams](#); [Great Valley School District](#); [Hugh J. Murray Sr](#); [James Brown](#); [James Higgins](#); [Jeffrey D. Knueppel](#); [Jim Marino](#); [Joe Symick](#); [John E. Pickett](#); [Joyce Smith](#); [Kate Galer](#); [Kathy Bognosian](#); [Keith Jones](#); [Executive Director](#); [Kenneth Woodson](#); [Kevin Maurer](#); [Lawrence J. Gentile](#); [Linda Grobman](#); [Lt. Anthony Giaimo](#); [Lucinda Hudson](#); [Main Line Chamber of Commerce](#); [Marian T. Toland](#); [Mark J. Rupsis](#); [Merion Civic Assn](#); [Michael J. McGrath](#); [Mill Creek Community Partnership](#); [Mimi Gleason](#); [Narberth Borough Council](#); [North Ardmore Civic Assn](#); [North Wayne Protective Assn](#); [P. Timothy Phelps](#); [Paoli Business & Professional Assn](#); [Peggy Schmidt](#); [Phila City Planning Comm](#); [Phila Comm of Parks & Rec](#); [Phila Police District 16](#); [Phila Police District 19](#); [Phila Police District 92](#); [Radnor Fire Co](#); [Rick Young](#); [Rita E. Reves](#); [Rob Henry](#); [Robert Cousar](#); [Robert Morro](#); [Robert Zienkowski](#); [Ronald T. Bailey](#); [Shortridge Civic Assn](#); [State Senator Andrew E. Dinniman](#); [State Senator Edwin B. Erickson](#); [State Senator Vincent J. Hughes](#); [Stephen Burgo](#); [Steve Nelson](#); [Tredyffrin Twp B/S](#); [Villanova Univ](#); [William Colarulo](#); [Willistown Conservation Trust](#); [Wynnewood Civic Assn](#)
Cc: ["Bert Wescott"](#); [Daren Petroski](#)
Subject: Public Officials" Meeting - Amtrak Zoo to Paoli Electrification Project
Date: Friday, May 03, 2013 1:13:00 PM
Attachments: [Public Officials Mtgs invitation - Ph B SEE FINAL.docx](#)
[Public Officials Document1.pdf](#)
[Renderings - Catenary Structures.PDF](#)
Importance: High

Stakeholder,

Find attached the notice for two (2) public officials' meetings to be held on May 28 and May 29 to provide updates and receive comments on the Amtrak Zoo to Paoli Electrification Project. These are a follow-up to meetings held in April 2012. Also attached is a project description and renderings of the proposed new catenary structures to be installed along the corridor. You are encouraged to attend one of these meetings to provide your input and to help identify project issues. Contact information for further information about the project and the meetings is included at the bottom of the notice.

Allen G. Heist
Project Manager

Stell Environmental Enterprises, Inc. • 25 East Main Street • Elverson, PA 19520

Phone 610-286-0100 • **Fax** 610-286-0110 • **Cell** 484-885-3394

Email ahleist@stelllee.com • **Web** www.stelllee.com

2012 Gold Award Winner, *Environmental Business Journal* Achievement Award, Small Firms Woman-Owned, SBA 8(a) Certified, SDB

ATTENTION

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AMTRAK
NOTICE OF PUBLIC INFORMATION MEETINGS
Zoo to Paoli Electrification Transmission Line Project
Public Officials' Meetings

May 28, 2013
7:00 p.m.
Lower Merion Township Bldg.
Main Meeting Room
75 East Lancaster Avenue
Ardmore, PA

May 29, 2013
7:00 p.m.
Radnor Township Bldg.
Main Meeting Room
301 Iven Avenue
Wayne, PA

Amtrak will hold a meeting at the above referenced dates, times, and locations for elected and appointed officials, agency representatives, and special interest groups to provide updated information on Amtrak's Zoo to Paoli Electrification Transmission Line, provide a project schedule, share plans for the design, and present the results of preliminary research on environmental and cultural resources within the corridor.

The 105-mile Keystone Corridor East rail line, operating from Harrisburg to Philadelphia, Pennsylvania, has been identified by the Federal Railroad Administration (FRA) as one of ten corridors in the country for potential high-speed rail projects. Along the 20-mile segment of the corridor between the Zoo and the Paoli substations, Amtrak plans to upgrade the existing overhead electrification system and the substation at Bryn Mawr. The existing 40-50 foot high overhead electrification system support structures within the right-of-way between the Zoo and Paoli substations, which are seriously deteriorated, will be replaced with new towers. The new towers will be approximately 60-75 feet high, with some towers reaching 100 feet high at overhead bridges. No additional right-of-way or property will be acquired for these improvements.

Since feedback from the community is a vital aspect of a project of this nature, you are encouraged to attend one of the meetings to provide your input and identify project issues. If you are unable to attend either of the meetings noted above, a general public will be held June 6, 2013 at 7:00 PM at Villanova University's Connelly Center Cinema.

These meetings are being held in physically accessible facilities. Please notify Amtrak at least 48 hours prior to the meeting if you have special needs for which this agency will need to make arrangements. The telephone number for making special arrangements is 610-286-0100.

For further information regarding this project, contact Daniel P. Tasker at Amtrak, 215-349-1416, Taskerd@amtrak.com or Daren Petroski at Burns Engineering, Inc., 215-979-7700 x7749, DPetroski@burns-group.com. For further information regarding this meeting, contact Daren Petroski at Burns Engineering, Inc., 215-979-7700 x7749, DPetroski@burns-group.com or Allen Heist at Stell Environmental Enterprises, Inc., 610-286-0100, aheist@stellee.com.



Summary of Preliminary Design Analysis for Existing Catenary Structures and Bryn Mawr Substation Building

The New York-Washington-Harrisburg portion of Amtrak was electrified by the Pennsylvania Railroad (PRR) in several stages between 1915 and 1940. The Philadelphia to Paoli route was the first stage of this program, built with 11 kV catenary (later raised to 12 kV) and a parallel 44 kV transmission network. The Philadelphia to Paoli route was eventually surrounded with the “final” PRR configuration of 12 kV catenary paralleled with 138 kV transmissions. Sometime after World War II, the 44 kV network was abandoned, leaving the original Philadelphia to Paoli route fed from the transmission network only at Zoo and Paoli substations, and Bryn Mawr substation was reduced to a switching station. Some of the original catenary structure aerial envelope that had been used for the 44 kV network was made available to PECO for a medium voltage commercial frequency line.

The 138 kV network had been built on the PRR Norristown line, providing a route for power to be transported between Safe Harbor via Parkesburg, to Zoo Substation in Philadelphia. The Norristown service was eventually given up, but the transmission lines remain on that right-of-way, which is now the Schuylkill Bikeway for much of its length. Some portions of the former Norristown Line are difficult to access.

The 22 miles between Zoo and Paoli now represent the longest distance between 138 kV substations on the entire electrified line. Maintenance of the transmission lines on the former Norristown line is difficult, for several reasons (the bikeway is a public park, some poles are shared with the ex-Reading Norristown line now operated by SEPTA, some parts of the transmission line right-of-way are accessible only by hiking over rough territory). To reinforce the power supply to the busy Philadelphia-Paoli route, and to consolidate rights of way and ease maintenance, Amtrak wants to build two new 138 kV lines between Paoli and Zoo over the Paoli railroad right-of-way.



Figure 1 - Existing Transmission Right of Way



Zoo to Paoli - 138 kV Transmission Lines

Once built, the configuration of the Philadelphia to Paoli line would match most of the rest of Amtrak's 25 Hz railroad. Substation spacing between Philadelphia and Paoli would be about 10 miles, which is somewhat longer than exists over most of the New York to Washington line, but is not unreasonable with service levels currently supported with only the Bryn Mawr switching station.

Design issues with the installation of the new 138 kV transmission lines and new step down substation include the replacement of the existing catenary structures along the route and the removal of the Bryn Mawr substation building.



Catenary Structures – The existing catenary structures along the route are constructed with tapered tubular poles that are placed on either side of the right-of-way (RoW). The catenary for the line is supported from the poles via cross spans with back guys. The height of the existing structures varies with the majority of the structures being approximately 45 feet tall.



Figure 3 - Existing Catenary Structures

The structures are intended for replacement with PRR traditional H-sections with cross beams as seen in Figure 4, due to the following reasons:

- The original design of the existing catenary structures and foundations did not account for the additional structural loads which will be imposed by the addition of the new transmission lines.
- The conditions of the existing structures are marginal to poor and would need significant rehabilitation to remain in service.
- The height of the existing structures is inadequate to meet the Amtrak and National Electric Safety Code (NESC) requirements for clearances from 138 kV circuits.



Figure 4 - Typical K Frame Structure

Substation Building – The existing substation building at Bryn Mawr was originally used for the operation of the 44 kV distribution system as well as supporting the 44 kV and 12 kV electrical equipment. The 44 kV equipment at the substation was abandoned in the 1940's and is not currently in service. The existing site is as seen in Figure 2.

The new equipment required for the substation includes 2 each 4.5 MVA traction power transformers (12' H x 10'W x 8'L); new transmission switching structures on the east and west end of the substation with aerial cables connecting between them

Due to the limited area available at the site and the significant additions required to the site the existing substation building will need to be removed to fit the new substation on the available land. See preliminary substation layout included below.

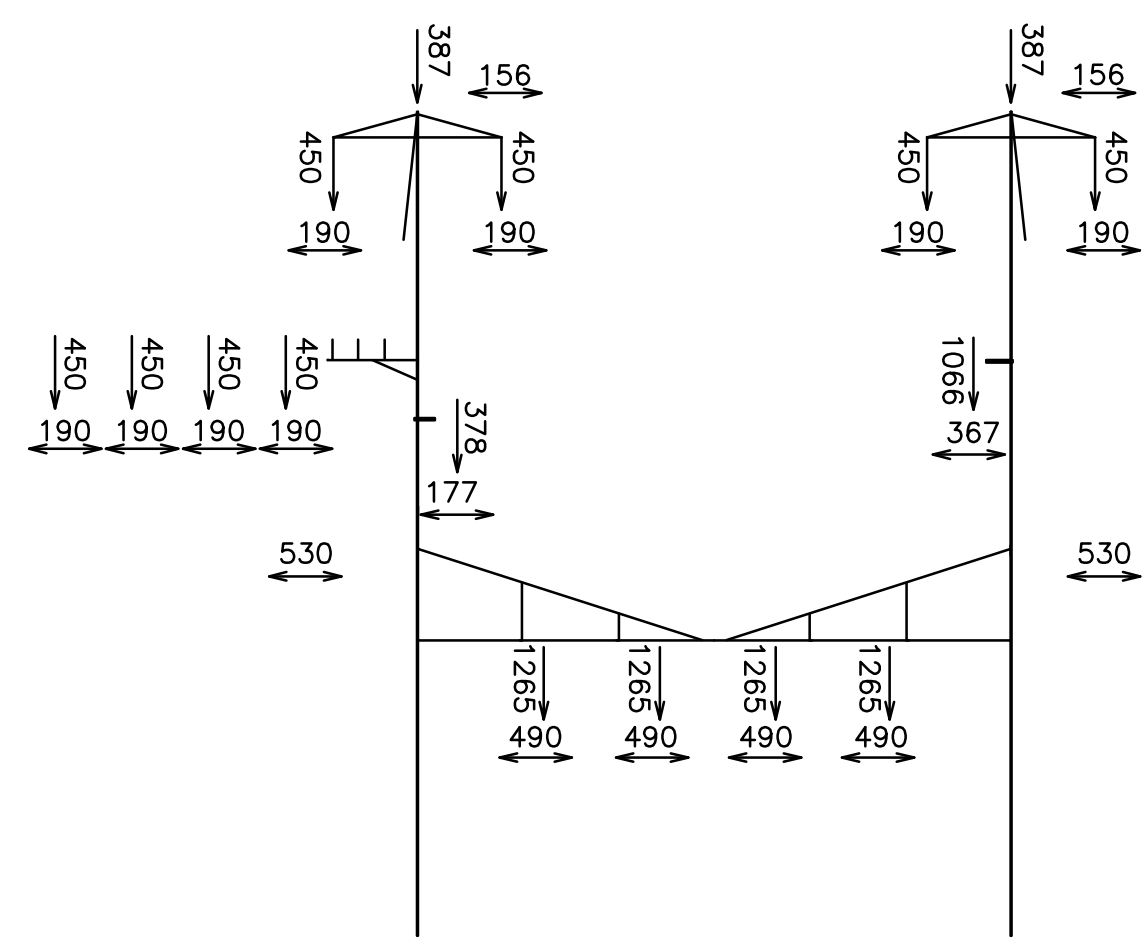
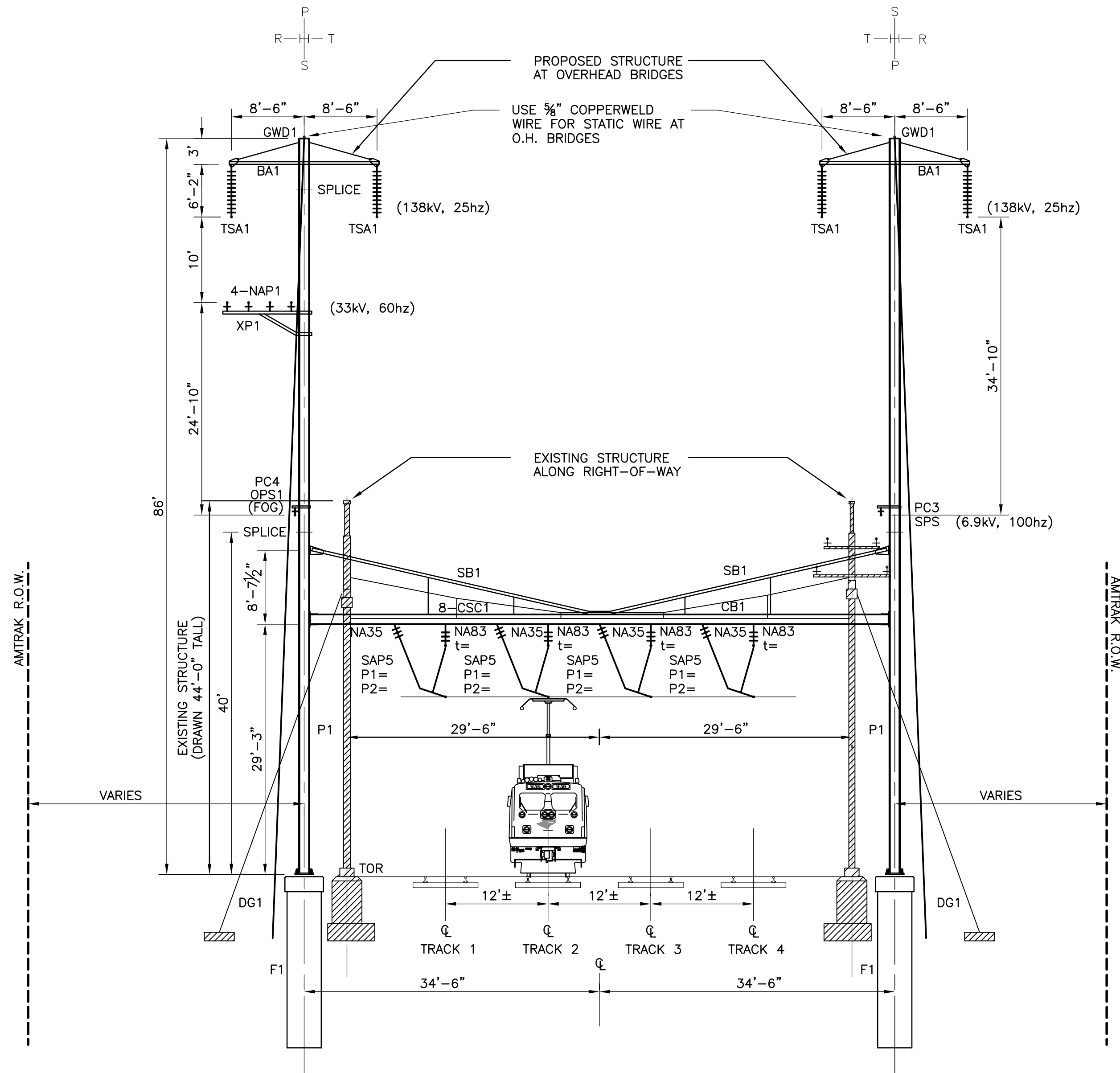


Figure 5 - Bryn Mawr Aerial Photo



Figure 6 - Paoli Substation, 138 kV Structures

BILL OF MATERIALS			
MARK	DESCRIPTION	REF. DWG.	QUANTITY
NA83	MESSENGER SUPPORT	ET-xx	4
NA35	MESSENGER SUPPORT	ET-xx	4
SAP5	REGISTRATION ASSEMBLY	ET-xx	4
GWD1	GROUND WIRE ASSEMBLY	ET-xx	2
TSA1	TRANSMISSION WIRE SUPPORT	ET-xx	4
NAP1	PECO WIRE SUPPORT	ET-xx	4
OPS1	FOG WIRE SUPPORT	ET-xx	1
SPS	SIGNAL POWER SUPPORT	ET-xx	1
PC3	SLIDING CLAMP	S-xx	1
PC4	SLIDING CLAMP	S-xx	1
P1	POLE	S-xx	2
F1	FOUNDATION	S-xx	2
SB1	SAG BRACE	S-xx	2
CB1	CROSS BEAM	S-xx	1
BA1	TRANSMISSION BRACKET -DOUBLE	S-xx	2
XP1	PECO BRACKET	S-xx	1
CSC1	SLIDING BRACKET	S-xx	8
DG1	DOWNGUY ASSEMBLY	S-xx	2
DGA	DOWNGUY ANCHOR FOUNDATION	S-xx	2



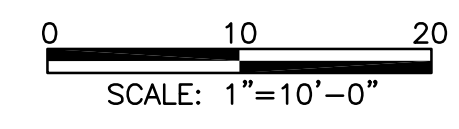
LOADING DIAGRAM
1/2" RADIAL ICE, 40 MPH WIND, 300' MAX SPAN
(NOT TO SCALE)

CLEARANCE NOTES:

- CLEARANCE OF 138KV OVER ROADWAY SHALL BE 35' WORST CASE.
- CLEARANCE OF 33KV PECO OVER ROADWAY SHALL BE 18.5' PER NESC RULE 232, TABLE 232-1.
- CLEARANCE OF 33KV PECO OVER OTHER PECO WIRES SHALL BE 2' PER NESC RULE 233, TABLE 233-1.

WORK STATEMENT:

- INSTALL FOUNDATIONS.
- INSTALL POLES, CROSS BEAM AND SAG BRACES.
- INSTALL TRANSMISSION BRACKETS.
- INSTALL LONGITUDINAL DOWN GUYS.
- INSTALL STATIC, TRANSMISSION, INSULATED SIGNAL POWER AND PECO WIRES.
- TRANSFER FOG AND EXISTING INSULATED SIGNAL POWER WIRES TO NEW STRUCTURE.
- INSTALL SLIDING BEAM CLAMPS AND MESSENGER SUPPORTS.
- TRANSFER CATENARY WIRES TO NEW STRUCTURE.
- ADJUST HANGERS IN CATENARY SPANS AND REPROFILE CATENARY.
- DEMO OLD CAT POLES AND FOUNDATIONS.



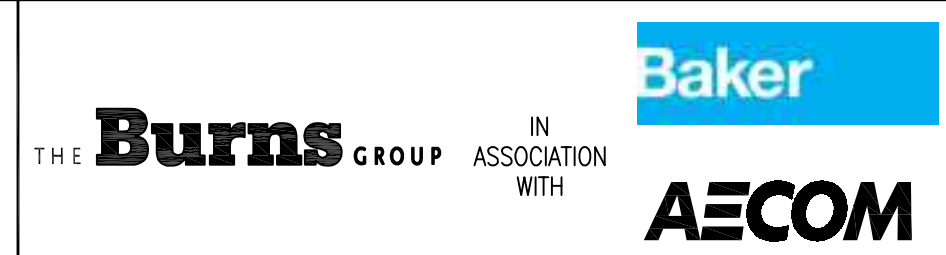
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No	Revisions	Date	By



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National Railroad Passenger Corporation
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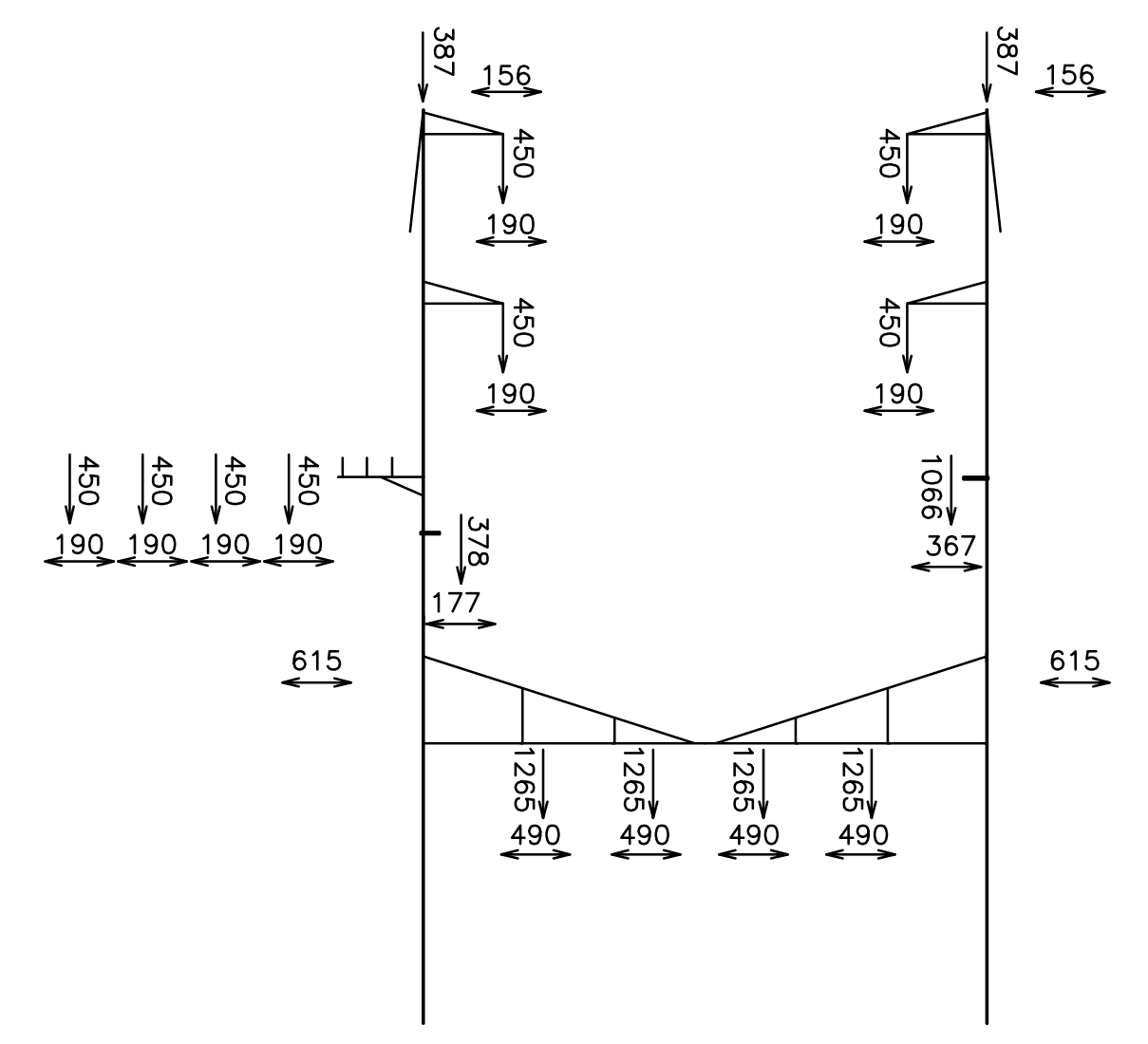
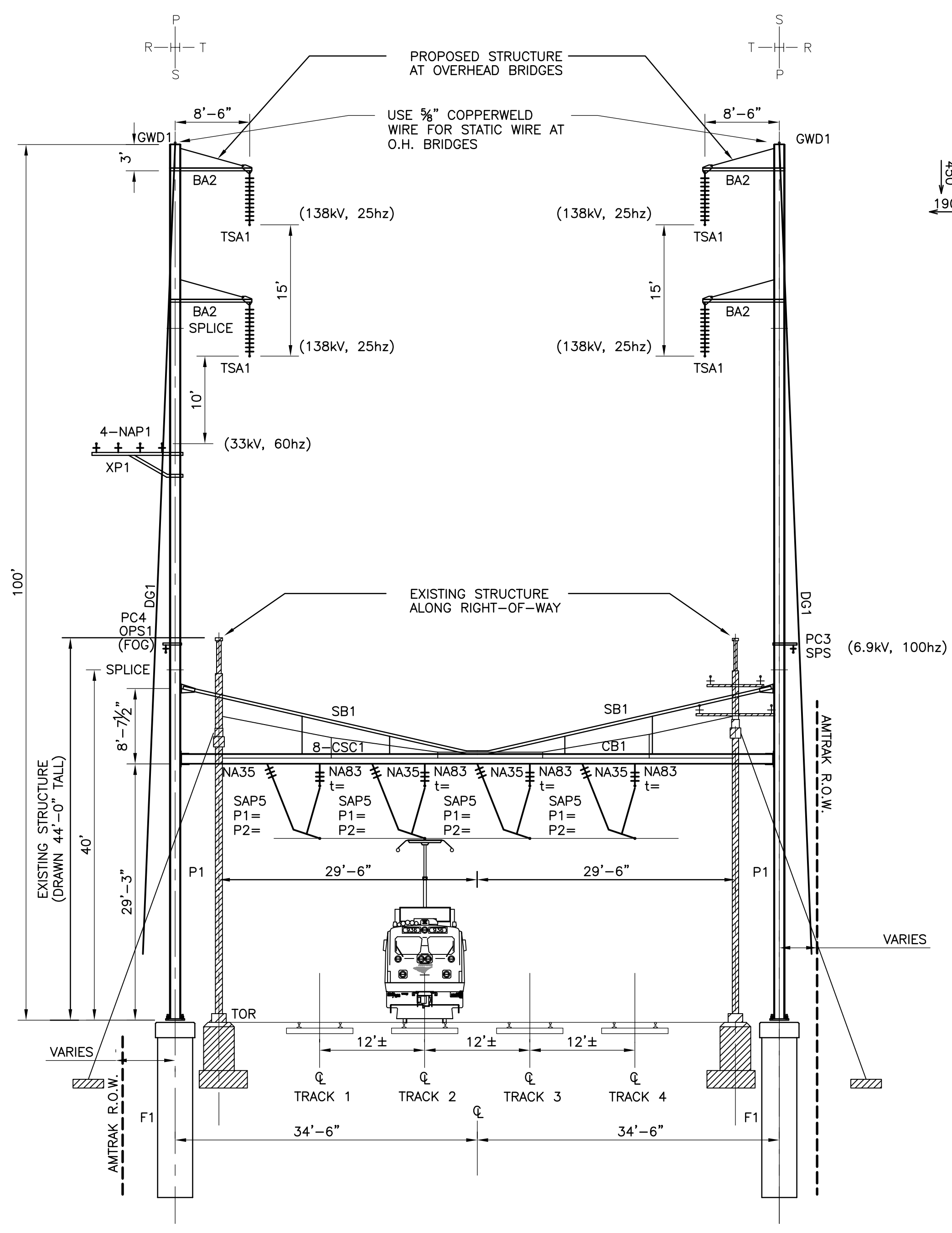
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ZOO TO PAOLI TRANSMISSION
ELECTRIFICATION
STRUCTURAL ERECTION DIAGRAM
TANGENT TRACK OH BRIDGE (WITH PECO)

Recommended: DP Drawn: CTS Checked: RW Date: 10/31/12

File No.:
Ref. No.:
Sheet No: X OF -
ET-1020

BILL OF MATERIALS			
MARK	DESCRIPTION	REF. DWG.	QUANTITY
NA83	MESSENGER SUPPORT	ET-xx	4
NA35	MESSENGER SUPPORT	ET-xx	4
SAP5	REGISTRATION ASSEMBLY	ET-xx	4
GWS1	GROUND WIRE ASSEMBLY	ET-xx	2
TSA1	TRANSMISSION WIRE SUPPORT	ET-xx	4
NAP1	PECO WIRE SUPPORT	ET-xx	4
OPS1	FOG WIRE SUPPORT	ET-xx	1
SPS	SIGNAL POWER SUPPORT	ET-xx	1
PC3	SLIDING CLAMP	S-xx	1
PC4	SLIDING CLAMP	S-xx	1
P1	POLE	S-xx	2
F1	FOUNDATION	S-xx	2
SB1	SAG BRACE	S-xx	2
CB1	CROSS BEAM	S-xx	1
BA2	TRANSMISSION BRACKET - SINGLE	S-xx	4
XP1	PECO BRACKET	S-xx	1
CSC1	SLIDING BRACKET	S-xx	8
DG1	DOWNGUY ASSEMBLY	S-xx	2
DGA	DOWNGUY ANCHOR FOUNDATION	S-xx	2



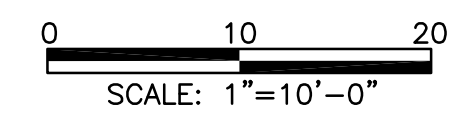
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- ADJUST HANGERS IN CATENARY SPANS AND REPROFILE CATENARY.
- DEMO OLD CAT POLES AND FOUNDATIONS.

STRUCTURE ERECTION DIAGRAM P-
STATION 00+0
LOOKING TOWARDS HARRISBURG



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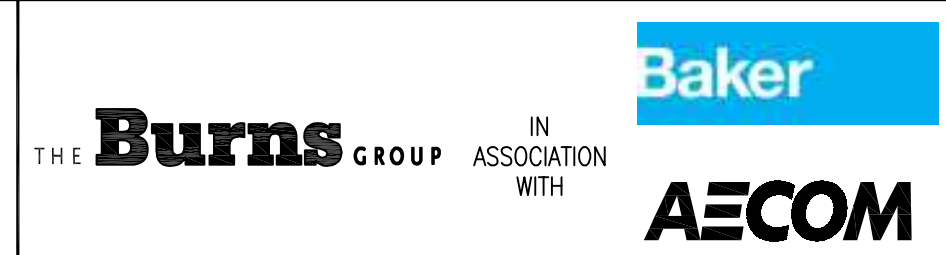
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National Railroad Passenger Corporation
30TH Street Station-Philadelphia, Pennsylvania 19104

Approved	Date

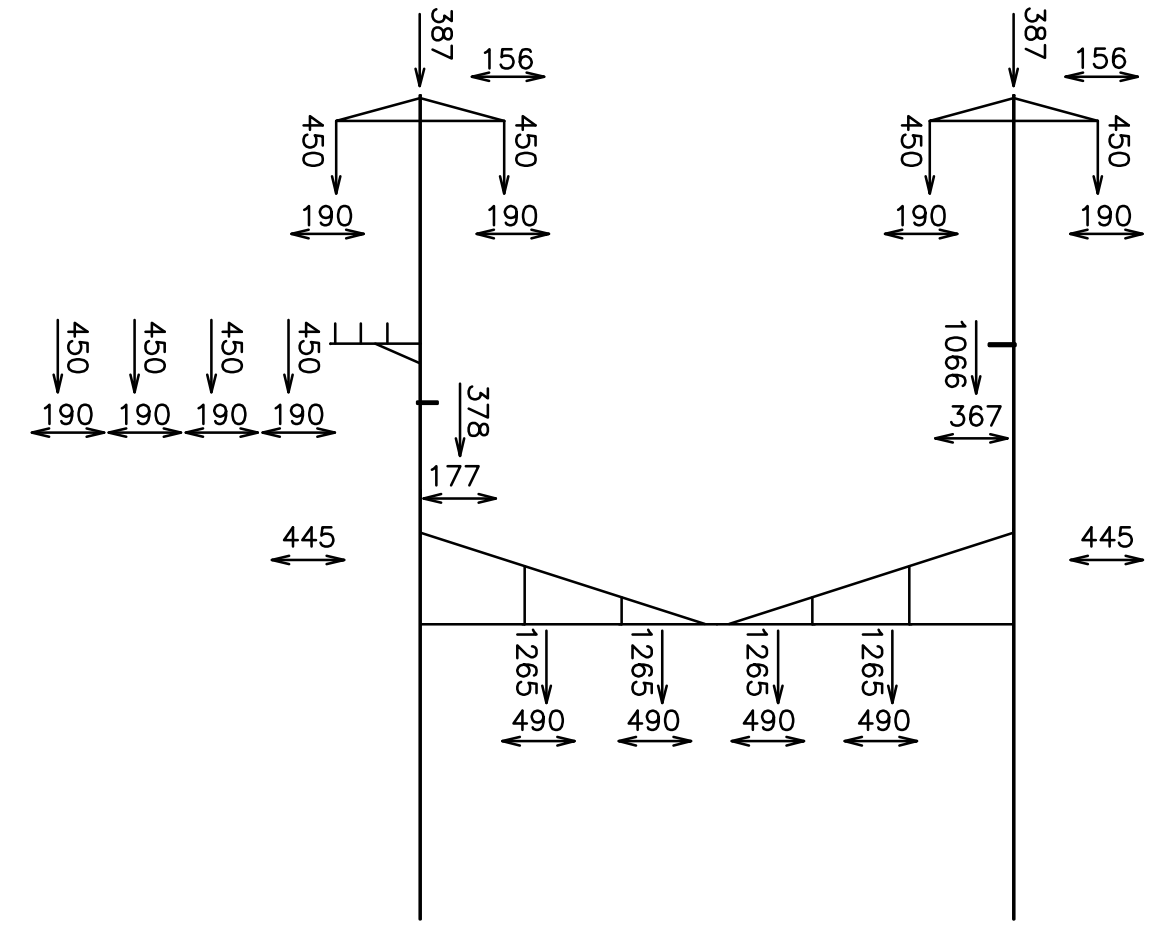


ZOO TO PAOLI TRANSMISSION
ELECTRIFICATION
STRUCTURAL ERECTION DIAGRAM
TANGENT TRACK, STACKED (WITH PECO)

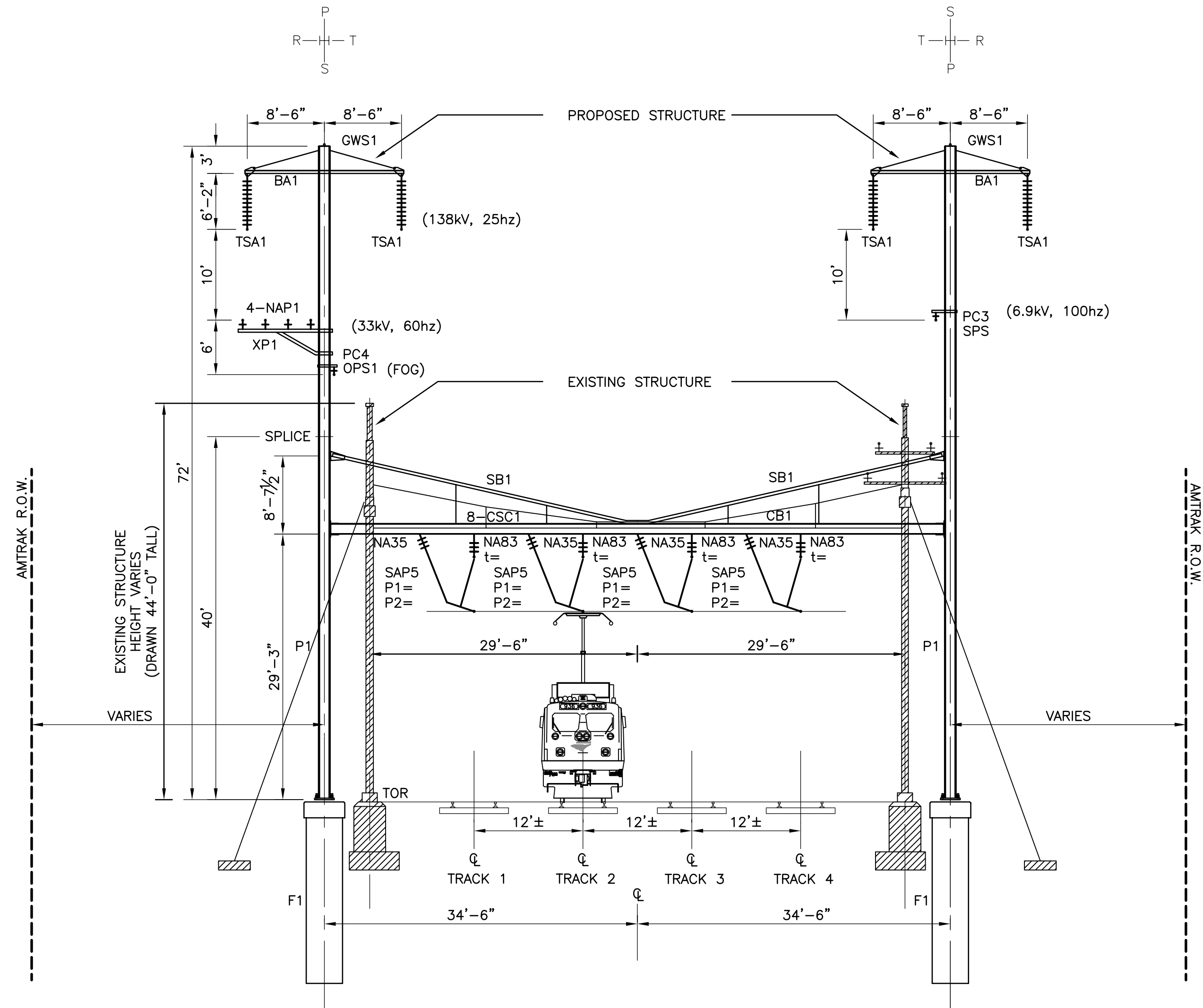
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BILL OF MATERIALS			
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NA35	MESSENGER SUPPORT	ET-xx	4
SAP5	REGISTRATION ASSEMBLY	ET-xx	4
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NAP1	PECO WIRE SUPPORT	ET-xx	4
OPS1	FOG WIRE SUPPORT	ET-xx	1
SPS	SIGNAL POWER SUPPORT	ET-xx	1
PC3	SLIDING POLE CLAMP	S-xx	1
PC4	SLIDING CLAMP	S-xx	1
P1	POLE	S-xx	2
F1	FOUNDATION	S-xx	2
SB1	SAG BRACE	S-xx	2
CB1	CROSS BEAM	S-xx	1
BA1	TRANSMISSION BRACKET -DOUBLE	S-xx	2
XP1	PECO BRACKET	S-xx	1
CSC1	SLIDING BRACKET	S-xx	8



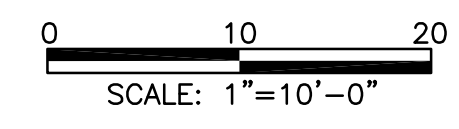
LOADING DIAGRAM
1/2" RADIAL ICE, 40 MPH WIND, 300' MAX SPAN
(NOT TO SCALE)



STRUCTURE ERECTION DIAGRAM P-
STATION 00+0
LOOKING TOWARDS HARRISBURG

WORK STATEMENT:

1. INSTALL FOUNDATIONS.
2. INSTALL POLES, CROSS BEAM AND SAG BRACES.
3. INSTALL TRANSMISSION BRACKETS.
4. INSTALL STATIC, TRANSMISSION, INSULATED SIGNAL POWER AND PECO WIRES.
5. TRANSFER FOG AND EXISTING INSULATED SIGNAL POWER WIRES TO NEW STRUCTURE.
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7. TRANSFER CATENARY WIRES TO NEW STRUCTURE.
8. ADJUST HANGERS IN CATENARY SPANS AND REPROFILE CATENARY.
9. DEMO OLD CAT POLES AND FOUNDATIONS.



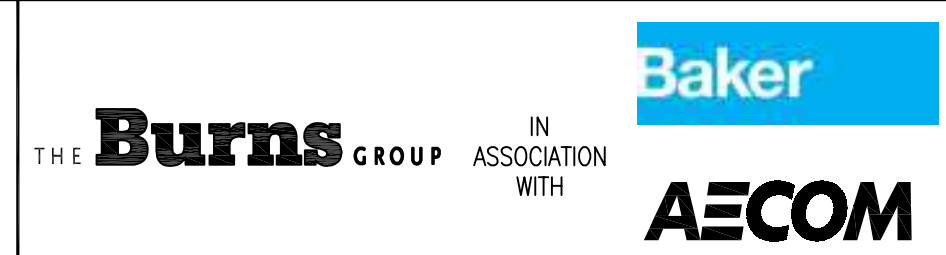
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ZOO TO PAOLI TRANSMISSION
ELECTRIFICATION
STRUCTURAL ERECTION DIAGRAM
TANGENT TRACK (WITH PECO)

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Sheet No: X OF -
ET-1022



Amtrak Zoo – Paoli Re-Electrification Project
Public Official's Meeting May 29, 2013
Radnor Township Building, Delaware County, PA

Name	Title	Organization/Affiliation	Email Address
1. Linda Stein	Reporter	Main Line & Media	lstein@mainline media.news.com
2. William Martu	Tredyffrin Manager	Tredyffrin Twp	wmartu@tredyffrin.org
3. Beverlee Barnes	Preservation Planner Radnor HARB	Delaware County Planning Dept	barnesb@co.delaware.pa.us (delaware)
4. Elaine Siebert	Resident	neighbor to L.R.	eds1107@aol.com
5. Paul Perrot	Resident	Resident	PERROTPAUL-RADNOR@verizon
6. Tamra Dann	Project Env. Manager	Baker	tdann@mbakercorp.com
7. Kate Jones	COMM DEV COORDINATOR	TREDYFFRINTWN	kjones@tredyffrin.org
8. Kurt Behm	Resident	Ashwood Manor	KBS48@AOL.COM
9. Jim Matthews		SELF	JMAT1567@aol.com
10. Grace Ziesing	Resident	Self	gziesing@verizon.net
11. Mark Knight	"	"	sdark@verizon.net
12. JOHN NACLES	COMMISSIONER	Radnor Twp	jnacles@radnor.org
13. Laura Janson	Resident		laurajanson@gmail.com
14. John Velatini	Resident	Radnor Twp	mmjv11@verizon.net



Amtrak Zoo – Paoli Re-Electrification Project
Public Official’s Meeting May 29, 2013
Radnor Township Building, Delaware County, PA

Name	Title	Organization/Affiliation	Email Address
15. James Higgins	Commissioner	Radnor Twp	onjim@jchigginsbw.com
16. Stephen F. Norcia, P.E.	Dir. Public Works	Radnor Twp	snorcian@radnor.org
17.			
18.			
19.			
20.			
21.			
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23.			
24.			
25.			
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28.			

May 29, 2013 at Radnor Township Building.

Project Team Attendees: Bert Wescott, Burns Engineering; Daren Patroski, Burns Engineering; Allen Heist, Stell Environmental Enterprises, Inc. (SEE); Crystal Gilchrist, SEE; Lauren Archibald, SEE; Tamra Dunn, Michael Baker, Inc.; Dan Tasker, Amtrak.

The presentation began at 7:00 PM with introductions by Daren Petroski, followed by the details of the proposed project. Questions were asked throughout the presentation and are summarized below. Some questions have been rephrased to be more concise.

Q: What happens to the old structures?

A: Along the remote right of way, the old poles will be abandoned in place. Amtrak does not own the right-of-way and removal is not part of the current project along that corridor. Along the main line where the electrical distribution will be added, the old poles will be removed.

Q: Will new structures be at the same locations?

A: Currently they are planned to be placed as close as possible to the existing structures and with the same total number of structures.

Q: What is the height of the new towers?

A: Currently the poles are between 45 and 50 feet tall. New structures from 52nd Street to Villanova will mostly be 62 feet tall. From Villanova to Paoli, they will be about 72 feet tall to accommodate the PECO lines in addition to the SEPTA rail power systems. Over bridges, the towers may reach 100 feet tall.

Q: Will they be dual current?

A: Yes, currently they are also dual service.

Q: Do you have a graphic that shows the two towers side by side for comparison?

A: The display boards in the front of the room show the existing structures compared to the new structures.

Q: Which structures are staying in place?

A: Along the existing train service line, the old poles will be removed. Along the remote line, the old poles will be left in place.

Q: Why leave in place? Why not make things look nice?

A: PECO still uses some of the poles along the remote line. Maybe they will be removed at a later date as part of a different project. Amtrak does not own the remote right of way.

Q: Are the new towers tubular?

A: No, they will be a wide flange design, like an I-beam.

Q: Will parking at Bryn Mawr be impacted?

A: Yes, about 12 spaces will be lost.

Q: What is a Categorical Exclusion and what is NEPA?

A: Tamra Dunn from Baker explained the process and noted that the CE is the lowest form of environmental review for those projects that will not have any “significant” impacts.

Q: Does it include a Section 106 review of historic resources?

