PennEast Pipeline Company, LLC
One Meridian Boulevard, Suite 2C01
Wyomissing, PA 19610

January 27, 2015

Ms. Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

Re: PennEast Pipeline Company, LLC, Docket No. PF15-1-000
Updated Draft Resource Report 10

Dear Ms. Bose:

On October 10, 2014, the Director of the Office of Energy Projects issued a letter in the above-referenced docket approving the request of PennEast Pipeline Company, LLC ("PennEast") to commence the Federal Energy Regulatory Commission's Pre-filing Review Process of its proposed PennEast Pipeline Project. PennEast filed its draft Resource Reports 1 and 10, along with associated appendices, on November 10, 2014. Certain sensitive cultural resources information has been identified in draft Resource Report 10. Accordingly, the November 10, 2014 filing has been redesignated as containing Privileged information in eLibrary, and PennEast is hereby refiling the Public versions of its draft Resource Reports 1 and 10, along with the associated appendices. The documents filed herewith are identical to those filed on November 10, 2014, with the exception of the removal of the applicable sensitive information from draft Resource Report 10.

For purposes of clarity, updated versions of certain of the documents filed by PennEast on November 10, 2014 have been filed in the above-referenced docket. For example, PennEast filed an updated stakeholder list in a separate filing on November 10, 2014, an updated landowner list on January 15, 2015, and updated maps on January 16, 2015. Those updated documents remain the most current applicable version to be considered in this proceeding, and as described above, PennEast is refiling the Public versions of the November 10, 2014 documents herewith only due to the redesignation of the original filing as Privileged in eLibrary.

Should you have any questions concerning this filing, please contact me at (610) 406-4322.

Sincerely,

/s/ Anthony C. Cox
Anthony C. Cox
PennEast Pipeline Company, LLC,
By its Project Manager
UGI Energy Services, LLC

cc: Medha Kochhar (letter and Resource Report 10 only)

1.0 General Project Description

Resource Report 1 – General Project Description
FERC Environmental Checklist

Part 380-Appendix A Minimum Filing Requirements for Environmental Reports	Company Compliance or Inapplicability of Requirement
☐ Provide a detailed description and location map of the Project facilities. (§380.12(c) (1))	Sections 1.2, 1.2.1, 1.2.2 and 1.2.3; Figure 1.2-1a
☐ Describe any non-jurisdictional facilities that would be built in association with the Project. (§380.12(c) (2))	Section 1.10; Figure 1.2-1a
☐ Provide current original U.S. Geological Survey (USGS) 7.5-minute series topographic maps with mileposts showing the Project facilities. (§380.12(c) (3)).	Appendix A
☐ Provide aerial images or photographs or alignment sheets based on these sources with mileposts showing the Project facilities. (§380.12(c) (3)).	Figure 1.2-1a and Appendix C
☐ Provide plot/site plans of compressor stations showing the location of the nearest noise-sensitive areas (NSA) within 1 mile. (§380.12(c) (3,4)).	Appendix B
☐ Describe construction and restoration methods. (§380.12(c) (6)).	Section 1.5, Appendix E and Resource Report 2
☐ Identify the permits required for construction across surface waters. (§380.12(c) (9)).	Section 1.7 and Table 1.7-1
☐ Provide the names and addresses of all affected landowners and certify that all affected landowners would be notified as required in §157.6(d). (§§380.12(a)(4) and (c) (10)).	Section 1.8 and Appendix F
Additional Information Often Missing and Resulting in Data Requests	
☐ Describe all authorizations required to complete the proposed action and the status of applications for such authorizations.	Section 1.7
☐ Provide Plot/site plans of all other aboveground facilities that are not completely within the right-of-way.	Provided
☐ Provide detailed typical construction right-of-way cross-section diagrams showing information such as widths and relative locations of existing rights-of-way, new permanent right-of-way, and temporary construction right-of-way. See Resource Report 8.	Provided
☐ Summarize the total acreage of land affected by construction and operation of the project.	Table 1.3-4
☐ If Resource Report 5, Socioeconomics is not provided, provide the start and end dates of construction, the number of pipeline spreads that would be used, and the workforce per spread.	Provided
☐ Send two (2) additional copies of topographic maps and aerial images/photographs directly to the environmental staff of the Office of Energy Projects (OEP).	

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Master List of Acronyms and Abbreviations

AC	alternating current
ACHP	Advisory Council on Historic Preservation
amsl	above mean sea level
APE	area of potential effect
API	American Petroleum Institute
AQCR	Air Quality Control Regions
ATWS	additional temporary workspace
BACT	best available control technology
BAT	best available technology
bgs	below ground surface
BMP	best management practice
BREC	Bedford Rural Electric Cooperative
BTGS	Bureau of Topographic and Geologic Survey
CAA	Clean Air Act of 1970
CEII	Critical Energy Infrastructure Information
Census	U.S. Census Bureau
CEQ	Council on Environmental Quality
CERCLIS	Comprehensive Environmental Response Compensation and Liability Information System
Certificate	Certificate of Public Convenience and Necessity
CFR	Code of Federal Regulations
CO	carbon monoxide
Commission	Federal Energy Regulatory Commission
CRP	Capacity Restoration Project
CWA	construction work area
CWF	coldwater fishes
dB	decibel
dBA	A-weighting filter decibel
DIL	dynamic insertion loss
Dth/d	dekatherms per day
E&SCP	Erosion and Sedimentation Control Plan
E/C	equipment/component
ECP	environmental construction plan
EFH	essential fish habitat
EGM	environmental gas monitor
ER	Environmental Report
ERNS	Emergency Response Notification Site
ESCGP	Erosion and Sediment Control General Permit

ESD	emergency shutdown
FAC	facultative
FACU	facultative upland
FACW	facultative wetland
FERC	Federal Energy Regulatory Commission
FMV	fair market value
ft	feet/foot
g/hp-hr	grams per horsepower-hour
GP	General Permit
gpm	gallons per minute
HAP	hazardous air pollutant
HDD	horizontal directional drill
hp	horsepower
HUC	hydrologic unit code
HVAC	heating, venting, and air conditioning
Hz	Hertz
IMP	integrity management program
kW	kilowatts
L10	Sound level exceeded 10 percent of the measurement period
L90	Sound level exceeded 90 percent of the measurement period
LAER	lowest achievable emission rate
Ldn	Day-night average sound level (as calculated from measured Ld and estimated Ln)
Leq	A-weighted sound level at the NSA
LNG	liquefied natural gas
Lp	sound pressure level
Lw	sound power level
Lxx	Sound level where xx is percentile of time sound level exceeded
µg/m3	microgram per cubic meter
M&R	metering and regulating
MACT	maximum achievable control technology
MAOP	maximum allowable operating pressure
MMDth/d	million dekatherms per day
MF	migratory fishes
mg/l	milligrams per liter
MLV	mainline valve
MMBtu/hr	one million British thermal units per hour
MOA	Memorandum of Agreement
MP	milepost
N/A	not applicable

NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act
NDE	non-destructive examination
NEMA	National Electrical Manufacturers Association
NEPA	National Environmental Policy Act of 1969
NESHAP	National Emission Standards for Hazardous Air Pollutants
NFPA	National Fire Protection Association
NFRAP	No Further Remedial Action Plan
NGA	Natural Gas Act
NHPA	National Historic Preservation Act of 1966
NIP	Non-Internet Public
NMFS	National Marine Fisheries Service
NNSR	non-attainment new source review
NO2	nitrogen dioxide
NOx	nitrogen oxide compounds
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities Listed
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NSA	noise sensitive area
NSPS	new source performance standards
NSR	new source review
NTU	nephelometric turbidity units
NWI	National Wetland Inventory
NWSRS	National Wild and Scenic Rivers System
O&M	operation and maintenance
O3	ozone
O.B.	octave-band
OBL	obligate
OD	outside diameter
OEP	Office of Energy Projects
O&M	Operations & Maintenance
OPP	over pressure protection
OSD	Official Soil Series Description
OTR	Northeast Ozone Transport Region
PA	Pennsylvania
PADCNR	Pennsylvania Department of Conservation of Natural Resources
PADEP	Pennsylvania Department of Environmental Protection
PADOT	Pennsylvania Department of Transportation

PANHP	Pennsylvania National Heritage Program
PAR	permanent access road
Pb	lead
pcf	pound-force per cubic foot
PCPI	per capita personal income
PCR	power control room
PEM	palustrine emergent marsh
PennEast	PennEast Pipeline Company, LLC
PFBC	Pennsylvania Fish and Boat Commission
PFO	palustrine forested
PGC	Pennsylvania Game Commission
PHMC BHP	Pennsylvania Historical and Museum Commission Bureau for Historic Preservation
PHMSA	Pipeline and Hazardous Materials Safety Administration
Plan	FERC Upland Erosion Control, Revegetation, and Maintenance Plan
PM	particulate matter
PM2.5	particulate matter sized 2.5 microns and smaller
PM10	particulate matter sized 10 microns and smaller
PPC	Preparedness, Prevention, and Contingency Plan
ppm	parts-per-million
Project	PennEast Pipeline Project
PSD	prevention of significant deterioration
PSE&G	Public Service Electric and Gas
psi	pounds per square inch
psig	pounds per square inch gauge
PSS	palustrine scrub-shrub
PWL	sound power level
RACT	reasonably available control technology
RCRA	Resource Conservation and Recovery Act
RFD	Request for Determination of Requirement for Plan Approval/ Operating Permit
RICE	Reciprocating Internal Combustion Engines
ROW	right-of-way
sf	service factor
SHPO	State Historic Preservation Office
SIP	State Implementation Plan
SO2	sulfur dioxide
SPCC Plan	Spill Prevention, Control, and Countermeasure Plan
SPL	sound pressure level
SR	State Route
SSURGO	Soil Survey Geographic Database

STP	shovel test pit
SWL	solid waste landfill
T&E	threatened and endangered
TAR	temporary access road
Texas Eastern	Texas Eastern Transmission, LP
THPO	Tribal Historic Preservation Officers
TMDL	total maximum daily load
tpy	tons per year
Transco	Transcontinental Gas Pipe Line Company LLC
TSF	trout stocking fishery
UPL	upland
UPS	uninterruptible power supply
USACE	U.S. Army Corps of Engineers
USC	U.S. Code
USDA	U.S. Department of Agriculture
USDOC	U.S. Department of Commerce
USDOT	U.S. Department of Transportation
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VDC	volts direct current
VFD	variable frequency drive
VOC	volatile organic compound
WSS	Web Soil Survey
WWF	warmwater fishes

1.0 RESOURCE REPORT 1 - GENERAL PROJECT DESCRIPTION

PennEast Pipeline Company, LLC (PennEast) is seeking authorization from the Federal Energy Regulatory Commission (FERC) pursuant to Section 7(c) of the Natural Gas Act for the construction and operation of the PennEast Pipeline Project (PennEast Project or Project) located in Pennsylvania and New Jersey. The PennEast Project is designed to provide a direct and flexible path for transporting natural gas produced in the Marcellus Shale play in eastern Pennsylvania to growing natural gas markets in eastern Pennsylvania, southeastern Pennsylvania and New Jersey.

This Environmental Report (ER) has been prepared in accordance with FERC Order Nos. 603, et seq., which govern the filing of the ER portion of applications for Certificates of Public Convenience and Necessity, authorizing the construction and operation of facilities to provide service under Section 7 of the NGA.

The PennEast Project application (Application) and associated ER is organized into four volumes, in compliance with FERC's document control requirements for Public, Critical Energy Infrastructure Information (CEII), and Privileged and Confidential classes of information. The ER and the CEII and confidential Application exhibits are contained in Volumes II-IV and outlined below. The Application text and related public exhibits are included as Volume I.

Public

- Volume I
- Application
- Public Exhibits, Except F-1 (A, B, C, D, F, H, J, K, L, M, N, P, Z-1)
- Volume II-A
- Resource Reports 1-12
- Volume II-B
- Appendices A, C, D, E, G, H, I, K, and L

Privileged and Confidential

- Volume III
- Appendix F – Landowner and Stakeholder Lists
- Appendix J – Cultural Resource Survey Reports

Exhibit I

CEII

- Volume IV
- Appendix B - Plot Plans
- Appendix L (excerpts)
- Exhibits G, G-I, and G-II

Resource Report 1 includes the purpose and need for the Project, the locations and descriptions of proposed facilities, and the expected land requirements associated with construction and operation of the Project. In addition, this Resource Report contains information regarding the proposed construction and right-of-way (ROW) restoration procedures, operation and maintenance (O&M) practices, the permits and approvals required to construct and operate the Project, landowner notification information, any potential plans for future expansion or abandonment of the proposed facilities, proposed non-jurisdictional facilities, and a cumulative impacts analysis.

1.1 Purpose and Need

PennEast proposes to construct, install and operate the Project facilities to provide approximately 1.0 MMDth/day of year-round transportation service from northern Pennsylvania to markets in eastern and southeastern Pennsylvania and New Jersey.

The Project is designed to bring lower cost natural gas produced in the Marcellus Shale region in eastern Pennsylvania to homes and businesses in Pennsylvania and New Jersey. The Project facilities include a 36-inch diameter, 108-mile pipeline, extending from Luzerne County, Pennsylvania, to Mercer County, New Jersey. The Project will extend from various receipt point interconnections in the eastern Marcellus region, including interconnections with Transcontinental Gas Pipe Line Company, LLC (Transco) and gathering systems operated by Williams Partners L.P., Regency Energy Partners LP, and UGI Energy Services, LLC, all in Luzerne County, Pennsylvania, to various delivery point interconnections in the heart of major northeastern natural gas-consuming markets, including interconnections with UGI Utilities, Inc. (UGI) in Carbon County, Pennsylvania and Northampton County, Pennsylvania, respectively, Columbia Gas Transmission, LLC (Columbia Gas) in Northampton County, and Elizabethtown Gas, Texas Eastern Transmission, LP (Texas Eastern) and Algonquin Transmission, LLC, all in Hunterdon, New Jersey. The terminus of the proposed PennEast system will be located at a delivery point with Transco in Mercer County, New Jersey.

The Project was developed in response to market demands in Pennsylvania and New Jersey, and interest from shippers that require transportation capacity to accommodate increased receipts of natural gas in the region. The Project will include a new pipeline and aboveground facilities that will provide a new source of natural gas supply from the Marcellus Shale producing region to Pennsylvania and New Jersey. The Project is designed to provide a new pipeline alternative to serve markets in the region. An additional supply of natural gas to the region will provide a benefit to consumers, utilities and electric generators by providing enhanced competition among suppliers and pipeline transportation providers. The Project will satisfy the needs of shippers seeking (i) additional supply flexibility, diversity and reliability; (ii) liquid points for trading in locally produced gas, including Marcellus Shale gas; (iii) direct access to premium markets in the northeast and mid-Atlantic regions; (iv) the ability to capture pricing differentials between the various interconnected market pipelines; and (v) firm access to long-lived dry gas reserves. The Project will provide shippers additional opportunities to buy and sell supplies and to transport natural gas to where it is needed and valued most. The Project also offers shippers a short-haul transportation option for direct access to Marcellus Shale natural gas supplies.

PennEast held an Open Season for the Project from August 11, 2014 to August 29, 2014, and has executed long–term, binding precedent agreements with eight shippers for 78% of the firm transportation capacity to be created by the Project. PennEast continues to negotiate with other potential shippers, the combination of which could fully subscribe the capacity of the proposed Project facilities. Notably, many of the Project shippers are electricity generators and local distribution companies in both Pennsylvania and New Jersey.

As is demonstrated by the make-up of the Project shippers, the PennEast Project is primarily driven by the demand markets. Several of the Project shippers have provided PennEast with information regarding their rationale for committing to Project capacity so that PennEast could provide that information in this Resource Report 1. PennEast provides this information below:

<u>New Jersey Natural Gas</u>

Following Superstorm Sandy, New Jersey Natural Gas undertook a comprehensive initiative to increase the reliability of its distribution system. As a result, New Jersey Natural Gas intends to receive natural gas from additional supply points to eliminate single points of failure. PennEast will provide stable, low cost supply that will provide supply and pipeline diversity to New Jersey Natural Gas for Monmouth and Ocean counties. PennEast also provides an opportunity for New Jersey Natural Gas to restructure its gas supply portfolio.

<u>Pivotal Utility Holdings, Inc. (d/b/a Elizabethtown Gas)</u>

Elizabethtown Gas (ETG) has both a current need and a long-term planning need for new capacity in New Jersey. The PennEast Project provides a unique option to economically increase the reliability of firm pipeline transportation in a market area where the availability of new pipeline and peak shaving capacity is constrained. More direct-connected interstate supply options allows for less reliance on the continued addition of supplemental on-system peak shaving facilities or the use of third-party, delivered peaking supplies to meet growing firm customer demand. Additionally, service from

PennEast will increase ETG's system reliability. Existing interstate natural gas pipelines to the northwest portion of Elizabethtown's territory are fully subscribed and recent expansions have been costly. PennEast will deliver to the northwestern portion of ETG's system thereby significantly reducing, if not eliminating, the need to rely on third parties for bundled, city-gate delivered supplies.

ETG has subscribed to service from PennEast to increase supply diversification for ETG's current customers, and to provide capacity from new sources to serve the immediate and long term growth in ETG's service territory. Service from PennEast will provide an important new source of firm gas supply that can also help ETG extend service to more communities as significant opportunities develop. In an effort to extend gas service to more customers, over the next three years, ETG intends to work with local municipal and county officials, local and state economic development authorities, community leaders and the New Jersey Board of Public Utilities to find affordable solutions which will allow ETG to extend additional service within communities near the PennEast Project.

PSEG Power, LLC

The largest utility in New Jersey, PSEG Power, LLC, intends to supply growth on its system from PennEast. The benefits will lower the cost to its gas customers. Additionally, by way of lower the cost of operations for electric generators in New Jersey, the benefits will also provide a cost benefit to electric customers as well.

South Jersey Gas Company

The PennEast Project will provide a new supply from a low cost stable source displacing delivered supplies which have been subject to extreme price volatility. The Project will create a lower, more stable price environment which will benefit all South Jersey customers. Acquisition of the PennEast capacity will allow South Jersey to restructure its capacity portfolio to lower overall costs to its Basic Gas Supply Service customers. PennEast will provide additional operational flexibility for South Jersey by connecting South Jersey's distribution system to an additional upstream pipeline. Additionally the capacity will be available to feed new load on the South Jersey distribution system, including several natural gas-fired power plants, in support of New Jersey's Energy Master Plan.

Texas Eastern Transmission, LP

The PennEast Project provides Texas Eastern with direct access to the eastern Marcellus, which allows Texas Eastern to increase supply diversity and optionality for its shippers and for markets that it serves in the region.

UGI Energy Services, LLC

UGI Energy Services is one of the largest gas marketers in the Mid-Atlantic and serves a significant number of industrial and commercial customers. The PennEast Project will provide UGI Energy Services with greater access to the gas production region of the Marcellus Shale which will be used to support service to retail customers.

As described further in Resource Report 10, PennEast evaluated using existing interstate pipelines in the area as alternatives to the PennEast Project, however such pipelines would not have the ability to satisfy the purpose and need of the PennEast Project and otherwise would not provide suitable alternatives for the Project.

A review of the Annual Energy Outlook 2014 (Energy Information Administration [EIA] 2014) reference case indicates that natural gas consumption will rise from 25.6 trillion cubic feet (Tcf) in 2012 to 31.6 Tcf in 2040.

The winter of 2013-14 demonstrated that there were significant constraints in the natural gas supply system created by a combination of increased demand from residential, commercial and industrial conversions; cold weather affecting traditional demand; and new natural-gas fired power generation. While natural gas prices have steeply declined over the last several years, critical links between supply and demand, particularly on days where demand is highest, have led to unprecedented spikes in the cost of natural gas and electricity as illustrated in Figure 1.1-1. Figure 1.1-2 highlights the high price increases experienced during the 2013-2014 winter. The lack of a new pipeline with access to

supply sources in Pennsylvania will continue to create dramatic seasonal price fluctuations in Pennsylvania and New Jersey with higher gas and electric rates and an increased potential for energy shortages during peak demand, resulting in threats to business continuity, public safety and national security. Continued increases in demand for natural gas will further exacerbate this problem if new infrastructure is not constructed. Higher energy prices reduce disposable income for residents, decrease competitiveness for businesses and increase taxes. Accordingly, the Project is designed to bring lower cost natural gas to homes and businesses in Pennsylvania and New Jersey. Figure 1.1-3 and 1.1-4 illustrate the increase expected on the electric system between 2012 and 2040 that will significantly contribute to this increased demand for natural gas. Figure 1.1-5 shows the PJM capacity fuel mix as of 12/1/2014. Further, the proposed Project will help to spur economic growth in Pennsylvania, New Jersey and surrounding states by providing an abundant supply of low-cost energy, making the region more competitive both nationally and internationally.

Figure 1.1-1
Historic Regional Power and Natural Gas Prices

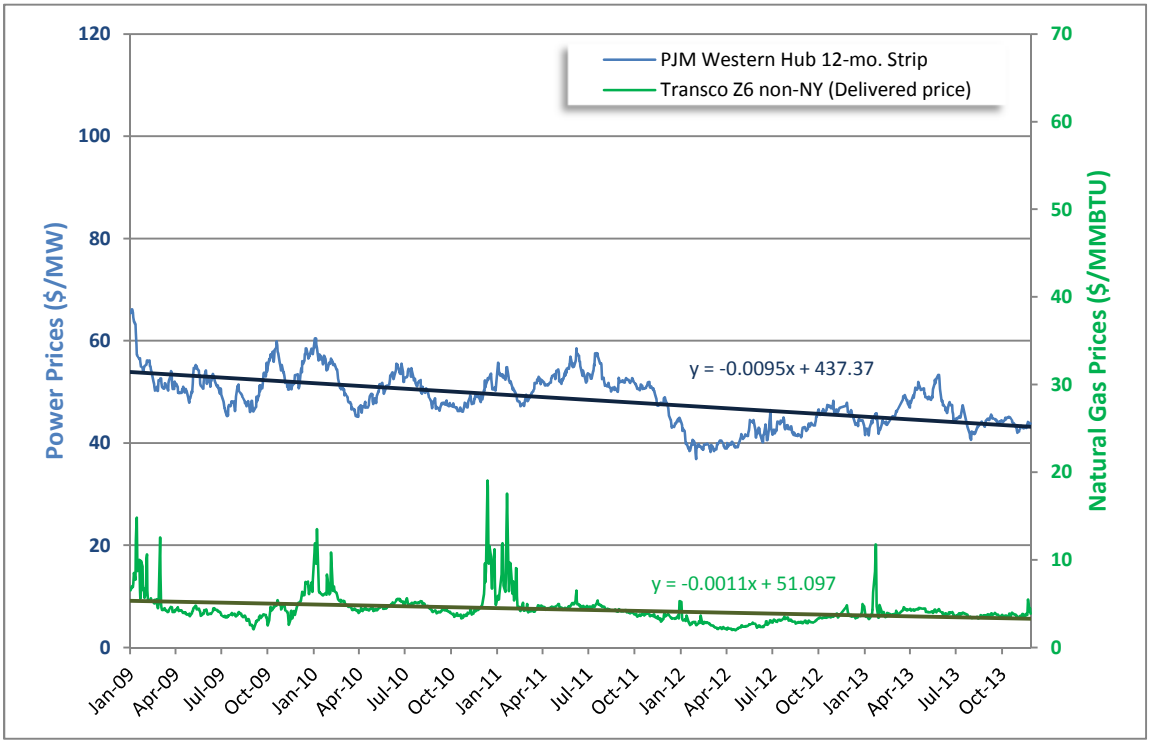


Figure 1.1-2
Regional Power and Natural Gas Prices - November 2013 through October 2014

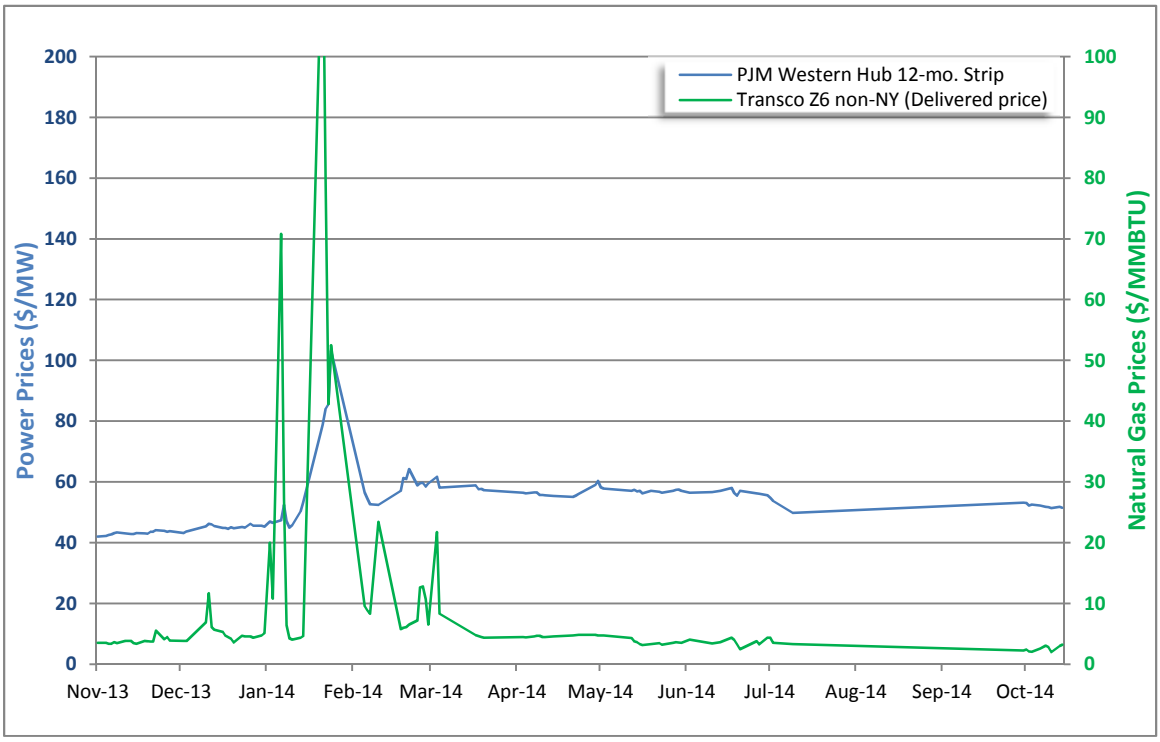


Figure 1.1-3[a]
Capacity Additions by Fuel
2012-2020

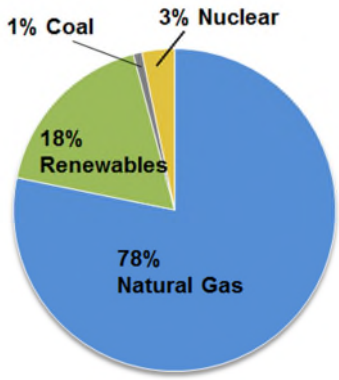


Figure 1.1-4[a]
Projected Capacity Fuel Mix
By 2020

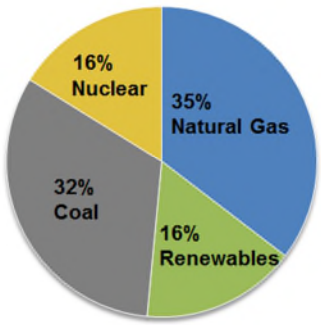
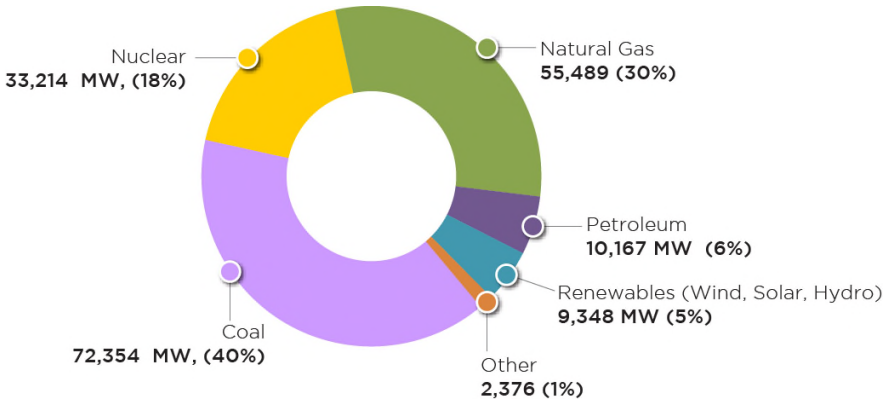


Figure 1.1-5
PJM Capacity Fuel Mix
12/1/2014



[a] EIA, 2014

1.2 PennEast Location and Description of Facilities

The Project will entail the construction of approximately 108.8 miles of 36-inch diameter pipeline from Luzerne County, Pennsylvania to Mercer County, New Jersey. The Hellertown Lateral, an approximately 2.1 mile lateral of 24-inch diameter pipe, will be constructed in Northampton County, Pennsylvania. This lateral will serve as an Interconnect with Columbia and UGI- Lehigh. The associated above ground infrastructure for PennEast will consist of interconnect meter stations, mainline block valves, and a compressor station.

1.2.1 Pipeline Facilities

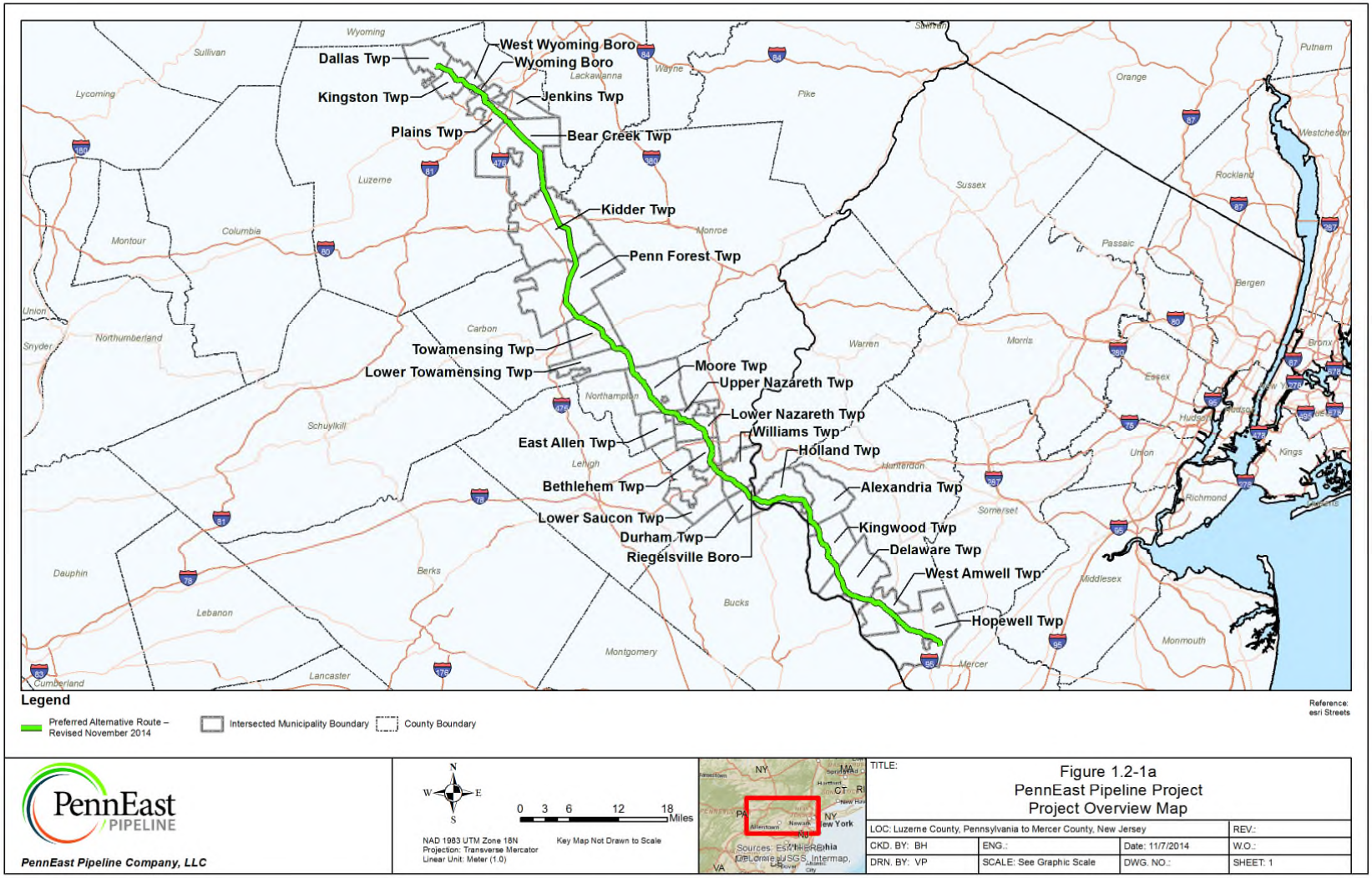
The Project's pipeline facilities are identified by segment and include the PennEast mainline route pipeline and the 24-inch Hellertown lateral. These pipeline facilities are summarized on Table 1.2-1, which provides the proposed Project's pipeline installations, pipeline diameter, approximate length, mileposts (MP), and type of activity. Figure 1.2-1a shows the regional location of the Project. Appendix A, Sheets 1 to 33, present U.S. Geological Survey (USGS) topographic quadrangle maps depicting the locations of the proposed pipeline facilities. Appendices B and C contain plot plans and aerial alignment sheets, respectively, of the proposed pipeline and associated facilities.

- The PennEast pipeline is an approximately 108.8-mile long new pipeline starting in Luzerne County, Pennsylvania and extending to Mercer County, New Jersey. Pennsylvania counties traversed include Luzerne, Carbon, Northampton, and Bucks. The Project traverses Hunterdon and Mercer Counties in the New Jersey portion.
- The 24-inch Hellertown Lateral is an approximately 2.1-mile new pipeline in Northampton County, Pennsylvania.

Table 1.2-1
Pipeline Facilities

Facility	Pipeline Diameter and Type	Approx. Length (miles)	Begin MP	End MP	State	County
PennEast Pipeline Route	36-inch – new pipeline	108.8	0.0	108.8	PA, NJ	Multiple
Hellertown 24-inch lateral	24-inch – new pipeline	2.1	68.7	--	PA	Northampton

Figure 1.2-1a
Project Overview Map



1.2.2 Aboveground Facilities

The PennEast Project will make use of a single compressor station that will serve the entire line providing sufficient throughput with an aggregate of approximately 32,745 ISO hp of compression. The latitude/longitude location coordinates for the facility is presented in narrative below and is also listed in Table 1.2-2.

UGI HAZ Compressor Station

The UGI HAZ Compressor Station will be a new facility. The proposed location is on an approximately 40-acre site in Carbon County, Pennsylvania (41° 5' 29.8" N, 75° 39' 48.4" W). The proposed compressor station location is undeveloped, forested land. Environmental field surveys indicate that there are no wetlands or cultural resources within the proposed site. The proposed facility components at the Compressor Station include:

- Installation of three gas turbine-driven Taurus 70 units rated at 10,915 hp each under ISO conditions (32,745 total ISO hp).

Table 1.2-2
Aboveground Facilities

Facility/ Location	Type	New/ Modified	State	County
UGI HAZ Compressor Station	Compression Facilities Install three gas turbine-driven Taurus 70 units rated at 10,915 hp each under ISO conditions (32,745 total ISO hp).	New	PA	Carbon

Facilities

Various associated above ground facilities including interconnects, launchers, receivers, and mainline block valves also will be constructed to support the pipeline system. Table 1.2-3 provides a list of the associated facilities.

Table 1.2-3
Associated Facilities

Facility/ Location	Type	New/ Modified	MP[1]	State	County
PennEast Pipeline Route	Wyoming Interconnect	New	0.00	PA	Luzerne
	Springville Interconnect	New	0.25	PA	Luzerne
	Auburn and Leidy Interconnects	New	4.50	PA	Luzerne
	Mainline Block Valve	New	8.23	PA	Luzerne
	UGI HAZ Interconnect	New	25.50	PA	Carbon
	Mainline Block Valve	New	40.20	PA	Carbon
	Mainline Block Valve	New	48.61	PA	Carbon
	Mainline Block Valve	New	59.82	PA	Northampton
	Elizabethtown Interconnect and Mainline Block Valve	New	76.35	NJ	Hunterdon
	Mainline Block Valve	New	85.49	NJ	Hunterdon
	Mainline Block Valve	New	96.93	NJ	Hunterdon
	Algonquin and TETCO Interconnects	New	98.25	NJ	Hunterdon
	Hellertown Lateral and Launcher/ Reciever Site	New	68	PA	Northampton

Facility/ Location	Type	New/ Modified	MP[1]	State	County
PennEast Hellertown Lateral Route	Transco Interconnect	New	108.8	NJ	Mercer
	TCO Interconnect	New	L-2.13	PA	Northampton
	UGI Lehigh Interconnect	New	L-2.13	PA	Northampton

1.2.3 Location Maps, Detailed Site Maps, and Plot and Site Maps

Volumes II-B and IV of this filing provide the referenced appendices. As previously noted, Appendix A includes USGS topographic quadrangles depicting the proposed facilities. Appendix B (Volume IV) contains plot plans for the aboveground facilities associated with the Project. Appendix C provides available ArcGIS aerial photographs, updated on October 2, 2014, of the facility locations. During the first quarter of 2015, aerial photography for the entire PennEast Project will be acquired. Appendix D provides figures depicting USGS topographic quadrangles with U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) data layers for the Project area.

1.3 Land Requirements

1.3.1 Pipeline Facilities

The PennEast Project requires a 50-foot permanent ROW and an approximately 50-foot temporary construction workspace for a nominal 100-feet-wide construction corridor. This corridor width is based on construction conditions of similar projects within Pennsylvania. From the center of the ditch, the spoil side of the construction ROW is proposed to be 35 feet. This footprint will serve as the primary spoil storage area. Thus, the working side of the construction ROW will typically be 65 feet wide from the center of the ditch and will serve to accommodate trench excavation, bank sloping, topsoil segregation and safe equipment mobilization. Agricultural areas where full topsoil segregation of 12 inches deep will require an additional 25 feet totaling a 125-feet-wide construction corridor. During project review, conditions evaluated include topography, soils, bedrock, boulders, wetlands, and waterbodies, as well as proximity to existing roads, railroads, residences. PennEast has considered these noted conditions along with machinery requirements needed for safe pipeline and support facility installation. Under certain conditions that are still being evaluated, additional workspace may be necessary to maintain safe practices in specific locations and would extend beyond the nominal 100-feet corridor. Table 1.3-1 identifies the estimated land requirements for pipeline construction and operation and maintenance (O&M) needs.

Table 1.3-1
Land Requirements for Pipeline Facilities

Facility[1]	Approximate Length/No. of Sites	Temporary Workspace for Construction (acres)	Permanent Easement for Construction and Operation (acres)		Total Workspace for Construction (acres)
			Existing[2]	New	
PennEast Pipeline Route	108.8 miles				
Hellertown 24-inch lateral	2.1 miles				
Totals					
Other Facilities					
Access Roads[3]	22.1 miles/51 access rds				
Pipeyards	Information forthcoming				

1 This table does not specify valves and launcher/receivers that will be constructed on the pipeline segments since the land requirements for these facilities are within the land requirements for the pipeline segments.

2 Only includes existing permanent 50 foot ROW within limits of construction.

3 Estimated Temporary Workspace for Construction includes access roads including existing roads.

New Pipeline ROW

Typical construction and operation ROW widths for new pipeline along the PennEast Pipeline and the 24-inch Hellertown Lateral are shown in Figure 1 in the E&SCP (Appendix E). As noted, the typical construction ROW will be 100 feet wide consisting of new 50-feet permanent easement plus a temporary workspace of 50-feet. Where possible, the construction ROW has been co-located and sited in adjacent to or in proximity to existing ROWs (pipeline or electric power). Where necessary, the new ROW has been sited away from existing ROWs when there is an unacceptable risk, such as due to a combination of steep vertical and horizontal slope areas. Land requirements for constructed temporary workspace is included as part of the pipeline assessment.

Access Roads

To the extent practicable, existing public and private road crossings will be used as the primary means to access the ROW. Additional access points are necessary beyond those available by use of existing public roads. Preliminarily, PennEast has identified 51 access roads for use during construction of the Project. These access roads include a total length of approximately 22.1 miles. These access roads include use of 34 existing roads and construction or enhancement of 17 new/existing access roads. Table 1.3-2 lists all proposed roads by pipeline segment. The following access roads are identified by County:

- 19 Access Roads - Luzerne County, Pennsylvania
- 9 Access Roads – Carbon County, Pennsylvania
- 11 Access Roads – Northampton County, Pennsylvania
- 9 Access Roads – Hunterdon County, New Jersey
- 3 Access Roads – Mercer County, New Jersey

Improved access roads will likely require maintenance activities that may include tree branch clearing, gravel placement, and/or access path widening. Moreover, there will be the need to establish temporary staging areas along several access roads. Such areas will serve as places for temporary vehicle parking and/or staging of minor supplies (e.g., hay bales for erosion control activities). During the design phase of the project, these staging areas will be identified and added to the USGS topographic figures in Appendix A. Table 1.3-2 includes the total land use impacts resulting from the proposed access roads including the staging areas. Temporary access roads (TARs) for construction will be restored in accordance with landowner agreements. Landowner permission will be obtained for all proposed permanent access roads (PARs).

Table 1.3.2
Acess Roads for Project

Road No.	MP	County	Length	New/ Existing	Width	State*	Improvement Needed	Improvement Distance	Temporary/ Permanent	Justification	Note
AR-001	-	Luzerne	1,367	Existing	20	Matted	Yes	1,367	Permanent	Wyoming Interconnect access	
AR-002	0.51	Luzerne	3,111	Existing	20	Paved	No	-	Temporary	Springville Interconnect access	
AR-003	4.45	Luzerne	1,802	Partially existing	20	Paved, field, and forest	Yes	533	Permanent	Leidy, Auburn Interconnect access	
AR-004	5.33	Luzerne	482	Existing	15	Paved	No	-	Temporary	Clearing crew access for light traffic	
AR-005	6.35	Luzerne	484	Existing	15	Paved	No	-	Temporary	light vehicle access prior to clearing and construction	
AR-006	7.91	Luzerne	248	New	15	Grass and trees	Yes	248	Temporary	Access around guard rails on N Main street	
AR-007	8.20	Luzerne	68	New	20	Forest	Yes	68	Permanent	Mainline valve access	
AR-008	9.18	Luzerne	1,384	Existing	15	Dirt road and forest path	Yes	1,161	Temporary	Access to north side of railroad, creek, and Union St	
AR-009	9.18	Luzerne	3,282	Existing	15	Gravel	No	-	Temporary	Access to ROW for materials and major equipment	
AR-010	10.03	Luzerne	765	Paritally existing	15	Gravel and forest	Yes	253	Temporary	Access to north side of Hwy 315 and Interstate 81 HDD	
AR-011	10.18	Luzerne	5,015	Paritally existing	15	Gravel and forest	Yes	196	Temporary	Access to south side of Hwy 315 and Interstate 81 HDD	
AR-012	10.95	Luzerne	1,268	Existing	15	Gravel and forest	Yes	464	Temporary	Access to ROW that minimizes impact to Deep Creek in clearing and construction	
AR-013	11.35	Luzerne	2,288	Paritally existing	15	Paved and forest	Yes	742	Temporary	Access to south side of railroad crossing	
AR-014	12.16	Luzerne	1,884	Existing	15	Gravel	No	-	Temporary	Clearing crew access for light traffic	

Road No.	MP	County	Length	New/ Existing	Width	State*	Improvement Needed	Improvement Distance	Temporary/ Permanent	Justification	Note
AR-015	12.71	Luzerne	2,563	Existing	15	Gravel and jeep trail	Yes	2,563	Temporary	Access to south side of Interstate 476 crossing	
AR-016	13.80	Luzerne	11,065	Existing	15	Gravel	No	-	Temporary	Access to ROW in remote area. Will minimize clearing.	
AR-017	16.05	Luzerne	14,038	Paritally existing	15	Forest and jeep trail	Yes	14,038	Temporary	Access to ROW in remote area. Will minimize impact to and crossing of parallel creek.	
AR-018	19.86	Luzerne	3,869	Existing	15	Gravel	No	-	Temporary	Access to ROW and clearing in remote area.	
AR-019	21.22	Luzerne	11,872	Existing	15	Gravel	No	-	Temporary	Access north side of Lehigh River crossing	
AR-020	24.53	Carbon	9,113	Paritally existing	15	Paved, gravel, and forest	Yes	2,343	Temporary	Access to south side of Lehigh River crossing	
AR-021	26.44	Carbon	6,227	Existing	15	Gravel	No	-	Temporary	Access to south side of Interstate 80 crossing	
AR-022	28.31	Carbon	3,313	Paritally existing	15	Paved and gravel	No	-	Temporary	Access to ROW south of large wetland complex	
AR-023	32.20	Carbon	3,280	Existing	15	Paved and gravel	No	-	Temporary	Access to ROW north of Mud Run during pre-clearing activities, i.e. survey	
AR-024	34.06	Carbon	91	Existing	15	Gravel	No	-	Temporary	Construction access across adjacent line from Balsam Drive	
AR-025	42.01	Carbon	194	Existing	15	Gravel	No	-	Temporary	Construction access	
AR-026	44.61	Carbon	280	Existing	15	Gravel/trail	No	-	Temporary	Access to ROW that minimizes impact to Hunter Creek	
AR-027	46.12	Carbon	1,435	Existing	15	Gravel	No	-	Temporary	Access to ROW in remote area	
AR-028	49.05	Carbon	3,360	Existing	15	Gravel and forest	Yes	1,019	Temporary	Access to ROW in a steep area	

Road No.	MP	County	Length	New/ Existing	Width	State*	Improvement Needed	Improvement Distance	Temporary/ Permanent	Justification	Note
AR-029	54.25	Northampton	791	Existing	15	Gravel and dirt road	No	-	Temporary	Access to ROW south of tributary to Hokendauqua Creek	
AR-030	57.30	Northampton	844	Existing	15	Paved	No	-	Temporary	Access to ROW that minimizes impact to Monocacy Creek	
AR-031	65.51	Northampton	119	new	15	Farmer's field	Yes	119	Temporary	Access to ROW in congested area	
AR-032	65.92	Northampton	58	New	15	Farmer's field	Yes	58	Temporary	Access to ROW in congested area	
AR-033	67.79	Northampton	1,995	Existing	15	Gravel	No	-	Temporary	Access to north side of Lehigh River HDD	
AR-034	68.30	Northampton	2,216	Paritally existing	15	Forest and jeep trail	Yes	1,345	Temporary	Access to south side of Lehigh River crossing	
AR-035	68.33	Northampton	463	Existing	15	Paved	No	-	Temporary	Access to south side of railroad crossing	
AR-036	68.56	Northampton	96	Existing	20	Paved and gravel	No	-	Permanent	UGI-Leh Interconnect access	
AR-037	69.25	Northampton	634	Existing	15	Gravel	No	-	Temporary	Access to south side of Interstate 78 HDD	
AR-038	71.35	Northampton	1,487	Paritally existing	20	Paved and forest	Yes	533	Permanent	TCO Interconnect access	
AR-039	75.13	Hunterdon	412	Existing	15	Paved	No	-	Temporary	Access to south side of Delaware River HDD	
AR-040	76.38	Hunterdon	1,604	New	20	Dirt path	Yes	1,604	Permanent	Mainline valve and Etown Interconnect access	
AR-041	80.18	Hunterdon	1,412	Existing	15	Paved and gravel	No	-	Temporary	Acces ROW that minimizes impact to tributary to Hakihokake Creek	
AR-042	82.42	Hunterdon	1,752	Existing	15	Dirt path	No	-	Temporary	Access to ROW in remote area	
AR-043	83.36	Hunterdon	967	Existing	15	Dirt path	No	-	Temporary	Access to ROW that minimizes impact to tirbutary to Harihokake Creek	

Road No.	MP	County	Length	New/ Existing	Width	State*	Improvement Needed	Improvement Distance	Temporary/ Permanent	Justification	Note
AR-044	84.15	Hunterdon	1,291	Existing	15	Gravel	No	-	Temporary	Access to ROW that minimizes impact to Harihokake	
AR-045	86.83	Hunterdon	1,578	Paritally existing	15	Gravel and dirt road	Yes	532	Temporary	Access to ROW in remote area	
AR-046	98.21	Hunterdon	2,218	Existing	20	Dirt road	Yes	1,991	Permanent	Algonquin and Tetco Interconnect access	
AR-047	99.90	Hunterdon	690	Existing	15	Gravel	No	-	Temporary	Access to ROW for preliminary activities	
AR-048	106.65	Mercer	968	Existing	15	Paved	No	-	Temporary	Access to south side of railroad HDD	
AR-049	108.27	Mercer	518	Existing	15	Paved	No	-	Temporary	Access to south side of Stony Brook HDD	
AR-050	108.80	Mercer	315	New	20	Grass	Yes	315	Permanent	Transco Interconnect access	
24” Hellertown Lateral											
AR-051		Northampton	291	New	20	Grass	Yes	291	Permanent	Access to lateral	

Pipeyards and Wareyards

The number and location of five pipeyards is currently under consideration for the Project. Table 1.3-3 lists the pipeyards, location, current land use and modification, if any, and size. Total land requirements for these temporary and other associated facilities are presented on Table 1.3-1.

Table 1.3-3
Proposed Pipeyards in Pennsylvania and New Jersey

Facility Name	Municipality / County	Latitude, Longitude	Land use	Proposed Modification	Acreage
	Jenkins/Luzerne	Information forthcoming			
	Kidder/Carbon	Information forthcoming			
	Upper Nazareth/Northampton	Information forthcoming			
	Delaware Township/ Hunterdon	Information forthcoming			
	TBD	To Be Determined			

1.3.2 Aboveground Facilities

Aboveground facilities associated with the Project will include one new compressor station. The proposed compressor station location is presently undeveloped land and will require full site preparation. Table 1.3-4 summarizes the land requirements for construction and operation of the compressor station associated with the Project. Appendix B (Volume IV) provides preliminary site-specific plot plans for aboveground facilities proposed by PennEast.

Table 1.3-4
Land Requirements For Aboveground Facilities

Facility	Property Size (acres)	Land Disturbed Temporarily During Construction (acres)	Land Required Permanently for Operation (acres)
UGI HAZ Compressor Station	47.7		

1.4 Cumulative Impacts

A cumulative impact analysis has been conducted to identify and describe the potential effects that may result from the proposed Project. The cumulative impact analysis addresses the Council on Environmental Quality (CEQ) guidelines (CEQ, 1979) based on recent court rulings. To be included in the cumulative impacts analysis, an action must meet the following three criteria:

- Impact a resource area identified as a potentially affected area by the proposed Project;
- Cause this impact to occur within all, or part of, the Project geography; and
- Cause this impact to occur within all, or part of, the time span for the proposed Project.

The cumulative impact analysis makes use of the Project counties within Pennsylvania and New Jersey as the Project geography to be considered; to restate, these include Luzerne, Carbon, Northampton, and Bucks Counties in Pennsylvania, and Hunterdon and Mercer Counties in New Jersey. Moreover, given the proximity of the Project to several adjacent counties, the Project has included in the cumulative impact analysis portions of Monroe County, Pennsylvania and Warren County, New Jersey that are within 0.6 miles from the Project centerline. These areas represent the locations where the greatest potential for impacts may occur.

A desktop study was conducted to identify all existing, planned or inactive natural gas wells within ½ mile of the proposed PennEast Pipeline. Research indicated that there is only one planned well pad within ½ mile, and it is located within Luzerne County. No other natural gas wells are within ½ mile of the PennEast Project. In fact, the closest gas well to the PennEast project is over five miles away.

The PennEast cumulative impacts assessment is also based on information about major projects that has been obtained from resources that include: Planning Commissions and County and Municipal Departments, available Transportation Improvement Plans, meeting minutes and communications with county staff, input provided at Project Open Houses, and industry sources. The discussions and research included requests for information on major projects that are recently completed, presently on-going, and planned and/or approved for implementation. The findings of this research are outlined in Table 1.4-1.

Land uses in the immediate Project area associated with the ROW are, in order of dominance, primarily forested lands, agriculture, developed land, and shrubland. The analysis determined that there are three transportation, two industrial, and eight large-scale commercial or residential development projects associated with the Project area.

Examples of major projects near the PennEast Project include: Earth Conservancy land development, Mercer Crossings, and Blue Ridge development. Commercial development projects represent the majority of larger impact activities and include such efforts as Commercial, residential, and urban renewal improvements. The PennEast Project will cross through the Blue Ridge land development as well as a portion of the Earth Conservancy land development.

Potential cumulative impacts may include increased sediment into nearby wetlands and waterbodies, increased traffic due to lane or road closures, impacts to businesses, noise impacts from heavy machinery and construction, decreased air quality, removal of natural trees and vegetation, spread of invasive species, impacts to wildlife and fisheries, and impact to visual resources.

Cumulative impacts to the above mentioned resources can be minimized through the use of BMPs. Potential cumulative impacts that may be associated with the proposed Project and the associated mitigation actions, as necessary, are discussed in detail within each of the applicable resource reports.

Table 1.4-1
Projects for Cumulative Impacts Analysis

Project Type – Name	Description	Address, Township, State	Closest Milepost	Approx. Distance/Direction	Current Status and Schedule
Luzerne County, PA					
Earth Conservancy (EC) land development (1000+ acres)	Reclaimation and sustainable development of former coal mining land, including open space and recreational areas	101 S Main St , Ashley, Luzerne County, PA	MP 7.9	Pipeline crosses property South of MP 7.9	Ongoing
2013-2016 Transportation Improvement Plan (TIP)	Plan including funding for multiple transportation improvement plans throughout Luzerne County, including road repaving and bridge improvements. Administered by Luzerne County Transportation Authority (LCTA)	315 Northamption Street, Kingston, PA	Potentially MP 1 - 21		Funded and ongoing; will require further research with PennDOT/LCTA
County has implemented Industrial/Business Park Incentive Program (Could not find specific projects)	Authorization for tax breaks for eligible manufacturing, 501 C 3 non-profit organizations, and "exempt" issues such as water and sewer utility facilities. The IDA is empowered to be the issuer or applicant of certain economic development related programs permitted by the Internal Revenue Code and the Economic Development Law and Commonwealth of Pennsylvania.	200 North River Street, Wilkes-Barre, PA	MP 0 -22.4	N/A	Ongoing program
Stauffer Pointe Condominium Project	HUD-funded affordable condominium planned project	34 Grandview Dr, Pittston Township, PA	Pittston Twp near MP 11.5	4.4 miles Northeast	Construction ongoing-occupancy expected 2015
Rehabilitation and Reuse of Market Street Square Property	Redevelopment of Market Street Square complex	33 S. Wilkes-Barre Blvd, Wilkes-Barre, PA	MP 9.5	5.5 miles Southwest	Requesting proposals

Project Type – Name	Description	Address, Township, State	Closest Milepost	Approx. Distance/Direction	Current Status and Schedule
Carbon County, PA					
Combined Heat and Power (CHP) Plant at Blue Mountain	Combined heat and power plant by Tuthill Corporation, funded by Pennsylvania Energy Development Authority (PEDA)	Blue Mountain Dr. Construction is at intersection of PA Turnpike and PA-903, Palmerton, PA	MP 46.7	4.5 miles Southwest	Expected completion in 2016
Turnpike Exit in Penn Forest Township to Route 903	EZ-Pass only exit off Pennsylvania Turnpike	Penn Forest Township, PA	MP 34.3	0.5 miles East	Expected completion Fall 2014
Blue Ridge	Real estate company specializing in resort residential communities in the Poconos Mountains; properties include Jack Frost National Golf Course	Mosey Wood Rd (Corporate office), Blakeslee, Kidder Township, PA	MP 25.7 - 28.2	Pipeline crosses Blue Ridge property	Company continues to develop residential and tourism facilities in area
Northampton County, PA					
Lehigh River Eastern Gateway Redevelopment	Commercial development of Lehigh River waterfront	B10 East Church Street, Bethlehem, PA	MP 67.8	5 miles west	Planning stage
Easton Waterfront Development	Plan for revitalizing Easton Waterfront, focusing on Central Business District, including increased housing development, redevelopment of existing buildings, attracting retail.	Throughout downtown Easton Central Business District. Easton, PA	MP 65.5	5. 8 miles East	No further information found
Hunterdon County, NJ					
NJ Route 31 Expansion	Plan developed by NJDOT to build parkway system and expand street networking to Route 31 throughout Raritan Township and Fleming Borough.	Throughout Raritan Township and Fleming Borough, NJ	MP 93.6	8 miles East	Currently in development stage

Project Type – Name	Description	Address, Township, State	Closest Milepost	Approx. Distance/Direction	Current Status and Schedule
Mercer County, NJ					
Ewing Town Center Redevelopment Project	Plan to redevelop closed General Motors facility with 1000 housing units and 115,000 square feet of retail/commercial space	Parkway Avenue, Ewing Township, NJ	108.8	6 miles Southwest	Plan made public Jan. 2014; no current schedule
Mercer Crossings Redevelopment Project	Plan to revitalize Mercer Crossings area through development of housing options and transit improvement projects	Ewing Township, Lawrence Township, Trenton, NJ	108.8	6 miles South	Plan made public Jan. 2007; current grant with AECOM to engineer new traffic designs for area were presented to public in 2009

1.5 Construction and Restoration

1.5.1 Standard Construction Methods

The proposed PennEast Project will be constructed in compliance with applicable specifications, federal regulations and guidelines, and the Project specific permit conditions (Section 1.7).

Construction and restoration techniques to be used will be those typical for cross-country and residential construction. The E&SCP (Appendix E) provides detail of such techniques and mitigation measures that will be used for the Project. Additional construction techniques and measure that will be employed are provided in the Spill Prevention, Control, and Countermeasure (SPCC) Plan (Appendix H).

The Project E&SCP is consistent with the FERC's Upland Erosion Control, Revegetation, and Maintenance Plan (May 2013 version) and Wetland and Waterbody Construction and Mitigation Procedures (May 2013 version).

Construction of the PennEast Pipeline will follow standard construction practices and will typically involve numerous divisions of the pipeline (spreads) with crews progressing work along the ROW within each spread in an ordered fashion. The PennEast Project anticipates division of the PennEast Pipeline Route into five spreads. Typically survey crew will begin the operations by demarcating the pipeline centerline and construction work area (CWA) along the ROW. Winter tree clearing may be employed in areas with sensitive habitat. Clearing, grading, trenching, and other crews follow capped off by the finish cleanup crew who complete the process. Crews most frequently progress in close sequence to facilitate orderly progress, minimize the active construction spread size, and expedite restoration efforts.

Pipeline construction generally involves the following sequential operations which are discussed in more detail in the E&SCP (Appendix E).

Pipeline Construction - Typical Sequential Operation Steps:

1. Survey/demarcate the route and approved workspace.
2. Centerline survey of existing or proposed pipelines.
3. Clearing – remove vegetation from CWA; installation of erosion and sediment controls.
4. Additional protection of adjacent pipeline, as necessary; grading to establish safe workspace; completion of installation of erosion and sediment controls.
5. Trenching - pipeline trench excavation to design depths.
6. Stringing - placement of pipe joints along the trench line.
7. Bending – bending pipe joints, as needed, for route and terrain.
8. Weld pipe.
9. Pipe integrity - visual inspection, non-destructive examination (NDE) of welds.
10. Weld coating - corrosion protection and waterproofing.
11. Pipe placement - pipe placed in trench, tied to previously laid sections, backfilled.
12. Hydrostatic testing – confirmation of pipeline integrity.
13. In-line tool inspection of new pipeline segments.
14. Tie-in to existing pipeline, purge, pack new section with gas.
15. Grade restore of CWA to previous contours.
16. Final clean-up, restoration, and seeding.

During such operations PennEast will apply dust mitigation measures, as necessary. Such applications will be at the direction of the Contractor Supervisor, Environmental Inspector, and/or the onsite Chief Construction Inspector. Typical measures that may be employed to minimize dust will most commonly be use of water trucks to dampen workspace, if necessary, and particularly roadways to help maintain clear visibility.

Surveying

Prior to construction, survey crews will stake the centerline of the proposed pipeline, foreign line crossings, the limits of the CWA, and the location of approved work access roads. Wetland boundaries and other environmentally sensitive areas will also be re-marked at this time.

Clearing

Clearing includes the removal of trees and brush from the CWA. With the exception of stream buffers and wetlands, tree stumps are removed from the permanent ROW. Stump grinding may be used as an alternative to removal to leave below grade root systems intact to aid in soil stabilization. The stumps are disposed of by approved methods.

Grading

Grading to a relatively level surface allows safe operation of required heavy equipment.

Trenching

Trenches are excavated wide enough to allow safe lowering in of pipe without damage to the coating. Blasting will likely be required in some rocky areas. Excavated material is used as trench backfill.

Stringing

Steel pipe sections or joints in standard 40, 60, or 80-feet lengths are transported (i.e., trucked) to the CWA and strung out along the ROW where they are welded together.

Bending

Pipe joints are bent within tolerances by specialized machinery to maintain the route and ground contours while avoiding damage to the pipe and coating.

Welding Inspections and Non-Destructive Examinations

Fitted pipe is welded together into extended sections (up to ~4,000 feet, terrain dependent). Pipe welding is highly controlled with skilled welders using required, specified techniques. Every weld is inspected visually and subjected to NDE to ensure integrity.

Coating

Specialized coating is applied to every weld joint area following completion of the NDE. Coatings are then electronically checked and repaired, if necessary.

Lowering-In

Pipe lengths are lowered into the trench by specialty “side boom” tractors. Extreme care is taken to protect the coating during the lowering-in process. Lowered pipe is positioned within the trench on sandbag benches (or approved equivalent structures). Connecting ends of the pipe are welded together in the ditch followed by the above inspection and coating process.

Backfill

Following lowering-in, the trench and pipeline are backfilled. A bedding layer of rock-free pad dirt is placed first to protect the pipe and coatings. Final backfill makes use of material excavated from the trench.

Hydrostatic Testing

Completed sections of pipeline are further tested using water pressure. Pipes are filled with water and then pressurized to levels higher than the maximum operating pressure designated for the pipeline. The pressure test is held for a minimum of eight hours to be in compliance with U.S. Department of Transportation (USDOT) regulations.

Waterbody Crossings

Various methods are and will be used to cross streams and rivers and are described in Section 1.5.2 and Appendices C and E.

Cleanup and Restoration

Cleanup and restoration commence as soon as practicable following completion of backfilling and testing. These activities include replacing grade cuts to original contours, seeding fertilizing, and mulching to restore ground cover and minimize erosion. Temporary workspaces are stabilized for their natural reversion toward their previous state.

1.5.2 Specialized Construction Methods

Streams and Rivers

PennEast is evaluating numerous methods for pipeline construction, particularly as it relates to traversing the numerous waterbodies (summarized in Resource Report 2). This evaluation includes consultations with the U.S. Fish and Wildlife Service (USFWS), Pennsylvania Department of Environmental Protection (PADEP), New Jersey Department of Environmental Protection (NJDEP), and the U.S. Army Corps of Engineers (USACE), among others. PennEast proposes to cross waterbodies with flow at the time of construction using a combination of horizontal directional drilling (HDD), bores, and dry-crossing methods, as described below. At this time no open cut crossings are proposed. Major waterbody crossing construction methods are discussed in further detail below.

Generally during crossings, the full width of the construction ROW will be used on either side of the waterbody for construction staging and pipeline fabrication the pipeline. Extra temporary construction workspace may be required in some situation and will be located in upland areas a minimum of 50 feet from the waterbody; whenever possible; certain crossing may require extra workspace in closer proximity to the waterbody.

Equipment

During clearing and grading activities, temporary bridges will be constructed across all waterbodies to permit construction equipment to cross. Construction equipment will be required to use the bridges, except the clearing crew who will be allowed one pass through the waterbodies before the bridges are installed. Bridges and supports will be removed after restoration is complete. If bridges are not installed at state-designated fishery streams, equipment will be required to move around the waterbodies to gain access to the other side.

In general, equipment refueling and lubricating will take place in upland areas that are more than 100 feet from the edges of streams and rivers and their associated wetlands. There may be certain instances where equipment refueling and lubrication may be necessary in or near streams and rivers. For example, stationary equipment, such as water pumps for hydrostatic test water, may need to be operated continuously on the banks of waterbodies and may require refueling in place. PennEast has prepared a SPCC Plan to address the handling of fuel and other materials in or within 100 feet of waterbodies. The SPCC Plan to be utilized during construction is included in Appendix H.

Clearing

Clearing will involve the removal of trees and brush from the construction ROW and temporary construction workspace. Woody vegetation will be cleared to the edge of the waterbodies, but a 10-foot-long herbaceous strip will be left on the approaches until immediately before construction to provide a natural sediment filter and minimize the potential for erosion immediately adjacent to the waterbodies. Initial grading of the herbaceous strip will be limited to the extent needed to install bridges and in areas that are needed to construct the pipeline safely where large grade cuts are necessary.

During clearing where possible and during grading, sediment barriers will be installed and maintained adjacent to waterbodies and within temporary construction workspaces, where needed, to minimize the potential for sediment runoff. Drivable berms may be installed and maintained across the ROW in lieu of silt fence or straw bales.

Construction

PennEast will follow the timing restrictions identified by the Pennsylvania Fish and Boat Commission (PFBC). There is a March 1 to June 15 timing restriction for PFBC approved trout waters, and an

October 1 to December 31 timing restriction for PFBC designated wild trout waters. The Chapter 93 "TSF" designation does not carry any timing restrictions. The approved trout water timing restrictions only apply to the stocked portions of the waterbody and any unnamed tributaries within 0.5 mile of the stocked portions. These timing restrictions do not apply to unnamed tributaries outside of the 0.5 mile of the stocked streams. The timing restriction for PFBC wild trout waters applies to the entire reach of any stream within the designated watershed.

The PFBC considers **"**in-stream construction" to consist of any impacts to the streambed/bank or flowing water below the top of bank, which would include the installation of a utility line dry crossing. The PFBC has confirmed that the installation of a temporary equipment bridge that spans from bank to bank, or any pre-blasting required outside of the top of banks, would not be subject to the timing restrictions.

Pre-Blasting In Streams

PennEast is proposing that during the ditching activities, all streams that contain solid rock be drilled and blasted. An application for a Permit for Use of Explosives in Commonwealth Waters will be filed with the PFBC. Any blasting activities will be completed in accordance with the E&SCP. The ditch crew will drill the stream banks with a rock drill to determine if rock will be encountered. Should the test holes determine the area will need to be shot or blasted, the crew will continue to prepare the ditch line area for blasting. Upon completion of blasting, the crew will ensure that the stream bottom is restored to prevent interference with the flow. Once the mainline tie-in crews move to the area the stream will be excavated and installed in accordance with the E&SCP. The stream pre-blasting activities will reduce the duration of stream disturbance and enable the contractor to meet the timing restrictions for in-stream disturbance.

Flume Crossing Method

PennEast may choose to cross specific waterbodies by using the flume crossing method. The flume crossing method involves diverting the flow of the stream across the construction site through one or more flume pipes placed in the stream (see E&SCP). The first step in the flume crossing method involves placing a sufficient number of adequately sized flume pipes in the stream to accommodate the highest anticipated flow during construction. After placing the pipes in the stream, sand or pea gravel bags will be placed in the stream upstream and downstream of the proposed trench. The bags serve to dam the stream and divert the stream flow through the flume pipes, thereby isolating the stream flow from the construction area.

Backhoes located on both banks of the stream will excavate a trench under the flume pipe in the isolated streambed. Spoil excavated from the stream trench will be placed or stored a minimum of 10 feet from the edge of the waterbody for temporary storage. Once the trench is excavated, a pre-fabricated segment of pipe will be installed beneath the flume pipes. The trench will then be backfilled with native spoil from the streambed. Clean gravel or native cobbles will be used to backfill the top 12 inches of the trench in coldwater fisheries.

If trench dewatering is necessary near waterbodies, the trench water will be discharged into an energy dissipation/sediment filtration device, such as geotextile filter bag or straw bale structure, away from the water's edge to prevent heavily silt-laden water from flowing into the waterbody.

Dam and Pump Crossing Method

PennEast may choose to cross specific waterbodies by using the dam and pump crossing method. The dam and pump crossing method involves constructing temporary sand or pea gravel bag dams upstream and downstream of the proposed crossing site while using a high capacity pump to divert water from the upstream side around the construction area to the downstream side (see E&SCP). Energy dissipation devices, such as steel plates will be placed on the downstream side at the discharge point to prevent streambed scour.

After installing the dams and commencing pumping, a portable pump (separate from that pumping the stream flow around the construction area) may be used to pump standing water from between the dams into a dewatering structure consisting of straw bales/silt fence or into a filter bag located away from the stream banks, thereby creating a dry construction area.

Once the area between the dams is stable, backhoes located on both banks will excavate a trench across the stream. Spoil excavated from the trench may be stored in the dry streambed adjacent to the trench if the stream crossing is major or in a straw bale/silt fence containment area located a minimum of 10 feet from the edge of the stream banks. Leakage from the dam, or subsurface flow from below the streambed, may cause water to accumulate in the trench. As water accumulates in the trench, it may be periodically pumped out and discharged into a dewatering structure located away from the stream banks.

After trenching across the streambed is completed, a prefabricated segment of pipe will be installed in the trench. The streambed portion of the trench is immediately backfilled with streambed spoil. Once restoration of the streambed is complete, the dams are removed and normal flow is re-established in the stream.

Restoration

Completed stream crossings using the flume or dam and pump methods will be stabilized before returning flow to the channel. Original streambed and bank contours will be re-established, and mulch, jute thatching, or bonded fiber blankets will be installed on the stream banks. Where the flume technique is used, stream banks will be stabilized before removing the flume pipes and returning flow to the waterbody channel.

Seeding of disturbed stream approaches will be completed in accordance with FERC's *Plan* and *Procedures* after final grading, weather and soil conditions permitting. Where necessary, slope breakers will be installed adjacent to stream banks to minimize the potential for erosion. Sediment barriers, such as silt fence and/or straw bales will be maintained across the ROW until permanent vegetation is established. Temporary equipment bridges will be removed following construction.

The use of HDD crossings are currently planned for the following locations:

Table 1.5-1
Horizontal Directional Drilling

Location/Feature	Mile Post
US Hwy 81 / St. Hwy 315	10.1
Wild Creek (Beltzville Lake)	43.0
Pohopoco Stream (Beltzville Lake)	43.5
Lehigh River	68.2
US Hwy 78	69.0
Delaware River	74.8

Additional HDDs will be considered as we evaluate mitigation measures related to wetlands and other environmentally sensitive areas of concern.

Major Waterbody Crossings

There are 4 major waterbody crossings associated with the Project: the Susquehanna River, the Lehigh River, Beltsville Lake and the Delaware River. PennEast is conducting ongoing evaluations of the different construction methods for each of the crossings. A team of engineers, environmental scientists, construction personnel and land agents conducted joint field investigations and reviewed each of the crossing areas. The Susquehanna River crossing is bordered by an Airport and flood-control berm to the south and a newly constructed highway bridge to the north. The crossing area is in proximity to the historic 1959 Knox Mine disaster where the river bed collapsed into the mine. The crossing area is being carefully evaluated for historic mine shafts and debris. Until further studies are completed the final crossing technique cannot be determined. Two other pipeline crossings in the area used open cut methodology with a diversion of the river channel on the other side of an island during construction so that the crossing was essentially done in the dry. An HDD is also being evaluated.

Preliminary studies indicate that the Lehigh River, Beltzville Lake and the Delaware River can each be crossed using a bore or HDD. Geotechnical investigations will confirm these plans. Initial discussions with the USACE indicate that they are supportive of the general location of the Beltzville crossing and additional coordination and studies will be necessary.

PennEast has an unanticipated release plan that will be included with the FERC filing and environmental permit applications for review and implementation as necessary.

Wetlands

Wetland construction will be done in accordance with FERC's Wetland and Waterbody Crossing *Procedures* as well as applicable BMPs required by the PA DEP, NJ DEP and County Conservation Districts. In addition, PennEast will follow the SPCC Plan, E&SCP provided in the Appendices as well as specific PA and NJ permit conditions.

Other Utilities

The preliminary surveys indicate that foreign pipelines and utilities are present in a number of locations. Locations will be identified during surveys and marked on Alignment Sheets. In addition, prior to construction 811 calls will be made so that the locations can be properly marked in the field.

Rugged Topography

PennEast will cross 56 areas of rugged topography totaling 3.35 miles.

Table 1.5-2
Rugged Topography

Row ID	Mile Post Start	Mile Post End	Distance (feet)
1	0.57	0.59	105.6
2	2.3	2.32	105.6
3	3.35	3.37	105.6
4	3.6	3.65	264
5	3.19	3.28	475.2
6	5.06	5.13	369.6
7	5.27	5.28	52.8
8	10.51	10.56	264
9	10.64	10.65	52.8
10	12.35	12.41	316.8
11	13.55	13.56	52.8
12	13.69	13.78	475.2
13	22.15	22.16	52.8
14	22.18	22.25	369.6
15	22.04	22.12	422.4
16	22.51	22.63	633.6
17	23.18	23.24	316.8
18	32.55	32.58	158.4
19	38.61	38.68	369.6
20	38.75	38.77	105.6
21	39.51	39.53	105.6

Row ID	Mile Post Start	Mile Post End	Distance (feet)
22	39.74	39.8	316.8
23	39.59	39.6	52.8
24	43.09	43.12	158.4
25	43.97	44.01	211.2
26	44.68	44.83	792
27	45.01	45.05	211.2
28	47.8	47.84	211.2
29	47.96	47.98	105.6
30	48.87	48.97	528
31	49.12	49.17	264
32	50.65	50.67	105.6
33	52.93	52.95	105.6
34	49.98	50.61	3326.4
35	56.63	56.64	52.8
36	56.72	56.84	633.6
37	57.43	57.47	211.2
38	68.03	68.12	475.2
39	68.37	68.41	211.2
40	71.4	71.47	369.6
41	75.2	75.23	158.4
42	80.05	80.08	158.4
43	80.53	80.56	158.4
44	80.43	80.48	264
45	77.73	77.78	264
46	80.72	80.74	105.6
47	77.26	77.27	52.8
48	76.62	76.79	897.6
49	78.26	78.46	1056
50	84.05	84.07	105.6
51	85.02	85.04	105.6
52	84.9	84.96	316.8
53	85.73	85.74	52.8
54	85.63	85.67	211.2
55	94.46	94.51	264
56	104.03	104.05	105.6
Total Distance (feet)			**17,688**
Total Distance (miles)			**3.35**

Residential or Commercial

During the next phase of the project, the construction workspace will be laid out. With the project footprint defined, field surveys will be made at locations where structures are in close proximity of the foot print. All residential or commercial properties where structures are within 50 feet of the pipeline, site specific drawings will be created.

Active Croplands

Table 8.1-1 provides an accumulated total of active croplands (agricultural lands) crossed by the Project. Active croplands observed during field surveys conducted to date include corn, soybeans, and hay fields.

Road Crossings

The Project will cross a total of 243 roadways. Table 1.5-3 provides the name, type, location by MP, and anticipated crossing method of these roadways.