A: Yes, it is part of the CE.

Q: If the project receives an approval for the CE, does that exclude all other reviews such as erosion & sedimentation control, local permits, etc.?

A: No, all local and state permitting remains.

Q: What about noise & vibration?

A: Aside from temporary construction noise and vibrations, there will be no additional noise from the new towers.

Q: Will rail traffic increase?

A: Increased capacity for rail travel is not part of this project.

Q: Will construction occur at night?

A: Yes, there may be nights and week-ends so that regular rail service can be maintained. Also, the construction will not take place along the entire 20 mile project area at one time. It will “roll” out along the corridor.

Q: Will the schedule and progress reports be posted on a website?

A: No. During the last project, Amtrak had a 1-800 phone number for the public to call for information or to share concerns or problems. It worked very well.

Q: Please try to limit night time work.

A: We will try but there is the need to maintain regular service and SEPTA will have the final say as to when work can progress.

Q: There are local ordinances, in Radnor, regarding noise and night time work. Can the Township have input into the work schedule?

A: We cannot answer that here tonight. Please document that concern on the questionnaire so it will become part of the official record.

Q: What about the electro-magnetic field impacts on wildlife?

A: There is no documentation on that topic; however, the proposed project will be orders of magnitude below the standards set by the World Health Organization for humans.

Q: Can the public attend the Consulting Parties’ meeting?

A: That meeting is specifically set for those groups; however, everyone is invited to the general public meeting that will take place immediately after the Consulting Parties’ meeting.

Q: What can we bring up at the public meeting?

A: Any topic you want that is related to the project.

Q: Have there been any plans for the mitigation of the historic railroad features?

A: No, not yet, but that is one of the purposes of this meeting. If you have suggestions, please document them on the questionnaire.

Q: The presentation noted that 23 historic properties were identified from existing records. Were any surveys completed to identify new historic properties?

A: No, the project is within the existing right of way. The Pennsylvania Historic and Museum Commission (PHMC) agrees that the Area of Potential Effect (APE) is appropriately based on the existing right of way, so no additional surveys of possible resources outside of the right-of-way are necessary.

Q: How will the foundations be built?

A: Bored in place. They will be circular to a depth of about 20 feet.

Q: Was Duffy's Cut included in the archaeological research?

A: We are aware of Duffy's Cut, but it is west of the proposed project, in Malvern.

Q: Will you access the work area through Amtrak right of way or will public access be needed?

A: The current plan is to do as much of the construction from the rail line as possible, but the details have not yet been worked out. If additional access is needed, it will be coordinated at that time with any affected property owners.

Q: Can you do the laydown (stockpiling of construction materials) at another location?

A: Currently the plan is for most of the laydown to occur at the large rail yard near the Zoo.

Q: Where does the 138kV power come from now?

A: From the Zoo and Paoli substations via the remote line north of the current rail line.

Q: Is that electric service used only by Amtrak?

A: Yes.

Q: What is the primary reason to relocate the power lines from the remote corridor to the main line?

A: There are 2 main reasons for the project: The first is that both the main line and remote corridor structures are at the end of their useful lives and are requiring more and more maintenance. The decision was made to relocate the remote power line so that only one set of towers needs to be replaced and maintained in the future. The second problem is that this is the only section of Amtrak's New York to Washington and Philadelphia to Harrisburg service without a 138kV substation within 10 miles of each other. The 20 mile section of the main line experiences electrical problems that delay train service during peak periods.

Q: Will PECO continue to use the remote corridor?

A: Yes.

Q: Who will be funding this project?

A: Probably federal and state dollars.

Q: Has anyone asked PECO to run new towers along their corridor?

A: That is not really an option because PECO is not the sole owner of the current remote corridor. There are also the owners of the Schuylkill River Trail and Norfolk Southern rail corridor.

Q: Will the proposed 138kV power line be used exclusively for the trains?

A: Yes.

Q: When Amtrak replaced the railroad ties recently, was that considered an adverse effect to the historic mail line railroad?

A: No, that was a maintenance job.

Lower Merion Commissioner statement: The Township is mostly concerned about the construction period and impacts during that time.

Q: Will there be any power generation associated with the project?

A: No.

Q: Will the project allow co-location on the towers?

A: Only where there is co-location now with PECO.

Summary by project team: Please get your comments onto a questionnaire. They are an important part of the process.

Q: Is the PowerPoint presentation available?

A: Yes, make sure you give us your contact info and we will send you a copy.

Q: Does Amtrak plan to have a website to allow residents to follow the construction and schedules?

A: No, but information can be provided to the municipalities for inclusion on their websites. Amtrak is planning on providing an 1-800 service to provide project updates and construction schedules.

Q: What percentage of the Amtrak system currently has the 138kV power aligned with the train corridor?

A: All of it except between the Zoo and Paoli.

Q: What about the section between New York and Boston?

A: There are several things operating there that are newer technology. Along this corridor, we are working with a 100 year old system.

Q: Will there be any additional clearing associated with the project?

A: Only where vegetation interferes with rail activities within the right of way.

Q: Smaller, local public meetings would be helpful for those who abut the right of way and who may be encroaching on the right of way.

A: The main purpose of this project is to move people more efficiently. We are not overly concerned with the encroachments. Where new towers are proposed, they will be staked out in advance and most of the work will occur from the rail line.

The above information is a summary of the public officials' meetings and not a verbatim record. Should you or anyone copied on these minutes have any questions, comments, or suggested revisions to these minutes,

please contact me via email at ahleist@stellee.com or at 610-286-0100 within seven (7) days of receipt; otherwise these minutes will be considered final and an accurate representation of the meetings.

Minutes prepared by,

Crystal Gilchrist
Stell Environmental Enterprises, Inc.
Assistant Project Manager

cc: Project Team Attendees

**AMTRAK'S ZOO TO PAOLI TRANSMISSION LINE PROJECT
PUBLIC OFFICIALS' SURVEY**

**May 28, 2013 at Lower Merion Township Building
May 29, 2013 at Radnor Township Building**

This is the second round of public officials' meetings to be held regarding the proposed Amtrak Re-Electrification Project for the Zoo to Paoli Rail Line. Thank you for sharing your thoughts and concerns regarding the project and the public outreach efforts. Please return the completed survey to a member of the project team.

Were you aware of AMTRAK plans to upgrade the electric service system along the rail lines between the Philadelphia Zoo and Paoli prior to this meeting? Yes No

Has the Amtrak Zoo to Paoli Re-Electrification Project been discussed at municipal public meetings since the Public Officials' meetings held on April 25 and April 30 of 2012?
 Yes No

Do you feel that the Public Officials' meetings have provided enough information to understand the purpose and need for the project as well as how the project may impact your community?
 Yes No

Are sufficient project contacts provided to allow you to have your questions addressed?
 Yes No

Do you have any concerns regarding the proposed improvements associated with this project? If so, please describe:

- WOULD LIKE TO SEE COORDINATION WITH TWPS RE: ORDINANCES
RE: NOISE - IS IT POSSIBLE TO COLLABORATE?
- I STRONGLY URGE THAT AMTRAK PUT UP A WEBSITE RE: THIS PROJECT
- WOULD LIKE TOWNSHIP COORDINATION WITH MATERIALS

Please provide any additional comments regarding the proposed improvements:

Are there other community groups that you feel should be included in the discussions about this project? Yes No Please list them with a contact name and email, if possible.

**AMTRAK'S ZOO TO PAOLI TRANSMISSION LINE PROJECT
PUBLIC OFFICIALS' SURVEY**

**May 28, 2013 at Lower Merion Township Building
May 29, 2013 at Radnor Township Building**

We would also like to better understand how you use the rail network in your community.

Do you regularly travel by rail? Yes No Daily Weekly Monthly

If the service was faster/more efficient/more reliable, would you use it more frequently?
 Yes No

Do you use the rail line to travel for: Business Pleasure

What do you like MOST about traveling by rail?

What do you like LEAST about traveling by rail?

From what station to what station do you travel most frequently?

If you have additional comments or questions about the Zoo to Paoli Re-Electrification Project,
please send us an email at: ahleist@stellee.com or cgilchrist@stellee.com.

ZOO TO PAOLI RE-ELECTRIFICATION PROJECT



AMTRAK'S ZOO TO PAOLI TRANSMISSION LINE PROJECT PUBLIC OFFICIALS' SURVEY

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 Yes No ?

Do you feel that the Public Officials' meetings have provided enough information to understand the purpose and need for the project as well as how the project may impact your community?
 Yes No

Are sufficient project contacts provided to allow you to have your questions addressed?
 Yes No

Do you have any concerns regarding the proposed improvements associated with this project? If so, please describe:

effect on wild life? noise level?
cultural resources affected? magnetic field

Please provide any additional comments regarding the proposed improvements:

Are there other community groups that you feel should be included in the discussions about this project? Yes No Please list them with a contact name and email, if possible.

Radnor Conservancy (see their website)
radnorconservancy@comcast.net

AMTRAK'S ZOO TO PAOLI TRANSMISSION LINE PROJECT PUBLIC OFFICIALS' SURVEY

May 28, 2013 at Lower Merion Township Building
May 29, 2013 at Radnor Township Building

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Do you regularly travel by rail? Yes No Daily Weekly Monthly

*off on
not
on*

If the service was faster/more efficient/more reliable, would you use it more frequently?

Yes No

As great now

Do you use the rail line to travel for: Business Pleasure

occasional

What do you like MOST about traveling by rail?

sustainable travel

What do you like LEAST about traveling by rail?

more often

From what station to what station do you travel most frequently?

Wayne to Philly

If you have additional comments or questions about the Zoo to Paoli Re-Electrification Project, please send us an email at: aheist@stellee.com or cgilchrist@stellee.com.

ZOO TO PAOLI RE-ELECTRIFICATION PROJECT



**AMTRAK'S ZOO TO PAOLI TRANSMISSION LINE PROJECT
PUBLIC OFFICIALS' SURVEY**

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 Yes No

Do you feel that the Public Officials' meetings have provided enough information to understand the purpose and need for the project as well as how the project may impact your community?
 Yes No *We need more information on the local impact, as design progresses.*

Are sufficient project contacts provided to allow you to have your questions addressed?
 Yes No *A list of all presenters, and their affiliations, would be appreciated.*

Do you have any concerns regarding the proposed improvements associated with this project? If so, please describe:

Since the project is required to obtain "local" permitting, can Radnor Township have input regarding night and weekend work, since we have ordinances specific to work hours?

Please provide any additional comments regarding the proposed improvements:

I would suggest you explain the acronyms you use, prior to using them.

Are there other community groups that you feel should be included in the discussions about this project? Yes No Please list them with a contact name and email, if possible.

Radnor Historical Society

**AMTRAK'S ZOO TO PAOLI TRANSMISSION LINE PROJECT
PUBLIC OFFICIALS' SURVEY**

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If the service was faster/more efficient/more reliable, would you use it more frequently?
 Yes No

Do you use the rail line to travel for: Business Pleasure

What do you like MOST about traveling by rail?

What do you like LEAST about traveling by rail?

From what station to what station do you travel most frequently?

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ZOO TO PAOLI RE-ELECTRIFICATION PROJECT



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 Yes No

Do you feel that the Public Officials' meetings have provided enough information to understand the purpose and need for the project as well as how the project may impact your community?
 Yes No

Are sufficient project contacts provided to allow you to have your questions addressed?
 Yes No

Do you have any concerns regarding the proposed improvements associated with this project? If so, please describe:

*-Will you allow co-location of cell towers on poles? What will be the construction access points?
-Will you work with local township (Tredyffrin) on work time coordination?*

Please provide any additional comments regarding the proposed improvements:

Are there other community groups that you feel should be included in the discussions about this project? Yes No Please list them with a contact name and email, if possible.

Paoli business Association, local neighbors abutting the rail line

**AMTRAK'S ZOO TO PAOLI TRANSMISSION LINE PROJECT
PUBLIC OFFICIALS' SURVEY**

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 Yes No

Do you use the rail line to travel for: Business Pleasure

What do you like MOST about traveling by rail?

What do you like LEAST about traveling by rail?

From what station to what station do you travel most frequently?

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ZOO TO PAOLI RE-ELECTRIFICATION PROJECT



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 Yes No *Don't Know*

Do you feel that the Public Officials' meetings have provided enough information to understand the purpose and need for the project as well as how the project may impact your community?
 Yes No *? Hard for a lay person to understand the need.*

Are sufficient project contacts provided to allow you to have your questions addressed?
 Yes No

Do you have any concerns regarding the proposed improvements associated with this project? If so, please describe:

I would like to see the poles (on the "yellow line") that currently provide power removed when they are no longer needed.

Please provide any additional comments regarding the proposed improvements:

Are there other community groups that you feel should be included in the discussions about this project? Yes No Please list them with a contact name and email, if possible.

**AMTRAK'S ZOO TO PAOLI TRANSMISSION LINE PROJECT
PUBLIC OFFICIALS' SURVEY**

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 Yes No

Do you use the rail line to travel for: Business Pleasure

What do you like MOST about traveling by rail?

Fast + can read

What do you like LEAST about traveling by rail?

*Being tied to a train schedule - trains from Wayne
run only about every half hour. More frequent
would make more palatable for pleasure travel.*

From what station to what station do you travel most frequently?

Wayne to Philadelphia

If you have additional comments or questions about the Zoo to Paoli Re-Electrification Project,
please send us an email at: ahelist@stellee.com or cgilchrist@stellee.com.

ZOO TO PAOLI RE-ELECTRIFICATION PROJECT



General Public Meeting

6/6/13

AMTRAK'S ZOO TO PAOLI RAIL LINE ELECTRIC TRANSMISSION LINE PROJECT

May 7, 2013

FOR IMMEDIATE RELEASE:

Contact:

Daniel P. Tasker, Senior Engineer OCS Design; Amtrak

Ph: 215-349-1416

Email: Taskerd@amtrak.com

AMTRAK TO HOST PUBLIC OPEN HOUSE FOR ZOO TO PAOLI UPGRADE PROJECT

Philadelphia, PA- Amtrak will hold a public open house at 7:00 p.m. on June 6, 2013 at Villanova University's Connelly Center Cinema to provide an update to the Zoo to Paoli Electric Transmission Line Project and to gather public input on the project.

Amtrak plans to upgrade the existing overhead electric power system along the 20-mile segment of the Keystone Corridor between the Zoo and the Paoli substations, as well as construct a new electric sub-station at the Bryn Mawr rail station. This section of the corridor is more than 100 years old and in dire need of electrical system upgrades to ensure safe and efficient rail travel in the future.

New towers are planned to carry the overhead electric system, replacing the existing structures. The existing towers, at approximately 44 feet tall, show signs of significant deterioration and will be replaced by new towers approximately 72 feet tall. A few towers may reach 100 feet tall at overhead bridges. All construction will take place within the existing Amtrak right of way, so no additional right-of-way or property will need to be acquired for these improvements. Construction is anticipated in 2014 or 2015.

The June 6 open house will provide updated information on the project from previous public meetings held in June 2012, provide a project schedule, share plans for the design, and present the results of preliminary research on environmental and cultural resources within the corridor. Since feedback from the community is vital to ensuring a successful project, residents along the corridor and users of the system are encouraged to attend this meeting to provide input and help identify project issues.

Villanova University's Connelly Center is a physically accessible facility. Please notify Amtrak at least 48 hours prior to the meeting if you have special needs for which this agency will need to make arrangements.

For further information regarding this project, contact Daniel P. Tasker at Amtrak, 215-349-1416, Taskerd@amtrak.com or Daren Petroski at Burns Engineering, Inc., 215-979-7700 x7749, DPetroski@burns-group.com. For further information regarding this meeting, contact Daren Petroski at Burns Engineering, Inc., 215-979-7700 x7749, DPetroski@burns-group.com or Allen Heist at Stell Environmental Enterprises, Inc., 610-286-0100.

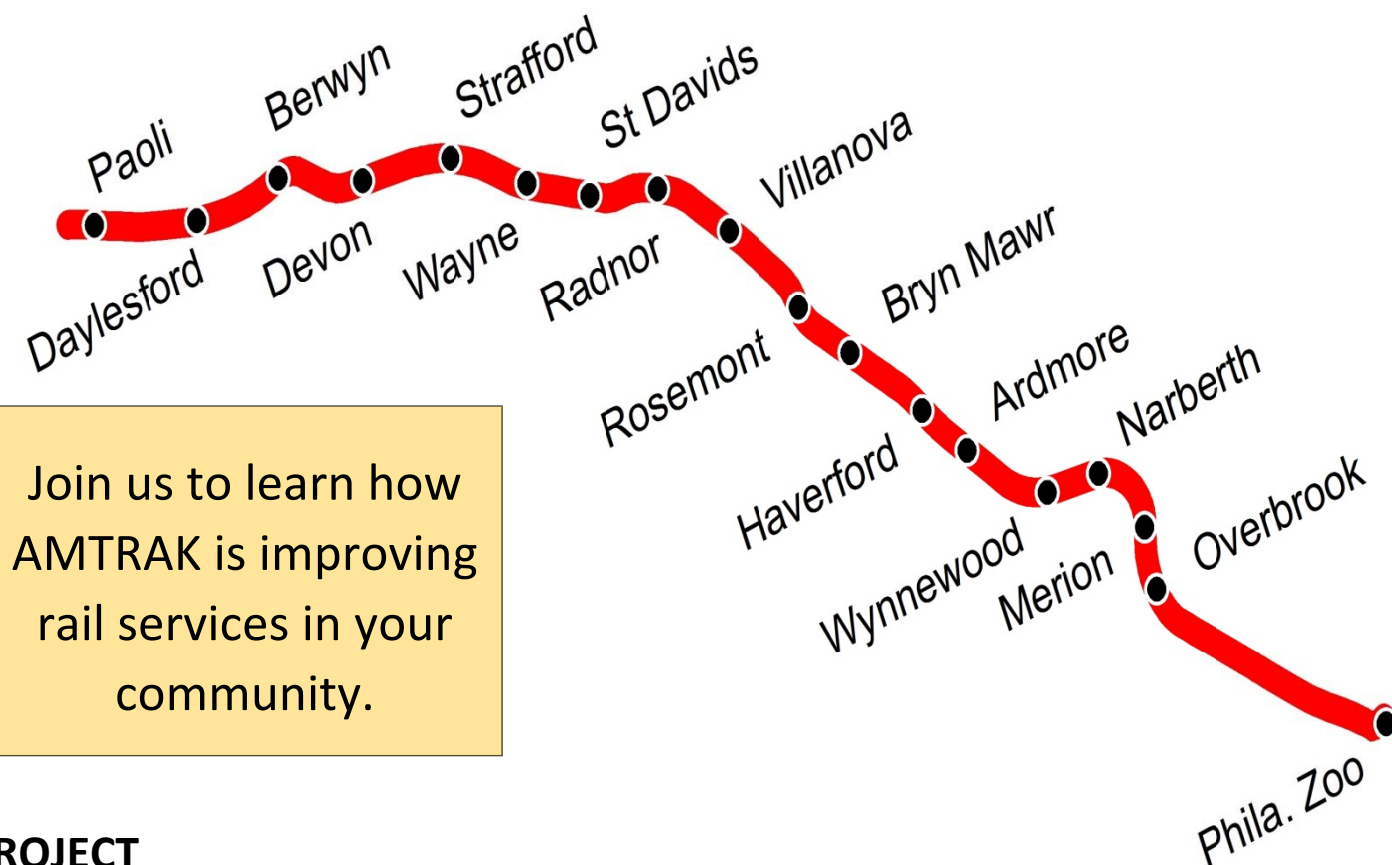


AMTRAK - ZOO TO PAOLI ELECTRIFICATION PROJECT

Public Meeting

June 6, 2013

**Villanova University
Connelly Center Cinema
7:00 PM – 8:00 PM**



Join us to learn how AMTRAK is improving rail services in your community.

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Amtrak Zoo – Paoli Re-Electrification Project

Public Meeting

June 6, 2013

Villanova University Connelly Center Cinema

Delaware County, PA

Name	Address	Telephone	Email Address
1. ALFRED GAUS	8210 ROCKWELL AVE. PHILA., PA. 19111	215-725-2112	NONE
2. TONY ALESSANDRINE	SEPTA	215-964-4529	ALESSANDRINE@SEPTA.ORG
3. Andy SLarpe	—	215-724-5929	slarpe@dvarp.org
4. John A. Corbett	2746 Belmont Ave Apt 115 Philadelphia PA 19131	215-473-3908	JACORBETT70@MSN.COM
5. Linda Stein	MAIN LINE Media		lstein@mainlinemedia.com
6. MATT MITCHELL	DVARP	215-RAILWAY	MAIL@DVARP-ORG
7. DAVE WILLIS	335 strafford Ave Wayne	610-254-9431	willis.david.r@gmail.com
8. SHAWN SOROKIN	52 BOOTH LANE HUMPHREYS PA	610-994-6123	ssorokinjames@gmail.com
9. Mike James	52 BOOTH LANE HUMPHREYS PA	610-308-4465	mike@mjamesarchitecture.com
10. Larry DeYoung	54 N. Waterloo Rd		
11. Joyce DeYoung	Devon 19333	610 293 9098	larry.deyoung@verizon.net
12. Caryl McGowan	105 Orchard Rd. Phila	610-647-3598	
13. Joe Rogers	40 2. Central Ave Phila	610-644-6656	
14. James Shelley	454 Booth Circle	415-609-0383	JShelley@COMCAST.NET



Amtrak Zoo – Paoli Re-Electrification Project
Public Meeting **June 6, 2013**
Villanova University Connelly Center Cinema
Delaware County, PA

Name	Address	Telephone	Email Address
15. Brendan Reilly	Wayne. 533 W. Beechtree Ln		brendan.reilly.57@comcast.net
16. PAUL O'CONNOR	538 W. Beechtree Lane Wayne PA 19118	610.306 1118	Paul@amtrak.com
17. Gary Blum Sharon Wolfson	212 Idris Rd F1 Merion Station PA 19066	484 270 8684	sheppwolf@aol.com gary@gsblum.com
18. Kathleen Appianap	249 Kent Rd Wynnewood	484 416 3018	kma@planaap9y.com
19.			
20.			
21.			
22.			
23.			
24.			
25.			
26.			
27.			
28.			

Amtrak Zoo to Paoli Re-Electrification Project

General Public Meeting – June 6, 2013, 7:00 PM

Meeting Notes

Project Team Attendees: Bert Wescott, Burns Engineering; Daren Patroski, Burns Engineering; Allen Heist, Stell Environmental Enterprises, Inc. (SEE); Crystal Gilchrist, SEE; Pat Baker, SEE; Lauren Archibald, SEE; Tamra Dunn, Michael Baker, Inc.; Dan Tasker, Amtrak.

The presentation began at 7:00 PM with introductions by Daren Petroski, followed by the details of the proposed project. Questions were asked throughout and following the presentation and are summarized below. Some questions have been rephrased to be more concise.

Question & Answer Session:

Q: Do you know the exact locations for the new poles?

A: Pretty much. The 30% design was completed and most poles are within about 10 feet of the existing poles. There may be some slight changes as we approach final design but these will be minor changes. The Determination of Effects report (DoE) has a map of the proposed pole locations.

Q: What is the maximum span length between the poles?

A: 300 feet, less on curves.

Q: Will the new towers be higher than the existing ones?

A: Yes. The existing poles range from about 45 to 55 feet high. The new towers between the Zoo Substation and Villanova will be about 60 feet high, higher as the lines pass over the bridges. From Villanova to Paoli, the poles will be about 72 feet high due to the need to include the PECO lines in that section. Again, they will be higher as the lines pass over the bridges.

Q: What will be the width of the poles? Will the new poles be closer to the edge of the right-of-way?

A: Currently the distance from the centerline of the outer track to the centerline of the pole is 12 feet. This does not include the back guy wires for the existing poles. The new setback will be about 16 feet from the track centerline but the new poles will not have the guy wires so the overall width will be less.

Q: Why will the poles be so much higher than the existing poles?

A: There are a number of electric services that run on the existing poles including the catenary power and some PECO transmission lines. There are regulated clearances between these lines that establish the current heights. With the addition of the Amtrak transmission line back onto the main line corridor, additional clearances will be required to carry that line. Also, the transmission lines cannot go under the bridges because there would not be sufficient clearance to the other power lines. That is why the poles will be taller at the bridges; to get the power lines over the bridges.

Q: Are there any electric field impact concerns noted in studies that were completed for projects other than the Amtrak study?

A: The level of the emissions is about 30 times less than what the World Health Organization would recommend for further study.

Q: How much higher will the levels be with the new system?

A: The level of electromagnetic radiation will rise from 24 to 65 milligauss. 2000 milligauss is the threshold for further evaluation.

Q: What is the distance that was used for the evaluation?

A: It was simulated at 35 feet. That was the 65 milligauss level.

Q: Does the current right-of-way meet all of the federal, state and local requirements?

A: Yes.

Q: Why are the stations not listed as historic resources?

A: They are included in the overall Pennsylvania Railroad historic resource.

Q: Will the guy wires be removed from the station areas?

A: We do not have that level of detail yet.

Q: The picture used to illustrate what the new poles will look like shows an area that is wide open with no trees. Does the current proposal include a tree cutting plan?

A: Clearances of 10 to 12 feet are required near the conductors. All the new structures will be within the Amtrak right-of-way. In addition, where the poles will be close to the outer edge of the right-of-way, the power lines will be run along the inside of the poles rather than on the outside. All this is meant to keep the new poles and power lines within the existing right-of-way. So unless there are trees that will extend into the right-of-way and into the power lines, no tree clearing is anticipated.

Q: At my house, there is a row of evergreens along the right-of-way. Will they be cut down?

A: Not unless they are within the profile of the power lines.

Q: Will a mitigation agreement include a re-greening plan?

A: Currently there is no greening plan.

Q: Are there plans to discuss the tree trimming plans with individual property owners?

A: (Amtrak) Once the contractor is on site, it is his responsibility to coordinate with the townships and property owners regarding the need for tree trimming or access to the corridor. That is where these issues get worked out.

Statement from the public: Anyone can write to the Federal Rail Administration (FRA) to state their concerns about what may or may not be addressed in the mitigation plan.

(Amtrak): During the last project, Amtrak established a 1-800 phone number where people could get information about the schedule and other pertinent details. They plan to do the same again for this project.

Also, this is a 5 year, linear project. So it will “roll” along the full length of the project area. It will be up to the contractor to decide how it will take place but it is very unlikely that construction impacts will last more than about a week at any location as the project moves from the Zoo to Paoli.

Q: What will the construction hours be? Will they be working at night?

A: We do not know what the exact schedule will be yet and the contractor will have some say in how he wants to do things. We will try to keep the construction to daytime hours as much as possible but no guarantees.

Q: What are considered night time hours?

A: 9 PM to 6 AM.

Q: Will there be any plans to use herbicide?

A: No plans for herbicide. This is not a foliage project. It will be more similar to how the power companies clear around their power lines.

Q: When will things be starting?

A: The construction schedule is not prepared yet. There will be an 800 number with updates in 2 week increments once the project begins.

Q: When will we know?

A: Construction is planned to begin the summer of 2015.

Q: Do you expect that the new Paoli station will be completed first?

A: We do not know. Both projects are being designed to be compatible with the other project regardless of which one comes in first.

Q: Will this project address any of the ADA concerns at stations?

A: The project will have no effect on service or ADA arrangements.

Q: What is the impact of the new power lines on the adjacent bird sanctuary?

A: All wildlife resources were reviewed as part of the Categorical Exclusion process. There were no indications of threatened or endangered species in the project area. Also all refuge resources were inventoried, including Sharpe Park.

Q: What is the adverse impact on the railroad?

A: The existing structures are a contributing feature to the historic railroad. Removal of the structures is the adverse impact.

Q: Will any of the structures be preserved, say at the Strasburg Railroad Museum of PA?

A: We will be saving the signal bridges. Additional mitigation will be submitted to the FRA. Public meetings like this one are part of that process.

Q: When will the construction hours be determined and how will we be notified?

A: The final design is anticipated to be completed by the end of 2014. However, the winning contractor will be responsible for establishing the construction details. So we do not know those details until construction bids are reviewed.

Q: About how long will it take to complete each new structure?

A: About 3 days to do the foundation, 1 day to set the structure, 1 day to set the connections on the poles, and another day to pull the cables. Again, the sequence at any given location will be set by the contractor.

Q: How long to take down the old poles?

A: Probably between 5 and 10 poles can be removed in a day.

Q: Will there be an impact from the power lines on adjacent properties use of radios and cell phones?

A: There will be no radio or cell phone interference.

Q: What is the risk associated with falling wires?

A: There is risk associated with all power lines.

Q: What is the degree of risk?

A: Pretty rare. Especially since the tree clearing has been completed already. The risk associated with these lines will be similar to that associated with the other power lines outside your homes.

Q: Will the project impact train services?

A: There may be some operational changes during construction to accommodate the construction during off peak times. Peak hour services will not be impacted. Ultimately the new power system will improve services since there will not be the same level of electric power delays.

Q: How long will the project take?

A: Five years for construction. Service impacts should not be very noticeable.

Q: When will the project go operational?

A: Major segments will need to be completed before the shift can take place from the old power system to the new system. For some short period of time, both systems will need to be in place.

Q: Because the new system will allow the trains to go faster, will there be additional mitigation to adjacent buildings due to the additional vibrations?

A: The speeds will not change. There are maximum authorized speeds permitted on the line. Those authorized speeds will not be changing.

Statement from public: When I purchased my house adjacent to the corridor in 1978, there were freight trains also on this line and there was no welded track, so the noise and vibrations were much greater then.

Q: Will there be an alternative design in the historic districts to run the power lines underground?

A: Not at the present time.

Q: What color will the poles be?

A: Grey.

Q: Currently the poles outside my house are a soft green. Can the new poles be painted green?

A: Painting of the poles creates a significant maintenance issue since paint will not adhere well to these poles. The paint will become very flaky. However, these new poles will not turn the rust color like much of the existing system.

Q: Is the additional height of the poles to get the power lines above the trees?

A: The heights are needed to address the clearance requirements between electric lines.

Q: So the new poles will be visible above the trees?

A: Unknown at this time – depends on the height of the trees.

Q: Will any new right-of-way be required?

A: No, all work and new equipment will be within the existing right-of-way.

Statement from public: this project seems like a fate accompli. There are concerns about property values, among others. Amtrak will do this project as efficiently as possible but I hope they do it with concern for the adjacent residents.

Q: Are studies done to track property values after a project like this – the new taller poles?

A: There is an alternative to this project – discontinue rail service entirely. These communities grew up around the railroad, so it is critical to maintain service.

Statement from public: A re-greening project would help mitigate the property value impacts.

Q: Will there be any restrictions on what people can do outside of the right-of-way?

A: No restrictions or concerns.

Q: What are the OSHA requirements?

A: Maintain 15 feet clearance from the wire.

The official question and answer period ended about 8:30 PM, followed by more conversations between the public and the project design team. All parties left by 9:00 PM.

The above information is a summary of the general public meeting and not a verbatim record. Should you or anyone copied on these minutes have any questions, comments, or suggested revisions to these minutes, please contact me via email at aheist@stellee.com or at 610-286-0100 within seven (7) days of receipt; otherwise these minutes will be considered final and an accurate representation of the meetings.

Minutes prepared by,

Crystal Gilchrist
Stell Environmental Enterprises, Inc.
Assistant Project Manager

cc: Project Team Attendees

PUBLIC OPINION SURVEY

If you have any comments or opinions on the Zoo to Paoli Electrification Transmission Line Project, please fill in the survey form below and return it a member of the project team or send us an email at: ahleist@stellee.com.

Prior to the announcement of this meeting, were you aware of Amtrak plans to upgrade the electric service system along the rail lines between the Philadelphia Zoo and Paoli?

Yes No

Do you feel that this meeting provided enough information about how the project may impact your community?

Yes No

Was sufficient time and/or resources provided to allow you to have your questions addressed?

Yes No

Do you have any concerns regarding the proposed improvements associated with this project? If so, please describe:

Nothing major. Work delays? Cost overruns?

Please provide any additional comments regarding the proposed improvements: (Please use back of page if necessary.)

I think property values will be helped by the reliable train service more than the negative effect of the poles.

Do you regularly travel by rail? Yes No Daily Weekly Monthly

If the service was faster/more efficient/more reliable, would you use it more frequently?

Yes No

Do you use the rail line to travel for: Business Pleasure Both

What do you like MOST about traveling by rail? Avoid traffic, get things done while traveling

What do you like LEAST about traveling by rail? Delays when they happen

From what station to what station do you travel most frequently? Cynwyd - Center City

Thank you

PUBLIC OPINION SURVEY

If you have any comments or opinions on the Zoo to Paoli Electrification Transmission Line Project, please fill in the survey form below and return it a member of the project team or send us an email at: ahleist@stellee.com.

Prior to the announcement of this meeting, were you aware of Amtrak plans to upgrade the electric service system along the rail lines between the Philadelphia Zoo and Paoli?

Yes No

Do you feel that this meeting provided enough information about how the project may impact your community?

Yes No *WOULD LIKE STATISTICS ON HOW OFTEN LINES FAIL ON AVERAGE.*

Was sufficient time and/or resources provided to allow you to have your questions addressed?

Yes No *NOT ENOUGH TIME PRIOR TO MEETING TO PREPARE QUESTIONS*

Do you have any concerns regarding the proposed improvements associated with this project? If so, please describe:

- 1. FALLING WIRES.
- 2. PROPERTY VALUES. (VISUAL IMPACT.)
- 3. PROPERTY PLANNING - ALWAYS AN ISSUE.

Please provide any additional comments regarding the proposed improvements: (Please use back of page if necessary.)

1.

Do you regularly travel by rail? Yes No Daily Weekly Monthly

If the service was faster/more efficient/more reliable, would you use it more frequently?

Yes No

Do you use the rail line to travel for: Business Pleasure

What do you like MOST about traveling by rail? ABILITY TO PERFORM TASKS WHILE MOVING.

What do you like LEAST about traveling by rail? IRREGULAR SCHEDULING

From what station to what station do you travel most frequently? VARIES

Thank you

PUBLIC OPINION SURVEY

If you have any comments or opinions on the Zoo to Paoli Electrification Transmission Line Project, please fill in the survey form below and return it a member of the project team or send us an email at: aheist@stellee.com.

Prior to the announcement of this meeting, were you aware of Amtrak plans to upgrade the electric service system along the rail lines between the Philadelphia Zoo and Paoli?

Yes No

Do you feel that this meeting provided enough information about how the project may impact your community?

Yes No

Was sufficient time and/or resources provided to allow you to have your questions addressed?

Yes No

Do you have any concerns regarding the proposed improvements associated with this project? If so, please describe:

Please provide any additional comments regarding the proposed improvements: (Please use back of page if necessary.)

I'd like to see a set of the old structures preserved since this was PRR's first catenary project.

Do you regularly travel by rail? Yes No Daily Weekly Monthly

If the service was faster/more efficient/more reliable, would you use it more frequently?

Yes No

Do you use the rail line to travel for: Business Pleasure

What do you like MOST about traveling by rail? No traffic hassles.

What do you like LEAST about traveling by rail? Having to wait more than 30 min for next train

From what station to what station do you travel most frequently? Devon to Phila (suburban)

Thank you

PUBLIC OPINION SURVEY

If you have any comments or opinions on the Zoo to Paoli Electrification Transmission Line Project, please fill in the survey form below and return it a member of the project team or send us an email at: aheist@stellee.com.

Prior to the announcement of this meeting, were you aware of Amtrak plans to upgrade the electric service system along the rail lines between the Philadelphia Zoo and Paoli?

Yes No

Do you feel that this meeting provided enough information about how the project may impact your community?

Yes No

Was sufficient time and/or resources provided to allow you to have your questions addressed?

Yes No

Do you have any concerns regarding the proposed improvements associated with this project? If so, please describe:

electromagnetic fields
construction noise
catenary structure height

Please provide any additional comments regarding the proposed improvements: (Please use back of page if necessary.)

Do you regularly travel by rail? Yes No Daily Weekly Monthly

If the service was faster/more efficient/more reliable, would you use it more frequently?

Yes No

Do you use the rail line to travel for: Business Pleasure

What do you like MOST about traveling by rail? convenience

What do you like LEAST about traveling by rail? old rr cars, old, decrepit stations

From what station to what station do you travel most frequently? Paoli

Thank you

PUBLIC OPINION SURVEY

If you have any comments or opinions on the Zoo to Paoli Electrification Transmission Line Project, please fill in the survey form below and return it a member of the project team or send us an email at: aheist@stelllee.com.

Prior to the announcement of this meeting, were you aware of Amtrak plans to upgrade the electric service system along the rail lines between the Philadelphia Zoo and Paoli?

Yes No *only the week before*

Do you feel that this meeting provided enough information about how the project may impact your community?

Yes No *not until we negotiate mitigation agreement*

Was sufficient time and/or resources provided to allow you to have your questions addressed?

Yes No

Do you have any concerns regarding the proposed improvements associated with this project? If so, please describe:

Yes - see attached questions
Needs greening
questions asked at meeting

Please provide any additional comments regarding the proposed improvements: (Please use back of page if necessary.)

Do you regularly travel by rail? Yes No Daily Weekly Monthly

If the service was faster/more efficient/more reliable, would you use it more frequently?

Yes No

Do you use the rail line to travel for: Business Pleasure

What do you like MOST about traveling by rail? *not driving*

What do you like LEAST about traveling by rail? *unpredictability*

From what station to what station do you travel most frequently? *Haverford*

Thank you

PUBLIC OPINION SURVEY

If you have any comments or opinions on the Zoo to Paoli Electrification Transmission Line Project, please fill in the survey form below and return it to a member of the project team or send us an email at: ahleist@stellee.com.

Prior to the announcement of this meeting, were you aware of Amtrak plans to upgrade the electric service system along the rail lines between the Philadelphia Zoo and Paoli?

Yes No

Do you feel that this meeting provided enough information about how the project may impact your community?

Yes No

Was sufficient time and/or resources provided to allow you to have your questions addressed?

Yes No

Do you have any concerns regarding the proposed improvements associated with this project? If so, please describe:

What effects will this transmission upgrade have on SEPTA Regional Rail service?

Please provide any additional comments regarding the proposed improvements: (Please use back of page if necessary.)

All in all, I think this project is a beneficial thing for rail passengers and local residents. Don't succumb to NIMBYism.

Do you regularly travel by rail? Yes No Daily Weekly Monthly

If the service was faster/more efficient/more reliable, would you use it more frequently?

Yes No

Do you use the rail line to travel for: Business Pleasure

What do you like MOST about traveling by rail? Less stressful than driving

What do you like LEAST about traveling by rail? Delays

From what station to what station do you travel most frequently? Delaware County to Center City

Thank you

PUBLIC OPINION SURVEY

If you have any comments or opinions on the Zoo to Paoli Electrification Transmission Line Project, please fill in the survey form below and return it a member of the project team or send us an email at: aheist@stelllee.com.

Prior to the announcement of this meeting, were you aware of Amtrak plans to upgrade the electric service system along the rail lines between the Philadelphia Zoo and Paoli?

Yes No

Do you feel that this meeting provided enough information about how the project may impact your community?

Yes No

Was sufficient time and/or resources provided to allow you to have your questions addressed?

Yes No

Do you have any concerns regarding the proposed improvements associated with this project? If so, please describe:

- 1) Amount of noise and time of day of the construction work
- 2) Amtrak and contract workers using my property to access the right-of-way
- 3) The actual height of the poles and wires

Please provide any additional comments regarding the proposed improvements: (Please use back of page if necessary.)

Do you regularly travel by rail? Yes No Daily Weekly Monthly

If the service was faster/more efficient/more reliable, would you use it more frequently?

Yes No

Do you use the rail line to travel for: Business Pleasure

What do you like MOST about traveling by rail? Avoid traffic jams

What do you like LEAST about traveling by rail? Late trains

From what station to what station do you travel most frequently? Devon

Thank you

Allen Heist

From: Mark Knight [sdark@verizon.net]
Sent: Wednesday, June 12, 2013 3:17 PM
To: Allen Heist; Crystal Gilchrist
Cc: 'Grace Ziesing'
Subject: Zoo to Paoli re-electrification project mitigation

I believe a good mitigation for a project of this magnitude would be the restoration of any train station's historic shed roof (and possibly brick platform) that needs restoration. The St. David's station is a good example. The original shed roof is still there, but needs work, and the original brick platform has been covered with asphalt.

A restoration like this would go a long way to preserve what historic elements that are still salvageable on this historic Main Line of tracks.

Thank you for your consideration.

Best regards,

Mark W. Knight
109 Glynn Lane
St. Davids, PA 19087
610-964-9559

Consulting Parties Meeting

6/6/13

Date:

RE: Section 106 Consultation
Federal Railroad Administration (FRA)
Amtrak Philadelphia Zoo to Paoli Electrification Transmission Line Project
Chester, Delaware, Montgomery & Philadelphia Counties

Dear **xxx**,

As part of the Philadelphia Zoo to Paoli Electrification Transmission Line Project, Amtrak plans to upgrade the existing overhead electrification system along a 20-mile segment of the Keystone Corridor between the Philadelphia Zoo and the Paoli substations. The current electrification infrastructure, which is over 100 years old, will not support the proposed high voltage system. Plans include the construction of new transmission/catenary structures, as well as individual electrification structures to facilitate the complete or partial removal of existing electrification structures along the right-of-way.

Paoli substation will require upgrades to tie into the existing 138,000-volt transmission network. The Bryn Mawr substation will be expanded to include a new substation to help support the catenary voltage between Zoo and Paoli substations. The Bryn Mawr expansion will also include two gantries, approximately 85 feet high and 90 feet long, constructed of galvanized lattice steel columns and beams, to support the new 138kV transmission switches. This construction is typical for other substations on the Keystone Corridor, but will be new to Bryn Mawr.

The existing catenary towers are approximately 40-50 feet in height and are rust brown in color (please see attached photographs). The proposed new towers would be approximately 60-75 feet high, with a few towers reaching 100 feet high at overhead bridges. The new structures will be galvanized steel and will be grey in color (please see attached rendering). All of the proposed new towers will be located in the railroad right-of-way and will be spaced about 150 to 300 feet apart, depending on the track curvature. Detailed construction plans for the towers and associated structures are currently being developed for the project.

Much of the subject portion of the Keystone Corridor, as well as many of the immediately surrounding communities, have been subjected to historic resource surveys. The locations of many of these previously surveyed resources, including the National Register-eligible Amtrak corridor, are shown online at the Pennsylvania Historical and Museum Commission's (PHMC) Cultural Resources Geographic Information System (CRGIS) at (<https://www.dot7.state.pa.us/ce/Application/ASP/Security/Index.asp>).

In compliance with Section 106 of the National Historic Preservation Act., Stell Environmental Enterprises, Inc. (SEE) is preparing a cultural resources investigation to identify significant architectural and archaeological resources that may be affected by the project. Section 106 requires sponsors of federally funded projects to take into account the potential project effects on historic

properties. Section 106 entitles parties with a demonstrated interest in history or historic preservation to provide comments and suggest mitigation measures, if necessary, for the project.

If you would like to participate in the Section 106 process or can provide information regarding significant historic, architectural, or archaeological resources in the project area, please respond by mail or by fax at (610) 286-0110 on the enclosed Comment Sheet within 30 days of receipt of this letter. If the form is not returned by this date, it will be assumed that you or your organization do not/does not wish to become a consulting party in the Zoo to Paoli Electrification Transmission Line Project at this time.

Enclosed for your use are maps showing the location of the project corridor, photographs of existing conditions, and diagrams of the proposed transmission/catenary towers.