Table 1.5-3
Roadways Crossed by the Project

Project Components	Mile Post	Roadway Name	Roadway Type A, G, D, C[1]	Jurisdiction F, S, T, C, I N, U[2]	Construction Method B, OC, HDD[3]
PA Crossing	0.5	Wyoming Interconnect Access Rd	G	U	OC
PA Crossing	0.64	Lower Demunds Rd	A	U	B
PA Crossing	1.1	Gypsy Lane	G	N	OC
PA Crossing	1.59	Manor Drive	A	S	B
PA Crossing	2.1	Green Rd	A	T	B
PA Crossing	3.01	Carverton Rd	A	S	B
PA Crossing	3.47	Bunker Hill Rd	A	T	B
PA Crossing	3.69	Tower Access Rd	G	U	OC
PA Crossing	4.17	Reggie Lane	G	U	OC
PA Crossing	4.24	Asphalt Driveway	A	U	B
PA Crossing	4.46	Access Road	G	U	OC
PA Crossing	5.35	Asphalt Driveway	A	N	B
PA Crossing	5.4	Asphalt Driveway	A	S	B
PA Crossing	5.42	Shoemaker Avenue	A	S	B
PA Crossing	5.46	Driveway	G	U	OC
PA Crossing	5.96	Swetland Lane	A	N	B
PA Crossing	6.35	Sunset Drive	A	U	B
PA Crossing	6.44	Wyoming Ave / Hwy 11	A	S	B
PA Crossing	6.58	Farm Road	G	U	OC
PA Crossing	7.32	Main Street	A	S	B
PA Crossing	7.41	Farm Road	G	U	OC
PA Crossing	7.92	N Main Street	A	S	B

Project Components	Mile Post	Roadway Name	Roadway Type A, G, D, C[1]	Jurisdiction F, S, T, C, I N, U[2]	Construction Method B, OC, HDD[3]
PA Crossing	7.98	E Saylor Avenue	A	S	B
PA Crossing	8.7	Gravel Road	G	U	OC
PA Crossing	8.95	Gravel Road	G	U	OC
PA Crossing	9.02	Gravel Road	G	U	OC
PA Crossing	9.14	Gravel Road	G	U	OC
PA Crossing	9.18	Gravel Road	G	U	OC
PA Crossing	9.3	Gravel Road	G	U	OC
PA Crossing	9.45	Gravel Road	G	U	OC
PA Crossing	9.52	Railroad	RR	U	B
PA Crossing	9.56	Union Street	A	S	B
PA Crossing	10.09	Hwy 315	A	S	HDD
PA Crossing	10.15	Interstate 81 N/S	A	I	HDD
PA Crossing	10.17	Gravel Road	G	S	OC
PA Crossing	10.42	Gravel Road	G	U	OC
PA Crossing	10.73	Gravel Road	G	U	OC
PA Crossing	10.94	Gravel Road	G	U	OC
PA Crossing	11.01	Hwy 2020 / Jumper Rd	A	S	B
PA Crossing	11.12	Gravel Road	G	U	OC
PA Crossing	11.34	Railroad	RR	U	B
PA Crossing	11.74	Gravel Road	G	U	OC
PA Crossing	12.16	Gravel Road	G	N	OC
PA Crossing	12.2	Gravel Road	G	U	OC
PA Crossing	12.35	Gravel Road	G	U	OC

Project Components	Mile Post	Roadway Name	Roadway Type A, G, D, C[1]	Jurisdiction F, S, T, C, I N, U[2]	Construction Method B, OC, HDD[3]
PA Crossing	12.44	Hwy 2039 / Pittston Boulevard	A	S	B
PA Crossing	12.67	Interstate 476	A	I	B
PA Crossing	12.72	Gravel Road	G	U	OC
PA Crossing	13.8	Wind Turbine Access Road	G	N	OC
PA Crossing	17.17	Hwy 2038 / Meadow Run Rd	A	S	B
PA Crossing	18.07	Abandoned Railroad	G	U	OC
PA Crossing	19	Hwy 115 / Wilkes Barre and Easton Rd	A	S	B
PA Crossing	20.53	Gravel Road / Trail	D	U	OC
PA Crossing	20.72	Gravel Road / Trail	D	U	OC
PA Crossing	21.22	Gravel Road	G	U	OC
PA Crossing	21.88	Abandoned Railroad	G	U	OC
PA Crossing	21.96	Gravel Road / Trail	D	U	OC
PA Crossing	22.06	Abandoned Railroad	G	U	OC
PA Crossing	23.57	Gravel Road / Trail	D	U	OC
PA Crossing	23.94	Gravel Road / Trail	D	U	OC
PA Crossing	24.41	Gravel Road / Trail	D	U	OC
PA Crossing	25.78	Hwy 940	A	S	OC
PA Crossing	26.35	Interstate 80	A	I	B
PA Crossing	26.42	Gravel Road	G	N	OC
PA Crossing	27.26	Gravel Road / Trail	D	U	OC
PA Crossing	28.32	Gravel Road / Trail	D	U	OC
PA Crossing	28.53	Gravel Road / Trail	D	U	OC
PA Crossing	28.63	Gravel Road / Trail	D	U	OC

Project Components	Mile Post	Roadway Name	Roadway Type A, G, D, C[1]	Jurisdiction F, S, T, C, I N, U[2]	Construction Method B, OC, HDD[3]
PA Crossing	31.15	N Old Stage Rd	A	T	B
PA Crossing	31.42	Gravel Road	G	U	OC
PA Crossing	31.65	Hwy 534	A	S	B
PA Crossing	32.98	Hwy 903	A	S	B
PA Crossing	34.06	Balsam Rd	G	N	OC
PA Crossing	34.55	Red Wood Drive	A	N	B
PA Crossing	35.13	T743	A	T	B
PA Crossing	36.18	Abandoned Railroad	G	U	OC
PA Crossing	36.94	Gravel Road / Trail	D	U	OC
PA Crossing	37.29	Reservoir Road	A	S	B
PA Crossing	39.23	Gravel Road / Trail	D	U	OC
PA Crossing	40.15	Forest Street	G	N	OC
PA Crossing	40.25	Forest Street	A	T	B
PA Crossing	40.3	Gravel Road / Trail	D	U	OC
PA Crossing	40.43	Woods Way	D	U	OC
PA Crossing	40.48	Gravel Road / Trail	G	U	OC
PA Crossing	41.24	Towamensing Rd	A	N	B
PA Crossing	41.55	Lovitt Rd	A	T	B
PA Crossing	42.02	Gravel Road / Trail	G	N	OC
PA Crossing	42.32	T437B	A	T	B
PA Crossing	42.62	Pohopoco Drive	A	T	B
PA Crossing	43.34	Penn Forest Rd	A	N	B
PA Crossing	44.05	Hwy 209 / Interchange Rd	A	S	B

Project Components	Mile Post	Roadway Name	Roadway Type A, G, D, C[1]	Jurisdiction F, S, T, C, I N, U[2]	Construction Method B, OC, HDD[3]
PA Crossing	44.65	Spruce Hollow Rd	A	S	B
PA Crossing	44.87	Log Fence Rd	A	T	B
PA Crossing	45.06	Beers Lane	A	T	B
PA Crossing	45.56	Stagecoach Rd E	A	T	B
PA Crossing	46.12	Gravel Driveway	G	U	OC
PA Crossing	46.23	Gravel Driveway	G	U	OC
PA Crossing	46.62	Spruce Rd	A	T	B
PA Crossing	47.84	57 Rd	A	T	B
PA Crossing	48.6	Hwy 3004 / Little Gap Rd	A	S	B
PA Crossing	48.74	Gravel Road / Trail	G	U	OC
PA Crossing	49.19	Hwy 3002 / Lower Smith Gap Rd	A	S	B
PA Crossing	49.78	Gravel Road / Trail	G	U	OC
PA Crossing	51.2	Gravel Driveway	G	U	OC
PA Crossing	51.35	Line Rd	A	T	B
PA Crossing	51.68	Delps Rd	A	T	B
PA Crossing	52.19	Sr 4014	A	S	B
PA Crossing	52.44	Hoch Rd	A	S	B
PA Crossing	53.05	Glase Rd	A	T	B
PA Crossing	53.07	Asphalt Driveway	A	U	B
PA Crossing	53.44	Hwy 946 / Mountain View Drive	A	S	B
PA Crossing	53.87	S Oaks Rd	A	T	B
PA Crossing	53.95	E Walker Rd	A	T	B
PA Crossing	54.25	Farm Road	D	U	OC

Project Components	Mile Post	Roadway Name	Roadway Type A, G, D, C[1]	Jurisdiction F, S, T, C, I N, U[2]	Construction Method B, OC, HDD[3]
PA Crossing	54.68	Valley View Dr	A	S	B
PA Crossing	54.89	Asphalt Driveway	A	U	B
PA Crossing	54.92	W Beersville Rd	A	T	B
PA Crossing	55.27	E Dannersville Rd	A	T	B
PA Crossing	56	Hwy 4027 / Grouse Drive	A	S	B
PA Crossing	56.14	Sr 4006	A	S	B
PA Crossing	56.28	Asphalt Driveway	A	U	B
PA Crossing	56.3	Hatch Gravel Rd	A	T	B
PA Crossing	57.3	Asphalt Driveway	A	U	B
PA Crossing	57.42	Hwy 987 / Monocacy Dr	A	S	B
PA Crossing	57.46	Farm Road	D	U	OC
PA Crossing	57.7	Hwy 512 / Moorsetown Dr	A	S	B
PA Crossing	58.54	Penn Dixie Rd	A	U	B
PA Crossing	59	Hwy 248 / Bath Pike Rd	A	S	B
PA Crossing	59.48	Railroad	RR	U	B
PA Crossing	59.49	Gravel Road	G	U	OC
PA Crossing	59.81	Gun Club Rd	A	T	B
PA Crossing	60.21	Asphalt Road	A	U	B
PA Crossing	60.41	Blossom Hill Rd	A	T	B
PA Crossing	60.87	Georgetown Rd	A	T	B
PA Crossing	61.57	Hwy 946 / Daniels Rd	A	S	B
PA Crossing	62.15	Hwy 191 / Nazareth Bethlehem Pike	A	S	B
PA Crossing	62.22	Gradwohl Switch Rd	A	T	B

Project Components	Mile Post	Roadway Name	Roadway Type A, G, D, C[1]	Jurisdiction F, S, T, C, I N, U[2]	Construction Method B, OC, HDD[3]
PA Crossing	62.92	Newburg Rd	A	S	B
PA Crossing	63.8	Hechtown Rd	A	U	B
PA Crossing	64.7	Hwy 22 / Lehigh Valley Thruway	A	S	B
PA Crossing	64.9	Green Pond Rd	A	S	B
PA Crossing	65.29	Church Rd	A	T	B
PA Crossing	65.44	Hwy 33	A	S	B
PA Crossing	65.97	Asphalt Driveway	A	N	B
PA Crossing	66.05	Hwy 2020 / William Penn Hwy	A	S	B
PA Crossing	66.5	Hwy 33	A	S	B
PA Crossing	66.76	Emrick Blvd	A	T	B
PA Crossing	67.39	Freemansburg Ave	A	S	B
PA Crossing	67.8	Cramers Lane	G	N	OC
PA Crossing	68.12	D & L Trail	D	U	OC
PA Crossing	68.32	Railroad	RR	U	B
PA Crossing	68.33	Redington Rd E	A	U	B
PA Crossing	68.35	Asphalt Driveway	A	U	B
PA Crossing	68.57	Gravel Road	G	S	OC
PA Crossing	68.93	Redington Rd E	A	S	B
PA Crossing	69.05	Interstate 78	A	I	HDD
PA Crossing	69.25	Gravel Road	G	U	OC
PA Crossing	69.33	Lower Saucon Rd	A	S	B
PA Crossing	70.42	Buttermilk Rd	A	T	B
PA Crossing	70.75	Asphalt Driveway	A	U	B

Project Components	Mile Post	Roadway Name	Roadway Type A, G, D, C[1]	Jurisdiction F, S, T, C, I N, U[2]	Construction Method B, OC, HDD[3]
PA Crossing	71.09	Hexenkopf Rd	A	S	B
PA Crossing	71.54	Gravel Road / Trail	G	U	OC
PA Crossing	71.7	Raubsville Rd	A	S	B
PA Crossing	72.28	Durham Rd	A	S	B
PA Crossing	72.39	Gravel Driveway	G	U	OC
PA Crossing	72.8	Farm Road	D	U	OC
PA Crossing	73.09	County Line Rd E	A	T	B
PA Crossing	73.37	Spring Hill Rd	A	T	B
PA Crossing	73.65	Gravel Driveway	G	U	OC
PA Crossing	73.85	Delaware Rd	A	N	B
PA Crossing	74.75	Hwy 611 / Easton Rd	A	S	HDD
NJ Crossing	74.94	Old River Rd	A	T	HDD
NJ Crossing	75.06	Railroad crossing	G	C	HDD
NJ Crossing	75.08	Hwy 627 / Riegelsville Milford Rd	A	C	HDD
NJ Crossing	75.14	Asphalt Driveway	A	U	B
NJ Crossing	75.51	Church Rd	A	T	B
NJ Crossing	76.6	Phillips Rd	A	T	B
NJ Crossing	77.04	Farm Road	D	U	OC
NJ Crossing	77.25	Farm Road	D	U	OC
NJ Crossing	77.27	Crab Apple Hill Rd	A	T	B
NJ Crossing	78.19	Gravel Driveway	G	U	OC
NJ Crossing	78.44	Gravel Road	G	U	OC
NJ Crossing	78.72	Spring Garden Rd	A	T	B

Project Components	Mile Post	Roadway Name	Roadway Type A, G, D, C[1]	Jurisdiction F, S, T, C, I N, U[2]	Construction Method B, OC, HDD[3]
NJ Crossing	79.38	Asphalt Driveway	A	U	B
NJ Crossing	79.52	Hwy 519 / Milford Warren Glen Rd	A	C	B
NJ Crossing	79.53	Asphalt Driveway	A	C	B
NJ Crossing	80.17	Gravel Road	G	U	OC
NJ Crossing	80.52	Javes Rd	A	T	B
NJ Crossing	81.27	Gravel Driveway	G	U	OC
NJ Crossing	81.63	Hwy 519 / Milford Mt. Pleasant Rd	A	U	B
NJ Crossing	81.75	Gravel Road	G	U	OC
NJ Crossing	82.64	Farm Road	D	U	OC
NJ Crossing	82.94	Stamets Rd	A	T	B
NJ Crossing	83.37	Farm Road	D	U	OC
NJ Crossing	84.71	Hwy 513 / Everittstown Rd	A	C	B
NJ Crossing	85.02	Creek Rd	A	T	B
NJ Crossing	85.5	Ridge Rd	A	T	B
NJ Crossing	86.11	Hwy 12 / Frenchtown Flemington Rd	A	S	B
NJ Crossing	86.82	Gravel Road	G	U	OC
NJ Crossing	87.43	Spring Hill Rd	A	T	B
NJ Crossing	88.16	Hwy 519 / Kingwood Rd	A	C	B
NJ Crossing	89.1	Barbertown Point Breeze Rd	A	T	B
NJ Crossing	90.17	Kingwood Locktown Rd	A	T	B
NJ Crossing	90.89	Featherbed Rd	A	T	B
NJ Crossing	91.96	Hewitt Rd	A	T	B
NJ Crossing	92.42	Gravel Road	G	U	OC

Project Components	Mile Post	Roadway Name	Roadway Type A, G, D, C[1]	Jurisdiction F, S, T, C, I N, U[2]	Construction Method B, OC, HDD[3]
NJ Crossing	92.6	Sanford Rd	A	T	B
NJ Crossing	93.65	Hwy 605 / Rosemont Ringoes Rd	A	C	B
NJ Crossing	94.42	Lower Creek Rd	A	T	B
NJ Crossing	94.56	Worman Rd	G	T	OC
NJ Crossing	95.1	Hwy 523 / Sergeantsville Rd	A	C	B
NJ Crossing	95.8	Grafton Rd	A	T	B
NJ Crossing	95.92	Brookville Hollow Rd	A	T	B
NJ Crossing	96.64	Lambertville Headquarters Rd	A	T	B
NJ Crossing	96.9	Hamp Rd	A	T	B
NJ Crossing	97.74	Railroad	RR	U	B
NJ Crossing	97.85	Alexauken Creek Rd	A	T	B
NJ Crossing	98.03	Gravel Road	G	U	OC
NJ Crossing	98.15	Hwy 202	A	F	B
NJ Crossing	98.6	Hwy 179	A	S	B
NJ Crossing	98.65	Mt. Airy Village Rd	A	C	B
NJ Crossing	98.9	Hwy 601 / Mt. Airy Harbourton Rd	A	C	B
NJ Crossing	99.24	Gravel Road	G	U	OC
NJ Crossing	99.9	Gravel Road	G	U	OC
NJ Crossing	100.17	Rocktown Lambertville Rd	A	T	B
NJ Crossing	101.22	Rock Rd E	A	T	B
NJ Crossing	102.25	Lambertville Hopewell Rd	A	C	B
NJ Crossing	102.9	Hwy 579 / Harbourton Rocktown Rd	A	C	B
NJ Crossing	103.75	Harbourton Woodsville Rd	A	T	B

Project Components	Mile Post	Roadway Name	Roadway Type A, G, D, C[1]	Jurisdiction F, S, T, C, I N, U[2]	Construction Method B, OC, HDD[3]
NJ Crossing	103.85	Farm Road	D	U	OC
NJ Crossing	104.42	Gravel Road	G	U	OC
NJ Crossing	104.47	Gravel Road	G	U	OC
NJ Crossing	105.42	Farm Road	D	U	OC
NJ Crossing	105.5	Woosamonsa Rd	A	T	B
NJ Crossing	105.59	Poor Farm Rd	A	U	B
NJ Crossing	106.15	Hwy 31	A	S	B
NJ Crossing	106.34	Railroad	RR	U	B
NJ Crossing	106.65	Moorhead Dr	A	U	B
NJ Crossing	106.8	Farm Road	D	U	OC
NJ Crossing	107.44	Hwy 624 / Peen Rocky Hill Rd	A	S	B
NJ Crossing	107.7	Old Mill Rd	A	U	B
NJ Crossing	108.24	Gravel Driveway	G	U	OC
NJ Crossing	108.25	Gravel Driveway	G	U	OC
NJ Crossing	108.68	Blackwell Rd	A	U	B

[1] A = Asphalt, G = Gravel, D = Dirt, and C = Concrete

[2] F= Federal, S = State, T = Township, C = County, I = Interstate, N = No Jurisdiction, and U = Unknown

[3] B = Bore, OC = Open Cut, and HDD = Horizontal Directional Drilling

Rock Removal and Blasting

Rock encountered during trenching will be removed using one of the following techniques. The technique selected is dependent on relative hardness, fracture susceptibility, expected volume, and location.

Available rock removal techniques include:

- Conventional excavation with a backhoe;
- Ripping with a bulldozer followed by backhoe excavation;
- Pneumatic hammering followed by backhoe excavation;
- Blasting followed by backhoe excavation; and
- Blasting surface rock prior to excavation.

All blasting activity will be performed according to federal and state safety standards.

1.5.3 Aboveground Facilities

The proposed aboveground facilities will be constructed in accordance with industry standards. Appendix B (Volume IV) provides preliminary plans. The duration of construction for the aboveground facilities is approximately seven and a half months. Approximately 75 to 85 workers including subcontractors will be required for construction of the aboveground facilities. The only permanent employees will be located at the proposed Compressor Station.

1.5.4 Environmental Training for Construction

Once the Certificate of Public Convenience and Necessity has been received and the Implementation Plan submitted approved by FERC, Environmental Training will be conducted for all Land Agents, Construction personnel, Environmental Inspectors and Agency personnel that are interested in participating. This training will include an overview of the FERC *Plan and Procedures*, and detailed sessions using the Environmental Permit Notebooks that describe the timing, notification and environmental permit conditions required to be implemented and adhered to at each phase of construction, restoration and mitigation.

1.5.5 Construction Workforce

It is anticipated that five construction spreads will be employed for the PennEast Project. There will be approximately 500 to 575 personnel involved in each spread. In addition, it is planned that there will be a Chief Environmental Inspector as well as 2 Environmental Inspectors (EIs) for each spread. Third-party EIs will also review construction throughout the construction time period.

1.5.6 Abandonment of Facilities

There is no abandonment of facilities required for construction of the proposed facilities.

1.6 Operation and Maintenance Procedures

PennEast will own, operate, and maintain the pipeline, and compressor station and other facilities associated with the Project.

The proposed facilities will be operated and maintained in a manner to ensure that a safe, continuous supply of natural gas reaches each of the delivery points. Maintenance activities will include regularly scheduled ground and overflight surveys. Signs, marker posts, aerial markers, and decals will be painted or replaced to ensure that the pipeline locations will be visible from the air and ground.

The facilities will be patrolled from the air periodically. This will provide information on possible leaks, construction activities, erosion, population density, possible encroachment, and any other potential problems that may affect the safety and operation of the facility. In addition, contractors will adhere to the Dig Safe system. Under the Dig Safe system, anyone planning excavation activities may call a single number to alert all utility companies. Representatives of the utility companies that might be affected then visit the site and mark their facilities so that the excavation can proceed with relative certainty as to the location of all underground lines.

Other maintenance functions will include:

- Mowing of the ROW in accordance with the timing restrictions outlined in FERC's Plan and Procedures;
- Periodic inspection of water crossings and erosion control devices;
- Maintenance of a supply of emergency pipe, leak repair clamps, sleeves, and other equipment needed for repair activities.

No herbicides or pesticides will be sprayed within 100 feet of a wetland or waterbody unless approved by appropriate state and local agencies.

A cathodic protection system for the pipeline and station will be constructed and maintained. Exact locations for both the anode bed(s) and test stations will be determined as PennEast finalizes the design and will be filed with the Draft filing.

In areas where the proposed pipeline parallels high-voltage electric transmission lines, an alternating current mitigation system will be implemented as necessary to reduce stray current, prevent possible shock to personnel during post-construction activities, and prevent interference with the cathodic protection system. This system will be primarily composed of zinc ribbon.

The Project will not require additional permanent staff, new operations offices, or district offices for O&M.

1.6.1 Cleared Areas

A 30 foot cleared area in the 50 foot permanent ROW, in non-wetland resource areas, will be maintained over the centerline of the pipeline. A permanent 10-foot wide cleared corridor will be maintained through wetland resource areas in accordance with FERC's *Plan* and *Procedures*. Maintaining a cleared ROW is required:

- For pipeline patrols and corrosion surveys;
- For emergency repairs of the pipeline are needed; and
- For visibility during aerial patrols.

1.6.2 Erosion Control

Erosion problems on the pipeline ROW will be identified and repaired in accordance with the O&M plan

1.6.3 Periodic Pipeline and ROW Patrols

Erosion control devices will be inspected and maintained, including:

- Stormwater outfalls;
- Water control bars;
- Stream and river banks;
- other conditions that could affect operation of the pipeline.

1.7 Agency and Public Consultations and Required Authorizations

PennEast will obtain all needed permits and licenses relating to the aboveground facilities across or under roads, drainage facilities, waterbodies, wetlands, and through any other sites or places that a governmental license or permit may be required. Table 1.7-1 provides a list of permits and the applicable federal, state, and local agencies. Agency consultations letters to date are included in Appendix G. PennEast will include copies of all relevant environmental permits and approvals in the construction bid packages and contracts. The contractor will be required to be familiar with all permits and licenses obtained by PennEast. The contractor will be also required to comply with all the requirements related to the construction of the aboveground facilities and to the restoration of any areas disturbed by the construction of the certificated facilities.

Table 1.7-1
Required Environmental Permits and Approvals For the Project

Agency	Permit/Approval	Status
FEDERAL		
U.S. Army Corps of Engineers - Philadelphia and Baltimore Districts	CWA Section 404/Section 10 Permit(s) - SPGP4 in Pennsylvania and Delegated to NJDEP in NJ	Initial consultation letter sent 8/12/2014. Project update info. sent 10/24/14. Introduction and coordination meeting held 10/30/14
U.S. Fish and Wildlife Service - Pennsylvania	Endangered Species Act, Section 7 Consultation and Clearance	Initial consultation letter sent 8/12/2014. Project update info. sent 10/24/14. Introduction and coordination meeting held 10/29/14
U.S. Fish and Wildlife Service - New Jersey	Endangered Species Act, Section 7 Consultation and Clearance	Initial consultation letter sent 8/12/2014. Project update info. sent 10/24/14.
National Marine Fisheries Service	Endangered Species Act, Section 7 Consultation and Clearance	Initial consultation letter sent 8/12/2014. Response stating no further consultation necessary received 9/18/14
National Park Service	NPS Consultation and Clearance for National Natural Landmarks, National Trails, and National Historic Sites	Initial consultation letter sent 8/12/2014. Introduction and coordination meeting with National Wild and Scenic Rivers Program managers held 10/1/14. Project update info. sent 10/24/14.
National Resources Conservation Service - Pennsylvania	NRCS Consultation	Not consulted at this time
National Resources Conservation Service - New Jersey	NRCS Consultation	Not consulted at this time
STATE - PENNSYLVANIA		
PADEP (Northeast and Southeast Regional Offices)	• -Joint Permit Application (JPA) for Chapter 105 and Section 404 SPGP-4 • -Section 401 Water Quality Certification (covered under Joint Permit Application approval) • -Hydrostatic Testing Discharge General Permit (PAG-10) • DEP Submerged Lands License	Initial consultation letter sent 8/12/2014. Project update info. sent 10/24/14. Pre-application meeting being arranged for November, 2014.

Agency	Permit/Approval	Status
Pennsylvania Game Commission (PAGC)	T&E Species Consultation and Clearance	Initial consultation letter sent 8/12/2014. Introduction and coordination meeting held 9/25/14. Project update info. sent 10/24/14.
Pennsylvania Fish and Boat Commission (PAFBC)	T&E Species Consultation and Clearance	Initial consultation letter sent 8/12/2014. Project update info. sent 10/24/14. Introduction and coordination meeting held 11/4/14
Pennsylvania Department of Conservation and Natural Resources (PADCNR)	T&E Species Consultation and Clearance	Initial consultation letter sent 8/12/2014. Project update info. sent 10/24/14. Introduction and coordination meeting held 11/4/14
Pennsylvania Historical and Museum Commission (PAHMC)	National Historic Preservation Act, Section 106 Consultation and Clearance	Initial consultation letter received 08/21/2014. Project update info. sent 10/24/14
STATE – NEW JERSEY		
NJDEP	- NJDEP General Permit No. 5G3 (NJ0088323) for Stormwater Discharge Associated with Construction Activity - NJ Wetlands GP or IP - NJ Green Acres	Initial consultation letter sent 8/12/2014. Introduction and coordination meeting held 9/23/14. Project update info. and Permit Readiness Checklist sent 10/24/14.
New Jersey State Historic Preservation Office (NJSHPO)	National Historic Preservation Act, Section 106 Consultation and Clearance	Initial consultation letter sent 8/19/2014. Introduction and coordination meeting held 9/16/14. Project update info. sent 10/24/14.
COUNTY		
Luzerne County Conservation District	ESCGP - 2 for Earth Disturbance NPDES PAG - 10 GP for Hydrostatic Testing Discharge	Initial consultation letter sent 8/21/2014
Carbon County Conservation District	ESCGP - 2 for Earth Disturbance NPDES PAG - 10 GP for Hydrostatic Testing Discharge	Initial consultation letter sent 8/21/2014
Northampton County Conservation District	ESCGP - 2 for Earth Disturbance NPDES PAG - 10 GP for Hydrostatic Testing Discharge	Initial consultation letter sent 8/21/2014
Bucks County Conservation District	ESCGP - 2 for Earth Disturbance NPDES PAG - 10 GP for Hydrostatic Testing Discharge	Initial consultation letter sent 8/21/2014
Hunterdon County Conservation District	ESCGP - 2 for Earth Disturbance NPDES PAG - 10 GP for Hydrostatic Testing Discharge	Initial consultation letter sent 8/21/2014

Agency	Permit/Approval	Status
Mercer County Conservation District	ESCGP - 2 for Earth Disturbance NPDES PAG - 10 GP for Hydrostatic Testing Discharge	Initial consultation letter sent 8/21/2014
Delaware River Basin Commission (DRBC)	NPDES PAG - 10 GP for Hydrostatic Testing Discharge	Initial consultation letter sent 8/21/2014. Introduction and coordination meeting held 9/3/14. Project update info. sent 10/24/14.
Susquehanna River Basin Commission (SRBC)	NPDES PAG - 10 GP for Hydrostatic Testing Discharge	Initial consultation letter sent 8/21/2014. Project update info. sent 10/24/14. Introduction and coordination meeting held 11/6/14.

1.7.1 Agency Consultations

- PennEast has initiated consultation with federal, state, and local agencies regarding the construction of the proposed pipeline in Pennsylvania and New Jersey, to request involvement and encourage agency participation during the pre-filing process. At the Federal level, these consultations have included USACE, USFWS, National Marine Fisheries Service (NMFS), and National Park Service (NPS). At the state level, these consultations have included PADEP, Pennsylvania Game Commission (PGC), PFBC, Pennsylvania Department of Conservation and Natural Resources (DCNR), and Pennsylvania Historical and Museum Commission (PHMC) in Pennsylvania; and NJDEP and New Jersey State Historic Preservation Office (NJSHPO) in New Jersey. At the local level, these consultations have included Luzerne County Conservation District, Carbon County Conservation District, Northampton County Conservation District, Bucks County Conservation District, Hunterdon County Conservation District, Mercer County Conservation District, Delaware River Basin Commission (DRBC), and Susquehanna River Basin Commission (SRBC). Introductory meeting with National Wild and Scenic Rivers PA Board held on 10/1/2014 NPS
- Pre-application meeting being arranged for November, 2014 PADEP and December, 2014 NJDEP
- Consultation meeting held 9/25/2014. PGC
- Coordination meeting held 9/12/2014 NJSADC

1.7.2 Public Participation and Outreach Program

PennEast believes that effective stakeholder engagement is achieved through a consistent, twofold approach of sharing information and listening to feedback. PennEast views such proactive stakeholder engagement as the foundation for earning and building the positive relations critical to responsive business operations. Early and effective engagement of stakeholders ultimately can lead to prompt identification and resolution of issues, resulting in a comprehensive project design and application.

The Project Public Participation Program will continue throughout the life of the Project:

- Informing landowners and other stakeholders about the Project through early public notification and regular communication;
- Sharing fact-based, accurate information;
- Communicating clearly about the proposed Project and its potential impacts;
- Providing timely opportunities for stakeholders to pose questions or express concerns;
- Taking such input into consideration, and as feasible, sharing with stakeholders how their input influenced the Project.

The PennEast outreach team (public affairs and communications), in concert with the overall Project team (e.g. safety, land, environment, engineering, construction, and operations), will plan and implement this Public Participation Program. Elements of the Program include:

1. Identifying stakeholders with whom PennEast will communicate about the Company, the proposed Project and potential impacts to the community and its citizens;
2. Designating a single point of contact;
3. Establishing a website presence; dedicated toll-free phone number; e-mail address; and physical mailing address;
4. Identifying hours PennEast will be available (during work day and weekends);
5. Conducting consultation meetings with elected officials and other community leaders;
6. Hosting open house for landowners, elected officials and other stakeholders;
7. Producing and distributing informational materials; and
8. Supporting on-going outreach throughout the life of the Project, including documentation of issues.

Stakeholder Identification

The Project team has gathered stakeholder contact information for landowners; local, county, commonwealth, state, and federally elected officials and staff; business, community and civic organizations; first responders; homeowner associations; other non-governmental organizations; and media.

Single Point of Contact

Anthony Cox, Manager for the Project, will serve as the single point of contact. Additionally, PennEast has established a project-specific web site; toll-free number; e-mail address; and physical mailing address to facilitate and enhance communication between stakeholders and the Project team. PennEast routinely responds to inquiries within 24 hours Monday through Friday and a maximum of 48 hours Saturdays, Sundays and holidays. The combination of the following resources will help ensure information is accessible to all stakeholders:

Website Address: www.penneastpipeline.com

Toll-free Number: (844) 347-7119

E-mail Address: answers@penneastpipeline.com

Mailing Address: 55 West Street Tunkhannock, PA 18657

Website

The PennEast web site provides information about the Project. It is updated regularly, and specifically, at relevant Project and regulatory milestones. The web site includes:

- Project information
  - Overview
  - Proposed Route Location Map
  - Expected Timeline
- Meeting information
  - News Releases
  - Open houses (dates and locations)
  - Displays
  - Other materials used at meetings
- Informational materials
  - Fact Sheet
  - Answers to frequently asked questions
  - Public participation opportunities
  - Regulatory process descriptions
  - Pipeline Safety
  - Construction procedures
  - A list of public repositories along the proposed route where all project-related information, including project maps, will be available for inspection
  - Route selection process
  - Other information of interest to stakeholders
  - Project newsletters (as applicable)
- Contact information
  - Project toll-free number
  - E-mail address
  - Physical mailing address

- FERC information
  - Link to the FERC web site
  - Project docket
  - FERC landowner brochure
  - Environmental documents issued by FERC

Community Leader Outreach

PennEast has identified community leaders, including local, regional and federal officials, along the proposed route. PennEast has completed one-on-one meetings with many of the elected officials, while others have received initial contact via letter, e-mail and/or phone call to alert them to the proposed Project. PennEast expects to complete in-person outreach meetings before the November open houses. PennEast will identify and conduct outreach with other stakeholders, including first responders and community groups, throughout the FERC Pre-filing Process.

Responses to Requests from Federal and Commonwealth Permitting Agencies

PennEast has identified the requisite federal, commonwealth and state agencies and has conducted initial stakeholder consultations with them. Additionally, PennEast will respond to requests for information from these agencies in a timely manner, providing the most up-to-date and responsive information available. (Exhibit C-1 of the pre-filing contains the list of agencies.)

Open Houses

PennEast plans to host four open houses in the Project area. The open houses are described below in Table 10.7-1. Structured to foster one-on-one discussions with experts in the areas of safety, environment, land, construction, and operations, the open houses will provide stakeholders the opportunity to gain insight about the Project, as well as share their concerns. Project maps and informational materials will be distributed. Open house venues and times will be communicated in the following manner:

- Letter of invitation - landowners will receive a letter of invitation after the pre-filing request is made, as will agency representatives, elected officials and other community leaders
- Advertisements in area newspapers that include the invitation and map
- Advertisements will be published consecutively over the two weeks nearest the open houses;
- News release to local media and on the Project website
- Posting on the Project web site.

Feedback from participants will be documented and integrated into the Project route selection process.

Informational Materials

PennEast will augment its outreach efforts by developing printed materials tailored to address questions and concerns of stakeholders. Though the landowner survey brochure was included in the introductory letter to landowners, it is available now upon request and will be available at the open houses. Fact sheets and question-and-answer documents will be distributed through direct mail, as well as at the open houses, at individual meetings and by request. Updates will be sent to landowners and stakeholders at appropriate Project milestones.

Ongoing Stakeholder Outreach

PennEast will conduct proactive outreach throughout the Project with all interested stakeholders, including landowners, media, elected and public officials and other community leaders.

Documentation

PennEast has established a database and tracking system to ensure stakeholder contacts and issues are documented and addressed timely and accurately. PennEast is making diligent efforts to inform the public about the proposed Project. PennEast sent initial letters to landowners the week of August

11, 2014. Updates were sent to landowners and abutters along the proposed pipeline route where reroutes were implemented to avoid constraints.

Table 1.7 – 1
Open House Schedule

Wilkes-Barre, PA	Monday, November 10 (Luzerne County)	Coughlin High School 80 North Washington Street Wilkes-Barre, PA 18702
Bethlehem, PA	Wednesday, November 12 (Northampton County)	Hanover Township Community Center 3660 Jacksonville Road Bethlehem, PA 18017
New Jersey	Thursday, November 13 (Hunterdon County)	South Hunterdon Regional High School 301 Mt. Airy-Harbourton Road Lambertville, NJ 08530
Palmerton, PA	Tuesday, November 18 (Carbon County)	Aquashicola Volunteer Fire Company 270 Little Gap Road Palmerton, PA 18071

1.8 Landowner Names and Addresses

The proposed Project facilities will affect limited portions of five counties in Pennsylvania and two counties in New Jersey. Updates were sent to landowners and abutters along the proposed pipeline route where reroutes were implemented to avoid constraints. The letter introduced the Project, contained a brochure explaining the survey process and provided the Project contact vehicles, including a toll-free number established specifically for landowners. Abutters, defined as landowners within 1,000' of the 400' survey corridor, received a similar Project introductory letter. Once the proposed compressor station location has been finalized, landowners within one-half mile of the proposed compressor station site will also receive the letter.

PennEast continues to engage landowners through individual discussions and site visits, as well as through response to e-mail inquiries and calls to the toll-free line. To date, PennEast has been granted survey permission by approximately 50% of the Project ROW needing to be surveyed. There are approximately 6 abutting parcels to Penn East's proposed compressor station. Additionally, PennEast sent landowners a letter of invite to the November 2014 open houses. The open houses will provide an opportunity for stakeholders to talk with experts in the fields of safety, environment, land, construction, and operations. Computer mapping services staffed by the Project team's ROW experts will complement poster-sized alignment sheets identifying impacted tracts.

1.9 Future Expansion

There are no plans to expand the PennEast Pipeline beyond its current alignment.

1.10 Proposed Non-Jurisdictional Facilities

At this time the PennEast Pipeline does not anticipate any non-jurisdictional facilities.

1.11 References

Council on Environmental Quality (CEQ). 1979. Memorandum for NEPA Liaisons. *Agency Implementing Procedures Under CEQ's NEPA Regulations*. Washington, DC. January 19, 1979.

10.0 Alternatives

Resource Report 10 – Alternatives
FERC Environmental Checklist

Part 380-Appendix A Minimum Filing Requirements for Environmental Reports	Company Compliance or Inapplicability of Requirement
☐ Address the "no action" alternative. (§380.12 (l)(1)).	Section 10.1
☐ For large project, address the effect of energy conservation or energy alternatives to the project. (§380.12 (l)(1)).	Sections 10.1.1, and 10.1.2
☐ Identify system alternatives considered during the identification of the project and provide the rationale for rejecting each alternative. (§380.12 (l)(1)).	Section 10.2
☐ Identify major and minor route alternatives considered to avoid impact on sensitive environmental areas (e.g., wetlands, parks, or residences) and provide sufficient comparative data to justify the selection of the proposed route. (§380.12 (l)(2)(ii)).	Section 10.3
☐ Identify alternative sites considered for the location of major new aboveground facilities and provide sufficient comparative data to justify the selection of the proposed site. (§380.12 (l)(2)(ii)).	Section 10.4

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10.0 INTRODUCTION

PennEast Pipeline Company, LLC (PennEast) is seeking authorization from the Federal Energy Regulatory Commission (FERC) pursuant to Section 7(c) of the Natural Gas Act for the construction and operation of the PennEast Pipeline Project (PennEast Project or Project) located in Pennsylvania and New Jersey. The PennEast Project is designed to deliver reliable natural gas supplies that will meet immediate and future supply and load growth requirements in Pennsylvania and New Jersey.

Resource Report 10 discusses the alternatives identified and evaluated during the development of the Project and effects on the desired benefits of the Project.

Four principal types of alternatives are evaluated in the following sections:

- No-action alternative;
- System alternatives;
- Route alternatives; and
- Aboveground site alternatives.

PennEast designed the Project to reflect both customer need and siting requirements (Figure 10-1). Initially, PennEast identified a potential market need for the transportation of 800,000dekatherms per day (Dth/d) of new natural gas supply to its Pennsylvania and New Jersey customers. PennEast held an open season between August 11, 2014, and August 29, 2014. Following the open season, PennEast has executed precedent agreements or is finalizing precedent agreements with 13 shippers for approximately 1,000,000Dth/d of capacity. As a result of this increased demand, PennEast resized the proposed pipeline from 30-inch to 36-inch.

PennEast evaluated the Project's siting options using a variety of criteria, including environmental and stakeholder impacts, economic benefits and costs, Project timing, operational parameters and engineering and technological parameters. The primary objective in evaluating alternatives for siting was to avoid, minimize, and, if necessary, mitigate adverse effects while satisfying the customer need discussed above. A Critical Issues Analysis (CIA) was conducted as an initial step in assessing the feasibility of the overall Project. This assessment focused on a project initiation point at an existing pipeline facility in Luzerne County, Pennsylvania at Regency's Wyoming Pipeline interconnect to an end point in New Jersey. PennEast identified two preliminary routes through the initial screening.

Initially, PennEast estimated that the proposed Project would be approximately 100 miles in length with a study corridor of 400 feet in width. For the initial CIA, PennEast performed a Desktop Assessment across an area of consideration approximately one-half mile in width along the corridors. This allowed PennEast to get a clear understanding of potential engineering and environmental constraints within the Project area and the expanded geography will encompass necessary area for access roadways and staging areas.

<u>Desktop Analysis</u>

For the Pennsylvania portions of the project, PennEast utilized resources such as the PA Spatial Data Access, PA GIS and Mapping Directory and the PA DCNR map viewer. These geospatial information clearinghouses allowed PennEast to gather relevant GIS data and filter on over 1000 data categories.

Similarly, for the New Jersey portions of the project, PennEast utilized resources such as the New Jersey Geographic Information Network (NJGIN) and the i-Map NJ DEP application. Table 10-1 provides an overview of the i-Map resources that are available on-line.

PennEast exported data from various geospatial repositories and mapping applications into a kmz file for it to review with internal software such as Google® Earth). In addition, PennEast assigned mile posts to the pipeline from the Transco interconnect in Luzerne County, Pennsylvania to the terminus at Transco in Mercer County, New Jersey. Mile posting were to the nearest tenth of a mile and facilitate the tabulation and assessment of critical issues.

Table 1
i-Map NJ DEP Data Resources

Aerial Photos 1930	NJEMS Sites
Aerial Photos 1995/97	Open Space (State)
Aerial Photos 2002	Pinelands Boundary
Aerial Photos 2007	Pinelands Management Area
Air Monitoring Stations	Place Names
CAFRA	Quarter Quad Grid
Category One Waters	Roads
Chromate Sites	Sewer Service Areas
Congressional Districts	Shellfish Classification
Counties	Soils (SSURGO)
Critical Environmental and Historic Sites	State Plan Centers
Deed Notice Areas	State Planning Areas
Delaware and Raritan Canal Commission Review Zones	Streams
Groundwater Contamination Areas (CEA)	Sub-Watersheds (HUC14)
Groundwater Contamination Areas (CKE)	Surface Water Quality Standards
Highlands	Urban Enterprise Zones
Impervious Surface % (2002)	Water Bodies
Known Contaminated Sites List	Watershed Management Areas
Land Use 1995	Watersheds by Name (HUC11)
Land Use 2002	Well Head Protection Areas (Community)
Land Use Change 1995-2002	Well Head Protection Areas (Non-Community)
Mid-Atlantic States	Well Program Grid
Municipalities	Wetlands (2002)
Natural Heritage Priority Sites	Zip Codes

The geospatial data was used to formulate alternatives as described in Section 10.3. In addition, PennEast utilized this data to identify engineering constraints and key permits and approvals that would be required.

10.1 No-Action Alternative

The no-action alternative would result in not constructing the PennEast Project, and would therefore not meet the Project shippers' need for the firm transportation capacity commencing on November 1, 2017 as reflected in their commitments in the precedent agreements. Accordingly, this option would have adverse consequences on the markets they serve.

The no-action alternative would avoid the temporary environmental impacts associated with the Project. However, the PennEast partners, Project shippers, and local distribution companies would likely pursue alternate natural gas transportation projects that could potentially result in equal or greater environmental impacts. Potential examples of these impacts include the construction of additional or greenfield natural gas pipeline facilities in other locations, dependence on alternate higher emission fuel sources, such as coal or oil, and increased demand for already limited electrical resources.

The 2013-2014 winter season demonstrated that there were constraints in the Mid-Atlantic supply system. The lack of a new pipeline with access to supply sources in Pennsylvania could continue to create dramatic seasonal pricing fluctuations in Pennsylvania and New Jersey with higher gas and electric rates and potential

for energy shortages during peak demand, resulting in threats to business continuity, public safety and national security.

Given the Project shippers' need for additional pipeline capacity, the potential benefit to regional economic growth from the proposed Project, and the potential for significant increase in regional air emissions or similar or greater environmental impacts resulting from an alternate natural gas transportation project if the Project was not constructed, no further analysis of this alternative was conducted. Therefore, the no-action alternative is not considered a viable alternative to the proposed action, because it would not accomplish the stated Project purpose and need to provide the volumes of natural gas transportation service to the expanding mid-Atlantic market in an efficient, safe, reliable, and environmentally sound manner.

10.1.1 Energy Conservation

The energy conservation alternatives discussed in this section will not meet needs of the Project shippers in the proposed timeline and, therefore, are not preferable to the proposed action. However, together with increased supply of natural gas, energy conservation will continue to contribute to meeting the overall future energy needs of the marketplace.

The use of the energy conservation alternative for meeting the demands of PennEast's customers includes the following potential results:

- Potential for improvements in energy conservation in the residential, commercial, and industrial sectors, beyond the current energy conservation measures already being practiced; and
- Potential for increasing the efficiency of the existing natural gas transmission systems through system optimization, which includes the use of load management techniques at both the end-use consumer and utility level and the identification and elimination of bottlenecks in the existing gas transmission system that decrease the effective capacity of the system

Energy conservation has been successful in some areas, and it continues to be encouraged in the residential, commercial, and industrial sectors. However, natural gas continues to be considered the preferred non-renewable fuel because of its inherent clean-burning properties and, because it is produced and abundant in North America, it reduces reliance on foreign produced oil. The implementation of air quality legislation enhances fuel conservation in numerous energy use sectors. In many cases, legislation encourages the use of natural gas over other more environmentally taxing fuels, such as oil and coal. Increases in population and commercial and industrial uses of natural gas have contributed to the increased demand for natural gas.

The Project will help to increase the efficiency of the current natural gas transmission system by reducing bottlenecks in the system. Furthermore, this is primarily, a market-driven project that is designed to provide a pipeline transportation solution to Marcellus Shale production. Programs designed to encourage fuel conservation are unlikely to eliminate the need to construct new pipeline infrastructure to serve this emerging production area.

In summary, natural gas demand in the marketplace is continuing to grow despite programs designed to encourage fuel conservation. Conservation alone will not address the growing demand for natural gas in the relevant markets in the Project-timeframe. Fuel conservation should continue to be an ongoing alternative used in concert with the development of additional, more efficient gas transportation and distribution systems. The modifications proposed by the Project can be considered steps to accomplishing this part of the energy conservation alternative.

10.1.2 Energy Alternatives

The alternative energy sources discussed in this section would not meet the Project needs and, therefore, would not be preferable to the proposed action. Alternative Energy sources used together with natural gas could contribute to meeting the overall future energy needs of the marketplace.

Potential alternative energy sources include coal, oil, nuclear energy, liquefied natural gas (LNG), and electricity generated from these sources, as well as electricity generated from renewable sources such as solar, wind, and geothermal energy. Coal, although an available option, does not burn as cleanly as natural gas, and its use may contribute to the formation/pollution associated with acid rain unless costly air pollution controls are applied to coal-burning power plants. Area states have stringent air quality regulations and

thresholds for stack emissions, fugitive emissions, and particulate handling that likely preclude coal as a viable option.

Much of the oil consumed in the United States is produced and purchased from overseas sources. Therefore, the use of additional foreign oil supplies to meet future energy demands in the expanding mid-Atlantic markets could further increase the reliance on overseas crude petroleum and petroleum products. This could subsequently increase the potential economic and national security risks in the event of an emergency or a supply curtailment.. Moreover, if new or expanded refineries were required to process the crude oil, various additional environmental problems could result (e.g., air pollution, visual intrusion, and noise).

Wind, geothermal, and solar power have not yet been developed in the eastern U.S. for large-scale application, partly because the energy sources associated with these forms of power are reliable in only certain parts of the country (such as solar and wind) or generally are not available (geothermal). These forms of energy, which usually are converted to electricity, may not substitute easily for natural gas in equipment and processes designed for using natural gas. In addition, once converted, the electricity must be transported to the consumer, which may require the addition of new power lines. Given the pace of development for these resources in the eastern U.S., they will not meet the future demand for energy in the Project timeframe. Therefore, these particular alternative energy sources do not represent viable options for replacing the natural gas that will be supplied by the Project.

To address concerns voiced during public outreach, additional detail has been provided for the comparison of the cost, footprint and energy produced between PennEast and a similar investment in a solar and wind projects has been assessed using current Department of Energy and project data.

<u>Solar</u>

Agua Caliente Solar Project

	Agua Caliente Solar Project	PennEast Pipeline
Investment	$967 million	$1 billion
Footprint	2300 acres	654 acres
Temporary Jobs	400	2875
Energy Equivalence	56,000 homes/year	4.7 million homes/year

Desert Sunlight Solar Farm

	Desert Sunlight Solar Farm	PennEast Pipeline
Investment	$1.46 billion	$1 billion
Footprint	3800 acres	654 acres
Temporary Jobs	550	2875
Energy Equivalence	100,000 homes/year	4.7 million homes/year

California Valley Solar Ranch

	Desert Sunlight Solar Farm	PennEast Pipeline
Investment	$1.24 billion	$1 billion
Footprint	1966 acres	654 acres
Temporary Jobs	350	2875
Energy Equivalence	42,700 homes/year	4.7 million homes/year

Wind

Waymart Wind Energy Center

	Waymart Wind Energy Center	PennEast Pipeline
Investment	$2.3 billion (to date)	$1 billion
Footprint	858 acres	654 acres
Temporary Jobs	-	2875
Energy Equivalence	22,000 homes/year	4.7 million homes/year

10.2 System Alternatives

PennEast investigated a number of system alternatives to the Proposed Project.

10.2.1 Transco Leidy Line Loop

PennEast considered a loop of Transco's Leidy Line pipeline system as a system alternative to the proposed Project. A loop of Transco's Leidy Line could access the same production region that the PennEast Project accesses. However, the Transco Leidy Line does not offer the same access to specific delivery point locations provided by the PennEast Project.

PennEast will offer direct delivery to both UGI Utilities in Pennsylvania and Elizabethtown Gas in New Jersey that cannot be made by utilizing the Transco system. PennEast's proposed route is also uniquely capable of providing an interconnection with both Algonquin Gas Transmission, LLC (Algonquin) and Texas Eastern Transmission, LP (Texas Eastern) at one location, which will provide supply for growing markets served by each transmission system in the capacity constrained northeast and New England. Because the Transco Leidy Line cannot make these direct deliveries to UGI Utilities and Elizabethtown and Transco does not access Algonquin and Texas Eastern at one location, any Transco system alternative does not satisfy the purpose and need of the PennEast Project. In addition, if Transco were to loop its Leidy Line pipeline system as an alternative to the Project, there would not be an additional new pipeline system to deliver production from this region to the markets to be served by the Project, providing a further reason why this system alternative does not satisfy the purpose and need of the Project. PennEast is also considering requests for interconnections with existing power generation located within a short distance of PennEast's proposed route that cannot be served from Transco's ROW.

In addition to the foregoing, a loop of Transco's Leidy Line is not a viable alternative in light of the current circumstances and the environmental impact associated with constructing the facilities. PennEast has performed analysis of an alternative involving a loop of Transco's Leidy Line. PennEast agrees with Transco's own statement where it indicates that the existing line cannot be expanded: "The existing Transco pipeline system is extremely capacity constrained in New Jersey and Southern Pennsylvania, operating in very densely populated areas. […]due to encroachment of residential and commercial structures along the Transco system, certain areas would be nearly impossible to loop and would require other greenfield portions to be constructed, further increasing the overall impact of the project."

Table 10-2 provides a Critical Issues Analysis for PennEast's "Transco Leidy Line Alternative" (Figure 10-5).

Table 10-2
Transco Leidy Line Alternative

CIA Items	Pennsylvania	New Jersey	Total Project
Length (Miles)	59.07	42.03	113.37
Municipalities Crossed (#)	16	11	27
Stream Crossings (Total as NHD streams)	60	90	150
EV Cold Water Fishes (EV-CWF, Total)	4	NA	4
HQ Cold Water Fishes (HQ-CWF, Total)	25	NA	25
Cold Water Fishes (CWF, Total)	16	NA	16
Warm Water Fishes (WWF, Total)	2	NA	2
Trout Socking Stream (TST, Total)	0	NA	0
Naturally Producing Trout Waters (From EV)	2	NA	2
Naturally Producing Trout Waters (From HQ)	5	NA	5
Naturally Producing Trout Waters (From CWF)	4	NA	4
Other, Non-Chapter 93 Designated Streams (NHD)	13	54	67
NJ SWQS Category 1 Streams	NA	18	18
DRBC Wild and Scenic River Crossings	1 (Lower Delaware River)	1 (Musconetcong River)	2
Total Acreage of wetlands within 200' of line	100	82	183
NWI Wetland Crossings (of the Center Line)	32	27	59
Total # of NHD waterbodies within 200' of line	36	20	56
Total Acreage of NHD waterbodies within 200' of line	57	6	63
Total # of Wells within 200' of line	0	0	0
Well Types within 200' of line	None	None	
Approx. Acreage of CNHI Core Habitat (PA) within 200' of line	124	NA	124
Approx. Acreage of CNHI Important Bird Area (PA) within 200' of line	450	NA	450
Approx. Acreage of CNHI Provisional Species of Concern (PA) within 200' of line	0	NA	0
Approx. Acreage of CNHI Supporting Landscapes area (PA) within 200' of line	705	NA	705
Approx. Acreage of Natural Heritage Priority Sites for Rare Species and Ecological Communities (NJ) within 200' of the line	NA	0	0
Approx. Acreage of Critical Environmental and Historic Sites (NJ) within 200' of line	NA	30	30
Known Contaminated Sites (NJ) within 200' of line	NA	4	4
Approx. Acreage of Groundwater Contamination Areas (CEA) (NJ) within 200' of line	NA	0	0
Approx. Acreage of Tier 1 Well Head Protection Area (NJ) within 200' of line	NA	38	38

CIA Items	Pennsylvania	New Jersey	Total Project
Potential Cultural Resources (unrestricted) within 200' of line	0	0	0
Distance to Nearest Airport (Miles)			
Approx. Acreage of Delaware and Raritan Canal Commission Review Zone A (NJ)	NA	0	0
Approx. Acreage of Delaware and Raritan Canal Commission Review Zone B (NJ)	NA	0	0
Total # of churches, cemeteries, schools, and parks within 200' of line	0	0	0
Approx. Acreage of Highland Preservation Area (NJ) within 200' of line	NA	353	353
Approx. Acreage of Highland Preservation Sewer Service Area (NJ) within 200' of line	NA	5	5
Approx. Acreage of Historic Properties (NJ) within 200' of line	NA	62	62
Approx. Acreage of Open Space (State) (NJ) within 200' of line	NA	257	257
Approx. Acreage of State Parks (PA) within 200' of line	6	NA	6
Approx. Acreage of State Forests (PA) within 200' of line	0	NA	0
Approx. Acreage of State Game Lands (PA) within 200'	154	NA	154
Length of PA Trains within 200' of line (miles)	0.43	NA	0.43
Total Acreage of 100 Year Floodplain Hazard area within 200' of line	NA	NA	NA
Total Acreage of NJ Farmland Preserved Parcels within 200' of line	NA	195	195
Total Acreage of Agricultural Security Areas within 200' of line	97	NA	97
Railroad Crossings (Status Unknown)	8	0	8
Road Crossings	42	60	102
Bridge Crossings within 200' of line (all)	2	0	2
Bridges Structurally Deficient or Functionally Obsolete within 200' of line (from all bridges)	2	0	2
Product Pipeline Crossings	1	1	2
Existing Gas Pipeline Crossings	NA	NA	NA
Transmission line Crossings	18	7	25
Karst (PA) within 200' of line	0	NA	0
Coal Mines (PA) within 200' of line	1 (Pioneer Aggregates Popple 1 & 2 Mine)	NA	1
Approx. Acreage of Slopes > 30% within 200' of line	NA	NA	NA
Total Acreage of 400' Corridor	2865	2052	5501

CIA Items	Pennsylvania	New Jersey	Total Project
Percent of Total 400' Corridor that is wetland	3.5%	4.0%	7.5%

10.2.2 Columbia Gas Transmission, LLC (Columbia Gas)

Columbia Gas lacks the capability to receive gas in the production region in which PennEast's receipt points will be located. In order to access the same production region that the PennEast Project will access and to deliver the production at all the same delivery points that PennEast proposes for the PennEast Project, Columbia Gas would be required to construct greenfield pipeline facilities nearly identical to the facilities that comprise the PennEast Project. Accordingly, Columbia Gas does not provide an alternative to the Project.

10.2.3 Texas Eastern

Texas Eastern lacks the capability to receive gas in the production region in which PennEast's receipt points will be located. In order to access the same production region that the PennEast Project will access and to deliver the production at all the same delivery points that PennEast proposes for the PennEast Project, Texas Eastern would be required to construct greenfield pipeline facilities nearly identical to the facilities that comprise the PennEast Project. Accordingly, Texas Eastern does not provide an alternative to the Project.

10.3 Pipeline Route Key Alternatives and Pipeline Deviations

PennEast initially looked at existing utility corridors (natural gas, liquid pipeline, electric transmission, water, and sewer) to identify potential areas where the proposed pipeline could parallel or be co-located within existing maintained ROWS. This assessment found that some of these ROWs had been encroached upon by residential and commercial development resulting in inadequate area for the staging and construction of an additional pipeline between the existing facilities and the neighboring developments.

PennEast has worked with engineering and design to avoid and/or minimize potential direct impacts to environmental resources. The proposed construction work area has been reduced at wetland crossings to minimize impacts wherever feasible. In addition, ROW agents have worked and continue to work with individual landowners to avoid sensitive features on properties and address their concerns. The following sections address the key alternatives assessment and the more significant adjustments that have occurred.

10.3.1 Key Alternatives

Since the Project was initiated in the spring of 2014, five key alternative routes have been reviewed and evaluated using a Critical Issues Assessment. These alternatives include:

1. Original Route
2. Alternate 1 to Original Route with Elizabethtown Gas (ETG) spur
3. Alternate 2 – Original Route with NJ Loop (Initial Preferred Route)
4. Transco Leidy Line Alternative
5. Preferred Route November 2014

Table 10-3 provides a brief summary of the overall pipeline length and study corridor acreage.

Table 10-3
Summary of Key Alternatives

	Original Route	Alternative 1 to Original Route with ETG Spur	Alternative 2 to Original Route with NJ Loop (Initial Preferred Route)	Transco Leidy Line Alternative	Preferred Alternative Route – Nov. 2014
Pipeline Length (Miles)	104.9	104.9	105.9	113.4	110.94
400-Foot-Study	5086.3	5086.8	5134.8	5501.31	5380.47

Corridor
Acreage

Original Route

The proposed PennEast Project alignment, or the "Original Route," was designed to bring locally produced Marcellus Shale from UGI's Compressor A in northeastern Pennsylvania, through 29 municipalities, to its Transco Trenton-Woodbury interconnect in Mercer County, New Jersey, allowing it to serve customers in metropolitan east coast markets. PennEast considered multiple factors when evaluating potential alignments. The Original Route was aligned to avoid standing structures, densely populated areas and planned development projects thereby minimizing the potential cumulative impacts of the pipeline. The Original Route had a centerline of 104.9 miles and crossed 165 streams. 214 acres of wetlands fell within 200 feet of the line, which equated to 11.1% of the total 400-foot corridor being considered a wetland (Figure 10-2).

Table 10-4 provides a Critical Issues Analysis for PennEast's "Original Route."

Table 10-4
Original Route

CIA Items	Pennsylvania	New Jersey	Total Project
Length (Miles)	84.67	20.24	104.91
Municipalities Crossed (#)	24	5	29
Stream Crossings (Total as NHD streams)	106	59	165
EV Cold Water Fishes (EV-CWF, Total)	11	NA	11
HQ Cold Water Fishes (HQ-CWF, Total)	27	NA	27
Cold Water Fishes (CWF, Total)	29	NA	29
Warm Water Fishes (WWF, Total)	3	NA	3
Trout Socking Stream (TST, Total)	4	NA	4
Naturally Producing Trout Waters (From EV)	2	NA	2
Naturally Producing Trout Waters (From HQ)	12	NA	12
Naturally Producing Trout Waters (From CWF)	7	NA	7
Other, Non-Chapter 93 Designated Streams (NHD)	32	41	73
NJ SWQS Category 1 Streams	NA	14	14
DRBC Wild and Scenic River Crossings	Lower Delaware River	1	
Total Acreage of wetlands within 200 feet of line	139	75	214
NWI Wetland Crossings (of the Center Line)	44	25	69
Total # of NHD waterbodies within 200 feet of line	33	11	44
Total Acreage of NHD waterbodies within 200 feet of line	31	7	38
Total # of Wells within 200 feet of line	0	1	1
Well Types within 200 feet of line	None	Public Community Water Supply Well	
Approx. Acreage of CNHI Core Habitat (PA) within 200 feet of line	522	NA	522
Approx. Acreage of CNHI Important Bird Area (PA) within 200 feet of line	312	NA	312
Approx. Acreage of CNHI Provisional Species of Concern (PA) within 200 feet of line	348	NA	348

CIA Items	Pennsylvania	New Jersey	Total Project
Approx. Acreage of CNHI Supporting Landscapes area (PA) within 200 feet of line	654	NA	654
Approx. Acreage of Natural Heritage Priority Sites for Rare Species and Ecological Communities (NJ) within 200 feet of the line	NA	0	0
Approx. Acreage of Critical Environmental and Historic Sites (NJ) within 200 feet of line	NA	26	26
Known Contaminated Sites (NJ) within 200 feet of line	NA	0	0
Approx. Acreage of Groundwater Contamination Areas (CEA) (NJ) within 200 feet of line	NA	0	0
Approx. Acreage of Tier 1 Well Head Protection Area (NJ) within 200 feet of line	NA	41	41
Potential Cultural Resources (unrestricted) within 200 feet of line	0	0	0
Distance to Nearest Airport (Miles)	Van Sant Airport	Petro's Landing Strip	
Approx. Acreage of Delaware and Raritan Canal Commission Review Zone A (NJ)	NA	29	29
Approx. Acreage of Delaware and Raritan Canal Commission Review Zone B (NJ)	NA	599	599
Total # of churches, cemeteries, schools, and parks within 200 feet of line	2	0	0
Approx. Acreage of Highland Preservation Area (NJ) within 200 feet of line	NA	0	0
Approx. Acreage of Highland Preservation Sewer Service Area (NJ) within 200 feet of line	NA	0	0
Approx. Acreage of Historic Properties (NJ) within 200 feet of line	NA	46	46
Approx. Acreage of Open Space (State) (NJ) within 200 feet of line	NA	41	41
Approx. Acreage of State Parks (PA) within 200 feet of line	227	NA	227
Approx. Acreage of State Forests (PA) within 200 feet of line	0		0
Approx. Acreage of State Game Lands (PA) within 200 feet			429
Length of PA Trains within 200 feet of line (miles)	NA	NA	0
Total Acreage of 100 Year Floodplain Hazard area within 200' of line	147	66	213
Total Acreage of NJ Farmland Preserved Parcels within 200 feet of line	NA	190	190
Total Acreage of Agricultural Security Areas within 200 feet of line	148	NA	148
Railroad Crossings (Status Unknown)	9	0	9
Road Crossings	74	34	108
Bridge Crossings within 200 feet of line (all)	0	3	3

CIA Items	Pennsylvania	New Jersey	Total Project
Bridges Structurally Deficient or Functionally Obsolete within 200 feet of line (from all bridges)	0	1	1
Product Pipeline Crossings	1	1	2
Existing Gas Pipeline Crossings	10	1	11
Transmission line Crossings	18	3	21
Karst (PA) within 200 feet of line	167	NA	167
Coal Mines (PA) within 200 feet of line	0	NA	0
Approx. Acreage of Slopes > 30% within 200 feet of line	253	13	266
Total Acreage of 400-foot Corridor	4104	982	5086
Percent of Total 400-foot Corridor that is wetland	3.4%	7.7%	11.1%

Alternate 1 to Original Route with ETG spur

PennEast's Original Route was reviewed to make an assessment of potential critical (environmental) issues, permitting requirements, and risks. A desktop analysis, utilizing multiple applications specific to both Pennsylvania and New Jersey, was performed in order to evaluate areas of potential impact. UGI and URS also conducted an aerial reconnaissance of the study corridor on May 20, 2014 to identify potential critical issues and risks, including stream and river crossings. The overflight allowed for a clearer understanding of possible engineering and environmental constraints. Following the aerial reconnaissance, site visits were performed at publically accessible, potential road and stream crossings as well as other critical areas along the proposed alignment. Both the aerial and ground reconnaissance highlighted areas of potential concern and allowed for further investigation into solutions, such as reroutes. The areas that were focused on in the reconnaissance included:

- Private and public roads, railroads, bridges and trail crossings;
- Road crossings;
- Waterbody crossings;
- Clearing requirements;
- Land Use;
- Socio-Economic Issues;
- Commercial and Industrial Areas; and
- Infrastructure

The findings of the aerial and ground reconnaissance were integrated and used to propose modifications that were incorporated into Alternate 1 to Original Route with ETG spur.

Alternate 1 to Original Route with ETG spur was preferable to the Original Route because it would result in fewer impacts to various resources. Specifically, Alternate 1 Route reduced the total acreage of State Game Lands (PA) within 200 feet of the centerline by 27 acres and also avoided 58 acres of wetlands within 200 feet of the centerline that would have been affected by the Original Route (Figure 10-3).

Table 10-5 provides a Critical Issues Analysis for PennEast's "Alternative 1 – Original Route with ETG Spur."

Table 10-5

Alternative 1 – Original Route with ETG Spur

CIA Items	Pennsylvania	New Jersey	Total Project
Length (Miles)	84.53	20.37	104.90
Municipalities Crossed (#)	22	5	27
Stream Crossings (Total as NHD streams)	104	57	161

CIA Items	Pennsylvania	New Jersey	Total Project
EV Cold Water Fishes (EV-CWF, Total)	11	NA	11
HQ Cold Water Fishes (HQ-CWF, Total)	28	NA	28
Cold Water Fishes (CWF, Total)	25	NA	25
Warm Water Fishes (WWF, Total)	4	NA	4
Trout Socking Stream (TST, Total)	5	NA	5
Naturally Producing Trout Waters (From EV)	2	NA	2
Naturally Producing Trout Waters (From HQ)	12	NA	12
Naturally Producing Trout Waters (From CWF)	6	NA	6
Other, Non-Chapter 93 Designated Streams (NHD)	31	36	67
NJ SWQS Category 1 Streams	NA	19	19
DRBC Wild and Scenic River Crossings	Lower Delaware River		1
Total Acreage of wetlands within 200 feet of line	94	62	156
NWI Wetland Crossings (of the Center Line)	42	33	75
Total # of NHD waterbodies within 200 feet of line	29	13	42
Total Acreage of NHD waterbodies within 200 feet of line	14	1	15
Total # of Wells within 200 feet of line	0	0	0
Well Types within 200 feet of line	None	None	
Approx. Acreage of CNHI Core Habitat (PA) within 200 feet of line	520	NA	520
Approx. Acreage of CNHI Important Bird Area (PA) within 200 feet of line	329	NA	329
Approx. Acreage of CNHI Provisional Species of Concern (PA) within 200 feet of line	382	NA	382
Approx. Acreage of CNHI Supporting Landscapes area (PA) within 200 feet of line	681	NA	681
Approx. Acreage of Natural Heritage Priority Sites for Rare Species and Ecological Communities (NJ) within 200 feet of the line	NA	3	3
Approx. Acreage of Critical Environmental and Historic Sites (NJ) within 200 feet of line	NA	21	21
Known Contaminated Sites (NJ) within 200 feet of line	NA	0	0
Approx. Acreage of Groundwater Contamination Areas (CEA) (NJ) within 200 feet of line	NA	0	0
Approx. Acreage of Tier 1 Well Head Protection Area (NJ) within 200 feet of line	NA	36	36
Potential Cultural Resources (unrestricted) within 200 feet of line	0	0	0
Distance to Nearest Airport (Miles)	Van Sant Airport		
Approx. Acreage of Delaware and Raritan Canal Commission Review Zone A (NJ)	NA	0	0
Approx. Acreage of Delaware and Raritan Canal Commission Review Zone B (NJ)	NA	606	606
Total # of churches, cemeteries, schools, and parks within 200 feet of line	0	0	0

CIA Items	Pennsylvania	New Jersey	Total Project
Approx. Acreage of Highland Preservation Area (NJ) within 200 feet of line	NA	0	0
Approx. Acreage of Highland Preservation Sewer Service Area (NJ) within 200 feet of line	NA	0	0
Approx. Acreage of Historic Properties (NJ) within 200 feet of line	NA	38	38
Approx. Acreage of Open Space (State) (NJ) within 200 feet of line	NA	47	47
Approx. Acreage of State Parks (PA) within 200 feet of line	231	NA	231
Approx. Acreage of State Forests (PA) within 200 feet of line	0		0
Approx. Acreage of State Game Lands (PA) within 200 feet			402
Length of PA Trains within 200 feet of line (miles)	NA	NA	0
Total Acreage of 100 Year Floodplain Hazard area within 200 feet of line	164	58	222
Total Acreage of NJ Farmland Preserved Parcels within 200 feet of line	NA	192	192
Total Acreage of Agricultural Security Areas within 200 feet of line	204	NA	204
Railroad Crossings (Status Unknown)	8	0	8
Road Crossings	68	33	101
Bridge Crossings within 200 feet of line (all)	3	0	3
Bridges Structurally Deficient or Functionally Obsolete within 200 feet of line (from all bridges)	2	0	2
Product Pipeline Crossings	1	1	2
Existing Gas Pipeline Crossings	10	2	12
Transmission line Crossings	22	4	26
Karst (PA) within 200 feet of line	172	NA	172
Coal Mines (PA) within 200 feet of line	0	NA	0
Approx. Acreage of Slopes > 30% within 200 feet of line	208	38	245
Total Acreage of 400-foot Corridor	4096	990	5087
Percent of Total 400-foot Corridor that is wetland	2.3%	6.2%	8.5%

Alternate 2 – Original Route with NJ Loop (Initial Preferred Route)

PennEast conducted further analysis of environmental constraints, resulting in Alternate 2 to Original Route with NJ Loop (Initial Preferred Route). In order to reduce potential environmental impacts related to the ETG Spur, PennEast eliminated the Alternate 1 to Original Route with ETG spur. This elimination avoids the pipeline crossing the Delaware River a second time. Along with exclusion of the ETG Spur, Alternate 2 to Original Route with NJ Loop shifts the alignment from MP 70 to MP 90 from Bucks County, Pennsylvania to Hunterdon County, New Jersey. This would allow the pipeline to make all desired interconnections. Alternate 2 to Original Route with NJ Loop (Initial Preferred Route) is preferable to Alternate 1 to Original Route with ETG spur because it traversed less densely populated areas, reducing both temporary and permanent impacts. Further, because of the topography, and based on aerial imagery, it is estimated that Alternate 1 would result in greater impacts to wetlands and waterbodies (Figure 10-4).

Table 10-6 provides a Critical Issues Analysis for PennEast's "Alternative 2 – Original Route with NJ Loop (Preferred Alternative Route)."

Table 10-6
Alternative 2 – Original Route with NJ Loop (Preferred Alternative Route)

CIA Items	Pennsylvania	New Jersey	Total Project
Length (Miles)	72.17	33.37	105.54
Municipalities Crossed (#)	21	7	28
Stream Crossings (Total as NHD streams)	106	59	165
EV Cold Water Fishes (EV-CWF, Total)	4	NA	4
HQ Cold Water Fishes (HQ-CWF, Total)	28	NA	28
Cold Water Fishes (CWF, Total)	21	NA	21
Warm Water Fishes (WWF, Total)	3	NA	3
Trout Socking Stream (TST, Total)	0	NA	0
Naturally Producing Trout Waters (From EV)	2	NA	2
Naturally Producing Trout Waters (From HQ)	11	NA	11
Naturally Producing Trout Waters (From CWF)	7	NA	7
Other, Non-Chapter 93 Designated Streams (NHD)	50	55	105
NJ SWQS Category 1 Streams	NA	31	31
DRBC Wild and Scenic River Crossings	0	0	10
Total Acreage of wetlands within 200 feet of line	102	70	173
NWI Wetland Crossings (of the Center Line)	57	48	105
Total # of NHD waterbodies within 200 feet of line	27	11	38
Total Acreage of NHD waterbodies within 200 feet of line	13	1	14
Total # of Wells within 200 feet of line	0	1	1
Well Types within 200 feet of line	None	Public Community Water Supply Well	
Approx. Acreage of CNHI Core Habitat (PA) within 200 feet of line	383	NA	383
Approx. Acreage of CNHI Important Bird Area (PA) within 200 feet of line	329	NA	329
Approx. Acreage of CNHI Provisional Species of Concern (PA) within 200 feet of line	182	NA	182
Approx. Acreage of CNHI Supporting Landscapes area (PA) within 200 feet of line	647	NA	647
Approx. Acreage of Natural Heritage Priority Sites for Rare Species and Ecological Communities (NJ) within 200 feet of the line	NA	3	3
Approx. Acreage of Critical Environmental and Historic Sites (NJ) within 200 feet of line	NA	19	19
Known Contaminated Sites (NJ) within 200 feet of line	NA	0	0
Approx. Acreage of Groundwater Contamination Areas (CEA) (NJ) within 200 feet of line	NA	0	0
Approx. Acreage of Tier 1 Well Head Protection Area (NJ) within 200 feet of line	NA	50	50

CIA Items	Pennsylvania	New Jersey	Total Project
Potential Cultural Resources (unrestricted) within 200 feet of line	0	0	0
Distance to Nearest Airport (Miles)	Van Sant Airport		
Approx. Acreage of Delaware and Raritan Canal Commission Review Zone A (NJ)	NA	0	0
Approx. Acreage of Delaware and Raritan Canal Commission Review Zone B (NJ)	NA	669	669
Total # of churches, cemeteries, schools, and parks within 200 feet of line	0	0	0
Approx. Acreage of Highland Preservation Area (NJ) within 200 feet of line	NA	0	0
Approx. Acreage of Highland Preservation Sewer Service Area (NJ) within 200 feet of line	NA	0	0
Approx. Acreage of Historic Properties (NJ) within 200 feet of line	NA	38	38
Approx. Acreage of Open Space (State) (NJ) within 200 feet of line	NA	39	39
Approx. Acreage of State Parks (PA) within 200 feet of line	230	NA	230
Approx. Acreage of State Forests (PA) within 200 feet of line			0
Approx. Acreage of State Game Lands (PA) within 200 feet			402
Length of PA Trains within 200 feet of line (miles)	2.24	NA	2
Total Acreage of 100 Year Floodplain Hazard area within 200 feet of line	126	76	201
Total Acreage of NJ Farmland Preserved Parcels within 200 feet of line	NA	426	426
Total Acreage of Agricultural Security Areas within 200 feet of line	90	NA	90
Railroad Crossings (Status Unknown)	8	0	8
Road Crossings	59	44	103
Bridge Crossings within 200 feet of line (all)	2	0	2
Bridges Structurally Deficient or Functionally Obsolete within 200 feet of line (from all bridges)	2	0	2
Product Pipeline Crossings	1	1	2
Existing Gas Pipeline Crossings	10	3	13
Transmission line Crossings	19	12	31
Karst (PA) within 200 feet of line	194	NA	194
Coal Mines (PA) within 200 feet of line	0	NA	0
Approx. Acreage of Slopes > 30% within 200 feet of line	168	99	267
Total Acreage of 400-foot Corridor	3499	1619	5118
Percent of Total 400-foot Corridor that is wetland	3.5%	4.0%	7.5%

Preferred Route November 2014

Along Alternate 2 Route, reroutes were considered that incorporated co-location. Along the alignment, the centerline was shifted to co-locate with various utility right-of-ways, including gas pipeline and electric transmission. Co-location reduces the amount of clearing and environmental impacts and concentrates them into a smaller area. Between MP 10 and MP 20, which is an area that the pipeline navigates Pennsylvania State Game Lands, the alignment was moved to co-locate with Transco's pipeline. This not only decreased the amount of new permanent ROW required throughout the entire route, but also reduced the cumulative land use impacts of the corridor. Other significant co-location segments fall between MP 20 and MP 40. ROW agents have been working with individual landowners to avoid sensitive features on properties, which allows the Preferred Route to take into account all of these features, as well as cultural resources that have been discovered through surveying. Multiple cultural resources, including sites with both historic and prehistoric components have been located throughout the proposed route, and appropriate reroutes have been applied. The Preferred Route also includes the Hellertown 24-inch Lateral. This lateral permits another interconnect into the PennEast pipeline (Figure 10-6).

Table 10-7 provides a Critical Issues Analysis for PennEast's "Preferred Alternative Route – Revised November 2014."

Table 10-7
Preferred Alternative Route – Revised November 2014

CIA Items	Pennsylvania	New Jersey	Total Project
Length (Miles)	76.98	33.96	110.94
Municipalities Crossed (#)	21	7	28
Stream Crossings (Total as NHD streams)	103	54	157
EV Cold Water Fishes (EV-CWF, Total)	4		4
HQ Cold Water Fishes (HQ-CWF, Total)	24		24
Cold Water Fishes (CWF, Total)	28		28
Warm Water Fishes (WWF, Total)	5		5
Trout Socking Stream (TST, Total)	0		0
Naturally Producing Trout Waters (From EV)	3		3
Naturally Producing Trout Waters (From HQ)	9		9
Naturally Producing Trout Waters (From CWF)	7		7
Other, Non-Chapter 93 Designated Streams (NHD)	42	52	94
NJ SWQS Category 1 Streams	NA	30	30
DRBC Wild and Scenic River Crossings	0	0	0
Total Acreage of wetlands within 200 feet of line	143	66	209
NWI Wetland Crossings (of the Center Line)	81	54	135
Total # of NHD waterbodies within 200 feet of line	32	10	42
Total Acreage of NHD waterbodies within 200 feet of line	34	1	35
Total # of Wells within 200 feet of line	0	1	1
Well Types within 200 feet of line		Public Community Water Supply well	
Approx. Acreage of CNHI Core Habitat (PA) within 200 feet of line	327		327
Approx. Acreage of CNHI Important Bird Area (PA) within 200 feet of line	356		356

CIA Items	Pennsylvania	New Jersey	Total Project
Approx. Acreage of CNHI Provisional Species of Concern (PA) within 200 feet of line	236		236
Approx. Acreage of CNHI Supporting Landscapes area (PA) within 200 feet of line	1043		1043
Approx. Acreage of Natural Heritage Priority Sites for Rare Species and Ecological Communities (NJ) within 200 feet of the line		3	3
Approx. Acreage of Critical Environmental and Historic Sites (NJ) within 200 feet of line		20	20
Known Contaminated Sites (NJ) within 200 feet of line		1	1
Approx. Acreage of Groundwater Contamination Areas (CEA) (NJ) within 200 feet of line		0	0
Approx. Acreage of Tier 1 Well Head Protection Area (NJ) within 200 feet of line		53	53
Potential Cultural Resources (unrestricted) within 200 feet of line	0	0	0
Distance to Nearest Airport (Miles)	Van Sant Airport		
Approx. Acreage of Delaware and Raritan Canal Commission Review Zone A (NJ)	NA	0	0
Approx. Acreage of Delaware and Raritan Canal Commission Review Zone B (NJ)	NA	669	669
Total # of churches, cemeteries, schools, and parks within 200 feet of line	0	0	0
Approx. Acreage of Highland Preservation Area (NJ) within 200 feet of line		0	0
Approx. Acreage of Highland Preservation Sewer Service Area (NJ) within 200 feet of line		0	0
Approx. Acreage of Historic Properties (NJ) within 200 feet of line		18	18
Approx. Acreage of Open Space (State) (NJ) within 200 feet of line		71	71
Approx. Acreage of State Parks (PA) within 200 feet of line	231		231
Approx. Acreage of State Forests (PA) within 200 feet of line	35		35
Approx. Acreage of State Game Lands (PA) within 200 feet	212		212
Length of PA Trains within 200 feet of line (miles)	1.42	NA	1
Total Acreage of 100 Year Floodplain Hazard area within 200 feet of line	140	82	223
Total Acreage of NJ Farmland Preserved Parcels within 200 feet of line		398	398
Total Acreage of Agricultural Security Areas within 200 feet of line	115	NA	115
Railroad Crossings (Status Unknown)	9	0	9
Road Crossings	60	45	105

CIA Items	Pennsylvania	New Jersey	Total Project
Bridge Crossings within 200 feet of line (all)	1	1	2
Bridges Structurally Deficient or Functionally Obsolete within 200 feet of line (from all bridges)	1	0	1
Product Pipeline Crossings	1	1	2
Existing Gas Pipeline Crossings	9	3	12
Transmission line Crossings	17	10	27
Karst (PA) within 200 feet of line	197	NA	197
Coal Mines (PA) within 200 feet of line	0	NA	0
Approx. Acreage of Slopes > 30% within 200 feet of line	NA	NA	NA
Total Acreage of 400-foot Corridor	3614	1640	5275
Percent of Total 400-foot Corridor that is wetland	3.8%	4.0%	7.9%

Figure 10-1
Overview Map

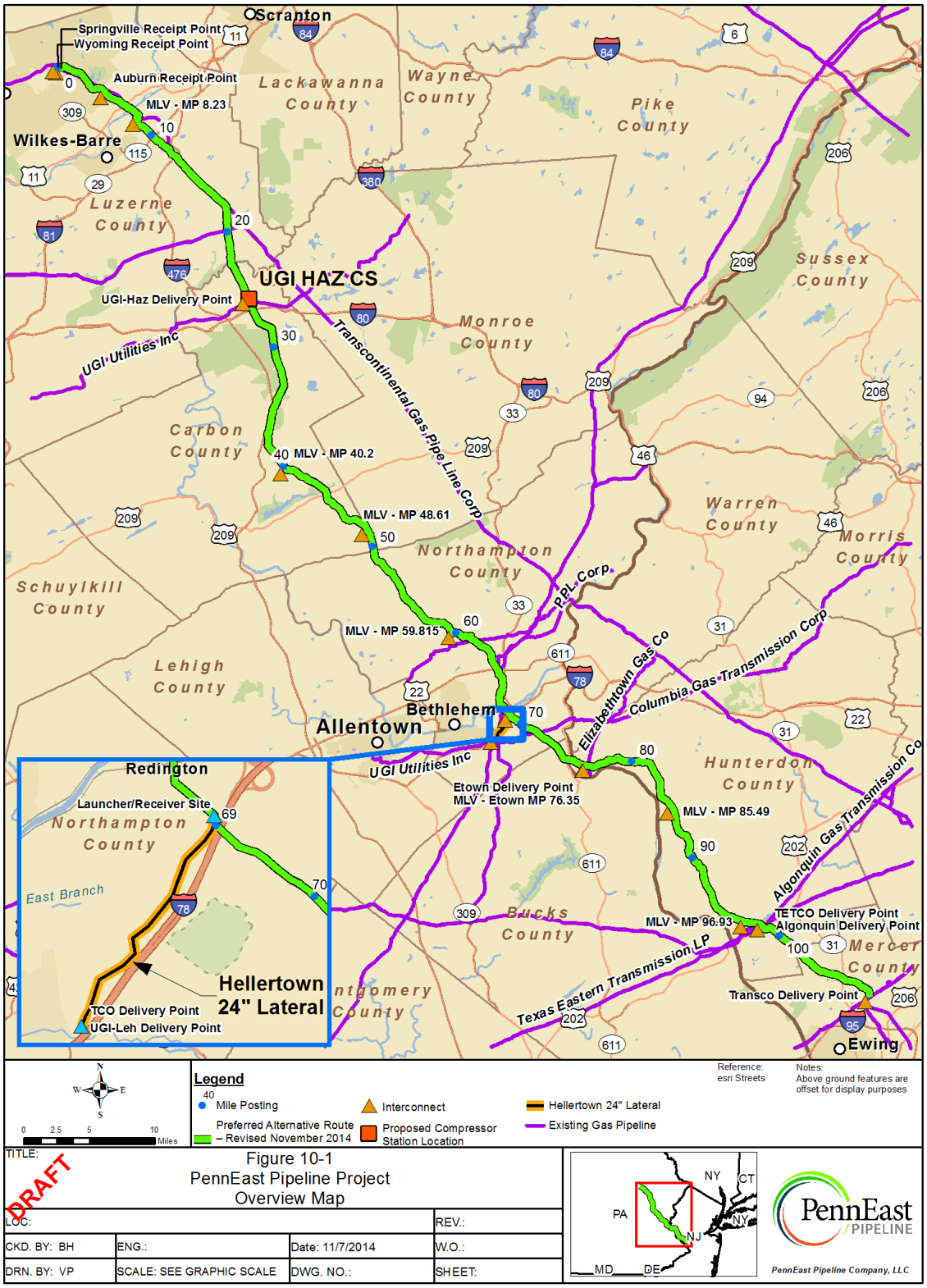


Figure 10-2
PennEast Pipeline Project Alternative Routes Map – Original Route

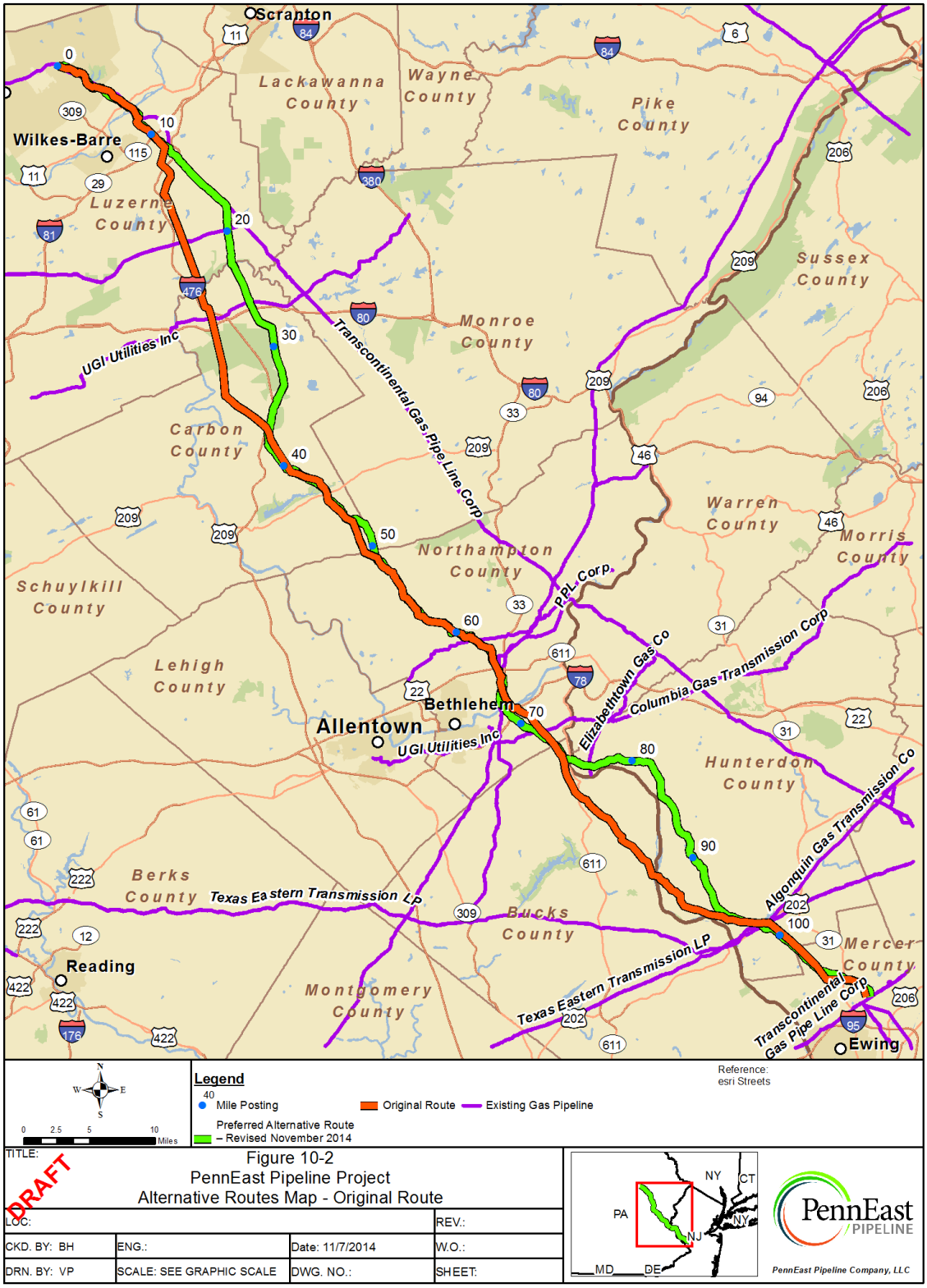


Figure 10-3
PennEast Pipeline Project Alternative Routes Map – Alternative 1 Route

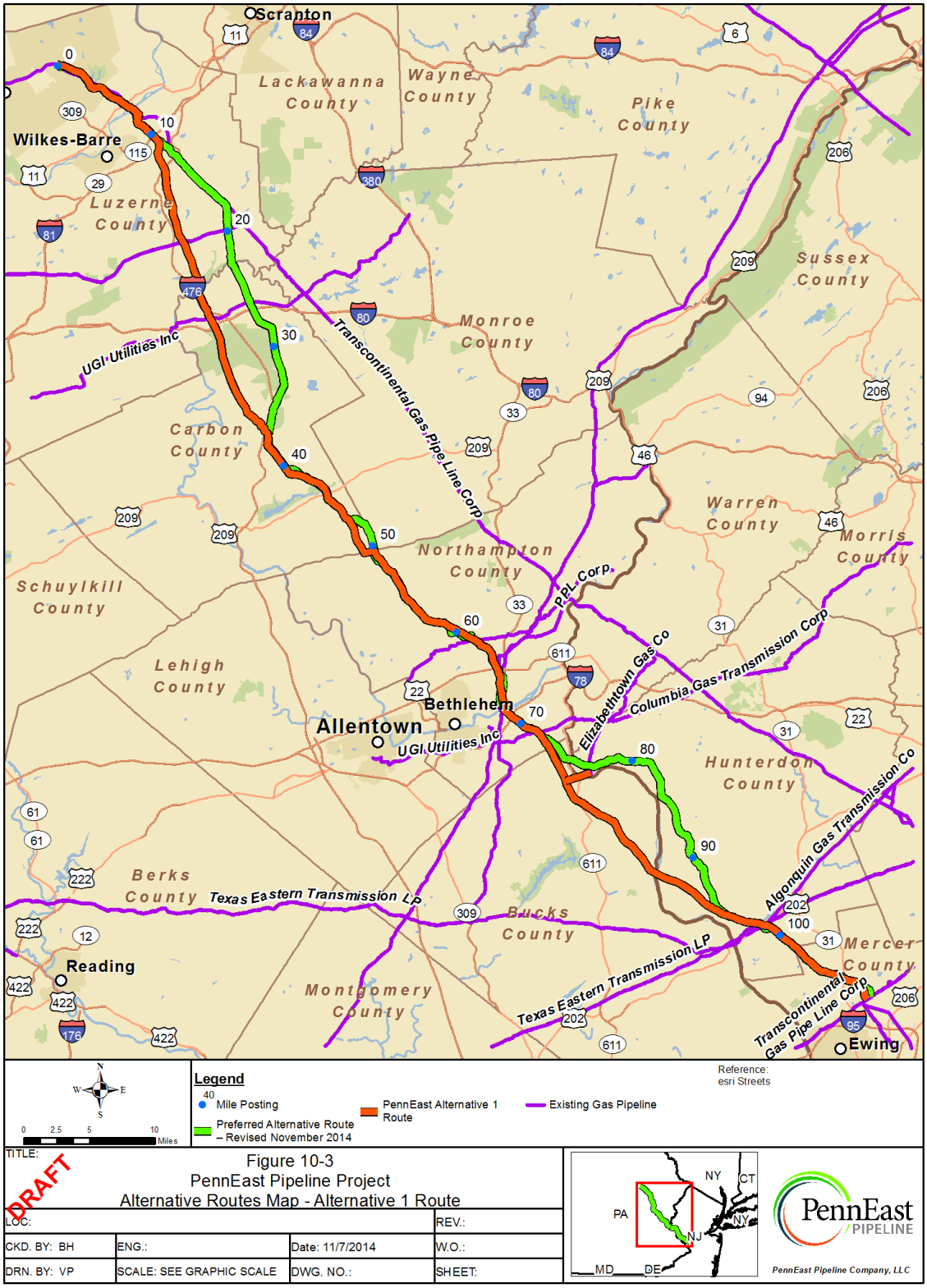


Figure 10-4
PennEast Pipeline Project Alternative Routes Map – Alternative 2 Route

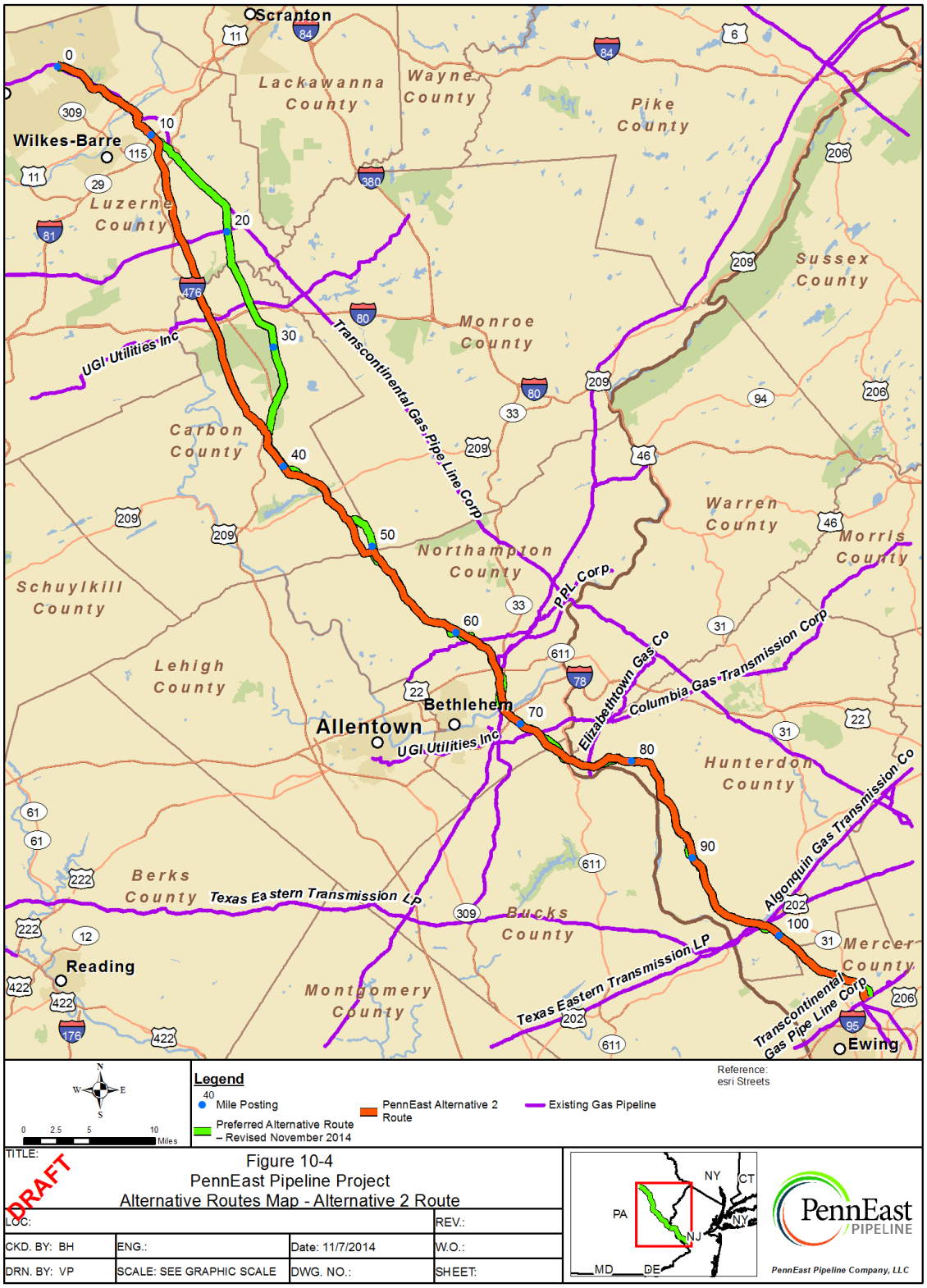


Figure 10-5

PennEast Pipeline Project Alternative Routes Map – Transco Leidy Line Alternative Route

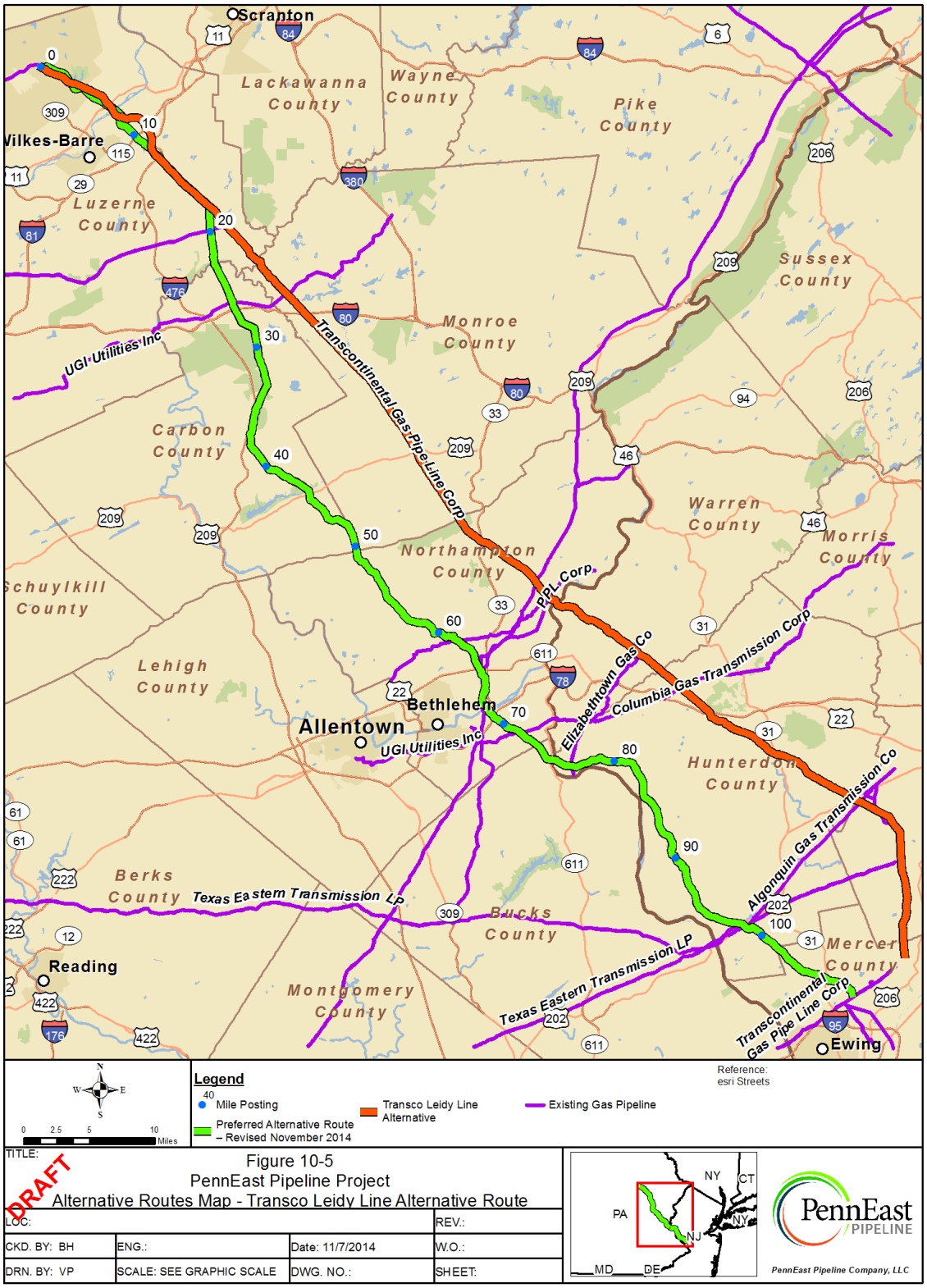
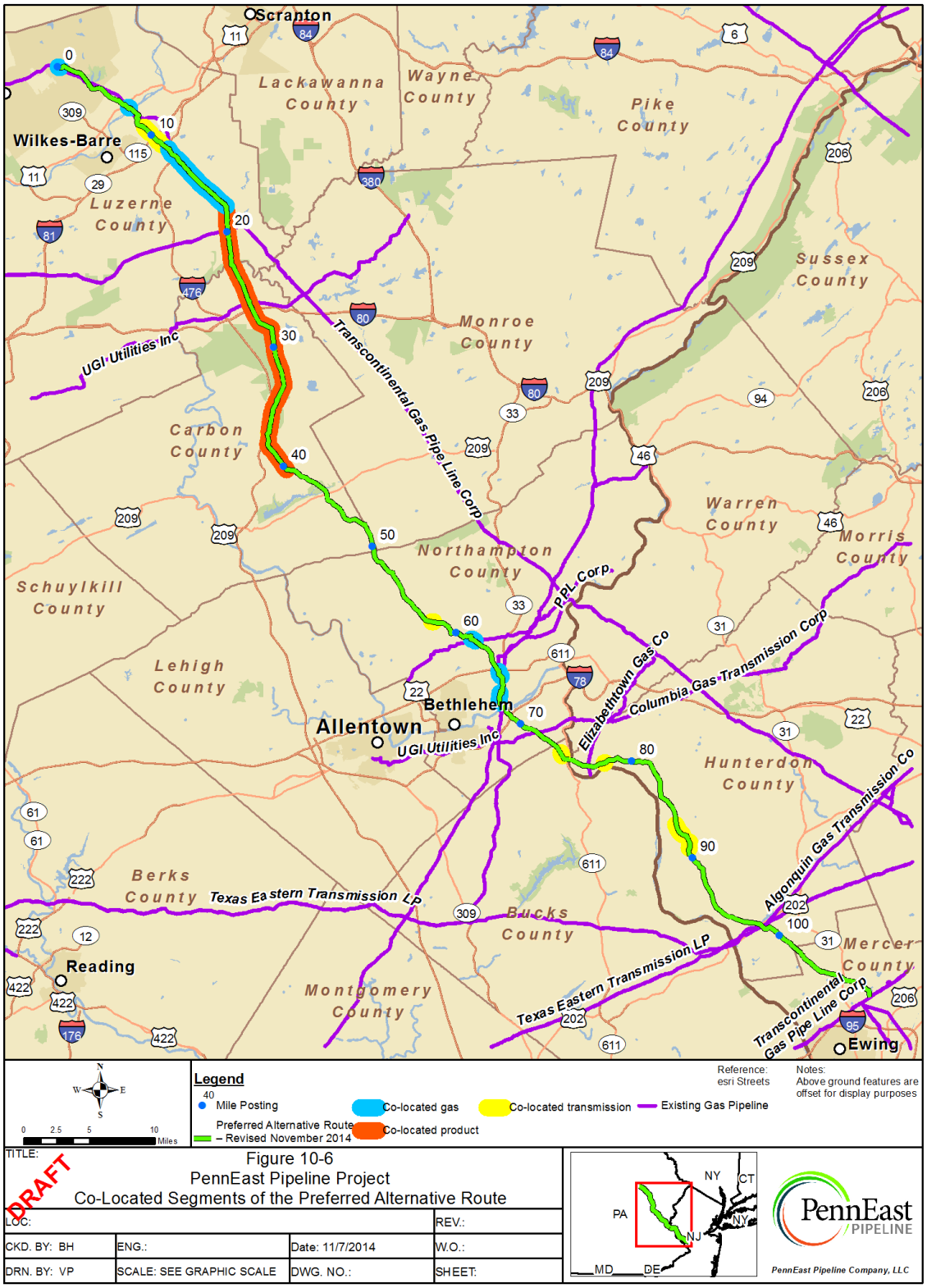


Figure 10-6

PennEast Pipeline Project Co-located Segments of the Preferred Alternative Route



10.3.2 Pipeline Deviations

A range of deviations to the preferred route have been examined to date and are continuing to be developed as survey access and additional engineering and environmental information becomes available. The following Table 10-8 presents a summary of the adjustments to the preferred route and the justification for the changes.

Table 10-8
Summary of Pipeline Minor Reroutes

Project	Reroute Number	Type of Survey	Features Avoided	Approx. Mile Posts	Mapping Reroute
PennEast	MP 60.4 – PANh15 Option 5	Cultural Resources	Sensitive Environmental Area	59.05-60.55	KMZ
PennEast	MP 89.0 – Solar Power – Option 1 (+840')	Constructability	Solar field was built last year, so Google Earth does not display it. There is a path through the center of the solar field, but it is not clear what was being avoided by panels not being put there.	88.35-89.5	KMZ
PennEast	MP 72.5 – Approved Option	Cultural Resources	Sensitive Environmental Area	71.4-73.4	KMZ
PennEast	MP 107.6 – Equestrian Center & Farm Land	Constructability	Equestrian Center in New Jersey is being avoided.	107.55-107.75	KMZ
PennEast	Possible Route Variations (9/17/14): Tweaked Route 0.0 to 10.8	Constructability	MP 5.1: Standing water, matting, and increases distance from Cemetery MP 6.1: Pull away from Cell Tower, Remove bad creek crossing angle, remove possible second drainage on SE side of field, minor tweaks to finish MP 8.7: Edge of Cemetery vs. through Cemetery MP 9.3: Casino Race Horse Warmup Track MP 9.9: US 81 HDD (Removes additional Powerlines and PI Power Pole from near drill) MP 10.8: Co-location ($/mile decrease – PGI to verify cost comparison)	0.0-10.8	KMZ
PennEast	Possible Route Variations (9/17/14): MP 38.7	Constructability	Edge of Class 3 Area	40.3-41.65	KMZ
PennEast	Possible Route Variations (9/17/14): MP 45.3	Constructability	Appalachian Trail	46.85-50.35	KMZ
PennEast	MP 73 – Cultural Site Options	Cultural Resources	Sensitive Environmental Area	72.7-73.2	KMZ

Project	Reroute Number	Type of Survey	Features Avoided	Approx. Mile Posts	Mapping Reroute
PennEast	Whitaker Reroute (Green Pond tracts)	Constructability	Green Pond Golf Course Development – 265 houses are planned to be built on the three green pond tracts (M7-12-4, M8-1-2A, M8-1-3). Details have not been released	64.05-66.32	KMZ
PennEast	N Branch Susquehanna River Crossing	Constructability	Adjust where the pipeline crossed the river due to a mining incident that took place in the past in the vicinity.		
PennEast	MP 10.8 – Co-location through Gamelands	Environmental	Co-location with other utility ROWs through the PA State Gamelands.	10.7-37.08	KMZ
PennEast	MP 49 – State Game Land Reroute	Environmental	Co-location with other utility ROWs through the PA State Gamelands.	50.32-51.5	KMZ
PennEast	MP 59 – Fields at Trio Farms Subdivision	Constructability	Land Development, avoided large housing development.	60.5-61.15	KMZ
PennEast	MP 65 Bethlehem US2233 MP 65 US 22 & US 33 Bethlehem Area	Constructability	Area was more developed that originally thought, re-routed to avoid new development.	64.45-68.7	KMZ
PennEast	Possible Route Variation (9-17-14) adjustment	Engineering/Environmental	Angling for road crossings.	48.2-50.35	KMZ
PennEast	Proposed Reroute 20140919	Engineering/Environmental	Reassessment of co-location options based on new data.	0-108.37	KMZ
PennEast	Tweaked Route through MP 50	Constructability	Properties, Roads and Creek Angles	10.7-36.35	KMZ
PennEast	PACa26 – Site 1	Cultural Resources	Sensitive Environmental Area	47.01-46.94	Field Map Mark-up
PennEast	PABu01 – Site 1/Site 2	Cultural Resources	Sensitive Environmental Area	70.54-70.67	Field Map Mark-up
PennEast	PANh25 – Site 1/Site 2	Cultural Resources	Sensitive Environmental Area	66.39-66.48	
PennEast	St. Luke's	Constructability	St. Luke's Hospital – Anderson Campus is undergoing an 8 or 9 phase development plan. They are currently on phase 1.5, but when completed virtually all of the property will be developed.	66.2-68	JPEG

Project	Reroute Number	Type of Survey	Features Avoided	Approx. Mile Posts	Mapping Reroute
PennEast	Archaeological/Above Ground Resources	Cultural Resources	National Register (listed and eligible) within 200 feet of the pipeline Critical_issues_update_09-10-2014	Various within study corridor	
PennEast	PALu13-1	Cultural Resources	Sensitive Environmental Area	7.35-7.36	Field Map Mark-up
PennEast	Green Acres	Engineering/Environmental	Rerouting alignment to avoid Green Acres Encumbered Parcels in New Jersey – Variations between latest NJ update and other data sources	Various	

10.3.3 New Compression

As the Project has evolved, the need for compression has changed. Initially, PennEast contemplated a 30-inch pipeline with three compressor stations. With changes in location and pipeline coating, PennEast reduced the design to two compressor stations:

- With the 30-inch pipeline internally coated at 1.0 BCFD.
  - Compressor Station #1
    - Available (ISO) = 26,733 HP
    - (3) Taurus 70's
  - Compressor Station #2
    - Available (ISO) = 7,224 HP
    - (2) Centaur 40's

Following this assessment, as a result of the increased demand for natural gas during the Open Season and the corresponding increase in the diameter of the pipeline from 30-inches to 36-inches, the requirements for compression changed and two compressor stations were no longer necessary.

At this time, only one compressor station is required to transport the gas from the major receipt interconnections: Transco, and gathering systems operated by Williams Partners L.P., Regency Energy Partners LP, and UGI Energy Services, LLC, all in Luzerne County, PA. Major delivery interconnections include the following: two with UGI Utilities, Inc. (one in Carbon County, PA, and one in Northampton County, PA); Columbia Gas Transmission, LLC, in Northampton County, PA; Elizabethtown Gas, Texas Eastern Transmission, LP; and Algonquin Gas Transmission, LLC, all in Hunterdon County, NJ; and Transco, in Mercer County, NJ.

The proposed compressor station will be located in Kidder Township, Carbon County, PA. The compressor station will include 3 Taurus 70 units rated at 10,915 horsepower each under ISO conditions for a total of 26,733 available horsepower. This initial site has been environmentally surveyed and there are no cultural, historic or wetland resources that would constrain use of the approximately 40-acre site (see Figure 10- 2).

Additional tracts are being screened for potential use between MP 25.2 and 27.5. These sites are still being evaluated.

10.4 Aboveground Facilities - Alternative Sites

A total of 16 new aboveground facilities will be necessary, including, interconnect meter stations, mainline block valves, and a compressor station. With the exception of the compressor station discussed above, the other facilities will be sited within the proposed 400-foot study corridor. These facilities will be located in upland areas away from wetlands and waterbodies. In addition, they will not be sited in preserved agricultural or open space areas.

In Pennsylvania, there will be ten above ground installations:

- Wyoming interconnect – MP 0.00
- Springville interconnect – MP 0.25
- Auburn and Leidy interconnects – MP 4.50
- Mainline block valve – MP 8.23
- UGI HAZ interconnect – MP 25.50
- Mainline block valve – MP 40.20
- Mainline block valve – MP 48.61
- Mainline block valve – MP 59.82
- UGI LEHIGH Interconnect and Launcher/Receiver Site – HLMP 2.13
- TCO Interconnect – HLMP 2.13

In New Jersey, there will be four above ground installations:

- Elizabethtown interconnect and mainline block valve – MP 76.35
- Mainline block valve – MP 85.49
- Mainline block valve – MP 96.93
- Algonquin and TETCO interconnects – MP 98.25

10.5 Non-PennEast System Alternatives

PennEast is not aware of any non-PennEast system alternatives that would satisfy the purpose and need of the Project. The purpose and need of the Project includes the need to satisfy the service that has been subscribed by the Project shippers under long-term firm contracts, which include multiple, unique receipt and delivery point combinations located along the PennEast system. PennEast is not aware of any other pipeline alternative that could satisfy the unique receipt and delivery point combinations subscribed under its agreements with the Project shippers.

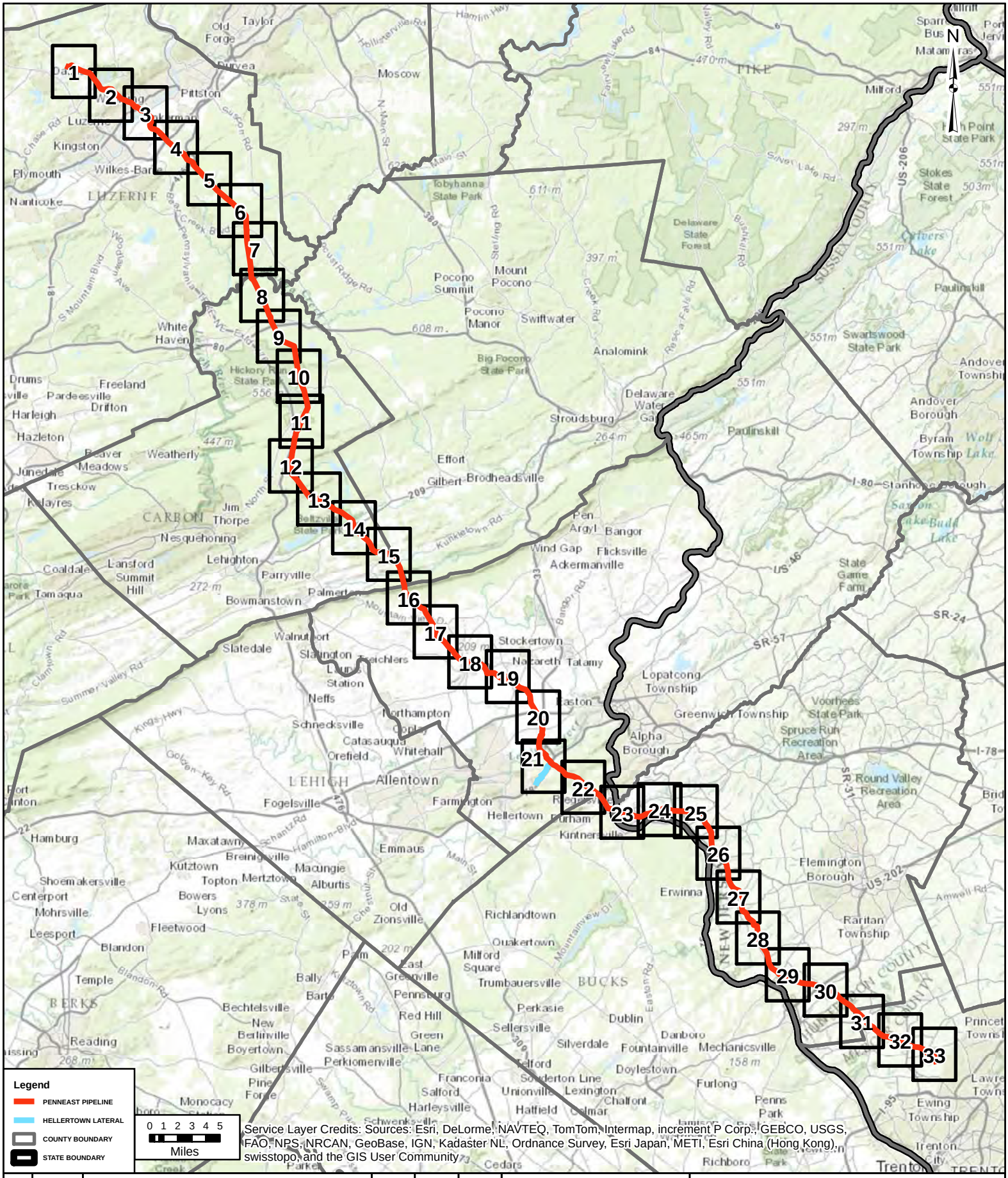
10.6 References

http://energy.gov/articles/beyond-solyndra-how-energy-department-s-loans-are-accelerating-america-s-transition-clean

http://www.energy.ca.gov/tour/desertsunlight/

http://energy.gov/lpo/nrg-solar-california-valley-solar-ranch

http://www.nexteraenergyresources.com/content/where/portfolio/pdf/waymart.pdf



REV	DATE	REVISION DESCRIPTION	BY	CKD	APP
A	11/04/14	ISSUED FOR DRAFT RESOURCE REPORT 1	JBB	JMA	JMH

PennEast PIPELINE

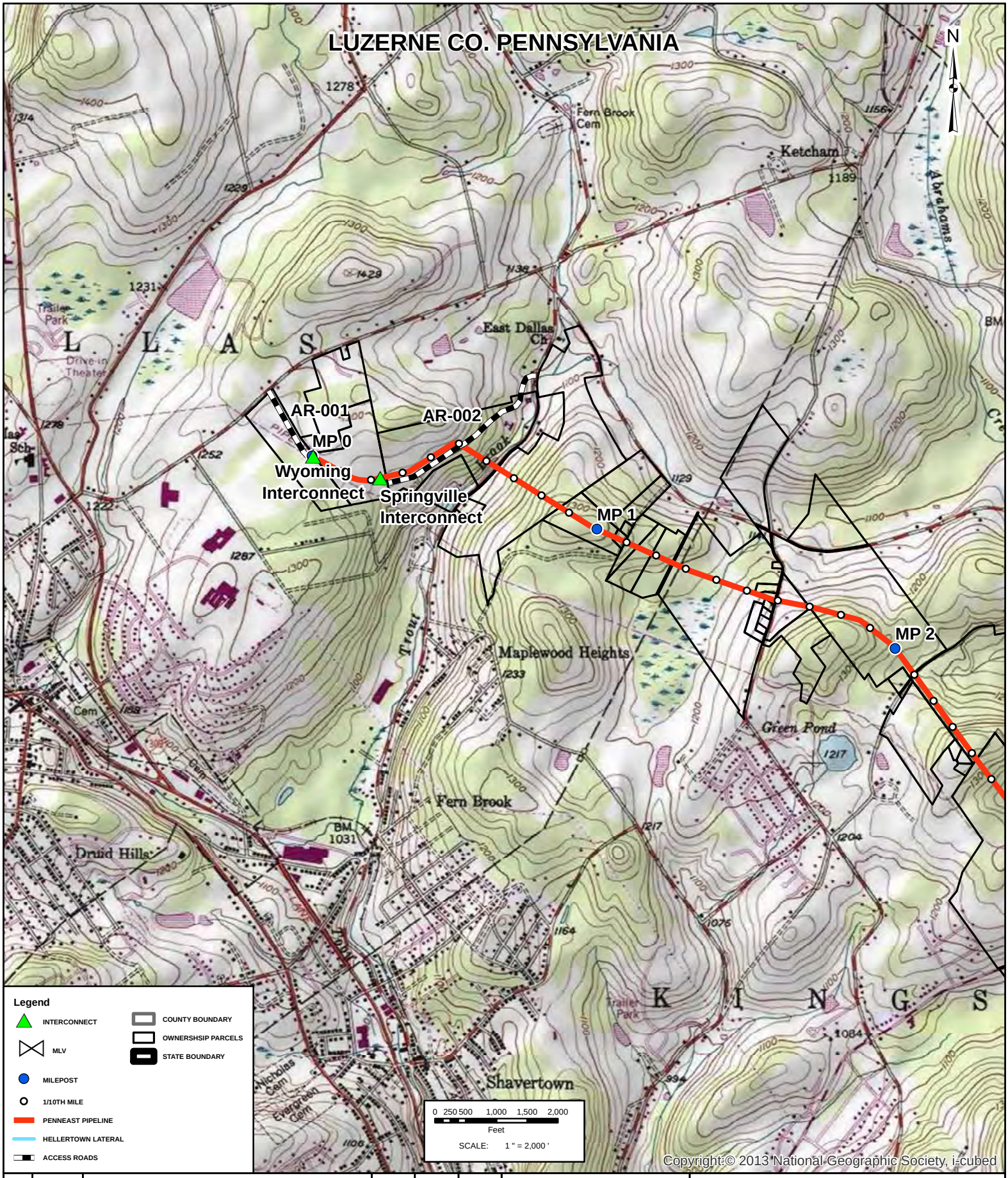
PREPARED BY:
OPS ENGINEERING, LLC

PENNEAST PIPELINE PROJECT

TOPOGRAPHIC MAPS
PROPOSED 36" PIPELINE
& 24" HELLERTOWN LATERAL

JOB NUMBER: 80111

DRAWING NUMBER: PEN-PL-MA-QDE-INDEX



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A	11/04/14	ISSUED FOR DRAFT RESOURCE REPORT 1	JBB	JMA	JMH

PennEast PIPELINE

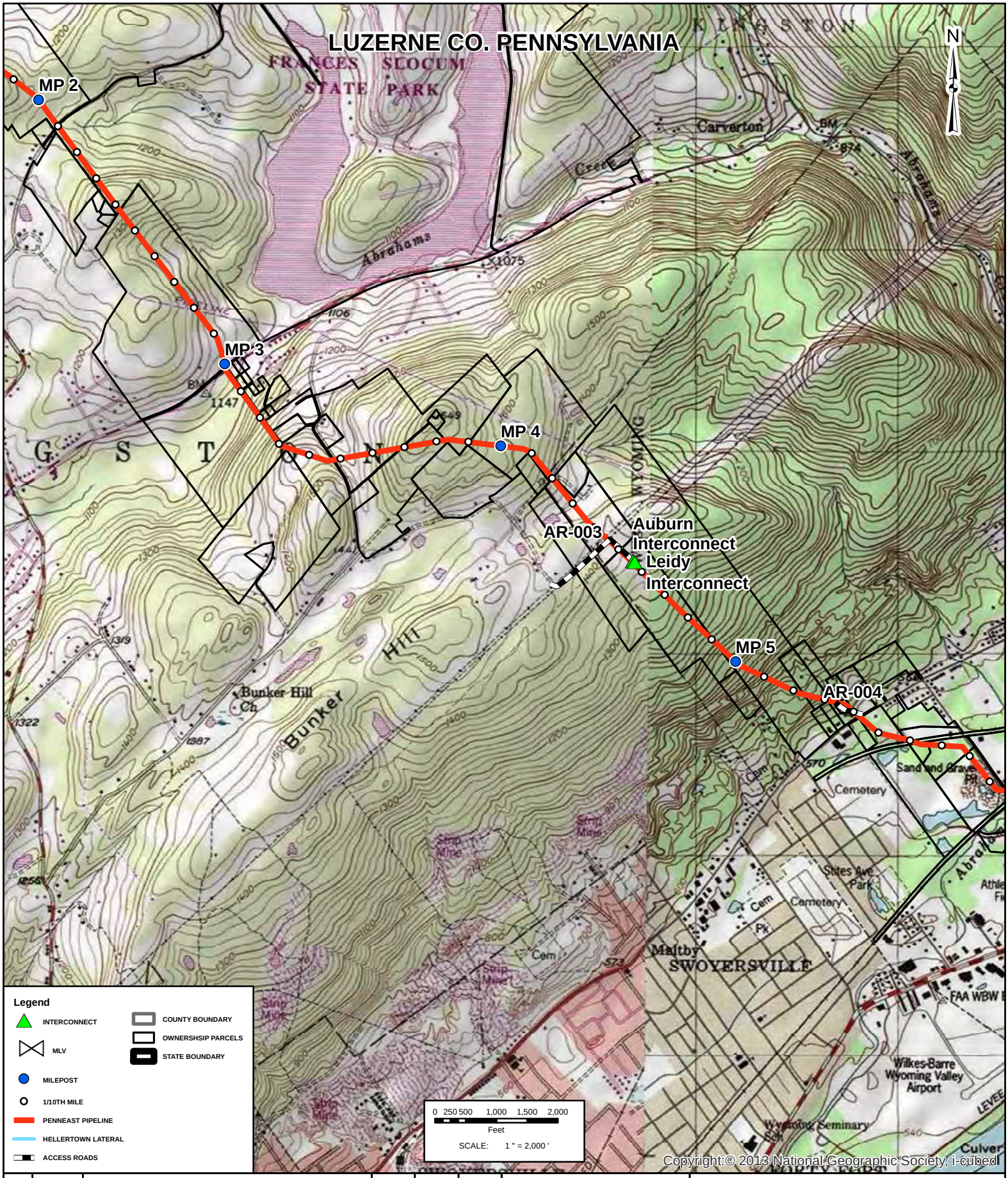
PREPARED BY:
OPS ENGINEERING, LLC

PENNEAST PIPELINE PROJECT

TOPOGRAPHIC MAPS
PROPOSED 36" PIPELINE

JOB NUMBER: 80111

DRAWING NUMBER: PEN-PL-MA-QDE-001



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A	11/04/14	ISSUED FOR DRAFT RESOURCE REPORT 1	JBB	JMA	JMH

PennEast PIPELINE

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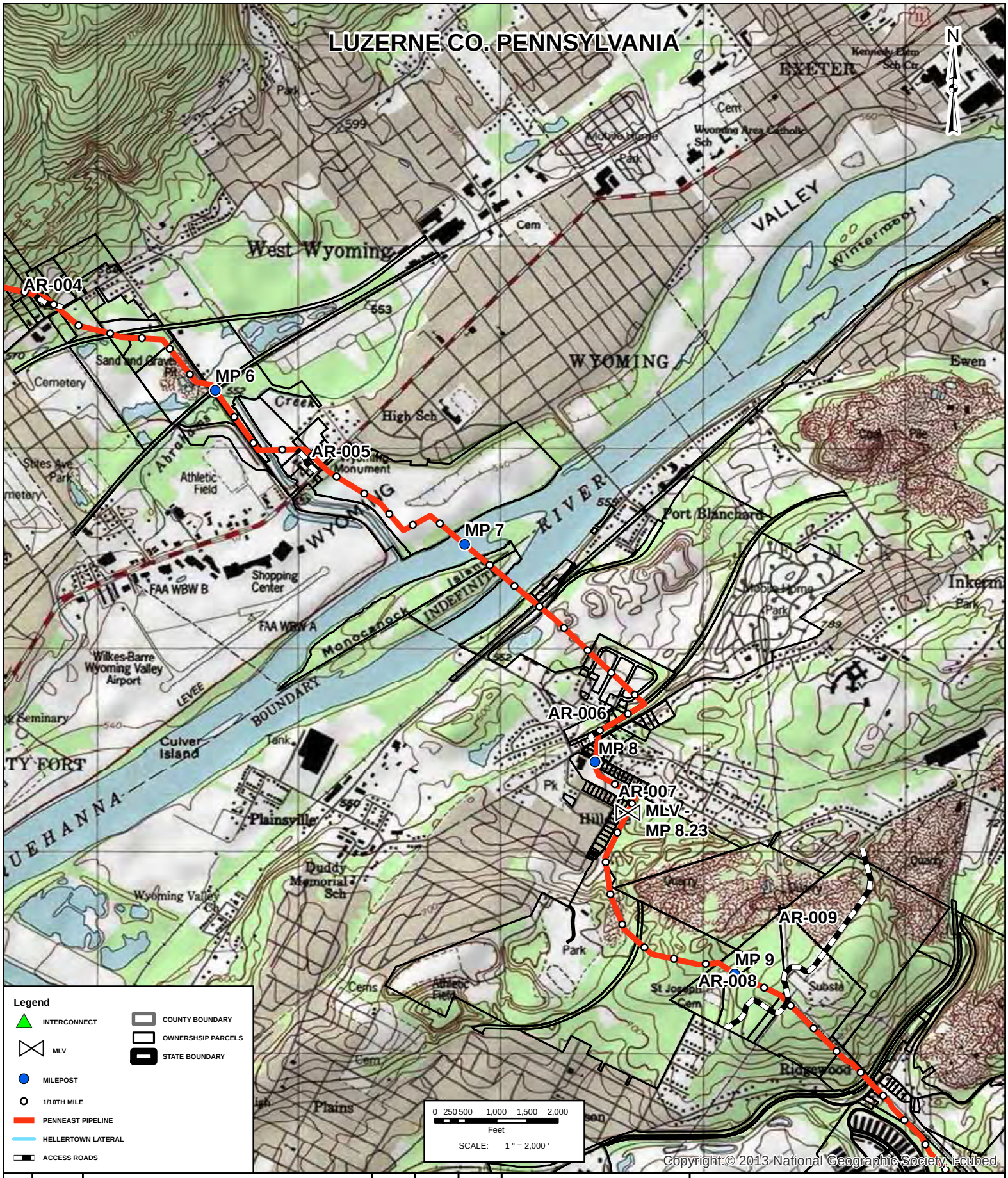
PENNEAST PIPELINE PROJECT

TOPOGRAPHIC MAPS
PROPOSED 36" PIPELINE

JOB NUMBER: 80111

DRAWING NUMBER: PEN-PL-MA-QDE-002



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PennEast PIPELINE

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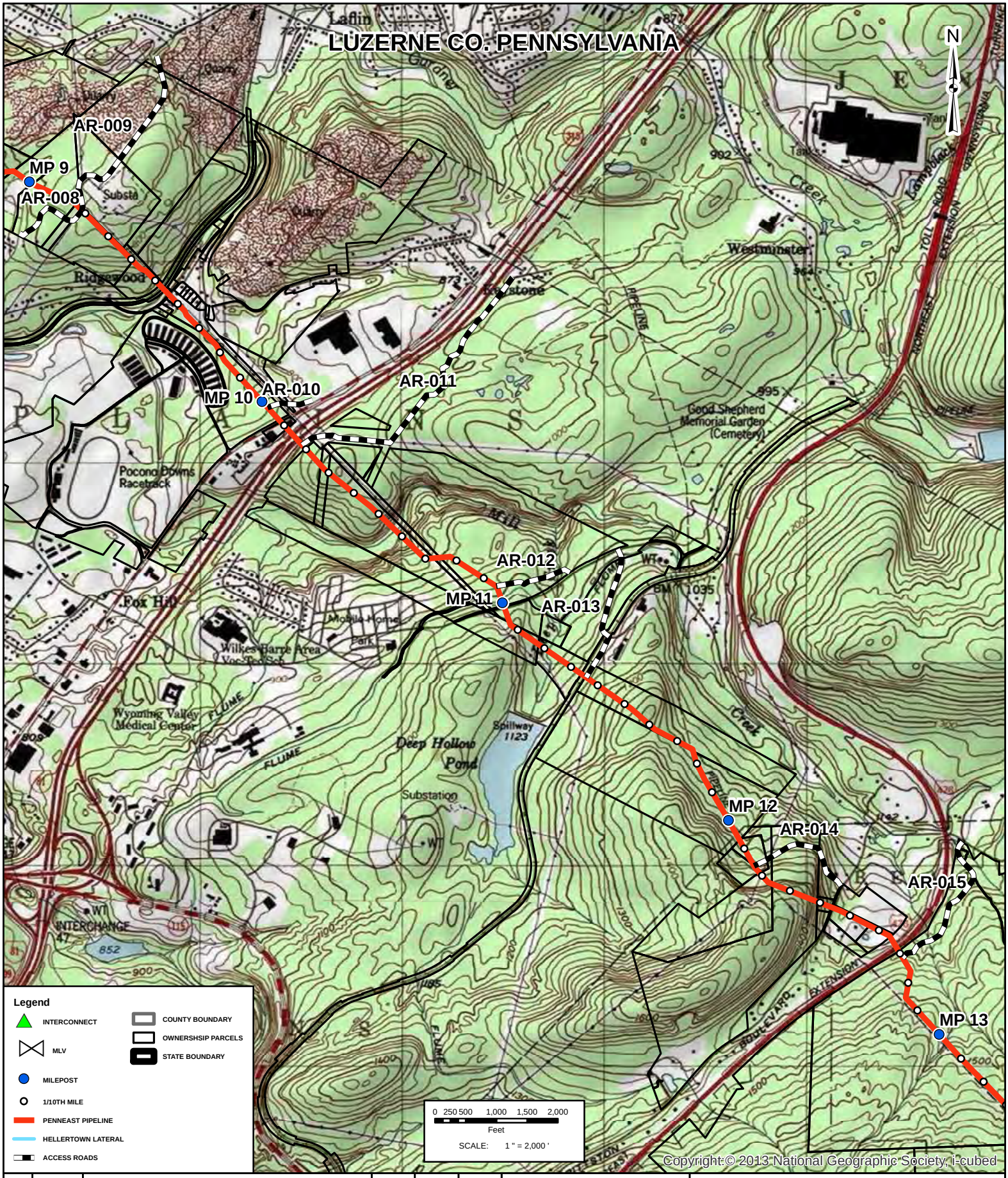
PENNEAST PIPELINE PROJECT

TOPOGRAPHIC MAPS
PROPOSED 36" PIPELINE

JOB NUMBER: 80111

DRAWING NUMBER: PEN-PL-MA-QDE-003



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PennEast PIPELINE

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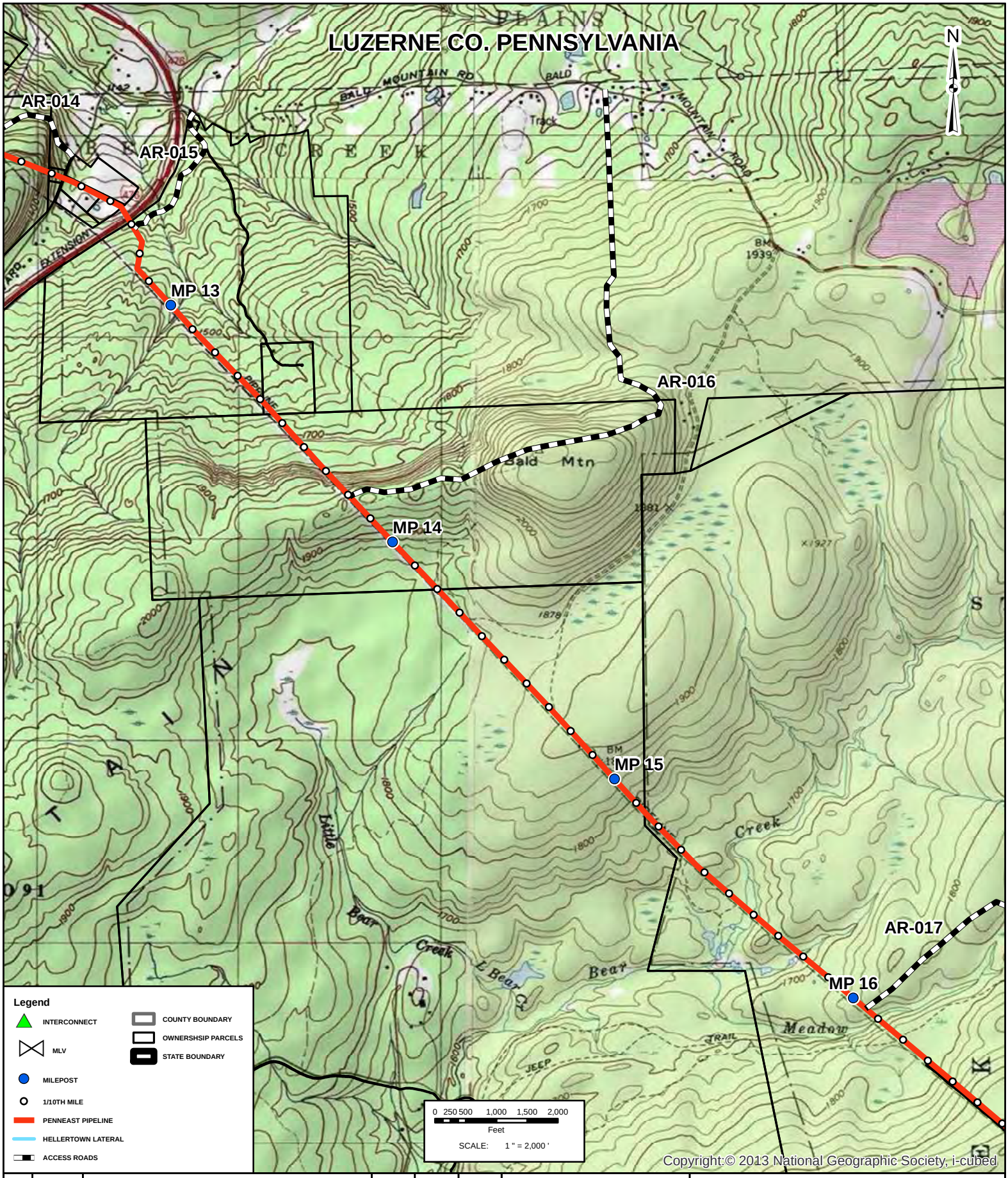
PENNEAST PIPELINE PROJECT

TOPOGRAPHIC MAPS
PROPOSED 36" PIPELINE

JOB NUMBER: 80111

DRAWING NUMBER: PEN-PL-MA-QDE-004



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PennEast PIPELINE

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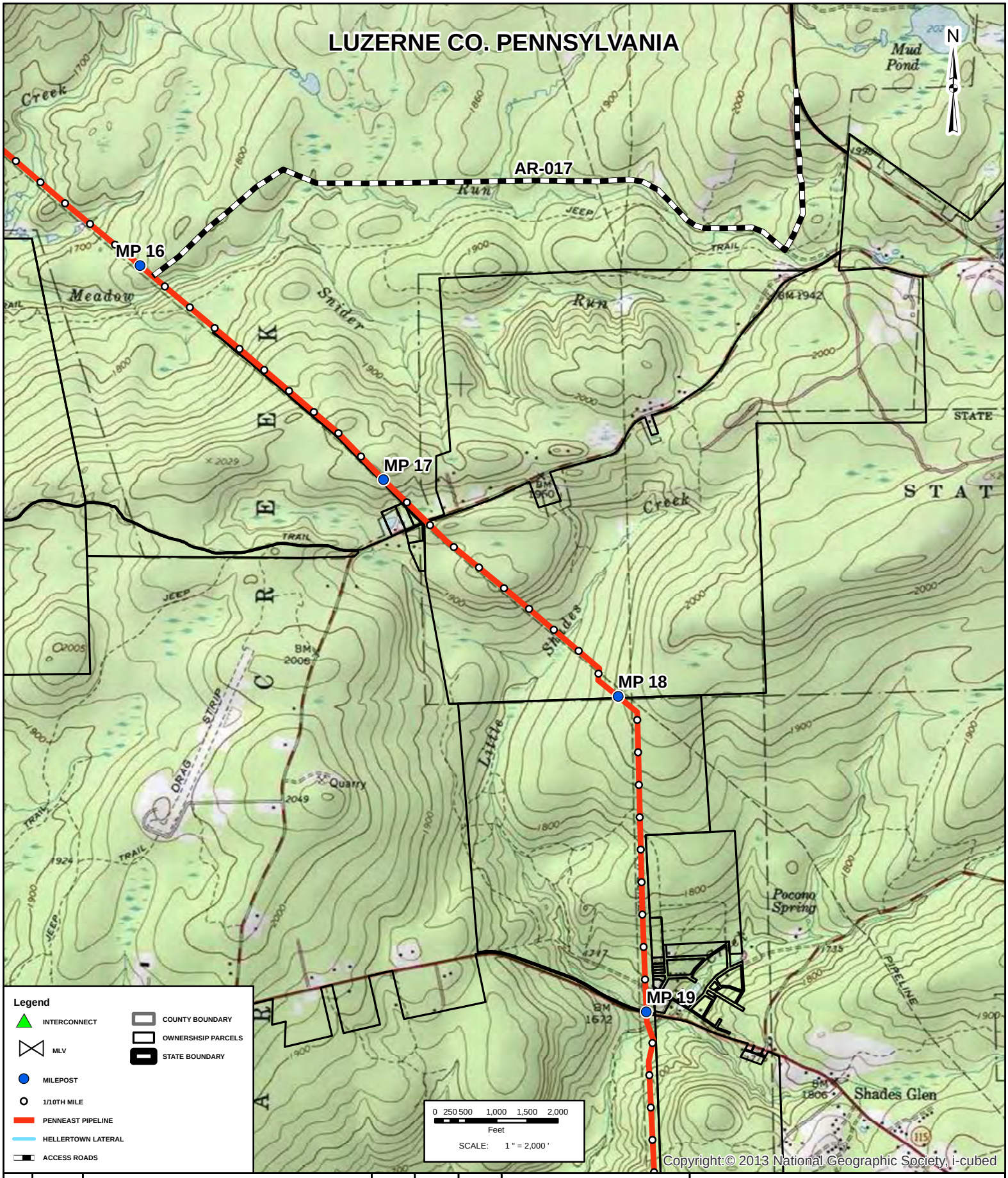
PENNEAST PIPELINE PROJECT

TOPOGRAPHIC MAPS
PROPOSED 36" PIPELINE

JOB NUMBER: 80111

DRAWING NUMBER: PEN-PL-MA-QDE-005



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PennEast PIPELINE

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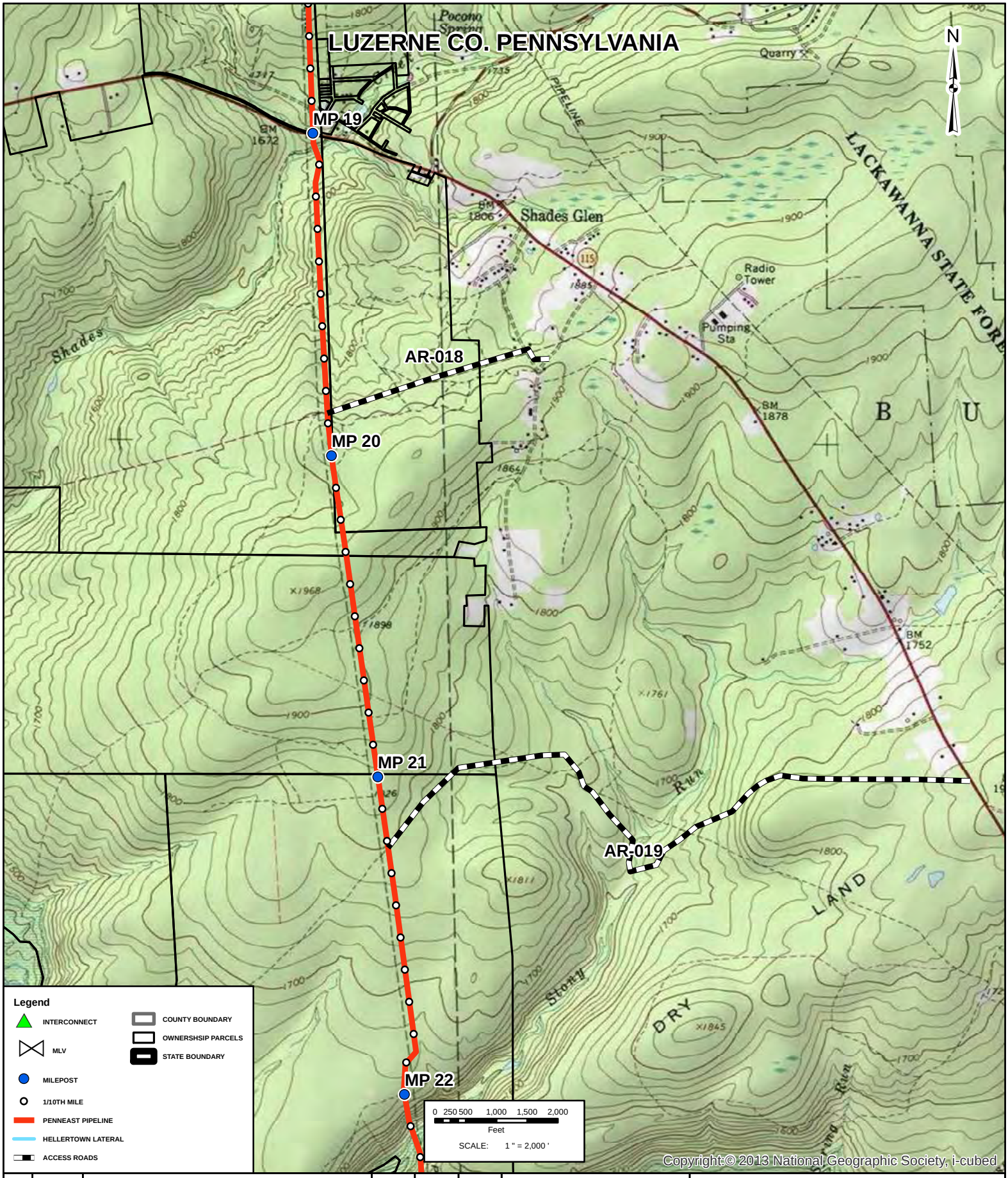
OPS ENGINEERING, LLC

PENNEAST PIPELINE PROJECT

TOPOGRAPHIC MAPS
PROPOSED 36" PIPELINE

JOB NUMBER: 80111

DRAWING NUMBER: PEN-PL-MA-QDE-006



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PennEast PIPELINE

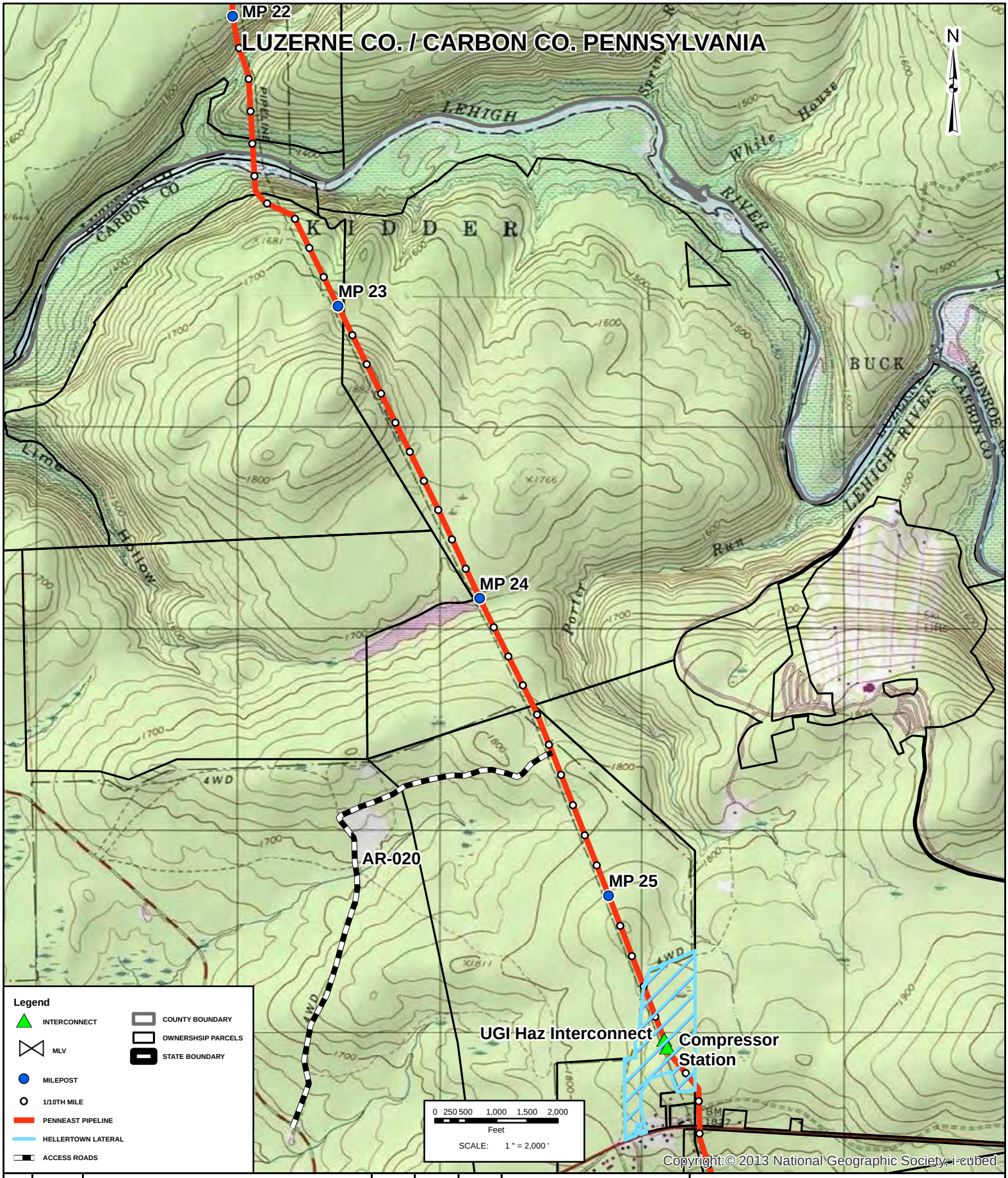
PREPARED BY:
OPS ENGINEERING, LLC

PENNEAST PIPELINE PROJECT

TOPOGRAPHIC MAPS
PROPOSED 36" PIPELINE

JOB NUMBER: 80111

DRAWING NUMBER: PEN-PL-MA-QDE-007



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PennEast PIPELINE

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PENNEAST PIPELINE PROJECT

TOPOGRAPHIC MAPS
PROPOSED 36" PIPELINE

JOB NUMBER: 80111

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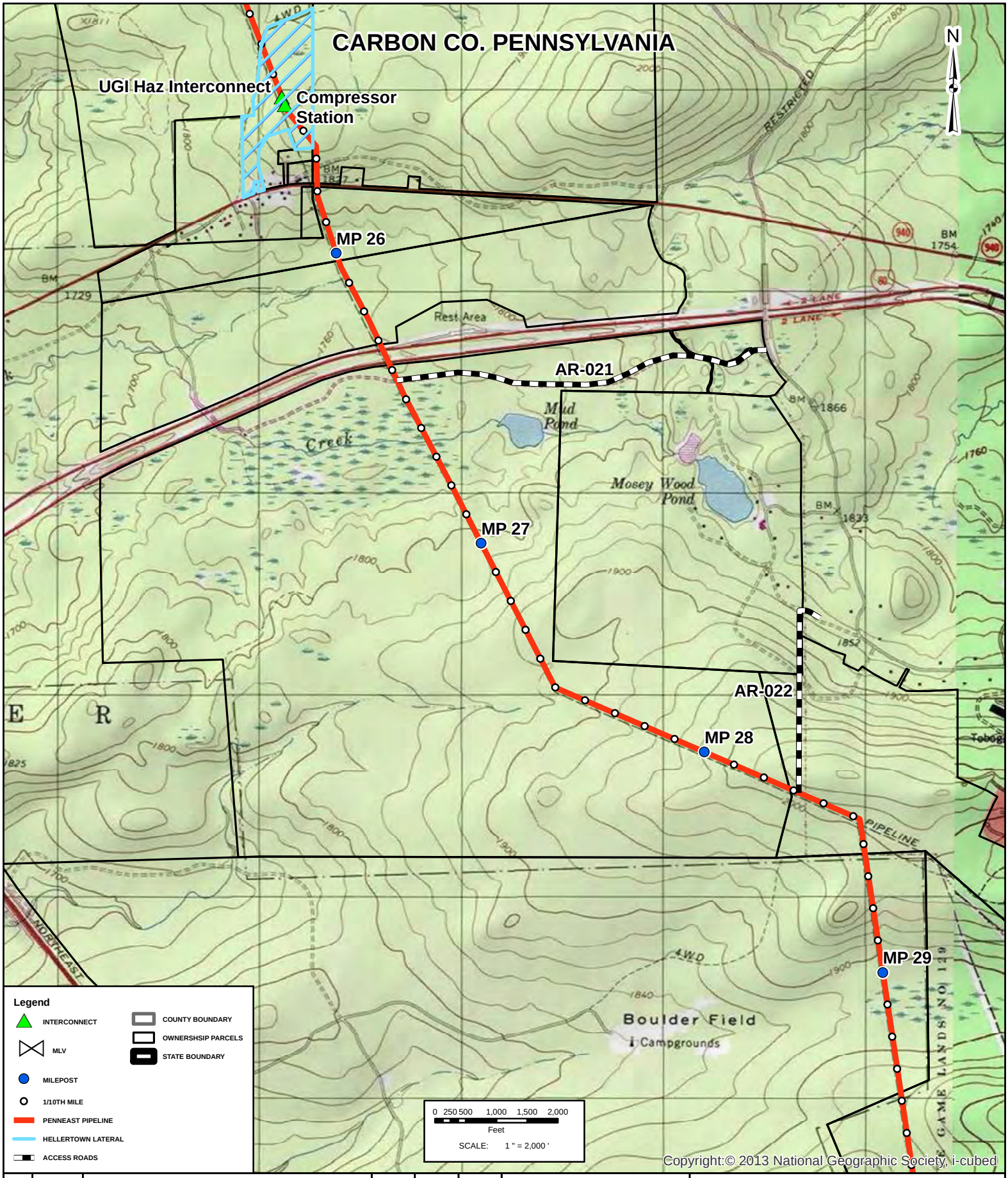