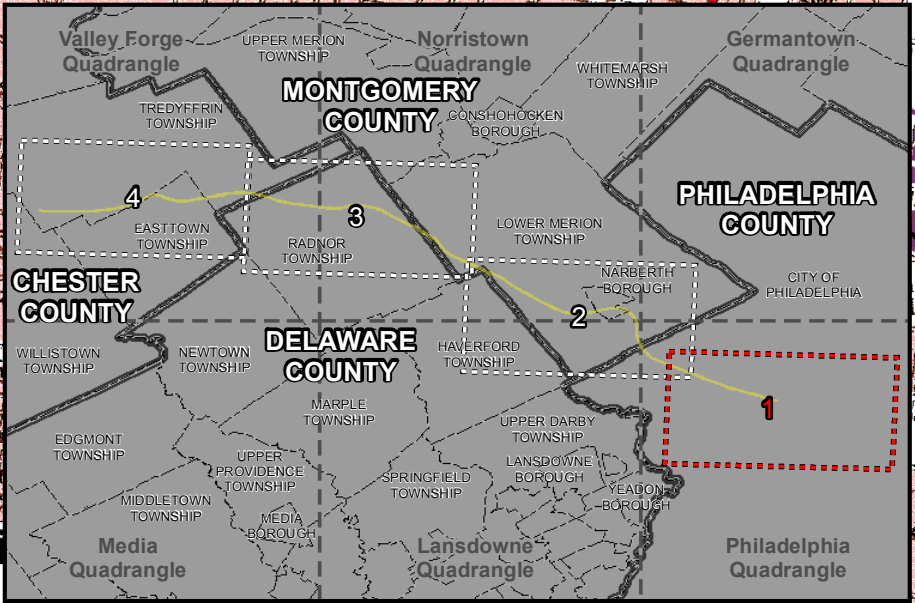
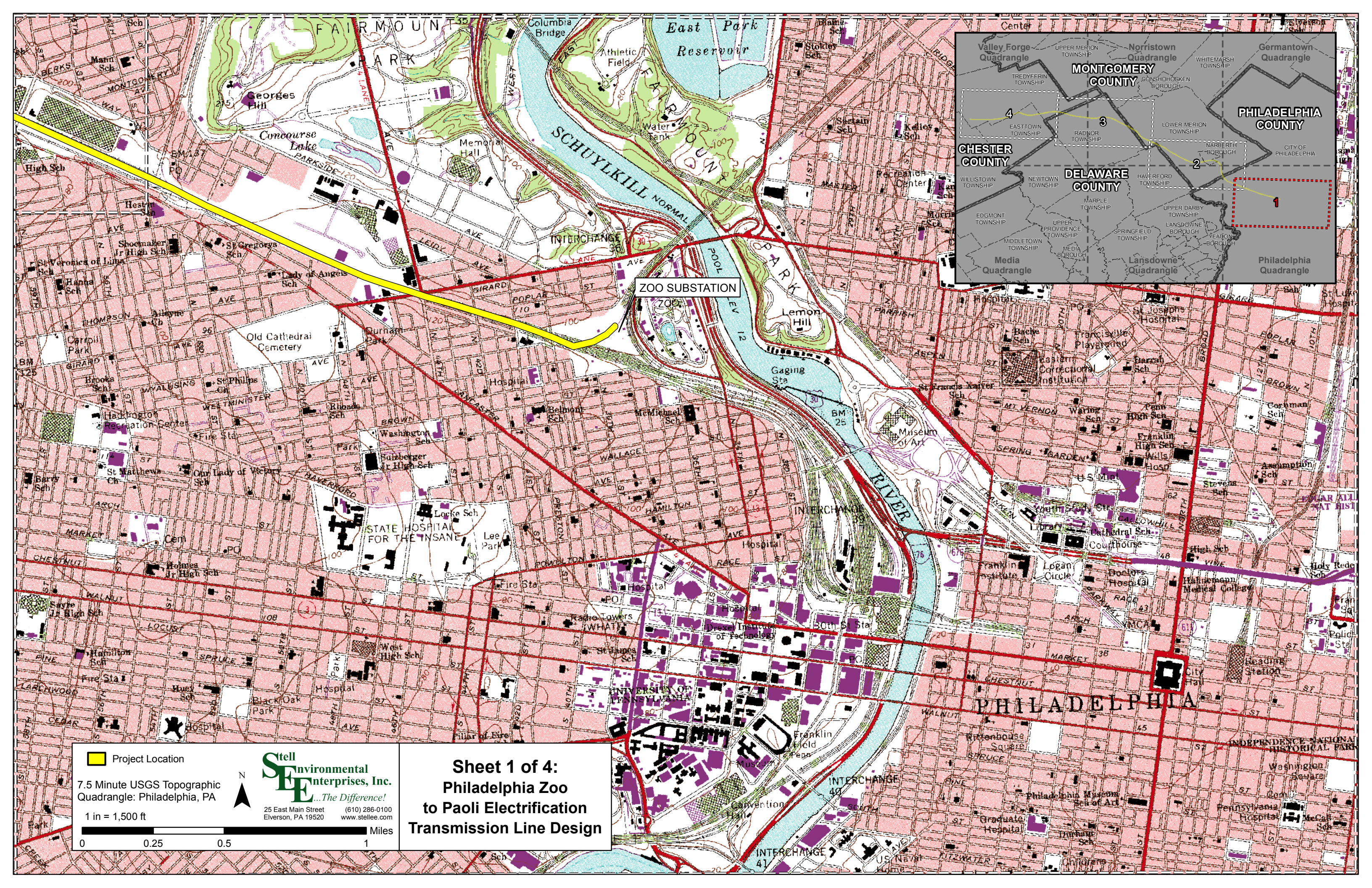
Should you have any questions or require additional information please feel free to contact our Project Manager, Mr. David J. Durofchalk, PMP, at (610) 286-0100 or ddurofchalk@stellee.com.

Sincerely,

Lauren C. Archibald, Ph.D.
Architectural Historian
Stell Environmental Enterprises
25 East Main Street
Elverson, PA 19520

Enclosures:

Project Location Maps
Photographs and Renderings
Comment Sheet



ZOO SUBSTATION

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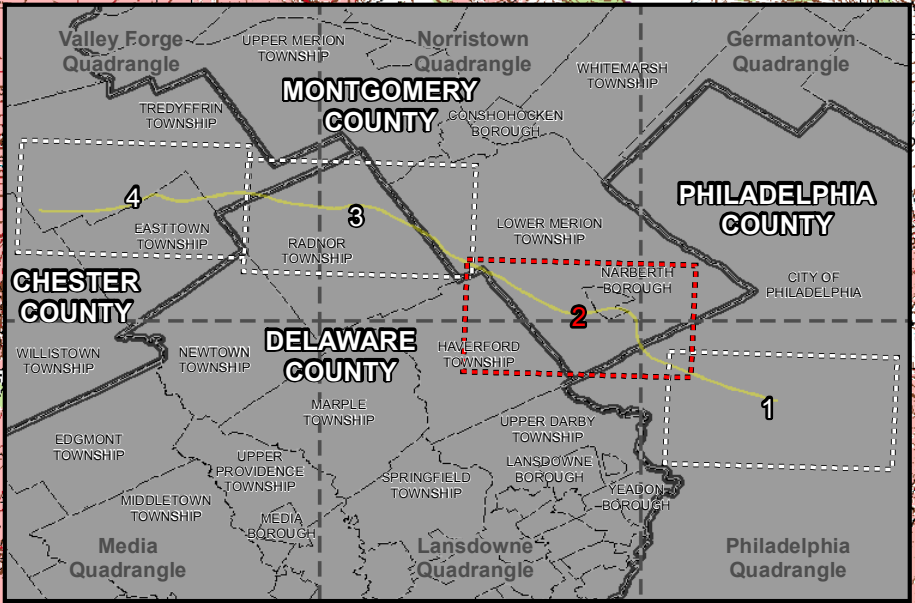
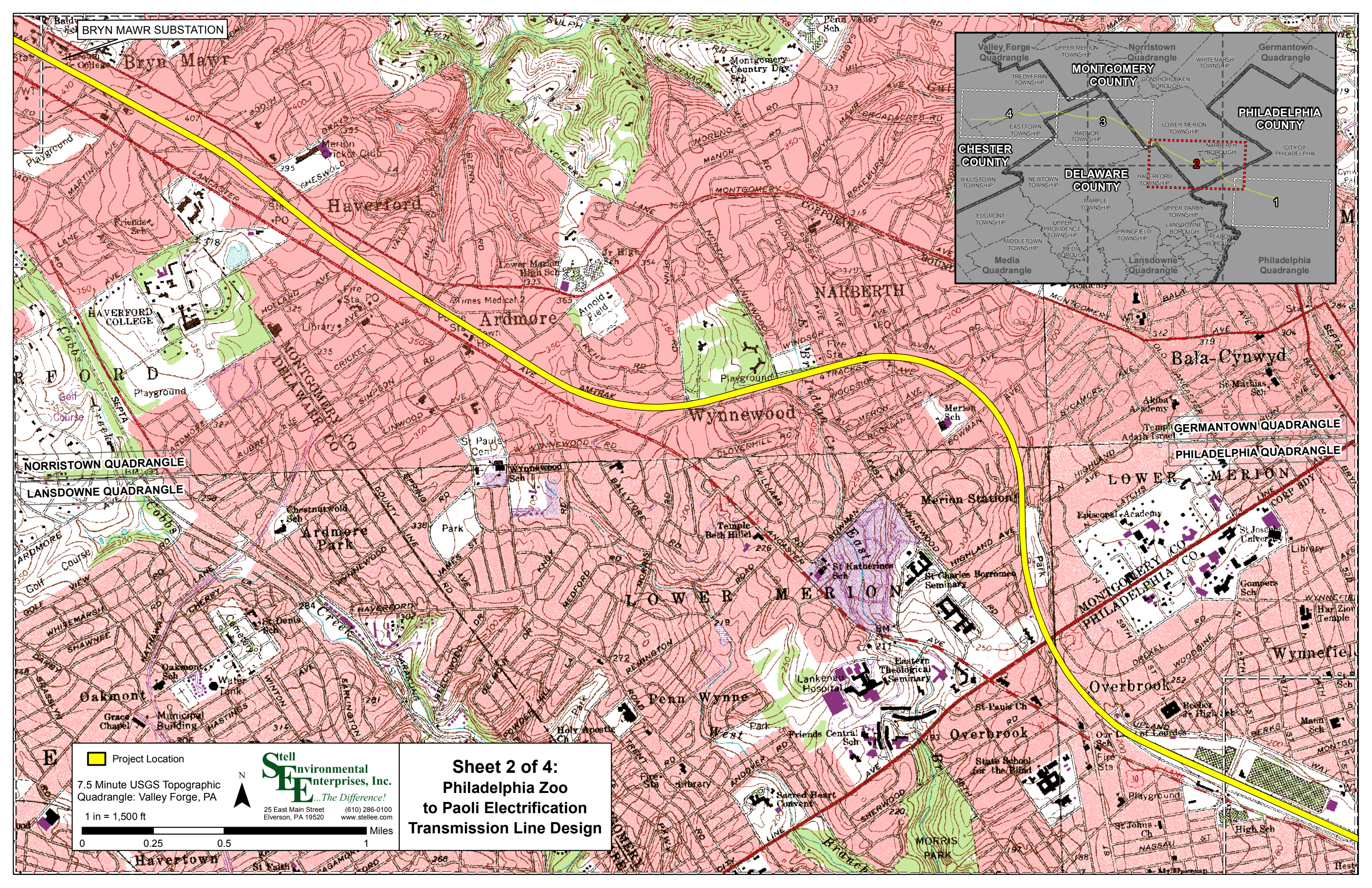
Project Location

7.5 Minute USGS Topographic Quadrangle: Philadelphia, PA

1 in = 1,500 ft

0 0.25 0.5 1 Miles

**Sheet 1 of 4:
 Philadelphia Zoo
 to Paoli Electrification
 Transmission Line Design**



NORRISTOWN QUADRANGLE
 LANSDOWNE QUADRANGLE

GERMANTOWN QUADRANGLE
 PHILADELPHIA QUADRANGLE

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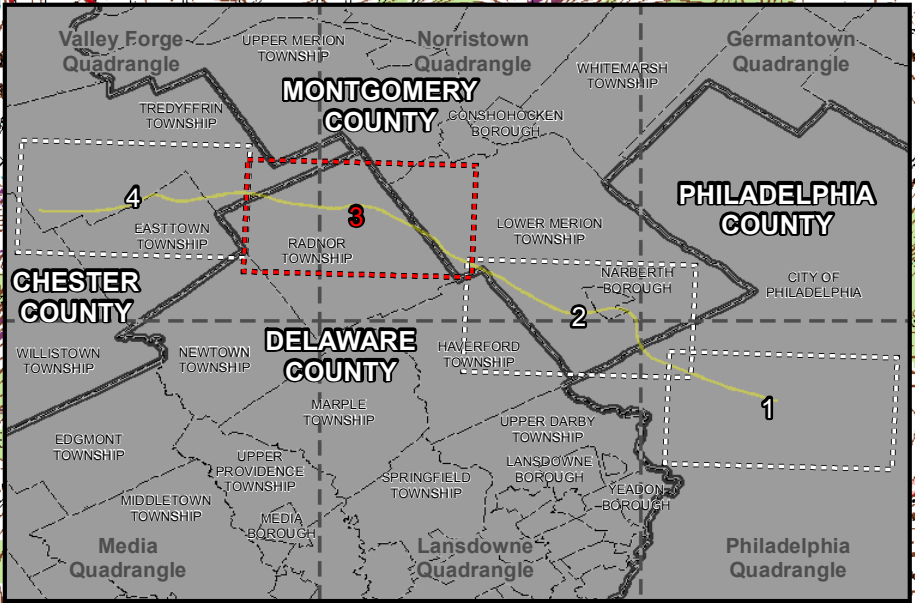
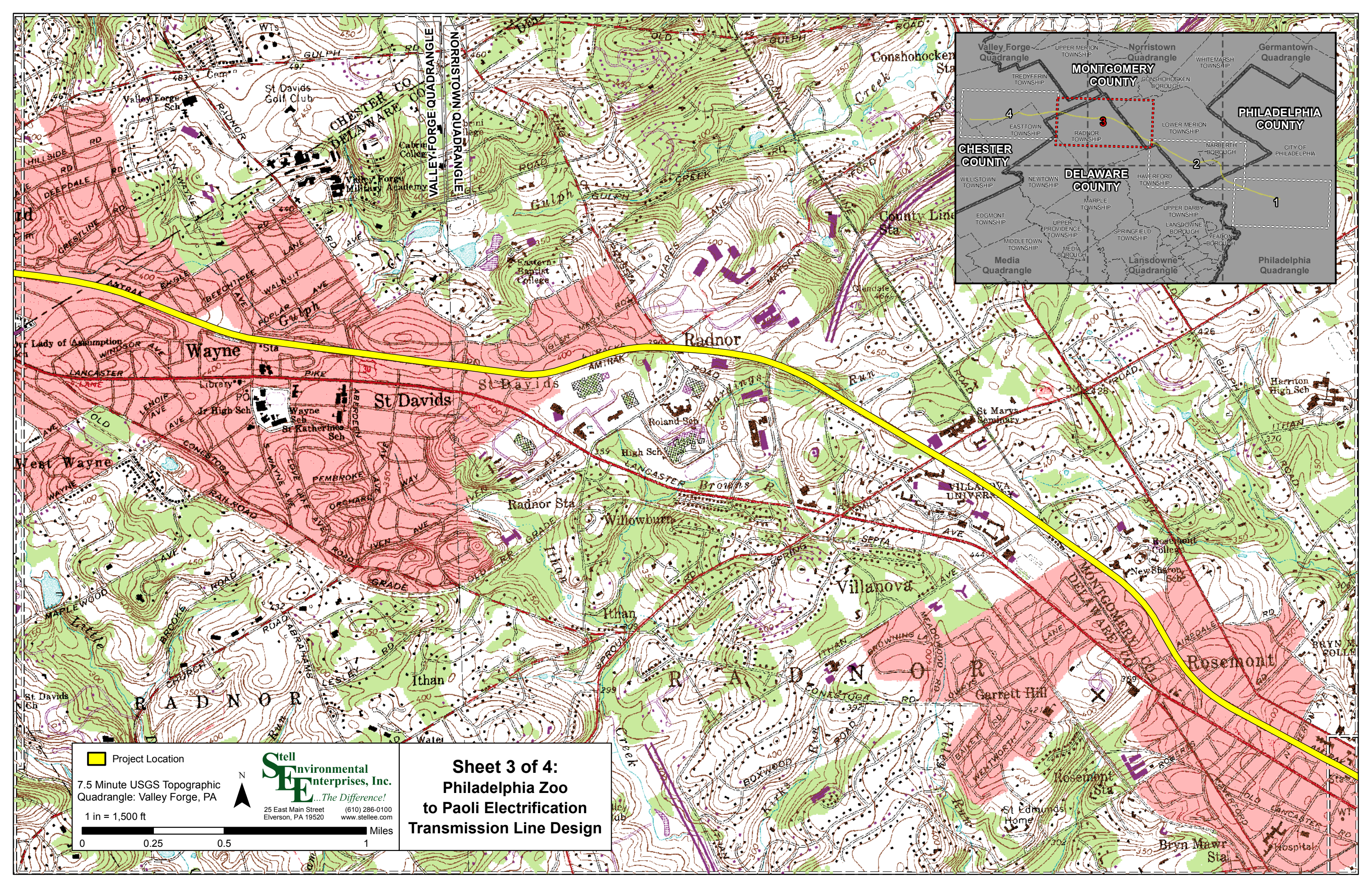
7.5 Minute USGS Topographic Quadrangle: Valley Forge, PA
 1 in = 1,500 ft

0 0.25 0.5 1 Miles

**Sheet 2 of 4:
 Philadelphia Zoo
 to Paoli Electrification
 Transmission Line Design**



Project Location



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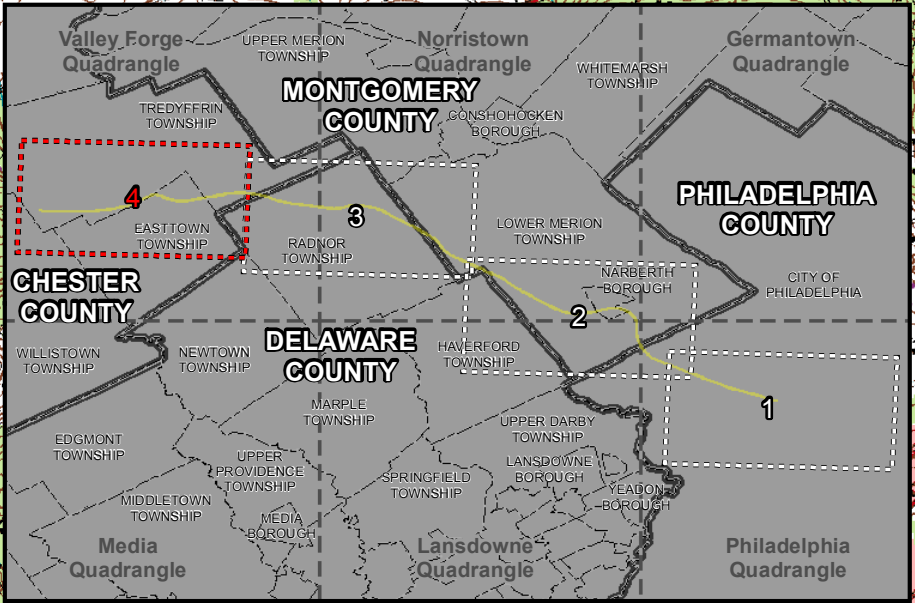
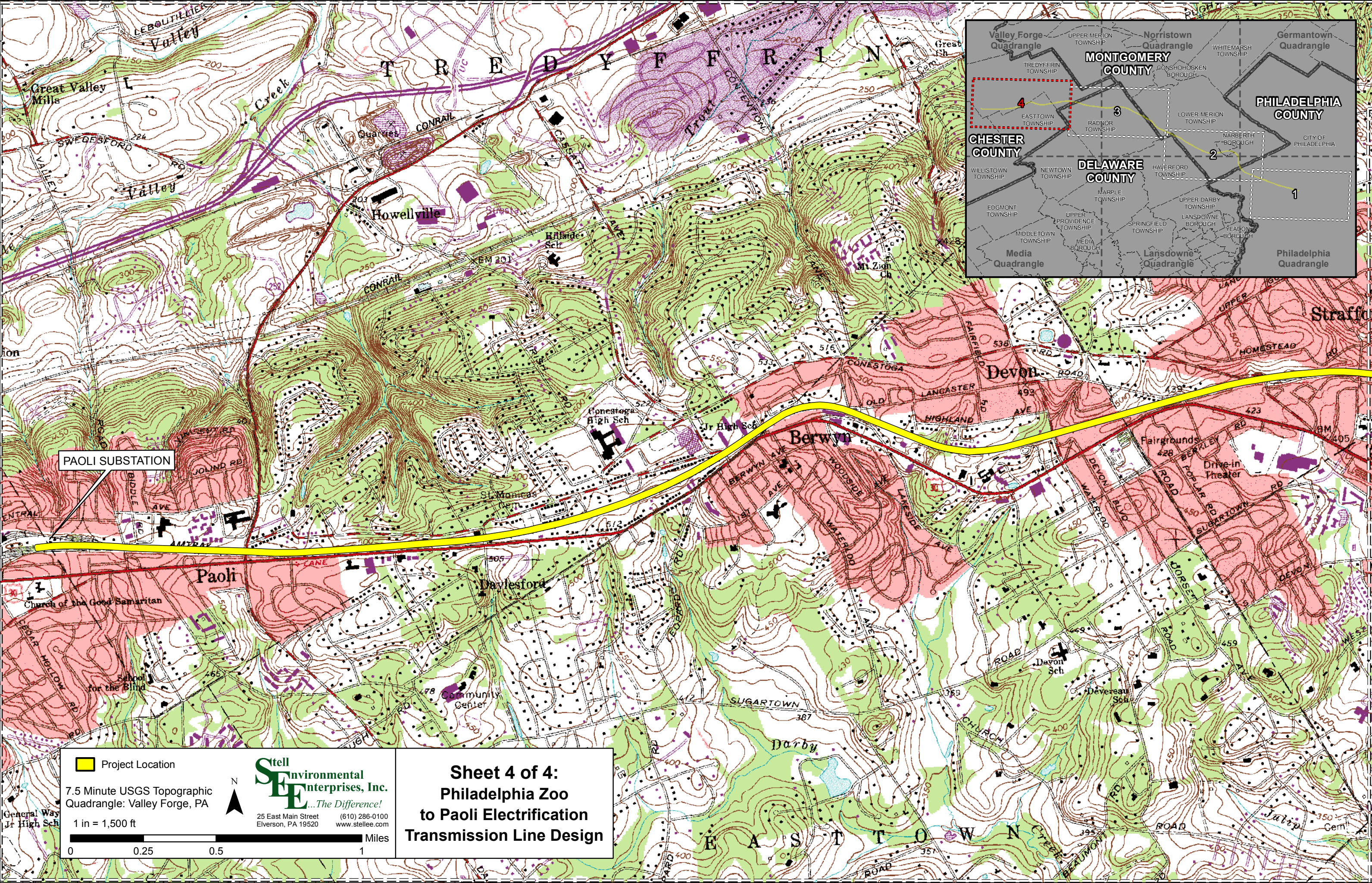
Project Location

7.5 Minute USGS Topographic
 Quadrangle: Valley Forge, PA

1 in = 1,500 ft

0 0.25 0.5 1 Miles

**Sheet 3 of 4:
 Philadelphia Zoo
 to Paoli Electrification
 Transmission Line Design**

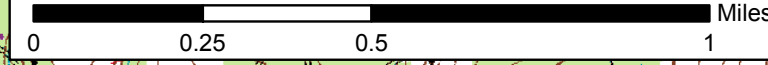


PAOLI SUBSTATION

Project Location

7.5 Minute USGS Topographic
Quadrangle: Valley Forge, PA

1 in = 1,500 ft



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**Sheet 4 of 4:
Philadelphia Zoo
to Paoli Electrification
Transmission Line Design**

Project Name:

Zoo to Paoli Electrification Transmission Line Project
Chester, Delaware, Montgomery, and Philadelphia Counties,
Pennsylvania

Photo No.

1

Description:

View showing typical existing overhead structures.



Photo No.

2

Description:

View of the “Paoli Tower” and tracks, with substation in background.



Project Name:

Zoo to Paoli Electrification Transmission Line Project
Chester, Delaware, Montgomery, and Philadelphia Counties,
Pennsylvania

Photo No.

3

Description:

View west of Paoli showing what the proposed new structures will look like (signal structure foreground, catenary/ transmission structure background). Note the new structures will be hot-dip-galvanized and will be grey.



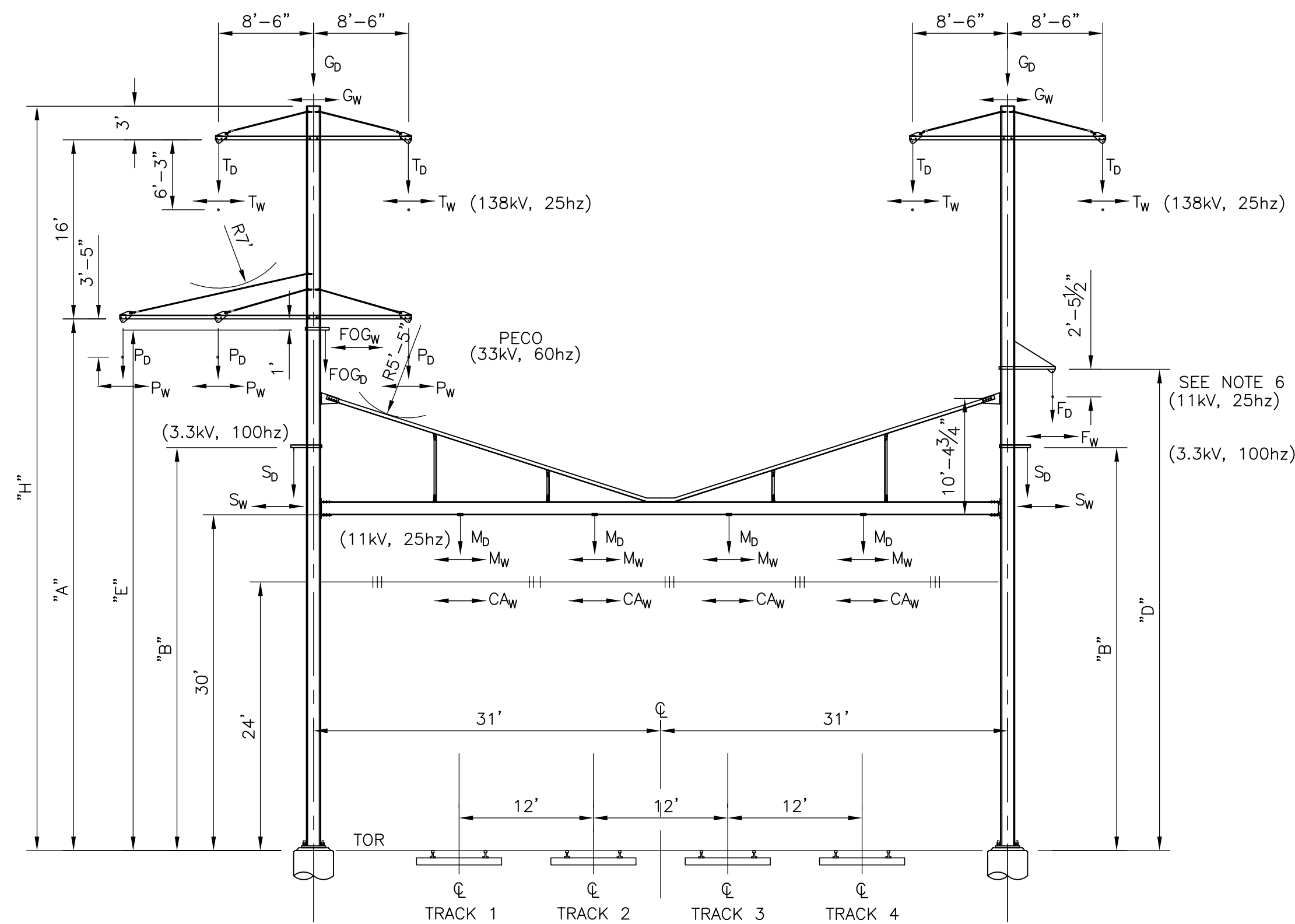
Photo No.

4

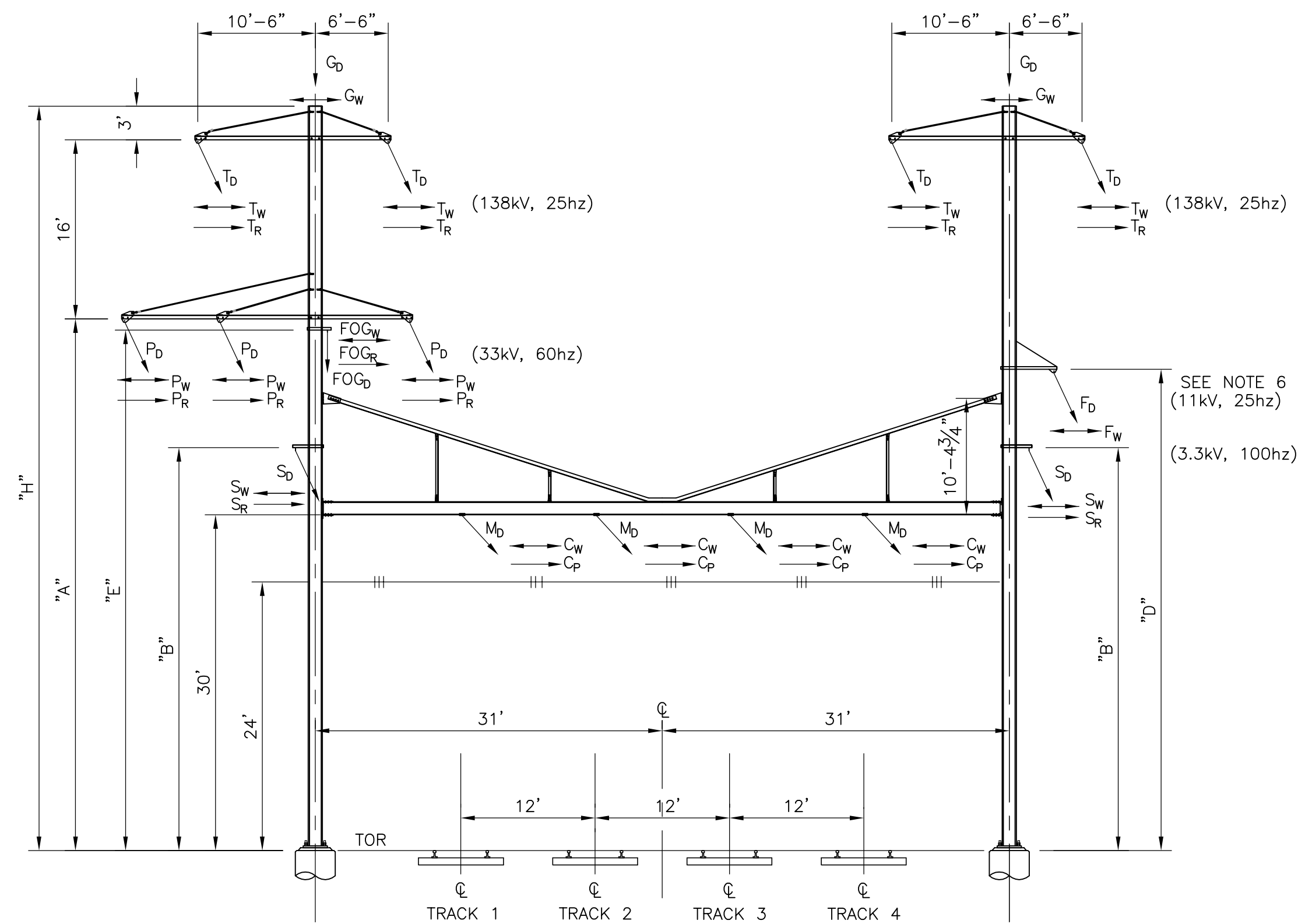
Description:

View of transmission lines and towers (observed in foreground) at the 40th Street area in Philadelphia near the Zoo substation.





TANGENT TRACK (WITH PECO)
(LOOKING WEST)



CURVED TRACK (WITH PECO)
(LOOKING WEST)

STRUCTURE LOAD TABLE

LOAD	1/2" ICE, 40 MPH WIND (LBS/FT)	BARE, 90 MPH WIND (LBS/FT)
G _D	1.29	0.653
G _W	0.520	0.874
T _D	1.50	0.656
T _W	0.634	1.483
FOG _D	1.26	0.486
FOG _W	0.589	1.253
P _D	1.50	0.656
P _W	0.634	1.483
F _D	1.985	1.235
F _W	0.59	1.258
S _D	3.552	1.738
S _W	1.223	4.465
M _D	4.217	2.27
M _W	0.555	1.08
C _W	1.556	2.746
C _{A_W}	1.012	1.666

STRUCTURE RADIAL LOAD TABLE

LOAD	TENSION @ -10° WITH 1/2" ICE AND WIND	CALCULATED RADIAL LOAD FOR 1' CURVE*
G _R	3587	65
T _R	4144	75
FOG _R	4508	80
P _R	4144	75
F _R	5459	100
S _R	6437	115
M _R	7594	135

*CALCULATED LOAD ROUNDED UP TO NEXT "5".

STRUCTURE HEIGHT TABLES

HEIGHT (FT)	OPEN ROUTE w/ PECO	OH BRIDGE w/ PECO
H	66'-6"	86'-3"
A	47'-6"	67'-3"
B	36'-0"	32'-0"
C	---	---
D	*43'-0"	---
E	46'-6"	66'-3"

*SEE NOTE 6

HEIGHT (FT)	OPEN ROUTE no PECO	OH BRIDGE no PECO
H	55'-0"	86'-3"
A	---	---
B	36'-0"	32'-0"
C	31'-9"	---
D	*38'-2"	---
E	42'-0"	66'-3"

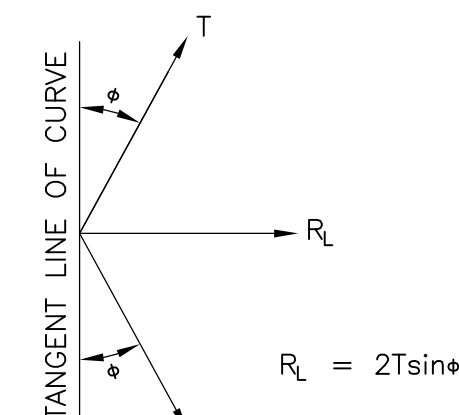
*SEE NOTE 6

STRUCTURE LOAD KEY

SYM	DESCRIPTION	WIRE TYPE AND SIZE
G _D	STATIC WIRE DEAD LOAD	
G _W	STATIC WIRE WIND LOAD	3/8" HD COPPER
G _R	STATIC WIRE RADIAL LOAD	
T _D	138kV WIRE DEAD LOAD	
T _W	138kV WIRE WIND LOAD	477 kcmil ACSR HAWK
T _R	138kV WIRE RADIAL LOAD	
FOG _D	AERIAL FIBER WIRE DEAD LOAD	
FOG _W	AERIAL FIBER WIRE WIND LOAD	ALCOA S1-129/44/725
FOG _R	AERIAL FIBER WIRE RADIAL LOAD	
P _D	PECO TRANSMISSION WIRE DEAD LOAD	
P _W	PECO TRANSMISSION WIRE WIND LOAD	477 kcmil ACSR HAWK
P _R	PECO TRANSMISSION WIRE RADIAL LOAD	
F _D	FEEDER WIRE DEAD LOAD	
F _W	FEEDER WIRE WIND LOAD	400 kcmil BARE COPPER
F _R	FEEDER WIRE RADIAL LOAD	
S _D	SIGNAL POWER WIRE DEAD LOAD	
S _W	SIGNAL POWER WIRE WIND LOAD	2C-#2 CONDUCTOR BUNDLE WITH 3/8" EHS STEEL MESSENGER WIRE
S _R	SIGNAL POWER WIRE RADIAL LOAD	
M _D	MESSENGER WIRE DEAD LOAD	
M _W	MESSENGER WIRE WIND LOAD	3/8" BRONZE WIRE
M _R	MESSENGER WIRE RADIAL LOAD	
C _W	MESSENGER, AUX AND CONTACT WIND LOAD	3/8" MW AND TWIN 3/8" GROOVED TROLLEYS
C _{A_W}	CONTACT AND AUXILIARY WIRE WIND LOAD	TWIN 3/8" GROOVED TROLLEYS
C _P	CATENARY CURVE PULL (RADIAL LOAD)	3/8" MW AND TWIN 3/8" GROOVED TROLLEYS

NOTES:

1. WIRE LOADS SUPPORTED BY INSULATOR STRINGS ARE APPLIED TO THE SUPPORTING BRACKETS AT THE BRACKET HEIGHT.
2. SEE WIRE PARTICULAR DRAWING ON SK-004 FOR ADDITIONAL WIRE DATA.
3. CURVE PULL IS CALCULATED AS TENSION/CURVE RADIUS IN FT.
4. RADIAL LOADS ARE CALCULATED AS 2 x TENSION x SIN (WIRE ANGLE).
5. WIRE ANGLE IS MEASURED OFF TANGENT LINE OF CURVE.
6. WIRE TENSIONS ARE BASED ON THE AMBIENT TEMPERATURES FOR THE SPECIFIC LOAD CASES.
7. FEEDER WIRE IS NOT CONTINUOUS ALONG ROW, TYPICALLY INSTALLED NEAR SUBSTATIONS.
8. LONGITUDINAL STORM GUYS WILL BE INSTALLED AT INTERMEDIATE STRUCTURES AND SHOULD BE INCLUDED IN BUCKLING ANALYSIS.



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No	Revisions	Date	By



OFFICE OF
Chief Engineer
Engineering
National Railroad Passenger Corporation
30TH Street Station-Philadelphia, Pennsylvania 19104

Approved	Date



ZOO TO PAOLI TRANSMISSION
ELECTRIFICATION
STRUCTURE DIAGRAM
LOAD TABLE & LOAD KEY
Recommended: RW Drawn: CS Checked: DP Date: --/--

File No.:	
Ref. No.:	
Sheet No.:	OF -
SK-003	

SECTION 106 PUBLIC CONSULTATION
FEDERAL RAILROAD ADMINISTRATION (FRA)
PHILADELPHIA ZOO TO PAOLI ELECTRIFICATION TRANSMISSION LINE
PROJECT
CHESTER, DELAWARE, MONTGOMERY & PHILADELPHIA COUNTIES

Date: _____

Name: _____

Organization/Affiliation: _____

Telephone/Cell Phone Number: _____

Email Address: _____

Please identify any properties in the project area of local importance or value:

Suggested means to enhance the project:

Other Comments/Suggestions:

Please Return to:

Project Manager, Mr. David J. Durofchalk, PMP
Stell Environmental Enterprises, Inc.
25 East Main Street
Elverson, PA 19520

RECEIVED MAY - 7 2012

SECTION 106 PUBLIC CONSULTATION
FEDERAL RAILROAD ADMINISTRATION (FRA)
PHILADELPHIA ZOO TO PAOLI ELECTRIFICATION TRANSMISSION LINE
PROJECT
CHESTER, DELAWARE, MONTGOMERY & PHILADELPHIA COUNTIES

Date: 5.4.12

Name: BEN LEECH

Organization/Affiliation: PRESERVATION ALLIANCE FOR GREATER PHILA

Telephone/Cell Phone Number: 215-546-1146 x5

Email Address: ben@preservationalliance.com

Please identify any properties in the project area of local importance or value:

All train stations/platforms, substation structures,
towers, bridges, etc. "Project area" is broader than
just the ROW.

Suggested means to enhance the project:

Clarify areas of impact

Other Comments/Suggestions:

The Preservation Alliance would like to be a
consulting party and would request a list of
other invited parties.

Please Return to:

Project Manager, Mr. David J. Durofchalk, PMP
Stell Environmental Enterprises, Inc.
25 East Main Street
Elverson, PA 19520

May 10, 2013

Name & Address:

RE: Section 106 Consultation
Federal Railroad Administration (FRA)
Amtrak Philadelphia Zoo to Paoli Electrification Transmission Line Project
Chester, Delaware, Montgomery & Philadelphia Counties

Dear **xxx**,

As part of the Philadelphia Zoo to Paoli Electrification Transmission Line Project, Amtrak plans to upgrade the existing overhead electrification system along a 20-mile segment of the Keystone Corridor between the Philadelphia Zoo and the Paoli substations. One of the goals of the project is to bring the electrical power transmission line back onto Amtrak-owned property from its present route, which currently runs far outside of Amtrak's right-of-way. The current electrification infrastructure, which is over 100 years old, is seriously deteriorated and will not support the proposed higher voltage system. The section between the Zoo and Paoli is the only portion of the Harrisburg Line that has not had a power upgrade. A consequence of the existing 20-mile spacing is that the trains operated by Amtrak and SEPTA experience low-voltage conditions during periods of high train density and activity.

The existing catenary towers are approximately 40-50 feet in height and are rust brown in color (please see attached photographs). The proposed new towers would be approximately 60-75 feet high, with a few towers reaching 100 feet high at overhead bridges. The new structures will be galvanized steel and will be grey in color (please see attached rendering). All of the proposed new towers will be located in the railroad right-of-way and will be spaced about 150 to 300 feet apart, depending on the track curvature. The Bryn Mawr substation will be demolished and replaced, and the site expanded to include a new substation to help support the catenary voltage between the Zoo and Paoli substations (see enclosed renderings). Detailed construction plans for the towers and associated structures are currently being developed for the project.

Much of the subject portion of the Keystone Corridor, as well as many of the immediately surrounding communities, have been subjected to historic resource surveys. The locations of many of these previously surveyed resources, including the National Register-eligible Amtrak corridor, are shown online at the Pennsylvania Historical and Museum Commission's (PHMC) Cultural Resources Geographic Information System (CRGIS) at (<https://www.dot7.state.pa.us/ce/Application/ASP/Security/Index.asp>).

In compliance with Section 106 of the National Historic Preservation Act., Stell Environmental Enterprises, Inc. (SEE) has completed cultural resources investigations to identify significant architectural and archaeological resources that may be affected by the project. Section 106 requires sponsors of federally funded projects to take into account the potential project effects on historic

properties. Section 106 entitles parties with a demonstrated interest in history or historic preservation to provide comments and suggest mitigation measures, if necessary, for the project.

A draft Determination of Effects report has been prepared to assess the potential impacts from the project on historic resources along the Zoo to Paoli corridor, the executive summary of which is enclosed. A Phase IA archaeological report has also been prepared and submitted to the Pennsylvania Historical and Museum Commission (PHMC), which has concurred with the finding that the project is located in a low probability setting and no further archaeological investigation of the project area is recommended (executive summary enclosed).

A meeting of consulting parties is scheduled for June 6, 2013 at 5:00 p.m. at Villanova University's Connelly Center Cinema, 800 E. Lancaster Avenue, Villanova, PA 19085, to present the findings of the cultural resources investigations, discuss mitigation options to address adverse impacts, and to receive comments from the consulting parties. A general public meeting with displayed plans will be held immediately following the consulting parties meeting to provide an update to the project design, schedule, and the results of preliminary research on environmental and cultural resources within the corridor.

Also enclosed for your use are maps showing the location of the project corridor, photographs of existing conditions, and diagrams of the proposed transmission/catenary poles.

Should you have any questions or require additional information please feel free to contact me at (610) 286-0100 or aheist@stellee.com.

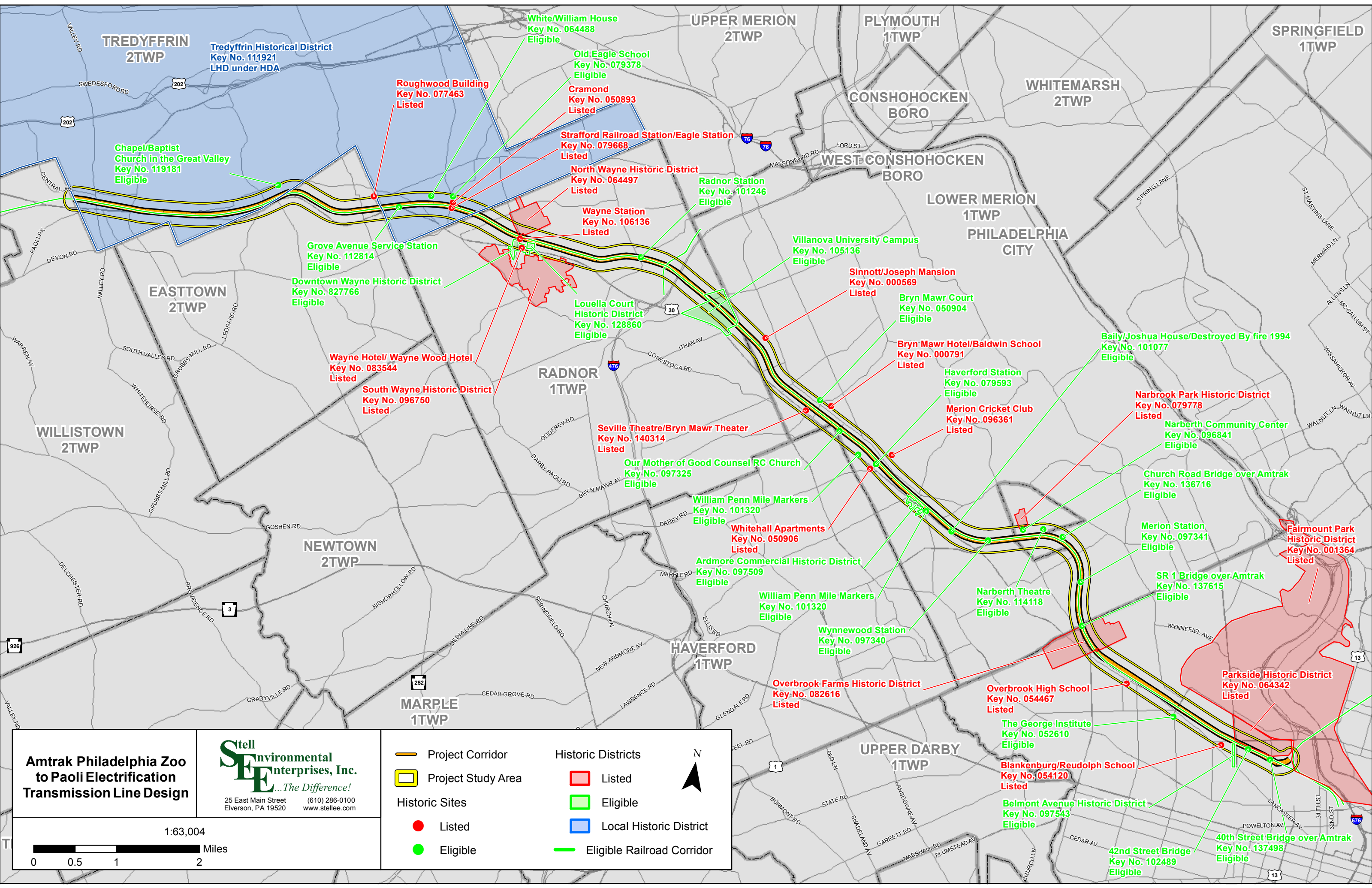
Sincerely,

Allen G. Heist, Project Manager
Stell Environmental Enterprises, Inc.