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PREPARED BY:
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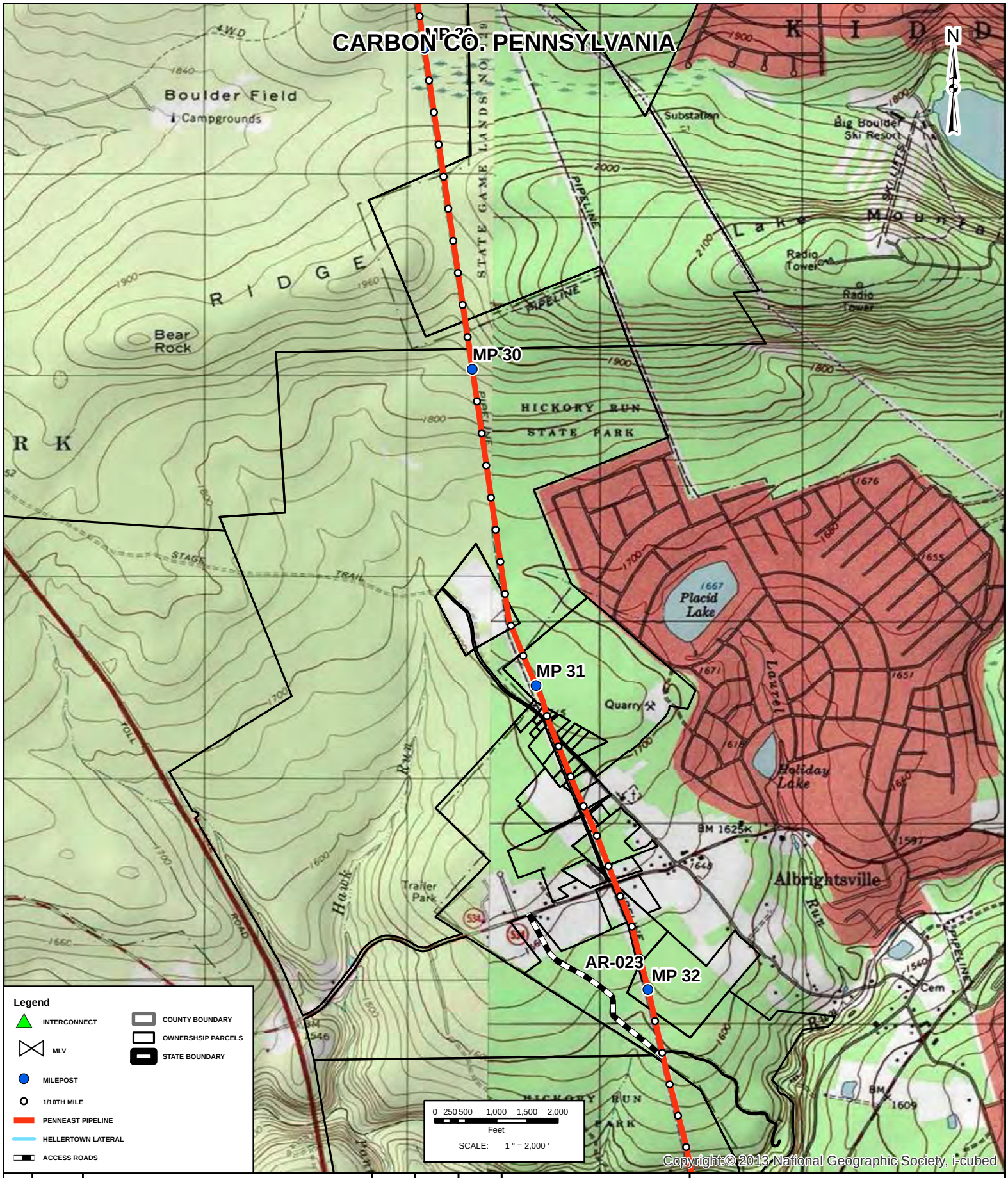
PENNEAST PIPELINE PROJECT

TOPOGRAPHIC MAPS
PROPOSED 36" PIPELINE

JOB NUMBER: 80111

DRAWING NUMBER: PEN-PL-MA-QDE-009



REV	DATE	REVISION DESCRIPTION	BY	CKD	APP
A	11/04/14	ISSUED FOR DRAFT RESOURCE REPORT 1	JBB	JMA	JMH

PennEast PIPELINE

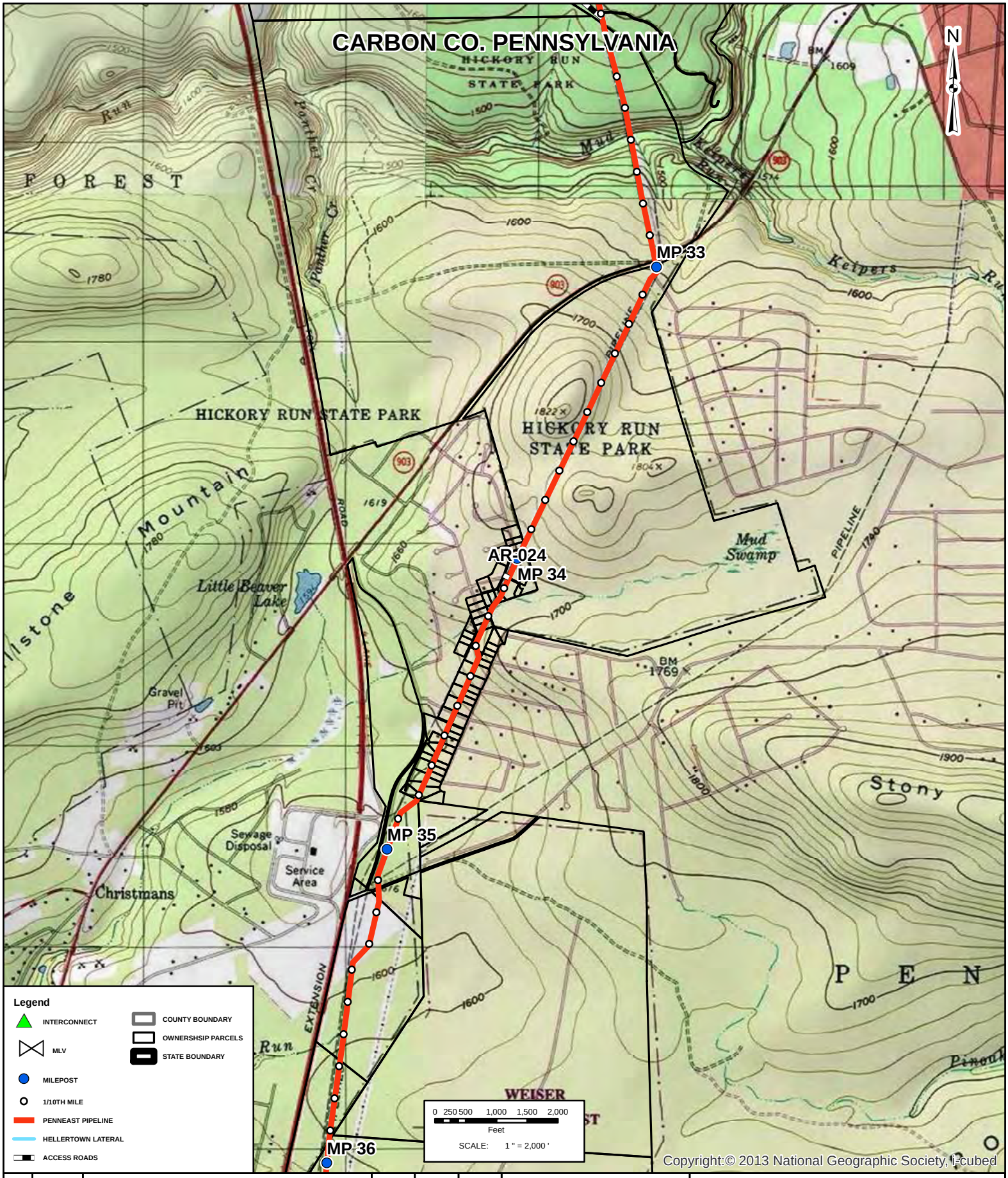
PREPARED BY:
OPS ENGINEERING, LLC

PENNEAST PIPELINE PROJECT

TOPOGRAPHIC MAPS
PROPOSED 36" PIPELINE

JOB NUMBER: 80111

DRAWING NUMBER: PEN-PL-MA-QDE-010



REV	DATE	REVISION DESCRIPTION	BY	CKD	APP
A	11/04/14	ISSUED FOR DRAFT RESOURCE REPORT 1	JBB	JMA	JMH

PennEast PIPELINE

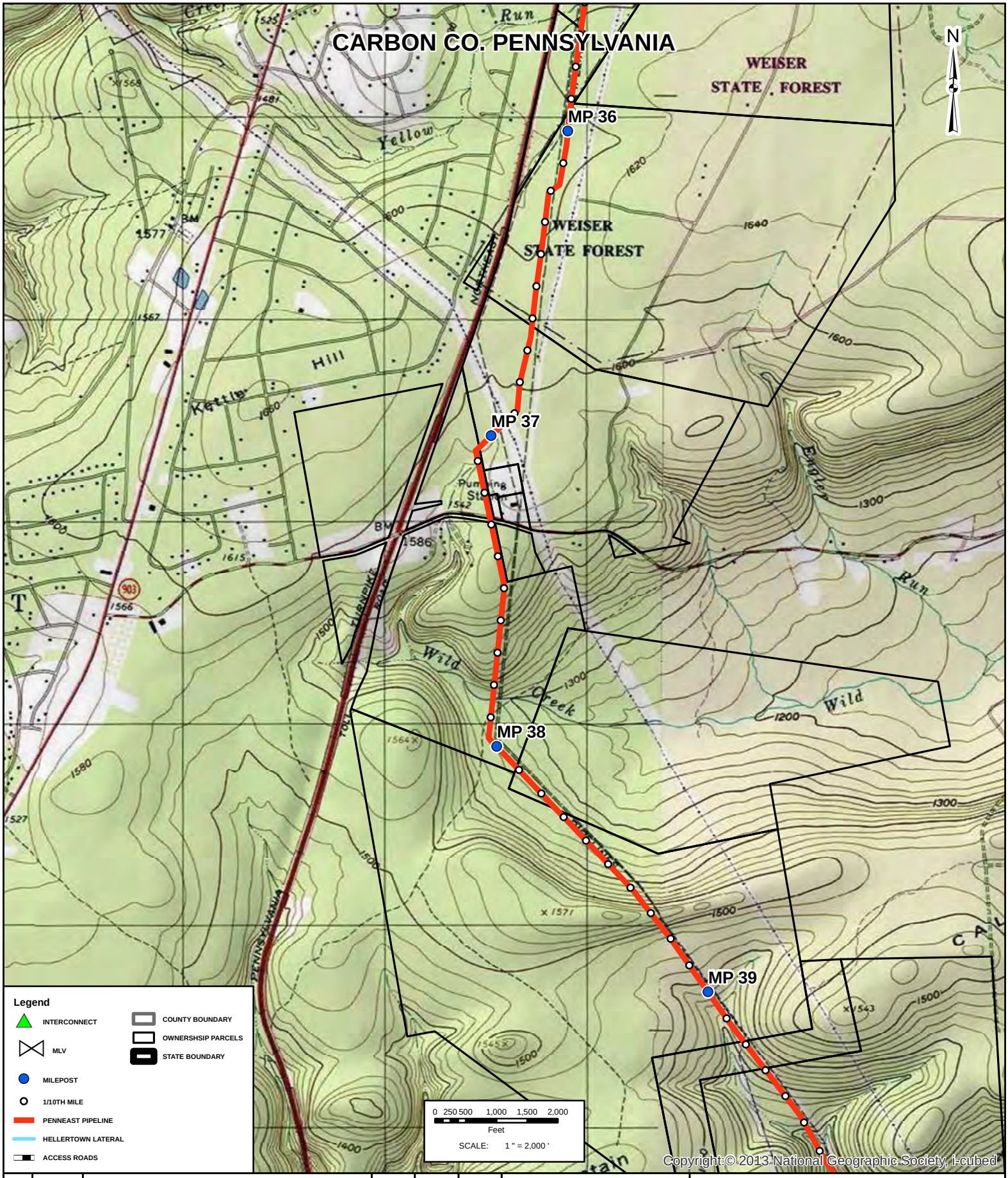
PREPARED BY:
OPS ENGINEERING, LLC

PENNEAST PIPELINE PROJECT

TOPOGRAPHIC MAPS
PROPOSED 36" PIPELINE

JOB NUMBER: 80111

DRAWING NUMBER: PEN-PL-MA-QDE-011



REV	DATE	REVISION DESCRIPTION	BY	CKD	APP
A	11/04/14	ISSUED FOR DRAFT RESOURCE REPORT 1	JBB	JMA	JMH

PennEast PIPELINE

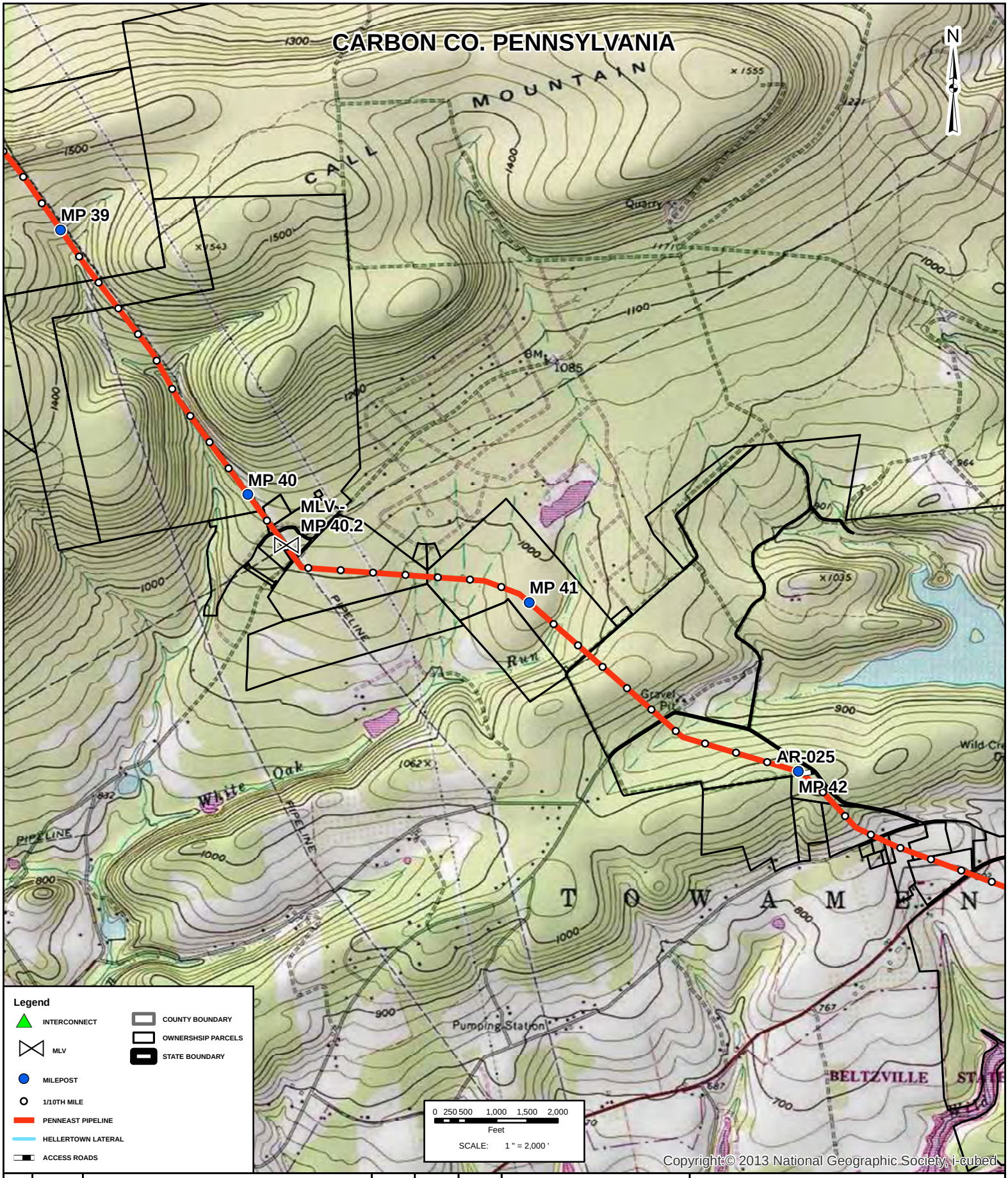
PREPARED BY:
OPS ENGINEERING, LLC

PENNEAST PIPELINE PROJECT

TOPOGRAPHIC MAPS
PROPOSED 36" PIPELINE

JOB NUMBER: 80111

DRAWING NUMBER: PEN-PL-MA-QDE-012



REV	DATE	REVISION DESCRIPTION	BY	CKD	APP
A	11/04/14	ISSUED FOR DRAFT RESOURCE REPORT 1	JBB	JMA	JMH

PennEast PIPELINE

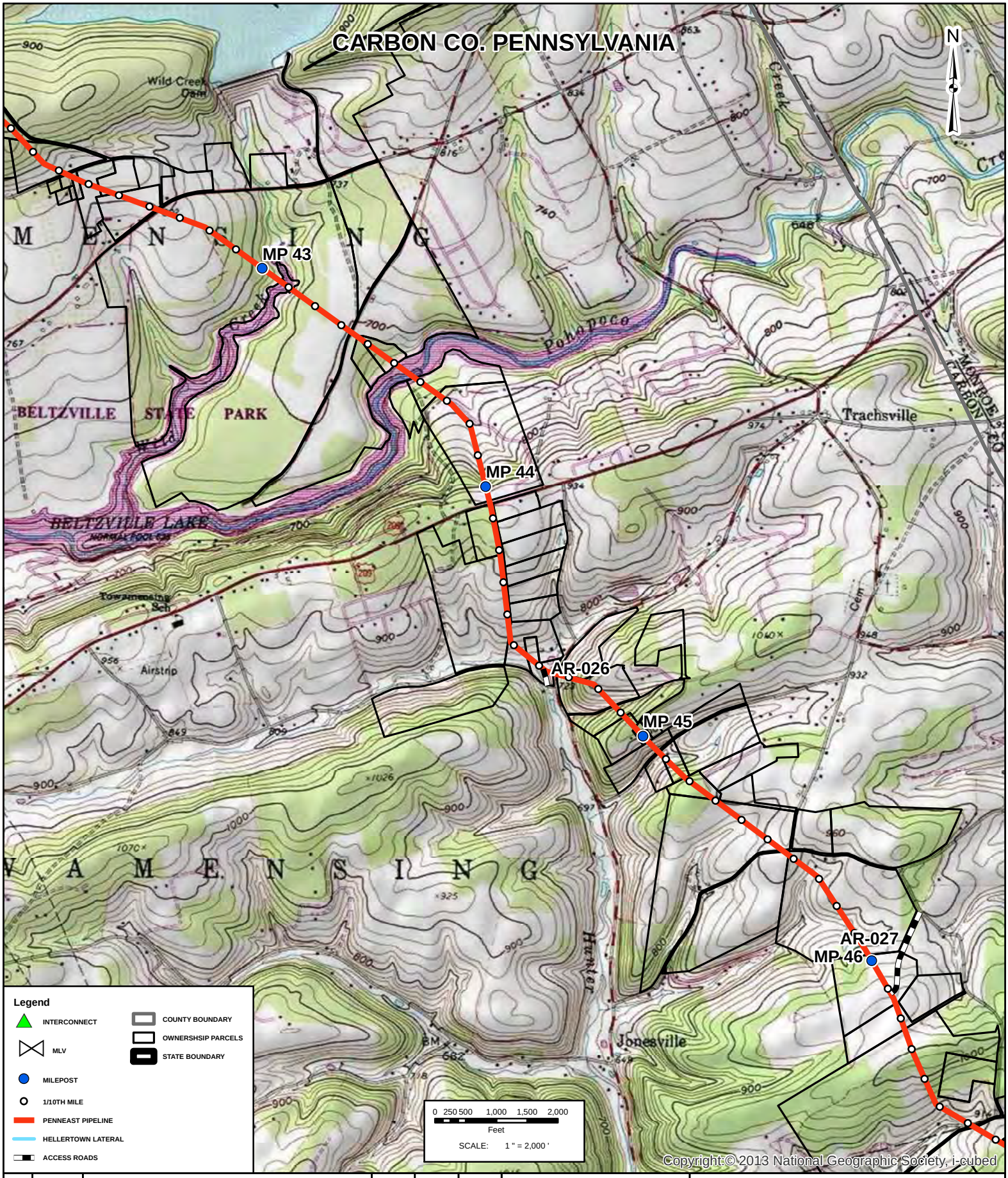
PREPARED BY:
OPS ENGINEERING, LLC

PENNEAST PIPELINE PROJECT

TOPOGRAPHIC MAPS
PROPOSED 36" PIPELINE

JOB NUMBER: 80111

DRAWING NUMBER: PEN-PL-MA-QDE-013



REV	DATE	REVISION DESCRIPTION	BY	CKD	APP
A	11/04/14	ISSUED FOR DRAFT RESOURCE REPORT 1	JBB	JMA	JMH

PennEast PIPELINE

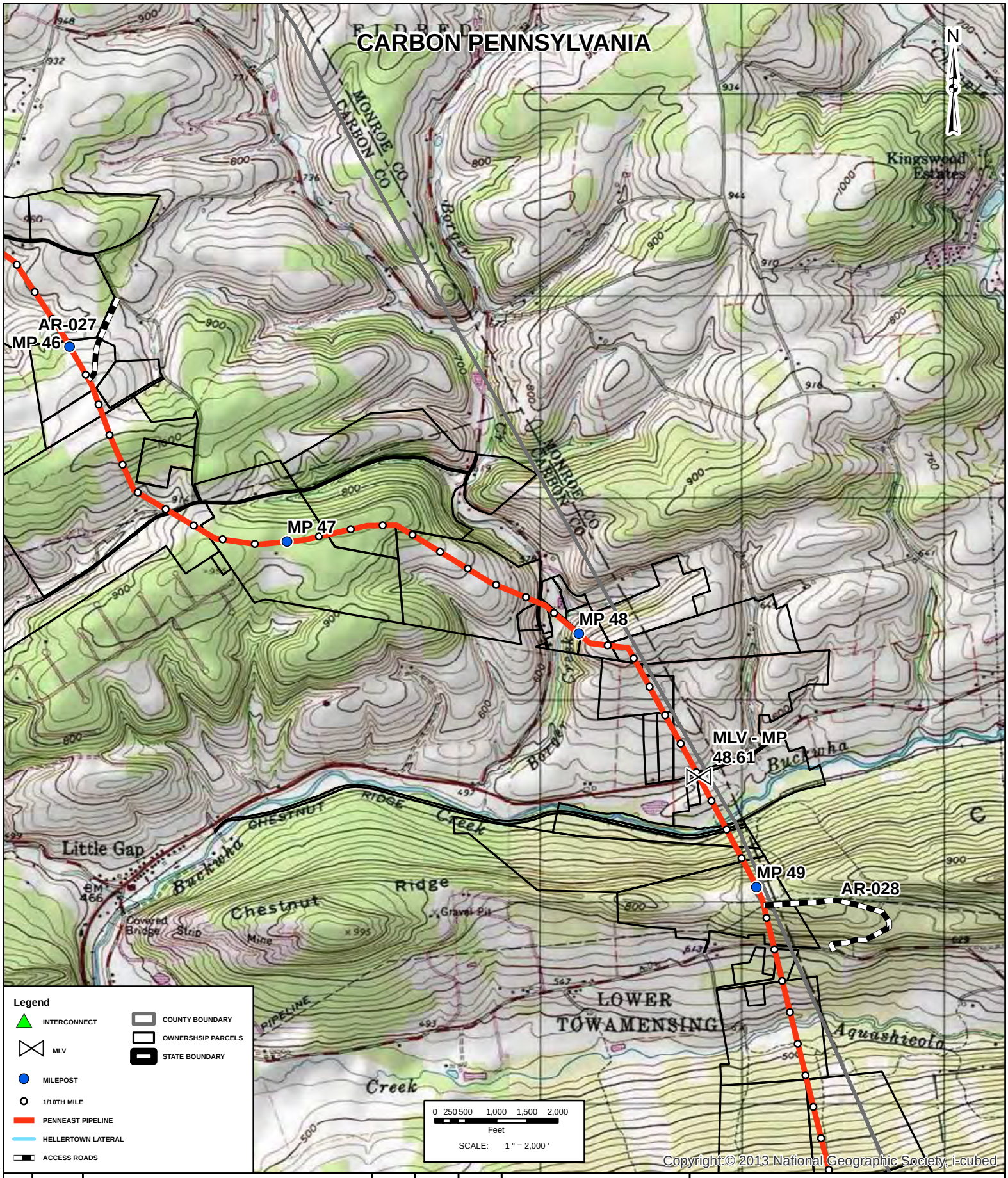
PREPARED BY:
OPS ENGINEERING, LLC

PENNEAST PIPELINE PROJECT

TOPOGRAPHIC MAPS
PROPOSED 36" PIPELINE

JOB NUMBER: 80111

DRAWING NUMBER: PEN-PL-MA-QDE-014



REV	DATE	REVISION DESCRIPTION	BY	CKD	APP
A	11/04/14	ISSUED FOR DRAFT RESOURCE REPORT 1	JBB	JMA	JMH

PennEast PIPELINE

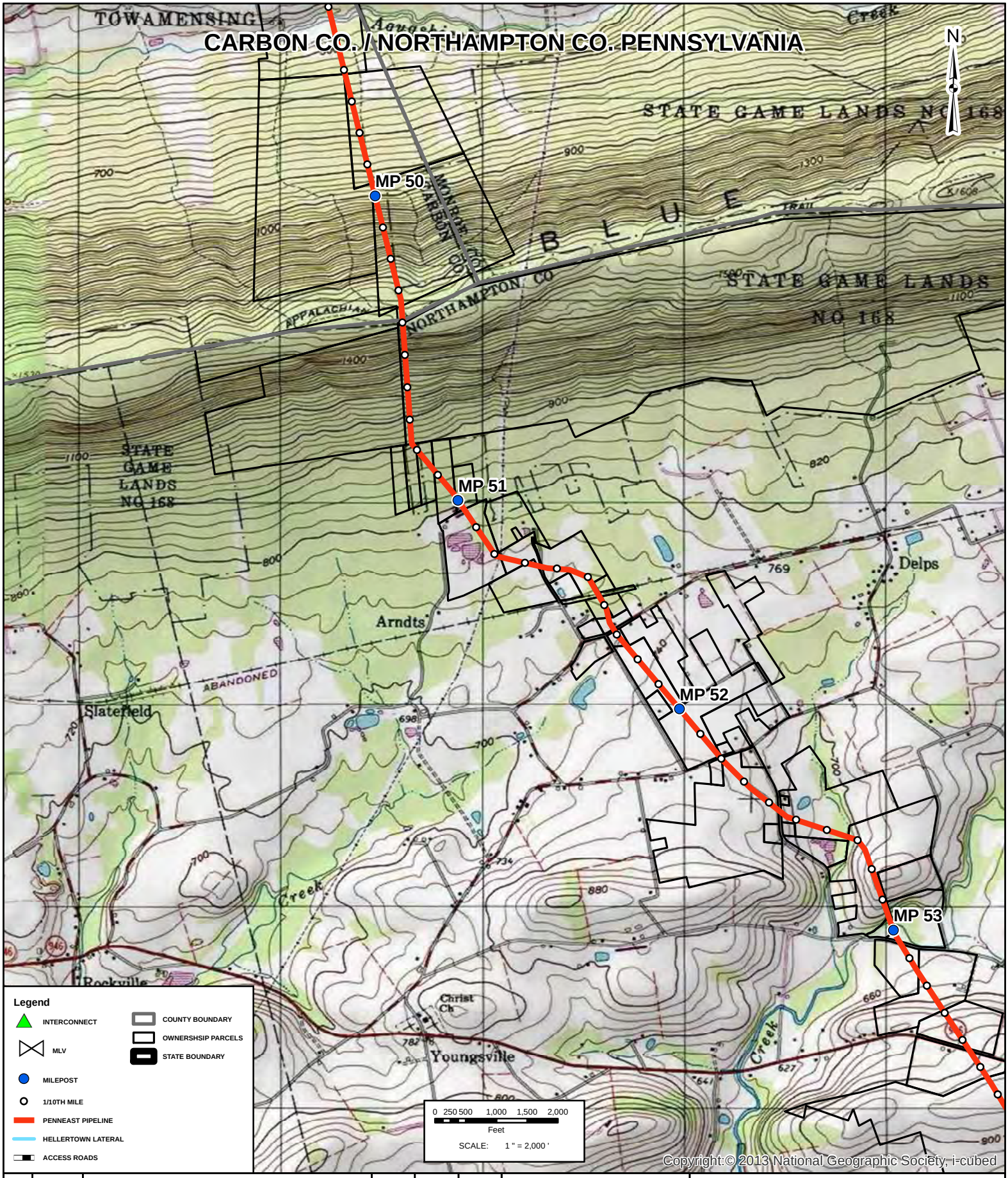
PREPARED BY:
OPS ENGINEERING, LLC

PENNEAST PIPELINE PROJECT

TOPOGRAPHIC MAPS
PROPOSED 36" PIPELINE

JOB NUMBER: 80111

DRAWING NUMBER: PEN-PL-MA-QDE-015



REV	DATE	REVISION DESCRIPTION	BY	CKD	APP
A	11/04/14	ISSUED FOR DRAFT RESOURCE REPORT 1	JBB	JMA	JMH

PennEast PIPELINE

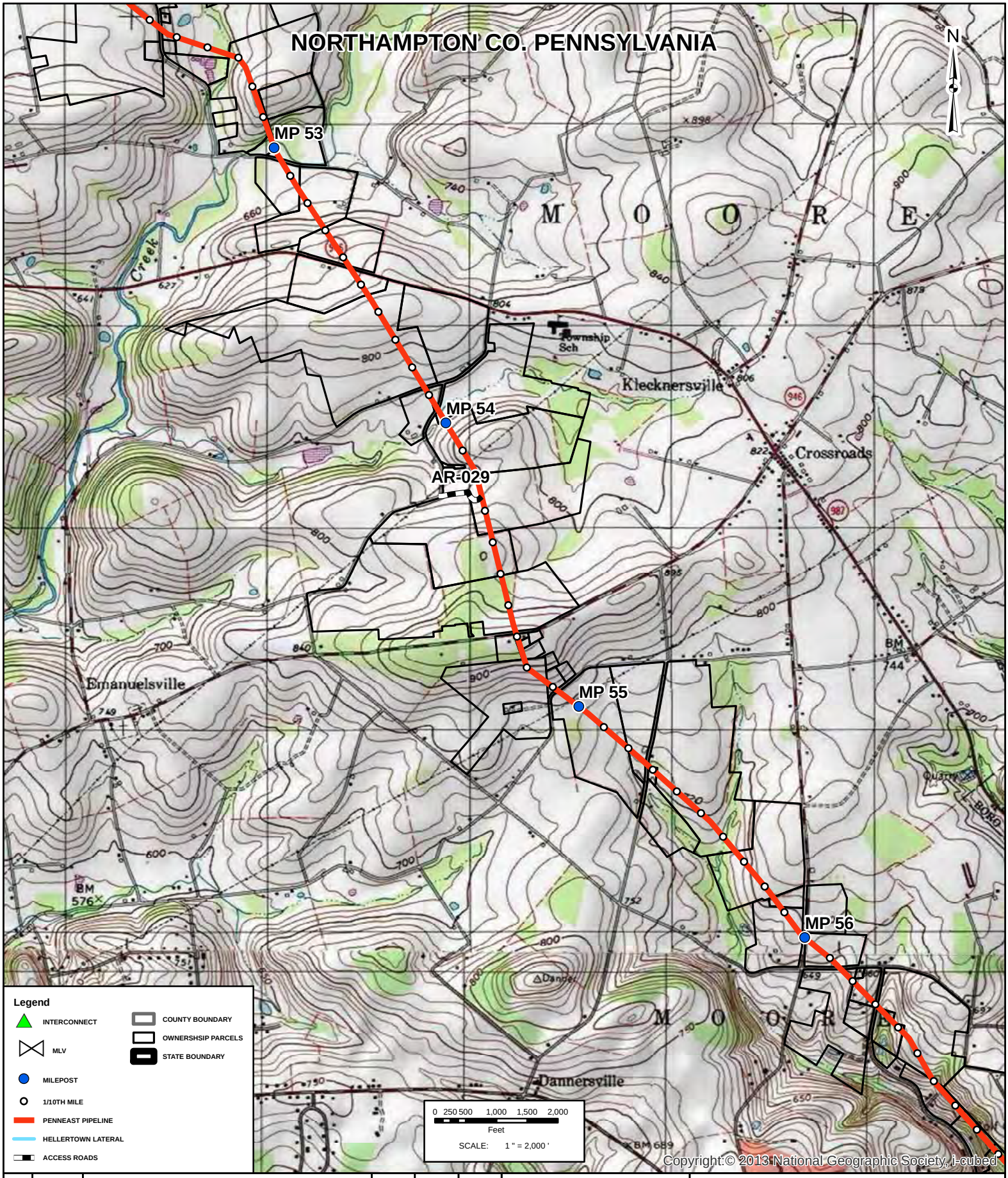
PREPARED BY:
OPS ENGINEERING, LLC

PENNEAST PIPELINE PROJECT

TOPOGRAPHIC MAPS
PROPOSED 36" PIPELINE

JOB NUMBER: 80111

DRAWING NUMBER: PEN-PL-MA-QDE-016



REV	DATE	REVISION DESCRIPTION	BY	CKD	APP
A	11/04/14	ISSUED FOR DRAFT RESOURCE REPORT 1	JBB	JMA	JMH

PennEast PIPELINE

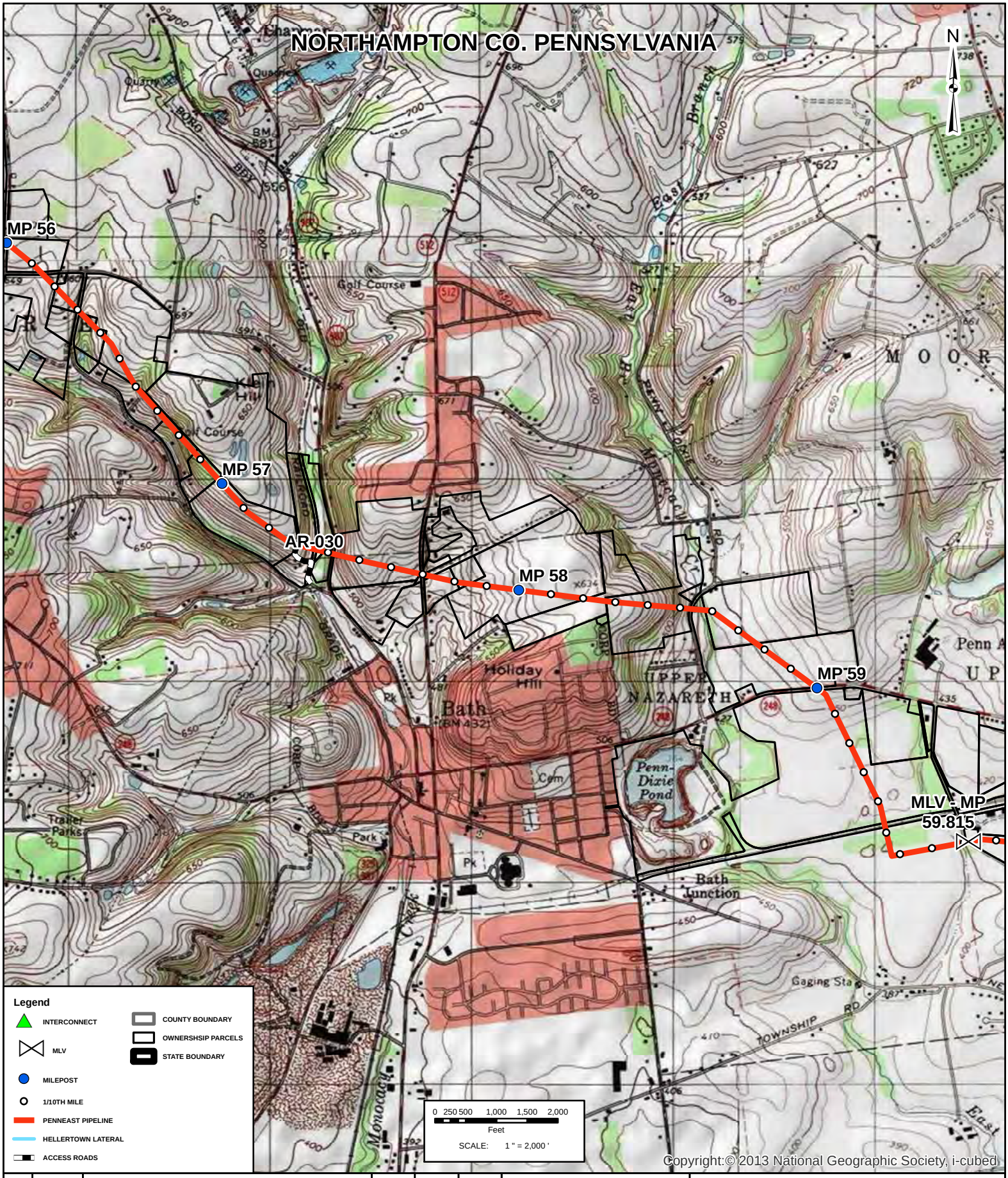
PREPARED BY:
OPS ENGINEERING, LLC

PENNEAST PIPELINE PROJECT

TOPOGRAPHIC MAPS
PROPOSED 36" PIPELINE

JOB NUMBER: 80111

DRAWING NUMBER: PEN-PL-MA-QDE-017



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REV	DATE	REVISION DESCRIPTION	BY	CKD	APP
A	11/04/14	ISSUED FOR DRAFT RESOURCE REPORT 1	JBB	JMA	JMH

PennEast PIPELINE

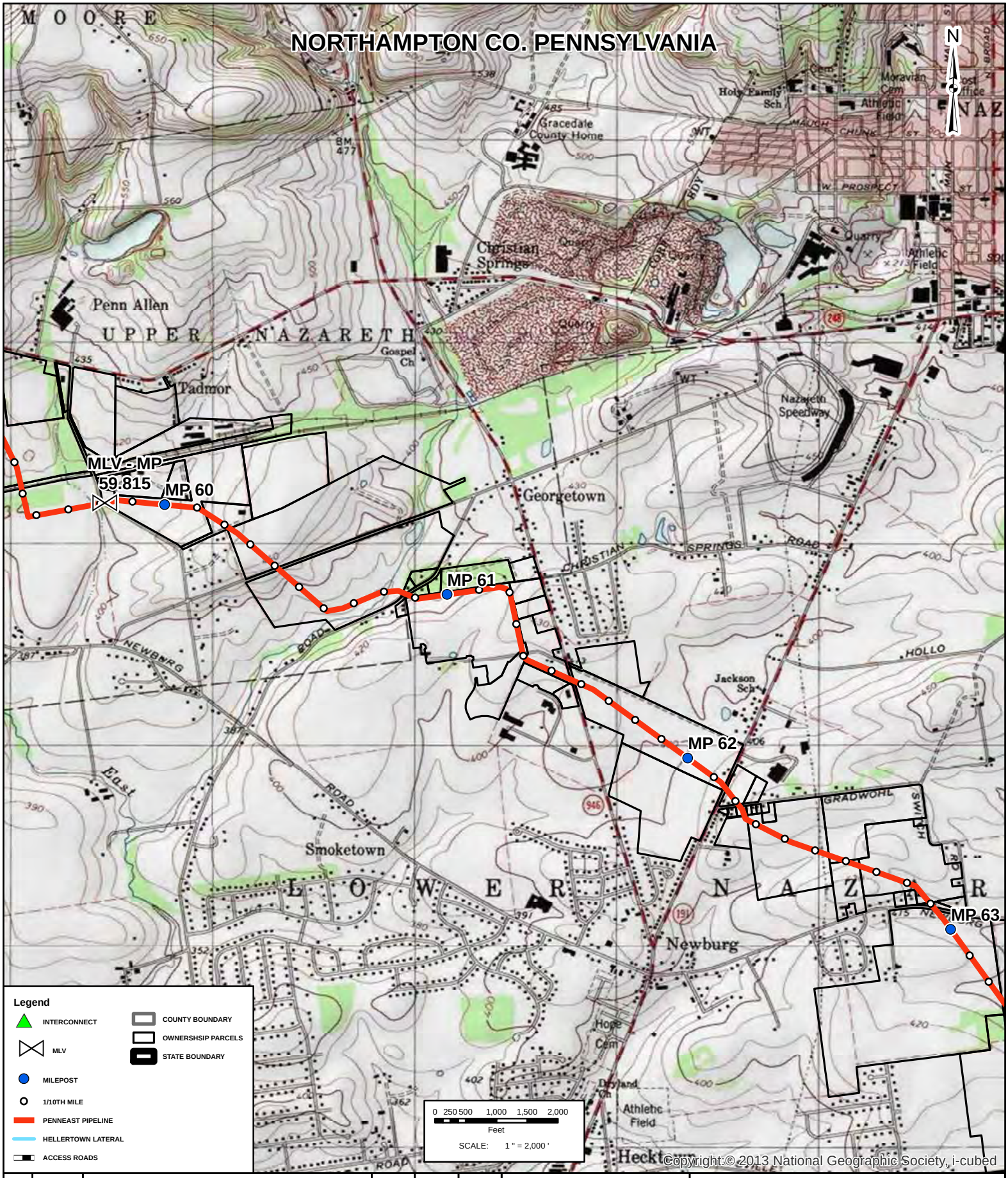
PREPARED BY:
OPS ENGINEERING, LLC

PENNEAST PIPELINE PROJECT

TOPOGRAPHIC MAPS
PROPOSED 36" PIPELINE

JOB NUMBER: 80111

DRAWING NUMBER: PEN-PL-MA-QDE-018



REV	DATE	REVISION DESCRIPTION	BY	CKD	APP
A	11/04/14	ISSUED FOR DRAFT RESOURCE REPORT 1	JBB	JMA	JMH

PennEast PIPELINE

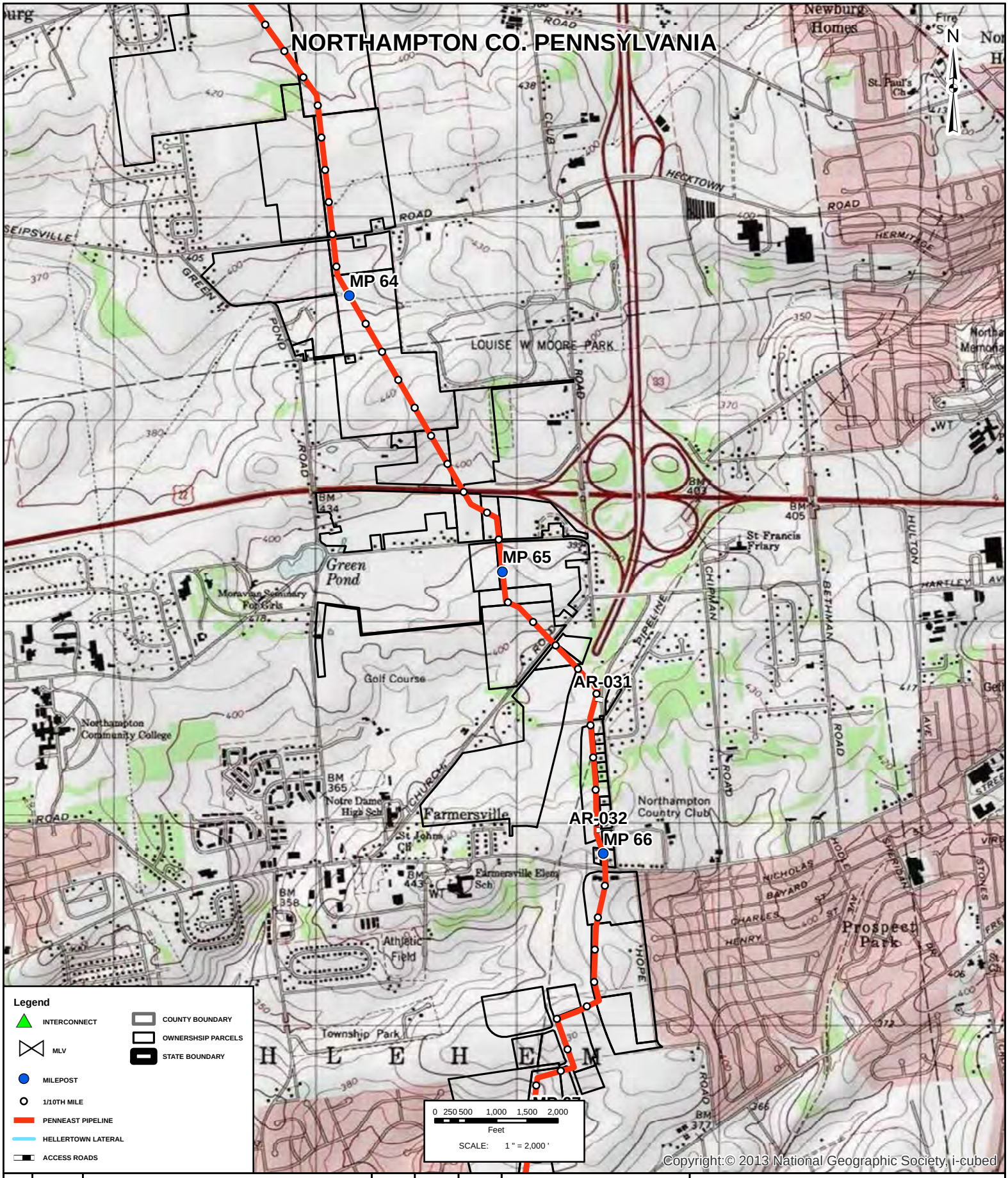
PREPARED BY: OPS ENGINEERING, LLC

PENNEAST PIPELINE PROJECT

TOPOGRAPHIC MAPS
PROPOSED 36" PIPELINE

JOB NUMBER: 80111

DRAWING NUMBER: PEN-PL-MA-QDE-019



REV	DATE	REVISION DESCRIPTION	BY	CKD	APP
A	11/04/14	ISSUED FOR DRAFT RESOURCE REPORT 1	JBB	JMA	JMH

PennEast PIPELINE

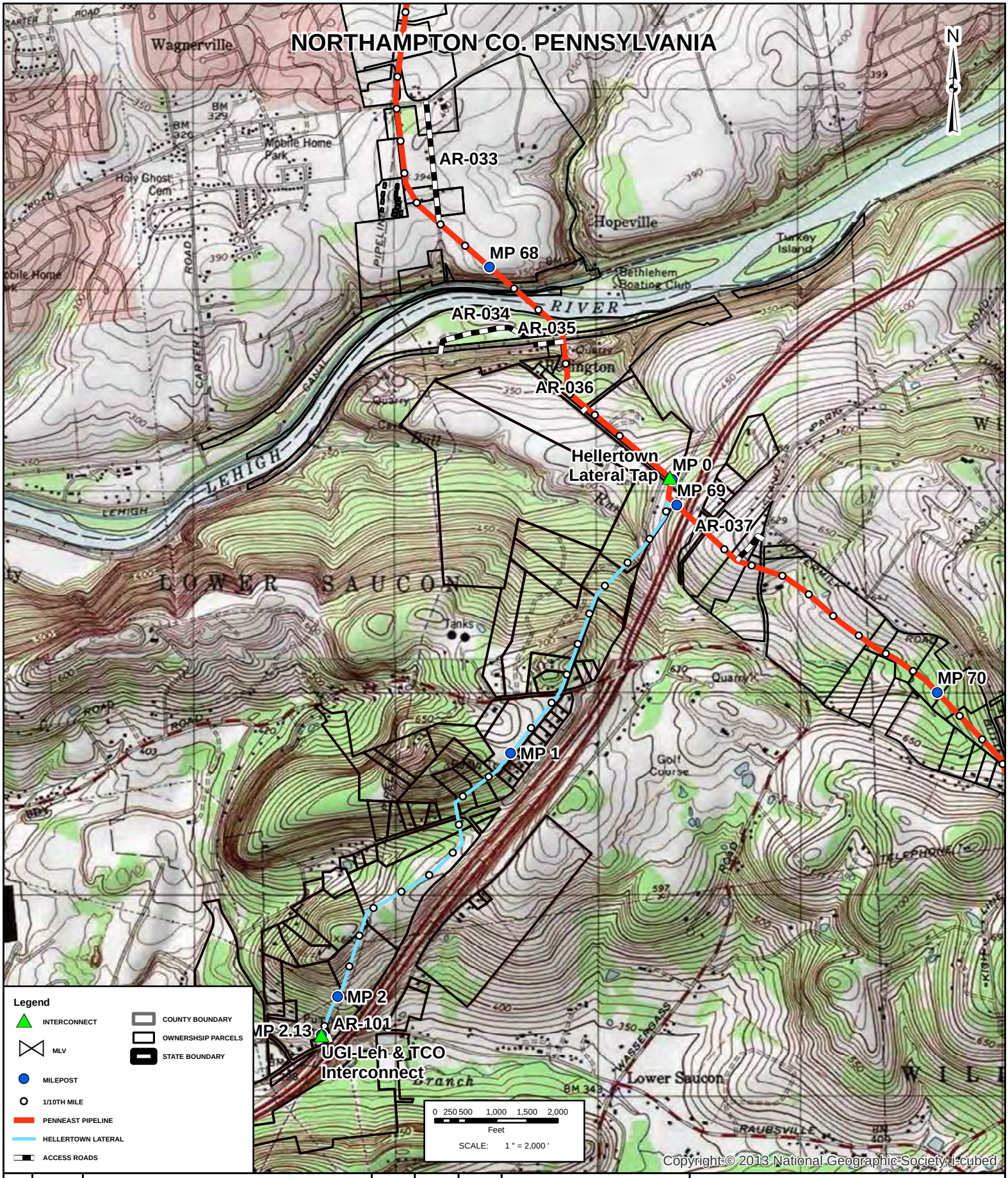
PREPARED BY:
OPS ENGINEERING, LLC

PENNEAST PIPELINE PROJECT

TOPOGRAPHIC MAPS
PROPOSED 36" PIPELINE

JOB NUMBER: 80111

DRAWING NUMBER: PEN-PL-MA-QDE-020



REV	DATE	REVISION DESCRIPTION	BY	CKD	APP
A	11/04/14	ISSUED FOR DRAFT RESOURCE REPORT 1	JBB	JMA	JMH

PennEast PIPELINE

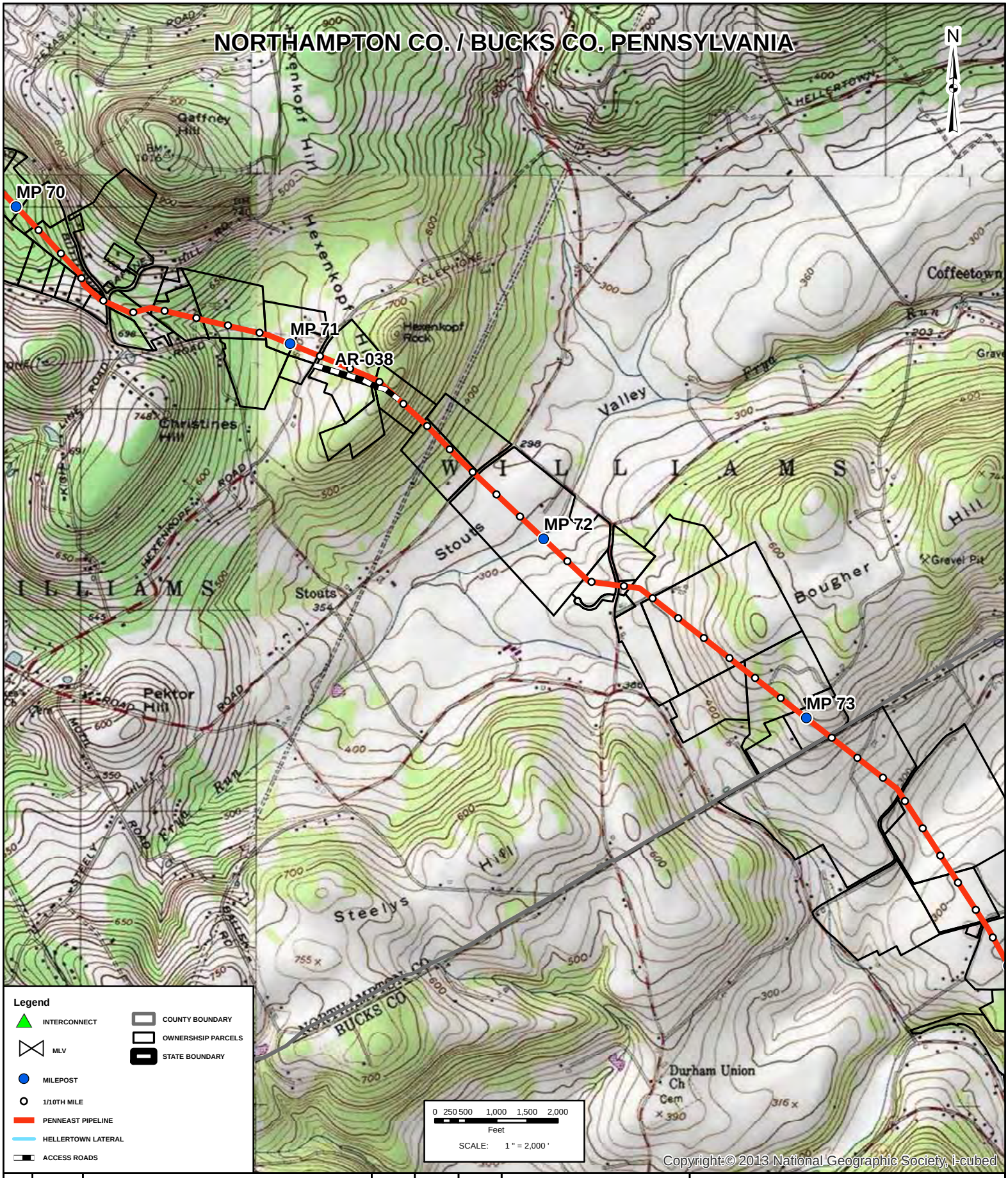
PREPARED BY:
OPS ENGINEERING, LLC

PENNEAST PIPELINE PROJECT

TOPOGRAPHIC MAPS
PROPOSED 36" PIPELINE
& 24" HELLERTOWN LATERAL

JOB NUMBER: 80111

DRAWING NUMBER: PEN-PL-MA-QDE-021



REV	DATE	REVISION DESCRIPTION	BY	CKD	APP
A	11/04/14	ISSUED FOR DRAFT RESOURCE REPORT 1	JBB	JMA	JMH

PennEast PIPELINE

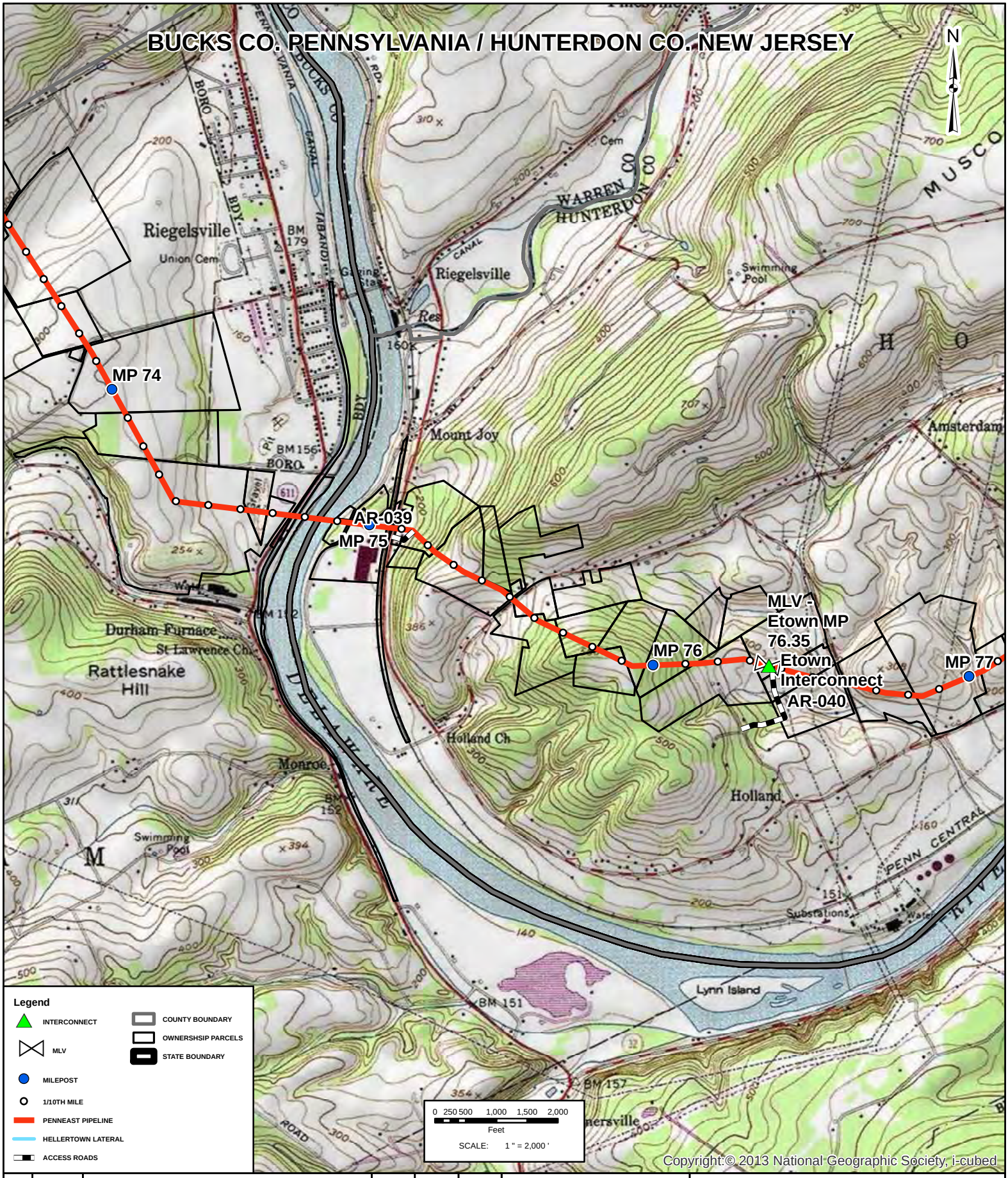
PREPARED BY:
OPS ENGINEERING, LLC

PENNEAST PIPELINE PROJECT

TOPOGRAPHIC MAPS
PROPOSED 36" PIPELINE

JOB NUMBER: 80111

DRAWING NUMBER: PEN-PL-MA-QDE-022



REV	DATE	REVISION DESCRIPTION	BY	CKD	APP
A	11/04/14	ISSUED FOR DRAFT RESOURCE REPORT 1	JBB	JMA	JMH

PennEast PIPELINE

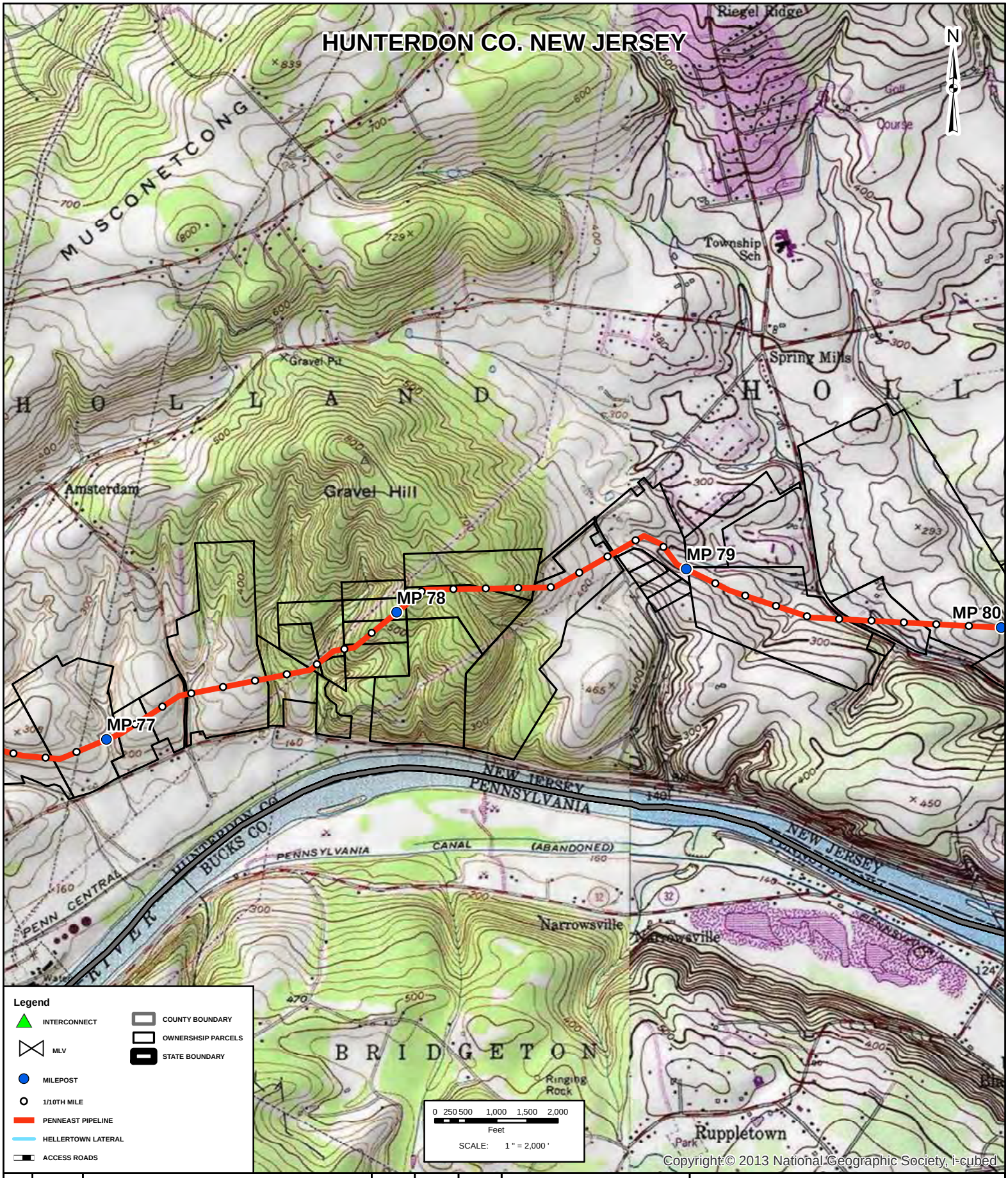
PREPARED BY:
OPS ENGINEERING, LLC

PENNEAST PIPELINE PROJECT

TOPOGRAPHIC MAPS
PROPOSED 36" PIPELINE

JOB NUMBER: 80111

DRAWING NUMBER: PEN-PL-MA-QDE-023



REV	DATE	REVISION DESCRIPTION	BY	CKD	APP
A	11/04/14	ISSUED FOR DRAFT RESOURCE REPORT 1	JBB	JMA	JMH

PennEast PIPELINE

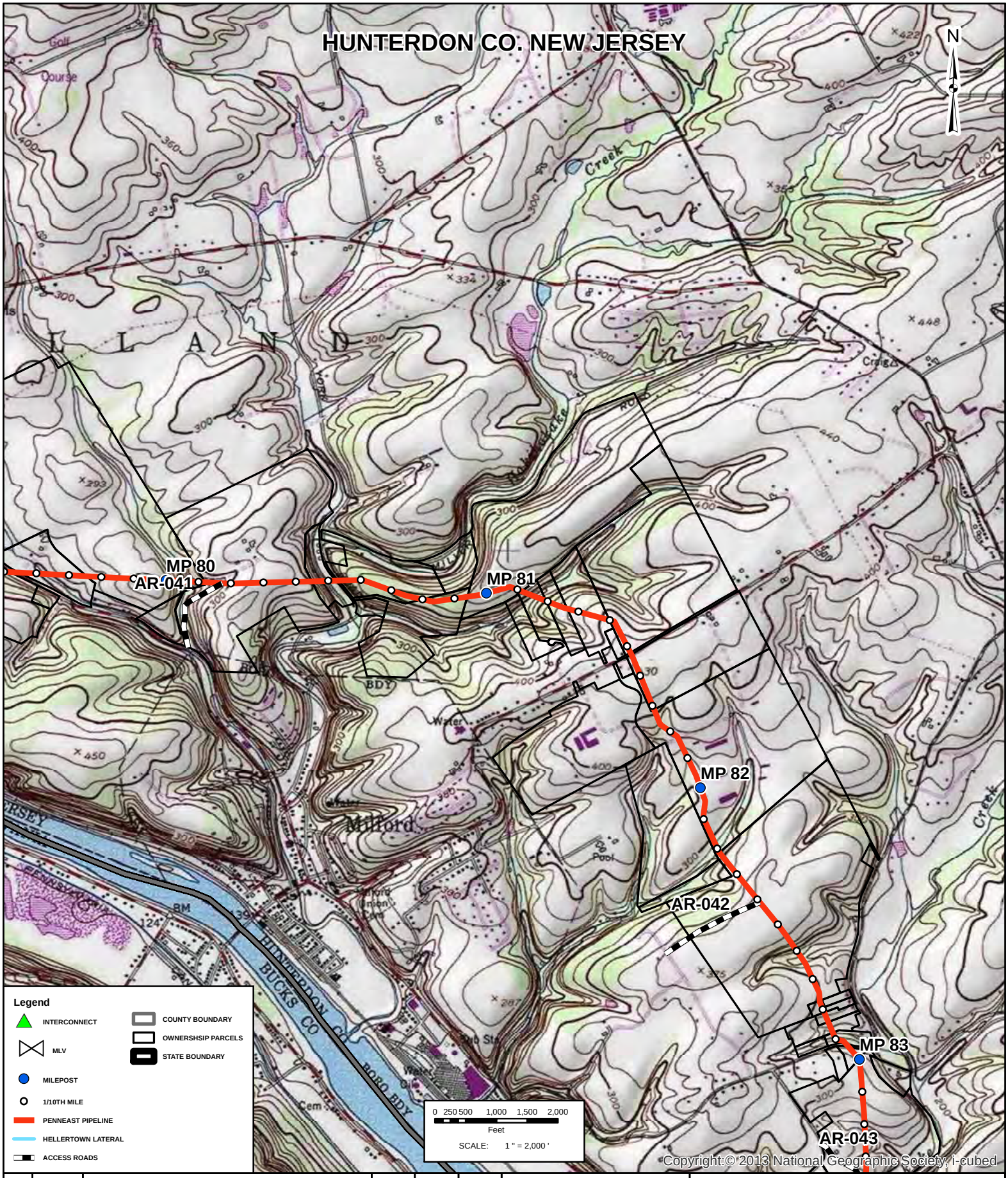
PREPARED BY:
OPS ENGINEERING, LLC

PENNEAST PIPELINE PROJECT

TOPOGRAPHIC MAPS
PROPOSED 36" PIPELINE

JOB NUMBER: 80111

DRAWING NUMBER: PEN-PL-MA-QDE-024



REV	DATE	REVISION DESCRIPTION	BY	CKD	APP
A	11/04/14	ISSUED FOR DRAFT RESOURCE REPORT 1	JBB	JMA	JMH

PennEast PIPELINE

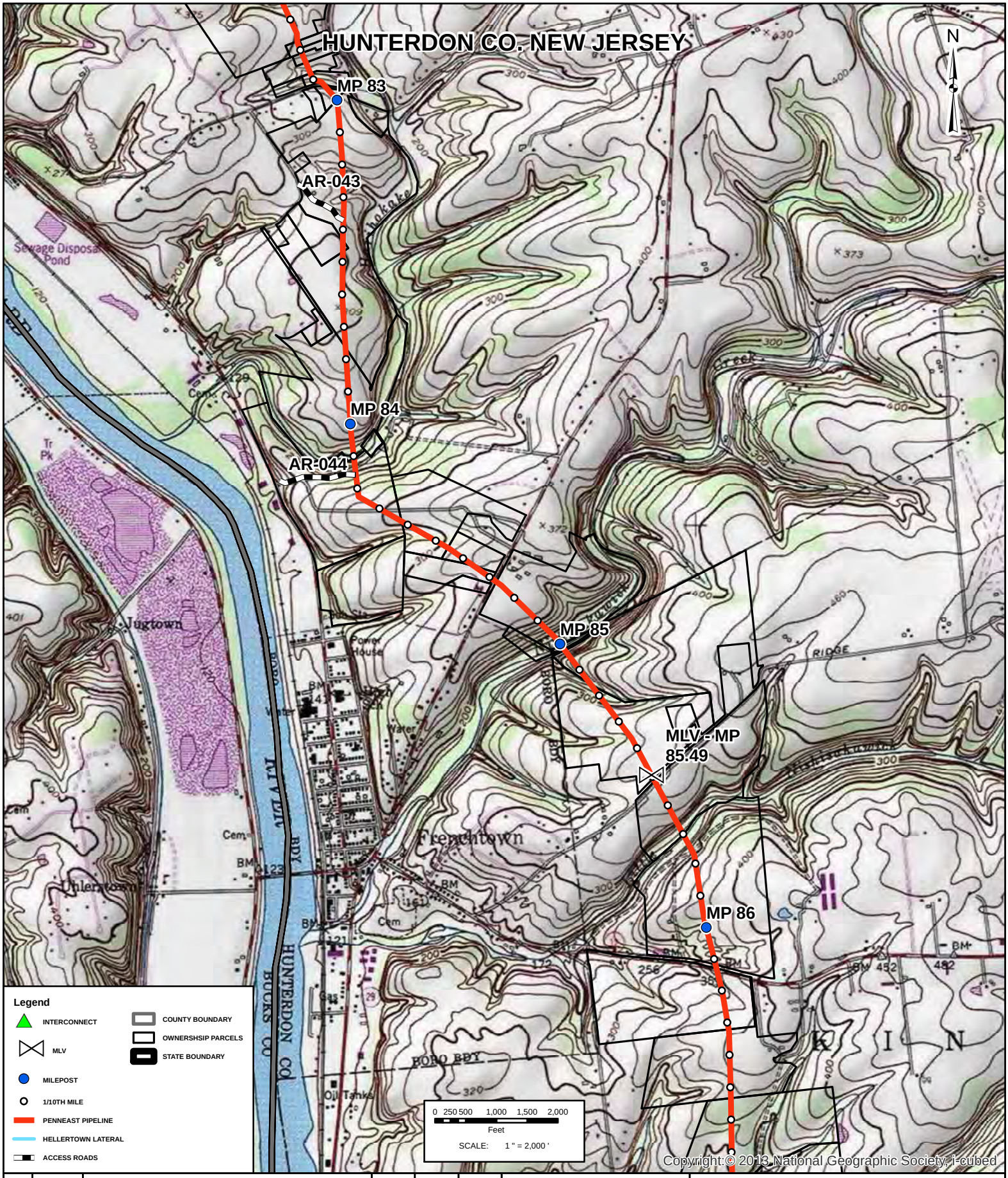
PREPARED BY:
OPS ENGINEERING, LLC

PENNEAST PIPELINE PROJECT

TOPOGRAPHIC MAPS
PROPOSED 36" PIPELINE

JOB NUMBER: 80111

DRAWING NUMBER: PEN-PL-MA-QDE-025



REV	DATE	REVISION DESCRIPTION	BY	CKD	APP
A	11/04/14	ISSUED FOR DRAFT RESOURCE REPORT 1	JBB	JMA	JMH

PennEast PIPELINE

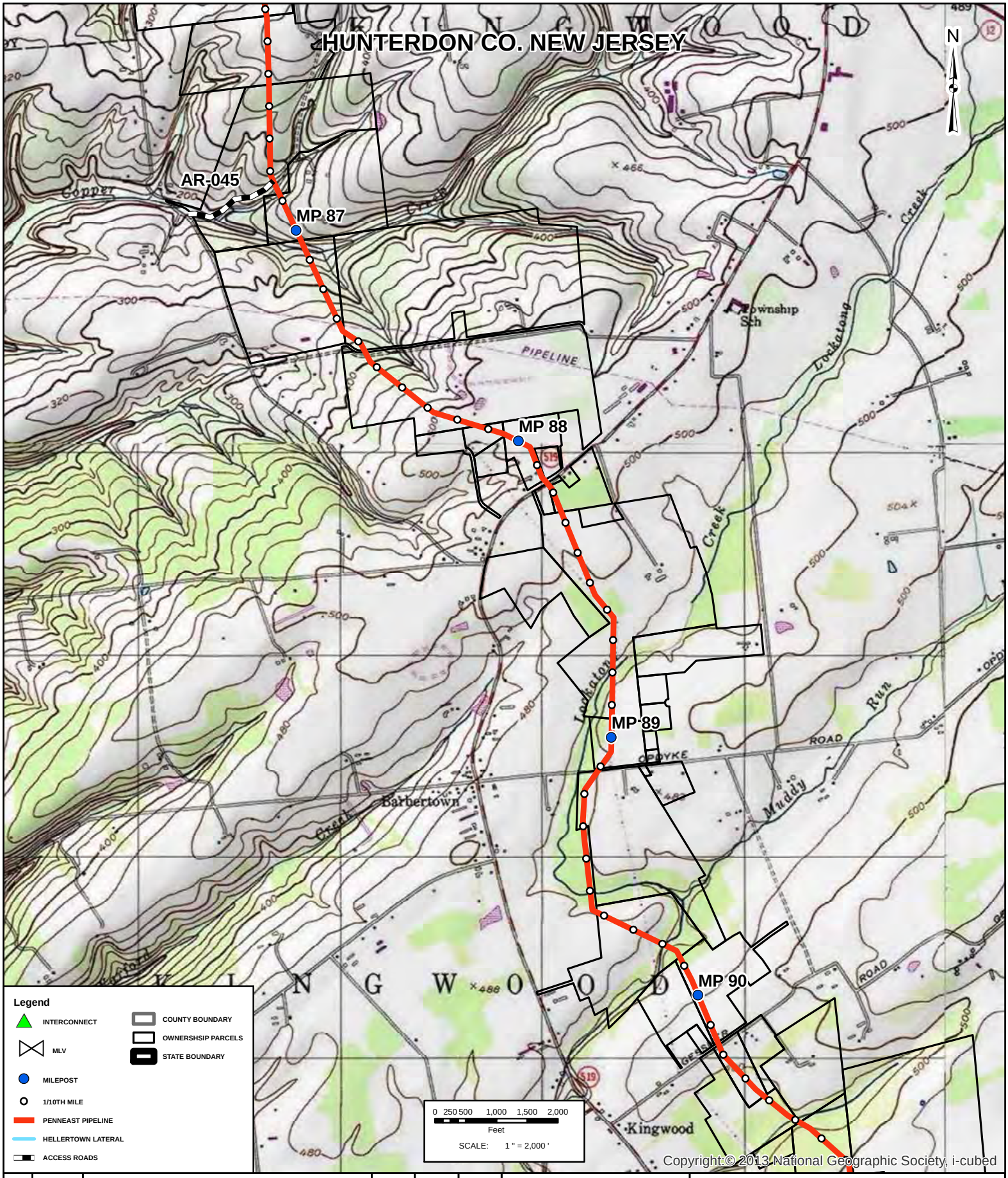
PREPARED BY:
OPS ENGINEERING, LLC

PENNEAST PIPELINE PROJECT

TOPOGRAPHIC MAPS
PROPOSED 36" PIPELINE

JOB NUMBER: 80111

DRAWING NUMBER: PEN-PL-MA-QDE-026



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REV	DATE	REVISION DESCRIPTION	BY	CKD	APP
A	11/04/14	ISSUED FOR DRAFT RESOURCE REPORT 1	JBB	JMA	JMH