Enclosures:

- Project Location Maps
- Photo Log
- Renderings
- Comment Sheet
- Executive Summary – Determination of Effects Report
- Executive Summary – Phase IA Archaeology Report

Cc: Daniel Tasker, Amtrak (via email only)
Daren Petroski, Burns Engineering, Inc. (via email only)
Bert Wescott, Burns Engineering, Inc. (via email only)
Barbara Frederick, PHMC (via email only)
Michelle Fishburne, FRA (via email & express mail)

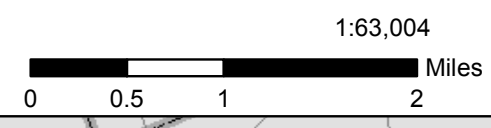


Amtrak Philadelphia Zoo to Paoli Electrification Transmission Line Design



25 East Main Street
Elverson, PA 19520
(610) 286-0100
www.stellee.com

- | | |
|-------------------------|-----------------------------|
| Project Corridor | Historic Districts Listed |
| Project Study Area | Historic Districts Eligible |
| Historic Sites Listed | Local Historic District |
| Historic Sites Eligible | Eligible Railroad Corridor |



0 0.5 1 2 Miles

Project Name:

Zoo to Paoli Electrification Transmission Line Project
Chester, Delaware, Montgomery, and Philadelphia Counties,
Pennsylvania

Photo No.

1

Description:

View showing typical existing overhead structures.



Photo No.

2

Description:

View of the Bryn Mawr Substation to be demolished and replaced.



Project Name:

Zoo to Paoli Electrification Transmission Line Project
 Chester, Delaware, Montgomery, and Philadelphia Counties,
 Pennsylvania

Photo No.

3

Description:

View west of Paoli showing what the proposed new structures will look like (signal structure foreground, catenary/ transmission structure background). Note the new structures will be hot-dip-galvanized and will be grey.



Photo No.

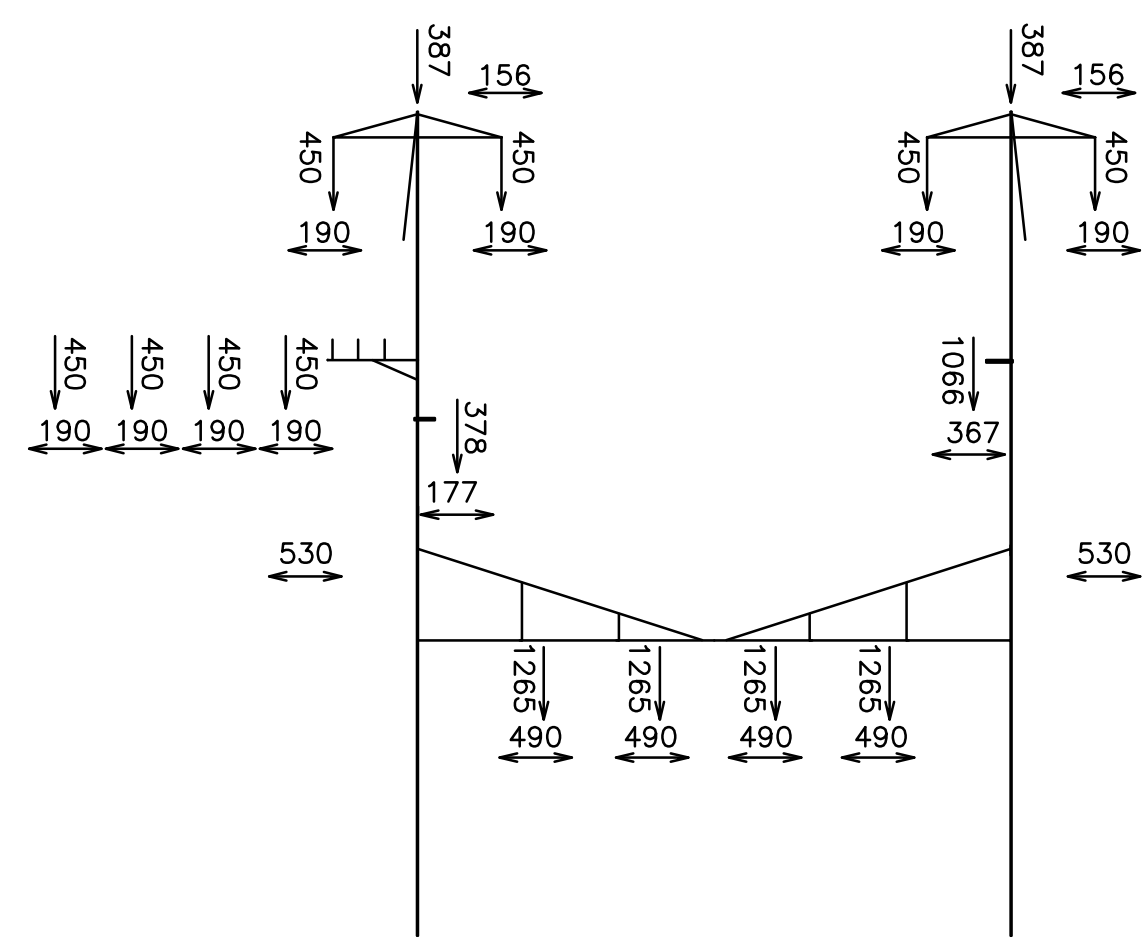
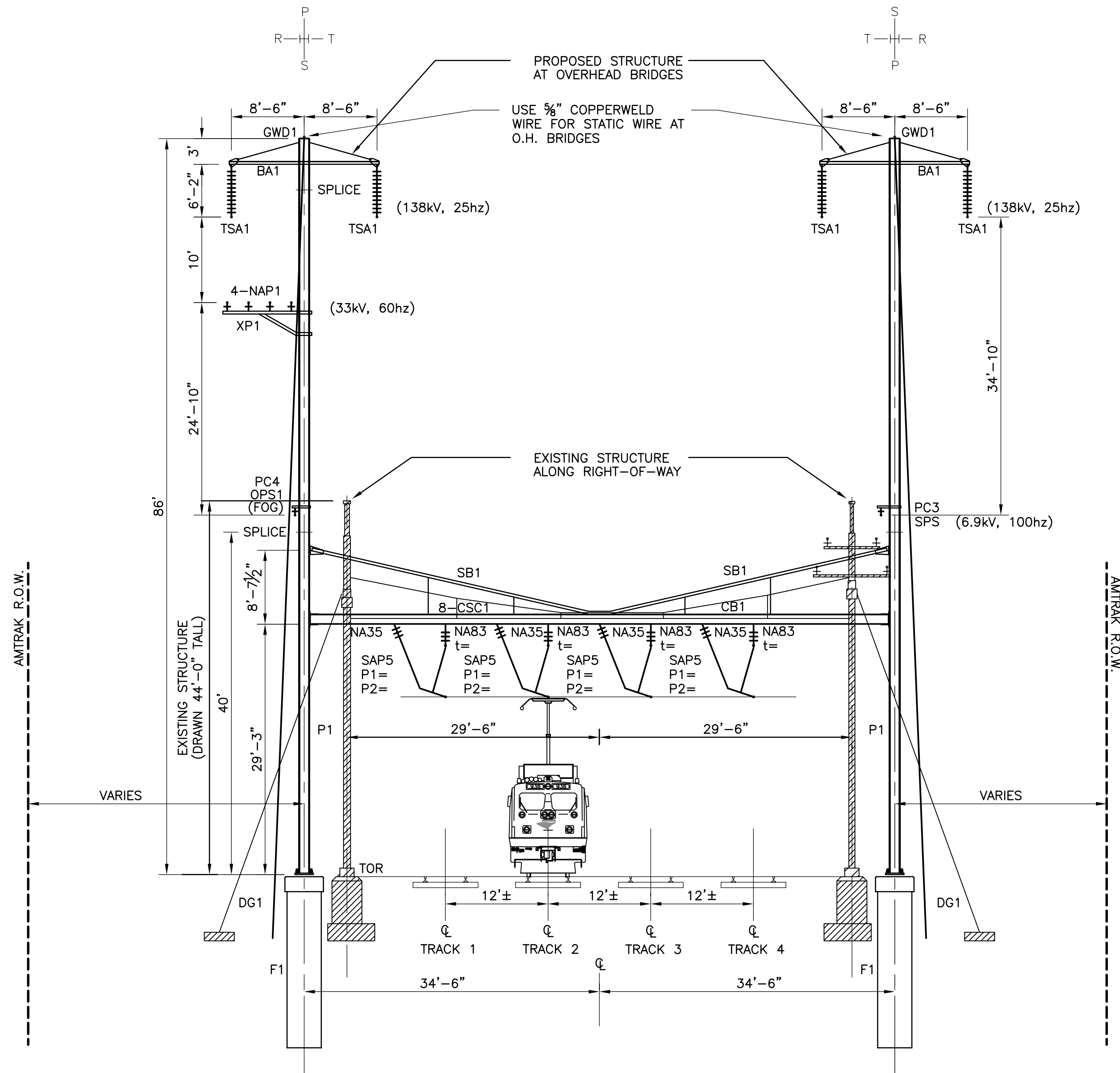
4

Description:

View of transmission lines and towers (observed in foreground) at the 40th Street area in Philadelphia near the Zoo substation.



BILL OF MATERIALS			
MARK	DESCRIPTION	REF. DWG.	QUANTITY
NA83	MESSENGER SUPPORT	ET-xx	4
NA35	MESSENGER SUPPORT	ET-xx	4
SAP5	REGISTRATION ASSEMBLY	ET-xx	4
GWD1	GROUND WIRE ASSEMBLY	ET-xx	2
TSA1	TRANSMISSION WIRE SUPPORT	ET-xx	4
NAP1	PECO WIRE SUPPORT	ET-xx	4
OPS1	FOG WIRE SUPPORT	ET-xx	1
SPS	SIGNAL POWER SUPPORT	ET-xx	1
PC3	SLIDING CLAMP	S-xx	1
PC4	SLIDING CLAMP	S-xx	1
P1	POLE	S-xx	2
F1	FOUNDATION	S-xx	2
SB1	SAG BRACE	S-xx	2
CB1	CROSS BEAM	S-xx	1
BA1	TRANSMISSION BRACKET -DOUBLE	S-xx	2
XP1	PECO BRACKET	S-xx	1
CSC1	SLIDING BRACKET	S-xx	8
DG1	DOWNGUY ASSEMBLY	S-xx	2
DGA	DOWNGUY ANCHOR FOUNDATION	S-xx	2



LOADING DIAGRAM
1/2" RADIAL ICE, 40 MPH WIND, 300' MAX SPAN
(NOT TO SCALE)

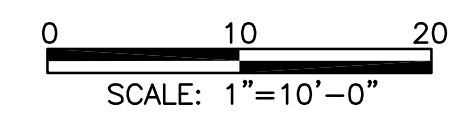
CLEARANCE NOTES:

- CLEARANCE OF 138KV OVER ROADWAY SHALL BE 35' WORST CASE.
- CLEARANCE OF 33KV PECO OVER ROADWAY SHALL BE 18.5' PER NESC RULE 232, TABLE 232-1.
- CLEARANCE OF 33KV PECO OVER OTHER PECO WIRES SHALL BE 2' PER NESC RULE 233, TABLE 233-1.

WORK STATEMENT:

- INSTALL FOUNDATIONS.
- INSTALL POLES, CROSS BEAM AND SAG BRACES.
- INSTALL TRANSMISSION BRACKETS.
- INSTALL LONGITUDINAL DOWN GUYS.
- INSTALL STATIC, TRANSMISSION, INSULATED SIGNAL POWER AND PECO WIRES.
- TRANSFER FOG AND EXISTING INSULATED SIGNAL POWER WIRES TO NEW STRUCTURE.
- INSTALL SLIDING BEAM CLAMPS AND MESSENGER SUPPORTS.
- TRANSFER CATENARY WIRES TO NEW STRUCTURE.
- ADJUST HANGERS IN CATENARY SPANS AND REPROFILE CATENARY.
- DEMO OLD CAT POLES AND FOUNDATIONS.

STRUCTURE ERECTION DIAGRAM P-
STATION 00+00
LOOKING TOWARDS HARRISBURG



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National Railroad Passenger Corporation
30TH Street Station-Philadelphia, Pennsylvania 19104

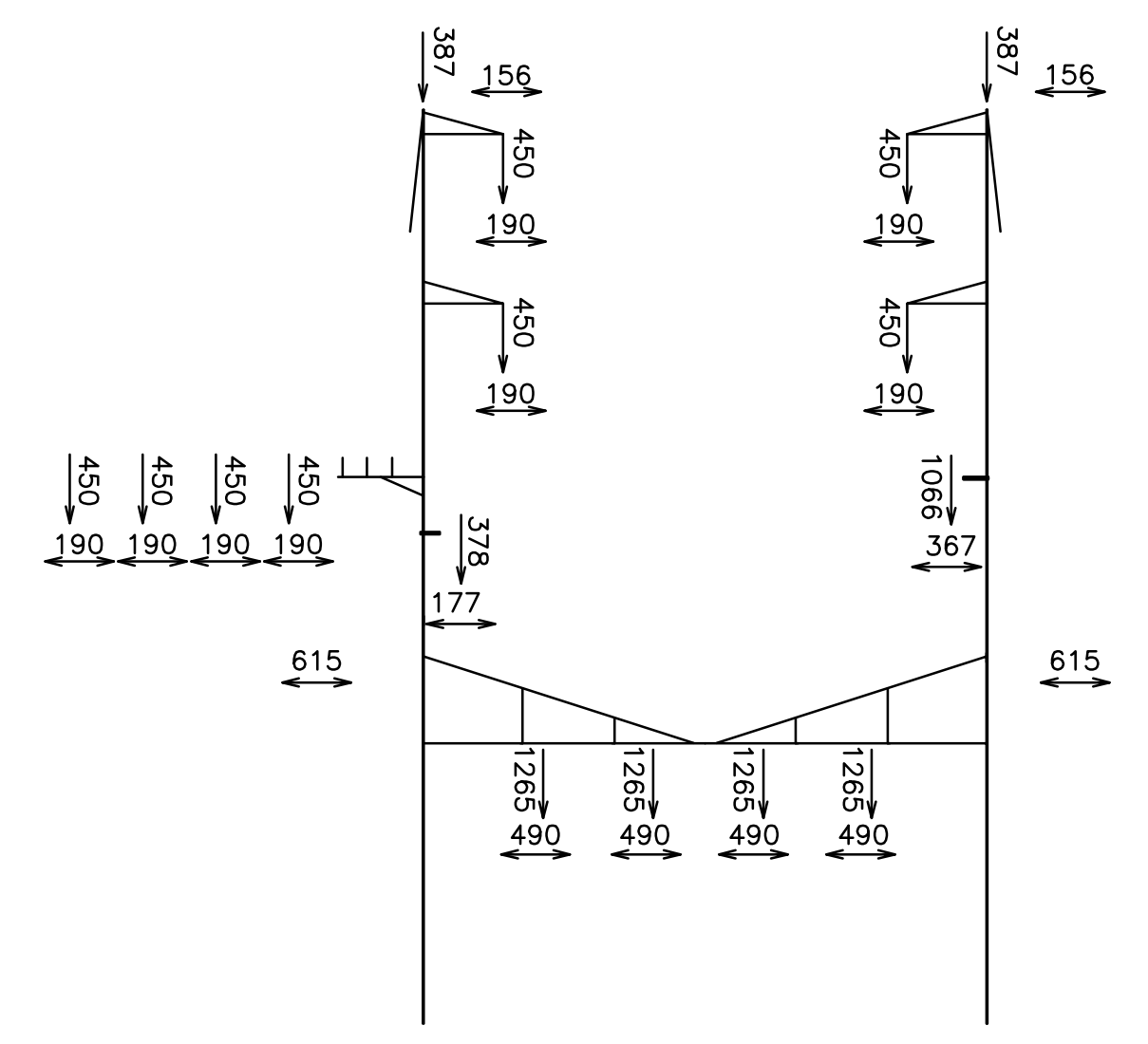
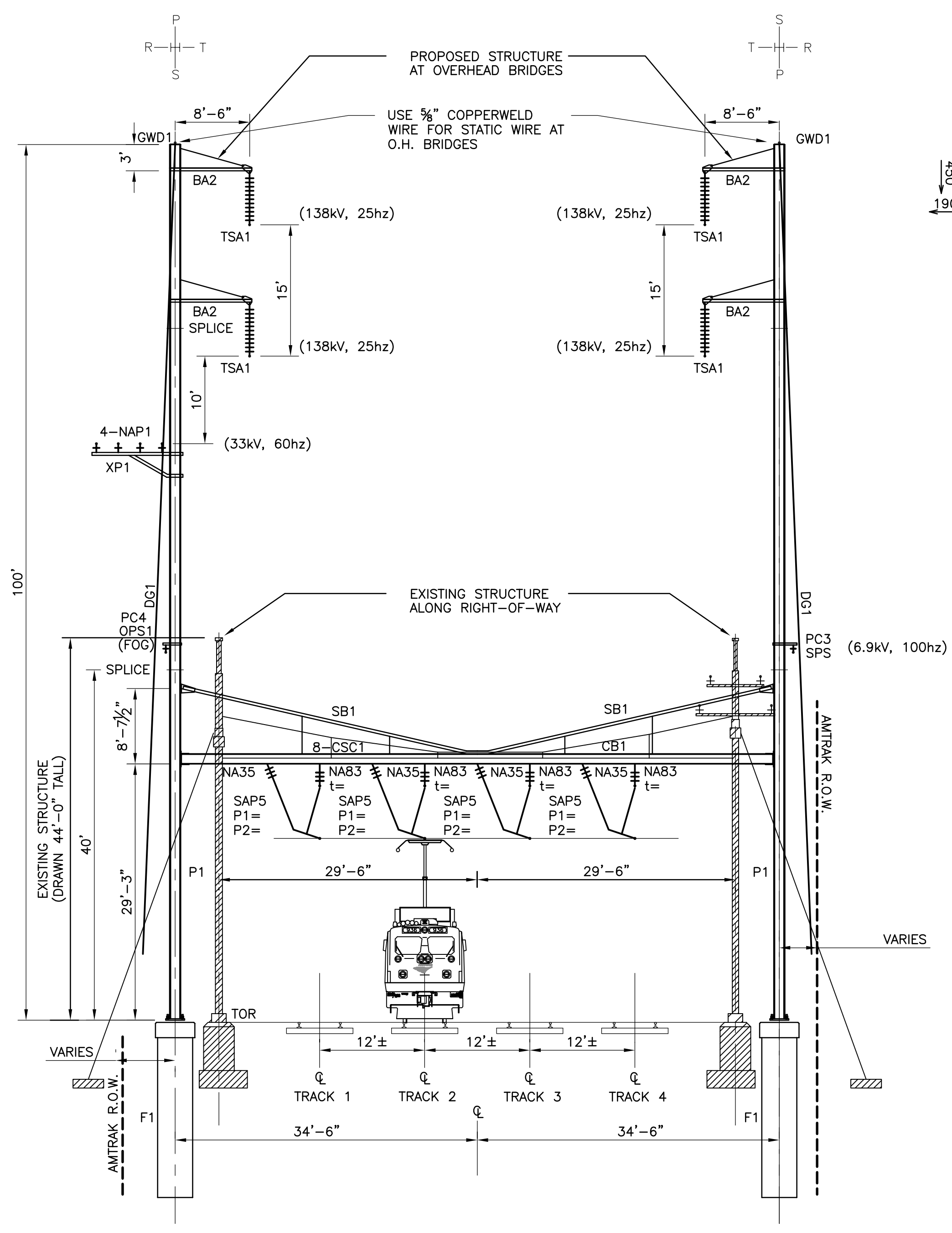
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ZOO TO PAOLI TRANSMISSION
ELECTRIFICATION
STRUCTURAL ERECTION DIAGRAM
TANGENT TRACK OH BRIDGE (WITH PECO)
Recommended: DP Drawn: CTS Checked: RW Date: 10/31/12

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Sheet No.:	X OF -
ET-1020	

BILL OF MATERIALS			
MARK	DESCRIPTION	REF. DWG.	QUANTITY
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NA35	MESSENGER SUPPORT	ET-xx	4
SAP5	REGISTRATION ASSEMBLY	ET-xx	4
GWS1	GROUND WIRE ASSEMBLY	ET-xx	2
TSA1	TRANSMISSION WIRE SUPPORT	ET-xx	4
NAP1	PECO WIRE SUPPORT	ET-xx	4
OPS1	FOG WIRE SUPPORT	ET-xx	1
SPS	SIGNAL POWER SUPPORT	ET-xx	1
PC3	SLIDING CLAMP	S-xx	1
PC4	SLIDING CLAMP	S-xx	1
P1	POLE	S-xx	2
F1	FOUNDATION	S-xx	2
SB1	SAG BRACE	S-xx	2
CB1	CROSS BEAM	S-xx	1
BA2	TRANSMISSION BRACKET - SINGLE	S-xx	4
XP1	PECO BRACKET	S-xx	1
CSC1	SLIDING BRACKET	S-xx	8
DG1	DOWNGUY ASSEMBLY	S-xx	2
DGA	DOWNGUY ANCHOR FOUNDATION	S-xx	2



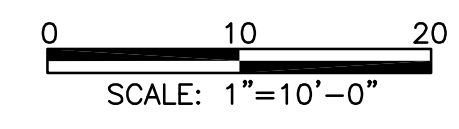
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- TRANSFER CATENARY WIRES TO NEW STRUCTURE.
- ADJUST HANGERS IN CATENARY SPANS AND REPROFILE CATENARY.
- DEMO OLD CAT POLES AND FOUNDATIONS.

STRUCTURE ERECTION DIAGRAM P-
STATION 00+0
LOOKING TOWARDS HARRISBURG

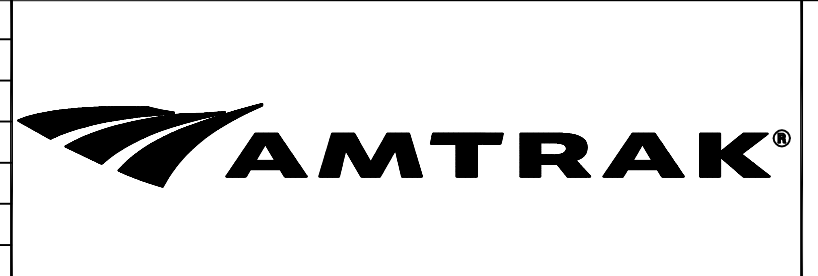


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National Railroad Passenger Corporation
30TH Street Station-Philadelphia, Pennsylvania 19104

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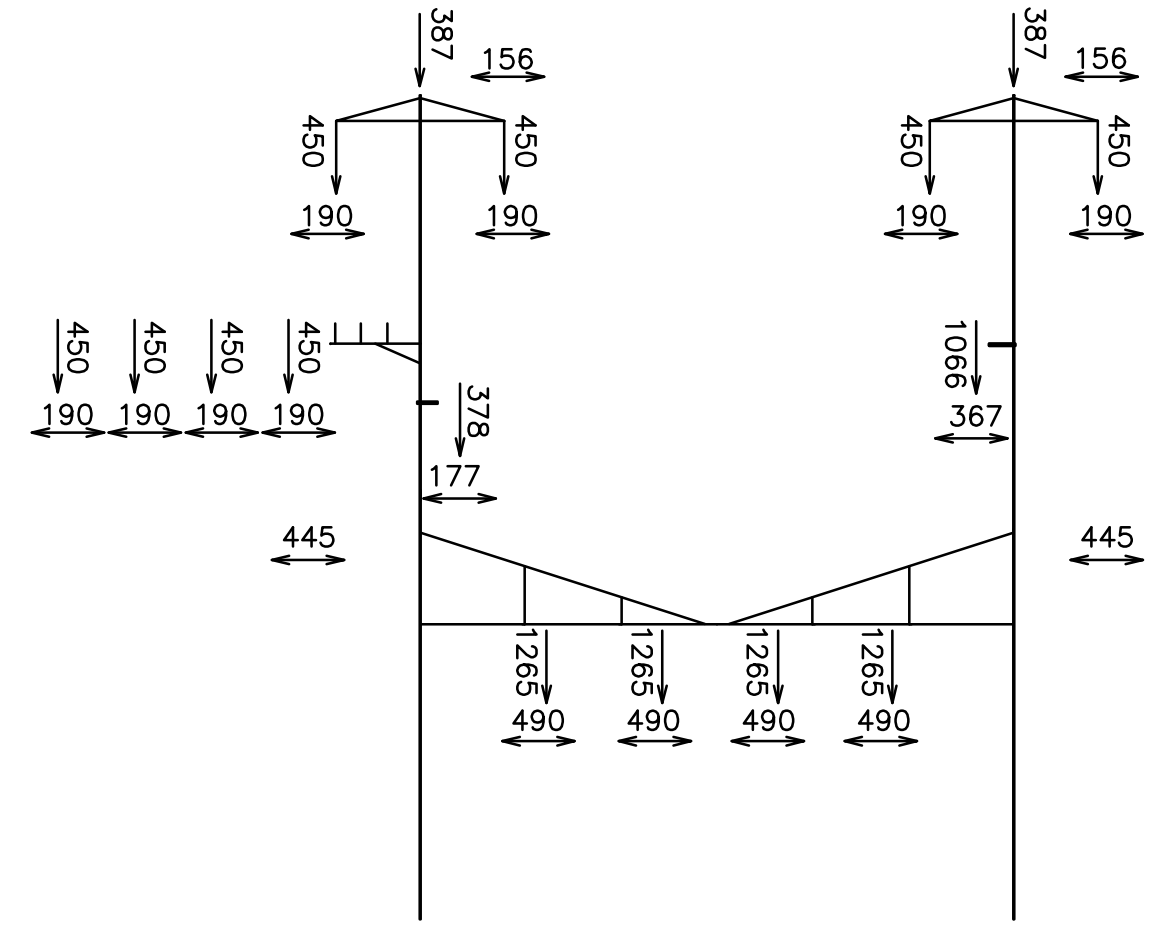


ZOO TO PAOLI TRANSMISSION
ELECTRIFICATION
STRUCTURAL ERECTION DIAGRAM
TANGENT TRACK, STACKED (WITH PECO)

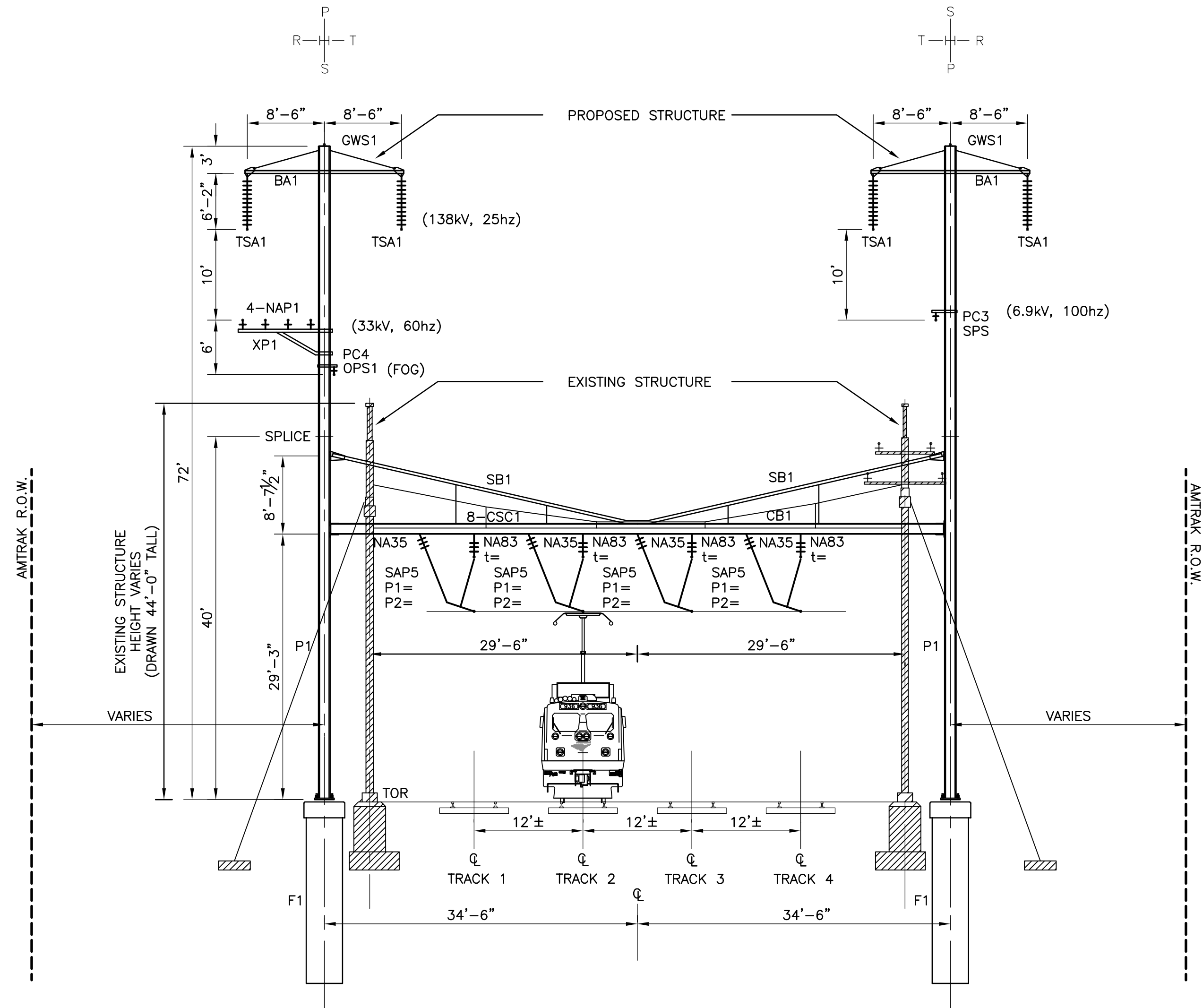
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NA35	MESSENGER SUPPORT	ET-xx	4
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GWS1	GROUND WIRE ASSEMBLY	ET-xx	2
TSA1	TRANSMISSION WIRE SUPPORT	ET-xx	4
NAP1	PECO WIRE SUPPORT	ET-xx	4
OPS1	FOG WIRE SUPPORT	ET-xx	1
SPS	SIGNAL POWER SUPPORT	ET-xx	1
PC3	SLIDING POLE CLAMP	S-xx	1
PC4	SLIDING CLAMP	S-xx	1
P1	POLE	S-xx	2
F1	FOUNDATION	S-xx	2
SB1	SAG BRACE	S-xx	2
CB1	CROSS BEAM	S-xx	1
BA1	TRANSMISSION BRACKET -DOUBLE	S-xx	2
XP1	PECO BRACKET	S-xx	1
CSC1	SLIDING BRACKET	S-xx	8



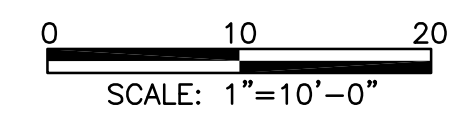
LOADING DIAGRAM
1/2" RADIAL ICE, 40 MPH WIND, 300' MAX SPAN
(NOT TO SCALE)



STRUCTURE ERECTION DIAGRAM P-
STATION 00+0
LOOKING TOWARDS HARRISBURG

WORK STATEMENT:

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2. INSTALL POLES, CROSS BEAM AND SAG BRACES.
3. INSTALL TRANSMISSION BRACKETS.
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7. TRANSFER CATENARY WIRES TO NEW STRUCTURE.
8. ADJUST HANGERS IN CATENARY SPANS AND REPROFILE CATENARY.
9. DEMO OLD CAT POLES AND FOUNDATIONS.



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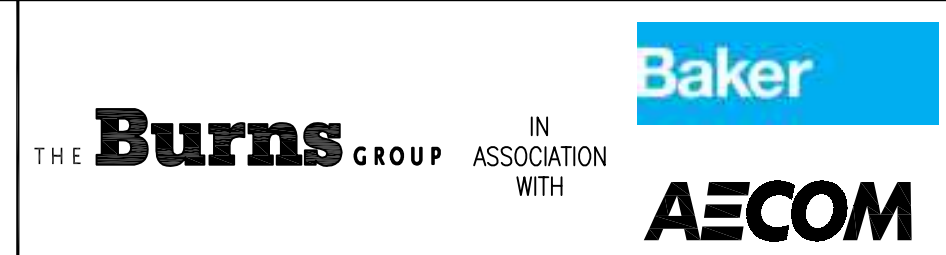
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No	Revisions	Date	By



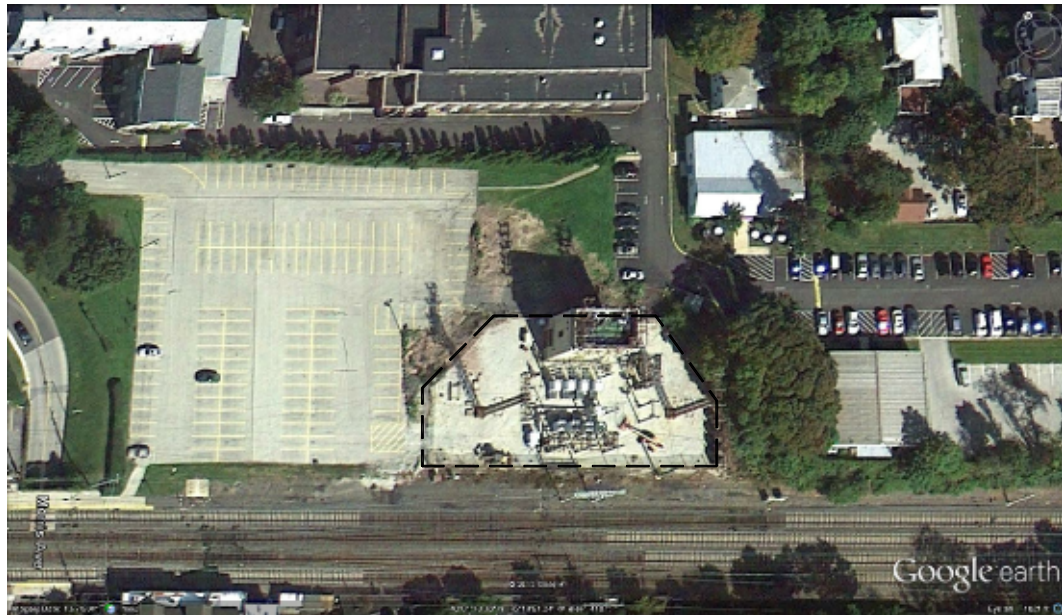
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30TH Street Station-Philadelphia, Pennsylvania 19104

Approved	Date

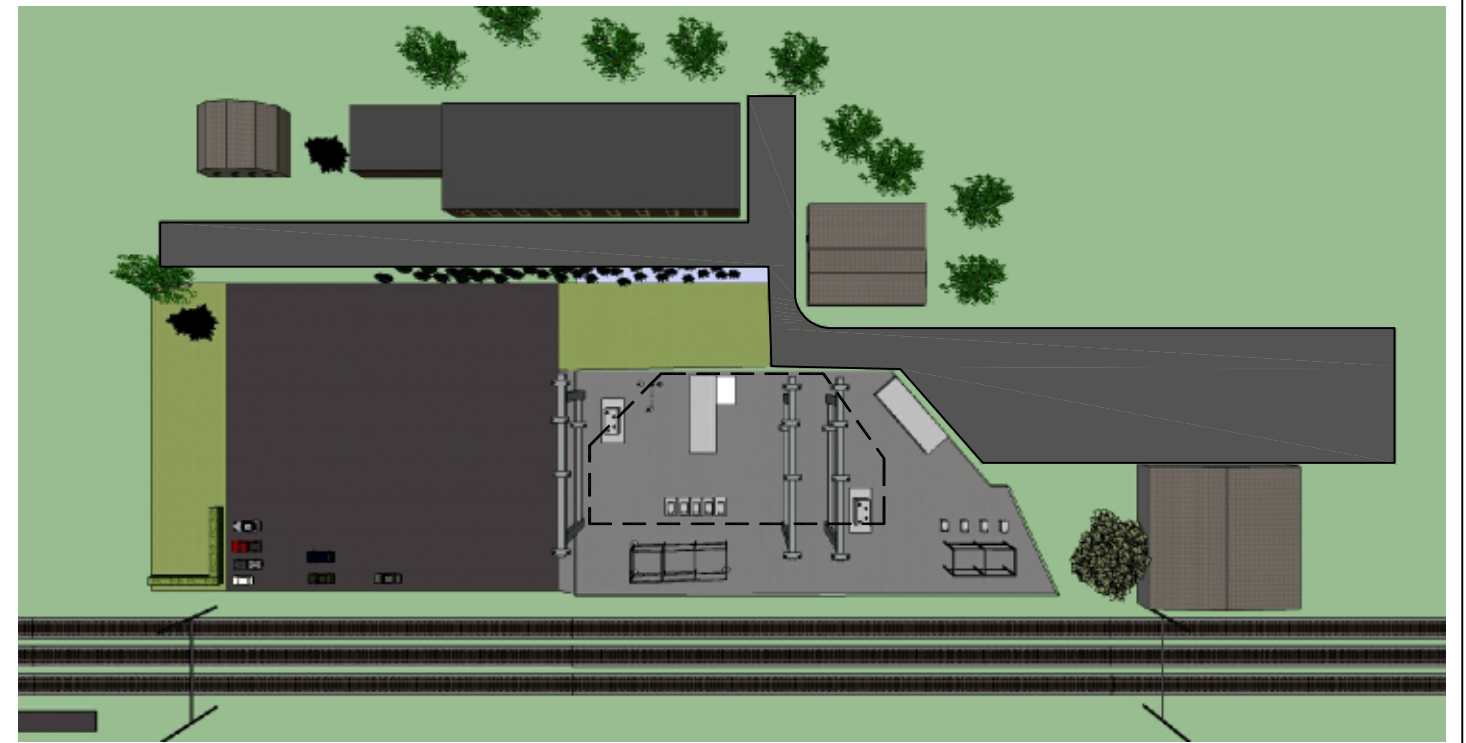


ZOO TO PAOLI TRANSMISSION
ELECTRIFICATION
STRUCTURAL ERECTION DIAGRAM
TANGENT TRACK (WITH PECO)
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BRYN MAWR SUBSTATION EXISTING PLAN VIEW



BRYN MAWR SUBSTATION PROPOSED PLAN VIEW



BRYN MAWR SUBSTATION EXISTING PERSPECTIVE VIEW



BRYN MAWR SUBSTATION PROPOSED PERSPECTIVE VIEW

SECTION 106 PUBLIC CONSULTATION
FEDERAL RAILROAD ADMINISTRATION (FRA)
PHILADELPHIA ZOO TO PAOLI ELECTRIFICATION TRANSMISSION LINE PROJECT
CHESTER, DELAWARE, MONTGOMERY & PHILADELPHIA COUNTIES

Date: _____

Name: _____

Organization/Affiliation: _____

Telephone/Cell Phone Number: _____

Email Address: _____

Please identify any properties in the project area of local historic importance or value that you feel will experience an adverse effect from the proposed project:

Suggested means to enhance or mitigate the adverse effects of the project:

Other Comments/Suggestions:

Please Return to:

Project Manager, Allen G. Heist
Stell Environmental Enterprises, Inc.
25 East Main Street
Elverson, PA 19520
aheist@stellee.com

DETERMINATION OF EFFECTS REPORT
EXECUTIVE SUMMARY

This report presents the results of a Determination of Effects assessment undertaken as part of the proposed Amtrak Zoo to Paoli Electrification Transmission Line Project. The proposed project is a modernization project that includes the addition of poles and catenary lines within the right-of-way of a section of the Pennsylvania Railroad Main Line, located between the Philadelphia Zoo in Philadelphia and the station at Paoli, through portions of Chester, Delaware, Montgomery, and Philadelphia counties, Pennsylvania. The railroad section included in the project is physically within the historic district entitled Pennsylvania Railroad Main Line (Philadelphia to Harrisburg), which was determined to be eligible for listing in the National Register of Historic Places (NRHP) on September 14, 1995, and again on November 16, 2007.

The cultural resources work for this project was conducted in the Spring and Summer of 2012, and in the Spring of 2013, for Amtrak (National Railroad Passenger Corporation), using federal funds provided by the Federal Railroad Administration (FRA), and in compliance with Section 106 of the National Historic Preservation Act of 1966, as amended.

Utilizing 36 Code of Federal Regulations (CFR) 800.5 and 36 CFR 800.6, the Definition of Effect and Criteria of Adverse Effect was applied to this undertaking. In addition to this portion of the Pennsylvania Railroad Main Line (Philadelphia to Harrisburg), there are 23 other previously identified NRHP-listed or -eligible historic resources in the Area of Potential Effect (APE). The study demonstrated that the proposed undertaking would have No Adverse Effect on nine (9) of the historic properties and No Effect on 14 of these historic properties. Also as a result of this effects assessment, it was determined that the proposed undertaking would have an Adverse Effect on the Pennsylvania Railroad Main Line (Philadelphia to Harrisburg). A mitigation plan to address the adverse effects to the railroad will be forthcoming.

A Phase IA geomorphological and archaeological reconnaissance survey was completed for the project and no areas suitable for subsurface testing were found within the project APE for archaeology. Therefore, the project, as currently designed, will not impact any known NRHP-eligible archaeological properties.

PHASE IA ARCHAEOLOGY REPORT

EXECUTIVE SUMMARY

National Railroad Passenger Corporation (Amtrak) is proposing to replace existing catenary structures along a section of existing railroad right-of-way between Paoli Substation, Chester County and Zoo Substation, Philadelphia County, Pennsylvania. The majority of the project area is within the Piedmont Upland section of the Piedmont Physiographic Province, with the eastern end located in the Lowland and Intermediate Upland section of the Atlantic Coastal Plain Physiographic Province (Sevon 2000) in southeastern Pennsylvania. The proposed project is approximately 32.2 kilometers (km) (20.0 miles [mi]) long and extends west from the Philadelphia Zoo Substation to the Paoli Substation through various townships and municipalities in Chester, Delaware, Montgomery, and Philadelphia counties. The project area follows an existing Amtrak railroad corridor generally east to west between the two substations. The project area crosses two major watersheds (F and G) in Subbasin 3, the Lower Delaware River drainage.

The proposed project will involve the replacement of catenary poles within a project corridor that varies in width. In addition, the Bryn Mawr Substation building will be removed and the existing location will be expanded to accommodate the electric upgrade of equipment. The project Area of Potential Effect (APE) for archaeology is approximately 148.3 hectare (ha) (366.4 acre [ac]) in size, of which 100 percent is located in low probability settings. The low probability settings include steep slopes of natural landscapes, previously disturbed areas of fill beds and cuts through the landscape to create a level grade railroad bed, and paved parking lots. Visible disturbances to the project archaeology APE include cut and fill events related to the construction and maintenance of the existing railroad bed and associated facilities. The proposed Bryn Mawr Substation expansion will be located in adjacent areas of a paved parking lot to the west and a disturbed open area to the east.

Phase IA survey investigations completed for the proposed project included background research and a geomorphology/archaeology reconnaissance survey. The rail corridor is part of the Keystone Corridor and is considered eligible for listing in the National Register of Historic Places. The historic resources are discussed in a separate Determination of Effects report. No previously recorded archaeological sites are located within the project archaeology APE, but one site is close enough to the project APE to be of concern. The mapped location of one site, the Hardings Run Dump site (36DE0027), is adjacent to the rail corridor near the center of the project.

Of the 32.2 km (20.0 mi) of right-of-way, no testable areas were identified throughout the project APE that contained soils suitable for subsurface testing to determine the potential for intact archaeological remains. Because the project APE (148.3 ha, or 366.4 ac) is totally located in low probability settings exhibiting previous disturbance, cuts through sloped terrain, deep fill beds, and steep slopes (>15%), no further investigation of the project area, as currently designed, is recommended.



Amtrak Zoo – Paoli Re-Electrification Project

Consulting Parties Meeting June 6, 2013

Villanova University Connelly Center Cinema

Delaware County, PA

Name	Organization/Affiliation	Address	Email Address
1. Beverlee Barnes	Delaware Co. Planning Dept Rednor HARB	Govt Ctr + courthouse	barnesb@co. delaware.pa.us
2.	Del Co Heritage Commission	201 Front St Media 19063	
3. Michelle Fishburne	FRA	DC	michelle.fishburne@dot.gov
4. Ben Loeh	Preservation Alliance	1606 Walnut Suite 1300 Phila PA 19103	ben@preservationalliance.org
5. Barbara Fredenick	PHMC-BHP	Harrisburg PA	bafredenc@pa.gov
6. Marc Hirsulky	NWPA North Wayne Packet Assn	Wayne, PA	mhirshulky@verizon.net
7. B. Callagher	Home owner	Wayne PA	
8. Matt Mitchell	DELAWARE VALLEY ASSOCIATION OF RAIL PASSENGERS	1601 WALNUT ST, PHILA PA 19102	MAIL@DVARP.ORG
9.			
10.			
11.			
12.			
13.			
14.			

Amtrak Zoo to Paoli Re-Electrification Project

Consulting Parties Meeting June 6, 2013, 5:00 PM

Meeting Notes

Project Team Attendees: Bert Wescott, Burns Engineering; Daren Patroski, Burns Engineering; Allen Heist, Stell Environmental Enterprises, Inc. (SEE); Crystal Gilchrist, SEE; Pat Baker, SEE; Lauren Archibald, SEE; Tamra Dunn, Michael Baker, Inc.; Dan Tasker, Amtrak.

The meeting began at 5:05 PM with introductions of the project team and the background presentation about the project.

Questions & Answers:

Q: Who owns the remote right-of-way? What will happen to the poles that are along that route?

A: Currently Amtrak owns the poles, but there are others who use some of them as well as Amtrak. PECO uses a good portion of that line for transmission. These poles which are used exclusively by Amtrak will be abandoned in place, while those used by others will continue to be used. Amtrak does not own the actual right-of-way.

Q: Does abandonment eventually lead to removal of the poles?

A. We do not know what will happen to these poles at a later date; they are not part of the current project.

Q: Are there other locations where poles have been abandoned in place?

A: Yes.

Comment from CP: A thought about mitigation – there is potential to honor these poles with some sort of art installation or art competition.

A: There is a good section where that could be effective near where the lines cross the Schuylkill River Trail.

Q: Are there other historic resources along the remote ROW?

A: Yes, a substation.

Q: Is the remote line National Register eligible?

A: That was not included in the research for this project since there is no plan to affect that area. Mitigation of the impact to historic resources will be focused on the main line.

Q: I live near the line at West Beech Tree. Why must the towers be so tall? Can't you run them underground? Will the project include any extra tracks?

A: All rail service will remain the same; there are no plans to add more tracks in this right-of-way. Regarding the power lines – The power lines need to go over the bridges and cannot run under the bridges with the catenary lines due to the requirements for separation distances between the lines.

Q: Will we be able to see a plan that shows the pole locations with the anticipated heights near our homes?

A: The draft Determination of Effects (DoE) report includes a map of pole locations and anticipated heights.

Q: Will the new Bryn Mawr Substation be like the one at Paoli? Are there others like it in the system?

A: Yes, there are 27 to 30 similar substations in the system between Washington DC and New York and Philadelphia to Harrisburg.

Q: Will the new structures be in the same locations as the old ones?

A: Within about 10 – 15 feet.

Q: What about the effects of the electro-magnetic fields on wildlife?

A: (Baker) Whether you are discussing impacts to wildlife or humans, the concerns are the same. (Burns) Studies for this project indicate that there will be a negligible difference from what is out there now. The World Health Organization has published standards for further study and this project is 20 to 30 times less than the threshold established for further study. The current conditions emit 24 milligauss; the new system will emit 65 milligauss. The WHO notes that anything less than 2000 milligauss does not need to be evaluated.

Comment from Consulting Party: The Earth emits greater electromagnetic radiation than the new power lines will.

Q: Where are the funds coming from for this project?

A: Currently funding is anticipated from the federal government and from Amtrak. There are no state or local funds included at this time.

Q: Since the new poles will require ground disturbance for the construction, are there any concerns about the impacts of vibrations on the nearby historic structures? What if something is found during construction?

A: Construction vibrations will be monitored very carefully, not only with regards to adjacent properties but because of the effects of vibrations on the rail tracks.

A: There will also be an Unanticipated Discoveries Plan that will be attached to the Memorandum of Agreement regarding any archaeological resources encountered during the construction.

Q: How close to the existing towers can the new ones go?

A: Within about 10 feet. The old poles will be removed from the main line corridor once the new poles are installed.

Q: Why do some of the poles have to be up to 100 feet tall and will any of the 100 foot tall poles be in the eligible historic districts?

A: The taller poles are necessary to span over bridges that cross the rail line. The power lines cannot run under the bridges due to the clearance requirements. Some of the taller poles may be within historic districts.

Q: Have these areas been mapped?

A: Yes, the DoE report has a map of the new locations relative to the historic districts.

Q: Where the new transmission system is in place elsewhere along Amtrak's service area, are the 100 foot tall towers typical?

A: Yes

Q: How many poles will be replaced; what structures can be saved?

A: The existing signal bridges or towers will be retained. Regarding the poles, there are currently 360 sets of poles (720 individual poles) that are being replaced.

Q: Will any trees be impacted?

A: There may need to be some clearance of trees or limbs that extend into the power lines.

Q: Will there be any removal of trees?

A: Cannot answer that yet; however, the previous right-of-way clearing that was done a few years ago, should have addressed most of the interference issues.

Statement: There is a concern for the loss of trees as a buffer between homes and the railroad.

Q: Is there an anticipated strategy for mitigation?

A: Not yet. This meeting is the beginning of that process. Coordination with Amtrak will continue on this issue. Just a note – historic pavilions have been used elsewhere.

Comment from the SHPO: It may be a good idea to coordinate with the Railroad Museum of Pennsylvania at Strasburg, PA regarding the mitigation efforts. They are looking for more ways to expand their efforts.

Q: Would mitigation include resources investigation of adjacent resources?

A: SHPO – maybe.

Recommendation from Consulting Party: A systematic inventory of the other substations might be in order since they are critical elements of the historic electric railroads.

Q: How will the new structures be treated visually?

A: The new poles that will carry the power lines will be I-beam with a galvanized gray surface.

Q: Will this project ultimately lead to high-speed rail service?

A: That is not the intention of this project. In fact, to go to high speed rail service there are a number of other upgrades that would be required to track curvature, to the catenary, etc.

The above information is a summary of the consulting parties' meeting and not a verbatim record. Should you or anyone copied on these minutes have any questions, comments, or suggested revisions to these minutes, please contact me via email at ahleist@stellee.com or at 610-286-0100 within seven (7) days of receipt; otherwise these minutes will be considered final and an accurate representation of the meetings.

Minutes prepared by,

Crystal Gilchrist
Stell Environmental Enterprises, Inc.
Assistant Project Manager

cc: Project Team Attendees



Delaware Valley Association of Rail Passengers

1601 Walnut St., Suite 1129 Philadelphia, PA 19102 215-RAILWAY www.dvarp.org

May 18, 2013

Allen G. Heist
Stell Environmental Enterprises
25 East Main St.
Elverson, PA 19520

Dear Mr. Heist;

Thank you for your letter of May 10 and enclosed draft Determination of Effects Report and Archaeology report. The Delaware Valley Association of Rail Passengers supports the proposed Zoo-Paoli transmission line project. Our statement on the project is enclosed.

The draft reports are satisfactory from our perspective, and we find no adverse effects from the proposed project. We believe that the highest historic value of the Pennsylvania Railroad Main Line is in the train service itself, and that this project will enhance the capacity and reliability of the service for generations to come.

We urge you and other project planners to make sure that the North Wayne Protective Association and other residents' groups along the Main Line are made aware of the upcoming public meetings and given the opportunity to comment on your draft reports. If you would like help in getting contact information for these people, please e-mail mail@dvarp.org or call us at 215-RAILWAY.

Yours sincerely,

Matthew D. Mitchell
President

cc: Daniel Tasker, Amtrak
Michelle Fishburne, Federal Railroad Administration



Twitter: @PhillyDVARP



Facebook: /PhillyDVARP



Statement on Proposed Paoli-Zoo Transmission Line

May 18, 2013

The Delaware Valley Association of Rail Passengers supports relocation of Amtrak power transmission lines from their present rights of way onto new structures erected over the Harrisburg Line between Paoli and Zoo interlockings.

These transmission lines supply green electricity from the Safe Harbor generating station to power Amtrak and SEPTA trains on the Keystone Corridor and portions of the NEC. Relocating the lines will put them on a shorter and more efficient route and eliminate Amtrak's reliance on rights of way over routes now owned by others. The project will also improve the reliability of SEPTA and Amtrak service on the Main Line by modernizing the catenary structures and replacing the antiquated substation at Bryn Mawr.

Fast, frequent, and reliable passenger train service was the foundation on which the Main Line communities were built, and remains a critical element of their continuing attractiveness as places to live, work, and do business. Maintaining and improving the Amtrak/SEPTA infrastructure is itself an important historic preservation project for the Main Line.

We recognize that the new electrification structures will be taller than the existing structures. While some Main Line residents are concerned about the visual appearance of the larger structures, they are necessary for the safety and reliability of the system. We urge the designers to try and make them as unobtrusive as possible. We also urge project planners to listen to the concerns of those residents and stay in communication with them.



From: [Stacey Mattox](#)
To: [Allen Heist](#)
Cc: [Pat Baker](#); [Lauren Archibald](#)
Subject: Zoo to Paoli Electrification Project
Date: Wednesday, August 07, 2013 11:21:30 AM
Attachments: [STELL.pdf](#)

Allen,

Attached, please the Haverford Township Historical Commission's response to the aforementioned project.

Thank you again for contacting the Historical Commission, and I apologize for my delay in not forwarding our response to you sooner. Wishing you success with your project.

Sincerely,

Stacey

Stacey B. Mattox
Chair, Haverford Township Historical Commission

From: "Allen Heist" <AHeist@stellee.com>
To: "Stacey Mattox" <anastasia426@comcast.net>
Cc: "Pat Baker" <PBaker@stellee.com>, "Lauren Archibald" <LArchibald@stellee.com>
Sent: Thursday, June 6, 2013 8:14:01 AM
Subject: RE: Zoo to Paoli Electrification Project - Consulting Parties' Meeting 6/6

Stacey,

Yes, please provide us comments or feedback regardless of your group's discussion on 6/17. And I will get back to you as soon as I determine what the comment process is for the DOE report, MOA, & mitigation plan. I will be taking to our cultural resources specialist and the FRA representative prior to the meeting this evening, at which time I will find out what the process is to comment on the upcoming report submittals.

Allen G. Heist
Project Manager
Stell Environmental Enterprises, Inc. • 25 East Main Street • Elverson, PA 19520
Phone 610-286-0100 • **Fax** 610-286-0110 • **Cell** 484-885-3394
Email ahleist@stellee.com • **Web** www.stellee.com

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From: Stacey Mattox [mailto:anastasia426@comcast.net]
Sent: Wednesday, June 05, 2013 10:55 PM
To: Allen Heist
Cc: Pat Baker; Lauren Archibald
Subject: Re: Zoo to Paoli Electrification Project - Consulting Parties' Meeting 6/6

Allen,

Thank you very much for the information, and for all of the attachments. It sounds like the letter was sent to the Township Building, but it was never forwarded to me - I will look into it. Unfortunately, since I am learning of this meeting at this late juncture, my group will not have an opportunity to discuss before your meeting tomorrow night. However, I will forward the information to each of them and I will include as an agenda item at our next meeting, which is scheduled for June 17th. Should I get back to you regardless of whether we have comments pertaining to the above project?

Thank you again very much for being in touch, and if you would get back to me about the comment form and also the information you are researching below it would be very helpful.

Sincerely,

Stacey

From: "Allen Heist" <AHeist@stellee.com>
To: "Stacey Mattox" <anastasia426@comcast.net>
Cc: "Pat Baker" <PBaker@stellee.com>, "Lauren Archibald" <LArchibald@stellee.com>
Sent: Tuesday, June 4, 2013 12:43:23 PM
Subject: RE: Zoo to Paoli Electrification Project - Consulting Parties' Meeting 6/6

Stacey,

Copies of last year's project information and this year's consulting parties 6/6 meeting invitation packet were mailed to the Haverford Township Historical Commission (2325 Darby Road, Havertown, PA 19083 – the only address that we could find). The cover letter that I attached to my email from yesterday was just the template that we used to mail this year's information packet on 5/10, it was not the actual letter that you should have received since we took that template & mailed merged the addresses of the consulting parties, including the Haverford Township Historical Commission, into it. Now that I have your email address (my preferred form of communications since snail mail doesn't always seem to work these days), I have attached the enclosures that accompanied the mail version of the meeting invitation. The 6/6 meeting is not the only opportunity for commenting, the attachments contain a comment form that you can complete &

return to us at any time during the project (but of course, the sooner that you do, the sooner that we can take your comments into account). I also believe that there will be other opportunities to comment as the draft Determination of Effects Report, Memorandum of Agreement, and Mitigation Plan are submitted to the Federal Railroad Administration for review & approval, but since I'm not familiar with their process, compared to other agencies, I'm not completely sure of the exact procedures. I will research those processes & follow-up with you ASAP. I hope this helps, but if you have any other questions or need additional information, please let me know.

Allen G. Heist
Project Manager

Stell Environmental Enterprises, Inc. • 25 East Main Street • Elverson, PA 19520

Phone 610-286-0100 • **Fax** 610-286-0110 • **Cell** 484-885-3394

Email ahleist@stelllee.com • **Web** www.stelllee.com

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From: Stacey Mattox [<mailto:anastasia426@comcast.net>]

Sent: Tuesday, June 04, 2013 12:24 AM

To: Allen Heist

Subject: Re: Zoo to Paoli Electrification Project - Consulting Parties' Meeting 6/6

Allen,

Thank you for contacting me. Unfortunately, this is the first I am hearing of a meeting this Thursday evening, and per your attached letter it does not appear that the Haverford Township Historical Commission was copied on your correspondence. Is the meeting June 6th the only opportunity we will have to provide input on this matter? Also, are you able to forward me the list of attachments referenced in your letter?

I believe some time ago the Historical Commission may have briefly discussed this project, which was brought to our attention by one of our members who is also a member of the Haverford Township Historical Society; however, it would be very helpful to have whatever information you are able to provide so we can adequately review and have an opportunity to address any concerns we may have.

Thank you again for contacting me, and I look forward to hearing from you.

Sincerely,

Stacey

Stacey B. Mattox
Chair, Haverford Township Historical Commission

From: "Allen Heist" <AHeist@stellee.com>
To: "Anastasia426@comcast.net" <Anastasia426@comcast.net>
Sent: Monday, June 3, 2013 4:45:40 PM
Subject: FW: Zoo to Paoli Electrification Project - Consulting Parties' Meeting 6/6

Stacey,

I'm contacting you to determine whether anyone from the Haverford Township Historical Commission will be attending the June 6 Section 106 consulting parties' coordination meeting to discuss the above referenced project. Information packets regarding the meeting were mailed to 35 consulting parties, including the your organization, on May 10. I have attached the invitation letter in case you did not receive it in the mail. If you have any questions or need additional information, please let me know.

Allen G. Heist
Project Manager
Stell Environmental Enterprises, Inc. • 25 East Main Street • Elverson, PA 19520
Phone 610-286-0100 • **Fax** 610-286-0110 • **Cell** 484-885-3394
Email aheist@stellee.com • **Web** www.stellee.com

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HAVERFORD TOWNSHIP HISTORICAL COMMISSION
Township of Haverford, Pennsylvania
2325 Darby Road
Havertown PA 19083
(610) 446-1000

8 July 2013

Mr. Allen E. Heist
Project Manager
Stell Environmental Enterprises, Inc.
25 East Main Street
Elverson, PA 19520

Re: Amtrak Philadelphia Zoo to Paoli Electrification Transmission Line Project

Dear Mr. Heist:

This letter is in response to your email communication on June 6, 2013, requesting comment from the Haverford Township Historical Commission pertaining to Section 106 requirements for the above-referenced project, which spans from the Philadelphia Zoo through the Paoli train station, crossing through Haverford Township. Your email included several attachments containing extensive documentation pertaining to this project, including three (3) drawings dated 10/31/12, six (6) photographs, two renderings of the proposed view, a map of the impacted area, and two Executive Summaries entitled "Determination of Effects Report" and "Phase IA Archaeology Report", respectively.

The Historical Commission has reviewed the documents and discussed the project at our monthly meeting held June 17, 2013. The Commissioners noted no concerns with regard to the impact of this project on any existing historical resources within Haverford Township.

Thank you for contacting the Haverford Township Historical Commission, and for the opportunity to comment on this project.

Sincerely,



Stacey B. Mattox, Chair
Haverford Township Historical Commission



NATIONAL RAILWAY HISTORICAL SOCIETY PHILADELPHIA CHAPTER, INC.

Post Office Box 7302, Philadelphia, PA 19101-7302

A 501c3 non-profit corporation—Founded 1936, Incorporated 1973

May 21, 2013

Mr. Allen G. Heist
Project Manager
Stell Environmental Enterprises, Inc.
25 East Main Street
Elverson, PA 19520

Dear Mr. Heist:

Thank you for your letter of May 10 concerning progress on the Amtrak Electrification Transmission Project.

The National Railway Historical Society is very interested in this project, and in the preservation of as many historical artifacts as possible that may be affected by it. I personally will be unable to attend the public session at Villanova on June 6, but will appreciate your keeping us posted as you advance the project.

Your firm is doing an excellent job in identifying and documenting the historically significant sites and artifacts along the Zoo to Paoli route, in addition to recognizing the historical value of the railroad itself. Initially, we cannot suggest any items to be added to your list.

We look forward to being advised of any future public meetings on this subject.

Very truly yours,

Frank G. Tatnall
Secretary

RECEIVED MAY 24 2013

Allen Heist

From: Bert Wescott [BWescott@burns-group.com]
Sent: Tuesday, July 16, 2013 1:50 PM
To: Daren Petroski; Allen Heist
Subject: FW: Amtrak electrification project
Attachments: LtrFRAreAmtrak071113.docx

FYI

Herbert H. Wescott III, P.E. | Burns Engineering, Inc.
direct: 215-979-7700 x 7742 | cell: 215-495-5014 | fax: 215-405-2510
email: bwescott@burns-group.com | www.burns-group.com

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From: michelle.fishburne@dot.gov [mailto:michelle.fishburne@dot.gov]
Sent: Tuesday, July 16, 2013 1:36 PM
To: Bert Wescott
Subject: FW: Amtrak electrification project

FYI

From: Sharon James [mailto:ssorokinjames@gmail.com]
Sent: Thursday, July 11, 2013 8:42 PM
To: Fishburne, Michelle (FRA)
Cc: Daren Petroski
Subject: Amtrak electrification project

Michelle: attached is our neighborhood coalition's letter. I will look forward to hearing from you at your convenience. Please feel free to contact me.

Sincerely,
Sharon Sorokin James
Haverford Station Historic District Neighborhood Coalition

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To: bwescott@burns-group.com
From:
prvs=9022a1df9=michelle.fishburne@dot.gov

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Haverford Station Historic District Neighborhood Coalition

July 11, 2013

United States Department of Transportation
Federal Railway Administration
1200 New Jersey Avenue SE
Washington, DC 20590
Attention: Michelle Fishburne, PE
Environmental Protection Specialist

Bureau for Historic Preservation
Pennsylvania Historical and Museum Commission
State Historic Preservation Office
Commonwealth Keystone Building, 2nd floor
400 North Street
Harrisburg, PA 17120-0093
Attention: Barbara Frederick
State Historic Preservation Officer

Amtrak
c/o Burns Engineering
Attention: Daren Petroski, PE, VP
dpetroski@burns-group.com

Re: High Tension Power Line Project Main Line

Ladies and Gentlemen:

On behalf of the Haverford Station Historic District Neighborhood Coalition ("Coalition"), I am writing to you to express our concerns and questions regarding the high tension electrification project that Amtrak proposes to install in the Haverford Station Historic District ("Historic District"). While we recognize that this project is important for the mass transit service in our community and will surely go forward, as it goes forward, we urge the Federal Railway Administration to require appropriate mitigation of the negative impact of this project on the Haverford Station Historic District ("Historic District").

Amtrak has applied for a categorical exclusion from a Section 106 environmental review. The essence of its argument is that as the train line already exists, an increase in the height of catenaries, number of power lines, and voltage/tension of power, all of those increases have no further deleterious effect on the neighborhood, which includes the Historic District. This argument lacks logic and is factually incorrect. The project will result in a degradation of the Historic District as well as other adjacent neighborhoods unless the project's spillover impact is mitigated. We

ask today for an appropriate investigation of the spillover effects.¹ If the Federal Railway Administration finds that a categorical exclusion is appropriate under the circumstances, nonetheless we ask that as part of the review and mitigation process, Amtrak be required to undertake an investigation and analysis sufficiently robust to fully identify the adverse spillover effects of the project on the Historic District, and to develop and implement a mitigation plan sufficient to offset such effects on the Historic District.

The Coalition's specific long-term concerns are as follows, and will be discussed in more detail below:

1. Deforestation (tree and foliage clearing) in the Historic District;
2. Viewshed impact on the Historic District;
3. Flooding impact on the Historic District;
- Safety impact on adjacent homes and activities within the Historic District (including impact on Historic resources from vibrations from construction and from faster trains, and potential for derailment of faster trains), and
4. Aesthetic (look, color and placement of the catenaries) impact on the Historic District.

Our specific transitory (i.e. nonpermanent) concerns are as follows, and will also be discussed in more detail below:

- Noise disruption and lighting issues during construction,
- Safety issues during construction, and
- Cell phone disruptions.

A bit of background will probably be helpful. While many homes in the Historic District grew up around and because of the railroad line, thus being an integral part of the fabric of the historic railway line, some of the homes, including 52 Booth Lane, Haverford and several other homes on Old Lancaster Avenue, predate the railroad and have historic significance on their own and as part of the Historic District. All of the Historic District is impacted, positively and negatively, by the proximity of the railway line. While we all appreciate the convenience of proximity to the train, most of us have struggled with the spillover effects of Amtrak's train line. In the last decade and a half or so, flooding due to excessive runoff from the railway right of way has been a continuing problem for the Historic District. When Amtrak did not sufficiently address the flooding issues², the neighborhood benefitted from the efforts of Representative Gerlach who personally toured the right of way areas. He facilitated a project in which Amtrak deepened and improved what had been a

¹ For example, Amtrak was not aware that its project went through the Haverford Historic District, nor that it borders the Sharpe Bird Sanctuary, until it was pointed out to them by the author of this letter at a public meeting.

² Despite repeated phone calls, letters and entreaties, it took federal political intervention for Amtrak to respond effectively. At the time the drainage project occurred, the neighborhood had not yet been designated an Historic district.

shallow and ineffective drainage ditch running through the right of way. Those efforts have to some degree, absent a significant shift in the foliation of the drainage area, alleviated some of the flooding issues. It was a long and protracted effort to obtain Amtrak's cooperation regarding the impact its activities have had on this neighborhood, and we raise this past (and continuing) relationship to provide the background and context for the neighborhood's concern about bringing Amtrak to the table in a positive and cooperative manner.³

The Coalition sent representatives to the public meetings held for township officials and for the public in May of 2013. We also met privately as a group of concerned citizens to consider collectively the impact of Amtrak's project on the Historic District – our homes. It should be noted that many citizens of this neighborhood are customers of Amtrak and are well aware of the need to balance public transportation needs with the concerns of the neighborhood through which that public transportation passes. We firmly believe that with a cooperative effort this project can go forward in a manner that respects the Historic District it serves rather than cutting an errant and thoughtless swath through a densely settled, historically designated neighborhood.

Specific Long-Term Concerns:

1. **Deforestation/Defoliation: What tree cutting, trimming and foliage removal will occur and in what specific locations?** Amtrak has stated in public that it has not yet formulated its "tree removal plan" and that it has no plans for herbicide usage. As it has no plans developed at all yet, we want to be sure that its "no plans" doesn't develop later into a plan that depends upon extensive tree removal and herbicide⁴ unless the impacts of that plan are properly and fully mitigated. Impacts include negative impact on viewshed from the historic districts.⁵ This is of great concern both due to the impact on the viewshed from the Historic District and due to the adverse impact it will have on the storm water issues in the neighborhood.⁶ Given the obvious and scientifically recognized

³ We also note that Amtrak has not regularly maintained the drainage area, which is frequently filled with downed branches (which its contactors often leave rather than remove after tree trimming) and other debris, impacting the effectiveness of the drainage area.

⁴ During previous Amtrak projects, there have been notable instances of excessive herbicide usage which ran off into private gardens, destroying them and exposing neighbors and their pets to the herbicide.

⁵ The increased height of the catenaries will be visible over the tree line and from further distances from which the present catenaries are visible; also the train tracks and trains will be more visible without the greenery barriers which are presently ubiquitous in most areas of the Historic District.

⁶ Prior to the drainage ditch dredging and improvement, some of the neighbors were considering an inverse condemnation action against Amtrak on the grounds

impacts of global climate change, resulting in the increase and severity of storms, maintaining an adequate storm water runoff plan is necessary. Clear cutting of trees and foliage will only exacerbate the problem.

2. **What is the mitigation/tree and foliage replacement plan?** At the public meeting Amtrak's representative said Amtrak has *no greening or mitigation plan* for this project. A specific and long-term mitigation agreement should be required to protect the Historic District. The agreement should define the trees and other foliage to be removed (or an ascertainable criteria for removal), the management over time of foliage incursion and removal, and a greening plan for replacing, on a tree by tree basis, each tree removed with healthy trees of similar size to those that are removed. If trees cannot be safely placed within the right of way due to proximity to the high power lines (and we absolutely agree that safety is paramount), then Amtrak should provide mature trees to the adjacent property owners for appropriate mitigation placement on their properties. A greening plan should help mitigate viewshed impact, flooding impact caused by tree and foliage removal, and the noise impact of trains.
3. **Safety Impact:** We request that Amtrak provide maps (to scale) that delineate the width of the right of way and the location of all adjacent homes within the Historic District which border the right of way. This is necessary to determine whether there are any restrictions that homeowners must take due to their proximity to the planned power lines. The map will also be helpful in determining the impact of tree clearing on sight lines, greenery barriers and other impacts on the Historic District homes. While the train line, in some cases, pre-dates the homes (and in others, post dates them), the timing of the construction of the homes is irrelevant to the safety caused by an increased or "upgraded" usage of the right of way. We also request that Amtrak communicate in writing any recommended safety measures regarding use of adjacent properties.⁷
4. **Aesthetic Considerations.** The present catenaries are a pale green which is not hugely intrusive as a color, particularly during the spring, summer and fall. The proposed catenaries are more of a bronze color.

that Amtrak was using their properties as stormwater run-off basins. Amtrak is on notice of the issue, and we want to avoid a repeat of what was a prolonged, difficult and damaging intrusion onto neighborhood private property by Amtrak stormwater.

⁷ We note that a number of other state power authorities have safety manuals for contractors working in the vicinity of high tension power lines. We would like to be aware of any safety measures that are necessary to avoid danger to homeowners. While we are researching this on our own, including with references to OSHA, NIST, ASTM and other national guidelines, as we are not experts in this area, and as Amtrak is causing the impact, they ought to provide an affirmative list. The burden should not be on the Coalition to determine the appropriate safety measures for homeowners.

Amtrak's representatives stated that painting the catenaries would cause maintenance problems. We agree that maintenance problems and flaking paint are to be avoided. However, none of the neighbors are aware that the present catenaries have been painted, nor do they appear to be flaking. Therefore, we would like Amtrak to disclose whether the current catenaries are painted or whether their green color is embedded in the material of which they are comprised. Second, whether a somewhat lighter and greener color could be embedded into the material from which the new catenaries will be fabricated, thus minimizing the impact of the catenaries on the viewshed. Third, we would like to know the length of time that a double set of catenaries (i.e. new and old) will be in place, as a 100% increase in the catenaries during the five year construction period will have a very negative impact on the neighborhood.⁸

5. **Timing of Construction.** We are concerned that construction will take place late at night, with loud sounds and bright lights disturbing the sleep of the Historic District residents, including that of the many young children who reside in it. We are also concerned about disruption to the enjoyment of our outdoor spaces during the weekends. That said, we recognize that construction must occur at some time, and it is not effective to conduct construction during rush hour due to the impact on commuters. Therefore we request that the mitigation agreement prohibit weekday construction after 10 pm and before 7 am, and permit weekend construction only between 5 pm to 10 pm. We also request that the mitigation agreement require notices to neighborhoods (to each home) at least two weeks in advance of any scheduled construction, with the scheduled hours of construction, the nature of the disruption, and a 24 hour telephone number for emergency contact and the name and cell phone number of Amtrak's project manager. This should facilitate communication and the resolution of problems early on.
6. **Issues that Amtrak has purported to provide answers about:**
 - Amtrak has stated that there will be no cell phone or WiFi interference from the new power lines, that the faster trains which use the tracks after the new power lines are installed

⁸ This would require Amtrak to provide a construction schedule which we understand may not be obtainable at this time; however, the mitigation agreement should provide for the production of a construction schedule at the appropriate time and also provide for specific actions to mitigate the impact of construction, including a shorter, rather than longer, duration, for the existence of a double set of catenaries, as that will reduce the viewshed impact. We would also like to better understand the financing of the project, at the appropriate time, to alleviate our concern that the old catenaries might end up remaining in place due to a lack of funding for removal. Additionally, we would like to know assurances as to the amount of liability insurance Amtrak maintains in the event of a construction casualty that affects adjacent properties.

will not increase vibrations on nearby structures or otherwise create a greater risk; that there is no danger to adjacent properties from falling high tension lines; that there are no alternate design possibilities (although we believe the lines could be run underground through the Historic District, which while more expensive, would only be for approximately one mile and would significantly mitigate adverse impacts); that that there are no restrictions on residents activities in their own yards, irrespective of the distance between the yards and the power lines; that there will be no impact on the birds in the bird sanctuary adjacent to the Haverford Train Station; that there is no adverse health impact on the residents (although studies appear to be inconclusive, rather than conclusive one way or the other). As a matter of course, we would like some kind of independent confirmation of Amtrak's assertions. If Amtrak is not going to undertake a Section 106 review, then we request they provide the independent confirmation through some other appropriate and reputable means that includes an analysis of the facts and science and not simply a conclusion.

Please note that while our Coalition expects to be a part of the process (and we appreciate the opportunity to participate), and we expect to take all appropriate steps to protect our homes and our neighborhood, we also expect to be realistic, professional and cooperative in the process, to consider other points of view, and to work to balance and resolve the problems as they arise. We expect to hold Amtrak to the same standard, as well as to all legal standards imposed on it.

Thank you for your time and consideration.

Sincerely,

Sharon Sorokin James
on behalf of the Haverford Station Historic District Neighborhood Coalition

cc: All members of the Haverford Station Historic District Neighborhood Coalition
Representative James Gerlach
Senator Robert Casey
Senator Patrick Toomey
Lower Merion Board of Commissioners
Historic Architectural Review Board of Lower Merion
Radnor Township Board of Commissioners
Historic Architectural Review Board of Radnor Township

From: [Bert Wescott](#)
To: [Michelle W. Fishburne \(michelle.fishburne@dot.gov\)](mailto:michelle.fishburne@dot.gov)
Cc: [Daren Petroski](#); [Tasker, Daniel](#); [Stern, Michael](#); [Allen Heist](#); [2011-059](#)
Subject: Amtrak Zoo - Paoli Electrification: response to Haverford Station Historic District Letter
Date: Friday, August 23, 2013 3:05:42 PM
Attachments: [Response to Haverford Station Historic District Neighborhood Coalition 20130823.docx](#)

Michelle:

Attached is draft text for a letter in response to the letter from the Haverford Station Historic District (HSHD). We are working on finalizing the attachments, which will take another day. In the meantime, I didn't want to delay your review of the proposed response letter.

One thing that I purposely did not specifically respond to was HSHD's request for "independent confirmation through some other appropriate and reputable means" that there will be:

1. No cell phone or WiFi interference due to the new transmission lines.
2. That there is no danger to adjacent properties from falling high tension lines.
3. That there are no alternate design possibilities (like running the power lines underground).
4. That there are no restrictions on activities in their own back yards due to the proximity of the new power lines.
5. That there will be no impact to the birds in the bird sanctuary.
6. That there will be no adverse impact to the health of people whose homes are adjacent to the Right-of-Way.

This is intentional on my part because providing "independent" opinions regarding the above is beyond the scope of services that Burns is responsible for. So I'm deferring to you on how to handle this request.

I will be on vacation next week. That being said, if you have any questions, I would certainly take your call. I can be reached on my mobile at 215-495-5014.

Thanks,

Bert

Herbert H. Wescott III, P.E. | Burns Engineering, Inc.
direct: 215-979-7700 x 7742 | cell: 215-495-5014 | fax: 215-405-2510
email: bwescott@burns-group.com | www.burns-group.com

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From: michelle.fishburne@dot.gov [mailto:michelle.fishburne@dot.gov]
Sent: Friday, July 19, 2013 12:05 PM
To: Bert Wescott
Cc: whitney.phend@dot.gov; david.valenstein@dot.gov; adam.denton@dot.gov
Subject: Paoli to the Zoo Electrification

Bert,

Pease review and prepare a draft response to the attached letter from the Haverford Station Historic District Neighborhood Coalition. Their written comments are similar to the

comments they made at the Public Meeting, but the comments also include more details for the types of information they would like to see for the CE.

Please provide the draft response letter back to us by July 30th so we can review internally and respond back to them prior to submitting the APE and eligibility information to SHPO.

Thank you,
Michelle

-----Original Message-----

From: Fishburne, Michelle (FRA)
Sent: Friday, July 19, 2013 11:53 AM
To: Fishburne, Michelle (FRA)
Subject: Scanned Image

Please See Attached

Total Control Panel

[Login](#)

To: bwescott@burns-group.com

From:

prvs=905bb8d8c=michelle.fishburne@dot.gov

You received this message because the domain dot.gov is on the enterprise allow list. Please contact your administrator to block messages from the domain dot.gov

Response to Haverford Station Historic District Neighborhood Coalition (HSHDNC)

Dear Ms. James:

We appreciate your letter, your attendance at the recent public meetings and your interest in the project. The first part of our response letter is a narrative that summarizes some of the existing and proposed catenary structure conditions. The narrative is supplemented by a detailed description of each of the structure locations, which is included as Appendix A. Following the background information, we have addressed the specific issues you raised in your letter, many of which you asked and were answered at the public meetings

Location specific background

On the north side of the Right-of-Way, between Booth Circle and Haverford Station, Haverford Station Historic District (HSHD) is about 0.35 mile long. On the south side of the Right-of-Way between Barrett Avenue and Haverford Station, HSHD is about 0.6 mile long. Between Barrett Avenue and Haverford Station, the project proposes to replace 11 catenary structures.

Based on copies of the original 1914 structural erection diagrams by Gibbs & Hill, the existing catenary structure heights along this section of railroad are typically about 40 feet. Under our project, the design calls for proposed structure heights that vary between 60 feet and 75 feet. Therefore, within HSHD, the proposed catenary structures will be between 20 feet and 35 feet higher than the existing structures.

The typical proposed structure height is 60 feet. The westernmost structure adjacent to HSHD is proposed to have a height of 72 feet, 12 feet higher than the typical structure, because the proposed structure is at the east end of a downward transmission wire transition from a section of transmission wire that will be elevated to pass above Pennswood Road Bridge.

There are two areas adjacent to the HSHD where the proposed structures transition from the typical, 60-foot height to a double-stack, 75-foot height. Transmission wires are proposed to be double-stacked at locations where Amtrak's Right-of-Way is narrow, to keep the transmission wire above Amtrak property. On the south side, there is a proposed transition to a double-stack configuration at new pole location 504+10, 200 feet west of the Booth Lane underpass. On the north side, there is a proposed transition to a double-stack configuration at new pole locations 498+10 and 495+19, 400 feet and 690 feet, respectively, east of Booth Lane underpass.

From west to east, the railroad starts in an earthwork cut section and then transitions to an embankment fill section. The transition from cut to fill is near new pole location 507+09. The 4 structures to the west of this location are in a cut and the 6 structures to the east are on embankment. This is relevant because the structures in the cut section are at a lower elevation than the surrounding topography and are therefore less visible. The converse is true for the structures on embankment, which are at a higher elevation than the surrounding topography and are therefore more visible.

Details on existing conditions and proposed structures for each of the 11 structure locations are provided in Appendix A.

Tree trimming and tree removal

The existing catenary structures have a typical overall width of 63 feet between the ends of the crossarms at the top of the structure. To provide electrical clearance, currently, Amtrak trims branches and trees back an additional 10 feet or so, on each side, roughly along a line that follows the back-guy foundations on the ground. Evidence of the tree trimming can be seen in the photographs in Appendix A. The existing overall width that is currently kept free of tree limbs and vegetation is 83 feet.

The proposed structures have a typical overall width of 88 feet from tip of crossarm to tip of crossarm. The proposed structures are a total of 15 feet wider for two reasons: 1) current Amtrak track clearances require additional space between the centerline of track and the face of the catenary structure and 2) the crossarms have to be wider due to the increase from 44 kV to 138 kV transmission lines. The corresponding width that will need to be tree- and vegetation-free will be approximately 108 feet. Therefore, for the construction of the new catenary structures, a 10-foot wide strip of tree trimming or tree removal will be required along each side of the tracks. Trees will not be clear cut as suggested in your letter. Only those trees which are within the 10-foot wide strip will be removed. Trees outside the 10-foot wide strip that have branches that extend into the 10-foot strip will be trimmed. Tree cutting and tree trimming activities will not involve the use of herbicides.

The trees that will be removed are on Amtrak's property. Amtrak does not intend to plant replacement trees on its property or on adjacent properties.

Safety Impact

As requested, we have enclosed maps (Appendix B) which show Amtrak's Right-of-Way and the adjacent properties and buildings within the HSHD.

As mentioned in the public meeting, the Project has studied both the existing and proposed levels of electric and magnetic fields that will be created by the new 138 kV transmission lines.

The existing level of magnetic field (at 25 Hz) had measured values that ranged between 12 and 51.1 mG (mG=milligauss) on the passenger platforms 1 meter above the ground. The field strength dropped significantly below these levels a few feet away from the railroad. Based on our models, the magnetic field anticipated in the final, installed condition are less than 70 mG directly under the transmission lines (e.g. on the station platform) and fall off significantly away from the platform.

The measured level of power frequency electric fields (at 25 Hz) had measured values that ranged between 155.6 and 868 V/m. Based on our models, the power frequency electrical field for the final, installed configuration is below 900 V/m.

The proposed field levels are small when compared to those associated with utility transmission lines. Within utility transmission line rights-of-way, typical magnetic fields are one order of magnitude larger and the electric fields are two orders of magnitude larger than what is anticipated adjacent the Harrisburg Line between Zoo and Paoli.

The Commonwealth of Pennsylvania requires transmission lines to be built in accordance with the requirements of the National Electrical Safety Code (NESC), which cites no restrictions for electric or magnetic field; the Federal government also has no national standard in this regard.

Physical proximity to the transmission lines would be based on clearance requirements. NESC (Rule 234) puts the horizontal clearance to 138 kV line at 11.5 feet. Amtrak's requirement for vertical clearance for a 138 kV line is 15 feet above any structure.

Vibrations during construction will be minimal. The proposed caisson foundations will be excavated by augerring (drilling) 4.5-foot diameter holes into the ground to a depth of 20 feet. There will be no hammering, pile driving or similar activities of a type that cause vibrations. The foundations will be poured-in-place concrete and the new structures will be set with cranes. The vibrations associated with these activities are not anticipated to have a negative impact on HSHD.

Vibrations associated with train traffic: this project is not being done to increase train speeds. Train speeds will not increase as a result of this project. Therefore the assertion that there will be vibrations associated with higher speed train traffic is moot.

Flooding Impact

Within HSHD, the railroad is on a downward gradient, from west to east, of 0.79%. This means that stormwater runoff in the cut section of the Right-of-Way (the west part of HSHD) flows in ditches adjacent to the tracks eastward and then leaves the Right-of-Way near Booth Lane and enters the municipal storm sewer. Runoff in the embankment fill section (the east part of HSHD) is simply flowing off the embankment and onto adjacent property. Tree trimming and tree cutting will alter the tree canopy coverage but will not change the underlying characteristics at ground level. In other words, the perviousness of the land cover is not being changed in the way a paving project would, for example. Therefore, stormwater runoff is not anticipated to be significantly altered. Amtrak does not plan to construct new stormwater infrastructure for the new catenary structures. Existing stormwater infrastructure will be maintained.

Aesthetic Considerations

The existing catenary structures are pale grayish green. The proposed catenary structures will be galvanized with zinc, which is a dull gray color. They will not be bronze, as stated in your letter. In answer to your questions:

1. The existing catenary structures are painted a grayish green color. The color is not embedded into the steel from which they are made.
2. The new catenary structures will be standard, rolled steel wide-flange shapes and will be galvanized with zinc. We are not aware of a process by which steel can be "embedded" with color.
3. As stated at the meeting, the existing and new structures will exist, side by side, for a duration that cannot be accurately estimated at this time. The actual length of time will largely depend

on the Contractor's means and methods, and Amtrak's train dispatching and operations. We understand that having the two catenary structures being visible side-by-side is not desirable from HSHD's perspective. However we would ask HSHD to understand that this will be a temporary condition. The existing structures will not be allowed to remain indefinitely after the new structures are installed and the catenary wires are transferred.

Construction Times

We understand HSHD's concerns about construction times and, in particular, construction occurring at night and on weekends. However, due to the work taking place on an active passenger railroad, it is simply not possible to honor this request. Nights and weekends are the only times available to do construction work adjacent to tracks that will not disrupt train schedules.

Amtrak will honor your request that notices to each home adjacent to the railroad Right-of-Way be provided prior to construction. As it has done on other recent construction projects, Amtrak will provide a toll-free number to call for information, to share concerns and bring issues to Amtrak's attention.

In summary, we believe that the project will be satisfactorily investigated at the level of NEPA Categorical Exclusion. We do not plan on further investigations or specific mitigation measures specifically for HSHDNC. However we welcome further dialogue with you and your group. If you have further questions or concerns, please contact me.

Sincerely yours,

FRA

Michelle Fishburne, P.E.

Appendices:

A: Photographs (Needs 1 revision)

B: Plans ET-0118 and ET-0119, pre-60% submission, showing adjacent properties. (To be added when complete)

C: SEDS (To be added)

Appendix A

1. The proposed structure at station 519+09 will be 10 feet west of existing structure P-87. The proposed structure's north and south columns are to be 72 feet high. The proposed structure is higher than the typical, 60-foot height, because the proposed structure is at the east end of a downward transmission wire transition from a section of transmission wire that will be elevated to pass above Pennswood Road Bridge. As shown below in the photograph of existing structure P-87, the railroad is in an earthwork cut that is between 15 and 20 feet deep. Due to its location in a cut, the railroad and a significant portion of the existing and proposed structures are not, and will not be, visible from adjacent properties.



Photograph 1: Harrisburg Line, milepost 9.73, west of Haverford, looking west at existing structure P-87. Pennswood Road Bridge is in the background. HSHD is on the left, the south side of the railroad. Photograph taken 12/5/2012.

2. The proposed structure at station 516+08 will be 9 feet west of existing structure P-86. The proposed structure's north and south columns are to be typical configuration and 60 feet high. As shown below in the photograph of existing structure P-86, the railroad is in an earthwork cut that is between 12 and 15 feet deep. Due to its location in a cut, the railroad and a significant portion of the existing and proposed structures are not, and will not be, visible from adjacent properties.



Photograph 2: Harrisburg Line, milepost 9.67, west of Haverford, looking west at existing structure P-86. Pennswood Road Bridge is in the background. HSHD is on the left, the south side of the railroad.. Photograph taken 12/5/2012.

3. The proposed structure at station 513+09 will be 10 feet west of existing structure P-85. The proposed structure's north and south columns are to be typical configuration and 60 feet high. As shown below in the photograph of existing structure P-85, the railroad is in an earthwork cut that is between 8 and 10 feet deep. Due to its location in a cut, the railroad and a portion of the existing and proposed structures are not, and will not be, visible from adjacent properties.



Photograph 3: Harrisburg Line, milepost 9.61, west of Haverford, looking west at existing structure P-85. Pennswood Road Bridge is in the background. HSHD is on the left, the south side of the railroad.. Photograph taken 12/5/2012.