PennEast PIPELINE

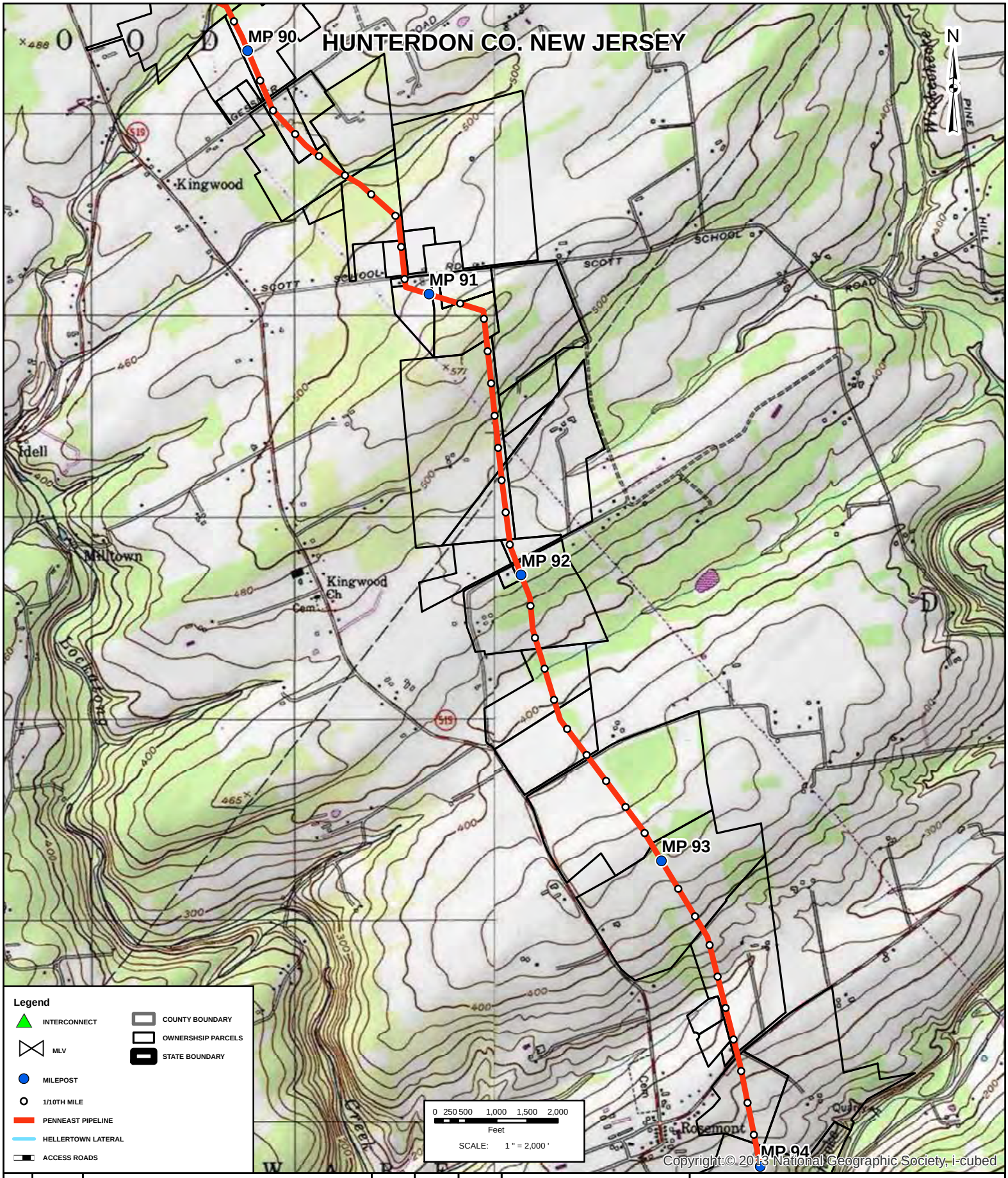
PREPARED BY:
OPS ENGINEERING, LLC

PENNEAST PIPELINE PROJECT

TOPOGRAPHIC MAPS
PROPOSED 36" PIPELINE

JOB NUMBER: 80111

DRAWING NUMBER: PEN-PL-MA-QDE-027



REV	DATE	REVISION DESCRIPTION	BY	CKD	APP
A	11/04/14	ISSUED FOR DRAFT RESOURCE REPORT 1	JBB	JMA	JMH

PennEast PIPELINE

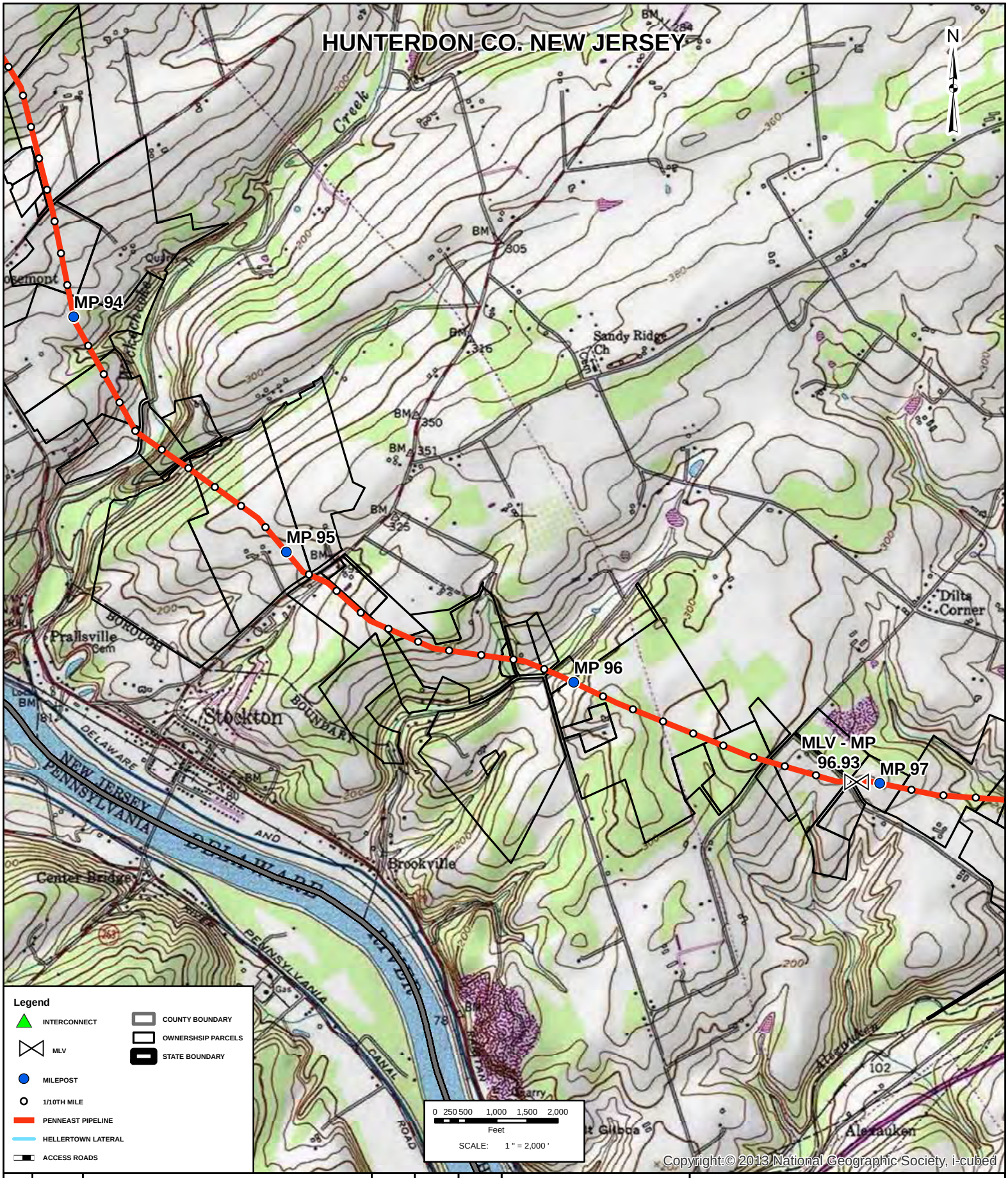
PREPARED BY:
OPS ENGINEERING, LLC

PENNEAST PIPELINE PROJECT

TOPOGRAPHIC MAPS
PROPOSED 36" PIPELINE

JOB NUMBER: 80111

DRAWING NUMBER: PEN-PL-MA-QDE-028



REV	DATE	REVISION DESCRIPTION	BY	CKD	APP
A	11/04/14	ISSUED FOR DRAFT RESOURCE REPORT 1	JBB	JMA	JMH

PennEast PIPELINE

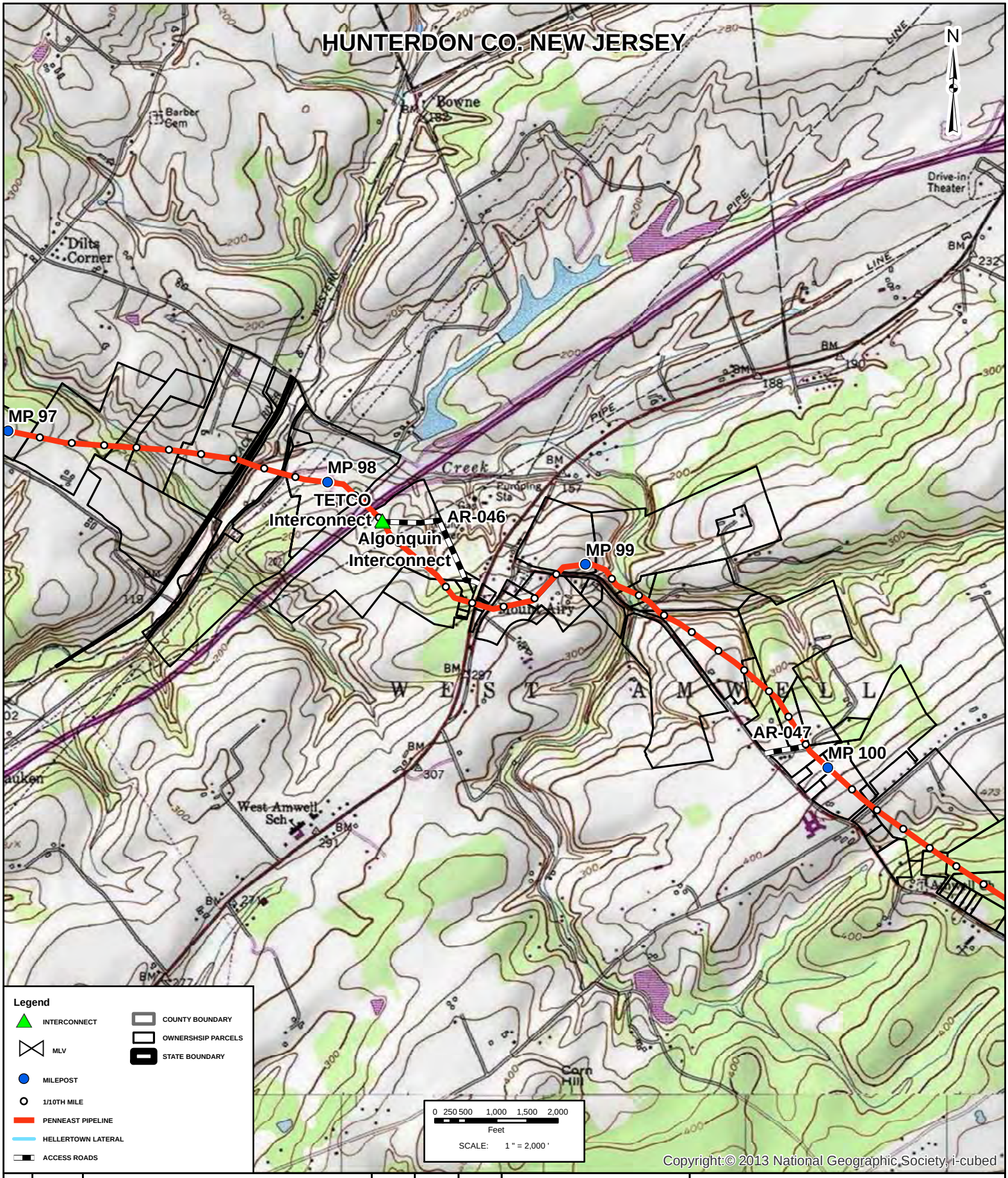
PREPARED BY:
OPS ENGINEERING, LLC

PENNEAST PIPELINE PROJECT

TOPOGRAPHIC MAPS
PROPOSED 36" PIPELINE

JOB NUMBER: 80111

DRAWING NUMBER: PEN-PL-MA-QDE-029



REV	DATE	REVISION DESCRIPTION	BY	CKD	APP
A	11/04/14	ISSUED FOR DRAFT RESOURCE REPORT 1	JBB	JMA	JMH

PennEast PIPELINE

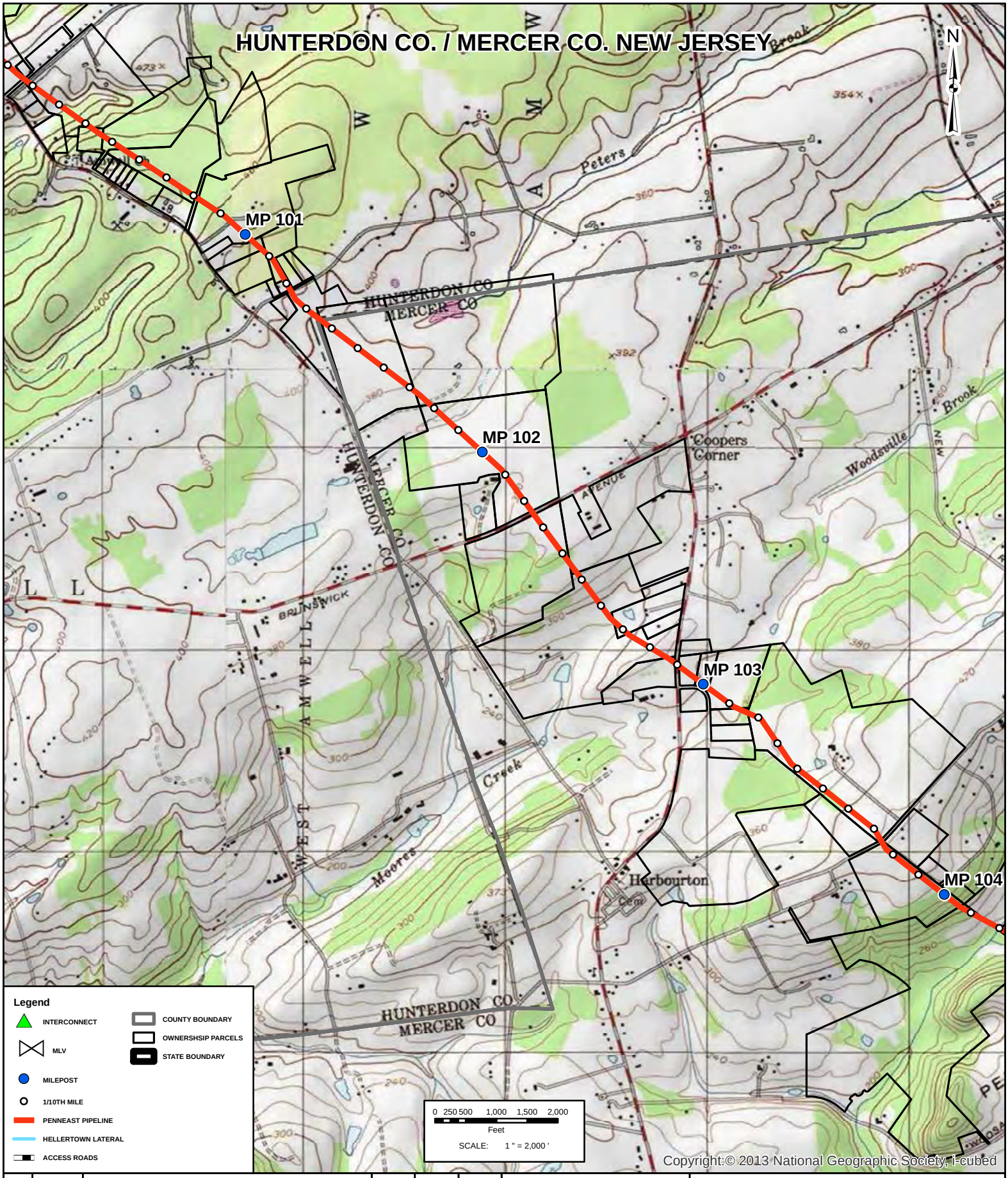
PREPARED BY:
OPS ENGINEERING, LLC

PENNEAST PIPELINE PROJECT

TOPOGRAPHIC MAPS
PROPOSED 36" PIPELINE

JOB NUMBER: 80111

DRAWING NUMBER: PEN-PL-MA-QDE-030



REV	DATE	REVISION DESCRIPTION	BY	CKD	APP
A	11/04/14	ISSUED FOR DRAFT RESOURCE REPORT 1	JBB	JMA	JMH

PennEast PIPELINE

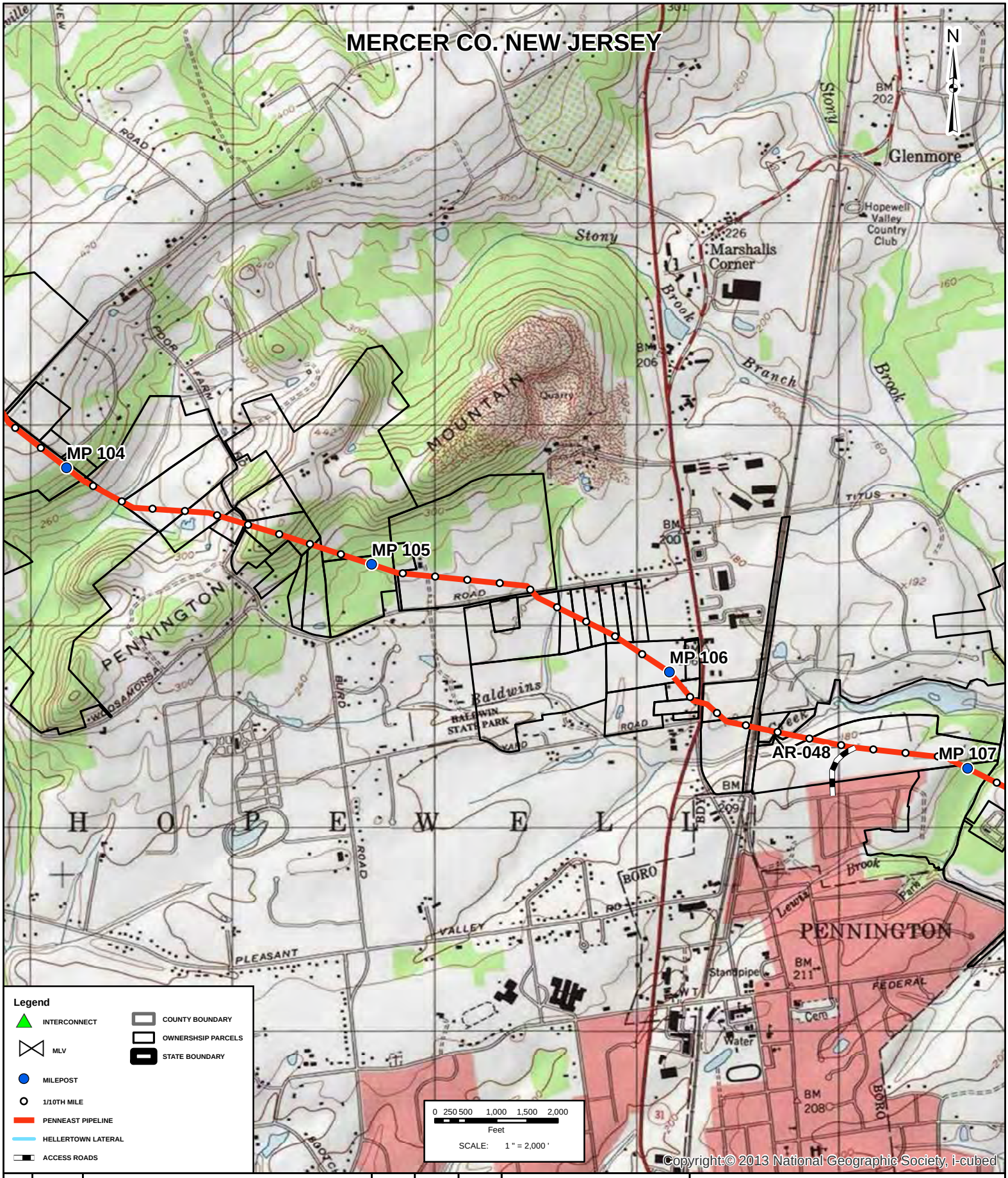
PREPARED BY:
OPS ENGINEERING, LLC

PENNEAST PIPELINE PROJECT

TOPOGRAPHIC MAPS
PROPOSED 36" PIPELINE

JOB NUMBER: **80111**

DRAWING NUMBER: **PEN-PL-MA-QDE-031**



REV	DATE	REVISION DESCRIPTION	BY	CKD	APP
A	11/04/14	ISSUED FOR DRAFT RESOURCE REPORT 1	JBB	JMA	JMH

PennEast PIPELINE

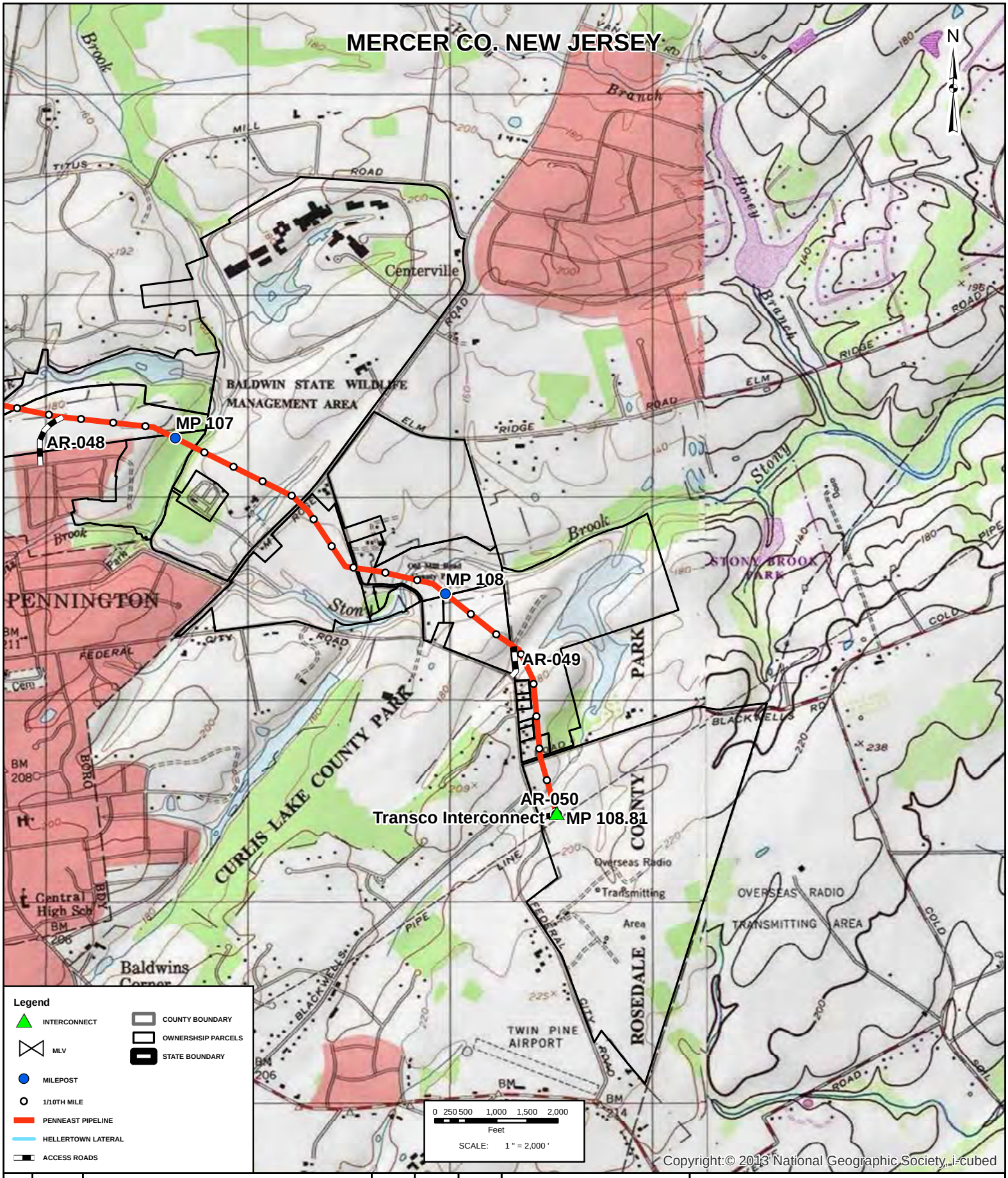
PREPARED BY:
OPS ENGINEERING, LLC

PENNEAST PIPELINE PROJECT

TOPOGRAPHIC MAPS
PROPOSED 36" PIPELINE

JOB NUMBER: 80111

DRAWING NUMBER: PEN-PL-MA-QDE-032



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REV	DATE	REVISION DESCRIPTION	BY	CKD	APP
A	11/04/14	ISSUED FOR DRAFT RESOURCE REPORT 1	JBB	JMA	JMH

PennEast PIPELINE

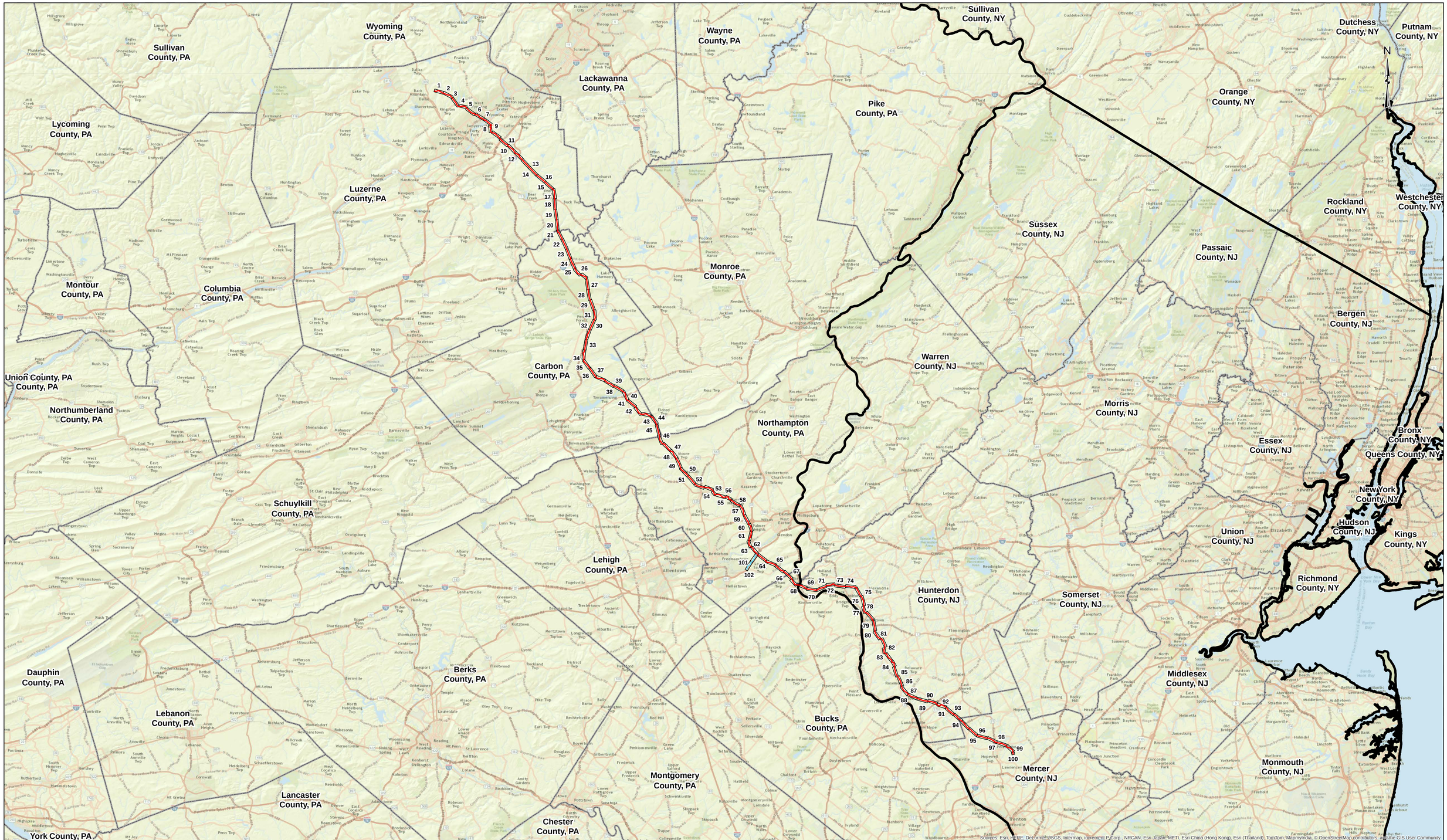
PREPARED BY:
OPS ENGINEERING, LLC

PENNEAST PIPELINE PROJECT

TOPOGRAPHIC MAPS
PROPOSED 36" PIPELINE

JOB NUMBER: 80111

DRAWING NUMBER: PEN-PL-MA-QDE-033



LEGEND

- PROPOSED PIPELINE
- HELLERTOWN LATERAL
- STATE BOUNDARY
- COUNTY BOUNDARY
- SHEET WINDOW

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	JBB	JMA	JMH

PennEast PIPELINE

PREPARED BY:

QPS ENGINEERING, LLC

A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET INDEX

PROPOSED 36" PIPELINE

& 24" HELLERTOWN LATERAL

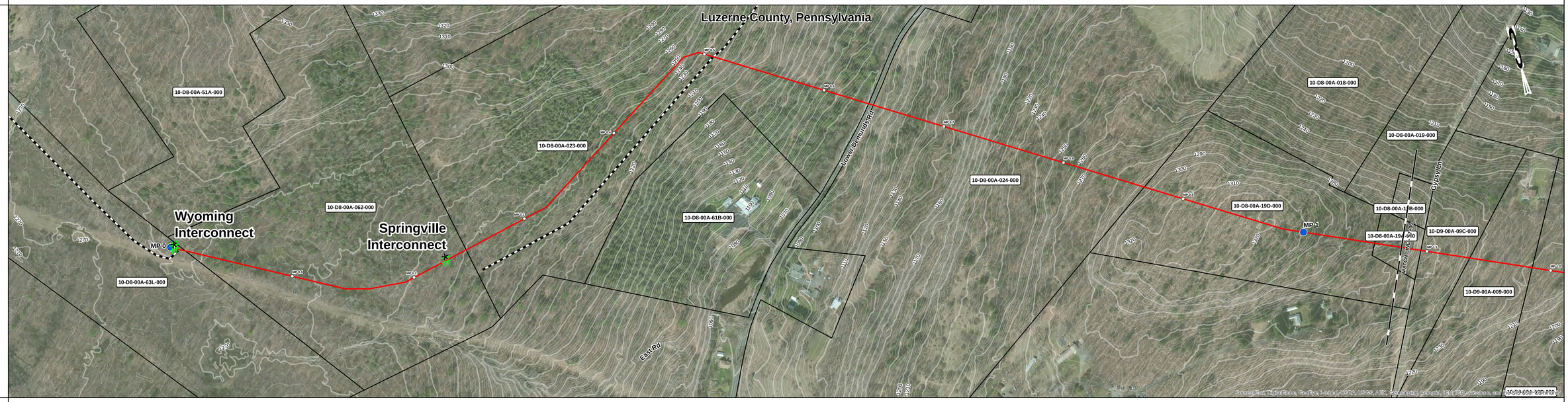
DRAWN: JBB	DATE: 10/28/14	SCALE: 1" = 200 ft	PROJECT ID: 80111		
CHECKED: JMA	DATE: 11/04/14	DRAWING NUMBER: PEN-PL-MA-ALS-INDEX		REV: A	
APPROVED: JMH	DATE: 11/04/14				

OWNERSHIP		Hayes, Robert & Jacqueline (10-D8-00A-63L-000)	Perry, William H & Priscilla D (10-D8-00A-062-000)	Perry, William H & Priscilla D (10-D8-00A-023-000)		Friedman, Robert C. (10-D8-00A-024-000)	Cobleigh, Jack & Molly (10-D8-00A-19D-000)	Friedman, Robert C. (10-D8-00A-19A-000)	
	0+00	0+64	13+05		33+64	33+85	45+80	55+84	57+00
	64 ft	1,241 ft	2,059 ft			1,195 ft	1,004 ft	116 ft	

TOPSOIL SEG.

STATIONING

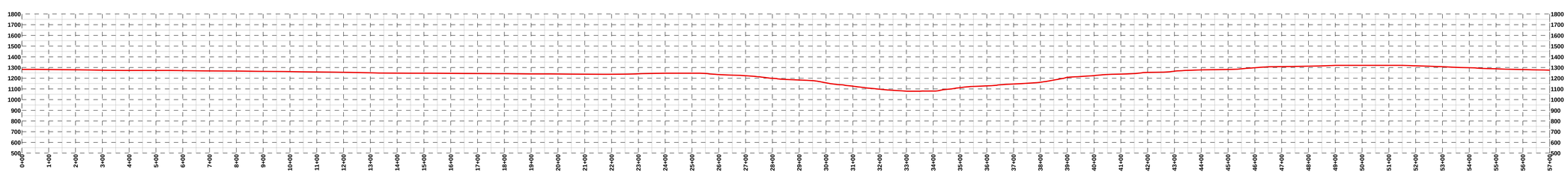
PLAN VIEW



PIPE DATA MAOP:1480

CLASS LOCATION

PROFILE VERT. SCALE: 1" = 500 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PennEast PIPELINE

PREPARED BY:

QPS ENGINEERING, LLC

A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

0+00 TO 57+00

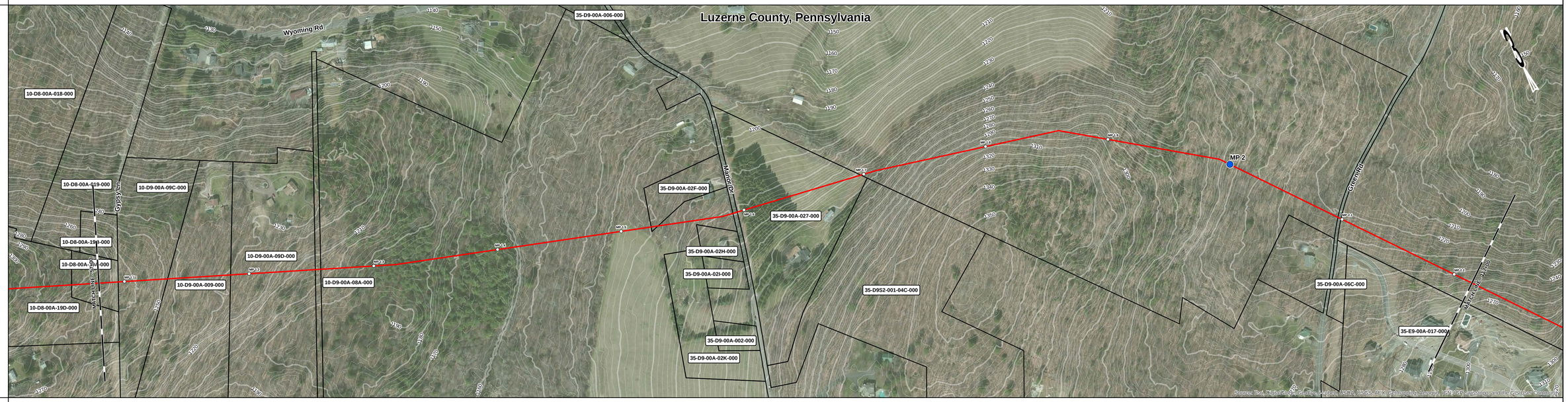
DRAWN:	JBB	DATE:	10/21/14	SCALE:	1" = 200 ft	PROJECT ID:	80111
CHECKED:	JMA	DATE:	11/04/14	DRAWING NUMBER:	PEN-PL-MA-ALS-001		REV: A
APPROVED:	JMH	DATE:	11/04/14				

OWNERSHIP	Friedman, Robert C. (35-D8-00A-19A-000)	Friedman, Robert C. (35-D9-00A-09C-000)	Huntzinger, Michael & Donna (35-D9-00A-09E-000)	Mitchell, Robert & Peggy (10-D9-00A-09D-000)	Lomascolo, Jr Alexander & Cynthia (10-D9-00A-08A-000)	Rushmer, Bernadette L (35-D9-00A-002-000)	Miller, Kenneth & Nancy (35-D9-00A-02F-000)	Rushmer, Bernadette L (35-D9-00A-002-000)	Evans, Richard H & Donna L (35-D9-00A-027-000)	Prokopchak, John J (35-D9-00A-006-000)	Prokopchak, John J (35-D9-00A-004-000)
	57+00 – 59+91	57+82 – 59+91	59+91 – 62+57	62+57 – 66+16	66+16 – 66+39	66+39 – 80+48	80+48 – 80+77	80+77 – 83+99	83+99 – 89+63	89+63 – 110+68	110+68 – 117+00
	82 ft	209 ft	267 ft	359 ft	23 ft	1,409 ft	29 ft	322 ft	545 ft	2,105 ft	618 ft

TOPSOIL SEG.

STATIONING

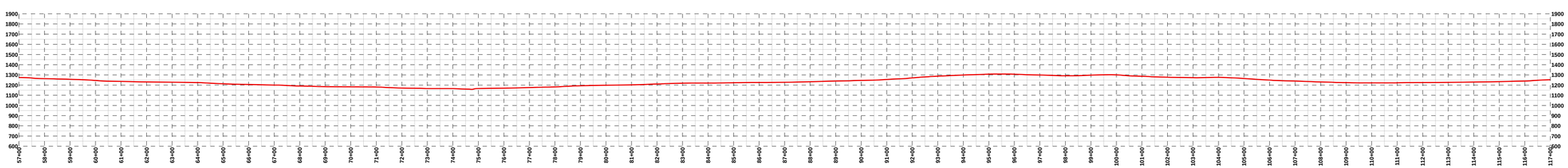
PLAN VIEW



PIPE DATA MAOP:1480

CLASS LOCATION

PROFILE VERT. SCALE: 1" = 500 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11-04-14	RJC	JMA	JMH

PennEast PIPELINE

PREPARED BY:

QPS ENGINEERING, LLC

A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

57+00 TO 117+00

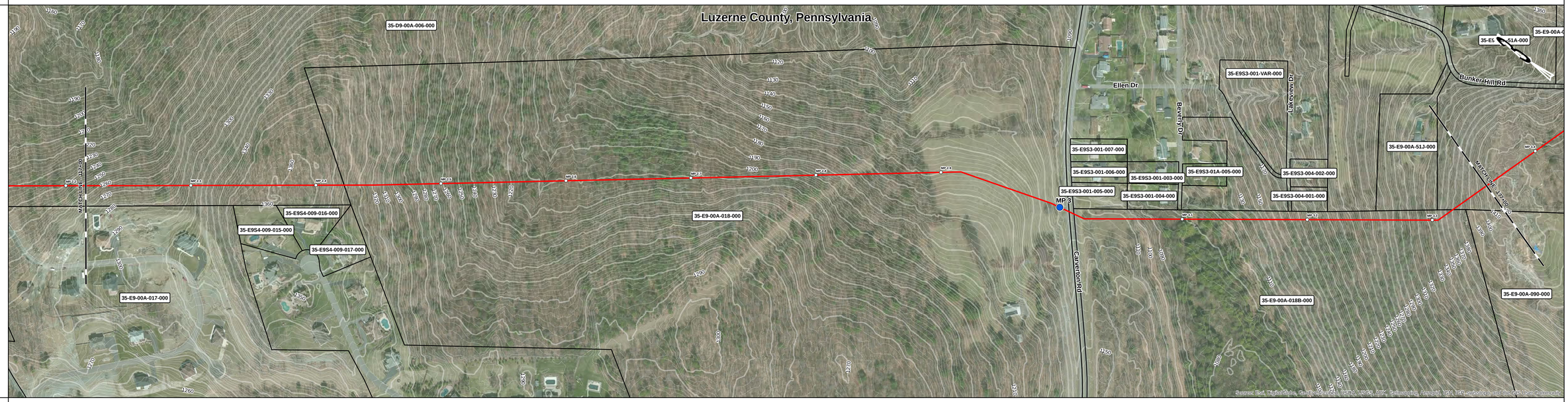
DRAWN: JBB	DATE: 10/21/14	SCALE: 1" = 200 ft	PROJECT ID: 80111		
CHECKED: JMA	DATE: 11/04/14	DRAWING NUMBER: PEN-PL-MA-ALS-002		REV: A	
APPROVED: JMH	DATE: 11/04/14				

OWNERSHIP	Prokopchak, John J (35-D9-00A-006-000)	Hefft, Milton S & Turner Elfriede H (35-E9-00A-018-000)	Hefft, Milton S (35-E9-00A-018B-000)	Mullen, Celestine & Jeffrey L (35-E9-00A-51A-000)
	117+00 – 127+91	127+91 – 158+83	158+83 – 175+25	175+25 – 177+00
	1,091 ft	3,092 ft	1,618 ft	175 ft

TOPSOIL SEG.

STATIONING

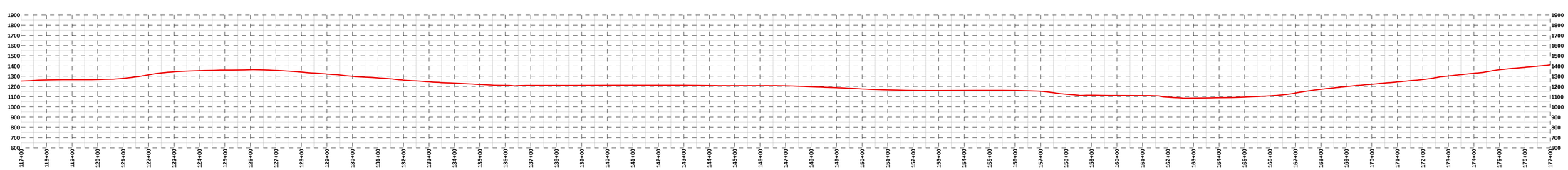
PLAN VIEW



PIPE DATA MAOP:1480

CLASS LOCATION

PROFILE VERT. SCALE:1" = 500 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11-04-14	RJC	JMA	JMH

PREPARED BY:

QPS ENGINEERING, LLC

A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

117+00 TO 177+00

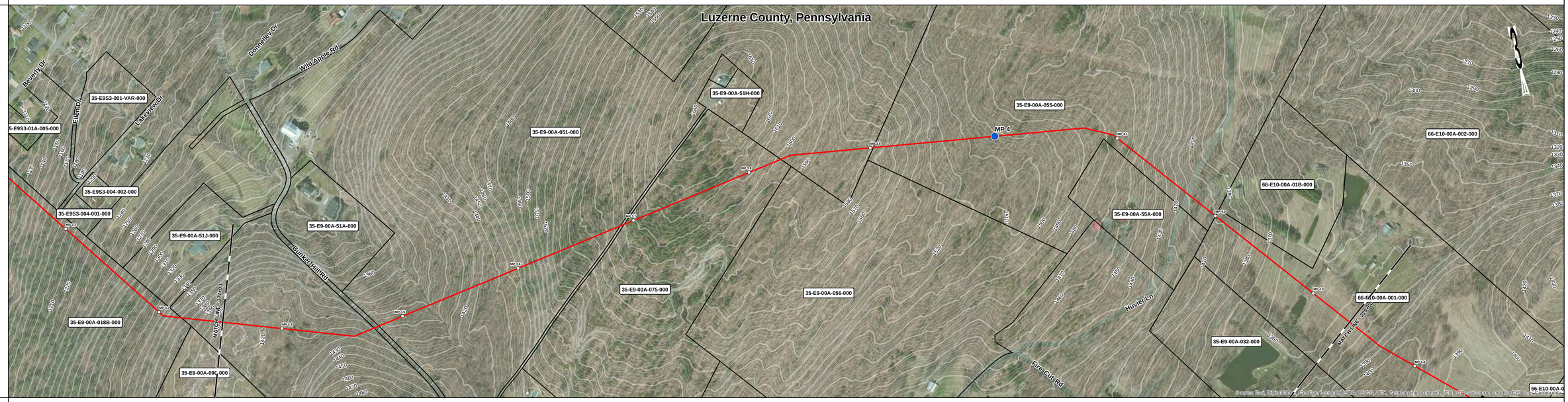
DRAWN: JBB	DATE: 10/21/14	SCALE: 1" = 200 ft	PROJECT ID: 80111		
CHECKED: JMA	DATE: 11/04/14	DRAWING NUMBER: PEN-PL-MA-ALS-003		REV: A	
APPROVED: JMH	DATE: 11/04/14				

OWNERSHIP	Mullen, Celestine & Jeffrey L (35-E9-00A-51A-000)	Donnelly, Alfred E & Stephanie (35-E9-00A-051-000)	Northeastern Pa Smsa (35-E9-00A-51H-000)	Prushko, Eugene & Eleanore (35-E9-00A-075-000)	Donnelly, Alfred E & Stephanie (35-E9-00A-051-000)	Kalinosky, Joseph P (35-E9-00A-055-000)	Kalinosky, Joseph P (66-E10-00A-001-000)
	177+00 – 183+49	183+71 – 194+76	194+76 – 194+93	194+93 – 202+10	202+10 – 206+05	206+05 – 221+76	221+76 – 229+00
	649 ft	1,104 ft	18 ft	717 ft	395 ft	1,572 ft	724 ft

TOPSOIL SEG.

STATIONING

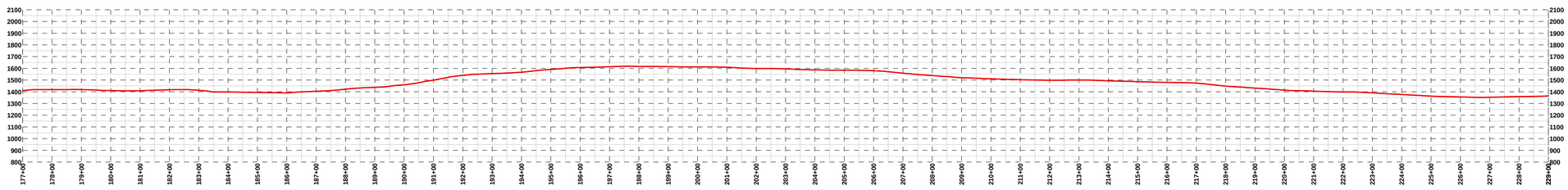
PLAN VIEW



PIPE DATA
MAOP:1480

CLASS LOCATION

PROFILE
VERT. SCALE: 1" = 500 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PREPARED BY:

QPS ENGINEERING, LLC

A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

177+00 TO 229+00

DRAWN: JBB	DATE: 10/21/14	SCALE: 1" = 200 ft	PROJECT ID: 80111		
CHECKED: JMA	DATE: 11/04/14	DRAWING NUMBER: PEN-PL-MA-ALS-004		REV: A	
APPROVED: JMH	DATE: 11/04/14				

OWNERSHIP	Kalinosky, Joseph P (66-E10-00A-001-000)	Metzo, David & Janice (66-E10-00A-015-000)	Talamelli, Nello & Linda Hardiman (66-E10-00A-002-000)	Talamelli, Nello & Jean (66-E10-00A-02A-000)	Hardimon, Albert & Linda (66-E10S1-002-002-000)	Talamelli, Nello & Jean (66-E10-00A-03A-000)	Saitta, Cataldo Eatal (66-E10-00A-17A-000)	Hardimon, Albert & Linda (66-E10S1-002-002-000)	Fronzoni, Robert (66-F10-00A-003-000)
	229+00 – 237+84	237+84 – 259+63	259+63 – 276+32	276+32 – 280+51	280+51 – 281+10	281+10 – 285+43	285+43 – 285+64	285+64 – 286+26 / 286+26 – 289+00	289+00
	884 ft	2,179 ft	1,670 ft	419 ft	58 ft	393 ft	61 ft	62 ft	250 ft

TOPSOIL SEG.

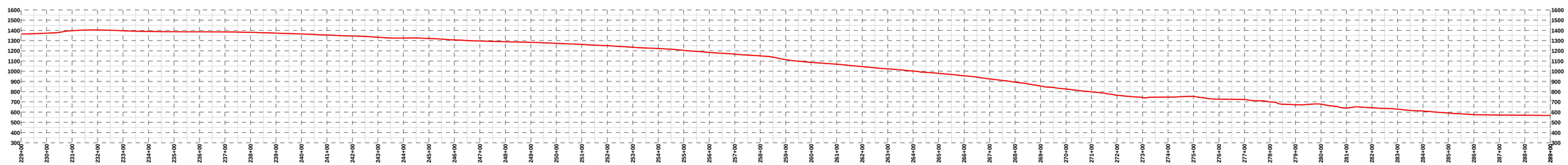
STATIONING

PLAN VIEW

PIPE DATA
MAOP:1480

CLASS LOCATION

PROFILE
VERT. SCALE: 1" = 500 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PennEast PIPELINE

PREPARED BY:

QPS ENGINEERING, LLC
A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET
PROPOSED 36" PIPELINE
229+00 TO 289+00

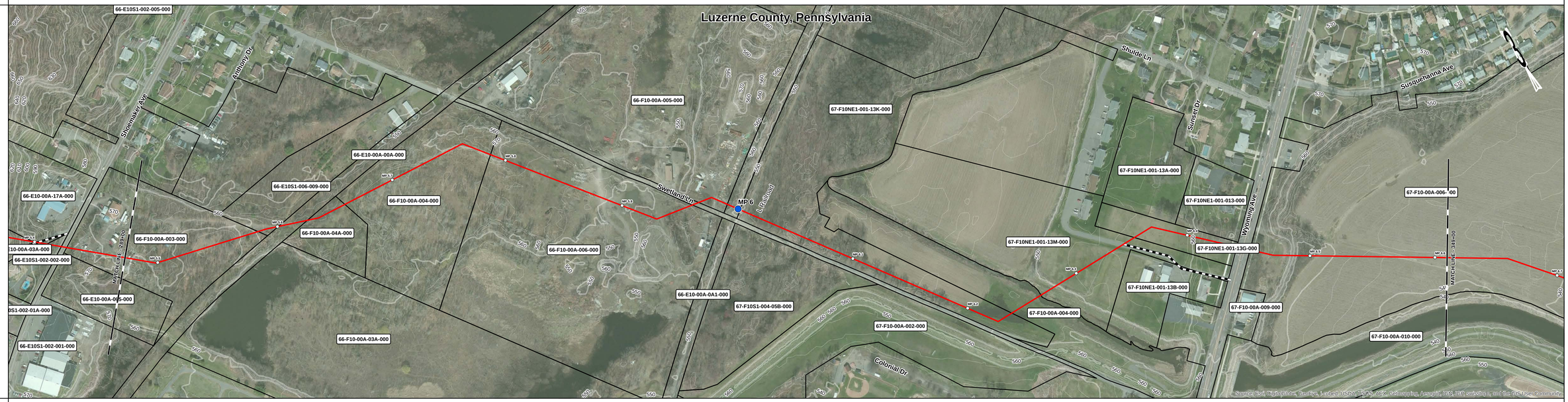
DRAWN:	JBB	DATE:	10/21/14	SCALE:	1" = 200 ft	PROJECT ID:	80111
CHECKED:	JMA	DATE:	11/04/14	DRAWING NUMBER:	PEN-PL-MA-ALS-005	REV:	A
APPROVED:	JMH	DATE:	11/04/14				

OWNERSHIP	Fronzoni, Robert (66-F10-00A-003-000)	Ranieli, Joseph D & Anthony J (66-E10S1-006-009-000)	Luz Co Rda (66-E10-00A-00A-000)	Ellsworth, Paul & Eugene (66-F10-00A-04A-000)	Airport Sand & Gravel Co. Inc. (66-F10-00A-004-000)	Airport Sand & Gravel Co. Inc. (66-F10-00A-006-000)	Airport Sand & Gravel Co. Inc. (66-F10-00A-005-000)	Redevelopment Authorty Of Luzerne Co (66-E10-00A-0A1-000)	Mirra, Anthony J Jr (67-F10NE1-001-13K-000)	Commonwealth Of Pa (67-F10-009-004-000)	Mirra, Jr Anthony J (67-F10NE1-001-13M-000)	Mirra, Anthony J & Stella (67-F10NE1-001-13G-000)	Mirra, Anthony J. Jr (67-F10-00A-006-000)
	289+00	294+83	295+72	296+86	299+70	305+56	314+71	316+30	316+89	329+44	330+88	335+52	340+07
	583 ft	88 ft	125 ft	174 ft	686 ft	915 ft	131 ft	59 ft	1,255 ft	144 ft	464 ft	455 ft	836 ft

TOPSOIL SEG.

STATIONING

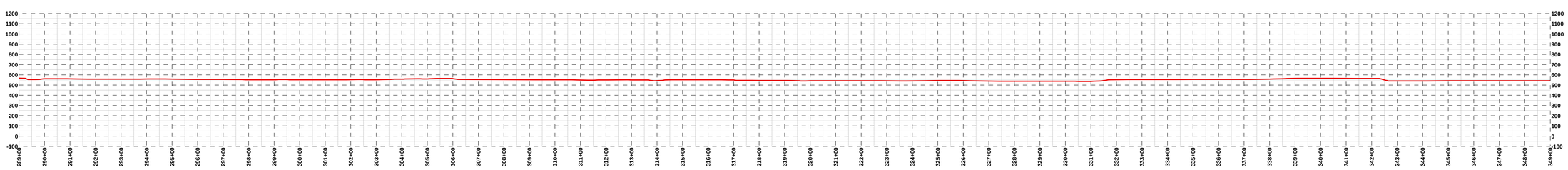
PLAN VIEW



PIPE DATA
MAOP:1480

CLASS LOCATION

PROFILE
VERT. SCALE: 1" = 500 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PennEast PIPELINE

PREPARED BY:

QPS ENGINEERING, LLC
A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

289+00 TO 349+00

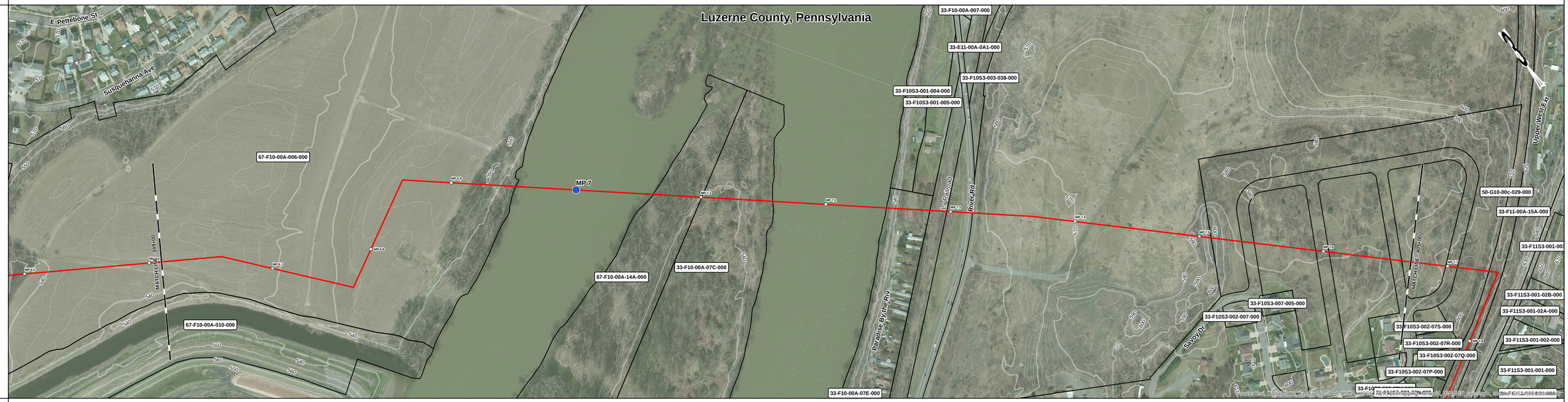
DRAWN:	JBB	DATE:	10/21/14	SCALE:	1" = 200 ft	PROJECT ID:	80111
CHECKED:	JMA	DATE:	11/04/14	DRAWING NUMBER:	PEN-PL-MA-ALS-006	REV:	A
APPROVED:	JMH	DATE:	11/04/14				

OWNERSHIP	Mirra, Anthony J. Jr (67-F10-00A-006-000)	Saporito, Martin Etal (67-F10-00A-14A-000)	Saporito, Martin J. Etal (33-F10-00A-07C-000)	Milazzo, Samuel J & Elizabeth (33-F10-00A-07E-000)	Redevelopment Authorty Of Luzerne Co (33-E11-00A-0A1-000)	Mericle River Road Llc (33-F10-00A-007-000)	Salavantis, Harry (33-F10S3-002-007-000)	Salavantis, Harry (33-F10S3-002-007-000)	Salavantis, Harry (33-F10S3-002-007-000)	Salavantis, Harry (33-F10S3-002-007-000)
	349+00 – 367+04	367+04 – 372+84	372+84 – 374+91	374+91 – 377+91	377+91 – 384+56	384+56 – 395+28	395+28 – 397+80	397+80 – 400+95	400+95 – 404+12	404+12 – 405+00
	1,804 ft	207 ft	300 ft	184 ft	71 ft	1,014 ft	130 ft	261 ft	261 ft	39 ft

TOPSOIL SEG.

STATIONING

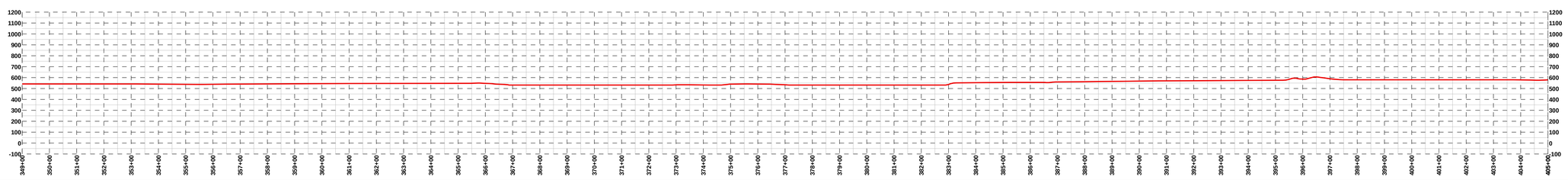
PLAN VIEW



PIPE DATA MAOP-1480

CLASS LOCATION

PROFILE
VERT. SCALE: 1" = 500 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PennEast PIPELINE

PREPARED BY:

QPS ENGINEERING, LLC

A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

349+00 TO 405+00

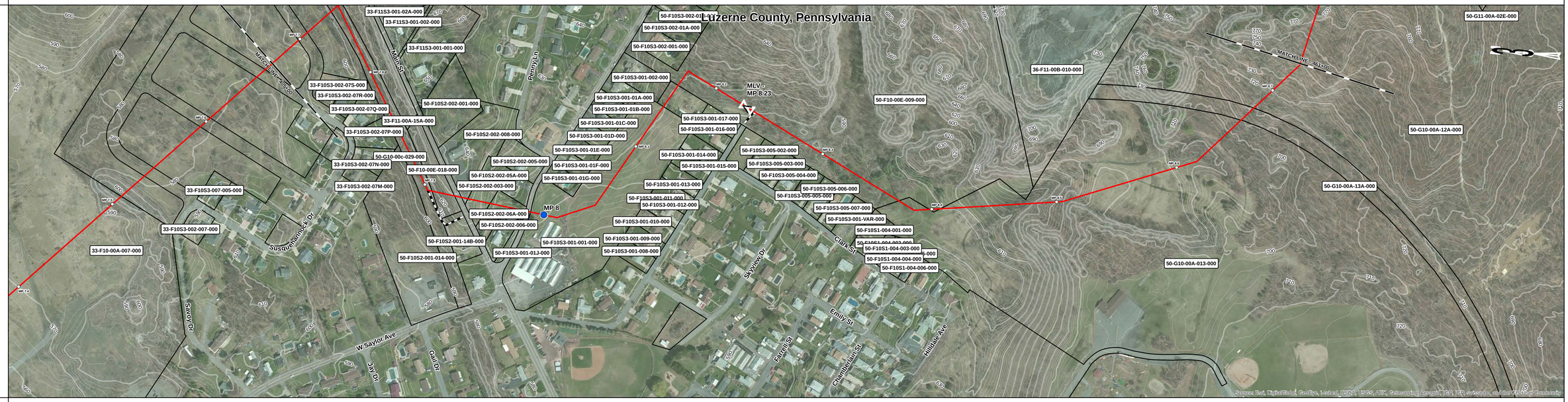
DRAWN: JBB	DATE: 10/21/14	SCALE: 1" = 200 ft	PROJECT ID: 80111		
CHECKED: JMA	DATE: 11/04/14	DRAWING NUMBER: PEN-PL-MA-ALS-007		REV: A	
APPROVED: JMH	DATE: 11/04/14				

OWNERSHIP	Salavantis, Harry (33-F10S3-007-000)	Salavantis, Harry (33-F10S3-006-000/-006)	Charles M Conlon Jr Trustee (50-G10-00C-029-000)	Earth Conservancy (50-F10-00E-018-000)	Christian Apostolic Church (50-F10S2-002-008-000)	Sheperis, Mary J (50-F10S2-002-003-000)	Sheperis, Mary J (50-F10S2-002-09A-000)	Omalia, Martin J & Sheryl E (50-F10S3-001-001-000)	Baloga, Robert & Karen A (50-F10S3-001-VAR-000)	Stella, Robert M. (50-F10-00E-009-000)	Township of Plains (50-G10-00A-013-000)	Stella, Robert M. (50-F10-00E-009-000)	Township of Plains (50-G10-00A-013-000)	Merlino, Frank J & Grace (50-G10-00A-13A-000)	Burgio, Joseph Etal (50-G10-00A-12A-000)
	405+00	406+47 / 406+97	408+32	417+57	418+54 / 418+84	419+12	420+08	421+60 / 421+82	429+73	430+82	442+01	443+42	443+88	457+53	459+28 / 461+00
	147 ft	134 ft	925 ft	97 ft	28 ft	96 ft	152 ft	791 ft	109 ft	1,119 ft 141 ft		46 ft	1,365 ft	75 ft	272 ft

TOPSOIL SEG.

STATIONING

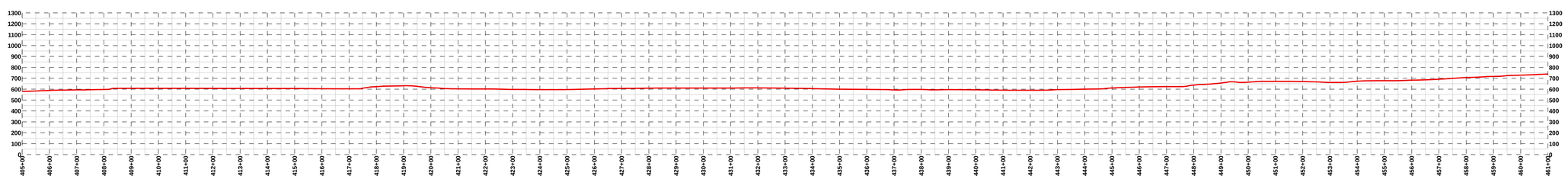
PLAN VIEW



PIPE DATA MAOP-1480

CLASS LOCATION

PROFILE VERT. SCALE: 1" = 500 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PREPARED BY:

QPS ENGINEERING, LLC

A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

405+00 TO 461+00

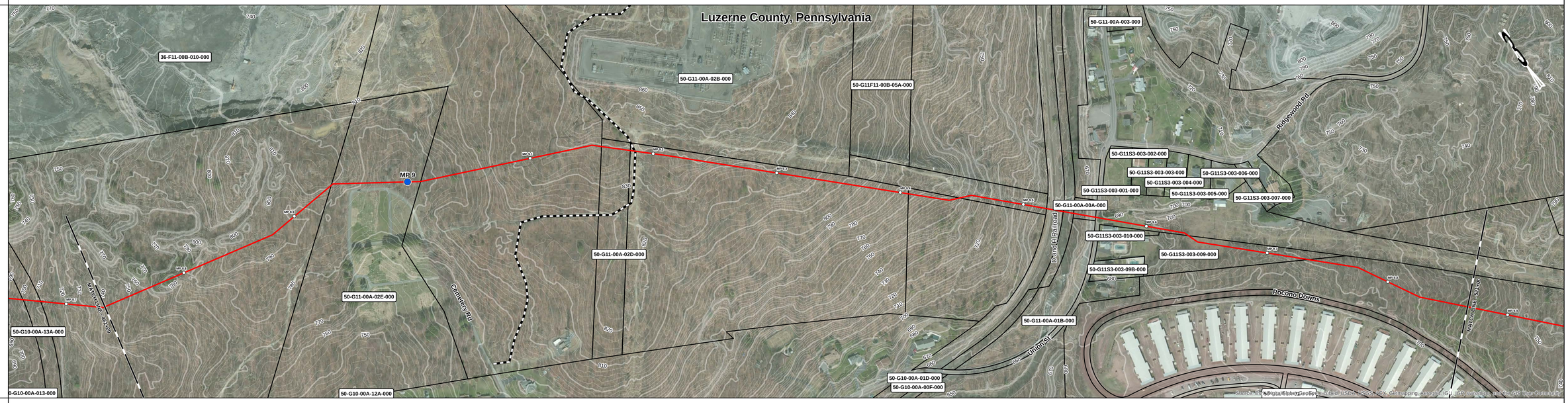
DRAWN: JBB	DATE: 10/21/14	SCALE: 1" = 200 ft	PROJECT ID: 80111		
CHECKED: JMA	DATE: 11/04/14	DRAWING NUMBER: PEN-PL-MA-ALS-008		REV: A	
APPROVED: JMH	DATE: 11/04/14				

OWNERSHIP	Burgio, Joseph Etal (50-G10-00A-12A-000)	Mccormick, J Carrol Bishop (50-G11-00A-02E-000)	David C. Popple Irrev Trust / TMJA Irrev Trust / Boopie-Doodle Irrev Trust (50-G11F11-00B-05A-000)	Ppl Electric Utilities Corp (50-G11-00A-02D-000)	David C. Popple Irrev Trust / TMJA Irrev Trust / Boopie-Doodle Irrev Trust (36-F11-00B-010-000)	Wilkes-Barre Materials Llc (50-G11-00A-03-000)	Ppl Electric Utilities Corp (50-G11-00A-00A-000)	D & H Railway Comp (50-G10-00A-01B-000)	Redevelopment Authority Of Luzerne Co (50-G10-00A-00F-000)	Ppl Electric Utilities Corp (50-G11-00A-00A-000)	Nat, David R. & Judith J. (50-G11S3-003-009-000)	Downs Racing, LP (50-G11-00A-01A-000)
	461+00 – 471+95	471+95 – 475+75	475+75 – 483+55	483+55 – 484+78	484+78 – 496+67	496+67 – 498+87	498+87 – 502+58	502+58 – 503+31	503+31 – 505+76	505+76 – 504+70	504+70 – 508+71	508+71 – 513+92
	1,095 ft	380 ft	780 ft	123 ft	1,188 ft	220 ft	373 ft	72 ft	44 ft	95 ft	521 ft	708 ft

TOPSOIL SEG.

STATIONING

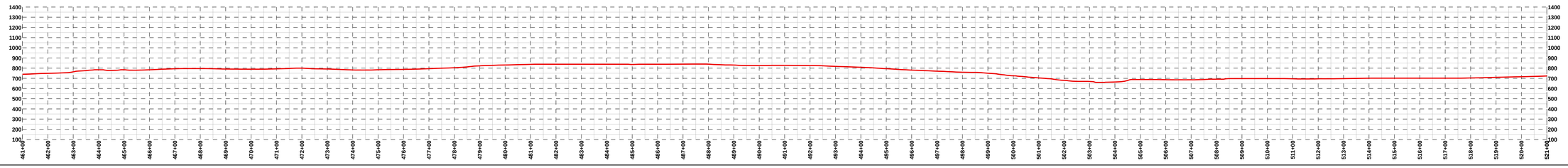
PLAN VIEW



PIPE DATA
MAOP:1480

CLASS LOCATION

PROFILE
VERT. SCALE: 1" = 500 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PREPARED BY:
QPS ENGINEERING, LLC
A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

461+00 TO 521+00

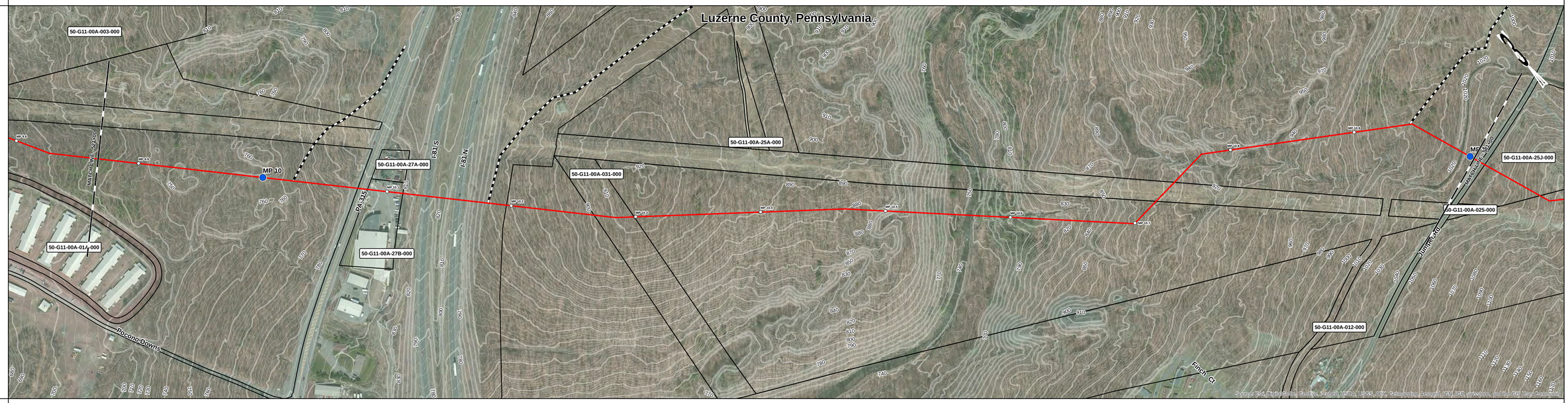
DRAWN:	JBB	DATE:	10/21/14	SCALE: 1" = 200 ft	PROJECT ID: 80111
CHECKED:	JMA	DATE:	11/04/14	DRAWING NUMBER: PEN-PL-MA-ALS-009	REV: A
APPROVED:	JMH	DATE:	11/04/14		

OWNERSHIP	Downs Racing, LP (50-G11-00A-014-000)	Giant Floor & Wall Covering Co Inc (50-G11-00A-016-000)	Pasonick, Michael J Jr & Arlene M (50-G11-00A-25A-000)	Penna Power & Light Co (50-G11-00A-031-000)	Pasonick, Michael J Jr & Arlene M (50-G11-00A-25A-000)	Ppl Electric Utilities Corp (50-G11-00A-025-000)	Pasonick, Michael J Jr & Arlene M (50-G11-00A-25A-000)
	521+00 – 532+03	532+03 – 533+95	533+95 – 538+35	538+35 – 542+68	542+68 – 543+78	543+78 – 566+24	566+24 – 567+35
	1,103 ft	151 ft	372 ft	170 ft	2,246 ft	112 ft	1,365 ft

TOPSOIL SEG.

STATIONING

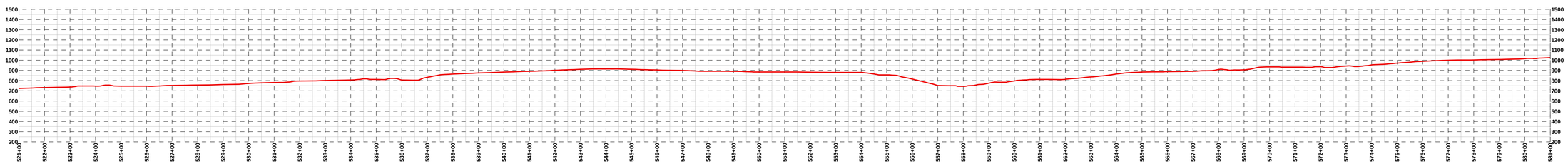
PLAN VIEW



PIPE DATA MAOP-1480

CLASS LOCATION

PROFILE VERT. SCALE: 1" = 500 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PennEast PIPELINE

PREPARED BY:

QPS ENGINEERING, LLC

A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

521+00 TO 581+00

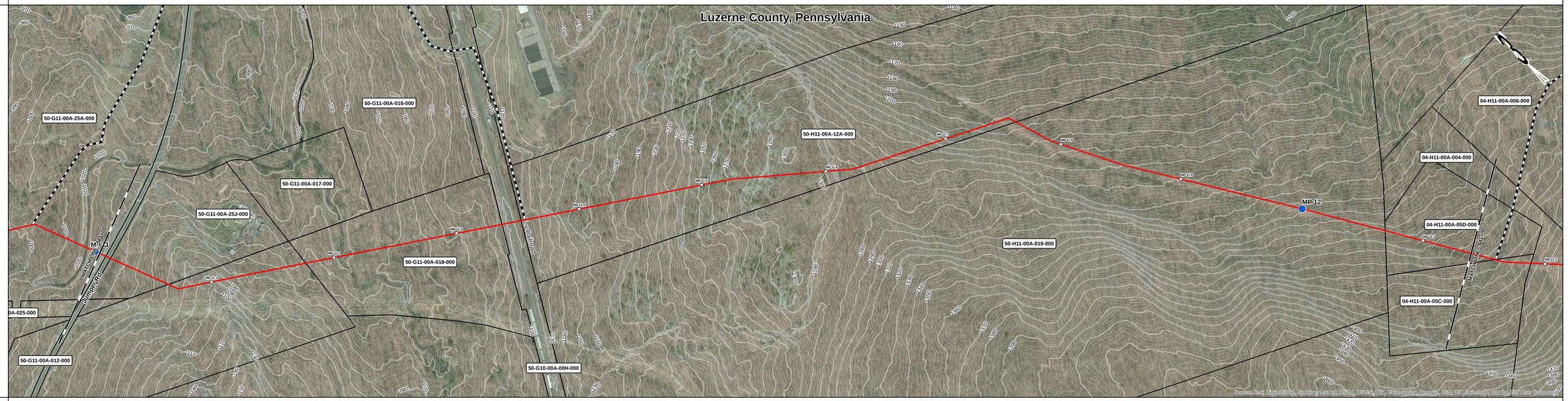
DRAWN:	JBB	DATE:	10/21/14	SCALE:	1" = 200 ft	PROJECT ID:	80111
CHECKED:	JMA	DATE:	11/04/14	DRAWING NUMBER:	PEN-PL-MA-ALS-010	REV:	A
APPROVED:	JMH	DATE:	11/04/14				

OWNERSHIP	Pasonick, Michael J Jr & Arlene M (50-H11-00A-09A-000)	Benkoski, Edward Jr & Deborah (50-G11-00A-26A-000)	Pasonick, Paul John (50-G11-00A-017-000)	Theta Land Corp (50-G11-00A-018-000)	Reading, B.M. & N.R.R. (50-G10-00A-00H-000)	KD Land LLC (50-H11-00A-12A-000)	Theta Land Corp (50-H11-00A-019-000)	Zeto Realty Trust U/D/T 10/10/2008 (04-H11-00A-005-000)
	581+00 – 581+29: 29 ft	581+29 – 581+51: 268 ft	581+51 – 584+18: 596 ft	584+18 – 590+14: 846 ft	590+14 – 590+60: 82 ft	590+60 – 599+42: 2,149 ft	599+42 – 620+91: 1,632 ft	620+91 – 637+23: 377 ft; 637+23 – 641+00

TOPSOIL SEG.