4. The proposed structure at station 510+09 will be 10 feet west of existing structure P-84. The proposed structure's north and south columns are to be typical configuration and 60 feet high. As shown below in the photograph of existing structure P-84, the railroad is in an earthwork cut that is between 5 and 8 feet deep. Due to its location in a cut, the railroad and a portion of the existing and proposed structures are not, and will not be, visible from adjacent properties.



Photograph 4: Harrisburg Line, milepost 9.56, west of Haverford, looking west at existing structure P-84. Pennswood Road Bridge is in the background. HSHD is on the left, the south side of the railroad.. Photograph taken 12/5/2012.

5. The proposed structure at station 507+09 will be 10 feet west of existing structure P-83. The proposed structure's north column is to be 60 feet high and the south column is to be 68 feet high. The south column is higher than the typical, 60-foot height because the south transmission wire is in a transition between a typical 60-foot configuration at the previous structure to the west and a 75-foot double-stacked configuration at the next structure to the east. As shown below in the photograph of existing structure P-83, in addition to being at a transition from straight (tangent) track to a curve, the railroad is in a transition between earthwork cut and embankment fill.



Photograph 5: Harrisburg Line, milepost 9.50, west of Haverford, looking west at existing structure P-83. HSHD is on the left, the south side of the railroad.. Photograph taken 12/5/2012.

6. The proposed structure at station 504+10 will be 10 feet west of existing structure P-82. The proposed structure's north column is to be 60 feet high and the south column is to be 75 feet high. The south column is higher than the typical, 60-foot height because the south transmission wire is in a double-stacked configuration at this structure. As shown below in the photograph of existing structure P-82, the railroad is on embankment fill that is between 8 and 10 feet high. Due to its location on existing embankment fill, the railroad and the existing and proposed structures are, and will be, fully visible from adjacent properties.



Photograph 6: Harrisburg Line, milepost 9.45, west of Haverford, looking west at existing structure P-82. HSHD is on both sides, north (right) and south (left) of the railroad. Photograph taken 12/5/2012.

7. The proposed structure at station 501+09 will be 10 feet west of existing structure P-81. The proposed structure's north and south columns are to be 68 feet high. The south column is higher than the typical 60-foot height because the south transmission wire is in a transition between a 75-foot double-stacked configuration at the previous structure to the west and a typical 60-foot configuration at the next structure to the east. The northth column is higher than the typical 60-foot height because the north transmission wire is in a transition between a typical 60-foot configuration at the previous structure to the west and a 75-foot double-stacked configuration at the next structure to the east. As shown below in the photograph of existing structure P-81, the railroad is on embankment fill that is between 10 and 12 feet high. Due to its location on existing embankment fill, the railroad and the existing and proposed structures are, and will be, fully visible from adjacent properties.



Photograph 7: Harrisburg Line, milepost 9.39, west of Haverford, looking west at existing structure P-81. Booth Lane passes under the railroad between this structure and the next one in the distance. HSHD is on both sides, north (right) and south (left) of the railroad. Photograph taken 12/5/2012.

8. The proposed structure at station 498+10 will be 10 feet west of existing structure P-80. The proposed structure's north column is to be 75 feet high and the south column is to be 60 feet high. The north column is higher than the typical, 60-foot height because the north transmission wire is in a double-stacked configuration at this structure. As shown below in the photograph of existing structure P-80, the railroad is on embankment fill that is between 12 and 15 feet high. Due to its location on existing embankment fill, the railroad and the existing and proposed structures are, and will be, fully visible from adjacent properties.



Photograph 8: Harrisburg Line, milepost 9.33, west of Haverford, looking west at existing structure P-80. HSHD is on both sides, north (right) and south (left) of the railroad. Photograph taken 12/5/2012.

9. The proposed structure at station 495+19 will be 20 feet west of existing structure P-79. The proposed structure's north column is to be 75 feet high and the south column is to be 60 feet high. The north column is higher than the typical, 60-foot height because the north transmission wire is in a double-stacked configuration at this structure. As shown below in the photograph of existing structure P-79, the railroad is on embankment fill that is between 5 and 8 feet high. Due to its location on existing embankment fill, the railroad and the existing and proposed structures are, and will be, fully visible from adjacent properties.



Photograph 9: Harrisburg Line, milepost 9.28, west of Haverford, looking west at existing structure P-79. HSHD is on both sides, north (right) and south (left) of the railroad. Photograph taken 12/5/2012.

10. The proposed structure at station 492+19 will be 10 feet west of existing structure P-78. The proposed structure's north column is to be 68 feet high and the south column is to be 60 feet high. The north column is higher than the typical, 60-foot height because the north transmission wire is in a transition between a 75-foot double-stacked configuration at the previous structure to the west and a typical 60-foot configuration at the next structure to the east. As shown below in the photograph of existing structure P-78, the railroad is on embankment fill that is between 8 and 10 feet high. Due to its location on existing embankment fill, the railroad and the existing and proposed structures are, and will be, fully visible from adjacent properties.



Photograph 10: Harrisburg Line, milepost 9.22, west of Haverford, looking west at existing structure P-78. HSHD is on both sides, north (right) and south (left) of the railroad. Photograph taken 12/5/2012.

11. The proposed structure at station 489+29 will be 10 feet west [revise before sending – no impact to existing historic canopy] of existing structure P-77 and will require new penetrations through the existing historic canopies. The proposed structure's north and south columns are to be typical configuration and 60 feet high. As shown below in the photograph of existing structure P-77, this location is within Haverford Station. Due to its location in the open area of the station, the existing and proposed structures are, and will be, fully visible from adjacent properties.



Photograph 11: Harrisburg Line, milepost 9.16, west of Haverford, looking west at existing structure P-77. Haverford Station Road passes under the railroad between this structure and the next one in the distance. HSHD is on both sides, north (right) and south (left) of the railroad. Photograph taken 12/5/2012.

Consulting Parties Meeting

9/15/14



U.S. Department of Transportation
Federal Railroad Administration



MEETING NOTICE

TO: Consulting Parties

FROM: Federal Railroad Administration and Amtrak

DATE: August 4, 2014

RE: Section 106 Consultation - Amtrak Philadelphia Zoo to Paoli Electrification Transmission Line Project

As you may be aware, Amtrak plans to upgrade the existing overhead electrification system along a 20-mile segment of the Keystone Corridor between the Philadelphia Zoo substation and the Paoli substation as part of the Zoo to Paoli Electrification Transmission Line Project. The existing catenary poles, approximately 40-50 feet in height, will be replaced with new poles, approximately 60-75 feet high with a few poles reaching 100 feet high at overhead bridges. All of the proposed new poles will be located in the existing railroad right-of-way and in close proximity to the existing poles. The Bryn Mawr substation will be demolished and replaced, and the site expanded to include a new substation to help support the catenary voltage between the Zoo and Paoli substations.

A meeting of Section 106 consulting parties was previously held in June 2013 to present the findings of the cultural resources investigations completed at that time, discuss possible mitigation options to address any adverse impacts, and to receive comments from the consulting parties. As a follow-up to that meeting and in response to comments received from the consulting parties, including the Pennsylvania Historical and Museum Commission (PHMC), another meeting of consulting parties is scheduled for **September 15, 2014 at 5:00 p.m.** in the Board Room of Lower Merion Township, 75 E. Lancaster Avenue, Ardmore, PA 19003 to present the revised Area of Potential Effect (APE) map and to discuss the eligibility and potential effects of historic resources within the APE.

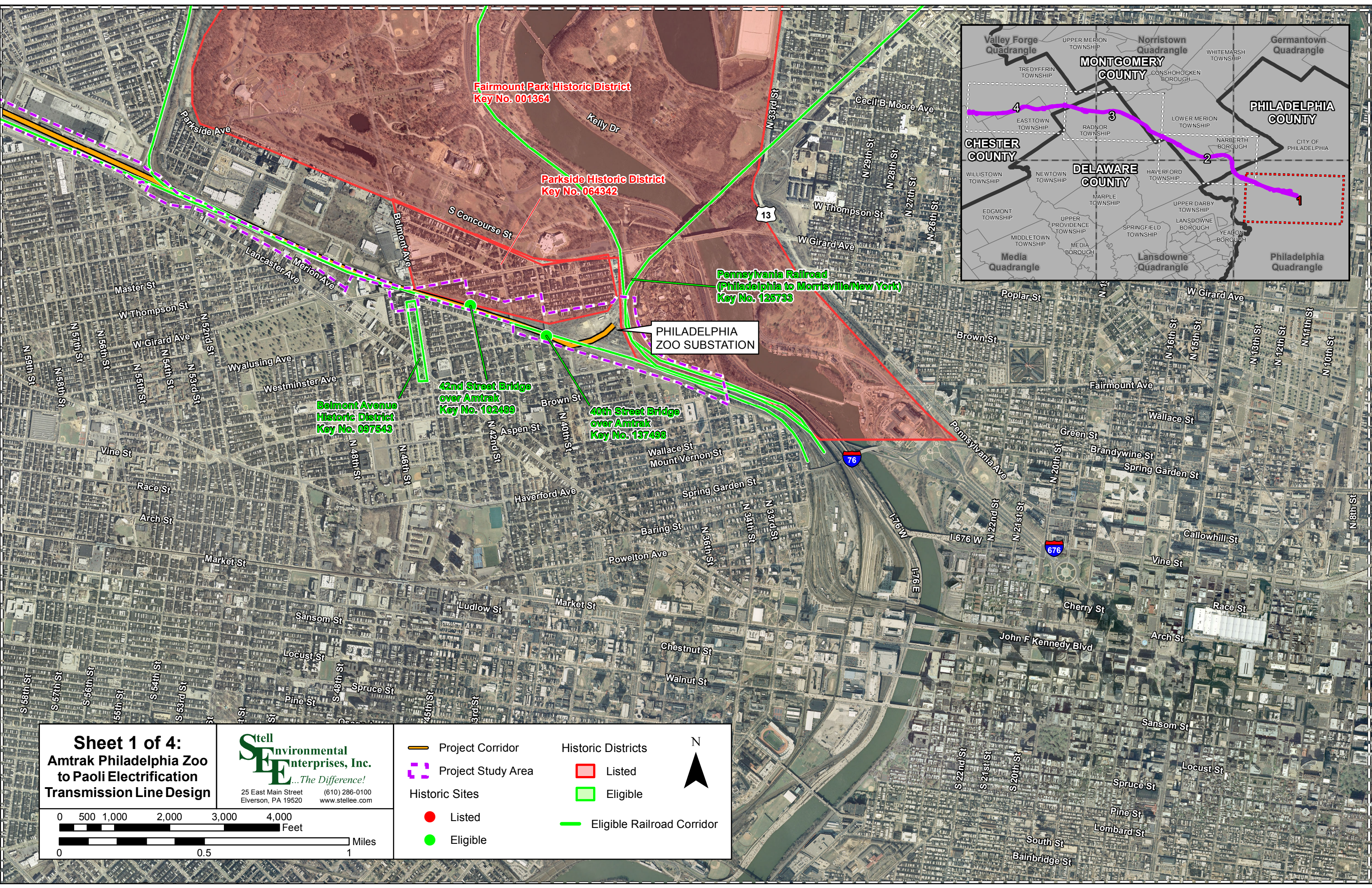
Section 106 of the National Historic Preservation Act requires sponsors of federally funded projects to take into account the potential project effects on historic properties. Section 106 entitles parties with a demonstrated interest in history or historic preservation to provide comments and suggest mitigation measures, if necessary, for the project.

An agenda of the meeting is enclosed, along with a copy of the APE & Historic Resources (Eligibility) Study explaining the project, the development of the APE, and additional properties surveyed; and maps of the expanded APE. Should you have any questions or require additional information please feel free to contact Allen Heist @ 610-286-0100 or aheist@stellee.com.



Amtrak Zoo to Paoli Electrification Transmission Line Project
September 15, 2014 Consulting Parties' Meeting
Lower Merion Township Building

Name	Affiliation	Telephone	Email Address
✓ Daren Petroski	Burns Engineering	215-979-7700 ext. 7749	DPetroski@burns-group.com
✓ Bert Wescott	Burns Engineering	215-979-7700 ext. 7742	BWescott@burns-group.com
✓ Allen Heist	Stell Environmental	610-286-0100	aheist@stellee.com
✓ Pat Baker	Stell Environmental	724-309-2901	pbaker@stellee.com
✓ Alison Ross	Stell Environmental		ARoss@stellee.com
✓ Michelle Fishburne	FRA	202-493-0398	michelle.fishburne@dot.gov
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✓ Dan Tasker	Amtrak		
Josh Flaxenberg	neighbour		
Karen Ivory	neighbor		
Barbara			
Yulea 'afaird	Neighbour	610-664-9958	
Angela Murray	Lower Merion TOWNSHIP	610-645-6117	AMURRAY@lowermerion.org
Kurt Imhof	SEN. BOB CASEY	215-405-9660	KURT.IMHOF@CASEY.SENATE.GOV
Helen Guy	Merion Civic Assoc		helenlevarguy@hotmail.com



Fairmount Park Historic District
Key No. 001364

Parkside Historic District
Key No. 064342

Pennsylvania Railroad
(Philadelphia to Morrisville/New York)
Key No. 125733

PHILADELPHIA ZOO SUBSTATION

42nd Street Bridge over Amtrak
Key No. 102489

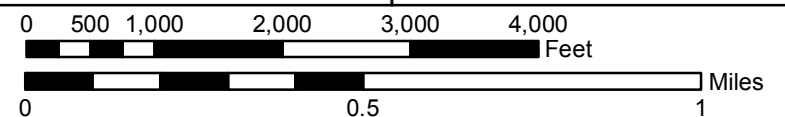
40th Street Bridge over Amtrak
Key No. 137498

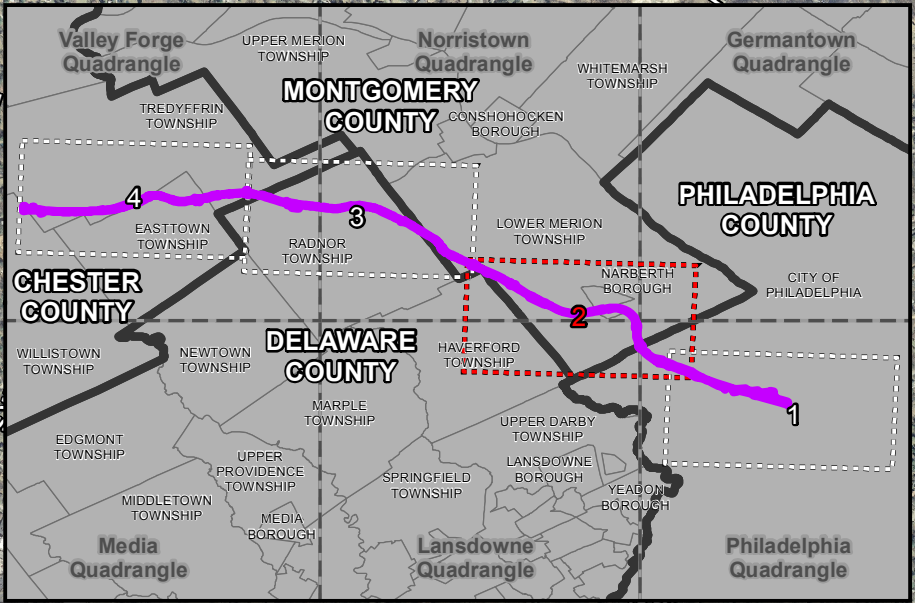
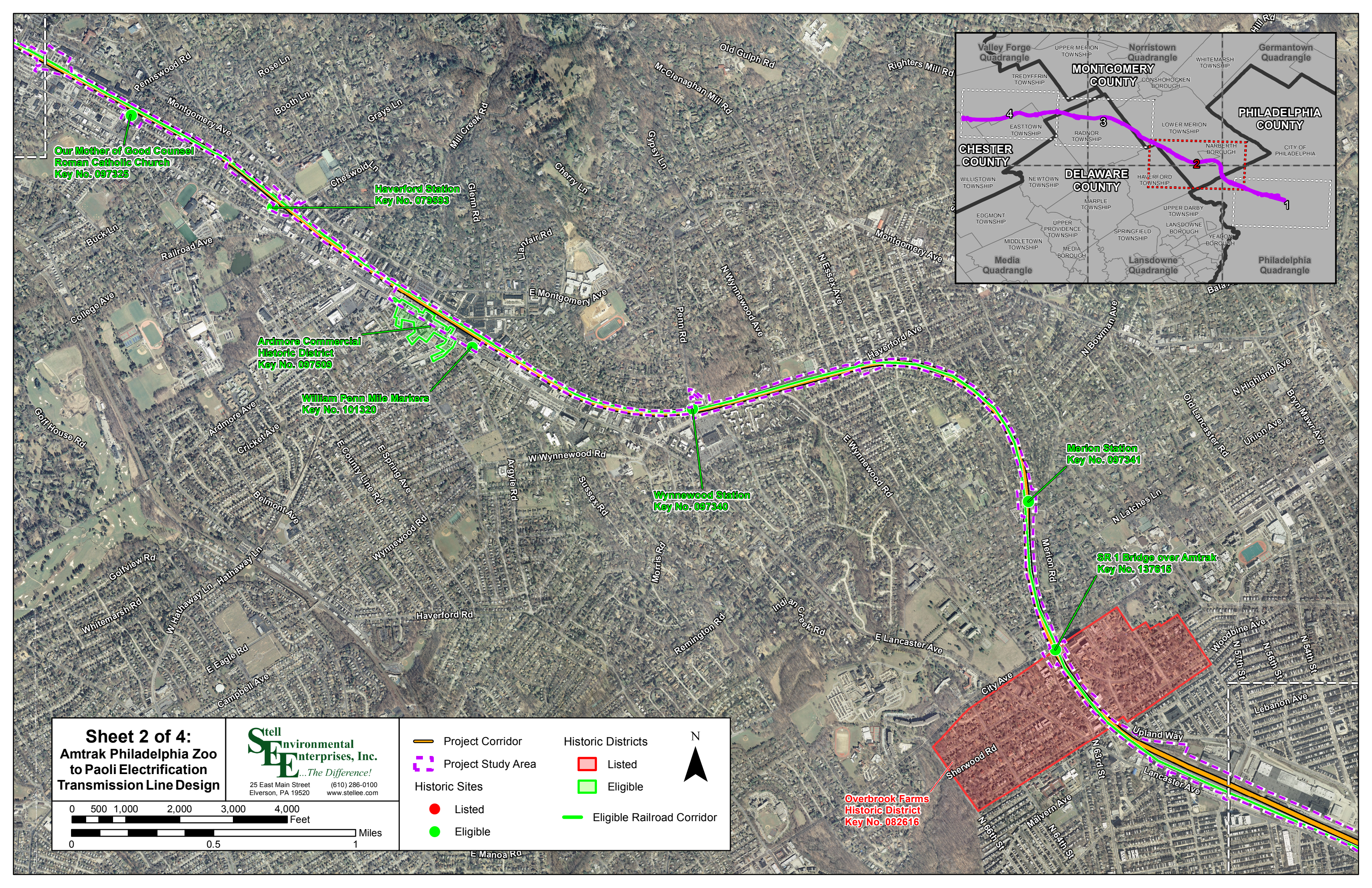
Belmont Avenue Historic District
Key No. 097543

Sheet 1 of 4:
Amtrak Philadelphia Zoo to Paoli Electrification Transmission Line Design



- | | | |
|-----------------------|----------------------------|---|
| Project Corridor | Historic Districts | N |
| Project Study Area | Listed | |
| Historic Sites | Eligible | |
| Listed | Eligible Railroad Corridor | |
| Eligible | | |





Sheet 2 of 4:
Amtrak Philadelphia Zoo to Paoli Electrification Transmission Line Design

Stell Environmental Enterprises, Inc.
...The Difference!
 25 East Main Street Elverson, PA 19520 (610) 286-0100 www.stellee.com

0 500 1,000 2,000 3,000 4,000 Feet
 0 0.5 1 Miles

Project Corridor (Solid Orange Line)
Project Study Area (Dashed Purple Line)

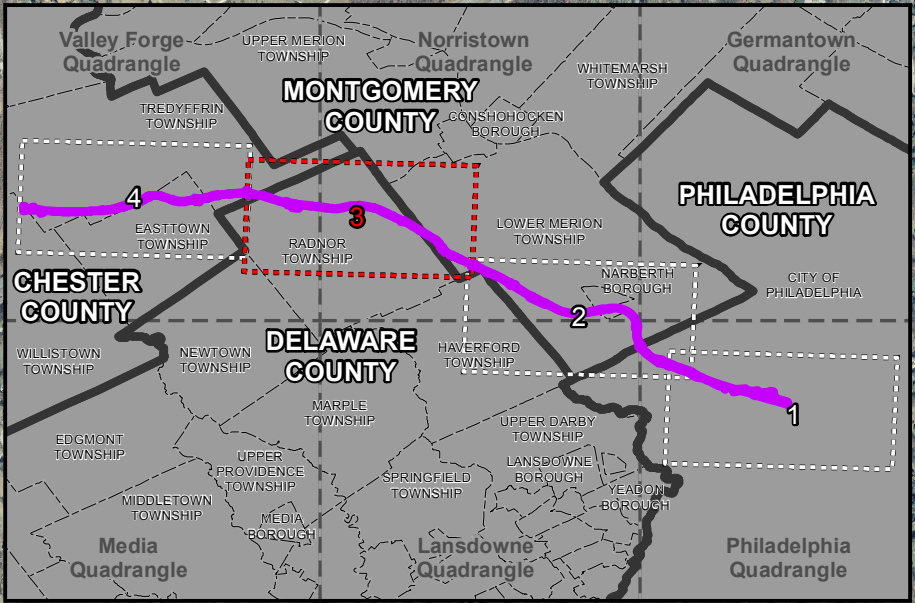
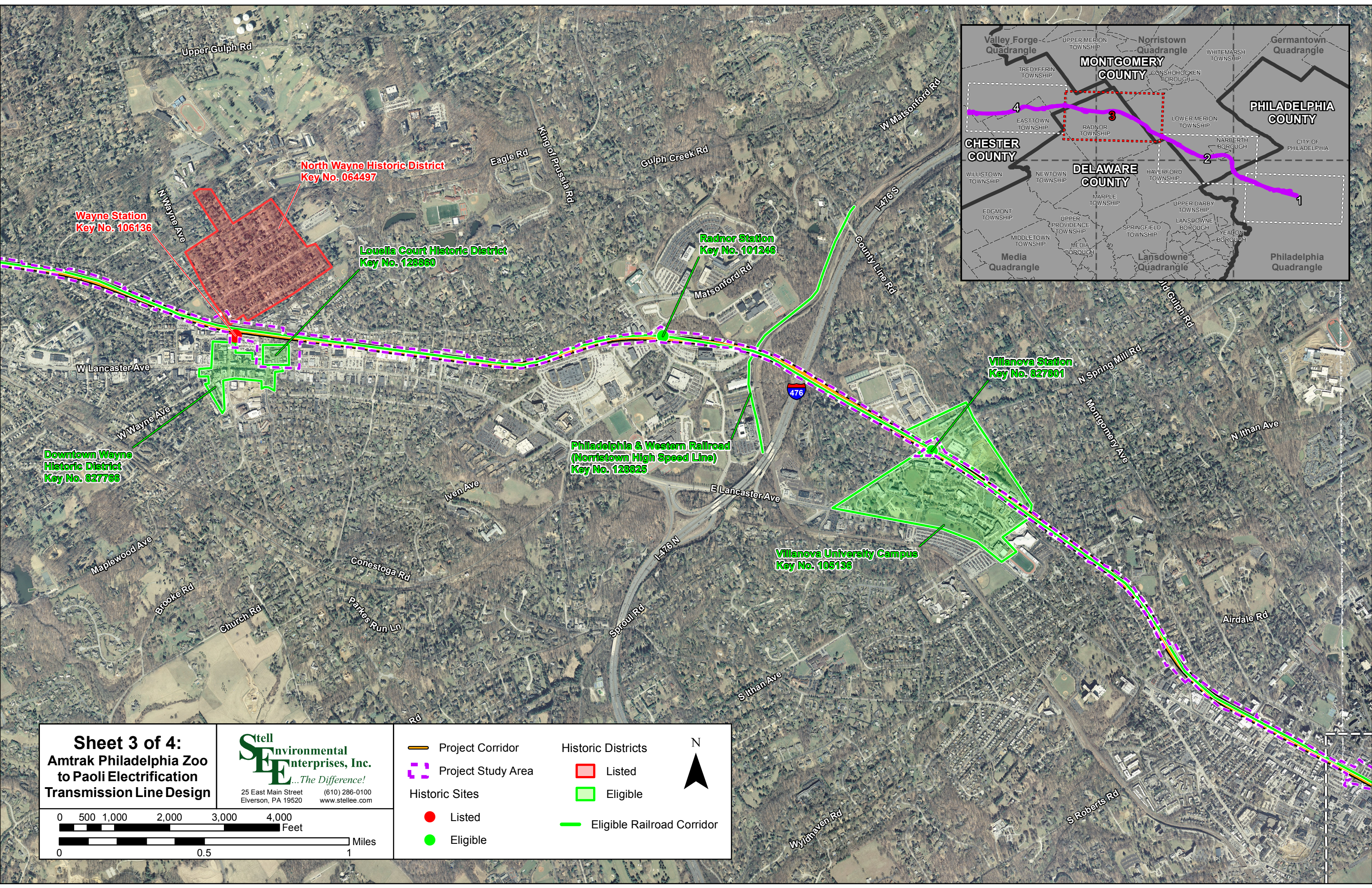
Historic Districts
 Listed (Red Outline)
 Eligible (Green Outline)

Historic Sites
 Listed (Red Dot)
 Eligible (Green Dot)

Eligible Railroad Corridor (Green Line)

N

Overbrook Farms Historic District
 Key No. 082616



Sheet 3 of 4:
Amtrak Philadelphia Zoo to Paoli Electrification Transmission Line Design

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0 500 1,000 2,000 3,000 4,000 Feet
 0 0.5 1 Miles

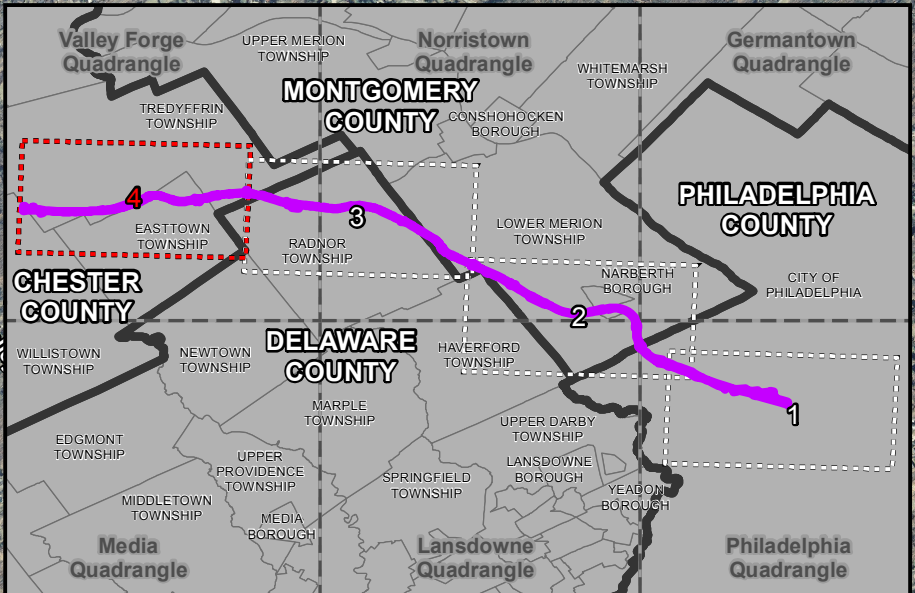
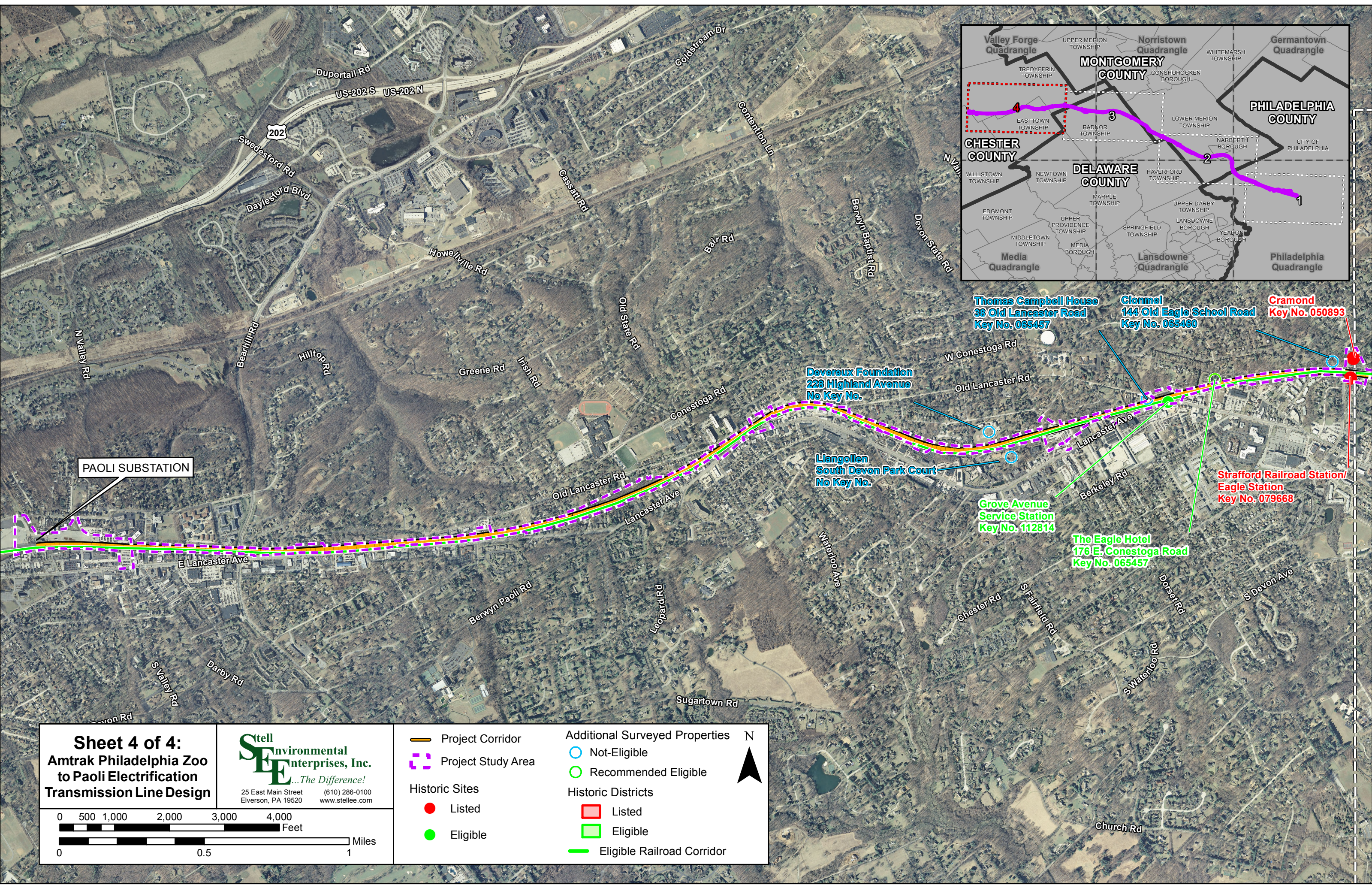
Project Corridor (solid orange line)
Project Study Area (dashed purple line)

Historic Districts
 Listed (red outline)
 Eligible (green outline)

Historic Sites
 Listed (red dot)
 Eligible (green dot)

Eligible Railroad Corridor (solid green line)

N



PAOLI SUBSTATION

Thomas Campbell House
38 Old Lancaster Road
Key No. 065457

Clonmel
144 Old Eagle School Road
Key No. 065460

Cramond
Key No. 050893

Devereux Foundation
228 Highland Avenue
No Key No.

Llangollen
South Devon Park Court
No Key No.

Grove Avenue
Service Station
Key No. 112814

The Eagle Hotel
176 E. Conestoga Road
Key No. 065457

Strafford Railroad Station/
Eagle Station
Key No. 079668

Sheet 4 of 4:
Amtrak Philadelphia Zoo to Paoli Electrification Transmission Line Design

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...The Difference!
25 East Main Street Elverson, PA 19520 (610) 286-0100 www.stellee.com

0 500 1,000 2,000 3,000 4,000 Feet
0 0.5 1 Miles

- Project Corridor
 - Project Study Area
 - Eligible Railroad Corridor
- Additional Surveyed Properties
- Not-Eligible
 - Recommended Eligible
- Historic Sites
- Listed
 - Eligible
- Historic Districts
- Listed
 - Eligible



Amtrak Zoo to Paoli Re-Electrification Project

Consulting Parties Meeting September 15, 2014

Meeting Notes

Amtrak fielded questions from the Consulting Parties, focusing at length on the proposed towers and their construction. Amtrak provided a power point presentation previously shown, which showed a drawing (Typical ET-1022) of a cross section of the track, with both current and proposed towers and catenary configuration. One person asked that the drawing be sent to him. The drawing showing tower locations also will be included in the Environmental Assessment (EA).

Amtrak presented the following facts concerning the towers:

- The new proposed height of the towers is 65 feet high on average (the current height is 45-55 feet high). The towers were previously proposed at 75-100 feet high but were reduced because of a design modification due to the impending removal of Philadelphia Electric Company (PECO) power from the line.
- The towers will be installed within 10-12 feet of the nearest existing tower (90% of the time) and will be placed 4 feet out from the existing tower (closer to the edge of the ROW).
- 800 towers will be installed
- The towers will either be placed to the east or the west of the existing locations.
- Distances of towers and wires are determined by the National Electric Safety Code.
- The towers are still proposed to have a galvanized zinc coating on them, which will be a light gray in color.
- Signal Towers will remain.
- Current catenary wires will remain, but new hangers and hardware are being installed.

Amtrak discussed details of the construction project, including the following:

- The project will take 5 years to complete. Each pole structure will take 3-4 days to erect.
- Construction will commence at Paoli and gradually move eastward.
- Tower equipment will be brought in by train; towers will be dropped off at their respective locations for staging.
- Construction will not interfere with train traffic because of the 3 other tracks on the 4-track system.
- Work will be completed during both day and night, but mostly during the day.
- The funding agency is FRA.

The Consulting Parties voiced their concerns in no particular order, and different members from Stell, FRA, or Amtrak replied. Following are their concerns:

- Tree cutting – This continues to be a large concern because of the loss of screening at the rear of properties adjacent to the train ROW and the alteration of the greenscape. FRA and Amtrak explained that they would be trimming trees only as necessary. Tree cutting locations will be further shown in the forthcoming Environmental Assessment (EA) document, which has been upgraded from a categorical exclusion (CE) document. One person suggested that if entire trees are taken down on a property that they be replaced one for one to help retain screening.
- Substation – Stell and a Consulting Party discussed whether the Substation removal is an Adverse Effect or not. Stell explained its view that the substation will not be adversely affected because it is being replaced in kind. Amtrak showed a slide of the site of the proposed Substation Building and explained the design of the new building. The Consulting Party disagreed, saying that its removal is definitely an adverse effect. He stressed the need for mitigation of its removal. Another person voiced their concern over losing parking spaces to the construction within the larger footprint and requested that the footprint be reduced as much as possible.
- Color of tower – one of the Consulting Parties suggested they be painted a dark green to blend in with surrounding trees.
- Communication – Consulting Parties requested that a contact person be available at Amtrak for questions and concerns. They also requested advanced notification of the advancement of construction to their area. One person asked if a website for the project was available. Amtrak explained that it is not, but that the project material could be put on the Consulting Party's website. A Lower Merion Township representative stated that the information could be posted on their website.
- Existing towers – Someone asked if the existing Signal Towers could be painted due to their rusted condition. Amtrak explained that they are not a part of this maintenance project.
- Effect of construction work on surrounding communities -Several people were concerned about the effect of the construction work on train schedules, adjacent properties, etc.
- The Consulting Parties inquired about specific properties designed by Frank Furness – the Merion Cricket Club and the Baldwin School. Stell offered its view about the properties – that it believed that there will be no visual effects to them because of their distance from the tracks. When asked about the property, Our Mother of Good Counsel Church, Stell

explained that the church is within the Area of Potential Effects (APE) but that effects to the property have not been assessed yet. One Consulting Party (PHMC) suggested that perhaps the visual effect of the towers on the properties could be provided.

- The Consulting Parties asked if the properties, including the church and Harcum College (which is also in the APE), have been notified about this project, to which FRA responded that they had not been. FRA said that it will send out notifications to the properties that lie within the APE.
- The topic of Contributing Resources was brought up and Stell gave a definition of the term, pointing them to the guidelines published by the PHMC.
- Residents of the North Haverford Historic District are still concerned about the effect of the project on their district. It was again explained to them by SHPO that the district has been determined to be ineligible for listing in the National Register of Historic Places, and it is not subject to Section 106 review for this project. They understand the need for the project and accept its necessity but are nevertheless concerned about the effects of the project on their properties, particularly on the vegetation and screening.

Consulting Parties Meeting

6/1/15



U.S. Department of Transportation
Federal Railroad Administration



MEETING NOTICE

TO: Consulting Parties

FROM: Federal Railroad Administration and Amtrak

DATE: May 11, 2015

RE: Section 106 Consultation - Amtrak Philadelphia Zoo to Paoli Electrification Transmission Line Project

As you are aware, Amtrak plans to upgrade the existing overhead electrification system along a 20-mile segment of the Keystone Corridor between the Philadelphia Zoo substation and the Paoli substation as part of the Zoo to Paoli Electrification Transmission Line Project. The existing catenary poles, approximately 40-50 feet in height, will be replaced with new poles, approximately 60-75 feet high with a few poles reaching 100 feet high at overhead bridges. All of the proposed new poles will be located in the existing railroad right-of-way and in close proximity to the existing poles. The Bryn Mawr substation will be demolished and replaced, and the site expanded to include a new substation to help support the catenary voltage between the Zoo and Paoli substations.

Meetings of Section 106 consulting parties were previously held in June 2013 and September 2014 to present the findings of the cultural resources investigations completed at that time and to receive comments from the consulting parties regarding historic resources in the project area. As a follow-up to those meetings and in response to comments received from the consulting parties, including the Pennsylvania Historical and Museum Commission (PHMC), another meeting of consulting parties is scheduled for **June 1, 2015 at 5:00 p.m.** in the Benham Gateway Building, Bryn Mawr College, 801 Yarrow Street, Bryn Mawr, PA 19010. The purpose of this meeting is to discuss the current status of the project studies and review the potential effects of the project on National Register of Historic Places (NRHP)-eligible and -listed historic resources within the Area of Potential Effects (APE) for this project.

Section 106 of the National Historic Preservation Act requires sponsors of federally funded projects to take into account the potential project effects on historic properties. Section 106 entitles parties with a demonstrated interest in history or historic preservation to provide comments and suggest mitigation measures, if necessary, for the project.

An agenda of the meeting is enclosed, along with a copy of the executive summary of the draft Determination of Effects Report. Should you have any questions or require additional information, please contact Allen Heist @ 610-286-0100 or ahleist@stellite.com. Please RSVP to the above contact information so that we adequately accommodate all attendees.

**Amtrak Zoo to Paoli Electrification Transmission Line Project
June 1, 2015 Section 106 Consulting Parties' Meeting
Benham Gateway Building, Bryn Mawr College**

Name	Affiliation	Telephone	Email Address
Daren Petroski	Burns Engineering	215-979-7700 ext. 7749	DPetroski@burns-group.com
Bert Wescott	Burns Engineering	215-979-7700 ext. 7742	BWescott@burns-group.com
Allen Heist	Stell Environmental	610-286-0100	aheist@stellee.com
Pat Baker	Stell Environmental	724-309-2901	pbaker@stellee.com
Alison Ross	Stell Environmental		ARoss@stellee.com
Michelle Fishburne	FRA	202-493-0398	michelle.fishburne@dot.gov
Barbara Frederick	PHMC	717-772-0921	bafrederic@pa.gov
Johnette Davies	Amtrak	215-349-1354	Johnette.davies@amtrak.com
Nick Zmijewski	RR Museum of PA	717 687 8628 x 3010	C-nizmijew@pa.gov
Patrick Morrison	RR Museum of PA	717 687-8628 x 3025	pmorrison@pa.gov
Dorlie Robbins	RR Museum of PA	717-687-8628 x 3103	c-dorobbin@pa.gov
David Stewart	Property owner next to ^{Rightaway}	610-687-8781	DMStewart76@hotmail.com
Beverlee Barnes	Delaware county Planning Dept.	610-891-5209	barnesb@co.delaware.pa.us
Ray Verrele	AMTRAK	(215) 349-1907	VERRELE@AMTRAK.COM
Paola Strickland	Lower Merion Historical Society and Wynnewood Civic Assoc	610-642-9118	czs@microstarpa.com

EXECUTIVE SUMMARY

This report presents the results of a Determination of Effects assessment undertaken for the proposed Amtrak Zoo to Paoli Electrification Transmission Line Project. The proposed modernization project includes the replacement of catenary structures and transmission lines and the upgrading of the switching facility at Bryn Mawr within the right-of-way (ROW) of a 20-mile section of the Pennsylvania Railroad Main Line, located between the Philadelphia Zoo in Philadelphia and the station at Paoli, and traveling through portions of Philadelphia Montgomery, Delaware, and Chester Counties.

The proposed project is funded by the Federal Railroad Administration (FRA) and is subject to the National Historic Preservation Act, as amended (NHPA) (16 U.S.C. 470) and the review process mandated by Section 106 in “Protection of Historic Properties” (36 CFR Part 800). Stell conducted the required cultural resources studies between 2011 and 2015 as a sub consultant to The Burns Group, on behalf of Amtrak and the FRA, utilizing guidance from the Advisory Council on Historic Preservation (ACHP) set forth in 36 Code of Federal Regulations (CFR) 800, as amended, and Executive Order 11593.

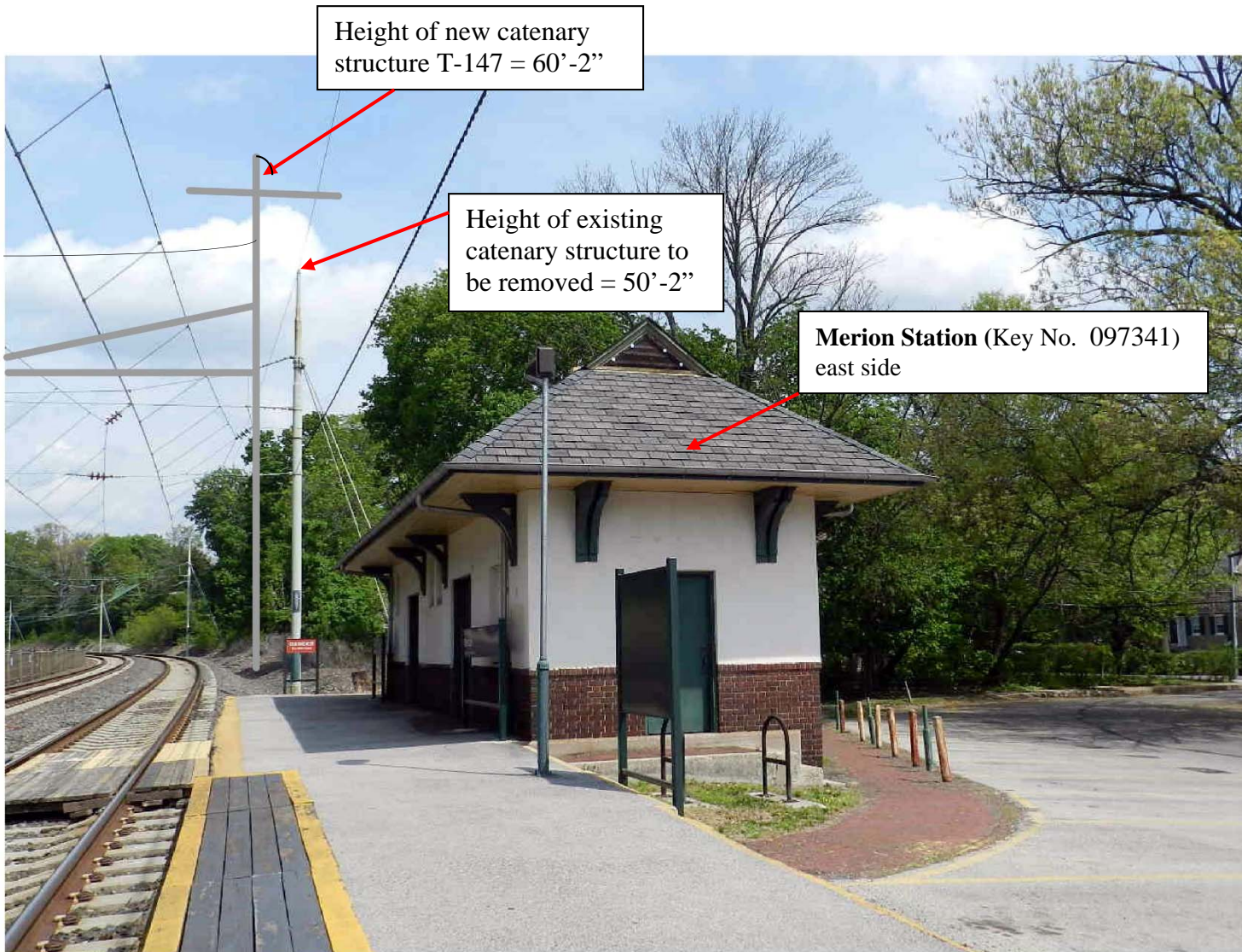
The project’s Area of Potential Effects (APE) was defined in consultation with the Pennsylvania Historic Preservation Office (SHPO) and consulting parties. It was delineated to include all historic properties adjacent to and in the vicinity of the project for which there would be direct physical effects and indirect visual and audible effects. A total of 28 historic properties were included in the APE, including the subject railroad, Pennsylvania Railroad Main Line (Philadelphia to Harrisburg) (Key No. 105675), determined by the SHPO to be eligible for listing in the National Register of Historic Places (NRHP) on September 14, 1993, and November 16, 2007. The eligible property encompasses all Contributing Resources, including the catenary structures and the Bryn Mawr Substation building. The SHPO concurred with the identification of historic properties on March 16, 2015, and April 24, 2015.

The subsequent effects analysis resulted in a finding of Adverse Effect because of the direct physical effects of the project to the Pennsylvania Railroad Main Line (Philadelphia to Harrisburg) with the removal and replacement of the catenary structures and the demolition of the Bryn Mawr Substation. An assessment of the project’s indirect visual effects on the individual properties and historic districts in the APE resulted in the finding that none of the visual effects will be adverse. The railroad infrastructure, including its catenary system, has historically been an integral component of the railroad and its physical setting. Further, the placement and construction of the historic properties were a direct result of the railroad’s presence and the properties have historically had the railroad and its accompanying infrastructure within their view.

A Phase IA geomorphology and archaeology reconnaissance survey resulted in the finding that the project, as currently designed, will not impact any known NRHP-eligible archaeological

properties. The SHPO concurred with the findings for archaeological properties on January 15, 2013.

Mitigation measures to minimize the adverse effects of this project, such as recordation, developing educational material for public dissemination, and incorporating context sensitive solutions, will be identified in consultation with PA SHPO and the consulting parties. The mitigation measures proposed for the project will be included in a MOA between FRA, PA SHPO, and Amtrak.



Height of new catenary structure T-147 = 60'-2"

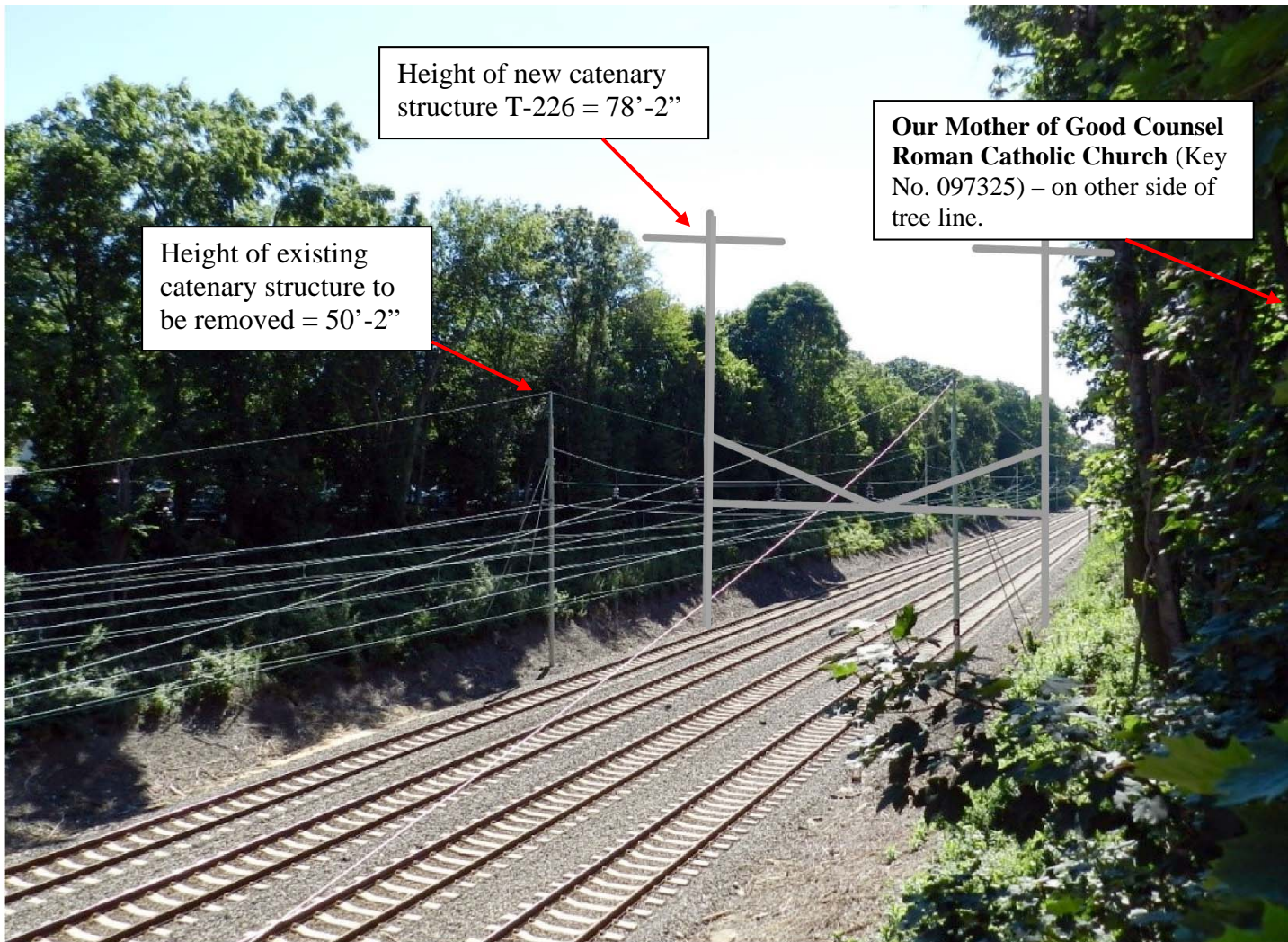
Height of existing catenary structure to be removed = 50'-2"

Merion Station (Key No. 097341) east side

Merion Station - NRHP Listed (Key No. 097341)

Height of existing structure to be removed = 50'-2"

Height of new structure T-147 = 60'-2" – will be located 25'-0" north of the existing structure (railroad corridor is oriented in a north-south direction here).



Height of new catenary structure T-226 = 78'-2"

Height of existing catenary structure to be removed = 50'-2"

Our Mother of Good Counsel Roman Catholic Church (Key No. 097325) – on other side of tree line.

Our Mother of Good Counsel Roman Catholic Church - NRHP Eligible (Key No. 097325)

Height of existing catenary structure to be removed = 50'-2"

Height of new catenary structure T-226 = 78'-2"

Distance of new structure is approx. 20'-0" east of existing structure.

Height of existing catenary structure to be removed= 50'-2"

Height of new catenary structure = 60'-2"

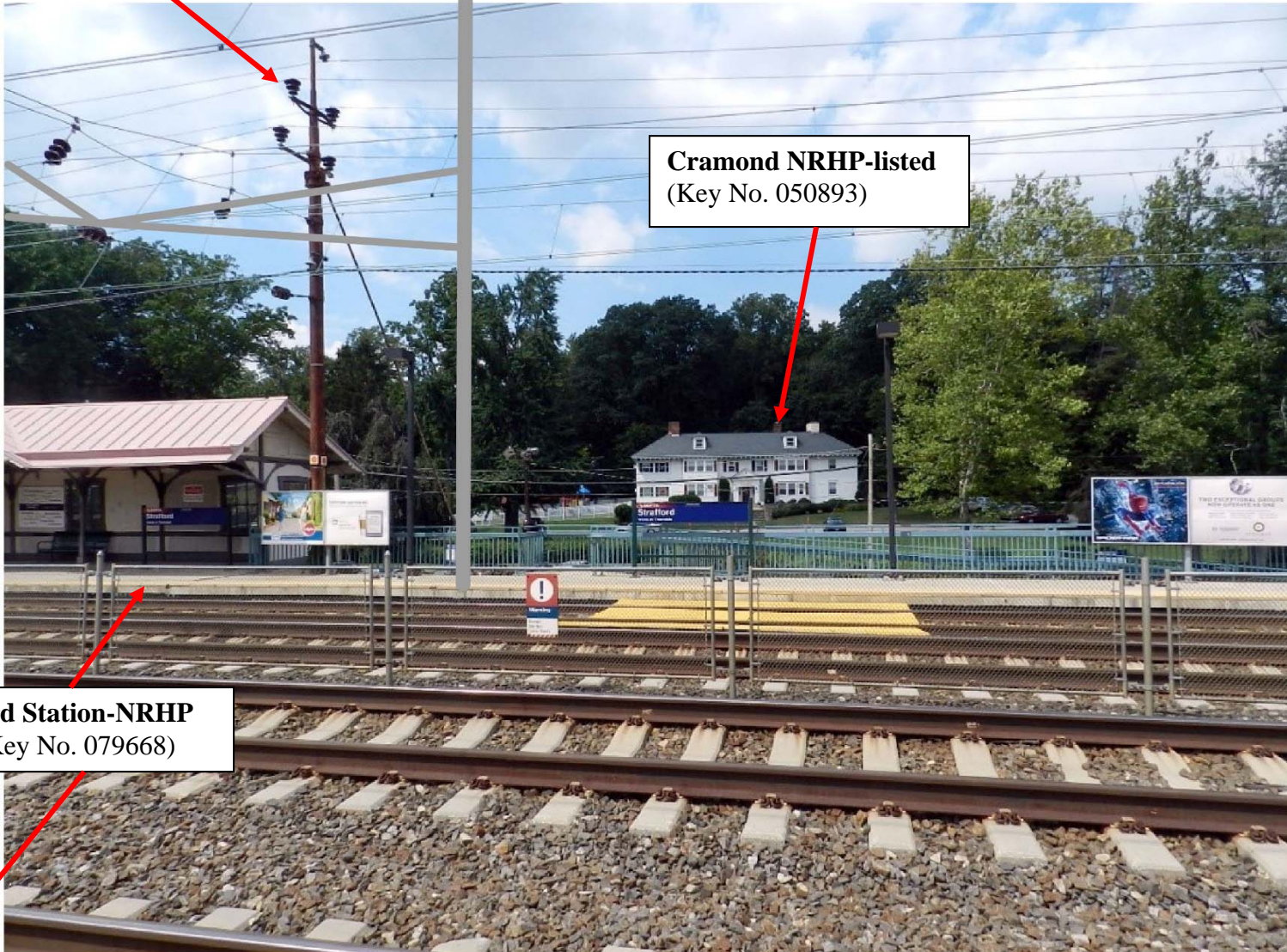
Cramond NRHP-listed
(Key No. 050893)

Strafford Station-NRHP
listed (Key No. 079668)

Height of existing catenary structure to be removed = 50'-2"

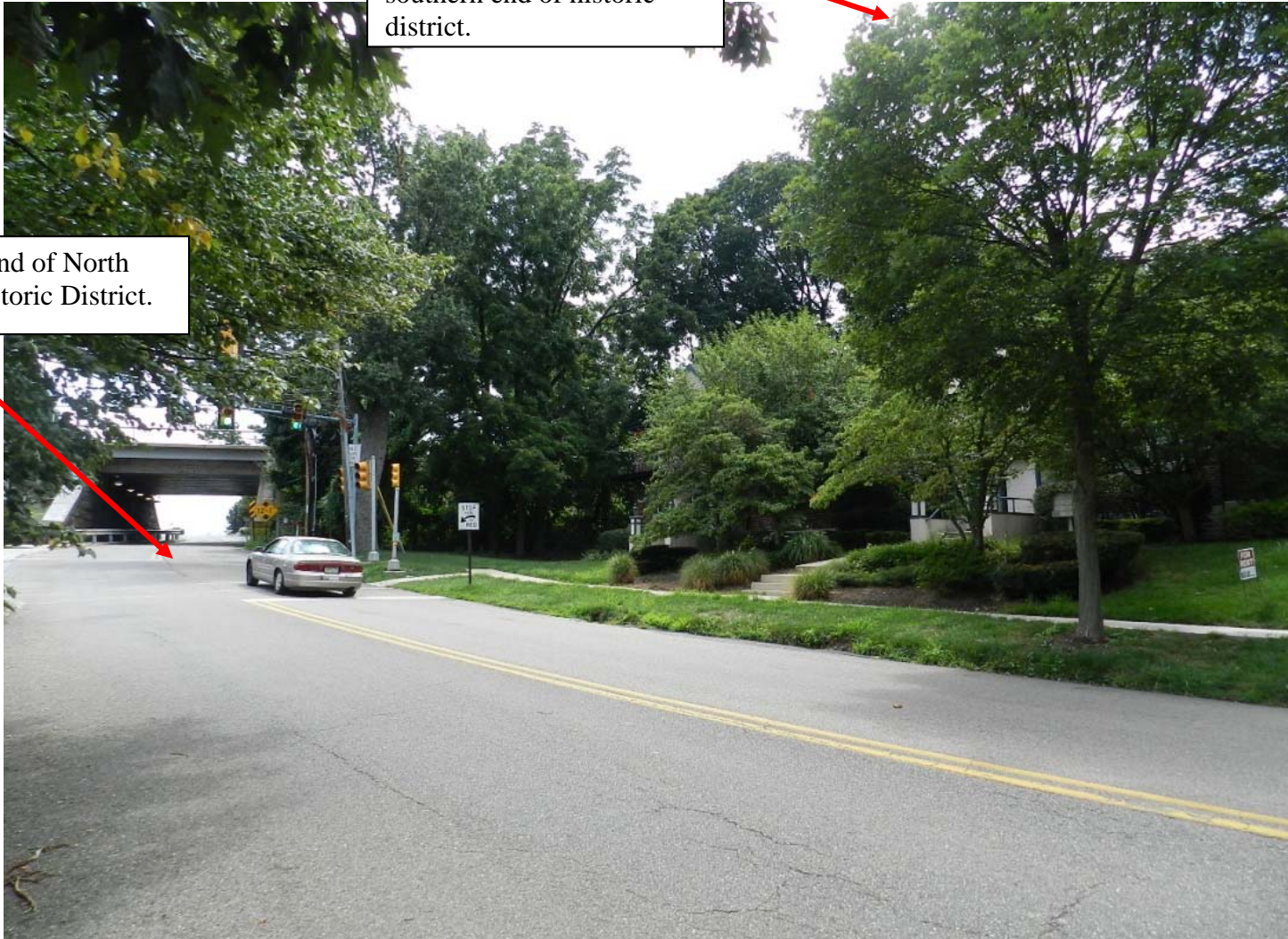
Height of new catenary structure T-348 = 60'-2"

Distance of new catenary structure is approximately 10'-0" east of existing one.



New catenary structure will be located in this vicinity within ROW beyond southern end of historic district.

Southern end of North Wayne Historic District.



North Wayne Historic District - NRHP Listed (Key No. 064497)

Southern end of historic district. New structure T-330 will replace existing structure approximately 200'-0" west of overpass in ROW beyond trees on right-hand side of photo.

Meeting Notes
Amtrak Zoo to Paoli Electrification Transmission Line Project
Section 106 Consulting Parties' Meeting
5:00 p.m., June 1, 2015
Benham Gateway Building Meeting Room
Bryn Mawr College
801 Yarrow Street, Bryn Mawr, PA

Attendees: See attached sign-in sheets.

Allen Heist, Project Manager, Stell Environmental, opened the meeting and requested that the attendees complete the sign-in sheet and introduce themselves. The purpose of this third Consulting Parties' meeting was explained:

- To provide an update of the Final Determination of Eligibility report,
- To discuss the draft Determination of Effects report, and
- To discuss potential mitigation options.

Project Description

Because some attendees had not attended any of the previous Consulting Parties' or public meetings, Burns provided a brief description of the project:

- Move the current offline transmission power, which is difficult to access and a continuing maintenance issue, to the actual rail line;
- Replace the existing deteriorating catenary structures, which have reached the end of their useful life and are seriously deteriorated; and
- Replace the Bryn Mawr substation, which is currently used only as a switching station, and return it to its original function as a substation.

The project will begin in Paoli and proceed eastward to the Zoo substation. Construction will take approximately 4 years to complete, with 4 to 5 catenary foundations completed per week and the earliest start date in 2017. Funding has not been acquired yet since Amtrak's appropriation from Congress is on a yearly basis.

Discussion

The Consulting Parties raised questions and voiced concerns, and different team members from Stell, Burns, FRA, or Amtrak replied. Following is a summary of the questions, concerns, and general discussion, in no particular order:

- Since the last Consulting Parties' meeting, a Determination of Eligibility report was prepared for five new potential historic resources identified within the Area of Potential Effect (APE), and the State Historic Preservation Officer (SHPO) has concurred with the findings. A copy of the report was available at the meeting for review.
- The APE has been expanded to include "bump-outs" from the existing Amtrak right-of-way to include nearby potential historic resources and to assess visual effects where new

structures will be higher than average. A copy of the APE map with the proposed structure heights was available at the meeting for reference and review.

- The typical proposed height of the catenary poles is 60 feet high (the current typical height is between 30 and 40 feet high). The height of the structures has been reduced from the initial design due to the removal of Philadelphia Electric Company (PECO) power from the line. The additional height above the existing height is due to electrical clearances required by Amtrak and the National Electric Safety Code. The structures will be installed within 10-12 feet of the nearest existing structure.
- The catenary poles are proposed to have a galvanized zinc coating, which will be a light gray in color. Amtrak was asked if they would consider receiving input on the paint color from the local historical commissions and Historical and Architectural Review Boards (HARBs), which they indicated a willingness to do. It was mentioned that the new structures that were placed as part of the Atglen to Safe Harbor project were rust in color (CorTen steel) and blended with rural landscape in that project corridor. A joint meeting of the local historical commissions and HARBs was suggested for September or October to discuss the color of the structures.
- An assessment of effects was conducted for twenty-eight National Register (NR) listed or eligible properties in the APE as part of the draft Determination of Effects report (a reference copy of which was available at the meeting for review), with the Pennsylvania Railroad Main Line: Philadelphia to Harrisburg recommended as being adversely affected because of the removal of the catenary structures and the demolition of the Bryn Mawr Substation. The project has been recommended as having no effect or no adverse effect on the remaining historic resources (see attached table). The project was reviewed for its direct and indirect (e.g. – visual) effects to these historic resources. (Example photo renderings of 4 pole locations near adjacent historic resources were referenced and displayed during the meeting). The Haverford Station Historic District is a local district and has been determined by SHPO to be ineligible for listing in the NR and is therefore not subject to Section 106 review for this project.
- The trimming of trees to accommodate the increased height of the structures will only be conducted as necessary. Plans of tree trimming locations were available at the meeting for review. One attendee from Cricket Condominiums requested that trees at the rear of their property be trimmed more thoroughly by Amtrak to remove dead branches and the potential for property damage from falling limbs.
- An attendee requested that Amtrak conduct ongoing maintenance and cleaning, particularly of drainage facilities, on a regular basis. It was expressed that this is not a Section 106 issue, but contact information was provided for follow-up.
- The new Bryn Mawr substation is proposed to be a standard pre-fabricated building with corrugated metal cladding approximately 16 ft. by 30 ft., similar to the Paoli substation (the footprint and renderings of the existing and proposed building were referenced and displayed during the meeting). The existing 50 ft. to 60 ft. towers will be replaced by 70 ft. towers and 5 to 6 existing parking spaces will be eliminated. (*Subsequent to the meeting it was determined that 12 parking spaces will be eliminated*). Since replacement of the existing building is an adverse effect given that the building is a contributing resource to the railroad, mitigation options were discussed. Options include the following:

- Design and construct the building in a way that reflects the existing building with the use of similarly colored brick cladding and similar band of brick corbelling at the top of building.
- Use of the original Bryn Mawr substation sign into the design of the new building.
- Landscape screening.
- Recordation of the existing building prior to demolition.

Elevation drawings of the proposed building were requested for review by the Consulting Parties. By law, Amtrak is exempt from local land development review and approval. However, Amtrak may consult with the municipality on a voluntary basis.

- Advance notification of the construction timing and phasing schedule were requested, along with the screening of lights and noise during any night-time construction. An attendee asked if a website for the project was available. Amtrak explained that it is not, but that the project material could be put on FRA's website and the Lower Merion Township. FRA noted that a commitment for Amtrak to develop and implement a "Community Notification Plan" for construction will be included in the Environmental Assessment (EA).
- Railroad Museum of Pennsylvania representatives indicated that they are in the process of renovating and updating their exhibits and displays, and would like to acquire some the removed equipment (except for the catenary structures due to height limitations) from the project to prepare an educational exhibit on the catenary structures and electrification process. Amtrak expressed the willingness to provide whatever equipment from the Bryn Mawr substation that the museum requests.
- Attendees requested copies of the materials presented at the meeting. FRA will post the materials to that agency's website. The following display boards and reference material from the meeting will be placed on FRA's website:
 - Pole height cross-sections
 - APE map with proposed pole heights
 - Aerials with historic resources
 - Photo renderings of selected proposed pole heights adjacent to representative historic resources
 - Footprints and renderings of existing and proposed Bryn Mawr substation buildings

The Consulting Parties will be notified of the website once the materials have been posted. The final Determination of Eligibility and Determination of Effects reports will be placed on the website upon completion.

- Barbara Frederick (PHMC) requested a summary of efforts to minimize the adverse effect of the project on historic resources. FRA identified the following minimization efforts:
 - Pole heights have been reduced.
 - Tree trimming plans have been developed. No clear cutting will occur.
 - New poles are typically within 10 feet of existing catenary structures.
- Possible additional mitigation commitments/stipulations suggested for inclusion in a Memorandum of Agreement (MOA), which will be reviewed by the consulting parties, include:

- Design and construct Bryn Mawr substation in a way that respects the existing building in terms of design, use of brick cladding, design details, and use of original sign.
- Install interpretative signs or kiosks at train stations, produce brochures, and/or create website to explain history of the railroad, electrification process, and catenary structures.
- Install signs along railroad tracks or near stations identifying each historic community.
- Use of color other than galvanized gray for structures.

It was suggested that the draft MOA, along with paint samples or palette, be prepared and distributed prior to the joint historical commission/HARB meeting in September or October. Barbara Frederick, PHMC, reminded attendees that mitigation should be relevant to the resource being adversely affected and be in the public interest, and the cost and effort for mitigation should be commensurate with the effects.

Next Steps

- Attendees were requested to complete the comment form and their return them before leaving or send them to Allen Heist, Stell Environmental, after the meeting (comment forms received to date are attached).
- A final Consulting Party meeting will be held in September to review the draft MOA and receive comments. This meeting will be scheduled to coincide with one of the local HARB or historical commission meetings. The Project Team will coordinate with the Lower Merion Township HARB to set the best date, location, and time to accommodate the most people for attendance. The draft MOA and other relevant materials will be mailed in advance of the meeting.

The foregoing record of the 6/1/15 Consulting Parties' meeting is considered an accurate summary of the meetings and related discussions. Please notify me of any exceptions or corrections to these notes within seven (7) days of receipt. If no notification is received, these notes will be considered a record of fact.

Allen G. Heist, PMP
Project Manager, Stell Environmental



June 5, 2015

Dear Mr. Heist:

Thank you for the opportunity to participate in the consultation meeting on June 1, 2015, regarding Section 106 and the Amtrak Philadelphia Zoo to Paoli Electrification Transmission Line Project. We would like to propose a couple of ideas for assisting the parties involved in preserving the heritage of the 20 miles of existing catenary infrastructure between Philadelphia Zoo and Paoli substations, which will see some significant upgrades within the next few years.

We represent the Railroad Museum of Pennsylvania, which is administered by the Pennsylvania Historical and Museum Commission. The Railroad Museum itself is just two weeks away from beginning a major museum-wide Master Exhibits Project, and we will likely be starting the construction of a six-track locomotive roundhouse, both of which we hope to conclude in 2017 -- around the same time work on the Amtrak Philadelphia Zoo to Paoli Electrification Transmission Line Project is set to begin. In a very real sense, this is perfect timing for us, as we will be seeking additional artifacts, archival documents and related support to complete these new exhibits, which will help us better tell the story of Pennsylvania's railroading heritage. The Railroad Museum attracts 100,000-120,000 visitors annually, and the resources of our library and archives are used internationally by hundreds of researchers a year, either onsite or through our online resources: <http://www.rrmuseumpa.org/about/library/index.shtml>.

Historically speaking, the Pennsylvania Railroad's Philadelphia Zoo-to-Paoli corridor represented the first step in the electrification of the *Northeast Corridor*, between New York and Washington, and the *Keystone Corridor*, between Philadelphia and Harrisburg. Its impact was not only local, but also reached across state lines, affecting, directly or indirectly, the daily lives of millions of Americans for more than a century. Furthermore, the catenary structures in this region are of a different design than the later installations used, making them unique to the Philadelphia Zoo-to-Paoli corridor.

For our part, when it comes to the Amtrak Philadelphia Zoo to Paoli Electrification Transmission Line Project, we would like to propose four ideas:

1.) *An educational exhibit using elements of the existing historic electrification infrastructure:*

As a part of our Master Exhibits Project, we envision working with Amtrak to acquire objects from the existing electrification infrastructure that will be removed as a part of the upgrade program. By "objects," we are referring to sections of catenary poles, wire, insulators or other related hardware

that make up these historic structures. We would like to incorporate these objects into a new exhibit that will educate the public about how electric trains work and about the history of electrification in the Commonwealth. Building and floor space severely limits our ability to recreate an entire section of a catenary system indoors, with its full-size poles, 30-40 feet in height. However, we may be able to create an exhibit on catenary systems on a smaller scale and with a smaller footprint that artistically incorporates bits and pieces of this hardware into a cohesive display, giving our visitors an impression of how these parts worked together to power electric trains, while at the same time preserving some original component parts of these historic structures. We would like to create an exhibit that will appeal to visitors of all ages, one that will have interactive features. For example, in addition to reading exhibit labels explaining how these catenary systems function and work together to run trains, our visitors will be able to "crank up" a small electric generator to power a scale model of an Amtrak electric locomotive down a segment of track. Another example might be a diorama of a section of electrification between substations, like the 20 miles between Philadelphia Zoo and Paoli, which would feature pushbuttons that "light up" specific features along the rail line, explaining their purpose and functions to our visitors.

To accomplish this, our exhibit design team would work closely with Amtrak to identify relevant objects to set aside for preservation. Potential objects we would like to acquire and preserve might include some wire, hangers, insulators, a pantograph, and any existing utility signage relating to the electrification system. Other opportunities for artifact acquisition may exist at the Bryn Mawr Substation. We would also seek additional funding support from Amtrak to cover conservation treatments and fabrication. In addition to the reassembly of the historic hardware in its new museum environment as part of an exhibit, there will also be signage or panels that explain electrification, its function and its history. To accomplish this part of the project, our exhibit design team will undoubtedly be working with Amtrak's publicity and archival staff to acquire contemporary photos and other visual aids, to supplement what the Railroad Museum currently has, to help bring this exhibit to life.

2.) Architectural documentation of the Bryn Mawr Substation as it currently exists:

Our staff would like to assist in documenting, photographing and sketching existing structures and related electrification infrastructure before it is torn down. We have experience in performing this kind of work on similar historic railroad structures. This process will help to preserve a written and photographic record of what existed prior to the removal of historic, and the installation of new, structures and related electrification infrastructure. This work, along with photographs and other archival information that the Railroad Museum may already possess on the subject, will give future generations detailed information about the historic architecture that existed in the region and how railroads operated there during the first century of electrification in the region. Furthermore, the stories told by the Railroad Museum of Pennsylvania are about things like the substation itself but about the people who worked there. In the course of our documentation of these structures and infrastructure, our staff may find artifacts and ephemera that could help to better tell these "people" stories, and we would like to have the opportunity to see that such objects are preserved, if possible.

3.) *Photographic and technical documentation of the existing catenary structure:*

As with the architectural documentation of Bryn Mawr Substation, we would like the opportunity to assist in documenting, photographing and sketching the existing catenary systems and related electrification infrastructure before it is torn down. Again, this work will be performed by Railroad Museum staff and volunteers, who are knowledgeable in these fields.

4.) *Job descriptions and/or oral histories with employees of the Electric Traction Department:*

As they photograph and document structures and infrastructure along the 20 miles between the Philadelphia Zoo and Paoli substations, our staff may find artifacts, records and ephemera that may help to better tell the stories of workers, and we would like to have the opportunity to see that such objects are preserved, if possible. In some cases, this might involve making connections with personnel who might be able to recall different eras in which this equipment and these structures were in operation to help us better document the rail line and its history through oral-history interviews. Again, we have staff trained in conducting such interviews.

As the state's official railroad museum, the Railroad Museum of Pennsylvania's mission includes anything manufactured or used in the Commonwealth by railroads or railroad-related industries, from the earliest to the most modern rail lines. We are about to embark on a massive overhaul of our core exhibits, changing the way we present our artifacts and tell their stories. Our goal is to bring railroads to life, with exhibits that highlight the technical aspects of railroading, as well as stories of the men and women who worked on them. The artifacts, documentation and oral-history components will directly support this goal. The current expected conclusion for that project is sometime in mid-2017 (subject to revision). The other documentation items would be more archival in nature, catering to researchers and scholars who study electrification and its impacts on society.

Again, we would like to express our sincere gratitude for the invitation to be a part of is process. And we would like to offer any assistance in working with the parties involved to see that the important heritage of the 20-mile stretch of railroad infrastructure between Philadelphia Zoo and Paoli substations be preserved, in one form or another, for generations to come.

Sincerely,

Nicholas Zmijewski, *Archives Manager*

Patrick Morrison, *Museum Educator*

Dodie Robbins, *Collections Manager*

Troy Grubb, *Museum Educator*

Consulting Parties Meeting

9/2/15



MEETING NOTICE

TO: Consulting Parties

FROM: Federal Railroad Administration (FRA) and Amtrak

DATE: August 14, 2015

RE: Section 106 Consultation - Amtrak Philadelphia Zoo to Paoli Electrification Transmission Line Project

As you are aware, Amtrak plans to upgrade the existing overhead electrification system along a 20-mile segment of the Keystone Corridor between the Philadelphia Zoo substation and the Paoli substation as part of the Zoo to Paoli Electrification Transmission Line Project. The majority of the existing catenary poles are approximately 50'-0" feet in height and a majority of the proposed new catenary poles will be between 60'-0" and 70'-0" high, with most poles measuring 60'-2". A few poles reach 80 feet high at overhead bridges to achieve adequate clearance. All of the proposed new poles will be located in the existing railroad right-of-way and in close proximity to the existing poles. The Bryn Mawr substation will be demolished and replaced, and the site expanded to include a new substation to help support the catenary voltage between the Zoo and Paoli substations.

Meetings of Section 106 consulting parties were previously held in June 2013, September 2014, and June 2015 to present the findings of the cultural resources investigations completed at that time and to receive comments from the consulting parties regarding historic resources in the project area. As a follow-up to those meetings and in response to comments received from the consulting parties at the June 1, 2015 meeting, the last meeting of consulting parties for this project is scheduled for the following date and location:

September 2, 2015 at 6:00 p.m.
Radnor Township Historic & Architectural Review Board (HARB)
Radnorshire Room
301 Iven Avenue
Wayne, PA 19087

The purpose of this meeting is to review and discuss the attached draft Memorandum of Agreement, including the proposed means to mitigate the project's adverse effects on historic resources. Section 106 of the National Historic Preservation Act requires sponsors of federally funded projects to take into account the potential project effects on historic properties. Section 106 entitles parties with a demonstrated interest in history or historic preservation to provide comments and suggest mitigation measures, if necessary, for the project.

The draft Determination of Effects report can be accessed and viewed at the following location: <https://bgroup.sharefile.com/d-sb1d96461d9445b68>. Additional project information is available on the FRA website at <https://www.fra.dot.gov/Page/P0810>.

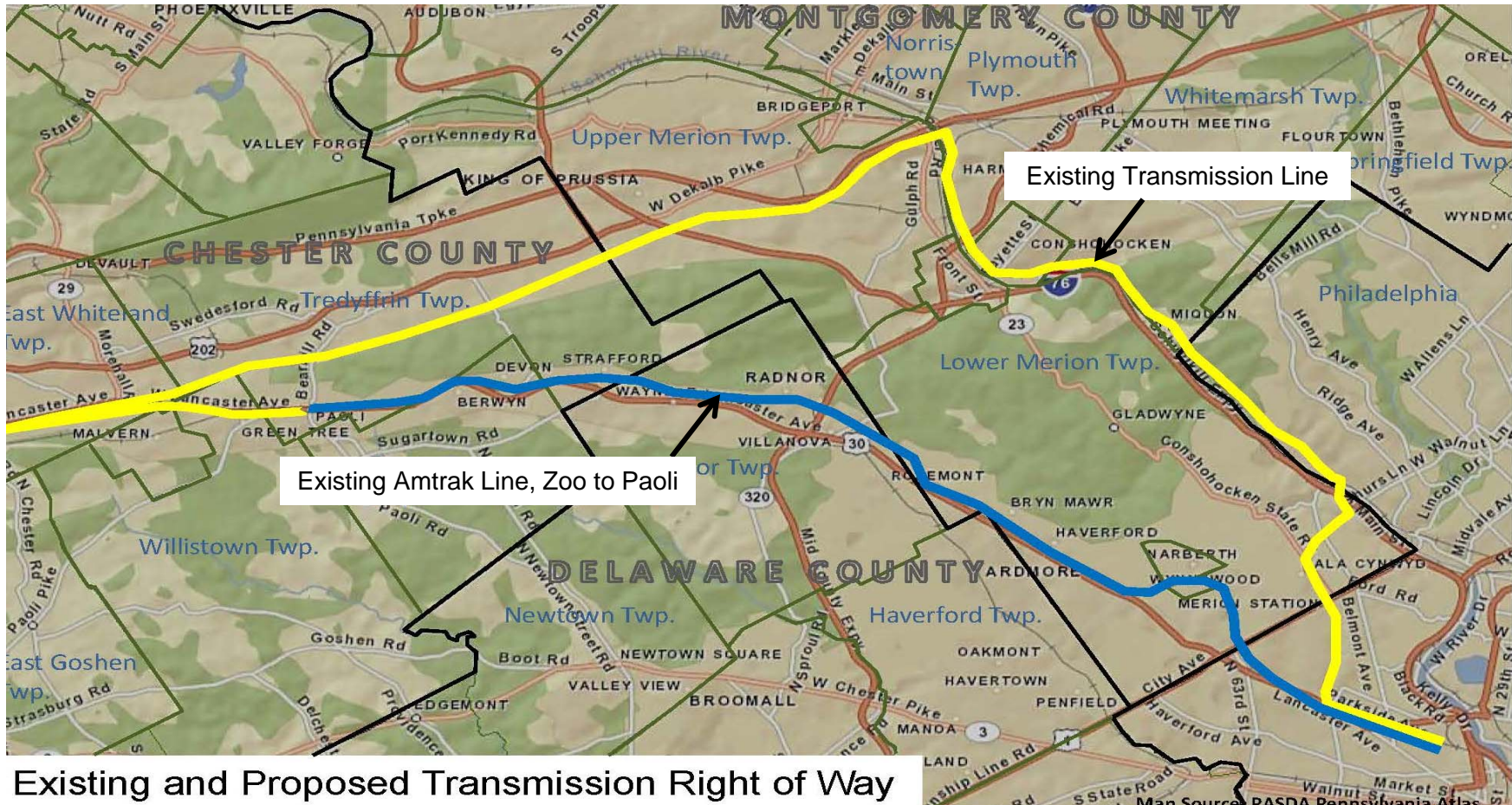
Should you have any questions or require additional information, please contact Allen Heist at 610-286-0100 or aheist@stellee.com.

Amtrak Zoo to Paoli Transmission Line Project



Amtrak Zoo to Paoli Transmission Line Project

Project Limits



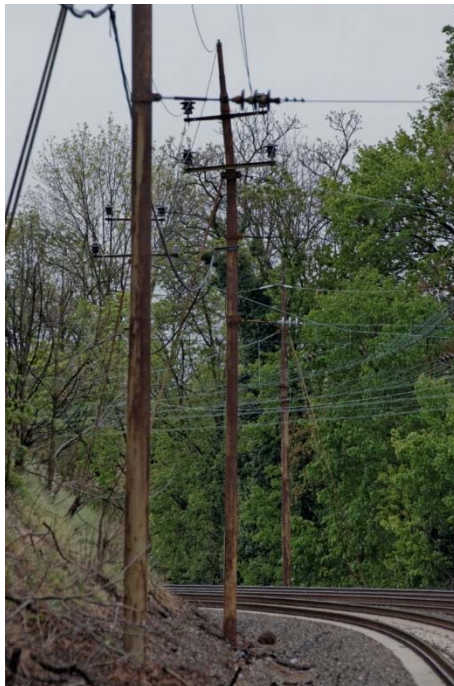
Existing and Proposed Transmission Right of Way



Amtrak Zoo to Paoli Transmission Line Project

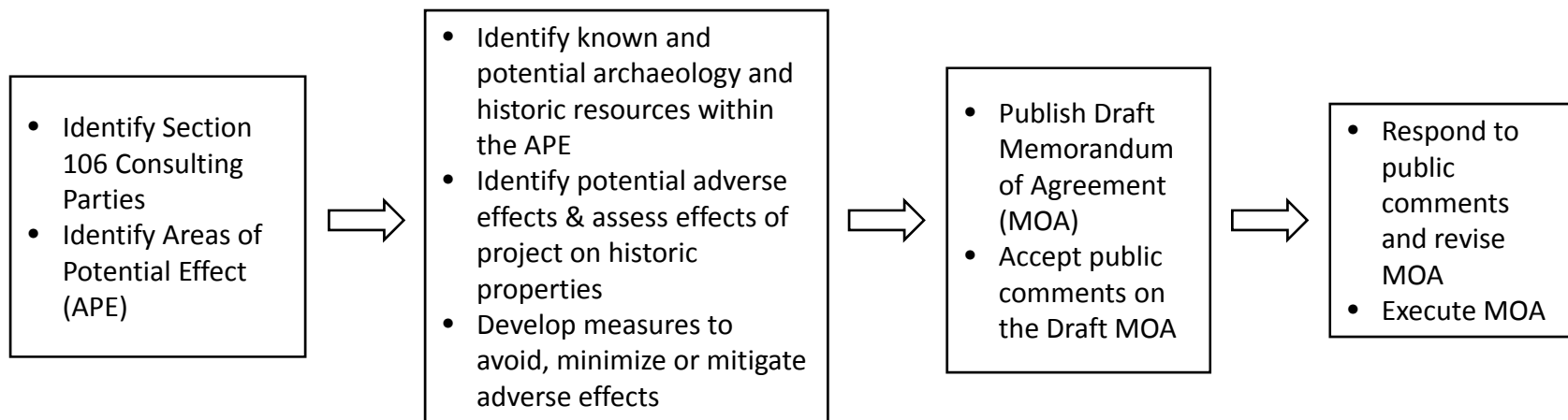
Project Needs and Benefits

- To provide additional power and eliminate low voltage conditions, improving reliability of train service.
- Construct new transmission lines to replace aging and inaccessible transmission lines not on Amtrak ROW.
- To bring Amtrak's line into a state of good repair and to help meet its mandate for cost effective maintenance of its system.



Amtrak Zoo to Paoli Transmission Line Project

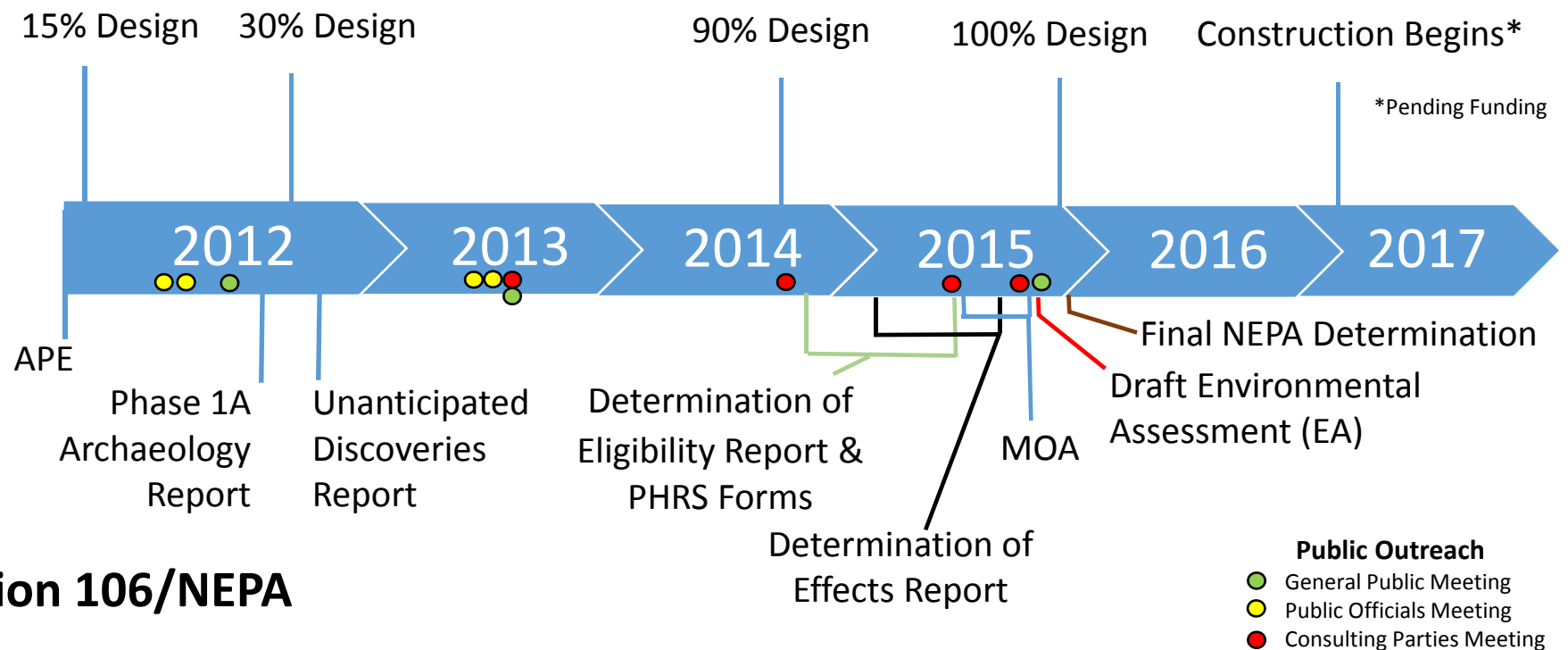
Section 106 Process



Amtrak Zoo to Paoli Transmission Line Project

Project Timeline

Design & Construction



Section 106/NEPA



Amtrak Zoo to Paoli Transmission Line Project

Minimization Measures

- Limited extent of tree branch cutting within the ROW to facilitate construction. A tree-trimming plan has been prepared.
- New structures will be placed near existing structure locations.
- The proposed design of the catenary structures was modified to lower the height of the catenary structures.