STATIONING

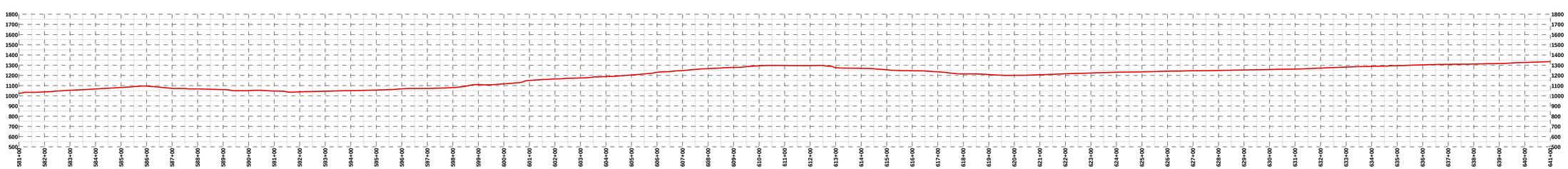
PLAN VIEW



PIPE DATA MAOP:1480

CLASS LOCATION

PROFILE VERT. SCALE:1" = 500 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PREPARED BY:

QPS ENGINEERING, LLC

A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

581+00 TO 641+00

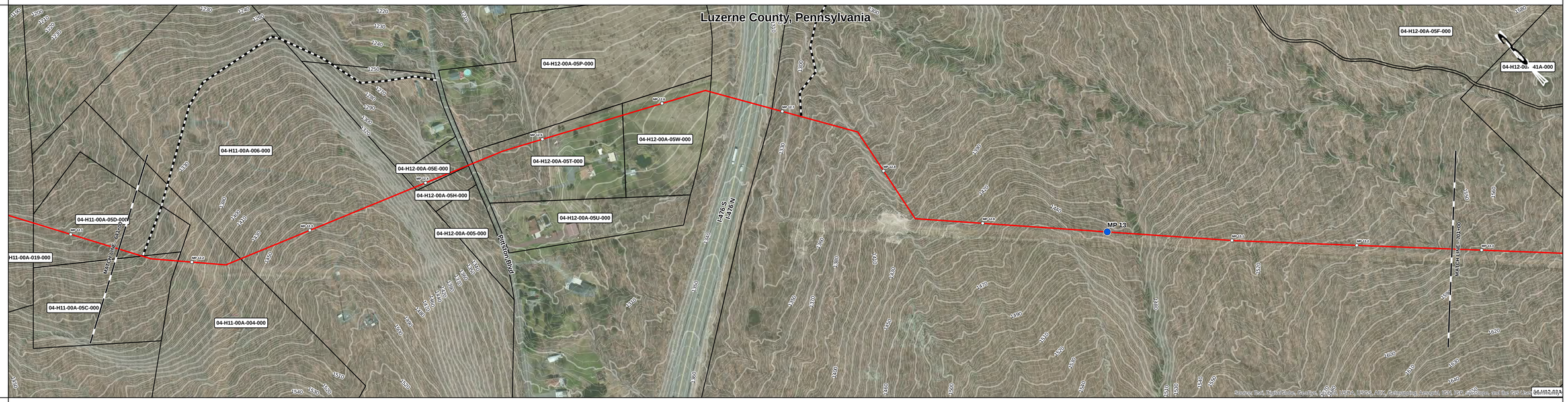
DRAWN: JBB	DATE: 10/21/14	SCALE: 1" = 200 ft	PROJECT ID: 80111		
CHECKED: JMA	DATE: 11/04/14	DRAWING NUMBER: PEN-PL-MA-ALS-011		REV: A	
APPROVED: JMH	DATE: 11/04/14				

OWNERSHIP	Zeto Realty Trust U/D/T (04-H11-00A-05D-000)	Zeto Realty Trust U/D/T (04-H11-00A-05C-000)	Benkoski, Bryan M & Deborah R (04-H11-00A-006-000)	Benkoski, Bryan M & Deborah R (04-H11-00A-006-000)	Solinski, Elaine M (04-H12-00A-05E-000)	Libertoski, Frank R Jr & Nicole (04-H12-00A-05T-000)	Libertoski, Frank (04-H12-00A-05W-000)	Natural Lands Trust Inc (04-H12-00A-05F-000)
	641+00 – 642+02	642+02 – 643+56	643+56 – 646+27	646+27 – 654+20	654+20 – 656+67	656+67 – 663+54	663+54 – 667+40	667+40 – 701+00
	102 ft	154 ft	270 ft	794 ft	247 ft	666 ft	385 ft	3,089 ft

TOPSOIL SEG.

STATIONING

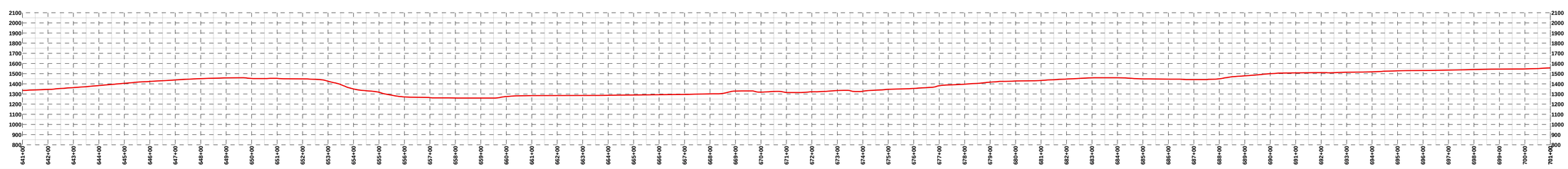
PLAN VIEW



PIPE DATA
MAOP:1480

CLASS LOCATION

PROFILE
VERT. SCALE: 1" = 500 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PennEast PIPELINE

PREPARED BY:

QPS ENGINEERING, LLC

A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

641+00 TO 701+00

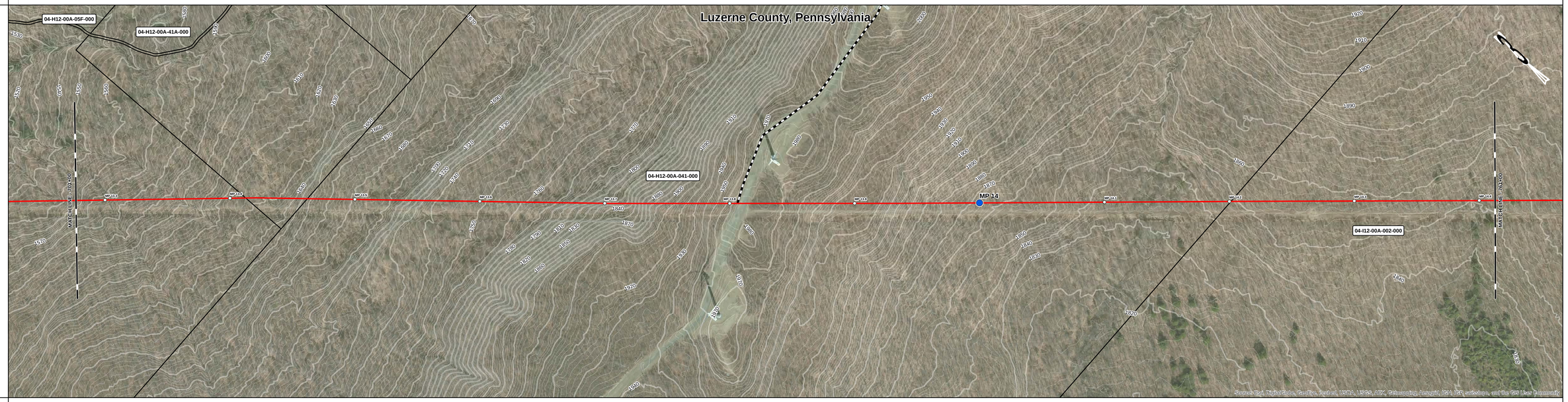
DRAWN:	JBB	DATE:	10/21/14	SCALE:	1" = 200 ft	PROJECT ID:	80111
CHECKED:	JMA	DATE:	11/04/14	DRAWING NUMBER:	PEN-PL-MA-ALS-012	REV:	A
APPROVED:	JMH	DATE:	11/04/14				

OWNERSHIP	Natural Lands Trust Inc (04-H12-00A-05F-000)	Baloga, Michael C & Mary Kay (04-H12-00A-41A-000)	Lupas, Anthony Jr & Lillian Etal (04-H12-00A-041-000)	easter pa synd luthern (04-I12-00A-002-000)
	701+00 – 718 ft	708+18 – 261 ft	710+79 – 3,903 ft	749+82 – 1,118 ft; 761+00

TOPSOIL SEG.

STATIONING

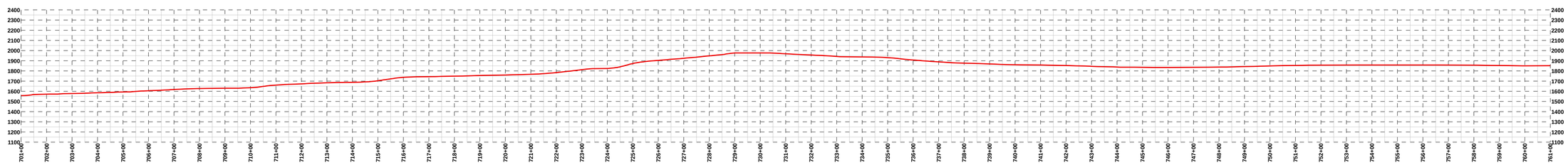
PLAN VIEW



PIPE DATA
MAOP:1480

CLASS LOCATION

PROFILE
VERT. SCALE: 1" = 500 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PREPARED BY:

QPS ENGINEERING, LLC

A QUANTA SERVICES COMPANY

PennEast PIPELINE

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

701+00 TO 761+00

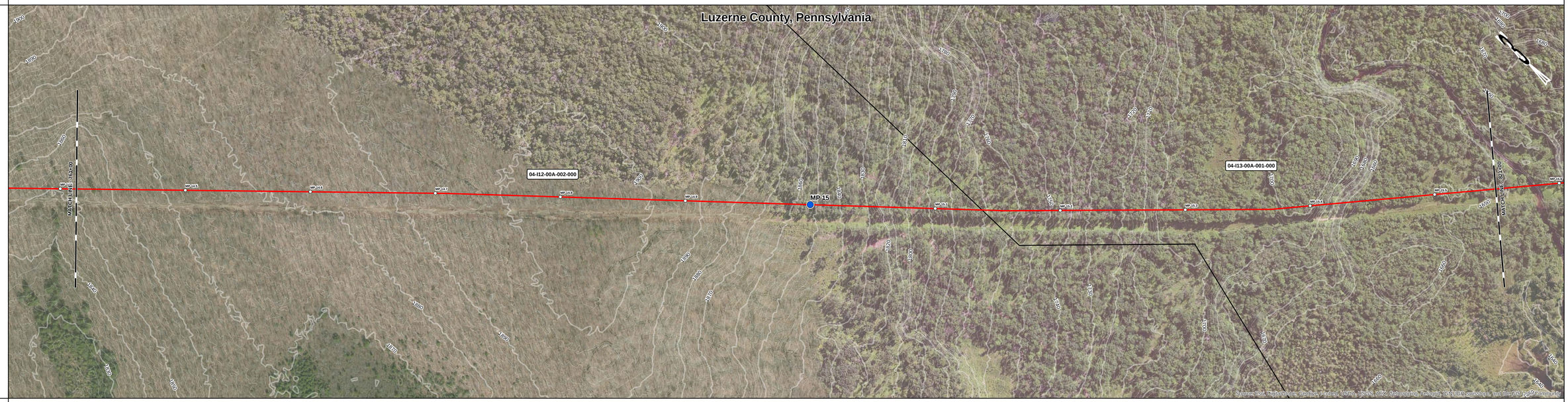
DRAWN: JBB	DATE: 10/21/14	SCALE: 1" = 200 ft	PROJECT ID: 80111		
CHECKED: JMA	DATE: 11/04/14	DRAWING NUMBER: PEN-PL-MA-ALS-013		REV: A	
APPROVED: JMH	DATE: 11/04/14				

OWNERSHIP	easter pa synd luthern (04-I12-00A-002-000)	Commonwealth Of Pennsylvania (04-I13-00A-001-000)
	761+00 – 799+26	799+26 – 821+00
	3,826 ft	2,174 ft

TOPSOIL SEG.

STATIONING

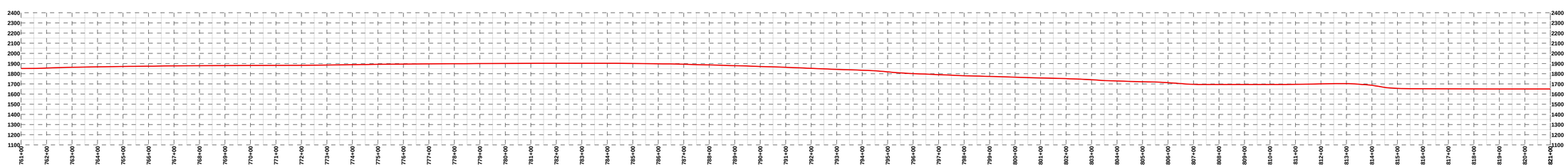
PLAN VIEW



PIPE DATA MAOP:1480

CLASS LOCATION

PROFILE VERT. SCALE:1" = 500 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PennEast PIPELINE

PREPARED BY:

QPS ENGINEERING, LLC
A QUANTA SERVICES COMPANY

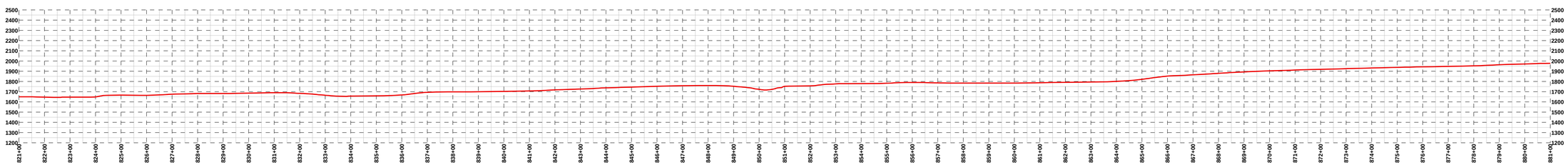
PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

761+00 TO 821+00

DRAWN:	JBB	DATE:	10/21/14	SCALE:	1" = 200 ft	PROJECT ID:	80111
CHECKED:	JMA	DATE:	11/04/14	DRAWING NUMBER:	PEN-PL-MA-ALS-014	REV:	A
APPROVED:	JMH	DATE:	11/04/14				

OWNERSHIP	Commonwealth Of Pennsylvania (04-I13-00A-001-000) 821+00 – 881+00 (6,000 ft)
TOPSOIL SEG.	
STATIONING	
PLAN VIEW	
PIPE DATA MAOP:1480	
CLASS LOCATION	
PROFILE VERT. SCALE: 1" = 500 ft	
DEPTH OF COVER	
ENV. FEATURE	
TYPE	
CROSSING METHOD	
SPECIAL REQ.	

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PREPARED BY:

QPS ENGINEERING, LLC

A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

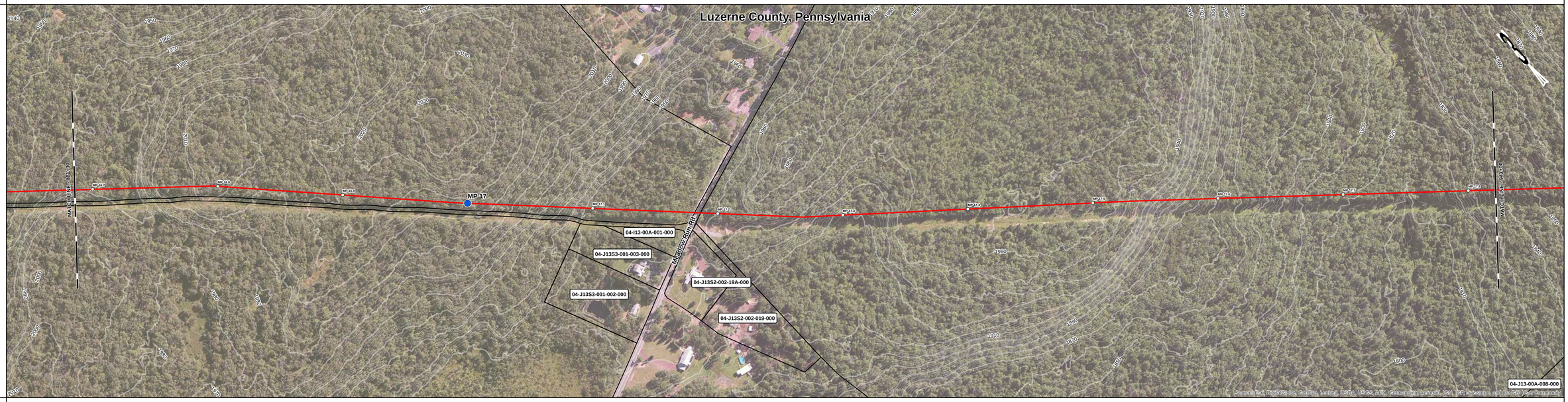
PRELIMINARY ALIGNMENT SHEET

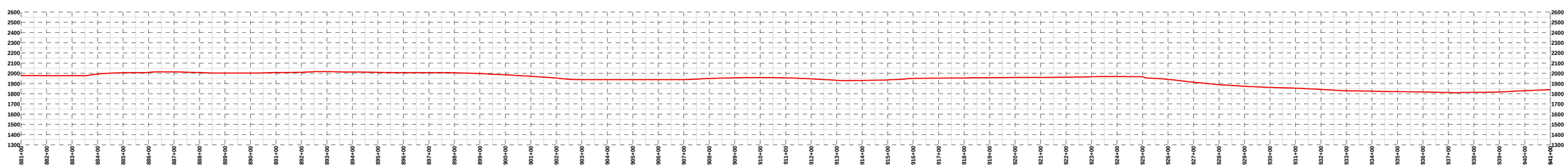
PROPOSED 36" PIPELINE

821+00 TO 881+00

DRAWN:	JBB	DATE:	10/21/14	SCALE:	1" = 200 ft	PROJECT ID:	80111
CHECKED:	JMA	DATE:	11/04/14	DRAWING NUMBER:	PEN-PL-MA-ALS-015	REV:	A
APPROVED:	JMH	DATE:	11/04/14				

OWNERSHIP	881+00	**Commonwealth Of Pennsylvania** (04-J13-00A-001-000) **2,618 ft**	907+18 / 907+43	**Commonwealth Of Pennsylvania** (04-J13-00A-001-000) **3,357 ft**	941+00
TOPSOIL SEG.					
STATIONING					
PLAN VIEW					
PIPE DATA MAOP:1480					
CLASS LOCATION					
PROFILE VERT. SCALE: 1" = 500 ft					
DEPTH OF COVER					
ENV. FEATURE					
TYPE					
CROSSING METHOD					
SPECIAL REQ.					





LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PennEast PIPELINE

PREPARED BY:

QPS ENGINEERING, LLC

A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

881+00 TO 941+00

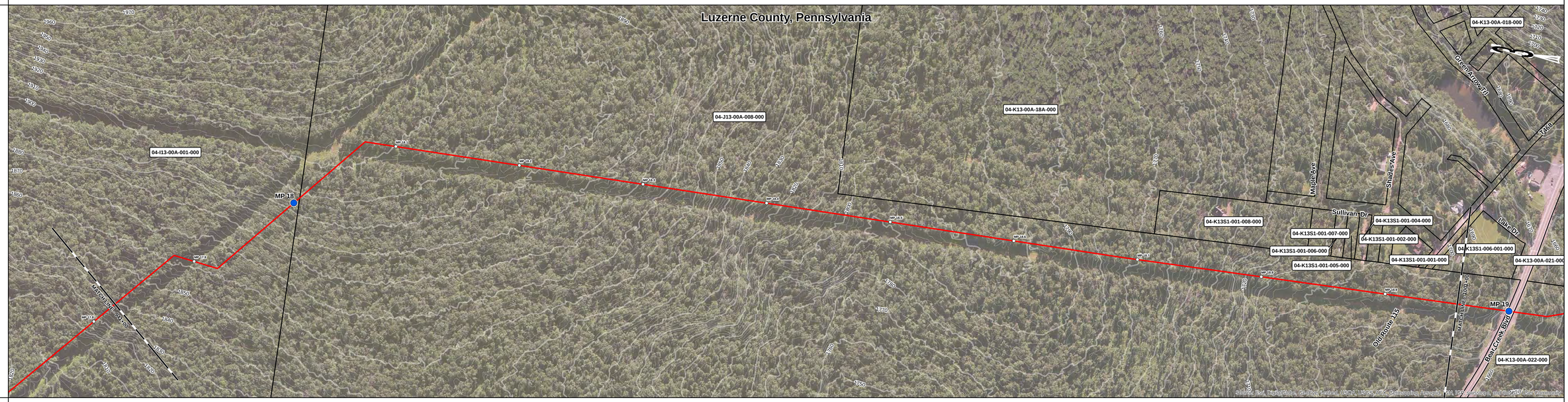
DRAWN: JBB	DATE: 10/21/14	SCALE: 1" = 200 ft	PROJECT ID: 80111		
CHECKED: JMA	DATE: 11/04/14	DRAWING NUMBER: PEN-PL-MA-ALS-016		REV: A	
APPROVED: JMH	DATE: 11/04/14				

OWNERSHIP	Commonwealth Of Pennsylvania (04-I13-00A-001-000)	Jacovino, Mario I & Rose Ann (04-J13-00A-008-000)
	941+00 – 950+73	950+73 – 1001+00
	973 ft	5,027 ft

TOPSOIL SEG.

STATIONING

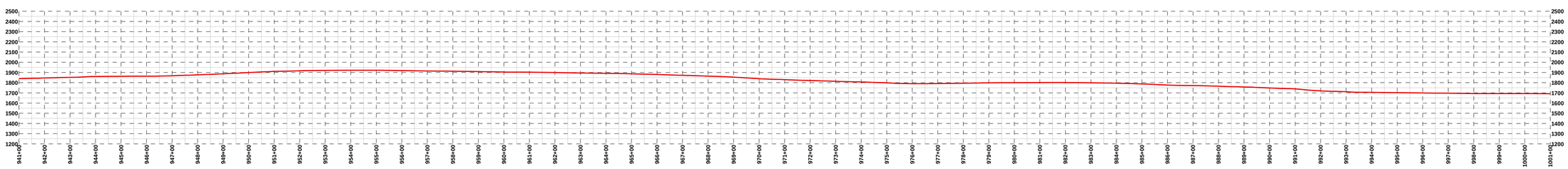
PLAN VIEW



PIPE DATA
MAOP:1480

CLASS LOCATION

PROFILE
VERT. SCALE: 1" = 500 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PennEast PIPELINE

PREPARED BY:

QPS ENGINEERING, LLC
A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

941+00 TO 1001+00

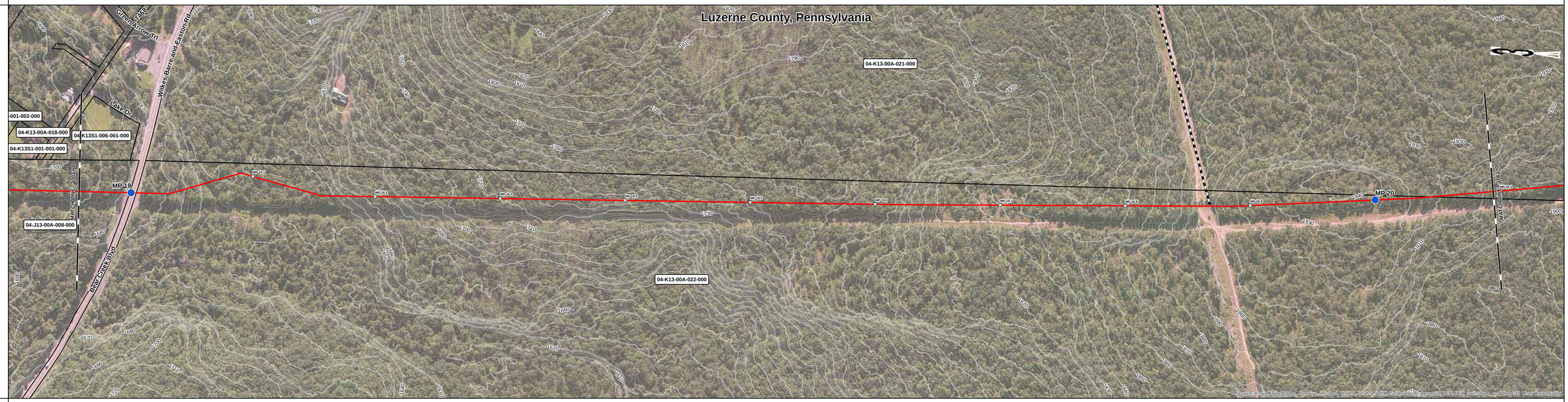
DRAWN:	JBB	DATE:	10/21/14	SCALE:	1" = 200 ft	PROJECT ID:	80111
CHECKED:	JMA	DATE:	11/04/14	DRAWING NUMBER:	PEN-PL-MA-ALS-017	REV:	A
APPROVED:	JMH	DATE:	11/04/14				

OWNERSHIP	Jacovino, Mario I & Rose Ann (04-J13-00A-008-000)	haas john c etal (04-K13-00A-022-000)	Zimmerman, Harvey W & Irene S (04-K13-00A-021-000)
	1001+00 – 1003+13: 213 ft	1003+13 – 1058+36: 5,495 ft	1058+36 – 1061+00: 264 ft

TOPSOIL SEG.

STATIONING

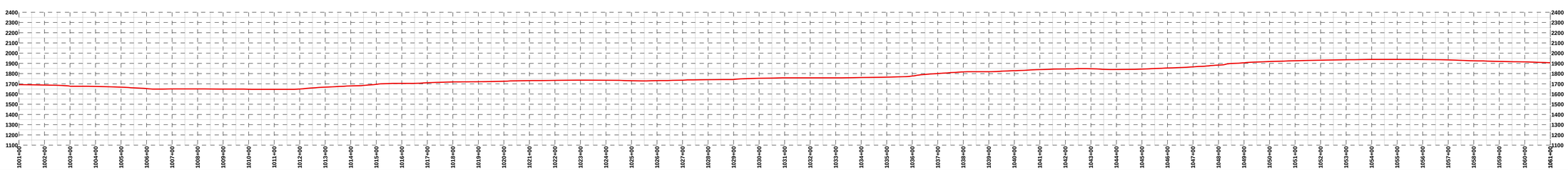
PLAN VIEW



PIPE DATA MAOP:1480

CLASS LOCATION

PROFILE VERT. SCALE: 1" = 500 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PREPARED BY:

QPS ENGINEERING, LLC

A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

1001+00 TO 1061+00

DRAWN: JBB	DATE: 10/21/14	SCALE: 1" = 200 ft	PROJECT ID: 80111		
CHECKED: JMA	DATE: 11/04/14	DRAWING NUMBER: PEN-PL-MA-ALS-018		REV: A	
APPROVED: JMH	DATE: 11/04/14				

OWNERSHIP	Zimmerman, Harvey W & Irene S (04-K13-00A-021-000)	haas john c etal (04-K13-00A-022-000)	haas john c trust (04-L13-00A-004-000)	Blue Ridge Real Estate Co (04-M13-00A-005-000)
	1061+00 – 1068+55: 755 ft	1068+55 – 1072+45: 390 ft	1072+45 – 1108+34: 3,588 ft	1108+34 – 1121+00: 1,266 ft

TOPSOIL SEG.

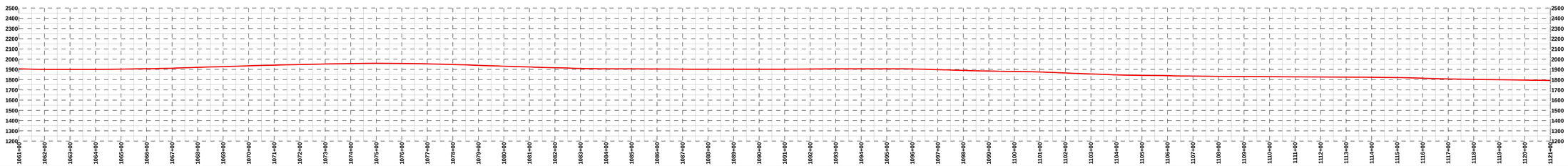
STATIONING

PLAN VIEW

PIPE DATA
MAOP:1480

CLASS LOCATION

PROFILE
VERT. SCALE: 1" = 500 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PennEast PIPELINE

PREPARED BY:

QPS ENGINEERING, LLC
A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

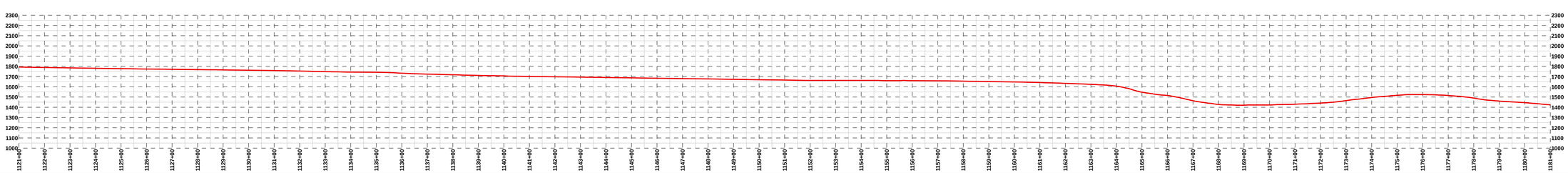
PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

1061+00 TO 1121+00

DRAWN: JBB	DATE: 10/21/14	SCALE: 1" = 200 ft	PROJECT ID: 80111		
CHECKED: JMA	DATE: 11/04/14	DRAWING NUMBER: PEN-PL-MA-ALS-019		REV: A	
APPROVED: JMH	DATE: 11/04/14				

OWNERSHIP	1121+00 — Blue Ridge Real Estate Co (04-M13-00A-005-000) — 6,000 ft — 1181+00
TOPSOIL SEG.	
STATIONING	
PLAN VIEW	
PIPE DATA MAOP:1480	
CLASS LOCATION	
PROFILE VERT. SCALE: 1" = 500 ft	
DEPTH OF COVER	
ENV. FEATURE	
TYPE	
CROSSING METHOD	
SPECIAL REQ.	



LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PREPARED BY:

QPS ENGINEERING, LLC

A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

1121+00 TO 1181+00

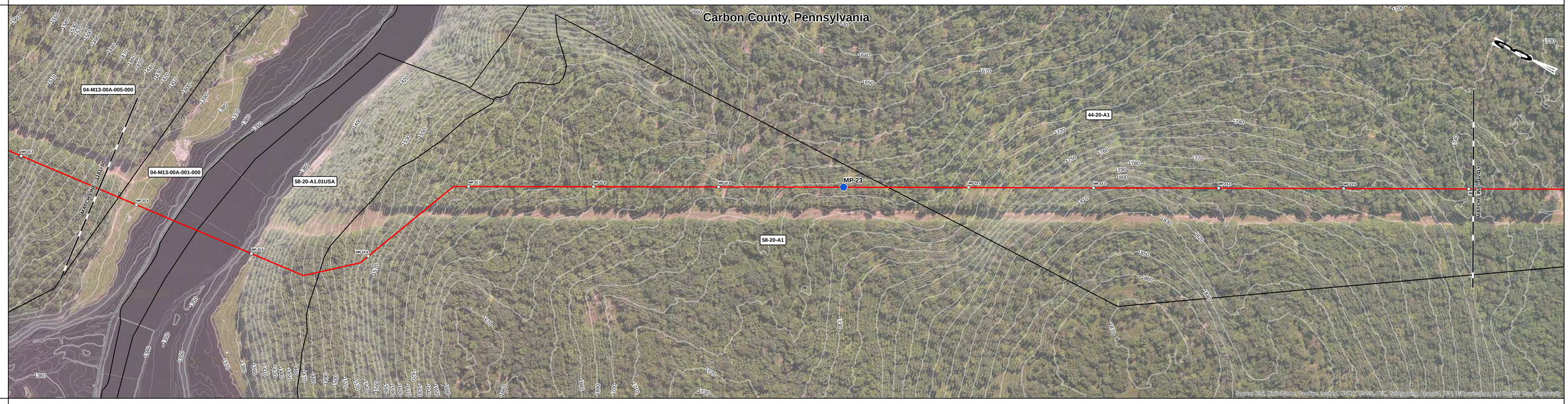
DRAWN: JBB	DATE: 10/21/14	SCALE: 1" = 200 ft	PROJECT ID: 80111		
CHECKED: JMA	DATE: 11/04/14	DRAWING NUMBER: PEN-PL-MA-ALS-020		REV: A	
APPROVED: JMH	DATE: 11/04/14				

OWNERSHIP	Blue Ridge Real Estate Co (04-M13-00A-005-000)	1181+00	US Army Corps of Engineers (04-M13-00A-001-000)	1184+45	u. s. government (58-20-A1.01USA)	1191+08	Blue Ridge Real Estate Co (58-20-A1)	1216+28	Blue Ridge Real Estate Co (44-20-A1)	1241+00
		90 ft	255 ft		558 ft		2,520 ft		2,472 ft	

TOPSOIL SEG.

STATIONING

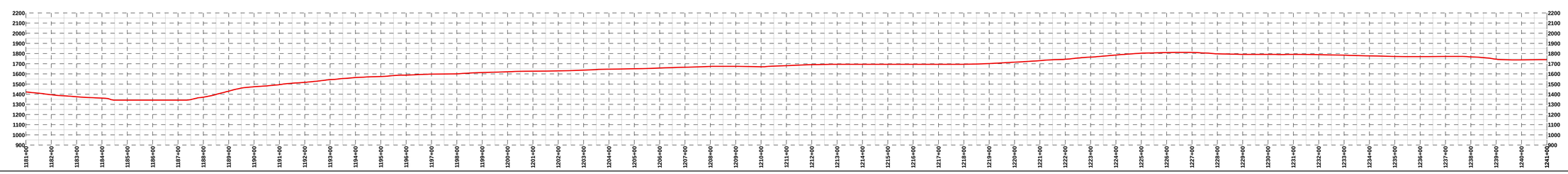
PLAN VIEW



PIPE DATA MAOP:1480

CLASS LOCATION

PROFILE
VERT. SCALE: 1" = 500 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PREPARED BY:

QPS ENGINEERING, LLC
A QUANTA SERVICES COMPANY

PennEast PIPELINE

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET
PROPOSED 36" PIPELINE
1181+00 TO 1241+00

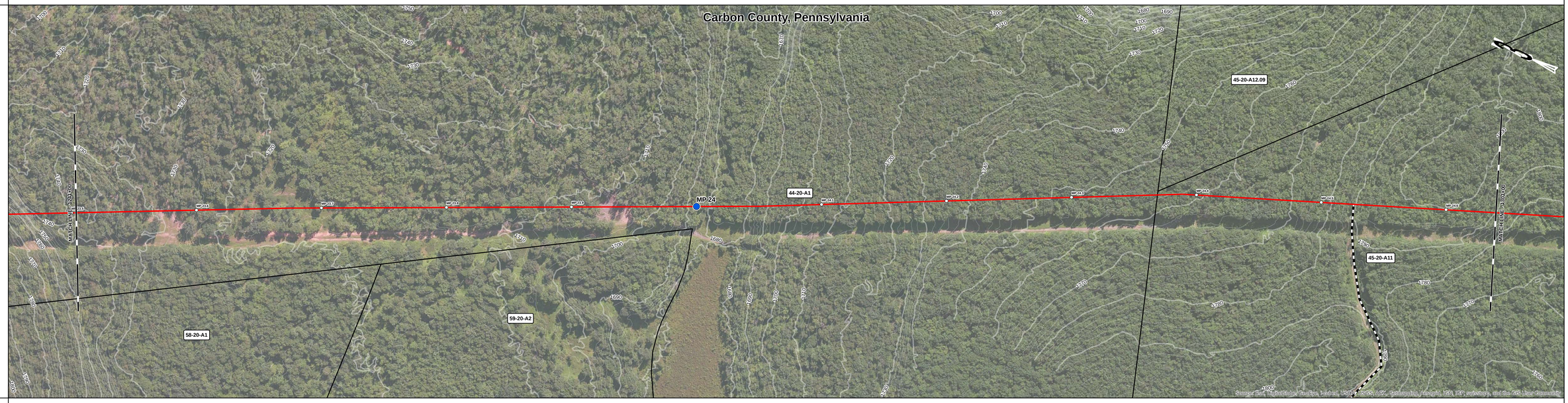
DRAWN:	JBB	DATE:	10/21/14	SCALE:	1" = 200 ft	PROJECT ID:	80111
CHECKED:	JMA	DATE:	11/04/14	DRAWING NUMBER:	PEN-PL-MA-ALS-021	REV:	A
APPROVED:	JMH	DATE:	11/04/14				

OWNERSHIP	Blue Ridge Real Estate Co (44-20-A1)	Commonwealth of PA (45-20-A11)
	1241+00 – 4,567 ft	1286+67 – 1,433 ft – 1301+00

TOPSOIL SEG.

STATIONING

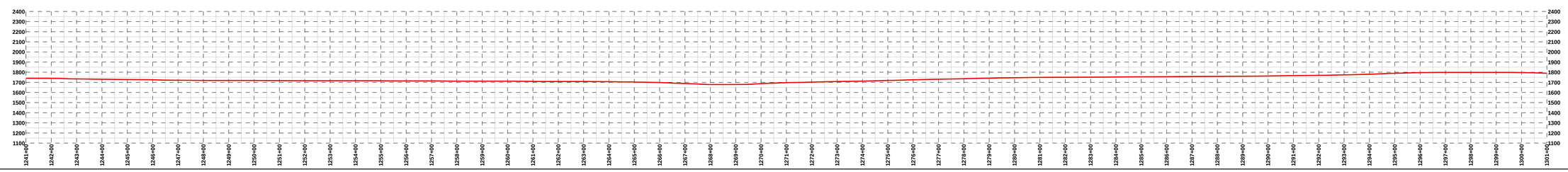
PLAN VIEW



PIPE DATA
MAOP-1480

CLASS LOCATION

PROFILE
VERT. SCALE: 1" = 500 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PREPARED BY:

QPS ENGINEERING, LLC

A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET
PROPOSED 36" PIPELINE
1241+00 TO 1301+00

DRAWN: JBB	DATE: 10/21/14	SCALE: 1" = 200 ft	PROJECT ID: 80111		
CHECKED: JMA	DATE: 11/04/14	DRAWING NUMBER: PEN-PL-MA-ALS-022		REV: A	
APPROVED: JMH	DATE: 11/04/14				

OWNERSHIP	Commonwealth of PA (45-20-A11)	F & N Investment Co (45-20-A14)	Blue Ridge Real Estate Co (45-20-A12.09)
	1301+00 – 1335+84	1335+84 – 1353+99	1353+99 – 1360+92 / 1360+92 – 1361+00
	3,484 ft	1,815 ft	692 ft

TOPSOIL SEG.

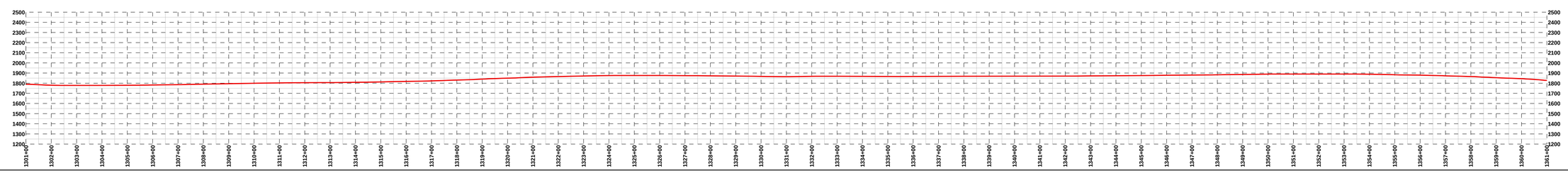
STATIONING

PLAN VIEW

PIPE DATA MAOP:1480

CLASS LOCATION

PROFILE VERT. SCALE: 1" = 500 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- COMPRESSOR STATION
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PREPARED BY:

QPS ENGINEERING, LLC

A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

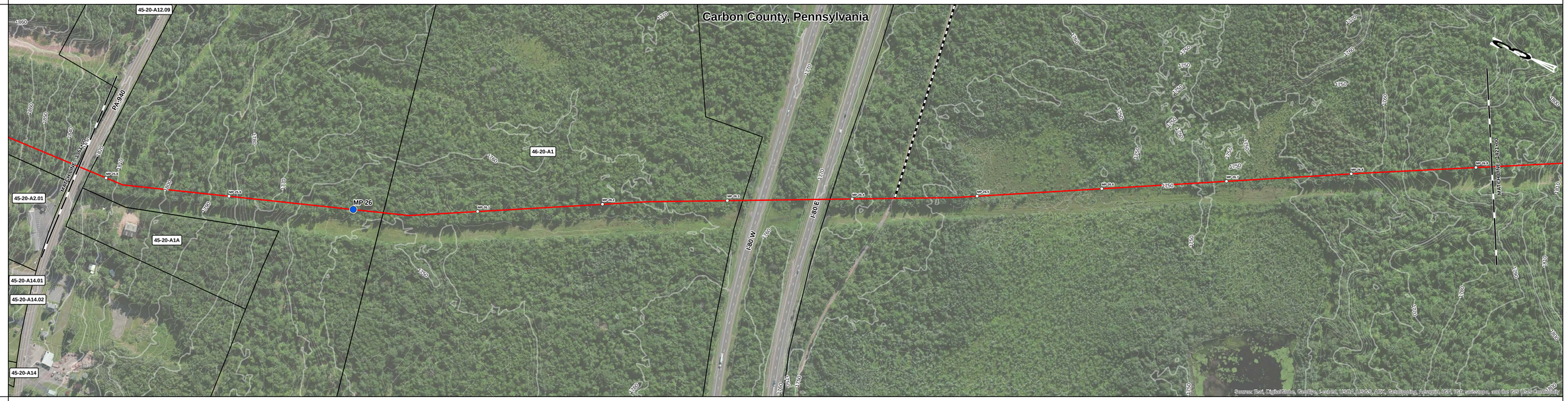
1301+00 TO 1361+00

DRAWN: JBB	DATE: 10/21/14	SCALE: 1" = 200 ft	PROJECT ID: 80111		
CHECKED: JMA	DATE: 11/04/14	DRAWING NUMBER: PEN-PL-MA-ALS-023		REV: A	
APPROVED: JMH	DATE: 11/04/14				

OWNERSHIP	1361+00	1361+52	Blue Ridge Real Estate Co (45-20-A12.09)	1374+07	blue ridge real estate (46-20-A1)	1389+28	blue ridge real estate (46-20-A1)	1421+00
TOPSOIL SEG.			1,256 ft		1,522 ft		2,802 ft	

STATIONING

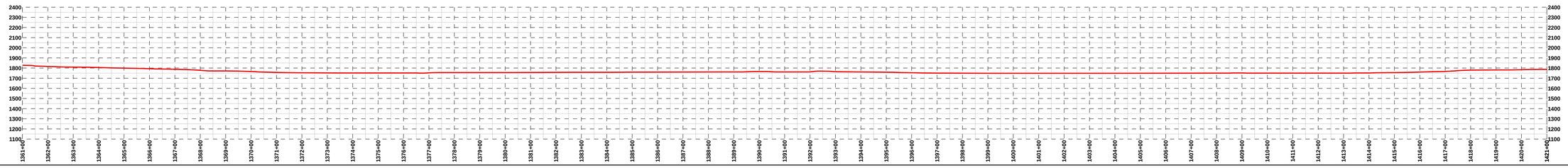
PLAN VIEW



PIPE DATA
MAOP:1480

CLASS LOCATION

PROFILE
VERT. SCALE: 1" = 500 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

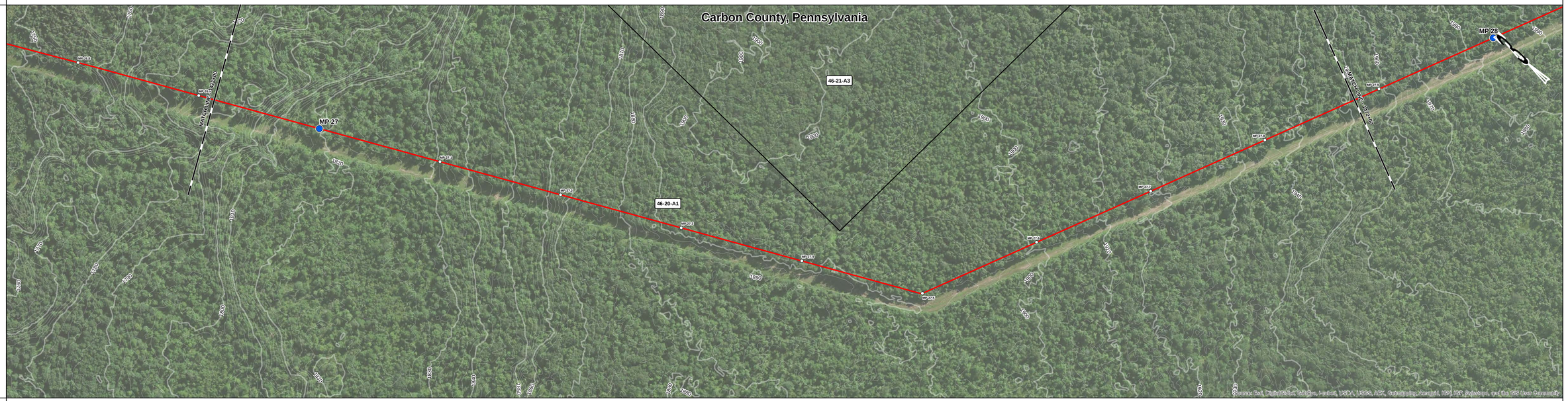
PREPARED BY:
QPS ENGINEERING, LLC
A QUANTA SERVICES COMPANY

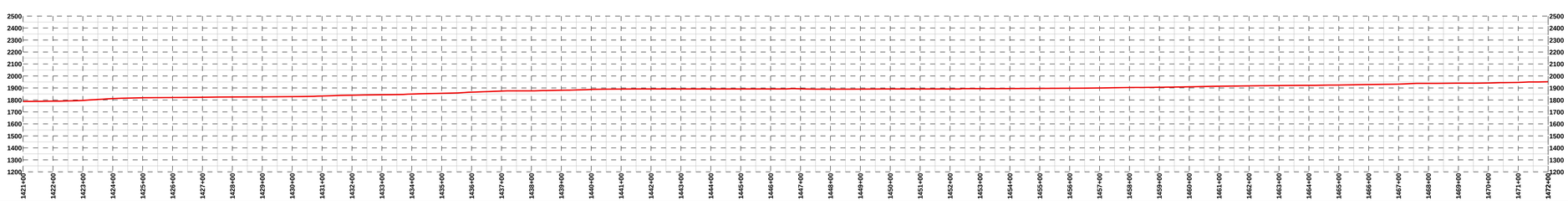
PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET
PROPOSED 36" PIPELINE
1361+00 TO 1421+00

DRAWN:	JBB	DATE:	10/21/14	SCALE: 1" = 200 ft	PROJECT ID: 80111
CHECKED:	JMA	DATE:	11/04/14	DRAWING NUMBER: PEN-PL-MA-ALS-024	REV: A
APPROVED:	JMH	DATE:	11/04/14		

OWNERSHIP	blue ridge real estate (46-20-A1) — 1421+00 to 1472+00 — 5,100 ft
TOPSOIL SEG.	
STATIONING	
PLAN VIEW	
PIPE DATA MAOP:1480	
CLASS LOCATION	
PROFILE VERT. SCALE: 1" = 500 ft	
DEPTH OF COVER	
ENV. FEATURE	
TYPE	
CROSSING METHOD	
SPECIAL REQ.	





LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PREPARED BY:

QPS ENGINEERING, LLC

A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

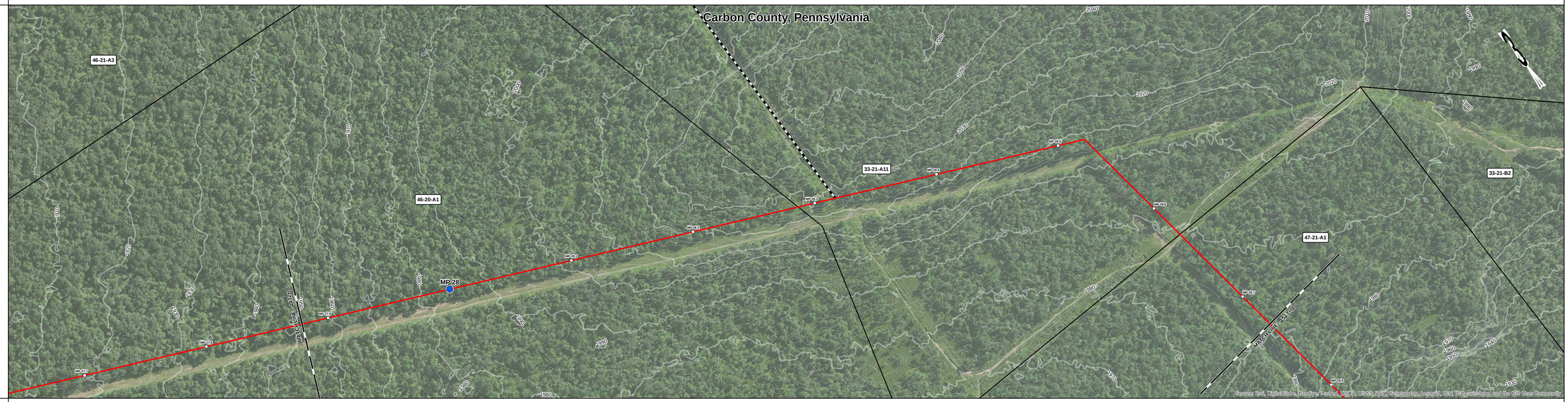
1421+00 TO 1472+00

DRAWN: JBB	DATE: 10/21/14	SCALE: 1" = 200 ft	PROJECT ID: 80111		
CHECKED: JMA	DATE: 11/04/14	DRAWING NUMBER: PEN-PL-MA-ALS-025		REV: A	
APPROVED: JMH	DATE: 11/04/14				

OWNERSHIP	blue ridge real estate (46-20-A1)	blue ridge real estate co (33-21-A11)	Commonwealth of PA (47-21-A1)
	1472+00 – 1489+52	1489+52 – 1511+63	1511+63 – 1517+00
TOPSOIL SEG.	2,152 ft	1,811 ft	537 ft

STATIONING

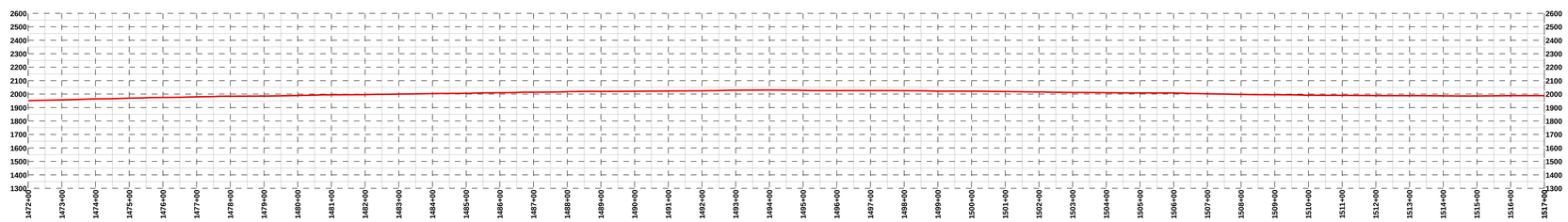
PLAN VIEW



PIPE DATA
MAOP:1480

CLASS LOCATION

PROFILE
VERT. SCALE: 1" = 500 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PREPARED BY:

QPS ENGINEERING, LLC
A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

1472+00 TO 1517+00

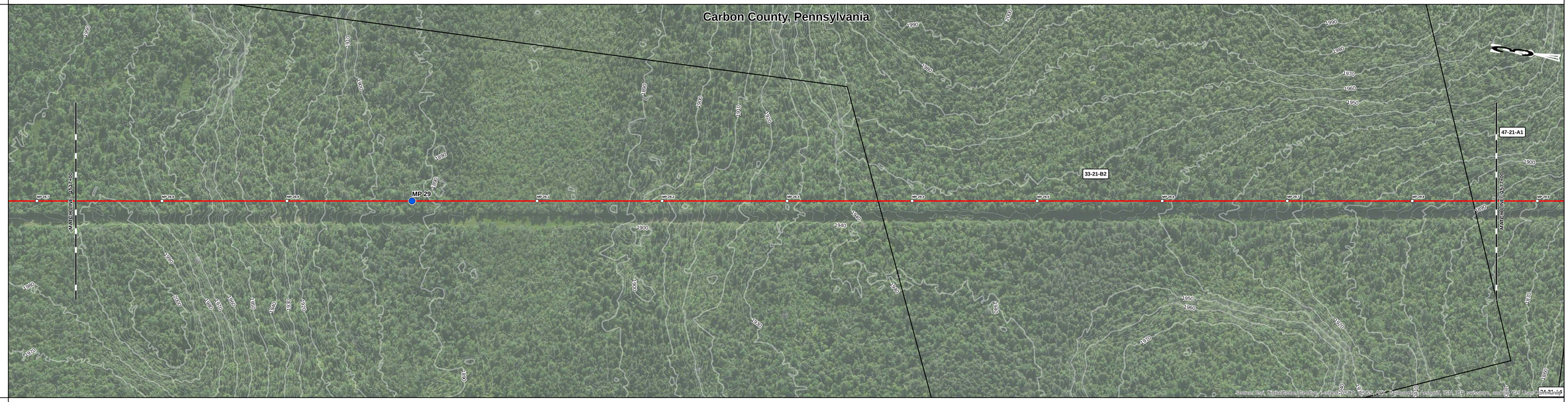
DRAWN:	JBB	DATE:	10/21/14	SCALE: 1" = 200 ft	PROJECT ID: 80111
CHECKED:	JMA	DATE:	11/04/14	DRAWING NUMBER: PEN-PL-MA-ALS-026	REV: A
APPROVED:	JMH	DATE:	11/04/14		

OWNERSHIP	Commonwealth of PA (47-21-A1)	Commonwealth of PA (33-21-B2)	Commonwealth of PA (33-21-B2)
	1517+00 – 1550+88	1550+88 – 1576+00	1576+00 – 1577+00
	3,388 ft	2,512 ft	100 ft

TOPSOIL SEG.

STATIONING

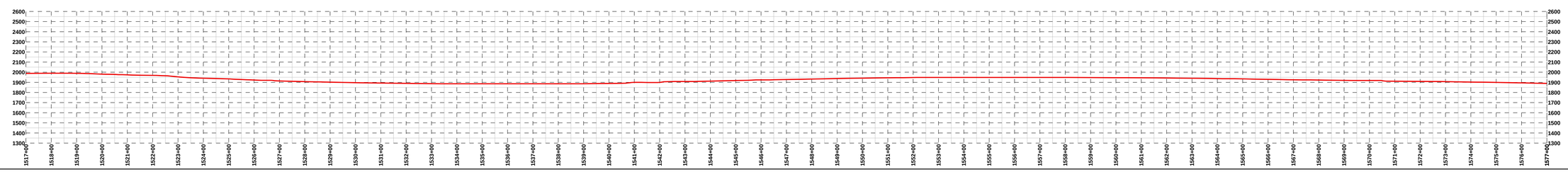
PLAN VIEW



PIPE DATA MAOP:1480

CLASS LOCATION

PROFILE VERT. SCALE: 1" = 500 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PennEast PIPELINE

PREPARED BY:

QPS ENGINEERING, LLC

A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

1517+00 TO 1577+00

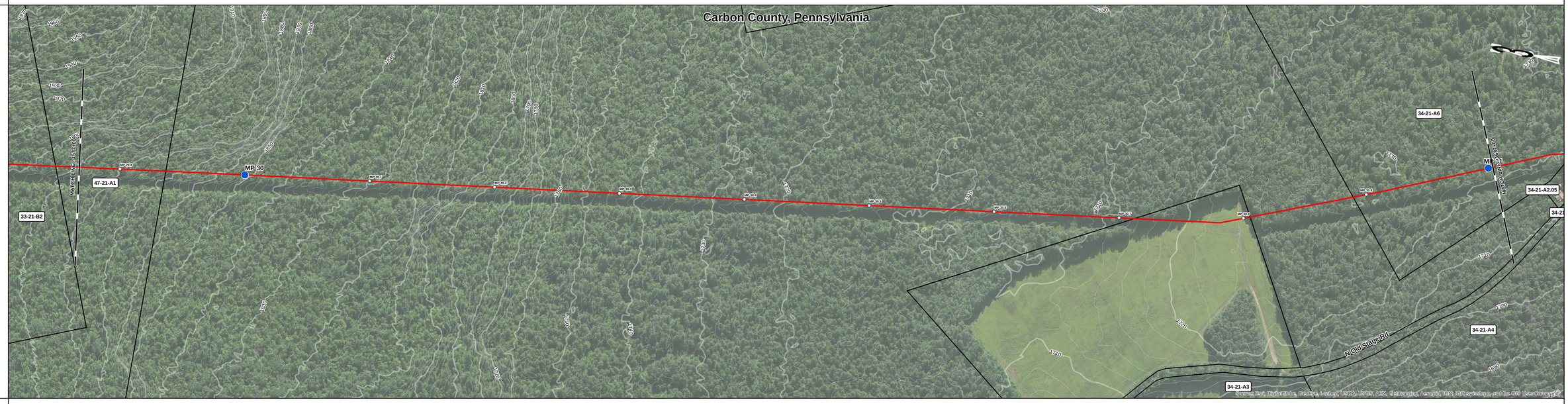
DRAWN:	JBB	DATE:	10/21/14	SCALE: 1" = 200 ft	PROJECT ID: 80111
CHECKED:	JMA	DATE:	11/04/14	DRAWING NUMBER: PEN-PL-MA-ALS-027	REV: A
APPROVED:	JMH	DATE:	11/04/14		

OWNERSHIP	Commonwealth of PA (47-21-A1)	Commonwealth of PA (33-21-A0)	Commonwealth of PA (34-21-A3)	Commonwealth of PA (34-21-A4)	Damiani, Peter (34-21-A6)
	1577+00 – 1580+66	1580+66 – 1621+61	1621+61 – 1626+53	1626+53 – 1630+95	1630+95 – 1637+00
	366 ft	4,095 ft	492 ft	443 ft	605 ft

TOPSOIL SEG.

STATIONING

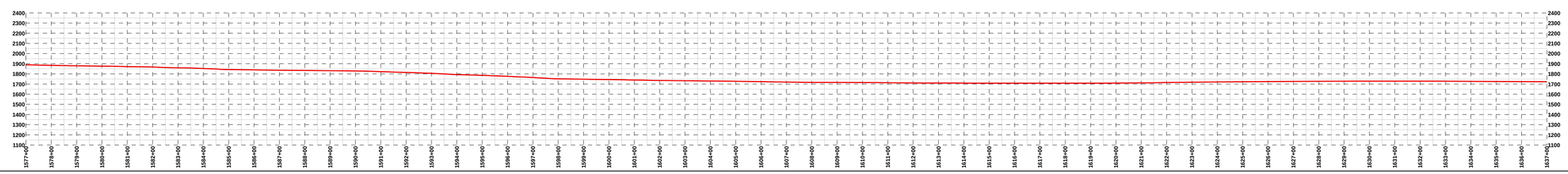
PLAN VIEW



PIPE DATA MAOP:1480

CLASS LOCATION

PROFILE VERT. SCALE: 1" = 500 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PREPARED BY:

QPS ENGINEERING, LLC

A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

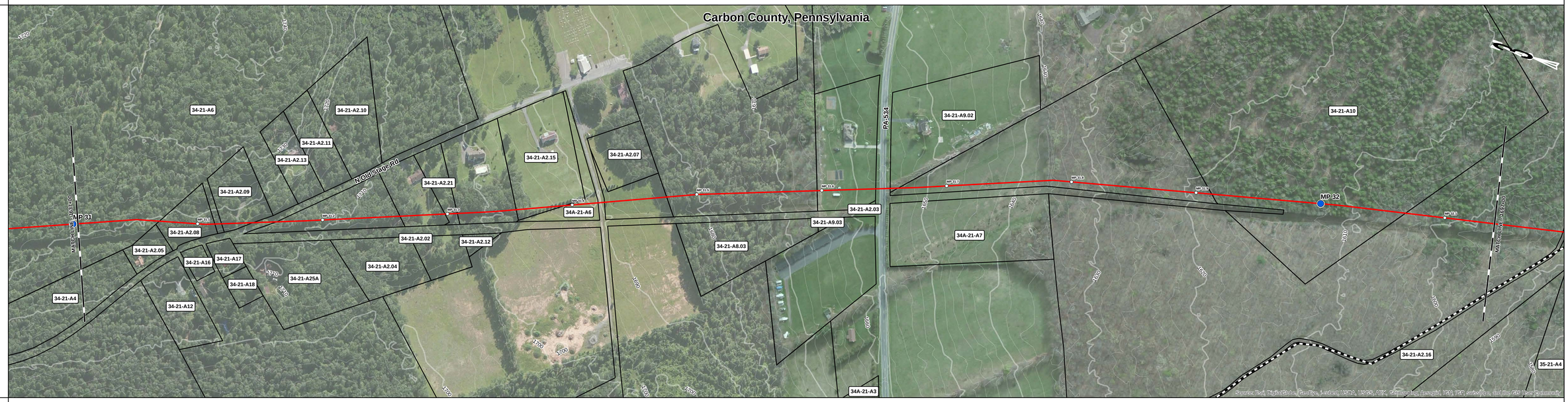
1577+00 TO 1637+00

DRAWN: JBB	DATE: 10/21/14	SCALE: 1" = 200 ft	PROJECT ID: 80111		
CHECKED: JMA	DATE: 11/04/14	DRAWING NUMBER: PEN-PL-MA-ALS-028		REV: A	
APPROVED: JMH	DATE: 11/04/14				

OWNERSHIP	Damiani, Peter (34-21-A9)	Minnich, Dennis L & Dale A (34-21-A2.08)	Damiani, Peter (34-21-A8)	76 Old Stage Road LLC (34-21-A2.00)	Camp Gotta Get Away LLC (34-21-A2.04)	Walck, John (34-21-A2.00)	Walck, John (34-21-A2.01)	Dent, Arthur (34-21-A2.19)	Baklajian, Armand & Lydia (34-21-A2.13)	Diehl, Spener (34-21-A8)	Kibler, Bertha P (34A-21-A3)	Getz, Ronald L & Pamela L (34-21-A8.03)	Montemuro, Paul (34-21-A8.03)	Wells, James, et al (34-21-A9.02)	Seltzer, Lucy & Nevin (34A-21-A7)	Diirio, Emil (34-21-A10)	Di Iorio, Emil J (34-21-A2.16)
	1637+00	1640+45	1642+80	1643+09	1645+41	1650+63	1652+53	1653+05	1655+54	1657+60	1659+02	1659+28	1661+92	1668+28	1670+76	1671+37	1671+70	1684+98	1693+21	1697+00
TOPSOIL SEG.	345 ft	235 ft	29 ft	132 ft	522 ft	190 ft	53 ft	249 ft	205 ft	142 ft	264 ft	636 ft	248 ft	33 ft	1,328 ft	822 ft	379 ft

STATIONING

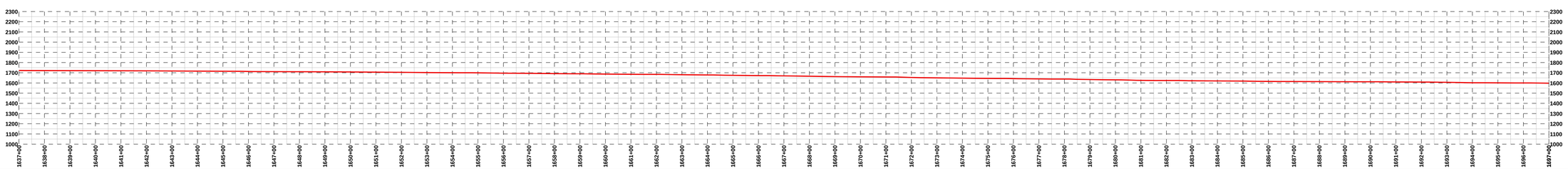
PLAN VIEW



PIPE DATA
MAOP:1480

CLASS LOCATION

PROFILE
VERT. SCALE: 1" = 500 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PennEast PIPELINE

PREPARED BY:
QPS ENGINEERING, LLC
A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET
PROPOSED 36" PIPELINE
1637+00 TO 1697+00

DRAWN:	JBB	DATE:	10/21/14	SCALE: 1" = 200 ft	PROJECT ID: 80111
CHECKED:	JMA	DATE:	11/04/14	DRAWING NUMBER: PEN-PL-MA-ALS-029	REV: A
APPROVED:	JMH	DATE:	11/04/14		

OWNERSHIP	Di Iorio, Emil J (34-21-A2.16)	Di Iorio, Emil J (34-21-A2.16)	Commonwealth of PA (35-21-A4)	Commonwealth of PA (35-21-A4)
	1697+00 – 1699+90	1700+06 – 1701+97	1701+97 – 1741+56	1741+97 – 1757+00
	290 ft	190 ft	3,940 ft	1,503 ft

TOPSOIL SEG.

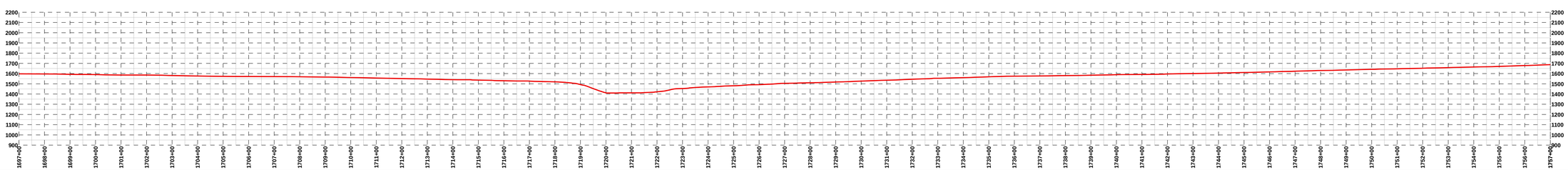
STATIONING

PLAN VIEW

PIPE DATA MAOP:1480

CLASS LOCATION

PROFILE VERT. SCALE: 1" = 500 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PREPARED BY:

QPS ENGINEERING, LLC

A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

1697+00 TO 1757+00

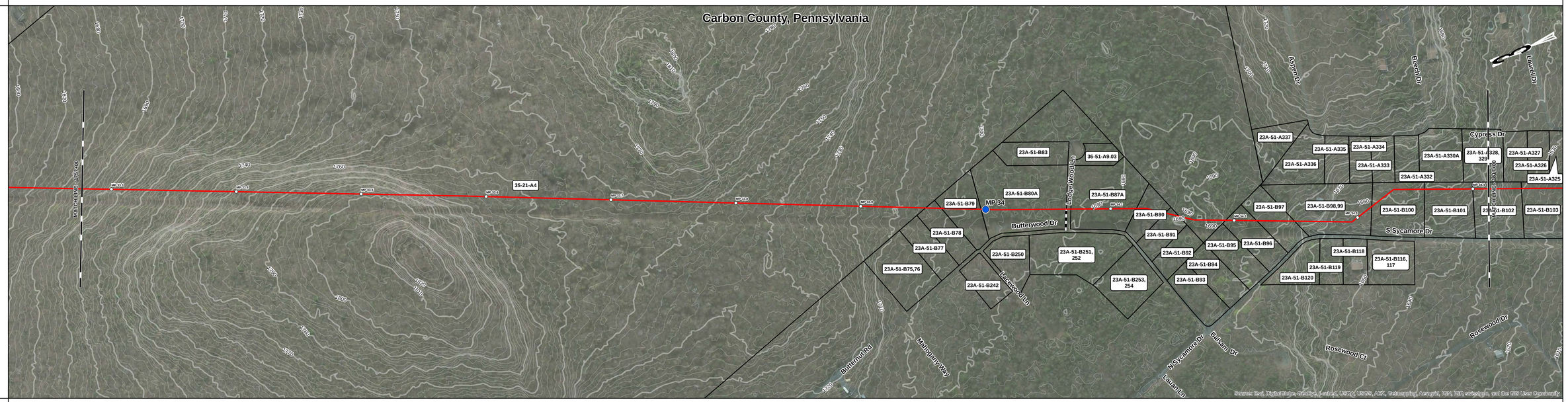
DRAWN: JBB	DATE: 10/21/14	SCALE: 1" = 200 ft	PROJECT ID: 80111		
CHECKED: JMA	DATE: 11/04/14	DRAWING NUMBER: PEN-PL-MA-ALS-030		REV: A	
APPROVED: JMH	DATE: 11/04/14				

OWNERSHIP	Commonwealth of PA (6-21-A4)	Western Pocono Sportsman (23A-51-B79)	Western Pocono Sportsman (23A-51-B78)	Hall, Barry & Myra (23A-51-B80A)	Hall, Barry & Myra (23A-51-B87A)	Cramer, Brian (23A-51-B90)	Germani, Louise (23A-51-B91)	Commonwealth of PA (6-21-A4)	Rieth, Dennis (23A-51-B95)	Rieth, Dennis (23A-51-B97)	Pope, Robert J (23A-51-B98,99)	Anaya, Bobbi & Lino (23A-51-B100)	Rigas, Helen (23A-51-B101)	D'Amico ETAL, Carl (23A-51-B102)
	1757+00 — 3,566 ft	1792+66 — 67 ft	1793+32 — 168 ft	1795+00 — 361 ft	1798+62 — 277 ft	1801+57 — 124 ft	1802+81 — 60 ft	1803+41 — 198 ft	1805+40 — 132 ft	1806+71 — 160 ft	1808+31 — 348 ft	1811+60 — 247 ft	1814+26 — 205 ft	1816+31 — 69 ft — 1817+00

TOPSOIL SEG.

STATIONING

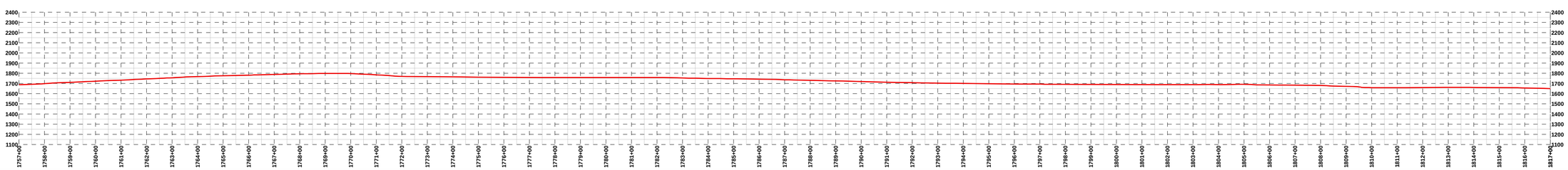
PLAN VIEW



PIPE DATA MAOP:1480

CLASS LOCATION

PROFILE VERT. SCALE: 1" = 500 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PennEast PIPELINE

PREPARED BY:

QPS ENGINEERING, LLC

A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

1757+00 TO 1817+00

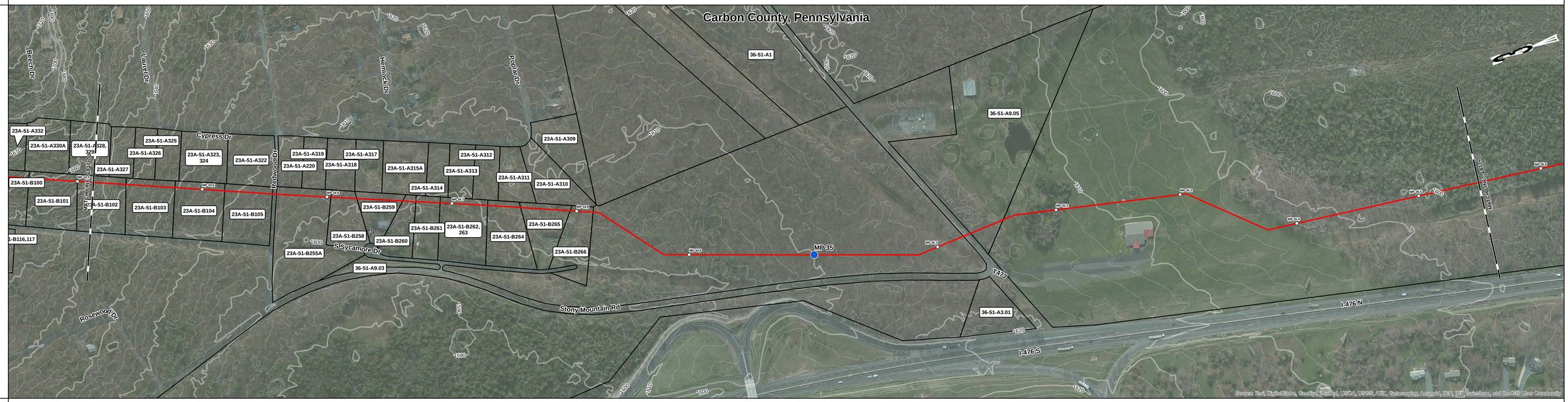
DRAWN: JBB	DATE: 10/21/14	SCALE: 1" = 200 ft	PROJECT ID: 80111		
CHECKED: JMA	DATE: 11/04/14	DRAWING NUMBER: PEN-PL-MA-ALS-031		REV: A	
APPROVED: JMH	DATE: 11/04/14				

OWNERSHIP	D'Amico ETAL, Carl (23A-51-B100)	D'Amico ETAL, Carl (23A-51-B100)	Elia, Frank A & Jennie (23A-51-B106)	Elia, Frank A & Jennie (23A-51-B106)	Galioto, Diane (23A-51-B255A)	spitzer, felix (23A-51-B258)	Spitzer, Felix J & Diane M (23A-51-B258)	Melvin, Eugene Sr & Linda (23A-51-B260)	Melvin, Eugene Sr & Linda (23A-51-B261)	Haire, Arrichman (23A-51-B262,263)	Pawling, Jeffrey & Doreen (23A-51-B264)	Pawling, Jeffrey & Doreen (23A-51-B265)	Kinmouth, Bruce R & Barbara (23A-51-B266)	Hickory Run Land & Homeowners Association Inc (36-51-A1.03)	A & B Partners (36-51-A3.01)	A & B Partners (36-51-A3.01)
	1817+00	1819+37	1820+45	1822+55	1824+57	1824+74	1827+04	1828+14	1830+07	1830+63	1831+66	1833+67	1835+06	1837+16	1838+13	1854+46	1856+27	1877+00
	137 ft	208 ft	210 ft	202 ft		230 ft	110 ft	193 ft	56 ft	103 ft	201 ft	140 ft	210 ft	97 ft	1,632 ft	149 ft	2,073 ft	

TOPSOIL SEG.

STATIONING

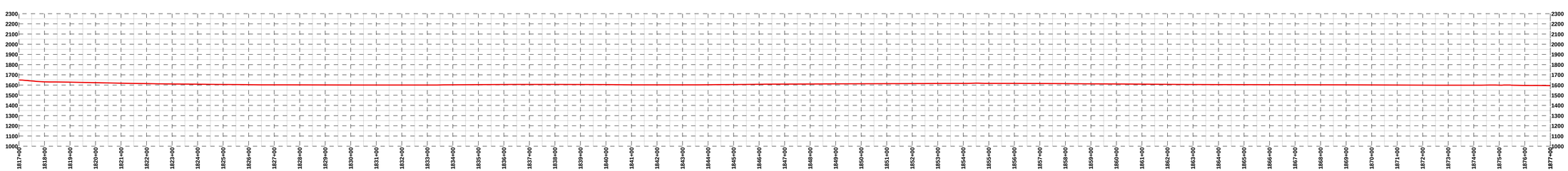
PLAN VIEW



PIPE DATA
MAOP:1480

CLASS LOCATION

PROFILE
VERT. SCALE: 1" = 500 ft



DEPTH OF COVER	
ENV. FEATURE	
TYPE	
CROSSING METHOD	
SPECIAL REQ.	