U.S. Department of Transportation
Federal Railroad Administration

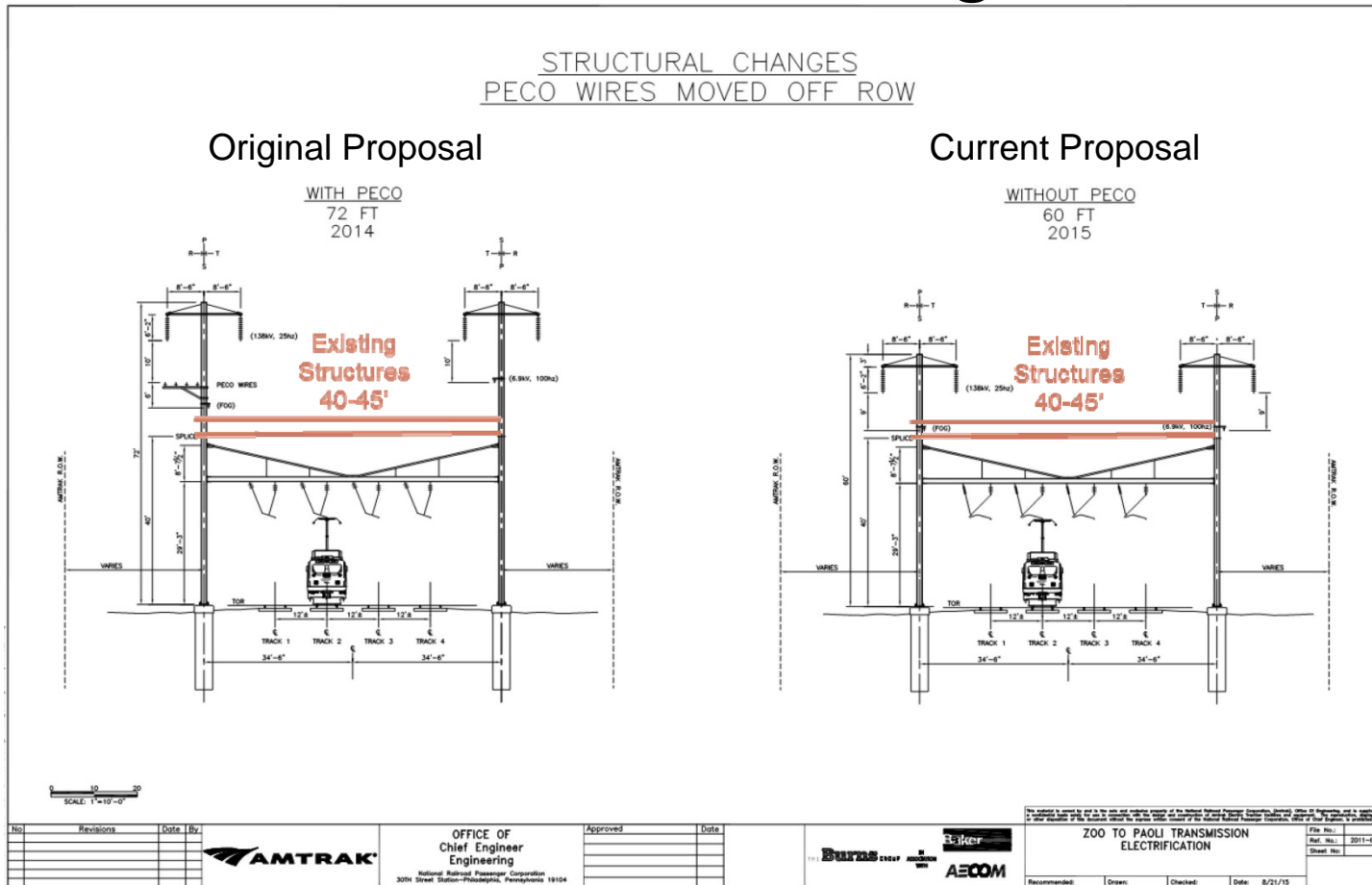


THE **Burns** GROUP ENGINEERING AND CONSTRUCTION

Stell
Environmental

Amtrak Zoo to Paoli Transmission Line Project

Minimization – Reduced Pole Heights



Amtrak Zoo to Paoli Transmission Line Project

Proposed Mitigation Measures

Documentation

1. Amtrak would assist the Railroad Museum of Pennsylvania (RMP) with the recordation of the Bryn Mawr Substation and catenary system.

Interpretation

2. Amtrak would provide an interpretive sign in the vicinity of Bryn Mawr station that focuses on the Pennsylvania Railroad Company's electrification of the route.
3. Amtrak would donate materials of the catenary system to the RMP for their interpretive use.
4. Amtrak would give an allowance for the conservation of donated material.
5. Amtrak would provide to RMP contact information for the purpose of conducting oral history interviews with former employees about electric traction on the line.

Design

6. Amtrak would design the new substation buildings to reflect the original building's materials, color, and texture.
7. Amtrak would incorporate the existing "BRYN MAWR SVBSTATION" sign within a landscape feature on the site.
8. Amtrak would offer the bricks from the demolished Bryn Mawr Substation building to the public for salvage.

Amtrak Zoo to Paoli Transmission Line Project

Existing Bryn Mawr Substation



Amtrak Zoo to Paoli Transmission Line Project

Next Steps – Section 106 Process

- SHPO concurrence on Determination of Effects report.
- Accept comments from CPs on MOA (comments due October 2).
- Approval and signing of Memorandum of Agreement.

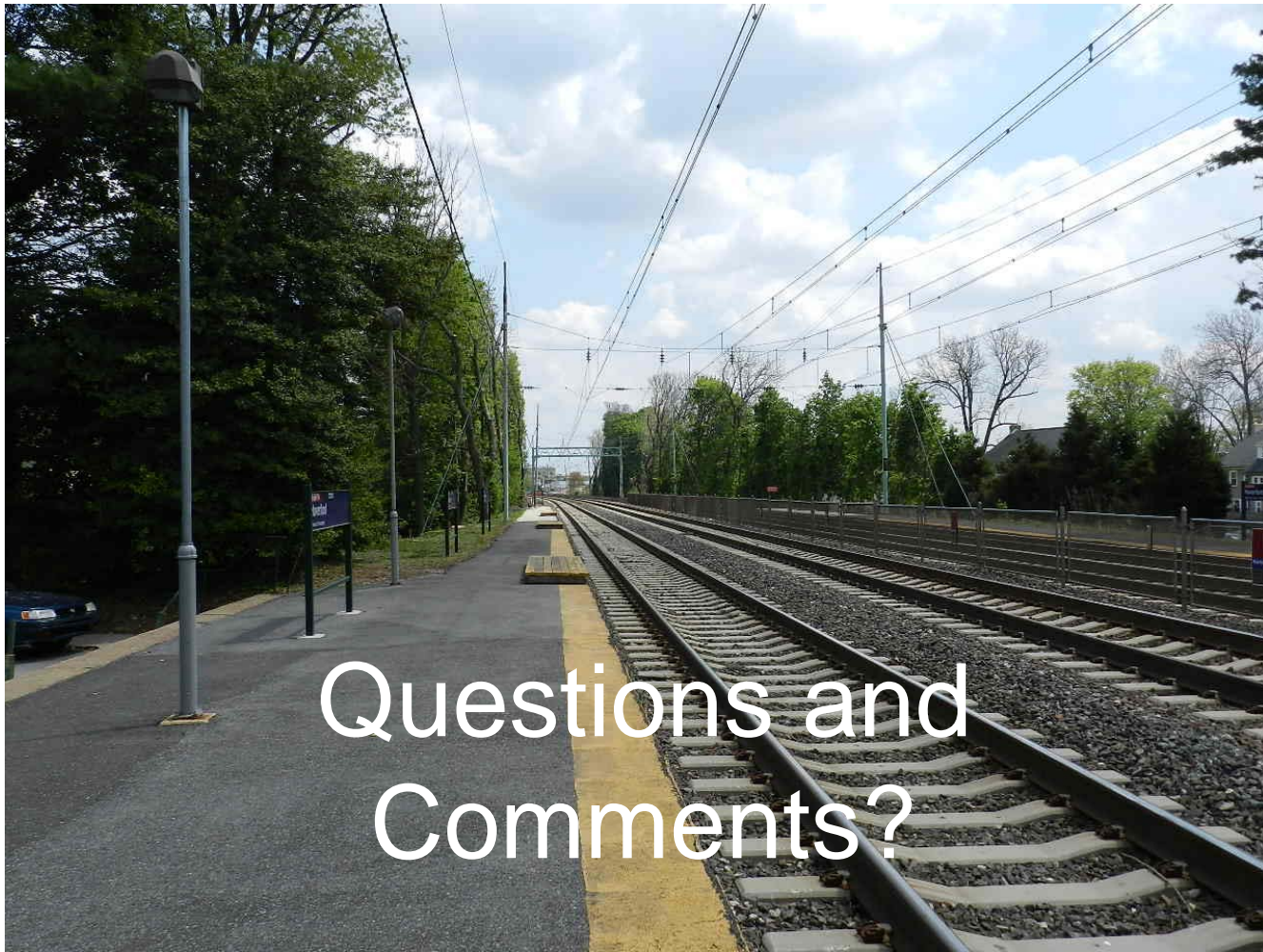
Provide comments to:

Allen Heist, Stell Environmental, 610-286-0100 or aheist@stellee.com

Additional project information at FRA's website:

<https://www.fra.dot.gov/Page/P0810>

Amtrak Zoo to Paoli Transmission Line Project



Questions and
Comments?

Amtrak Zoo to Paoli Transmission Line Project

Pole Finishes Considered



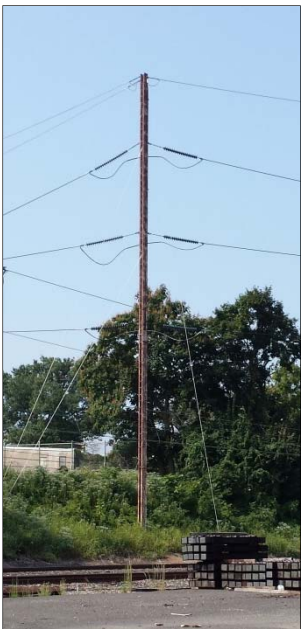
Existing pole



Unpainted galvanized steel



Painted galvanized steel



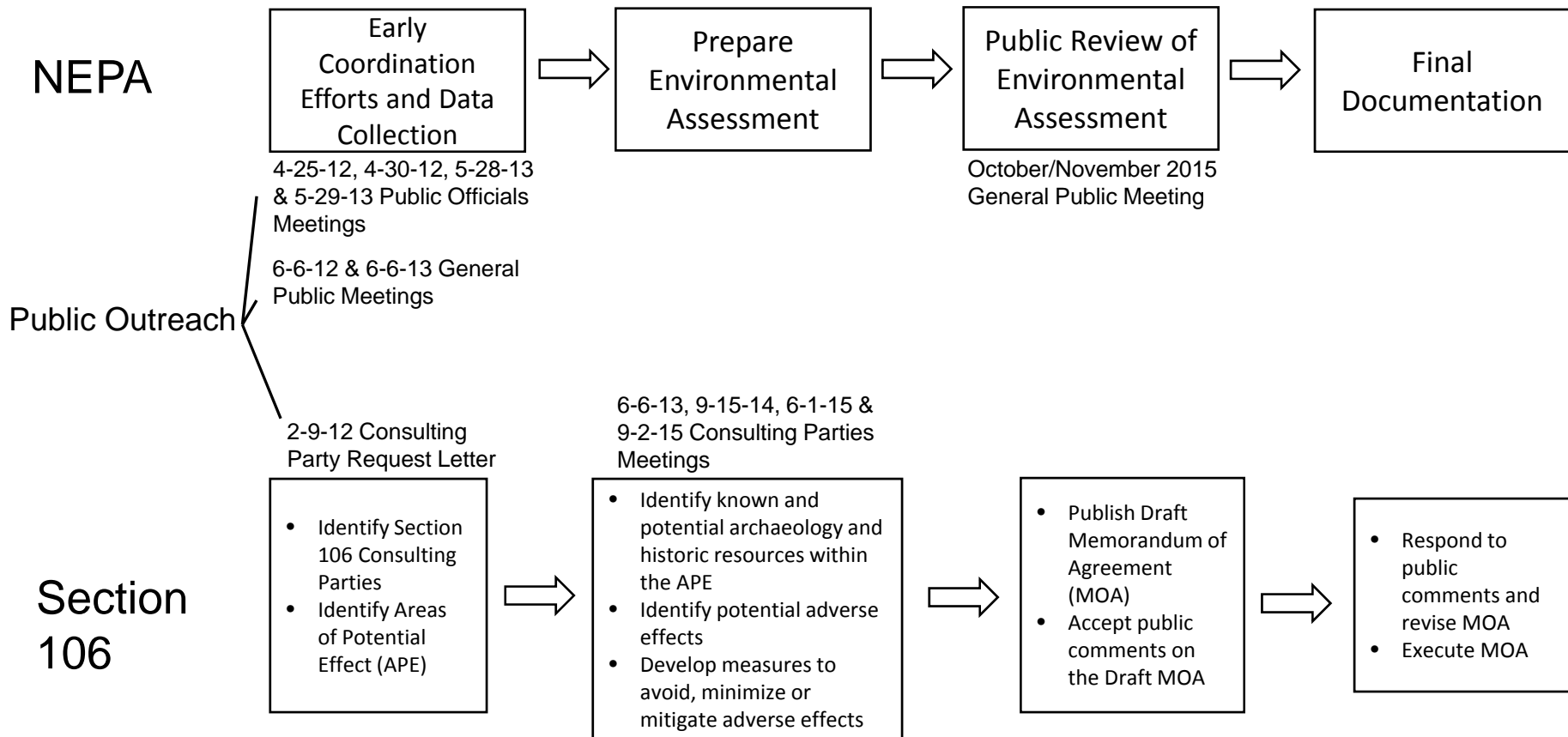
Painted steel



Weathering steel

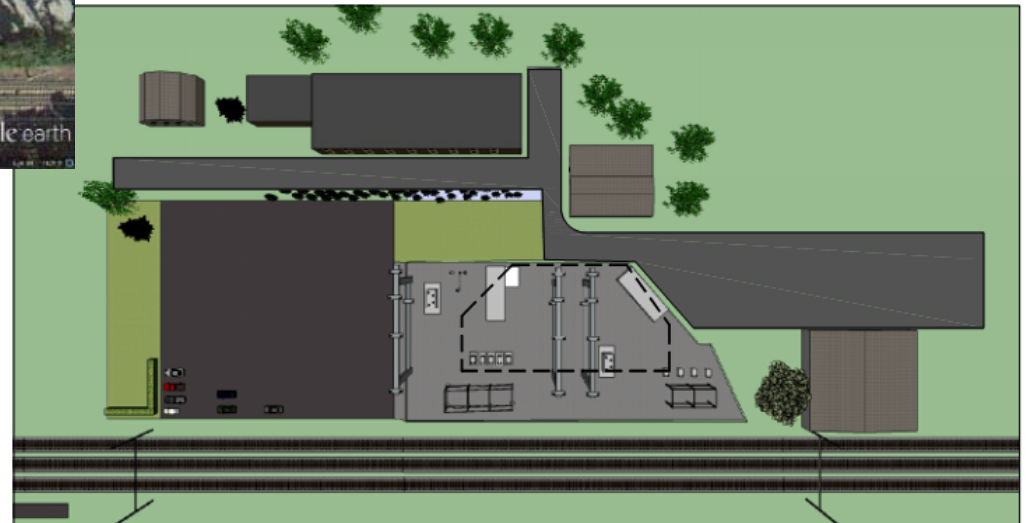
Amtrak Zoo to Paoli Transmission Line Project

NEPA and Section 106 Process



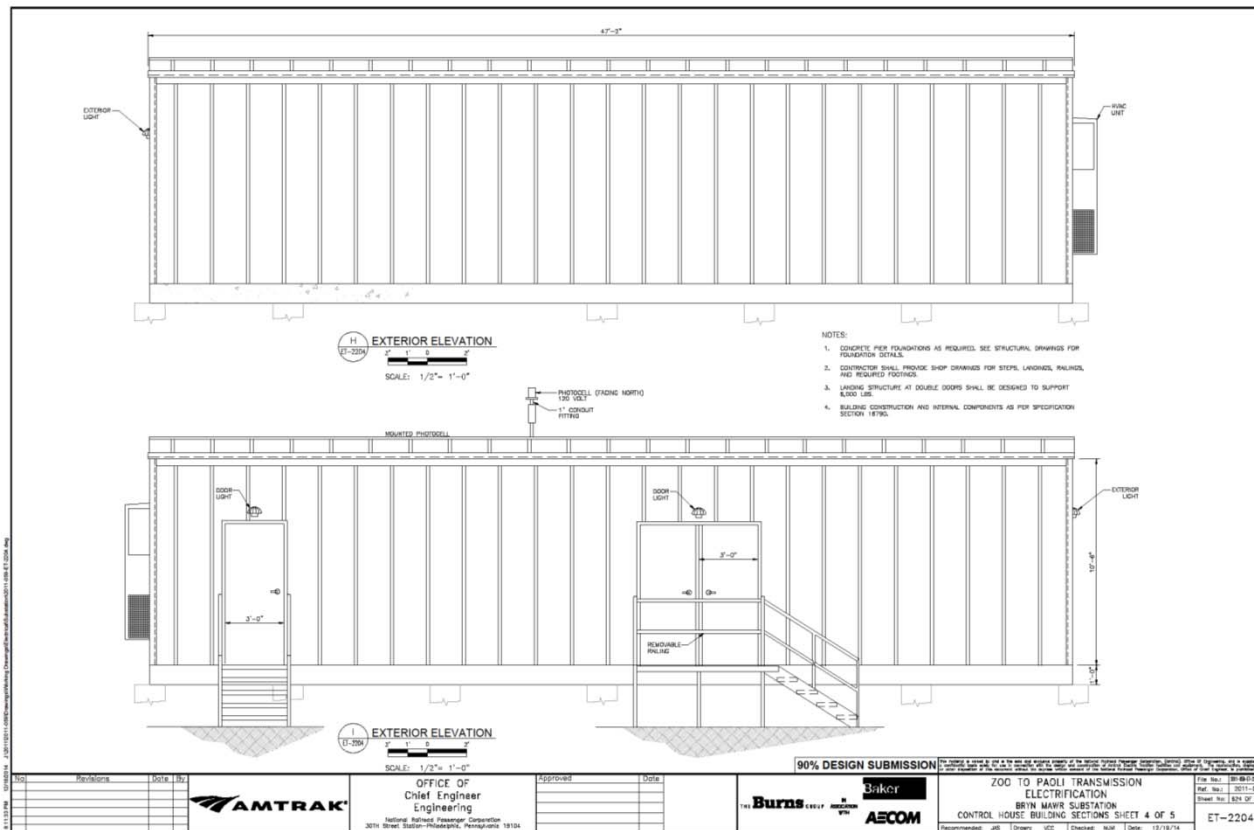
Amtrak Zoo to Paoli Transmission Line Project

Existing vs. Proposed Bryn Mawr Substation Footprint



Amtrak Zoo to Paoli Transmission Line Project

Previously Proposed Bryn Mawr Substation



Amtrak Zoo to Paoli Transmission Line Project

Section 106 Consulting Parties Coordination

2-9-12 - Request to Become Consulting Party sent to 30 individuals, agencies, & organizations

6-6-13 – Consulting Parties’ Meeting @ Villanova University to review & discuss archaeology investigation, historic resources data collection, & mitigation options; notice mailed to 37 CPs

9-15-14 – Consulting Parties’ Meeting @ Lower Merion Township to review & discuss revised APE, eligibility, & potential effects; notice mailed to 39 CPs, with follow-up emails to 7 CPs

6-1-15 – Consulting Parties’ Meeting @ Bryn Mawr College to review & discuss eligibility report, effects report, & mitigation options; notice mailed to 39 CPs, with follow-up emails to 7 CPs

9-2-15 – Consulting Parties’ Meeting @ Radnor Township Historic & Architectural Review Board (HARB) to review & discuss MOA, notice mailed to 41 CPs, with follow-up emails to 12 CPs

Amtrak Zoo to Paoli Transmission Line Project

Other Public Outreach

4-25-12 – Public Officials’ Meeting @ Harcum College, invites to 130 public officials, 7 misc., & 5 media (Daily Local News, Delaware County Daily Times, Main Line Media News, Philadelphia Inquirer, & Times Herald)

4-30-12 – Public Officials’ Meeting @ Radnor Middle School, invites to 130 public officials, 7 misc., & 5 media (Daily Local News, Delaware County Daily Times, Main Line Media News, Philadelphia Inquirer, & Times Herald)

6-6-12 – General Public Meeting @ Villanova University, press release to 8 media outlets (Daily Local News, Philadelphia Inquirer, Main Line Times, Radnor Patch, Ardmore Patch, TE Patch, The Suburban, Bryn Mawr Patch)

5-28-13 – Public Officials’ Meeting @ Lower Merion Township, invites to 125 public officials, 7 misc., & 5 media (Daily Local News, Delaware County Daily Times, Main Line Media News, Philadelphia Inquirer, & Times Herald)

5-29-13 – Public Officials’ Meeting @ Lower Merion Township, invites to 125 public officials, 7 misc., & 5 media (Daily Local News, Delaware County Daily Times, Main Line Media News, Philadelphia Inquirer, & Times Herald)

6-6-13 – General Public Meeting @ Villanova University, press release to 8 media outlets (Daily Local News, Philadelphia Inquirer, Main Line Times, Radnor Patch, Ardmore Patch, TE Patch, The Suburban, Bryn Mawr Patch) and flyers posted @ 16 train stations

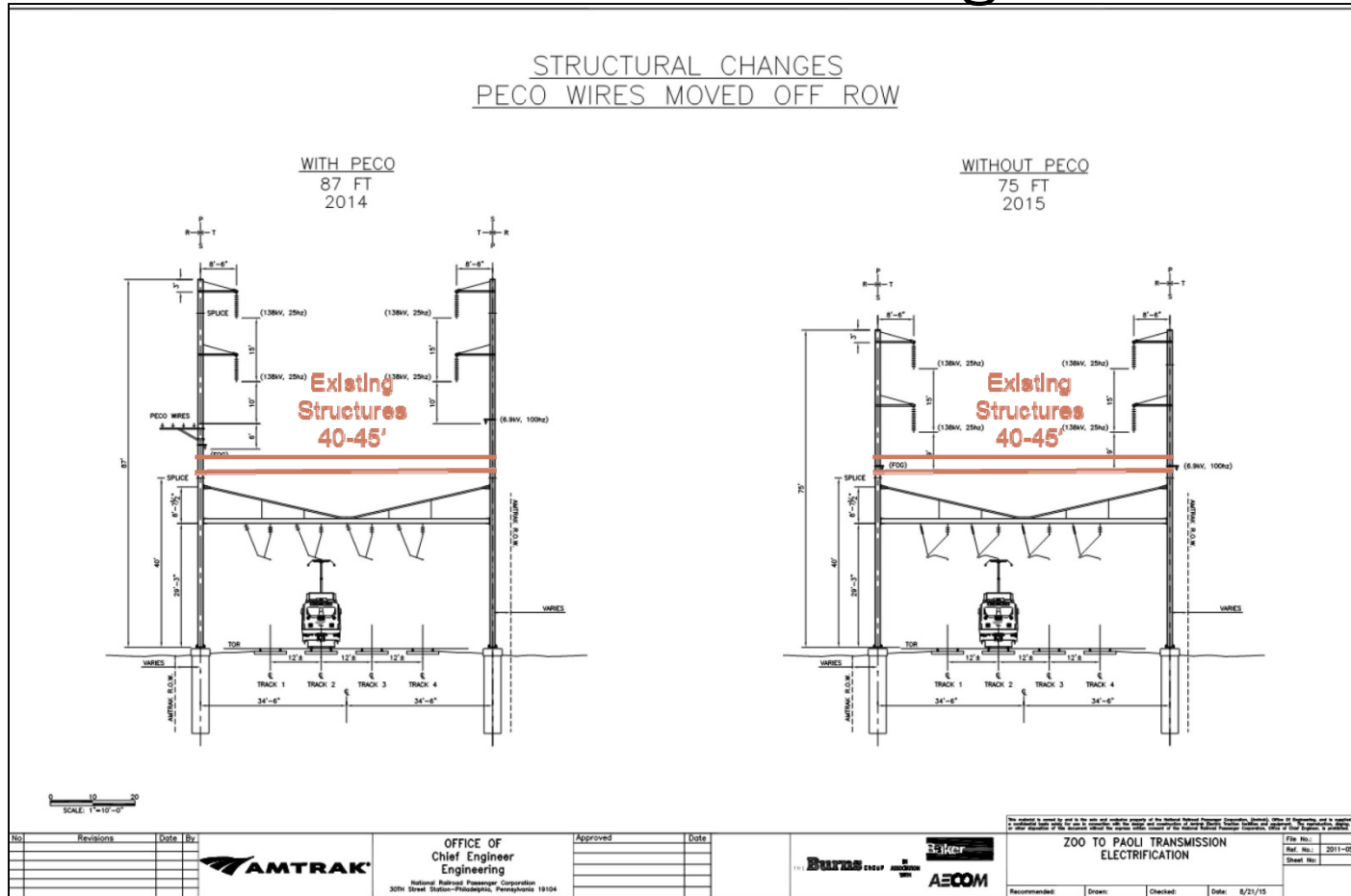
Amtrak Zoo to Paoli Transmission Line Project

Next Steps – NEPA Process

- Completion & publication of draft EA.
- General Public Meeting.
- Final environmental determination. Anticipated to be a Finding of No Significant Impact (FONSI).

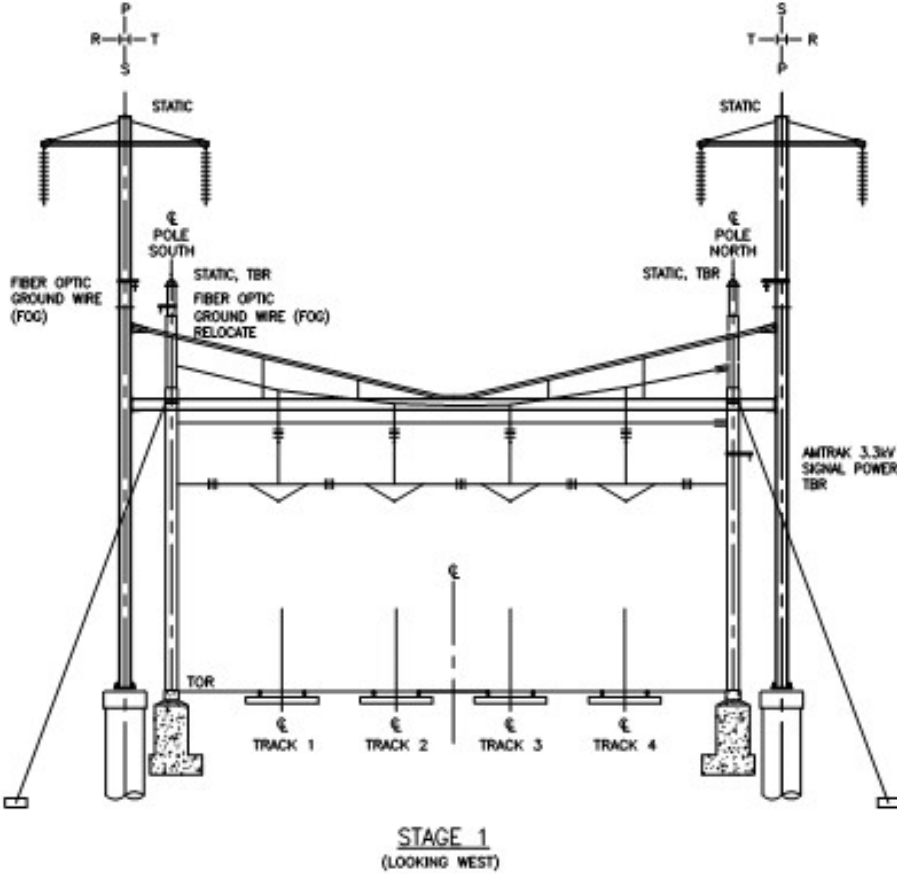
Amtrak Zoo to Paoli Transmission Line Project

Minimization – Reduced Pole Heights



Amtrak Zoo to Paoli Transmission Line Project

Existing vs. Proposed Pole Heights





MEMORANDUM

TO: Consulting Parties

FROM: Federal Railroad Administration (FRA) and Amtrak

DATE: September XX, 2015

RE: Follow-Up to September 2, 2015 Consulting Parties' Meeting - Amtrak Philadelphia Zoo to Paoli Electrification Transmission Line Project

Thank you to those who attended and provided comments at the September 2, 2015 Consulting Parties' meeting at the Radnor Township Historical & Architectural Review Board (HARB). The purpose of the meeting was to review and discuss the draft Memorandum of Agreement (MOA), including the proposed means to mitigate the project's adverse effects on historic resources. As a result of comments received, the attached MOA has been revised to include the following:

- Restrictions on tree trimming, with the proposed tree trimming plan posted on FRA's website (<https://www.fra.dot.gov/Page/P0810>).
- Commitment that the old catenary structures will be removed.
- The existing historic train stations will not be affected by the project.
- The installation of an interpretative sign at the Bryn Mawr station, the location, ownership and maintenance for which is still being investigated.
- The preparation of annual reports on the schedule and progress of the project, which will be provided to participating Consulting Parties.

Please note that comments on the MOA will be received until October 2, 2015.

As for the environmental clearance process, a public meeting to receive comments on the draft Environmental Assessment (EA) will be held after the EA is posted on FRA's website, tentatively scheduled for early December 2015. Once the public meeting is formally scheduled, all stakeholders and Consulting Parties will receive notice of the meeting.

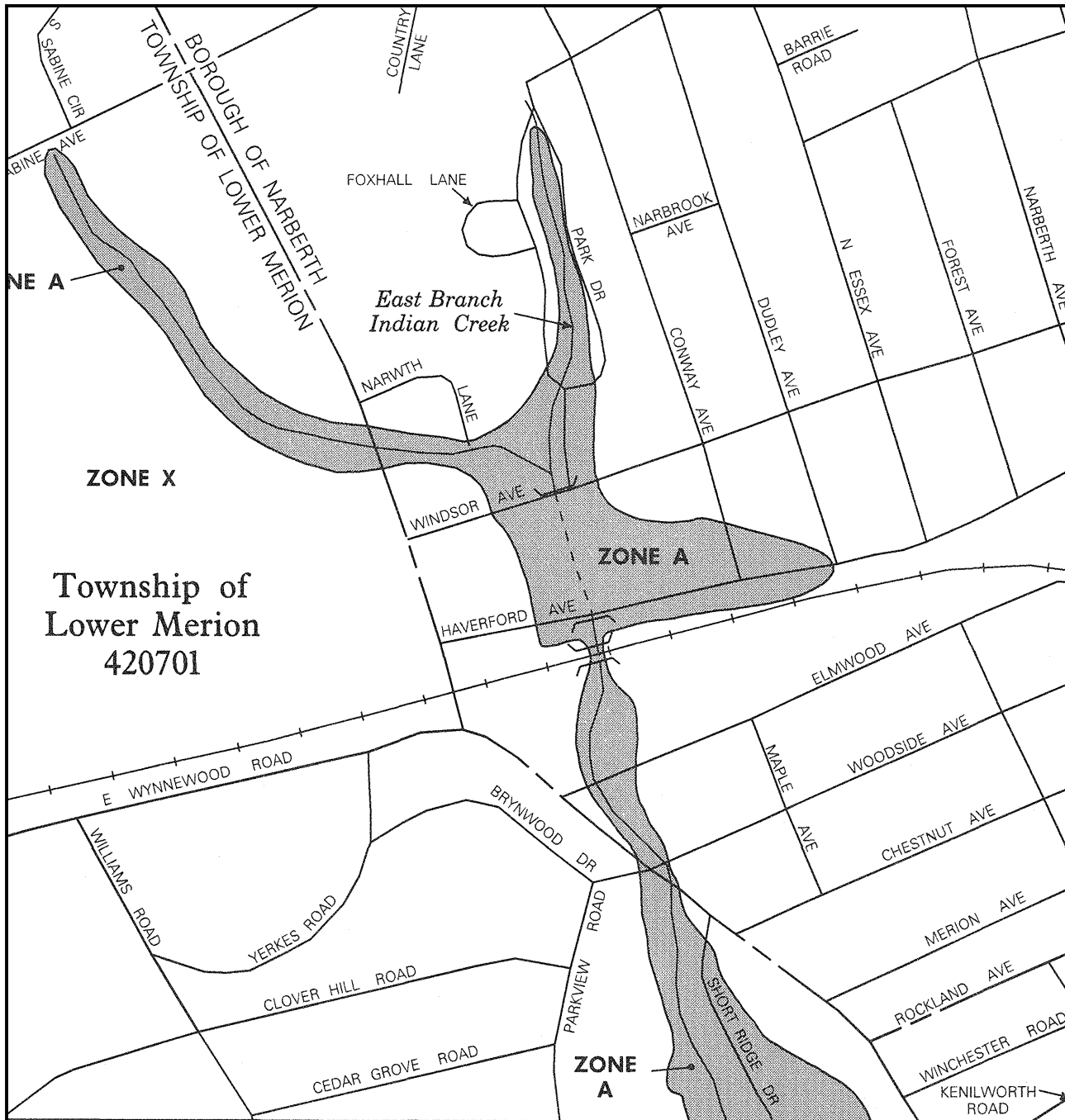
Should you have any questions or require additional information, please contact Allen Heist at 610-286-0100 or aheist@stellee.com.

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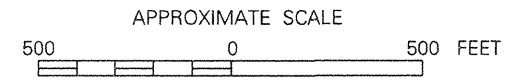
Appendix H

Flood Insurance Rate Maps

Several thin, curved lines in shades of blue and grey originate from the bottom left corner and curve upwards and to the right.



Township of
Lower Merion
420701



NATIONAL FLOOD INSURANCE PROGRAM

**FIRM
FLOOD INSURANCE RATE MAP
MONTGOMERY COUNTY,
PENNSYLVANIA
(ALL JURISDICTIONS)**

PANEL 369 OF 451

(SEE MAP INDEX FOR PANELS NOT PRINTED)

CONTAINS:

<u>COMMUNITY</u>	<u>NUMBER</u>	<u>PANEL</u>	<u>SUFFIX</u>
LOWER MERION, TOWNSHIP OF	420701	0369	E
NARBERTH, BOROUGH OF	421903	0369	E

Notice to User: The MAP NUMBER shown below should be used when placing map orders; the COMMUNITY NUMBER shown above should be used on insurance applications for the subject community.

**MAP NUMBER
42091C0369 E**

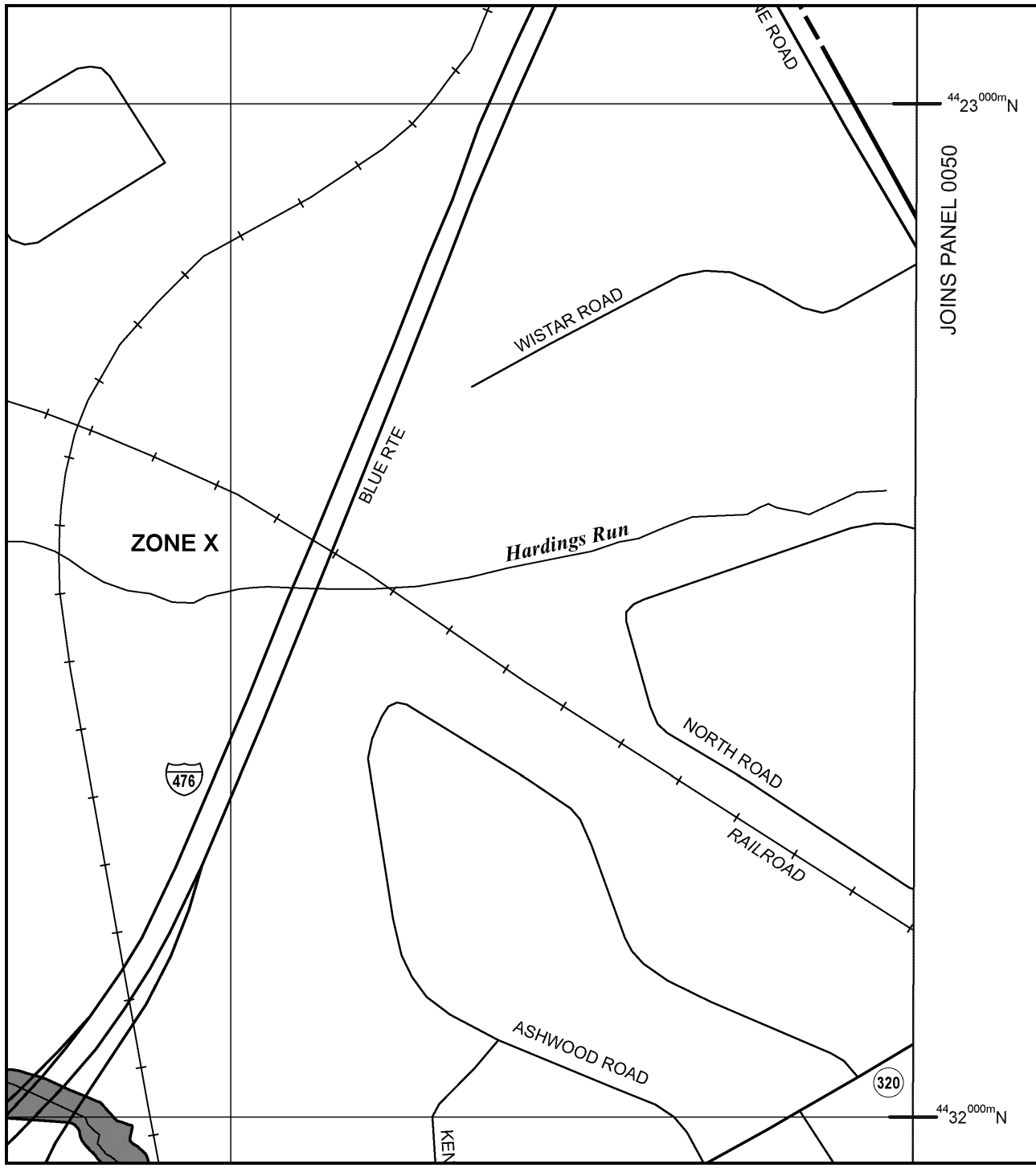
**EFFECTIVE DATE:
DECEMBER 19, 1996**



Federal Emergency Management Agency

JOINS PANEL 0432

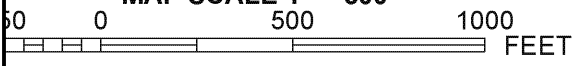
This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov



JOINS PANEL 0050



MAP SCALE 1" = 500'



NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0036F

FIRM
FLOOD INSURANCE RATE MAP

**DELAWARE COUNTY,
PENNSYLVANIA
(ALL JURISDICTIONS)**

PANEL 36 OF 250

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
RADNOR, TWP OF	420428	0036	F

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.



**MAP NUMBER
42045C0036F
MAP REVISED
NOVEMBER 18, 2009**

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov



Appendix I

Threatened and Endangered Species
Correspondence



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

COMMONWEALTH OF PENNSYLVANIA
Pennsylvania Game Commission
2001 ELMERTON AVENUE
HARRISBURG, PA 17110-9797

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

ADMINISTRATIVE BUREAUS:

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

www.pgc.state.pa.us

August 9, 2016

Ms. Angela Welt
Michael Baker International
4431 North Front Street, 2nd Floor
Harrisburg, PA 17110

PNDI Manual Project Submission
Re: Philadelphia Zoo to Paoli Transmission Line
Chester, Delaware, Montgomery, and Philadelphia Counties, PA

Dear Ms. Welt,

Thank you for submitting the Philadelphia Zoo to Paoli Transmission Line project to the Pennsylvania Natural Diversity Inventory (PNDI) for review. The Pennsylvania Game Commission (PGC) screened this project for potential impacts to species and resources of concern under PGC responsibility, which includes birds and mammals only.

No Impact Anticipated

PNDI records indicate species or resources of concern are located in the vicinity of the project. However, based on the information you submitted concerning the nature of the project, the immediate location, and our detailed resource information, the PGC has determined that no impact is likely. Therefore, no further coordination with the PGC will be necessary for this project at this time.

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

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

This finding applies to impacts to birds and mammals only. To complete your review of state and federally-listed threatened and endangered species and species of special concern, please be

sure that the U.S. Fish and Wildlife Service, the PA Department of Conservation and Natural Resources, and/or the PA Fish and Boat Commission have been contacted regarding this project as directed by the online PNDI ER Tool found at www.naturalheritage.state.pa.us.

Sincerely,



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

A PNHP Partner



TLM/tlm

Date: August 18, 2016

PNDI Number: 610022

Angela Welt
Michael Baker International
4431 North Front Street, 2nd Floor
Harrisburg, PA 17110
Email: awelt@mbakerintl.com (hard copy will not follow)

Re: Update - Philadelphia Zoo to Paoli Transmission Line Project
County: Chester/Delaware/Montgomery/Philadelphia

Dear Ms. Welt,

Thank you for the submission of the Pennsylvania Natural Diversity Inventory (PNDI) Environmental Review Receipt Number **610022** for review. PA Department of Conservation and Natural Resources screened this project for potential impacts to species and resources under DCNR's responsibility, which includes plants, terrestrial invertebrates, natural communities, and geologic features only.

No Impact Anticipated

PNDI records indicate species or resources under DCNR's jurisdiction are located in the vicinity of the project. However, based on the information you submitted concerning the nature of the project, the immediate location, and our detailed resource information, DCNR has determined that no impact is likely. No further coordination with our agency is needed for this project.

This response represents the most up-to-date review of the PNDI data files and is valid for two years only. If project plans change or more information on listed or proposed species becomes available, our determination may be reconsidered. For PNDI project updates, please see the PNHP website at www.naturalheritage.state.pa.us for guidance. As a reminder, this finding applies to potential impacts under DCNR's jurisdiction only. Visit the PNHP website for directions on contacting the Commonwealth's other resource agencies for environmental review.

Should you have any questions or concerns, please contact Rich Shockey, Ecological Information Specialist, by phone (717-772-0263) or via email (c-rshockey@pa.gov).

Sincerely,



Greg Podnieszinski, Section Chief
Natural Heritage Section



Pennsylvania Fish & Boat Commission

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

August 25, 2016

IN REPLY REFER TO
SIR# 46544

Michael Baker International
Angela Welt
4431 N. Front Street
Harrisburg, Pennsylvania 17110

**RE: Species Impact Review (SIR) – Rare, Candidate, Threatened and Endangered Species
PNDI Search No.
Philadelphia Zoo to Paoli Transmission Line Project
CHESTER County: - DELAWARE County: - MONTGOMERY County: -
PHILADELPHIA County:**

Dear Angela Welt:

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

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

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

Our Mission:

www.fish.state.pa.us

To protect, conserve and enhance the Commonwealth's aquatic resources and provide fishing and boating opportunities.

If you have any questions regarding this review, please contact Kathy Gipe at 814-359-5186 and refer to the SIR # 46544. Thank you for your cooperation and attention to this important matter of species conservation and habitat protection.

Sincerely,

A handwritten signature in black ink that reads "Christopher A. Urban". The signature is written in a cursive style with a large, prominent initial "C".

Christopher A. Urban, Chief
Natural Diversity Section

CAU/KDG/dn

2009-1540



Michael Baker

INTERNATIONAL

Michael Baker International4431 North Front Street, 2nd Floor
Harrisburg, PA 17110
(717) 221-2000
(717) 234-7611 FAX

August 5, 2016

US Fish and Wildlife Service
Pennsylvania Field Office
110 Radnor Rd; Suite 101
State College, PA 16801**Subject: Philadelphia Zoo to Paoli Transmission
USFWS Project #2009-1540 Update**

	U.S. FISH AND WILDLIFE SERVICE Pennsylvania Field Office 110 Radnor Road, Suite 101 State College, Pennsylvania 16801-4850	
No federally listed species under our jurisdiction is known or likely to occur in the project area. This determination is valid for two years. Should project plans change, or if additional information on listed species become available, this determination may be reconsidered.		
<i>Tra Z. Lattanzio</i> , Supervisor		9/5/16

Dear USFWS Representative:

Michael Baker International has been contracted by Amtrak to prepare a National Environmental Policy Act (NEPA) document for a potential project that will likely utilize funds from the Federal Railroad Administration (FRA) and is too long to be reviewed by the Pennsylvania Conservation Explorer.

Project History

This project is a component of the Keystone Corridor East High Speed Rail Program, which was previously reviewed by USFWS in September 2009, with a finding that "no federally listed or proposed threatened or endangered species under [USFWS] jurisdiction are known to occur within the area that will be directly or indirectly affected by the project." As more than one (1) year had passed, one specific component of the more extensive, previously reviewed, Keystone Corridor East High Speed Rail Program was re-reviewed by USFWS in September 2012 with findings that the prior comments made by the agency remained unchanged. The Philadelphia Zoo to Paoli Transmission Line Project was re-reviewed again in August 2014, two (2) years after the 2012 review, with findings that the prior comments made by the agency remained unchanged; however, an assessment of risks to migratory birds was also included. In May 2015, a species known to reside in Pennsylvania, the Northern Long-Eared Bat (*Myotis septentrionalis*), became classified as a federally listed Threatened Species. Due to this addition, we requested an updated assessment in July 2015 from USFWS, which resulted in another confirmation that the prior comments made by the agency remained unchanged. All four letters from USFWS are provided as Attachment 1.

The Philadelphia Zoo to Paoli Transmission Line Project is nearing the final design and construction phase. Therefore, we are requesting an updated assessment from USFWS. A Large Project form, United States Geological Survey (USGS) site location maps, aerial photographs including proposed catenary heights, and tree trimming plans are included as Attachments 2-5.

Project Area

The proposed project will occur entirely within the existing Amtrak right-of-way along an existing 20 mile section of the Keystone Corridor East between the Zoo Substation (mile marker 2.5) and the Paoli Substation (mile marker 20) in Philadelphia, Montgomery, Delaware, and Chester counties. Land uses in this section of the corridor consist mainly of residential and commercial uses.