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PennEast PIPELINE

PREPARED BY:
QPS ENGINEERING, LLC
A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET
PROPOSED 36" PIPELINE
1817+00 TO 1877+00

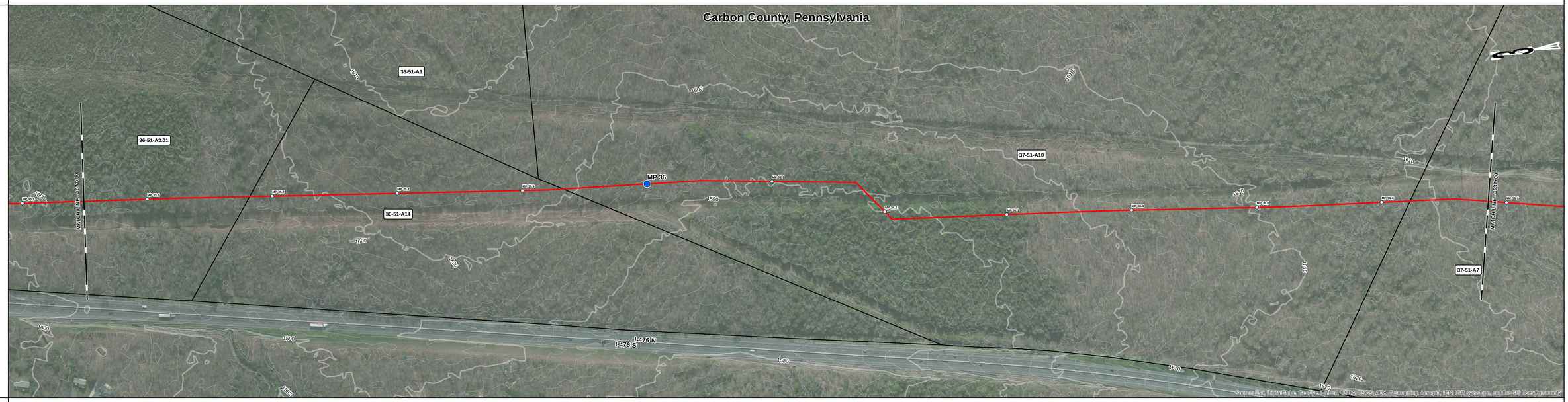
DRAWN: JBB	DATE: 10/21/14	SCALE: 1" = 200 ft	PROJECT ID: 80111		
CHECKED: JMA	DATE: 11/04/14	DRAWING NUMBER: PEN-PL-MA-ALS-032		REV: A	
APPROVED: JMH	DATE: 11/04/14				

OWNERSHIP	A & B Partners (36-51-A3.01)	A & B Partners (36-51-A14)	Commonwealth of PA, Dept of Forests & Waters (37-51-A10)	Bethlehem Authority (37-51-A7)
	1877+00 – 1884+00: 700 ft	1884+00 – 1897+25: 1,325 ft	1897+25 – 1933+68: 3,643 ft	1933+68 – 1937+00: 332 ft

TOPSOIL SEG.

STATIONING

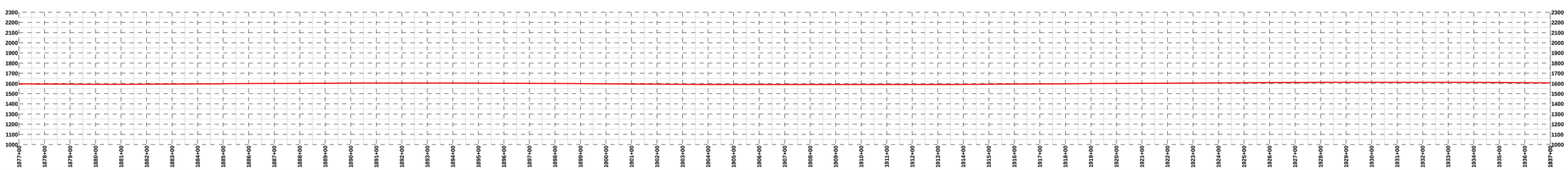
PLAN VIEW



PIPE DATA
MAOP:1480

CLASS LOCATION

PROFILE
VERT. SCALE: 1" = 500 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PennEast PIPELINE

PREPARED BY:

QPS ENGINEERING, LLC

A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

1877+00 TO 1937+00

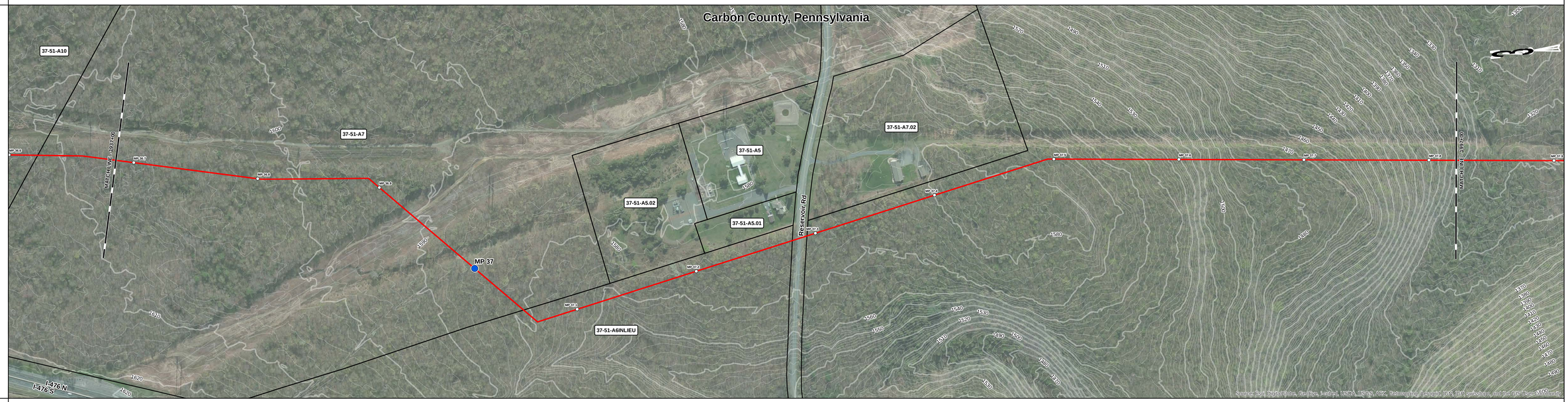
DRAWN: JBB	DATE: 10/21/14	SCALE: 1" = 200 ft	PROJECT ID: 80111		
CHECKED: JMA	DATE: 11/04/14	DRAWING NUMBER: PEN-PL-MA-ALS-033		REV: A	
APPROVED: JMH	DATE: 11/04/14				

OWNERSHIP	Bethlehem Authority (37-51-A7) 1937+00 – 1956+31	Bethlehem Authority (37-51-A6INLIEU) 1956+31 – 1968+42	Bethlehem Authority (37-51-A6INLIEU) 1968+42 – 1997+00
	1,931 ft	1,211 ft	2,793 ft

TOPSOIL SEG.

STATIONING

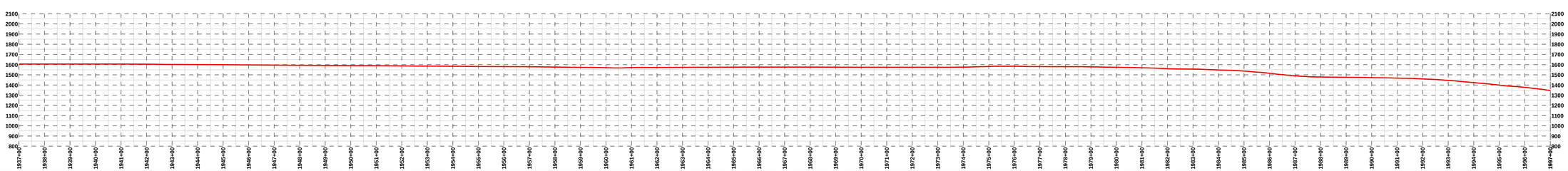
PLAN VIEW



PIPE DATA
MAOP:1480

CLASS LOCATION

PROFILE
VERT. SCALE: 1" = 500 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PennEast PIPELINE

PREPARED BY:

QPS ENGINEERING, LLC

A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

1937+00 TO 1997+00

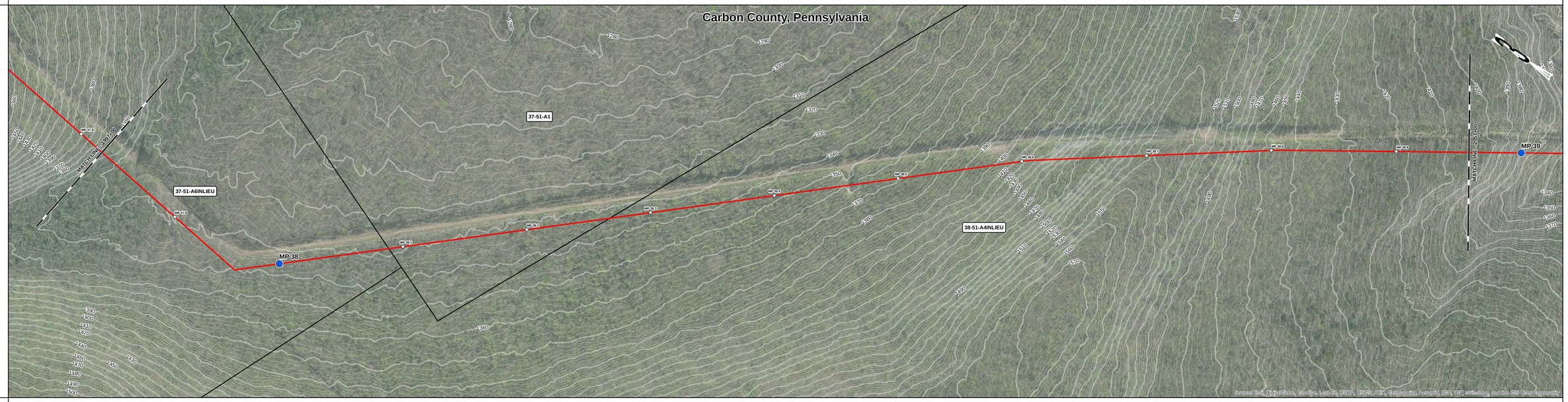
DRAWN: JBB	DATE: 10/21/14	SCALE: 1" = 200 ft	PROJECT ID: 80111		
CHECKED: JMA	DATE: 11/04/14	DRAWING NUMBER: PEN-PL-MA-ALS-034		REV: A	
APPROVED: JMH	DATE: 11/04/14				

OWNERSHIP	Bethlehem Authority (37-51-A6INLIEU)	Bethlehem Authority (37-51-A1)	Bethlehem Authority (38-51-A4INLIEU)
	1997+00 – 2011+07	2011+07 – 2020+50	2020+50 – 2057+00
	1,407 ft	943 ft	3,650 ft

TOPSOIL SEG.

STATIONING

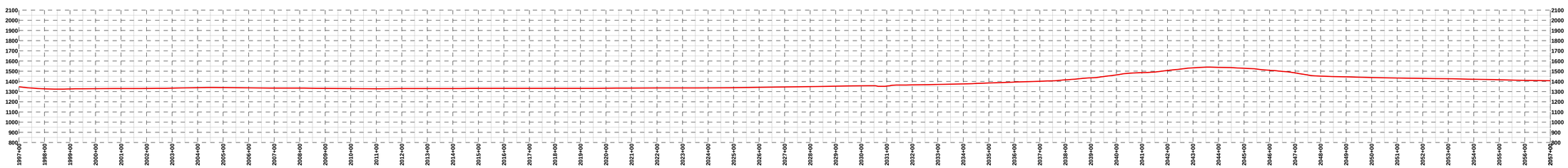
PLAN VIEW



PIPE DATA MAOP:1480

CLASS LOCATION

PROFILE VERT. SCALE:1" = 500 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PennEast PIPELINE

PREPARED BY:

QPS ENGINEERING, LLC

A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

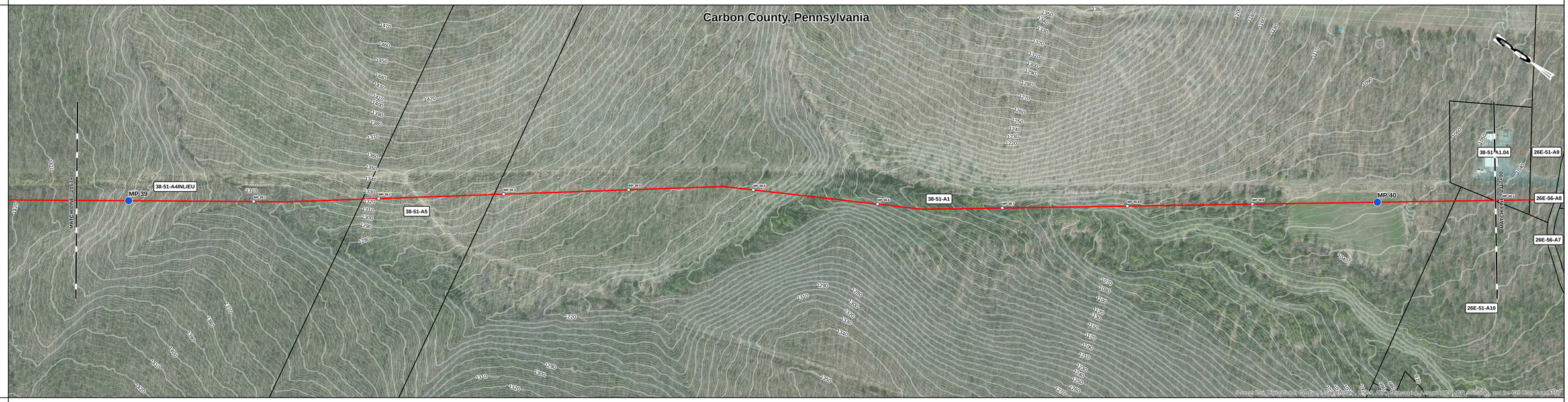
1997+00 TO 2057+00

DRAWN: JBB	DATE: 10/21/14	SCALE: 1" = 200 ft	PROJECT ID: 80111		
CHECKED: JMA	DATE: 11/04/14	DRAWING NUMBER: PEN-PL-MA-ALS-035		REV: A	
APPROVED: JMH	DATE: 11/04/14				

OWNERSHIP	Bethlehem Authority (38-51-A4INLIEU)	Nis Hollow Hunting Club (38-51-A5)	Nis Hollow Hunting Club (38-51-A1)	Zettlemoyer, Mark S & Teresa A (26E-51-A9)	Buckeye Pine Line Trans Llc (38-51-A1.04)
	2057+00 – 2069+07	2069+07 – 2074+63	2074+63 – 2115+26	2115+26 – 2116+93	2116+93 – 2117+00
TOPSOIL SEG.	1,207 ft	556 ft	4,063 ft	167 ft	7 ft

STATIONING

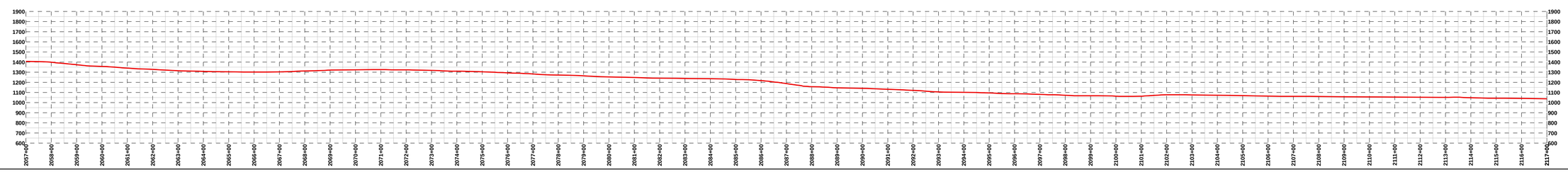
PLAN VIEW



PIPE DATA
MAOP:1480

CLASS LOCATION

PROFILE
VERT. SCALE: 1" = 500 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PREPARED BY:
QPS ENGINEERING, LLC
A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

2057+00 TO 2117+00

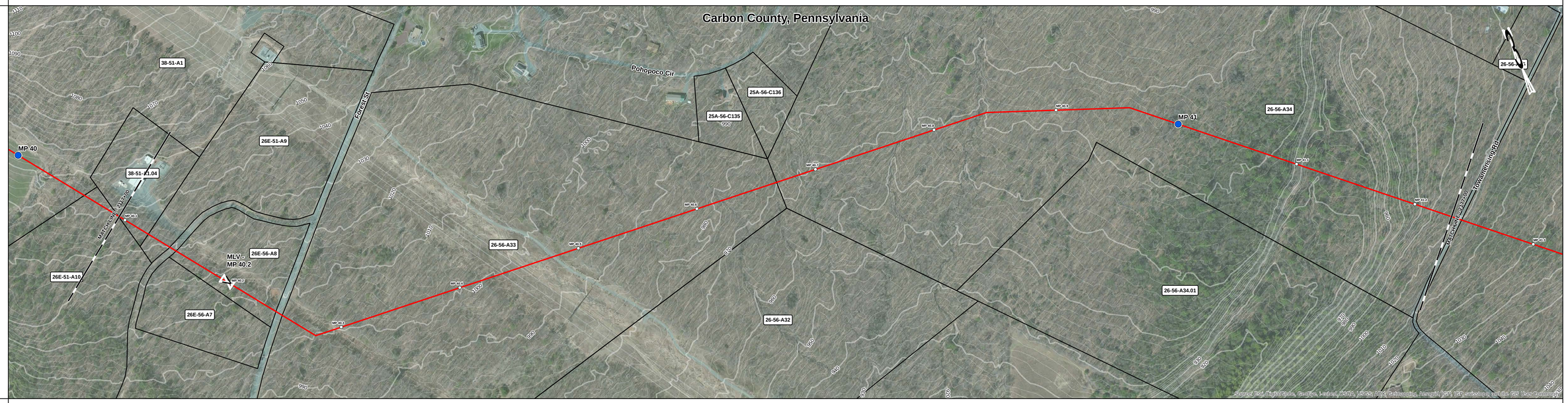
DRAWN: JBB	DATE: 10/21/14	SCALE: 1" = 200 ft	PROJECT ID: 80111		
CHECKED: JMA	DATE: 11/04/14	DRAWING NUMBER: PEN-PL-MA-ALS-036		REV: A	
APPROVED: JMH	DATE: 11/04/14				

OWNERSHIP	Buckeye Pine Line Trans Llc (38-51-A1.04)	Rhodes, John F (26E-51-A9)	Rhodes, John F (26-56-A8)	Pocono Property Partners Llc (26-56-A33)	Borger, Robert A Et Al (26-56-A34)
	2117+00 – 2118+43	2118+43 – 2119+49	2119+49 – 2124+74	2124+74 – 2125+05	2125+05 – 2177+00
	143 ft	106 ft	494 ft	2,218 ft	2,977 ft

TOPSOIL SEG.

STATIONING

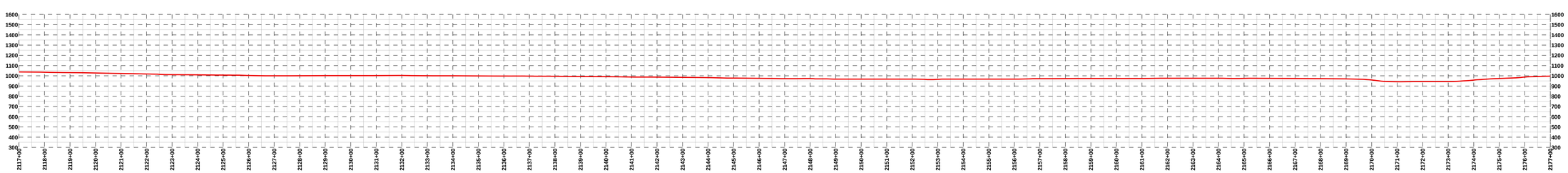
PLAN VIEW



PIPE DATA MAOP:1480

CLASS LOCATION

PROFILE VERT. SCALE: 1" = 500 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PennEast PIPELINE

PREPARED BY:

QPS ENGINEERING, LLC

A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

2117+00 TO 2177+00

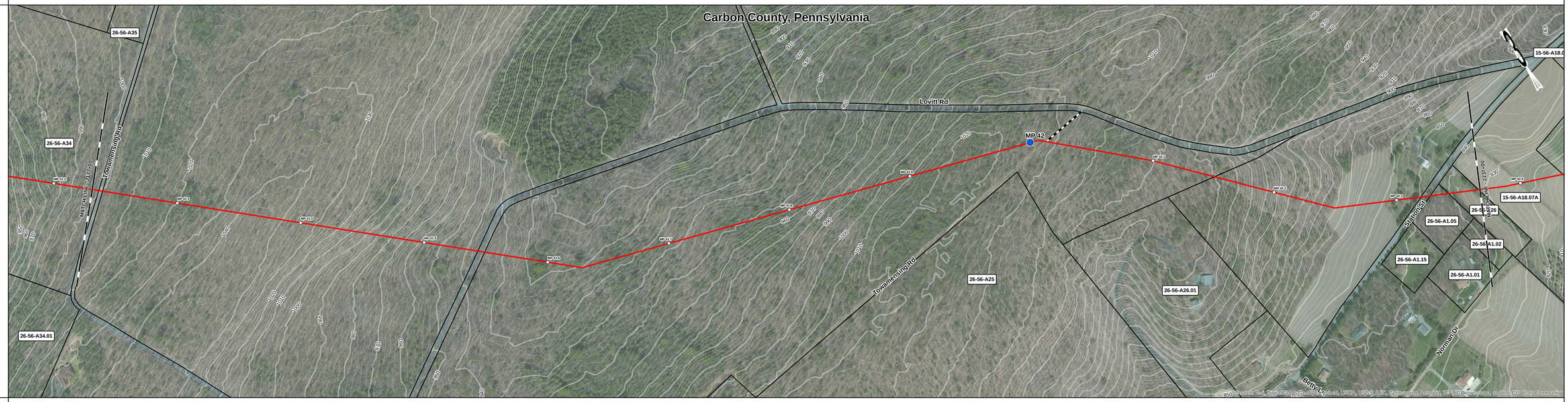
DRAWN: JBB	DATE: 10/21/14	SCALE: 1" = 200 ft	PROJECT ID: 80111		
CHECKED: JMA	DATE: 11/04/14	DRAWING NUMBER: PEN-PL-MA-ALS-037		REV: A	
APPROVED: JMH	DATE: 11/04/14				

OWNERSHIP	Borger, Robert A Et Al (26-56-A39)	Bethlehem Water Auth (26-56-A28)	Bethlehem Water Auth (26-56-A28)	Shinsec, Paul P & Margaret E (Shinsec Trust) (26-56-A28)	Shinsec, Paul P & Margaret E (Trustees) (26-56-A1.05)	Shinsec, Paul P & Margaret E (Trust) (26-56-A28)	Christman, Roy B & Linda A (15-56-A18.07A)
	2177+00 – 2177+28	2177+28 – 2177+44	2183+49 – 2183+78	2225+56 – 2234+47	2234+47 – 2234+87	2235+66 – 2236+93	2236+93 – 2237+00
	28 ft	1,604 ft	3,178 ft	892 ft	79 ft	128 ft	7 ft

TOPSOIL SEG.

STATIONING

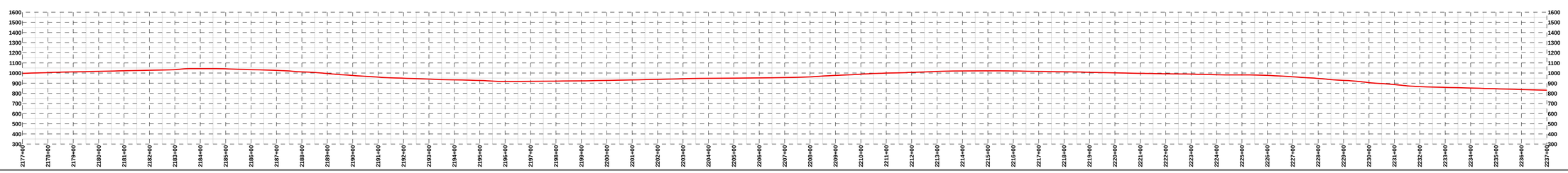
PLAN VIEW



PIPE DATA MAOP:1480

CLASS LOCATION

PROFILE VERT. SCALE: 1" = 500 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PennEast PIPELINE

PREPARED BY:

QPS ENGINEERING, LLC

A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

2177+00 TO 2237+00

DRAWN: JBB	DATE: 10/21/14	SCALE: 1" = 200 ft	PROJECT ID: 80111		
CHECKED: JMA	DATE: 11/04/14	DRAWING NUMBER: PEN-PL-MA-ALS-038		REV: A	
APPROVED: JMH	DATE: 11/04/14				

OWNERSHIP	Christman, Roy B & Linda A (15-56-A18.07A)	Coles, Christopher E. & Janice L. (15-56-A18.08)	Christman, Roy B & Linda A (15-56-A18.18.02)	Beltzville State Park (15-56-A18.04USA)	Beltzville State Park (15-56-A18.08USA)	Beltzville State Park (15-56-A16USA)	Beltzville State Park (15-56-A18.04USA)	Beltzville State Park (15-56-A33USA)	Us Army Corps Of Engineers (15-56-A34USA)
	2237+00	2240+55	2243+10	2250+45	2250+82	2273+84	2276+25	2287+99	2288+16
	355 ft	255 ft	735 ft	37 ft	2312 ft	231 ft	1174 ft	17 ft	88 ft
	2289+04	2289+43	2289+70	2297+00					
	39 ft	27 ft	730 ft						

TOPSOIL SEG.

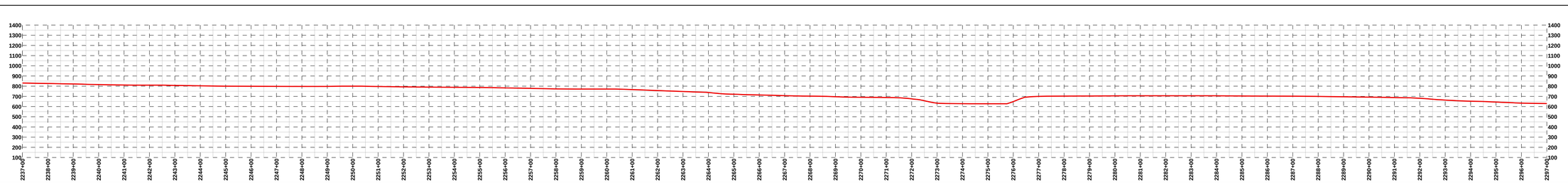
STATIONING

PLAN VIEW

PIPE DATA MAOP:1480

CLASS LOCATION

PROFILE VERT. SCALE: 1" = 500 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PREPARED BY:

QPS ENGINEERING, LLC

A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

2237+00 TO 2297+00

DRAWN: JBB	DATE: 10/21/14	SCALE: 1" = 200 ft	PROJECT ID: 80111		
CHECKED: JMA	DATE: 11/04/14	DRAWING NUMBER: PEN-PL-MA-ALS-039		REV: A	
APPROVED: JMH	DATE: 11/04/14				

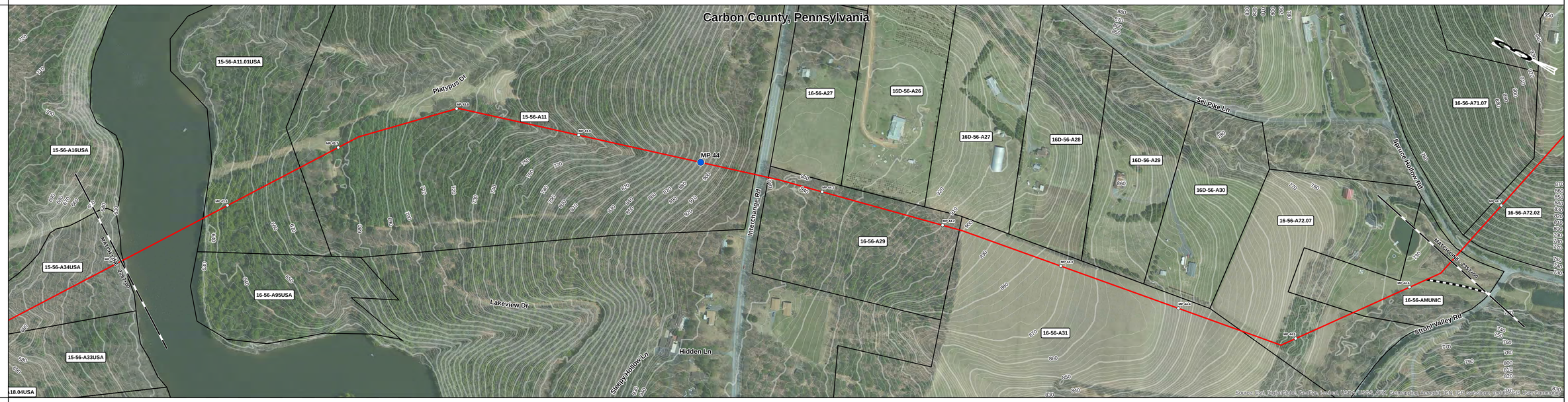
OWNERSHIP	Us Army Corps Of Engineers (15-56-A34USA)	Usa (15-56-A11.01USA)	Bethlehem Authority (15-56-A11)	Hunsicker, Marcella (16-56-A29)	Hahn, Stanley E Jr (16-56-A31)	Wehr, Richard A & Melanie (16-56-A72.07)	Bethlehem Authority (16-56-AMUNIC)
	2297+00 – 2297+11	2300+91 – 2305+54	2305+54 – 2325+54	2325+54 – 2326+13	2326+13 – 2334+49	2334+49 – 2347+15	2347+15 – 2352+26
	11 ft	463 ft	2,000 ft	837 ft	1,265 ft	512 ft	474 ft

2352+26 – 2357+00

TOPSOIL SEG.

STATIONING

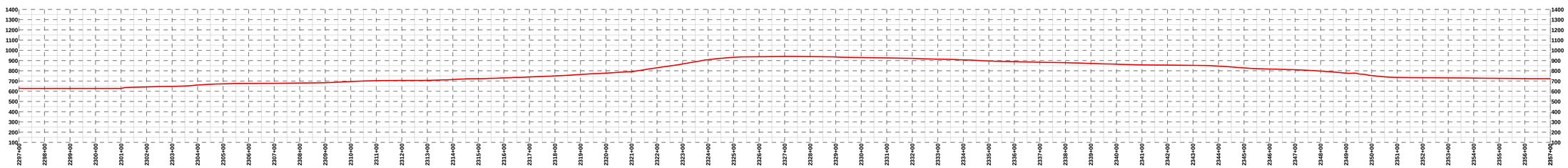
PLAN VIEW



PIPE DATA
MAOP:1480

CLASS LOCATION

PROFILE
VERT. SCALE: 1" = 500 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PennEast PIPELINE

PREPARED BY:

QPS ENGINEERING, LLC

A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

2297+00 TO 2357+00

DRAWN:	JBB	DATE:	10/21/14	SCALE:	1" = 200 ft	PROJECT ID:	80111
CHECKED:	JMA	DATE:	11/04/14	DRAWING NUMBER:	PEN-PL-MA-ALS-040		REV: A
APPROVED:	JMH	DATE:	11/04/14				

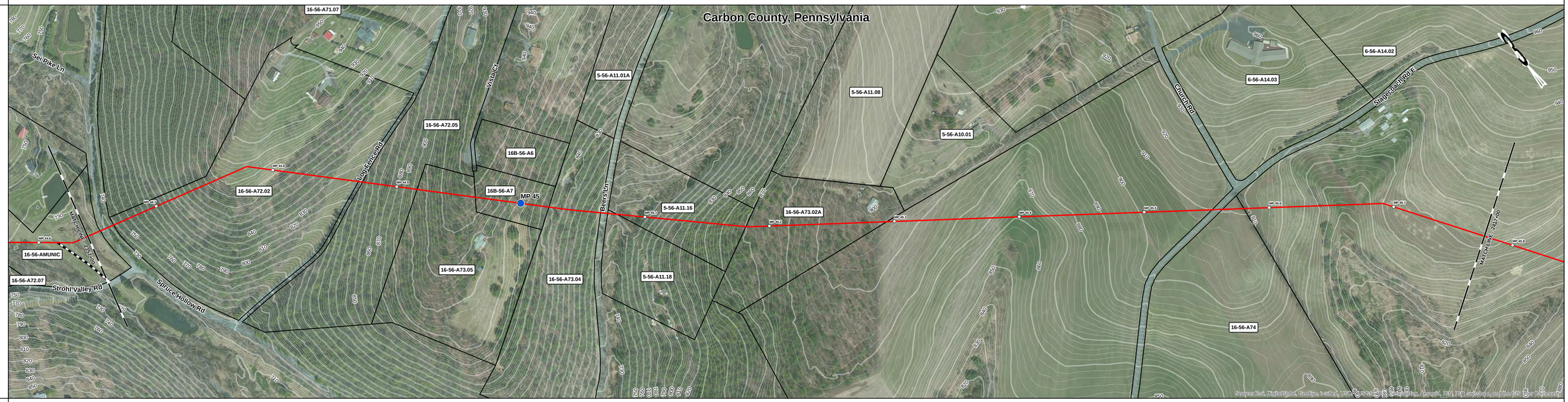
OWNERSHIP	Bethlehem Authority (16-56-AMUNIC)	Farber, Robert J Jr & Davida J (16-56-A72.02)	Ermlick, John C/O Margaret R. Ermlick (16-56-A72.05)	Bullrich, Susana V. (16-56-A73)	Bullrich, Susanna V. (16B-56-A)	Salotti, Joseph L. & Karen (16-56-A73.04)	Shearer, Leonard Ray & Sandra J. Schaeffer (5-56-A11.16)	Tsantes, Emmanuel & Estalla (5-56-A11.18)	Wagner, Marianna (16-56-A73.02A)	Anthony, Albertine J (16-56-A74)	Anthony, Albertine J (16-56-A74)	Hahn, Roger L & Renee L (6-56-A14.03)
	2357+00	2357+57	2358+19	2369+09	2369+26	2371+58	2374+07	2377+20	2379+40	2379+70	2380+10	2385+56
	57 ft	1,089 ft	232 ft	249 ft	313 ft	220 ft	40 ft	546 ft	595 ft	1,375 ft	90 ft	1,040 ft

OWNERSHIP	Anthony, Albertine J (16-56-A74)	Hahn, Roger L & Renee L (6-56-A14.03)	
	2391+51	2405+26	2405+70	2406+60	2417+00
	1,375 ft	90 ft	1,040 ft	

TOPSOIL SEG.

STATIONING

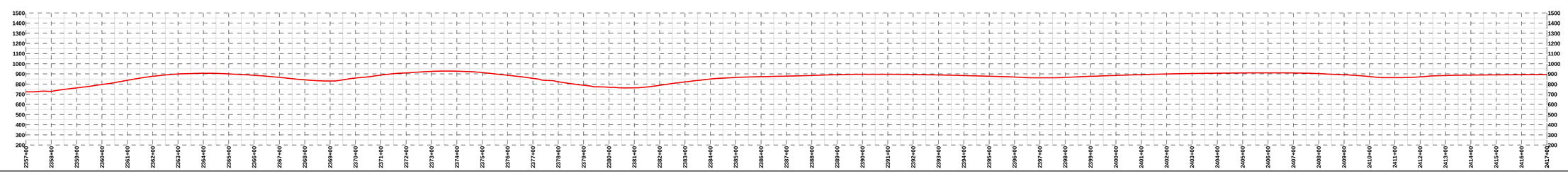
PLAN VIEW



PIPE DATA MAOP-1480

CLASS LOCATION

PROFILE VERT. SCALE: 1" = 500 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PennEast PIPELINE

PREPARED BY:

QPS ENGINEERING, LLC

A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

2357+00 TO 2417+00

DRAWN: JBB	DATE: 10/21/14	SCALE: 1" = 200 ft	PROJECT ID: 80111		
CHECKED: JMA	DATE: 11/04/14	DRAWING NUMBER: PEN-PL-MA-ALS-041		REV: A	
APPROVED: JMH	DATE: 11/04/14				

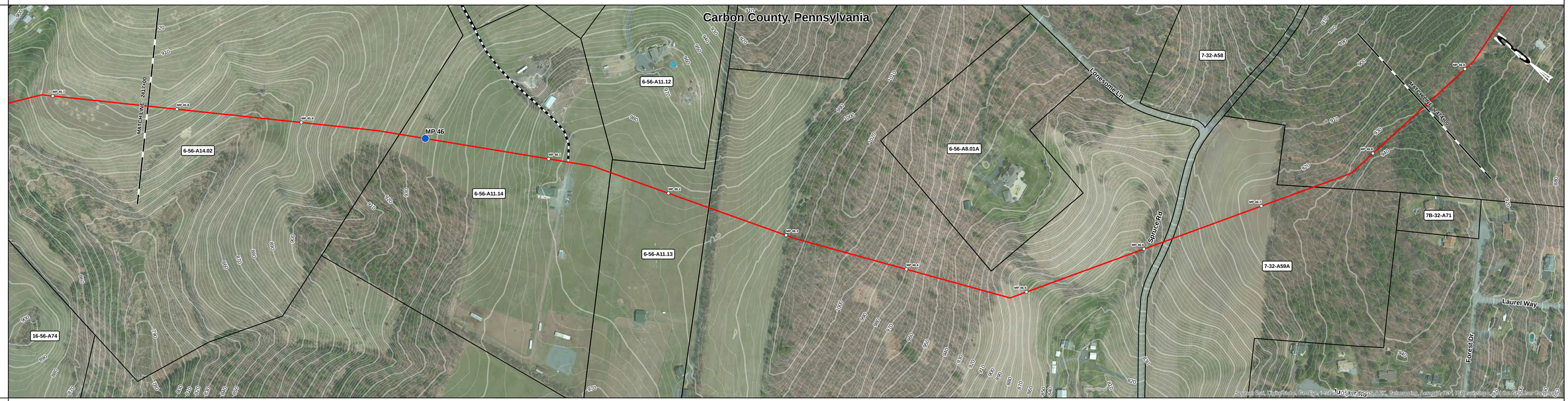
OWNERSHIP								
	2417+00	Hahn, Roger L & Renee L (6-56-A14.02)	2427+69	Smith, Kerry Lee & Judy A (6-56-A11.14)	2436+77	Foley, Jerome P & Levy, Mauri Lynn (6-56-A11.13)	2441+17	Seifert, Patrick Wade (7-32-A59A)
		1,069 ft		907 ft		440 ft		2,019 ft

OWNERSHIP				
	2461+36	2461+77	Seifert, Patrick Wade (7-32-A59A)	2468+10	Kidd, Thomas & Carol (7-32-A58)	2474+00
			634 ft		590 ft	

TOPSOIL SEG.

STATIONING

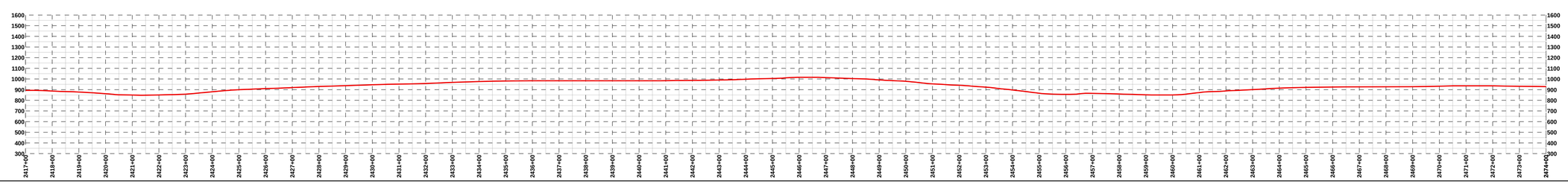
PLAN VIEW



PIPE DATA MAOP:1480

CLASS LOCATION

PROFILE VERT. SCALE: 1" = 500 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PennEast PIPELINE

PREPARED BY:

QPS ENGINEERING, LLC

A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

2417+00 TO 2474+00

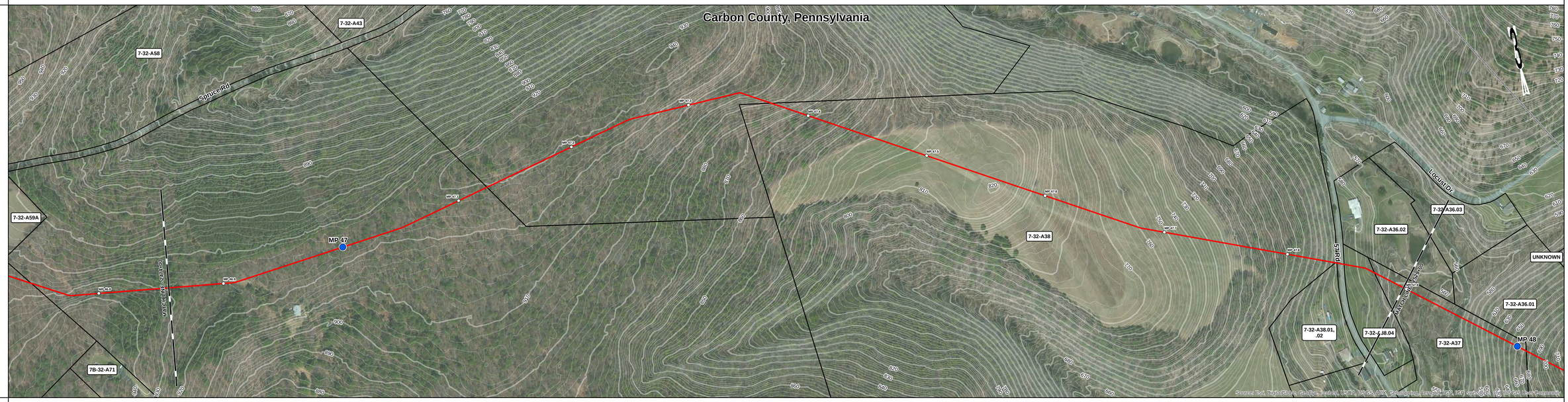
DRAWN: JBB	DATE: 10/21/14	SCALE: 1" = 200 ft	PROJECT ID: 80111		
CHECKED: JMA	DATE: 11/04/14	DRAWING NUMBER: PEN-PL-MA-ALS-042		REV: A	
APPROVED: JMH	DATE: 11/04/14				

OWNERSHIP		Kidd, Thomas & Carol (7-32-A58)	schisler, arthur (7-32-A43)	schisler, arthur (7-32-A38)	blunt, william (7-32-A38.01, .02)	Seipel, Jared (7-32-A38.04)	George, Clark (7-32-A37)
	2474+00		2488+20	2501+06	2525+89	2526+27	2527+61
TOPSOIL SEG.		1,420 ft	1,286 ft	2,483 ft	7 ft	134 ft	139 ft

2529+00

STATIONING

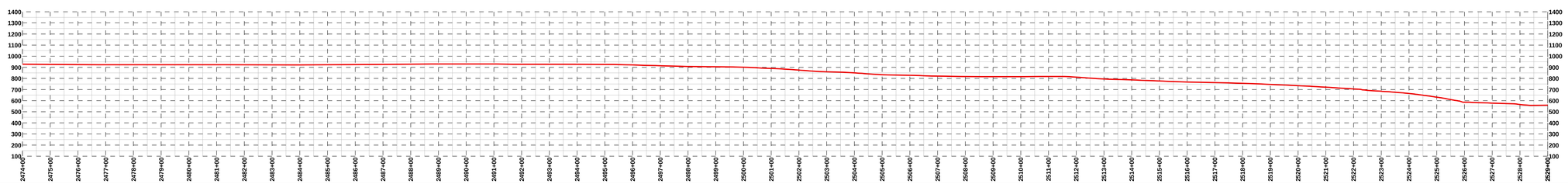
PLAN VIEW



PIPE DATA
MAOP:1480

CLASS LOCATION

PROFILE
VERT. SCALE: 1" = 500 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PennEast PIPELINE

PREPARED BY:

QPS ENGINEERING, LLC
A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

2474+00 TO 2529+00

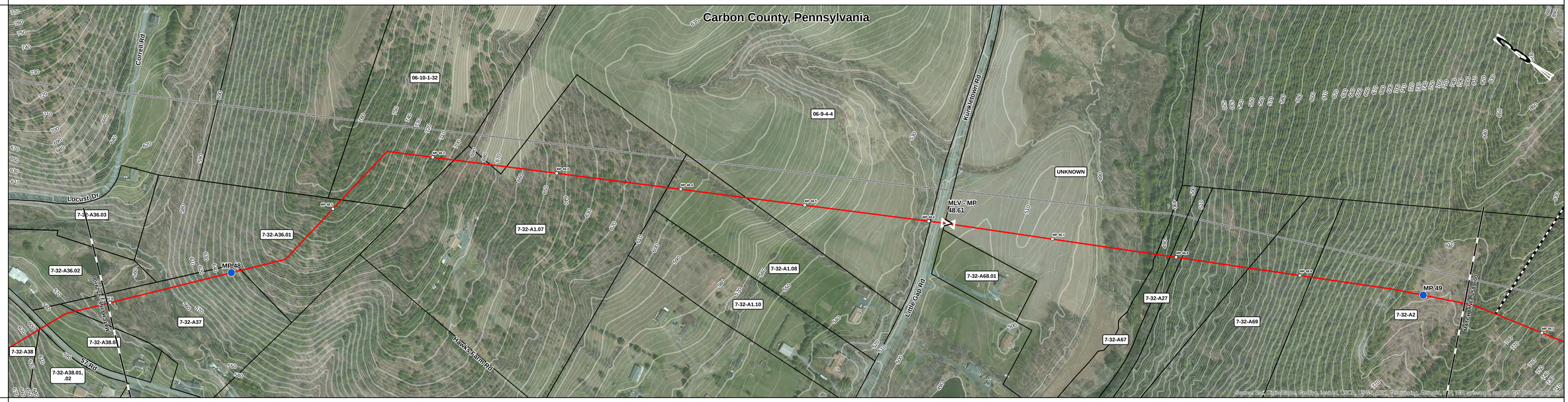
DRAWN: JBB	DATE: 10/21/14	SCALE: 1" = 200 ft	PROJECT ID: 80111		
CHECKED: JMA	DATE: 11/04/14	DRAWING NUMBER: PEN-PL-MA-ALS-043		REV: A	
APPROVED: JMH	DATE: 11/04/14				

OWNERSHIP		George, Clark (7-32-A37)	Unknown (7-32-A38.01)	Smith, James L Jr & Shirly J (06-10-1-30)	Dunbar, Richard (7-32-A1.07)	Borger, Jody R & Rebecca J (06-9-4-3)	Dunbar, Richard (7-32-A1.08)	Smith, Bruce H & Debra A (7-32-A1.10)	Borger, Jody R & Rebecca J (06-9-4-4)		Unknown (UNKNOWN)	Wildlands Conservancy, Inc (7-32-A8)	Warhurst, Steven J & Lynne G (7-32-A7)	Wildlands Conservancy, Inc (7-32-A6)	Unknown (7-32-A69)	Rode, Hans Dieter & Lisa (7-32-A2)	
	2529+00	582 ft	538 ft	567 ft	153 ft	69 ft	686 ft	335 ft	784 ft	2566+15	902 ft	60 ft	49 ft	287 ft	268 ft	658 ft	2589+00

TOPSOIL SEG.

STATIONING

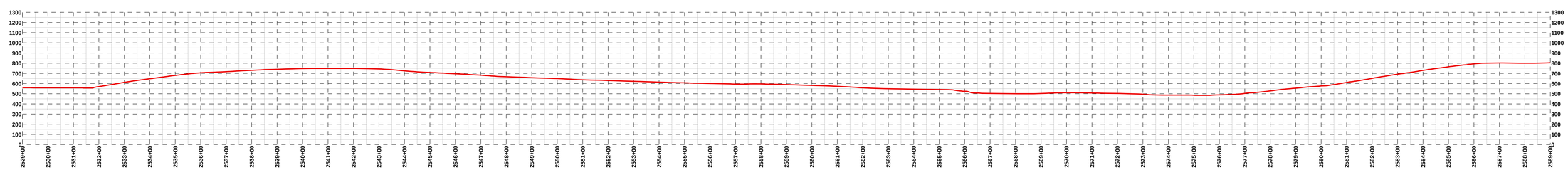
PLAN VIEW



PIPE DATA MAOP:1480

CLASS LOCATION

PROFILE VERT. SCALE: 1" = 500 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PENNEAST PIPELINE

PREPARED BY:

QPS ENGINEERING, LLC

A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

2529+00 TO 2589+00

DRAWN: JBB	DATE: 10/21/14	SCALE: 1" = 200 ft	PROJECT ID: 80111		
CHECKED: JMA	DATE: 11/04/14	DRAWING NUMBER: PEN-PL-MA-ALS-044	REV: A		
APPROVED: JMH	DATE: 11/04/14				

OWNERSHIP		Rode, Hans Dieter & Lisa (1-32-A3)		Hartman, James (1-32-A8.10)	Kuntz, Charles (1-32-A1)	Unknown (UNKNOWN)	Commonwealth Of PA Game Comm (1-32-A9)	
	2589+00	795 ft	2596+95	2598+79 426 ft	2603+05 1,650 ft	2619+55 1,827 ft	2637+81 1,119 ft	2649+00

TOPSOIL SEG.

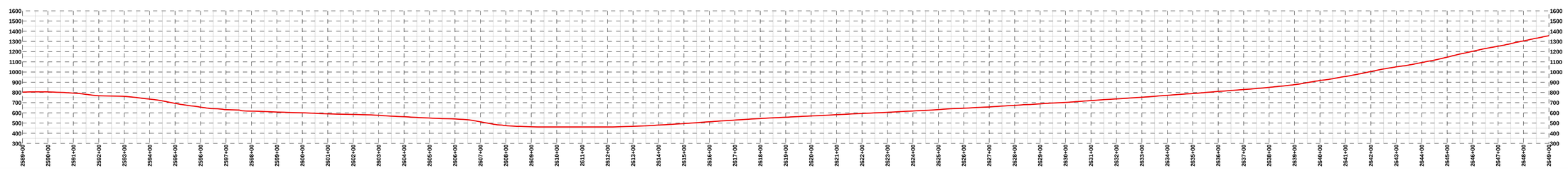
STATIONING

PLAN VIEW

PIPE DATA MAOP:1480

CLASS LOCATION

PROFILE VERT. SCALE: 1" = 500 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PREPARED BY:

QPS ENGINEERING, LLC

A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

2589+00 TO 2649+00

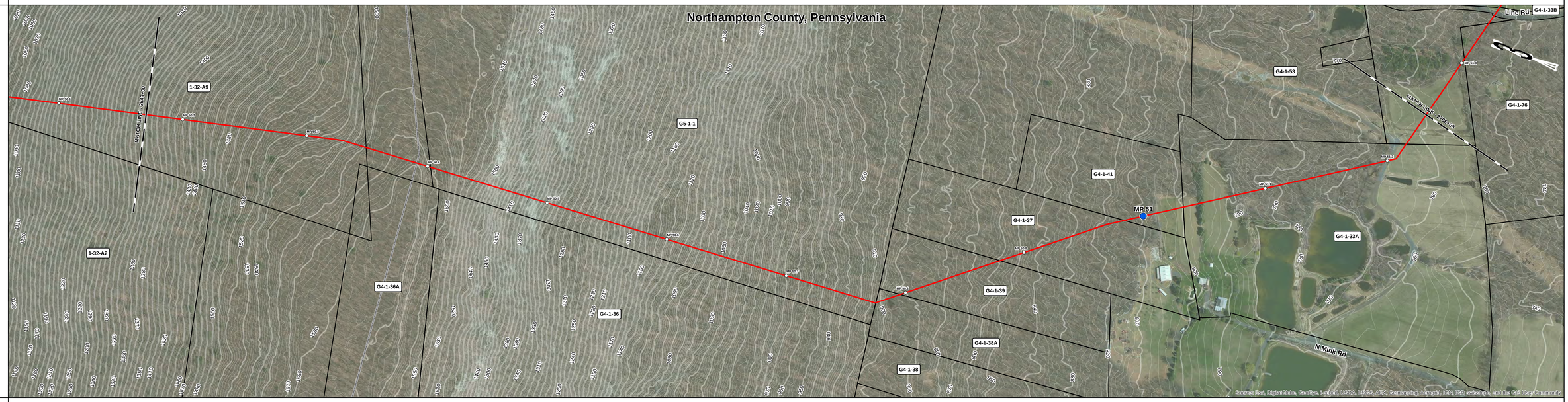
DRAWN: JBB	DATE: 10/21/14	SCALE: 1" = 200 ft	PROJECT ID: 80111		
CHECKED: JMA	DATE: 11/04/14	DRAWING NUMBER: PEN-PL-MA-ALS-045		REV: A	
APPROVED: JMH	DATE: 11/04/14				

OWNERSHIP	Commonwealth Of PA Game Comm (1-32-A9)	Pennsylvania Commonwealth (G5-1-1)	Pennsylvania Commonwealth (G4-1-36)	Bucha, Gregory M (G4-1-38)	Bucha, Gregory M (G4-1-39)	Bucha, Gregory M & Joan L (G4-1-41)	Bucha, Gregory M (G4-1-33A)	Thomas, Yvette T (G4-1-33B)
	2649+00 – 2658+41	2661+25 – 2689+91	2689+91 – 2692+01	2692+01 – 2696+45	2696+45 – 2701+97	2701+97 – 2704+53	2704+53 – 2705+49	2705+49 – 2706+00
	941 ft	1,967 ft	110 ft	444 ft	552 ft	256 ft	996 ft	151 ft

TOPSOIL SEG.

STATIONING

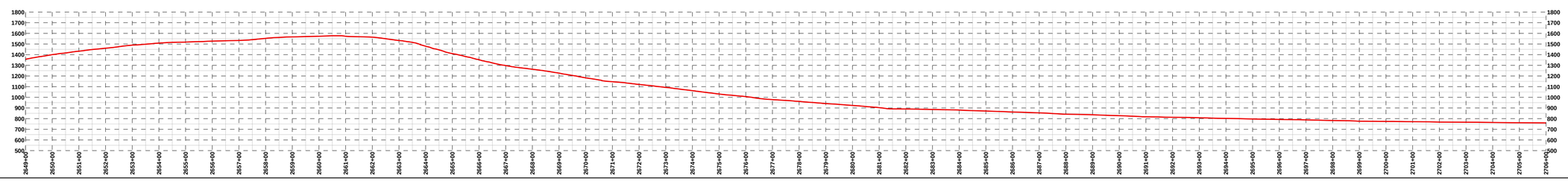
PLAN VIEW



PIPE DATA MAOP:1480

CLASS LOCATION

PROFILE VERT. SCALE: 1" = 500 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PREPARED BY:

QPS ENGINEERING, LLC

A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

2649+00 TO 2706+00

DRAWN: JBB	DATE: 10/21/14	SCALE: 1" = 200 ft	PROJECT ID: 80111		
CHECKED: JMA	DATE: 11/04/14	DRAWING NUMBER: PEN-PL-MA-ALS-046		REV: A	
APPROVED: JMH	DATE: 11/04/14				

OWNERSHIP	Thomas, Yvette T (G4-1-33B)	Glass, Ann L (G4-1-76)	Thomas, Yvette T (G4-1-33B)	Thomas, Yvette T (G4-1-33B)	Steward, Sonia & Robert F. Grube Jr (G4-10-4)	Morscher, Ingrid (G4-10-6)	Wear, John H Jr & Marian (G4-11-29)	Bartholomew, Thomas L & Joanne (G4-11-27)	Mills, James V & Christine M (H4-9-1C-1)	Seier, et al, Frank P III (H4-9-3)
	2706+00 – 2708+86	2708+86 – 2710+67	2710+67 – 2711+07	2711+07 – 2722+91	2722+91 – 2726+64	2726+64 – 2728+70	2728+70 – 2732+09	2732+09 – 2755+64	2755+64 – 2756+00	2756+00 – 2766+00
	286 ft	182 ft	39 ft	1,140 ft	373 ft	206 ft	301 ft	2,355 ft	27 ft	973 ft

TOPSOIL SEG.

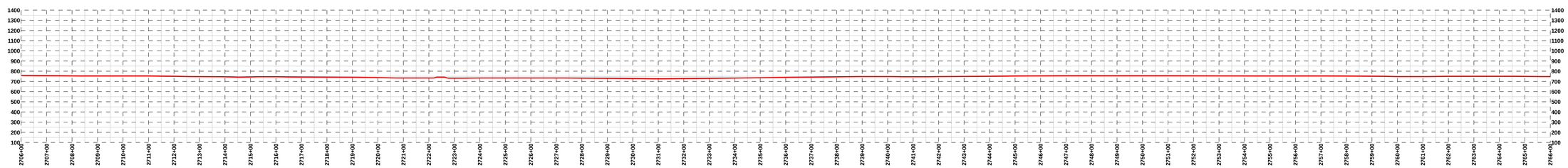
STATIONING

PLAN VIEW

PIPE DATA
MAOP:1480

CLASS LOCATION

PROFILE
VERT. SCALE: 1" = 500 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PREPARED BY:

QPS ENGINEERING, LLC

A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

2706+00 TO 2766+00

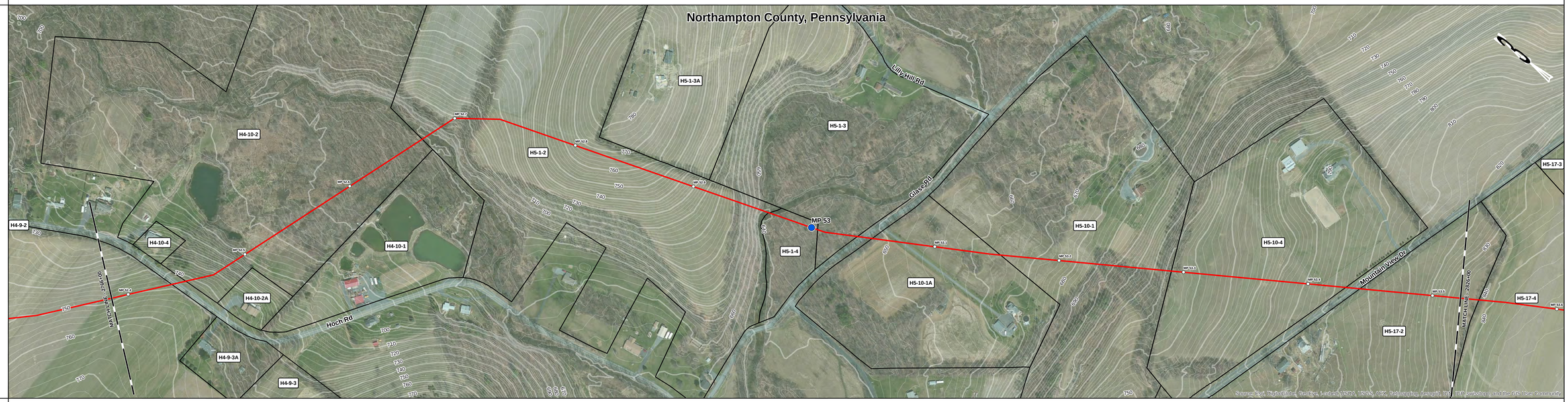
DRAWN:	JBB	DATE:	10/21/14	SCALE:	1" = 200 ft	PROJECT ID:	80111
CHECKED:	JMA	DATE:	11/04/14	DRAWING NUMBER:	PEN-PL-MA-ALS-047	REV:	A
APPROVED:	JMH	DATE:	11/04/14				

OWNERSHIP	Seier, et al, Frank P III (H4-10-3)	Cerva, Ruth E., Trustee of the Ruth E. Cerva Trust, Dated March 18, 1999 (H4-10-2)	Silfies, Betty D (H5-1-2)	Silfies, Betty D (H5-1-3)	Harrison, Stacy & Patricia (H5-1-4)	Rigler, Mark E & Tama J (H5-10-1A)	Dodrill, Jessie A & Ann Marie T (H5-10-1)	Smith, Lester G & Claudine A (H5-10-4)	Panagoulias, Dimos & Vasiliki (H5-17-2)
	2766+00 – 2768+61	2768+61 – 2769+21	2769+21 – 2796+50	2796+50 – 2798+67	2798+67 – 2800+38	2800+38 – 2806+47	2806+47 – 2813+72	2813+72 – 2821+11	2821+11 – 2826+00
	261 ft	1,171 ft	1,558 ft	217 ft	171 ft	546 ft	725 ft	739 ft	428 ft

TOPSOIL SEG.

STATIONING

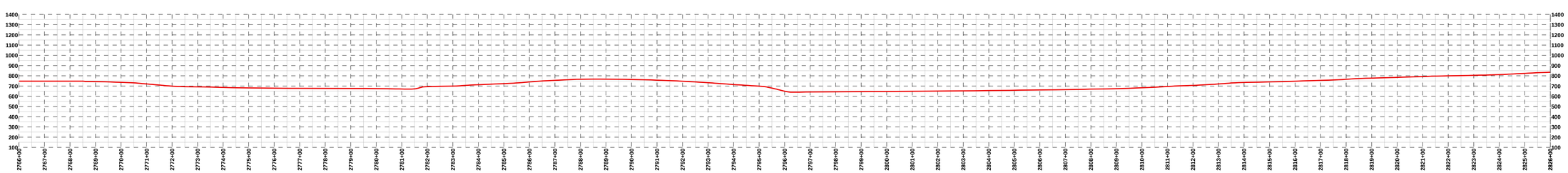
PLAN VIEW



PIPE DATA MAOP:1480

CLASS LOCATION

PROFILE VERT. SCALE: 1" = 500 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PennEast PIPELINE

PREPARED BY:

QPS ENGINEERING, LLC

A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

2766+00 TO 2826+00

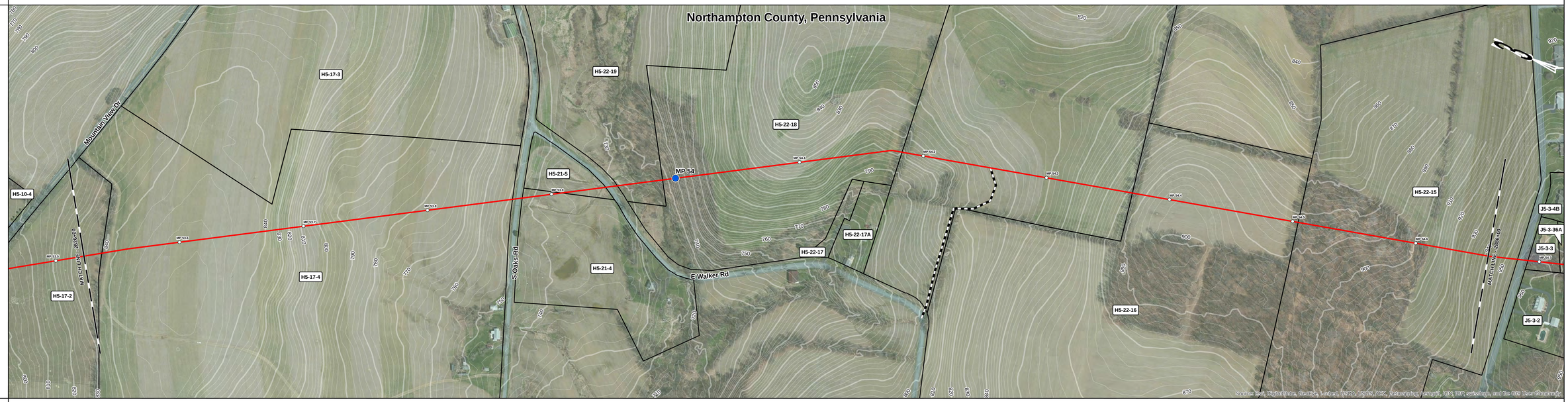
DRAWN: JBB	DATE: 10/21/14	SCALE: 1" = 200 ft	PROJECT ID: 80111		
CHECKED: JMA	DATE: 11/04/14	DRAWING NUMBER: PEN-PL-MA-ALS-048		REV: A	
APPROVED: JMH	DATE: 11/04/14				

OWNERSHIP	Panagoulias, Dimos & Vasiliki (H5-17-2)	Jaindl, David M. (H5-17-4)	Heckenberger, Gary J & Deborrah R (H5-21-4)	Heckenberger, Gary J & Deborrah R (H5-21-5)	Heckenberger, Gary J & Deborrah R (H5-22-19)	Heckenberger, Gary J & Deborrah R (H5-22-18)	Heckenberger, Gary J & Deborrah R (H5-22-17)	Kleppinger, Odell & Phyllis (H5-22-16)	O'Donnell, Leo G & Carol M (H5-22-15)
	2826+00 – 2826+77	2826+77 – 2844+68	2844+68 – 2846+35	2846+35 – 2848+22	2848+22 – 2848+72	2848+72 – 2850+65	2850+65 – 2860+65	2860+65 – 2870+72	2870+72 – 2877+84
	77 ft	1,749 ft	167 ft	187 ft	192 ft	1,020 ft	988 ft	711 ft	816 ft

TOPSOIL SEG.

STATIONING

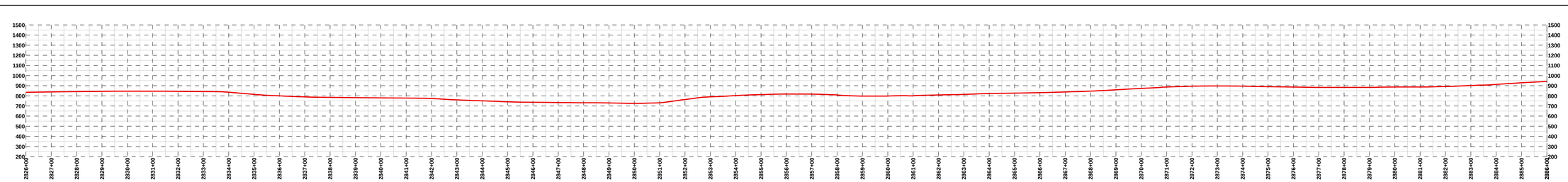
PLAN VIEW



PIPE DATA
MAOP-1480

CLASS LOCATION

PROFILE
VERT. SCALE: 1" = 500 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PennEast PIPELINE

PREPARED BY:

QPS ENGINEERING, LLC
A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET
PROPOSED 36" PIPELINE
2826+00 TO 2886+00

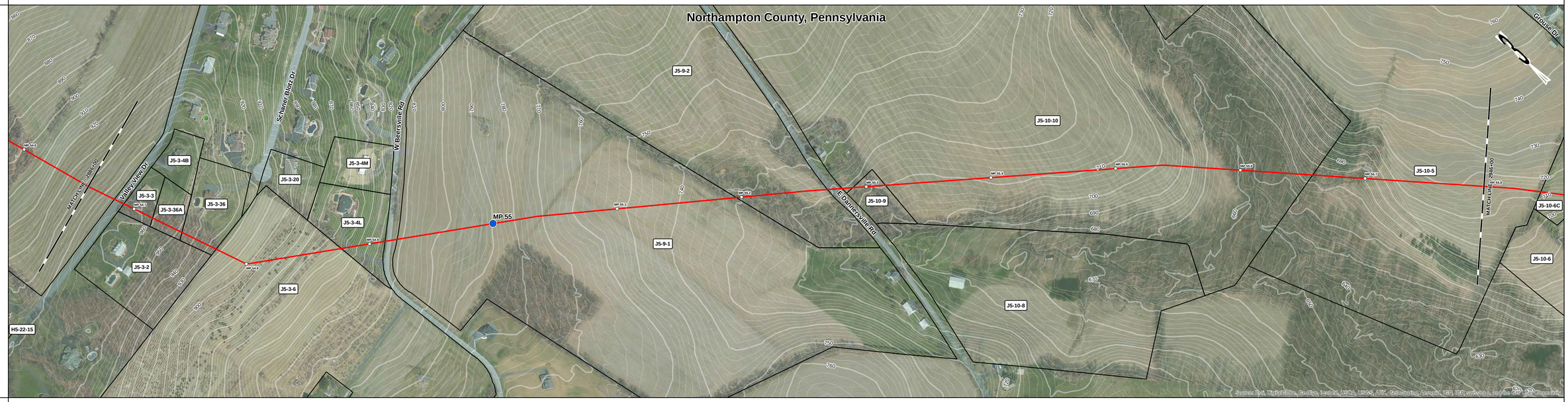
DRAWN: JBB	DATE: 10/21/14	SCALE: 1" = 200 ft	PROJECT ID: 80111		
CHECKED: JMA	DATE: 11/04/14	DRAWING NUMBER: PEN-PL-MA-ALS-049		REV: A	
APPROVED: JMH	DATE: 11/04/14				

OWNERSHIP	O'Donnell, Leo G & Carol M (J5-2-41)	Snyder, Jane (J5-3-3)	Snyder, Jane (J5-3-36)	Mccormick, Robert M & Catherine A (J5-3-36)	Chroust, Conrad M & Eva M (J5-3-6)	Deutsch, Donald R & Diana L (J5-3-4L)	Schweitzer, George J (J5-9-1)	Sunny Slope Farms Inc (J5-9-2)	Sunny Slope Farms Inc (J5-10-9)	Bath Borough Authority (J5-10-8)	Sunny Slope Farms Inc (J5-10-10)	Buss, Robin P & Rosanne (J5-10-5)
	2886+00	2887+23 / 2887+67	2889+03	2890+41	2892+02	2897+51 / 2899+38	2899+69	2914+33	2918+20 / 2918+62	2919+27	2920+65	2938+74 / 2946+00
	123 ft	136 ft	138 ft	161 ft	549 ft	187 ft	1,444 ft	386 ft	44 ft	139 ft	1,809 ft	726 ft

TOPSOIL SEG.

STATIONING

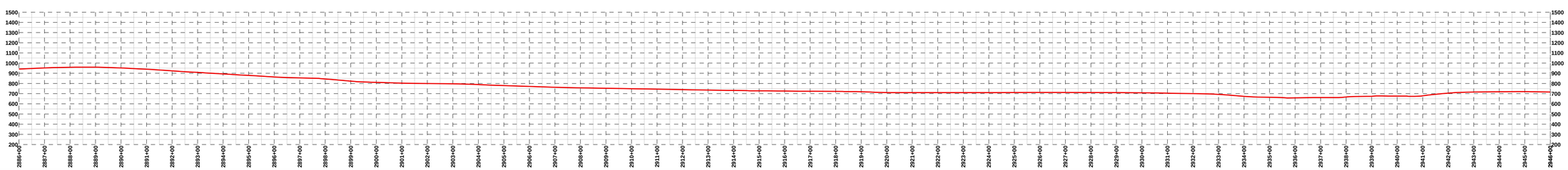
PLAN VIEW



PIPE DATA
MAOP:1480

CLASS LOCATION

PROFILE
VERT. SCALE: 1" = 500 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PREPARED BY:

QPS ENGINEERING, LLC

A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

2886+00 TO 2946+00

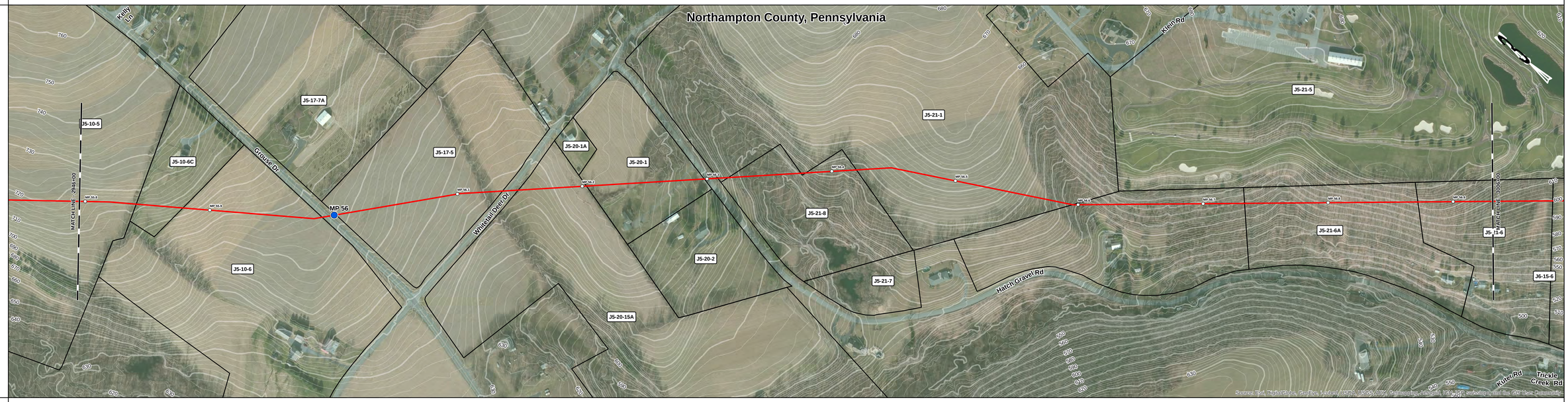
DRAWN:	JBB	DATE:	10/21/14	SCALE:	1" = 200 ft	PROJECT ID:	80111
CHECKED:	JMA	DATE:	11/04/14	DRAWING NUMBER:	PEN-PL-MA-ALS-050	REV:	A
APPROVED:	JMH	DATE:	11/04/14				

OWNERSHIP	Buss, Robin P & Rosanne (5-10-5)	Pike, Mark D (5-10-6C)	Pike, Donald M & Catherine L (5-10-6)	Schweitzer, Anton (5-17-5)	Schweitzer, Barbara (5-20-15A)	Wetzel, Robert & Mary Ellen (5-20-1)	Wetzel, Robert & Mary Ellen (5-21-1)	Schweitzer, Mathias & Anna (5-21-8)	Wetzel, Robert & Mary Ellen (5-21-7)	Schweitzer, Mathias & Anna (5-21-6)	Wetzel, Robert & Mary Ellen (5-21-1)	Meyers, Irene J (5-21-5)	Boyko, Stephen & Lorraine (5-21-6A)	Boyko, Stephen H & Maryann (6-15-6)
	2946+00	2948+40	2950+38	2956+28	2963+99	2964+65	2967+54	2972+52	2973+09	2976+61	2976+81	2978+96	2988+25	2996+51	3002+83	3006+00
	240 ft	198 ft	590 ft	711 ft	289 ft	499 ft	44 ft	308 ft	20 ft	215 ft	929 ft	726 ft	732 ft	317 ft

TOPSOIL SEG.

STATIONING

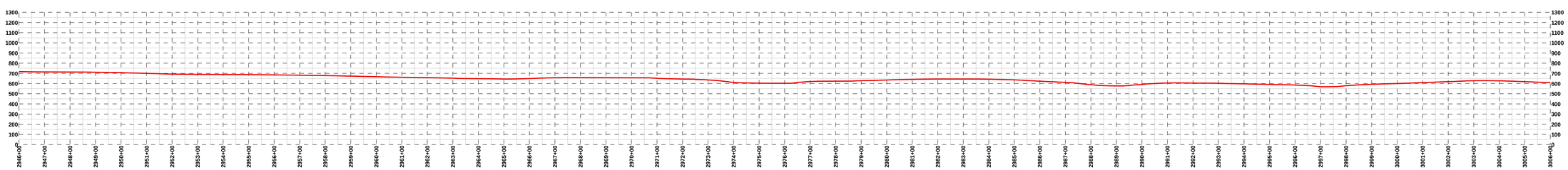
PLAN VIEW



PIPE DATA MAOP:1480

CLASS LOCATION

PROFILE
VERT. SCALE: 1" = 500 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PREPARED BY:

QPS ENGINEERING, LLC
A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET
PROPOSED 36" PIPELINE
2946+00 TO 3006+00

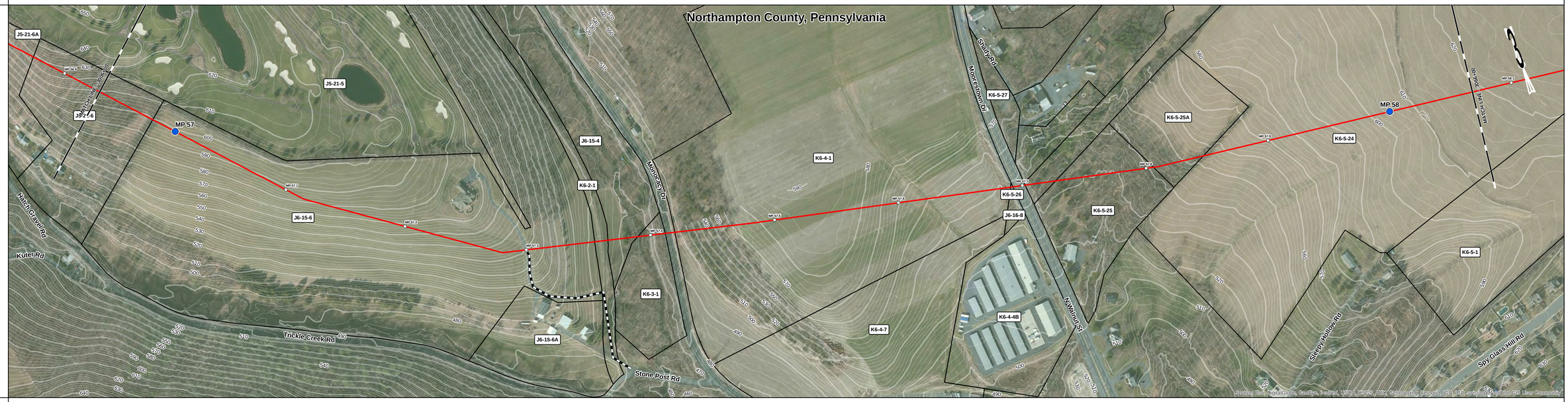
DRAWN:	JBB	DATE:	10/21/14	SCALE: 1" = 200 ft	PROJECT ID: 80111
CHECKED:	JMA	DATE:	11/04/14	DRAWING NUMBER: PEN-PL-MA-ALS-051	REV: A
APPROVED:	JMH	DATE:	11/04/14		

OWNERSHIP		Boyko, Stephen H & Maryann (6-15-6)	Winter, Herman R & Dixie L (6-15-8)	Pennsylvania Lines Llc (6-5-1)	Rehrig, Brian H (6-15-5)	Raysely, Linda C etal (6-5-1)		Deysher, Susan J (6-4-1)	Yeager, Ronald J & Yvonne M (6-5-3)		Rose M Shingler Revocable Living Trust (6-15-7)	Martucci, Lucille Carolyn (6-5-25)	Deysher, Mark E & (6-5-24)	Deysher, Mark E, Susan, Mark J. & John (6-5-24)	
	3006+00	3008+52		3028+34	3028+41	3029+17	3031+35	3031+75	3046+06	3046+16	3046+69	3047+98	3052+15	3054+31	3066+00
		252 ft	1,982 ft	56 ft	127 ft	118 ft		1,431 ft	10 ft		129 ft	417 ft	216 ft	1,169 ft	

TOPSOIL SEG.

STATIONING

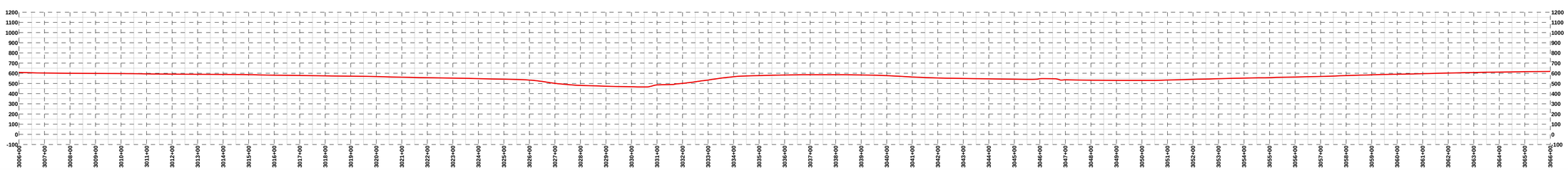
PLAN VIEW



PIPE DATA MAOP-1480

CLASS LOCATION

PROFILE VERT. SCALE:1" = 500 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PennEast PIPELINE

PREPARED BY:

QPS ENGINEERING, LLC

A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

3006+00 TO 3066+00

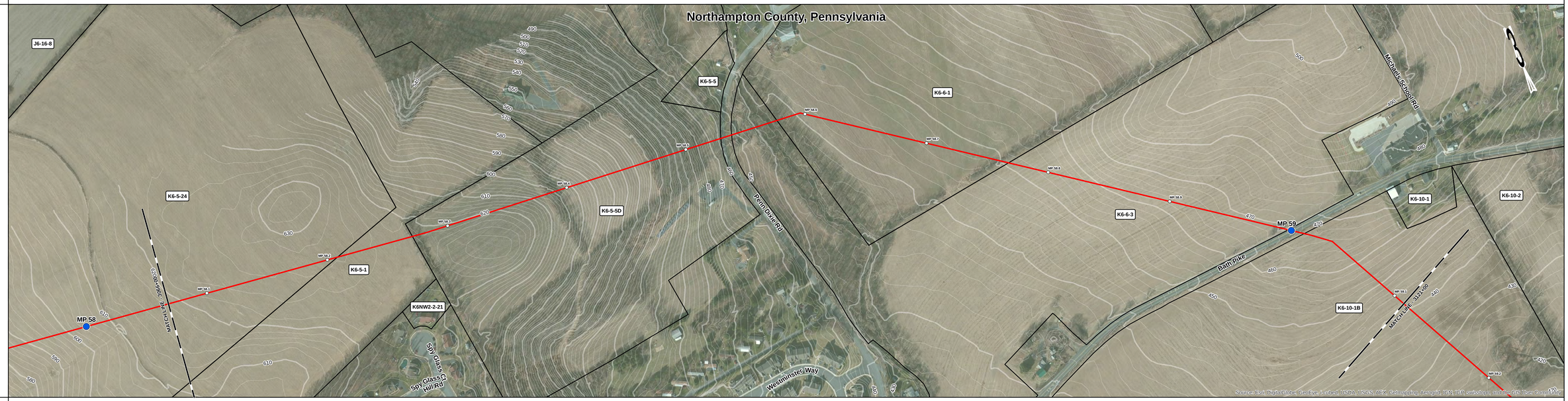
DRAWN: JBB	DATE: 10/21/14	SCALE: 1" = 200 ft	PROJECT ID: 80111		
CHECKED: JMA	DATE: 11/04/14	DRAWING NUMBER:			
APPROVED: JMH	DATE: 11/04/14	PEN-PL-MA-ALS-052		REV: A	

OWNERSHIP		Deysher, Mark E, Susan, Mark J. & John (K-5-24)	Deysher, Mark E & (K-5-1)	Mondschein, Augustus & Loretta (K6-5-5D)	Mohawk Real Estate Development Corp (K-6-5)	Temos, Ulis J & Anna Mae (K-6-1)	Mohawk Real Estate Development Corp (K-6-3)	Mohawk Real Estate Development Corp (K6-10-1B)
	3066+00	3073+40	3076+68	3090+35 / 3090+63	3092+84	3102+92	3115+06 / 3115+75	3121+00
	740 ft	328 ft	1,367 ft	201 ft	1,008 ft	1,215 ft	525 ft	

TOPSOIL SEG.

STATIONING

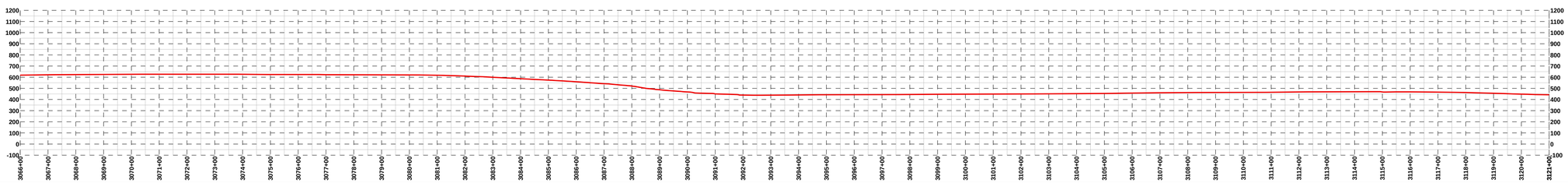
PLAN VIEW



PIPE DATA
MAOP:1480

CLASS LOCATION

PROFILE
VERT. SCALE: 1" = 500 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PennEast PIPELINE

PREPARED BY:

OPS ENGINEERING, LLC

A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

3066+00 TO 3121+00

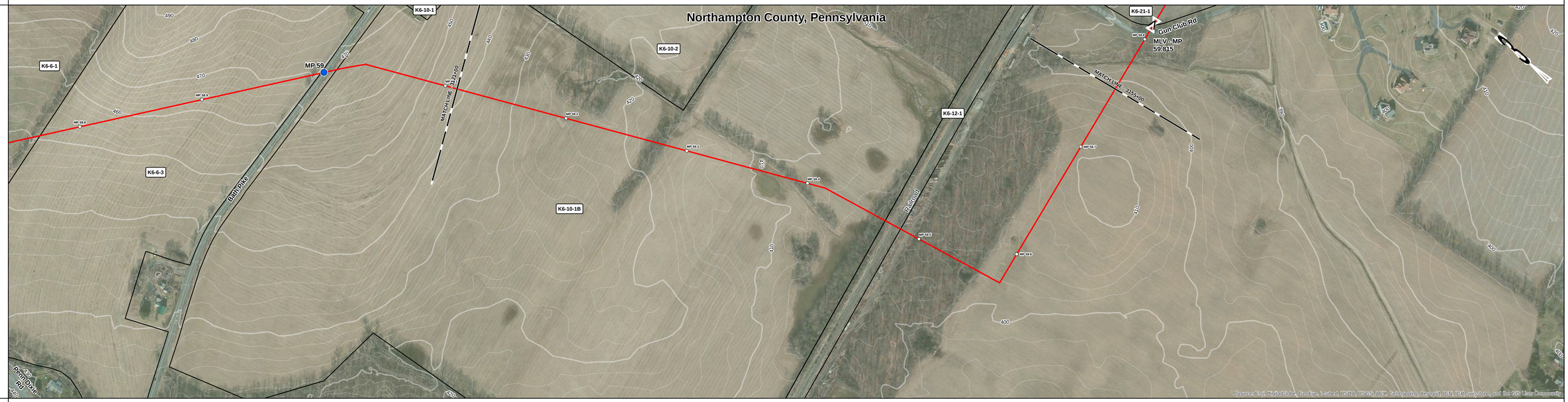
DRAWN:	JBB	DATE:	10/21/14	SCALE:	1" = 200 ft	PROJECT ID:	80111
CHECKED:	JMA	DATE:	11/04/14	DRAWING NUMBER:	PEN-PL-MA-ALS-053	REV:	A
APPROVED:	JMH	DATE:	11/04/14				

OWNERSHIP	Mohawk Real Estate Development Corp (K6-10-1B)	Pennsylvania Lines LLc (K6-12-1)
	3121+00 – 3139+97: 1,897 ft	3139+97 – 3140+71: 74 ft

TOPSOIL SEG.

STATIONING

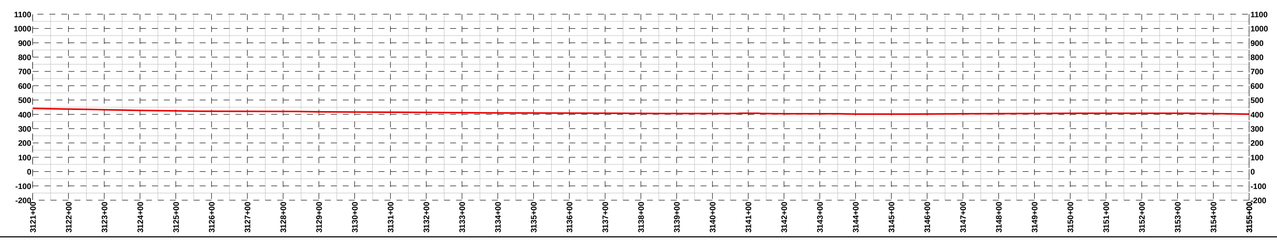
PLAN VIEW



PIPE DATA
MAOP:1480

CLASS LOCATION

PROFILE
VERT. SCALE: 1" = 500 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PennEast PIPELINE

PREPARED BY:
QPS ENGINEERING, LLC
A QUANTA SERVICES COMPANY

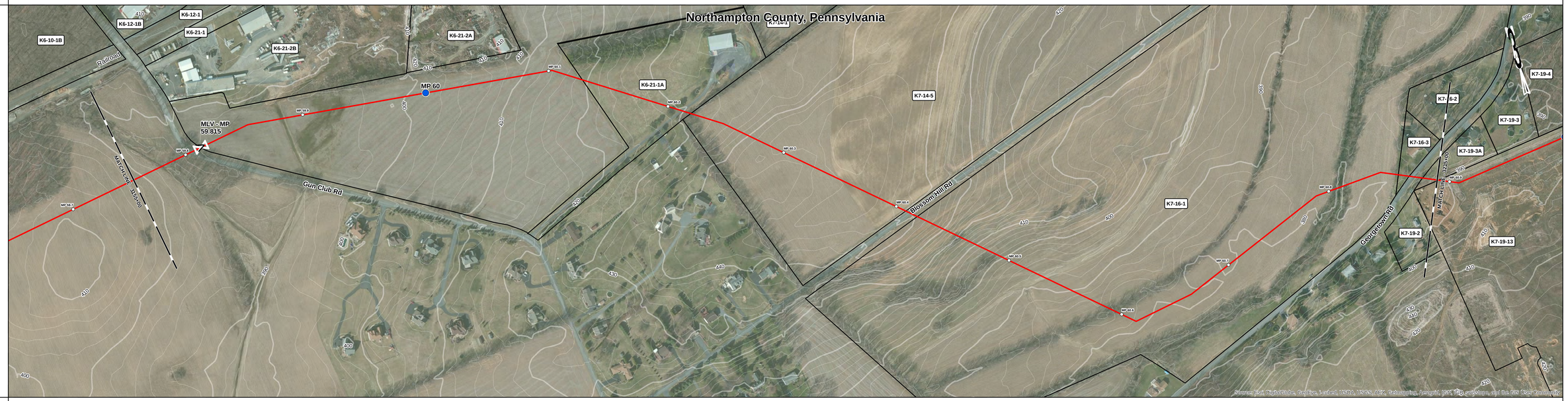
PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET
PROPOSED 36" PIPELINE
3121+00 TO 3155+00

DRAWN: JBB	DATE: 10/21/14	SCALE: 1" = 200 ft	PROJECT ID: 80111		
CHECKED: JMA	DATE: 11/04/14	DRAWING NUMBER: PEN-PL-MA-ALS-054		REV: A	
APPROVED: JMH	DATE: 11/04/14				

OWNERSHIP		3155+00	Tavianini, Robert M (K-21-1)	Exigo Properties Lp (K-21-1A)	Yeska, Henry Jr (K-14-5)		Yeska, Henry Jr (K-16-1)	Eckhart, Robert P. SR. (K-16-3)		Post, Darius L & Linda L (K-19-3A)	
		3158+15	1,661 ft	3174+77	3179+57	999 ft	3189+56	3190+10	2,323 ft	3213+53 / 3213+79	46 ft / 3214+36 / 64 ft / 3215+00
TOPSOIL SEG.											
STATIONING											

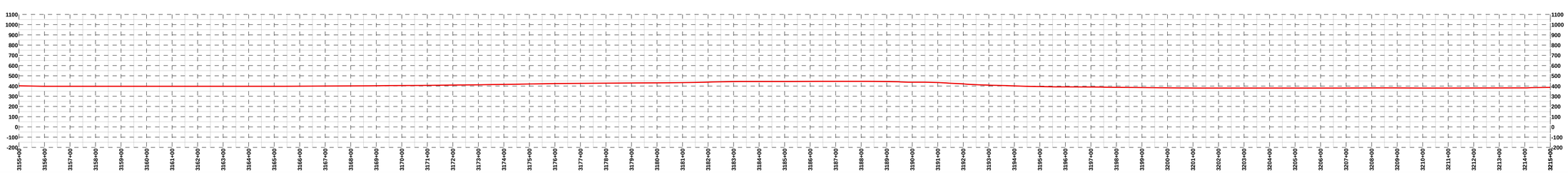
PLAN VIEW



PIPE DATA MAOP:1480

CLASS LOCATION

PROFILE VERT. SCALE: 1" = 500 ft



DEPTH OF COVER	
ENV. FEATURE	
TYPE	
CROSSING METHOD	
SPECIAL REQ.	

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PennEast PIPELINE

PREPARED BY:

QPS ENGINEERING, LLC
A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

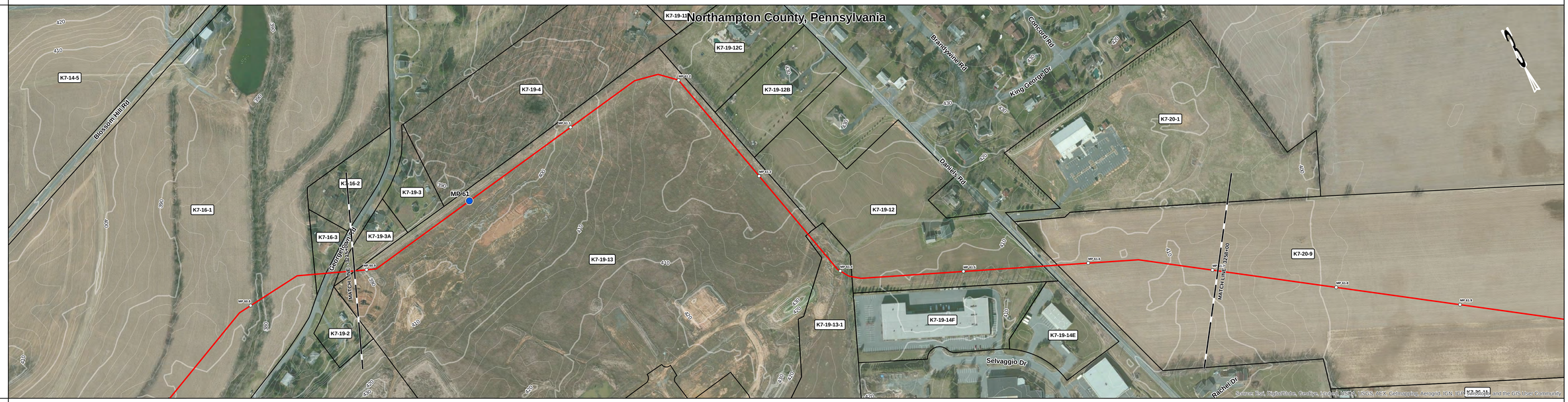
PRELIMINARY ALIGNMENT SHEET
PROPOSED 36" PIPELINE
3155+00 TO 3215+00

DRAWN: JBB	DATE: 10/21/14	SCALE: 1" = 200 ft	PROJECT ID: 80111		
CHECKED: JMA	DATE: 11/04/14	DRAWING NUMBER: PEN-PL-MA-ALS-055		REV: A	
APPROVED: JMH	DATE: 11/04/14				

OWNERSHIP	Post, Darius L & Linda L (K7-19-10)	Kay Trio, LLC (K7-19-13)	Kay Trio, LLC (K7-19-13-1)	Lengyel, Lewis J. & Lewis F. (K7-19-12)	Liberty Property LP (K7-20-9)
	3215+00	3215+04	3239+64	3242+47	3250+59 / 3251+19 / 3258+00
TOPSOIL SEG.	4 ft	2,480 ft	263 ft	811 ft	681 ft

STATIONING

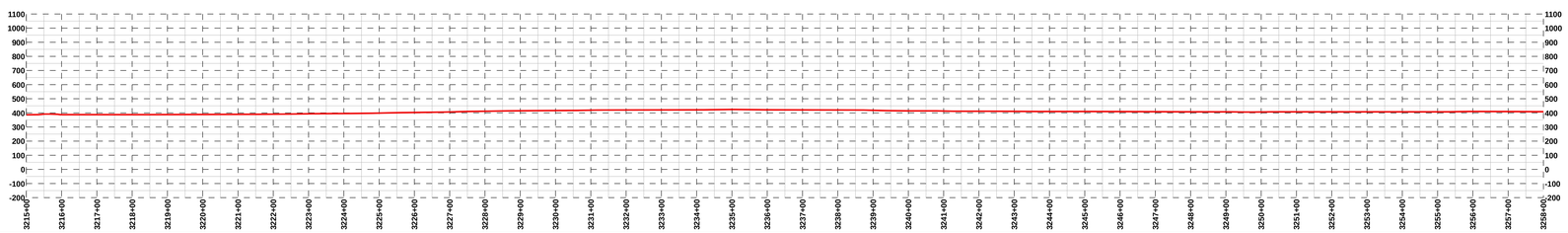
PLAN VIEW



PIPE DATA
MAOP:1480

CLASS LOCATION

PROFILE
VERT. SCALE: 1" = 500 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PREPARED BY:
QPS ENGINEERING, LLC
A QUANTA SERVICES COMPANY

PennEast PIPELINE

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET
PROPOSED 36" PIPELINE
3215+00 TO 3258+00

DRAWN:	JBB	DATE:	10/21/14	SCALE: 1" = 200 ft	PROJECT ID: 80111
CHECKED:	JMA	DATE:	11/04/14	DRAWING NUMBER: PEN-PL-MA-ALS-056	REV: A
APPROVED:	JMH	DATE:	11/04/14		

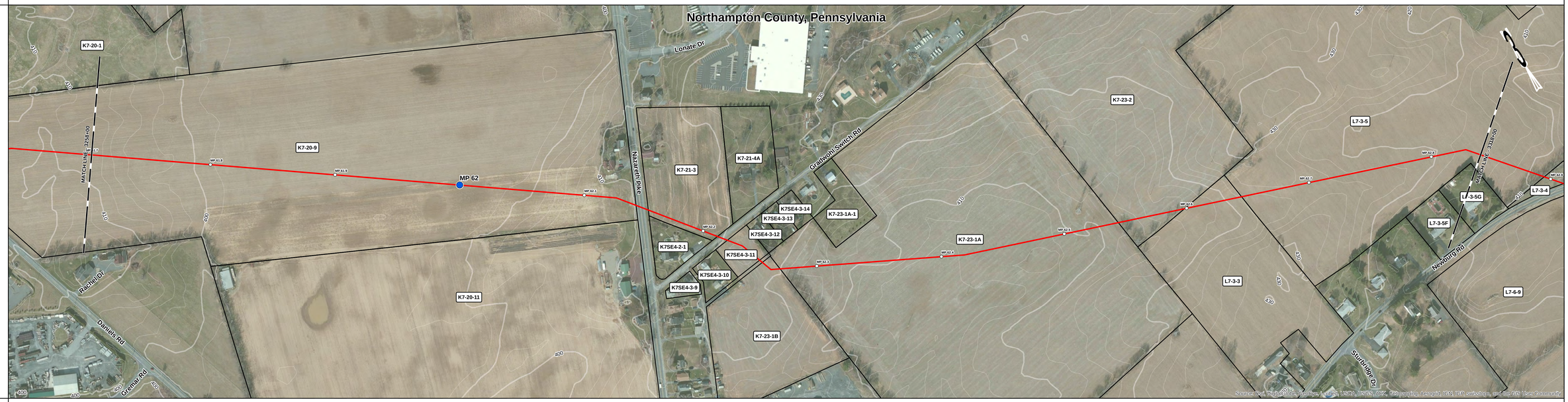
OWNERSHIP												
	3258+00	Liberty Property LP (K7-20-9)	3281+13	Selvaggio, Stephen F & Teresa A (K7-21)	3284+81	Itterly, Dwayne R & Debra A (K7SE4-3-11)	3286+68	Itterly, Dwayne R & Debra A (K7-23-1B)	3287+69	Cornerstone Evangelical Free Church (K7-23-1A)	3302+33	Setzer, Willard E & Grace M (K7-23-2)
	2,313 ft		313 ft		162 ft		86 ft		1,444 ft		285 ft	

3305+18	Sacco, Salvatore & Elizabeth (L7-3-5)	3307+65	Setzer, Randy C & Kimberly S. & Jeffrey L. & Sharon J. (L7-3-6)	3318+00		
246 ft		1,035 ft				

TOPSOIL SEG.

STATIONING

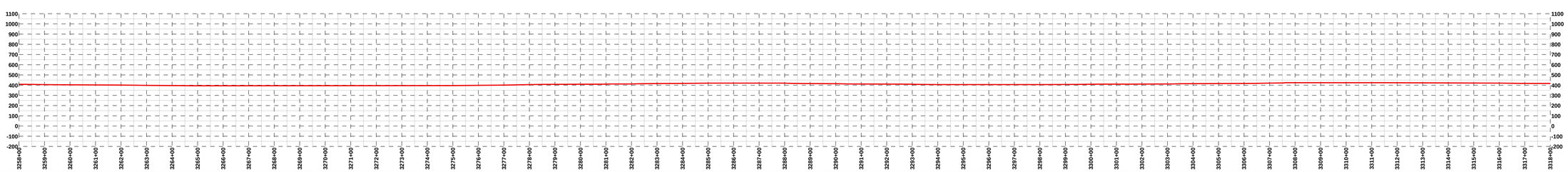
PLAN VIEW



PIPE DATA MAOP:1480

CLASS LOCATION

PROFILE VERT. SCALE:1" = 500 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PREPARED BY:

QPS ENGINEERING, LLC

A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

3258+00 TO 3318+00

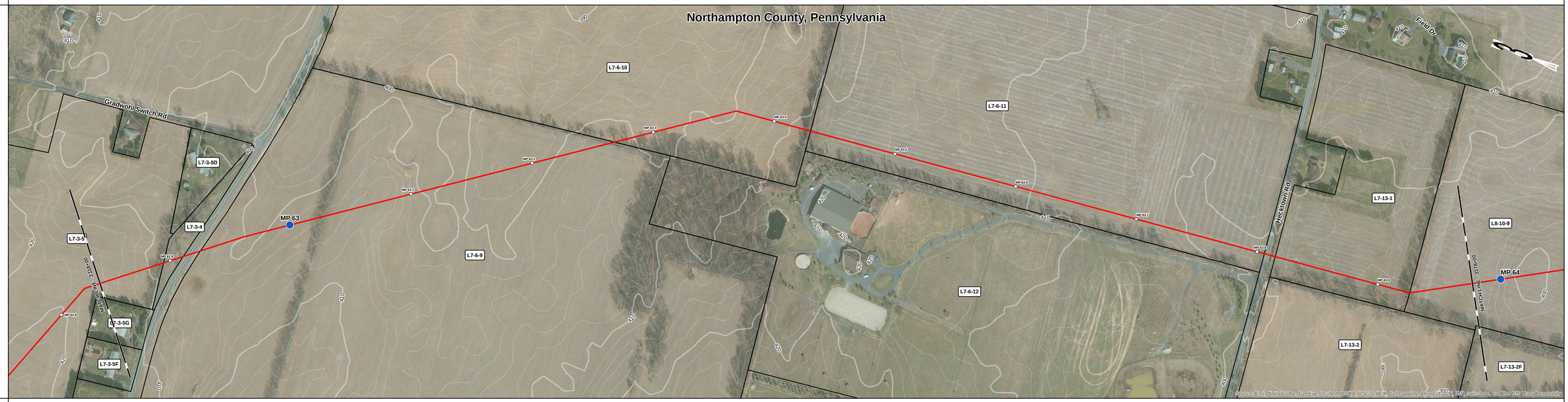
DRAWN:	JBB	DATE:	10/21/14	SCALE: 1" = 200 ft	PROJECT ID: 80111
CHECKED:	JMA	DATE:	11/04/14	DRAWING NUMBER: PEN-PL-MA-ALS-057	REV: A
APPROVED:	JMH	DATE:	11/04/14		

OWNERSHIP	Setzer, Randy C & Kimberly S. & Jeffrey L. & Sharon J. (L7-3-5)	Shaner, Adam F III (L7-3-4)	Meyers, Duaine E & Patricia Ann (L7-6-9)	Mineo, Lorraine C (L7-6-10)	Setzer, Williard E. (L7-6-11)	Halteman, David S (L7-13-1)	Wagner, Guy W (L8-10-9)
	3318+00 – 3320+83	3320+83 – 3321+70	3321+70 – 3322+47	3322+47 – 3340+55	3340+55 – 3349+10	3349+10 – 3369+43	3369+43 – 3376+00
	283 ft	87 ft	1,808 ft	855 ft	1,985 ft	588 ft	269 ft

TOPSOIL SEG.

STATIONING

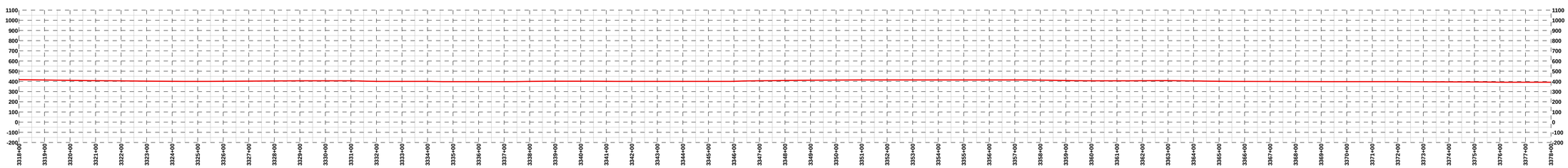
PLAN VIEW



PIPE DATA MAOP:1480

CLASS LOCATION

PROFILE VERT. SCALE: 1" = 500 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PennEast PIPELINE

PREPARED BY:

QPS ENGINEERING, LLC

A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

3318+00 TO 3378+00

DRAWN:	JBB	DATE:	10/21/14	SCALE: 1" = 200 ft	PROJECT ID: 80111
CHECKED:	JMA	DATE:	11/04/14	DRAWING NUMBER: PEN-PL-MA-ALS-058	REV: A
APPROVED:	JMH	DATE:	11/04/14		

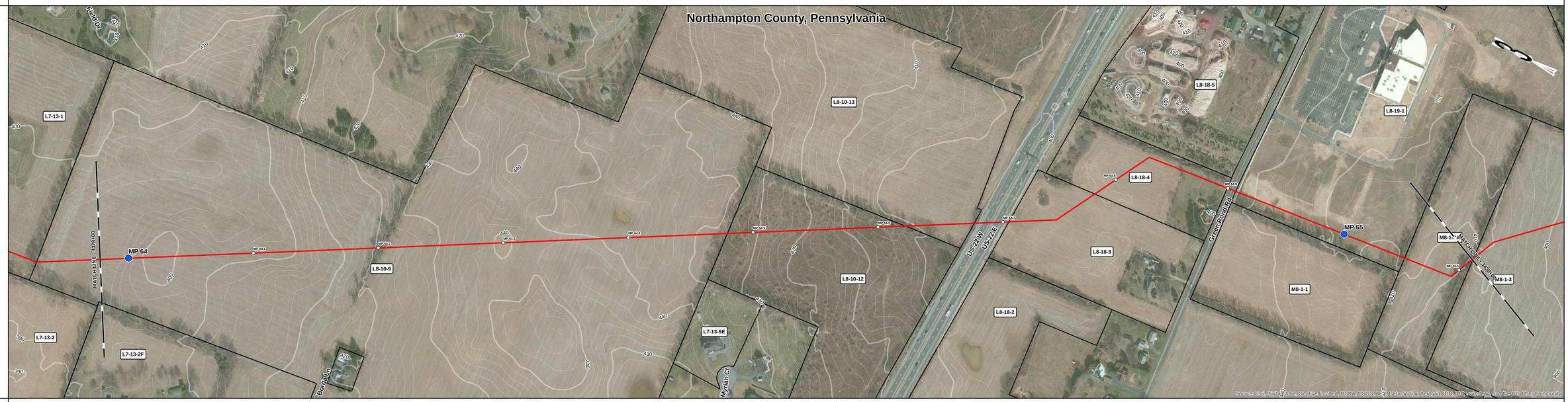
OWNERSHIP	Wagner, Guy W (L8-10-9)	Fuisz, Richard C & Robert E (L8-10-13)	Fuisz, Anton & Margaret (L8-10-12)	Pereira, Charles Manuel (L8-18-3)	Rogers, Amos & Betty (L8-18-4)	Calvary Baptist Church Of (L8-19-1)	Green Pond Golf Course Inc (M8-1-1)
	3378+00 – 2,651 ft	3404+51 – 753 ft	3412+04 – 290 ft	3416+41 – 396 ft	3420+37 – 632 ft	3427+07 – 767 ft	3434+74 – 326 ft

3414+94 3426+69 3438+00

TOPSOIL SEG.

STATIONING

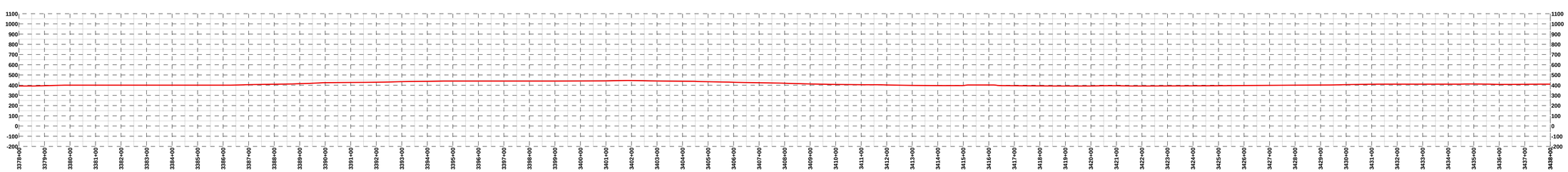
PLAN VIEW



PIPE DATA MAOP:1480

CLASS LOCATION

PROFILE VERT. SCALE:1" = 500 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PREPARED BY:

QPS ENGINEERING, LLC

A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

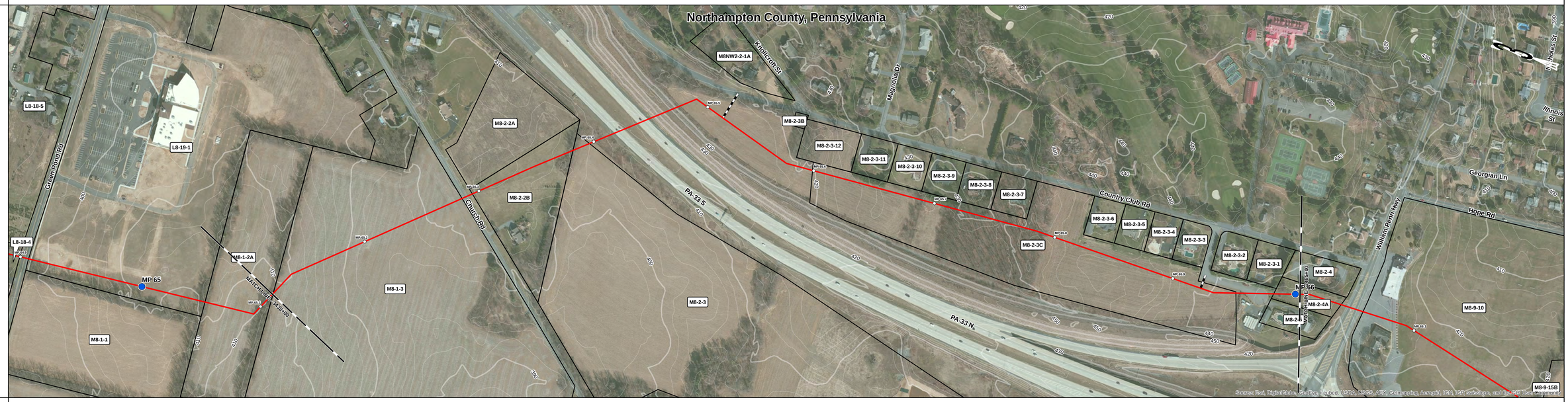
3378+00 TO 3438+00

DRAWN:	JBB	DATE:	10/21/14	SCALE: 1" = 200 ft	PROJECT ID: 80111
CHECKED:	JMA	DATE:	11/04/14	DRAWING NUMBER: PEN-PL-MA-ALS-059	REV: A
APPROVED:	JMH	DATE:	11/04/14		

OWNERSHIP	Green Pond Golf Course Inc (M8-1-2A)	Green Pond Golf Course Inc (M8-1-3)	Cowell, Eileen M (M8-2-2B)	Pennsylvania Commonwealth (M8-2-3)		Pennsylvania Commonwealth (M8-2-3C)		Lindly Associates (M8-2-4)
	3438+00 – 3438+05	3438+05 – 3447+06	3447+06 – 3452+16	3452+16 – 3452+92	3452+92 – 3463+62	3463+62 – 3482+28	3482+28 – 3483+88	3483+88 – 3485+00
TOPSOIL SEG.	5 ft	901 ft	463 ft	76 ft	1,866 ft			112 ft

STATIONING

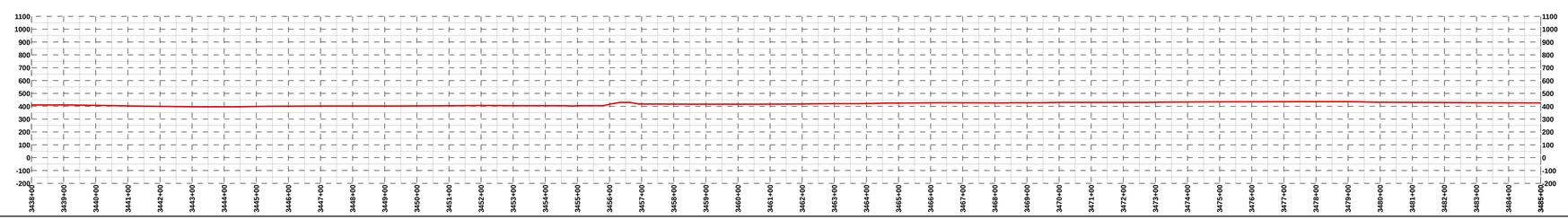
PLAN VIEW



PIPE DATA
MAOP:1480

CLASS LOCATION

PROFILE
VERT. SCALE: 1" = 500 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PennEast PIPELINE

PREPARED BY:

QPS ENGINEERING, LLC

A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

3438+00 TO 3485+00

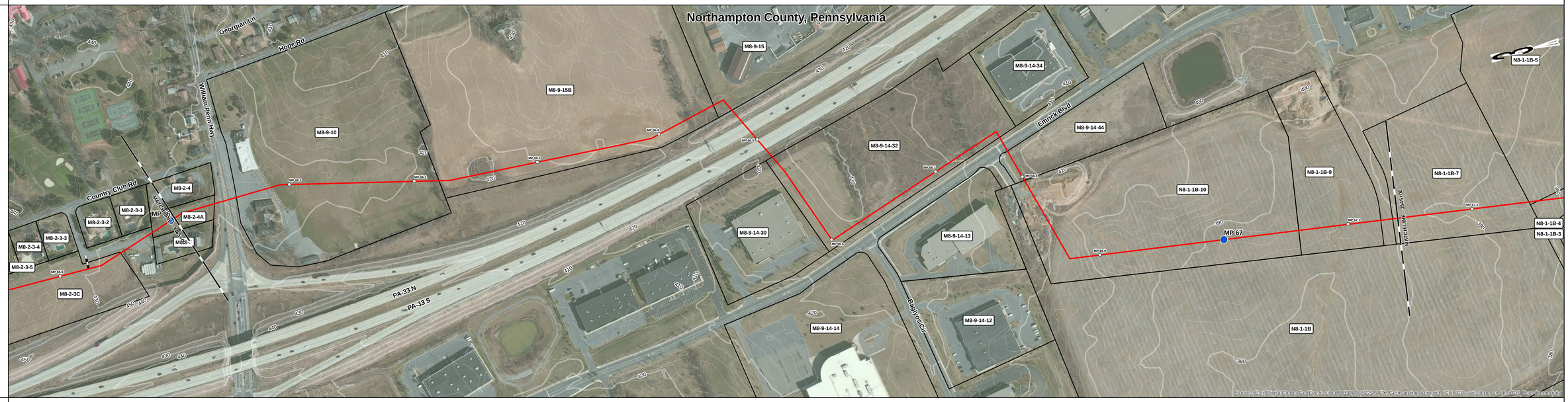
DRAWN: JBB	DATE: 10/21/14	SCALE: 1" = 200 ft	PROJECT ID: 80111		
CHECKED: JMA	DATE: 11/04/14	DRAWING NUMBER: PEN-PL-MA-ALS-060		REV: A	
APPROVED: JMH	DATE: 11/04/14				

OWNERSHIP																	
		Lindly Associates (M8-2-2A)		Chrin, Charles (M8-9-10)	Bethlehem Township (M8-9-15B)	Pennsylvania Commonwealth (M8-9-15)		Triple Net Investments Xiv Lp (M8-9-14-33)		Railsedge Enterprises Lp (M8-9-14-44)	Petie Inc (N8-1-1B-10)	KRE Bethlehem Apartments I LP (N8-1-1B-9)	KRE Bethlehem Apartments I LP (N8-1-1B-7)		
	3485+00	180 ft	3486+80	3487+77 863 ft	3496+40 1,213 ft	3508+53 104 ft	3509+57	3512+17 1,294 ft	3525+11	3525+78 143 ft	3527+22 1,357 ft	3540+79 349 ft	3544+57 22 ft	3544+78	3545+00

TOPSOIL SEG.

STATIONING

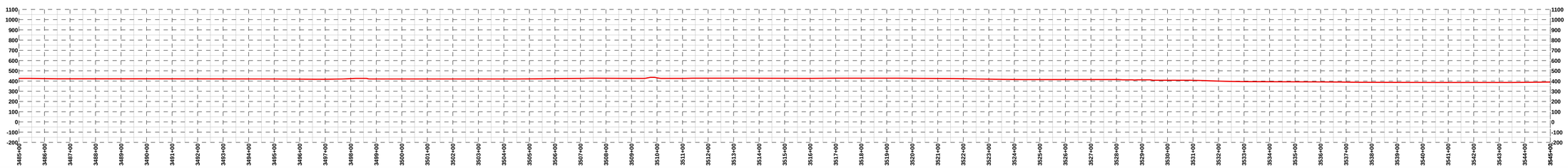
PLAN VIEW



PIPE DATA MAOP:1480

CLASS LOCATION

PROFILE VERT. SCALE: 1" = 500 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PennEast PIPELINE

PREPARED BY:

QPS ENGINEERING, LLC

A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

3485+00 TO 3545+00

DRAWN:	JBB	DATE:	10/21/14	SCALE: 1" = 200 ft	PROJECT ID: 80111
CHECKED:	JMA	DATE:	11/04/14	DRAWING NUMBER: PEN-PL-MA-ALS-061	REV: A
APPROVED:	JMH	DATE:	11/04/14		

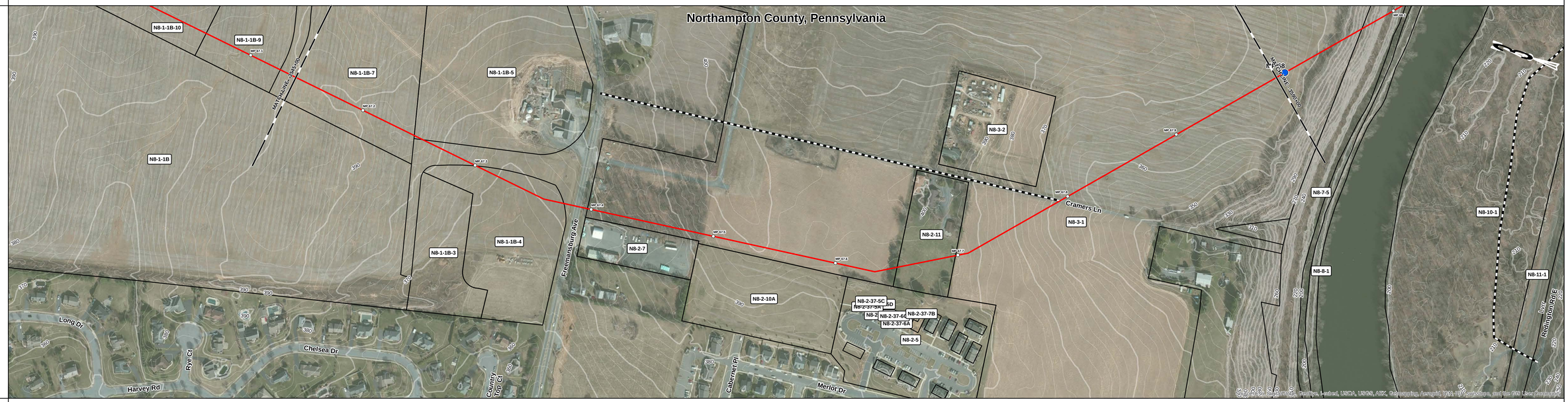
OWNERSHIP	KRE Bethlehem Apartments I LP (N8-1-1B-7)	KRE Bethlehem Retail LP (N8-1-1B-6)	KRE Bethlehem Retail LP (N8-1-1B-8)	St Luke's Hospital - Anderson Campus (N8-3-1)	St Lukes Hospital - Anderson Campus (N8-2-11)	St Luke's Hospital - Anderson Campus (N8-3-1)
	3545+00 – 3550+57	3550+57 – 3550+98	3550+98 – 3553+49	3553+49 – 3557+53	3557+53 – 3571+94	3571+94 – 3574+46
	557 ft	40 ft	404 ft	1,338 ft	252 ft	1,554 ft

3574+46 – 3590+00

TOPSOIL SEG.

STATIONING

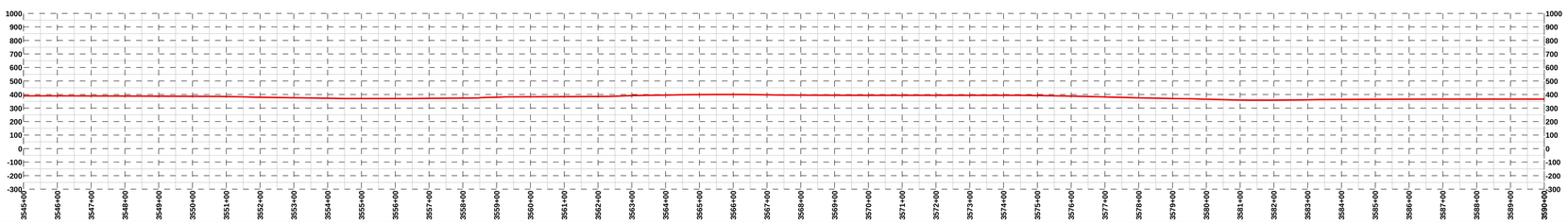
PLAN VIEW



PIPE DATA MAOP:1480

CLASS LOCATION

PROFILE
VERT. SCALE: 1" = 500 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PennEast PIPELINE

PREPARED BY:

QPS ENGINEERING, LLC

A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

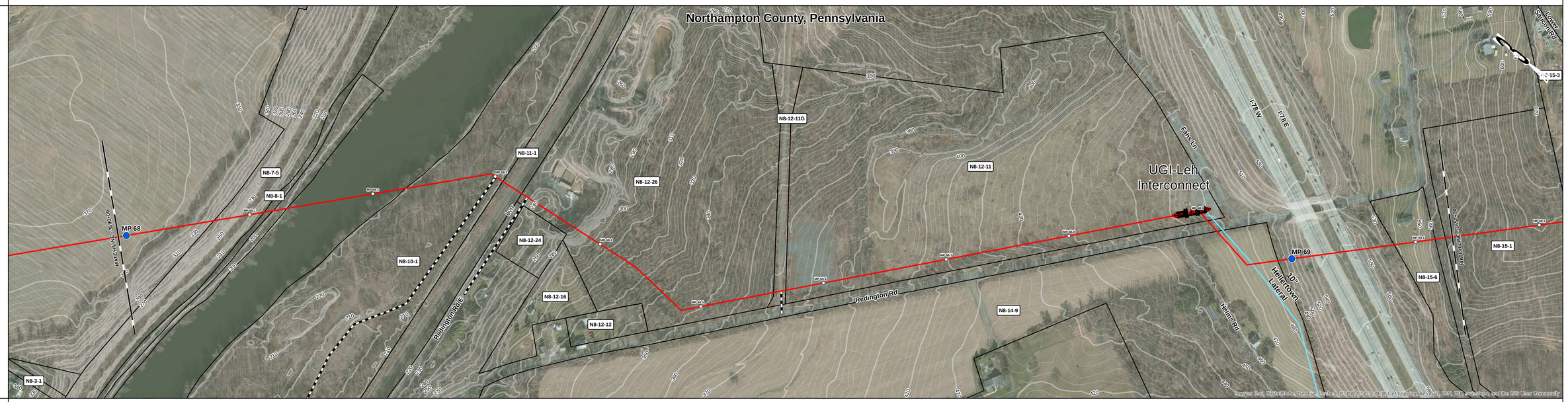
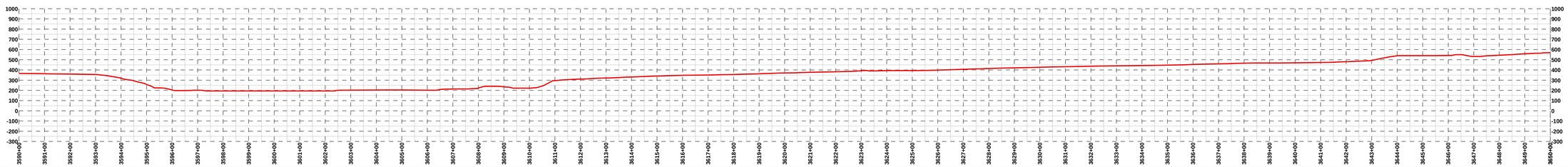
PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

3545+00 TO 3590+00

DRAWN: JBB	DATE: 10/21/14	SCALE: 1" = 200 ft	PROJECT ID: 80111		
CHECKED: JMA	DATE: 11/04/14	DRAWING NUMBER: PEN-PL-MA-ALS-062		REV: A	
APPROVED: JMH	DATE: 11/04/14				

OWNERSHIP		St Luke's Hospital - Anderson Campus (NB-30)	Pennsylvania Lines Llc (NB-29)		Bethlehem Township (NB-31)		Deremer, Joseph J (NB-10-1)	Pennsylvania Lines Llc (NB-11-1)	Easton Fish And Game Association (NB-12-28)	Pennsylvania Department Of (NB-12-10)	Lehigh Valley Site Contractors Inc (NB-12-11)		Petrie, Bruce R. & Ginger L. (NB-14-9)		Bilby, Jason E (NB-15-6)	Cook, James Allen & Lisa B. Albitz (NB-15-1)		
	3590+00	414 ft	216 ft	3594+14	59 ft	3596+30	426 ft	95 ft	1,236 ft	52 ft	1,833 ft	3620+45	322 ft	3639+38	175 ft	25 ft	3647+57	3649+32	3649+75	3650+00

TOPSOIL SEG.	
STATIONING	
PLAN VIEW	
PIPE DATA MAOP-1480	
CLASS LOCATION	
PROFILE VERT. SCALE: 1" = 500 ft	
DEPTH OF COVER	
ENV. FEATURE	
TYPE	
CROSSING METHOD	
SPECIAL REQ.	

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- 10" HELLERTOWN LATERAL
- ACCESS ROAD
- COMPRESSOR STATION
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PREPARED BY:

QPS ENGINEERING, LLC

A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

3590+00 TO 3650+00

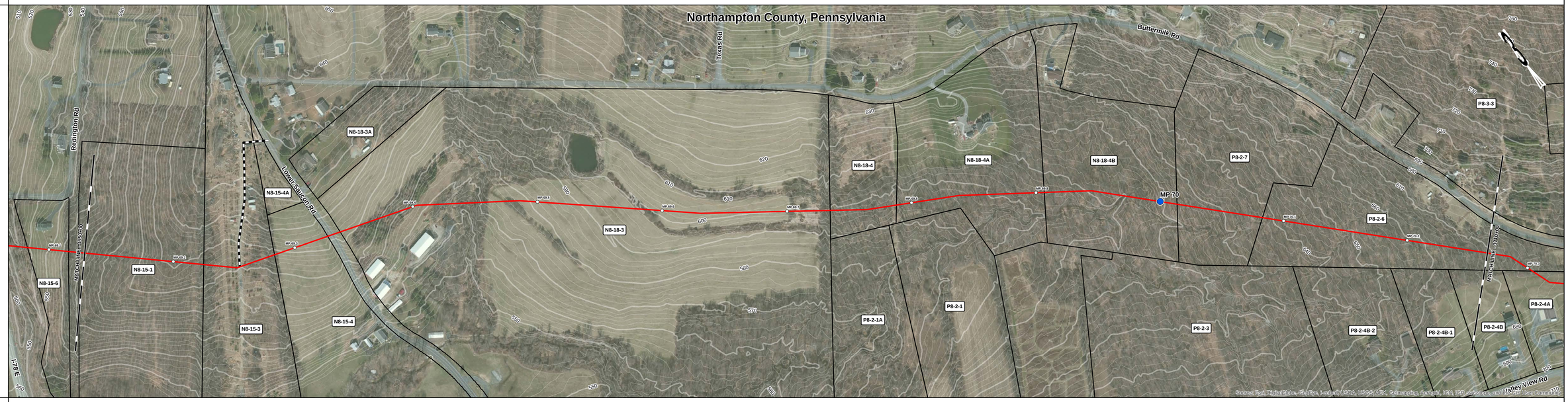
DRAWN:	JBB	DATE:	10/21/14	SCALE:	1" = 200 ft	PROJECT ID:	80111
CHECKED:	JMA	DATE:	11/04/14	DRAWING NUMBER:	PEN-PL-MA-ALS-063		REV: A
APPROVED:	JMH	DATE:	11/04/14				

OWNERSHIP		Cook, James Allen & Lisa B. Albitz (N8-15-1)	Metzger, Donald C (N8-15-3)	Mcgovern, Kathy K & Kevin (N8-15-4)		Pichel, Ramon & Helen C (N8-18-3)	Monahan, Brian M. (N8-18-4)	Emann, Kipp A. & Sherry L. (N8-18-4A)	Fistler, Eric J. (N8-18-4B)	Roth, George W. & Earlene M. (P8-2-7)	Verba, Arthur E. & Joy E. (P8-2-6)	
	3650+00	3655+05	3658+13	3660+51	3661+07		3681+98	3684+79	3691+07	3696+72	3700+37	3710+00
		505 ft	309 ft	238 ft		2,090 ft	281 ft	628 ft	565 ft	365 ft	963 ft	

TOPSOIL SEG.

STATIONING

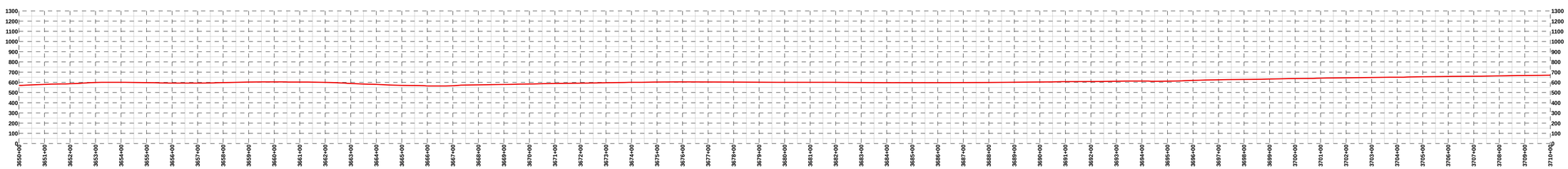
PLAN VIEW



PIPE DATA MAOP-1480

CLASS LOCATION

PROFILE VERT. SCALE: 1" = 500 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PennEast PIPELINE

PREPARED BY:

QPS ENGINEERING, LLC

A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET

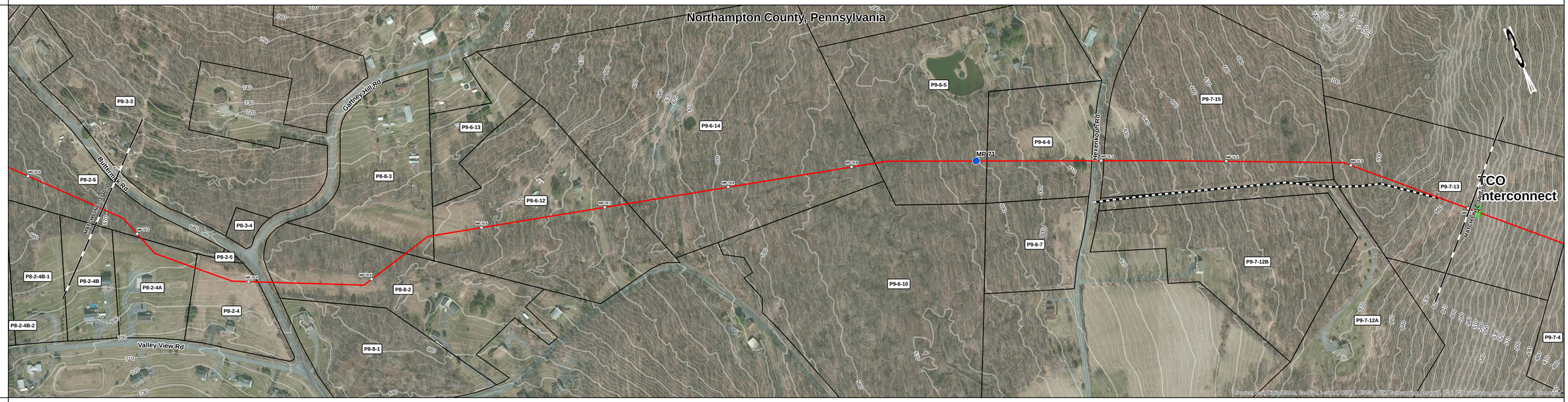
PROPOSED 36" PIPELINE

3650+00 TO 3710+00

DRAWN: JBB	DATE: 10/21/14	SCALE: 1" = 200 ft	PROJECT ID: 80111		
CHECKED: JMA	DATE: 11/04/14	DRAWING NUMBER: PEN-PL-MA-ALS-064		REV: A	
APPROVED: JMH	DATE: 11/04/14				

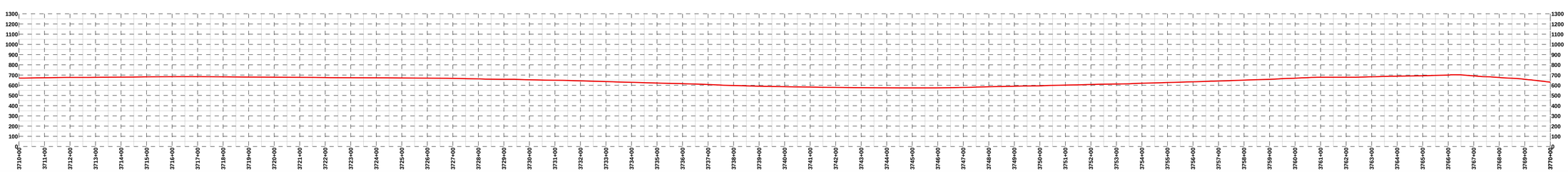
OWNERSHIP		Verba, Arthur E. & Joy E. (P8-2-6)	Lucykanish, Michael Jr & Margaret A (P8-2-4A)	Richebacher, Craig S & Cheryl (P8-2-5)		Vollers, Matthew S. & Laura. (P8-8-2)	Kichline, Robert J & Gertrude (P8-8-3)	Ritter, John H. Jr. & Lorayn A. (P9-6-13)	J. Carter Lansing & Rebecca M. Altmann (P9-6-14)	Smith, Nevin J & Virginia M (P9-6-5)	Heindel Linda H Living Trust & (P9-6-6)		Heindel Ned D & Linda H Living Trust (P9-7-15)	Heindel, Ned, Linda H., Aland D. Kirby, & Patricia A. Spaziani (P9-7-13)	
	3710+00	208 ft	268 ft	274 ft	3717+50	605 ft	142 ft	832 ft	1,058 ft	473 ft	442 ft	3753+68	963 ft	618 ft	3770+00
TOPSOIL SEG.															
STATIONING															

PLAN VIEW



PIPE DATA MAOP:1480	
CLASS LOCATION	

PROFILE
VERT. SCALE: 1" = 500 ft



DEPTH OF COVER	
ENV. FEATURE	
TYPE	
CROSSING METHOD	
SPECIAL REQ.	

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PennEast PIPELINE

PREPARED BY:

QPS ENGINEERING, LLC
A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

3710+00 TO 3770+00

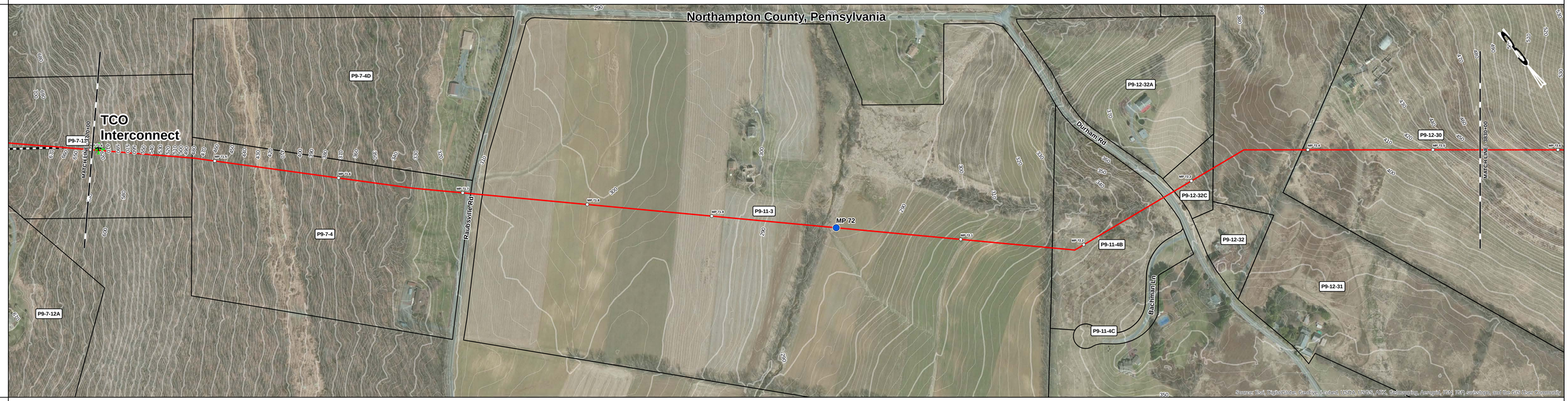
DRAWN:	JBB	DATE:	10/21/14	SCALE:	1" = 200 ft	PROJECT ID:	80111
CHECKED:	JMA	DATE:	11/04/14	DRAWING NUMBER:	PEN-PL-MA-ALS-065	REV:	A
APPROVED:	JMH	DATE:	11/04/14				

OWNERSHIP	Heindel, Ned, Linda H., Aland D. Kirby, & Patricia A. Spaziani (P-7-4)	Paulus, Judith A & Wayne I (P-7-4)	Mcguire, Jeffrey C & Mary T (P-11-3)	Bachman, Randy J (P-11-4B)	Martin, Galen M (P-12-32A)	Snyder, Linford R Et Al (P-12-31)	Mineo, Isidore C & Lorraine C (P-12-30)
	3770+00 – 3774+23	3774+23 – 3786+09	3786+09 – 3810+76	3810+76 – 3816+07	3816+07 – 3818+51	3818+51 – 3822+48	3822+48 – 3830+00
	423 ft	1,186 ft	2,417 ft	531 ft	192 ft	397 ft	752 ft

TOPSOIL SEG.

STATIONING

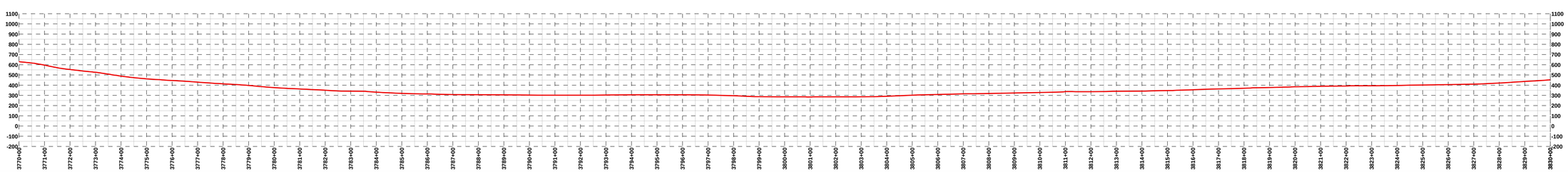
PLAN VIEW



PIPE DATA MAOP:1480

CLASS LOCATION

PROFILE VERT. SCALE: 1" = 500 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PennEast PIPELINE

PREPARED BY:

QPS ENGINEERING, LLC

A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

3770+00 TO 3830+00

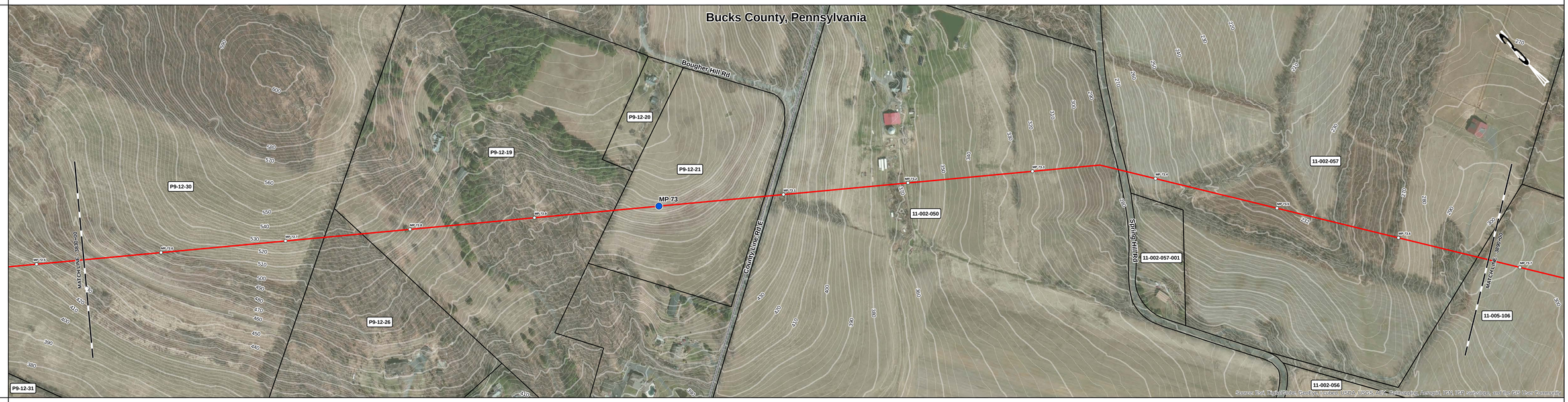
DRAWN:	JBB	DATE:	10/21/14	SCALE: 1" = 200 ft	PROJECT ID: 80111
CHECKED:	JMA	DATE:	11/04/14	DRAWING NUMBER: PEN-PL-MA-ALS-066	REV: A
APPROVED:	JMH	DATE:	11/04/14		

OWNERSHIP	Mineo, Isidore C & Lorraine C (P9-12-30)	Snyder, Donald D & Barbara (P9-12-26)	Konia, Charles Jr & Iris Smith (P9-12-19)	Koplin, Leon R (P9-12-21)	Koplin, Leon R (11-002-050)	Mignatti, T J III (11-002-057)	Koplin, Leon R (11-005-106)
	3830+00 – 3840+20	3840+20 – 3841+79	3841+79 – 3852+48	3852+48 – 3858+88	3858+88 – 3873+69	3873+69 – 3874+26	3874+26 – 3890+00
	1,020 ft	159 ft	1,069 ft	640 ft	1,465 ft	1,525 ft	49 ft

TOPSOIL SEG.

STATIONING

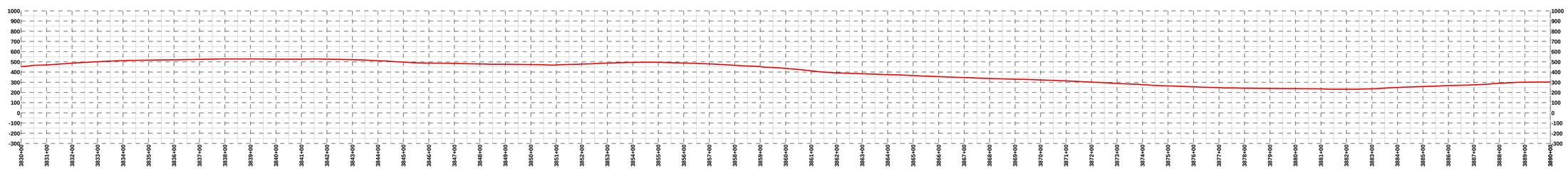
PLAN VIEW



PIPE DATA MAOP:1480

CLASS LOCATION

PROFILE VERT. SCALE: 1" = 500 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PennEast PIPELINE

PREPARED BY:

QPS ENGINEERING, LLC

A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

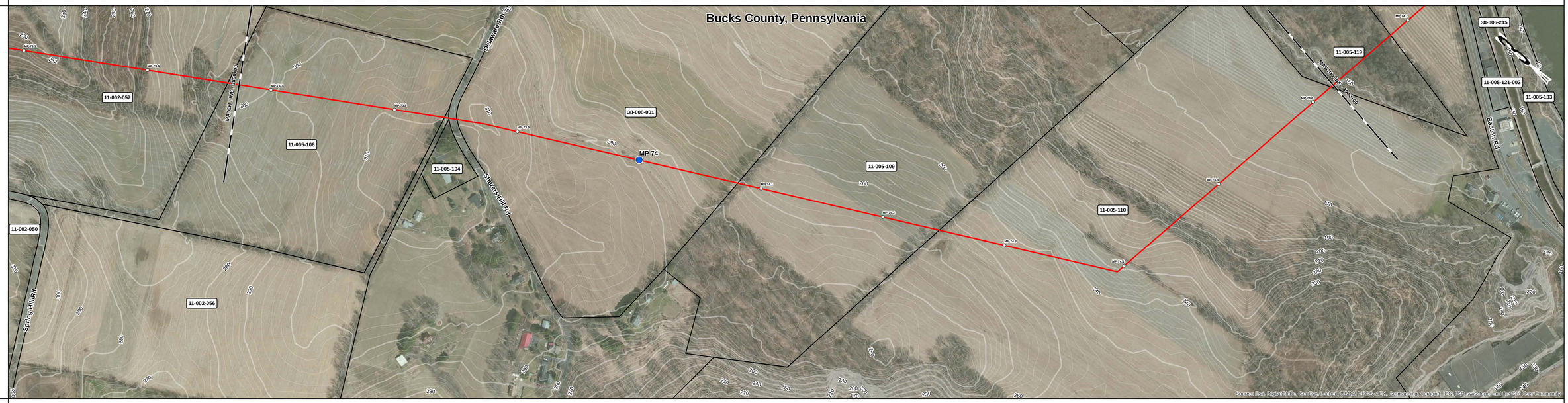
3830+00 TO 3890+00

DRAWN: JBB	DATE: 10/21/14	SCALE: 1" = 200 ft	PROJECT ID: 80111		
CHECKED: JMA	DATE: 11/04/14	DRAWING NUMBER: PEN-PL-MA-ALS-067		REV: A	
APPROVED: JMH	DATE: 11/04/14				

OWNERSHIP		Koplin, Leon R (11-005-106)	Marschewski, Manfred (11-005-108)		Joseph D Family Memorial Fund (38-008-001)	Serenity Investors Lp (11-005-109)	Ap Creations Lp (11-005-110)	Serenity Investors Lp (11-005-119)	
	3890+00	878 ft	18 ft	3898+96 3899+31	1,216 ft	874 ft	1,965 ft	14 ft	3940+00
TOPSOIL SEG.									

STATIONING

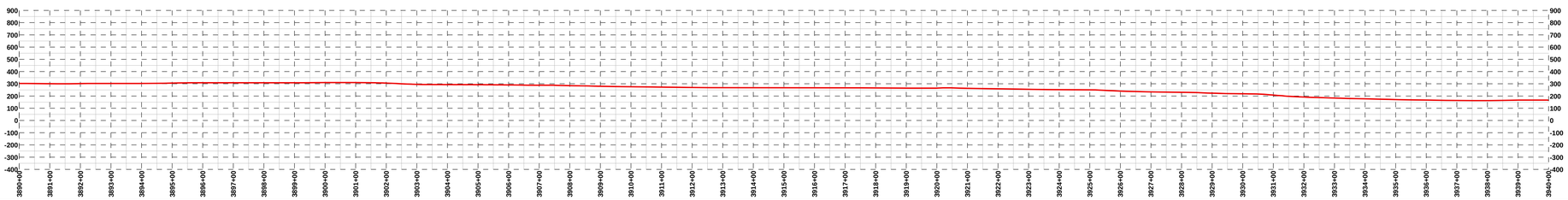
PLAN VIEW



PIPE DATA MAOP-1480

CLASS LOCATION

PROFILE VERT. SCALE: 1" = 500 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PennEast PIPELINE

PREPARED BY:

OPS ENGINEERING, LLC

A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

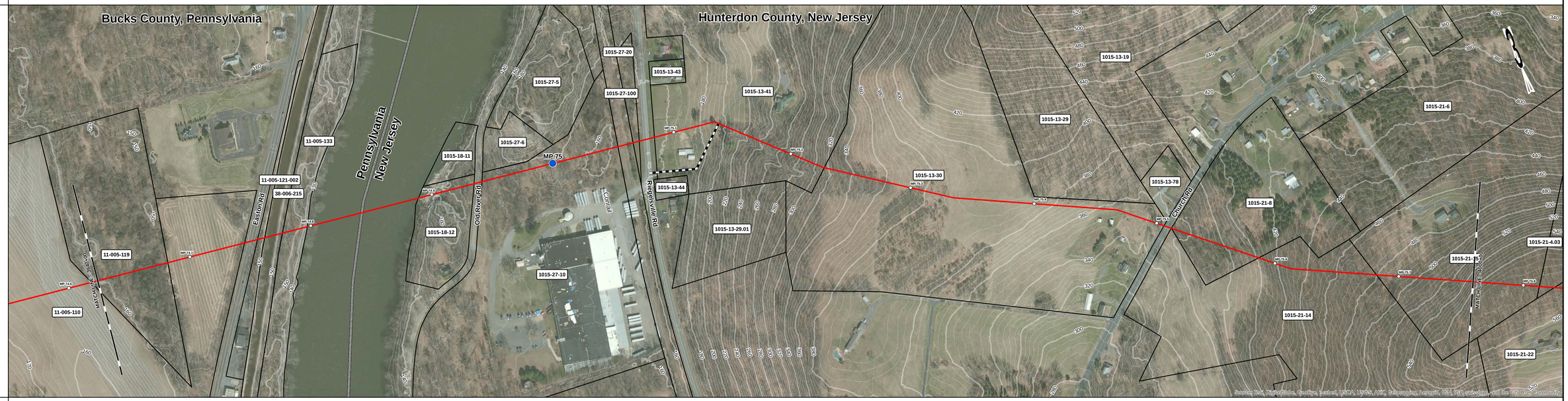
3890+00 TO 3940+00

DRAWN:	JBB	DATE:	10/21/14	SCALE:	1" = 200 ft	PROJECT ID:	80111
CHECKED:	JMA	DATE:	11/04/14	DRAWING NUMBER:	PEN-PL-MA-ALS-068	REV:	A
APPROVED:	JMH	DATE:	11/04/14				

OWNERSHIP		Serenity Investors Lp (11-005-119)	Ap Creations Lp (11-005-180)		Porter, Jeffrey & Christina Kennedy (11-005-121-002)	Commonwealth Of Pa Del River / Div Canal (38-006-214)	Commonwealth Of Pa (38-006-215)		Thompson, Richard S & Anne (1015-18-12)		Georgia-Pacific Corrugated Iii Llc (1015-27-10)	Unknown (1015-27-100)	Georgia-Pacific Corrugated Iii Llc (1015-27-20)		Snyder, Philip H & Linda L (1015-13-41)	Moore, Jeanne M & William S Jr (1015-13-30)		Moore, William S Jr (1015-21-8)	Briede, David & Maryann (1015-21-6)	Moore, William S Jr (1015-21-14)	Fleischman, Otto U & Lori J (1015-21-19)	
	3940+00		3943+20	3946+55	3947+31	3947+42	3948+20	3949+28	3954+13	3956+56	3956+91	3962+85	3963+51	3963+77	3964+44		3972+09		3986+72	3987+06	3990+95	3996+01	4000+00
TOPSOIL SEG.		320 ft	335 ft		31 ft	77 ft	108 ft		243 ft		593 ft	66 ft	27 ft		765 ft	1,463 ft			1 ft	389 ft	506 ft	399 ft	

STATIONING

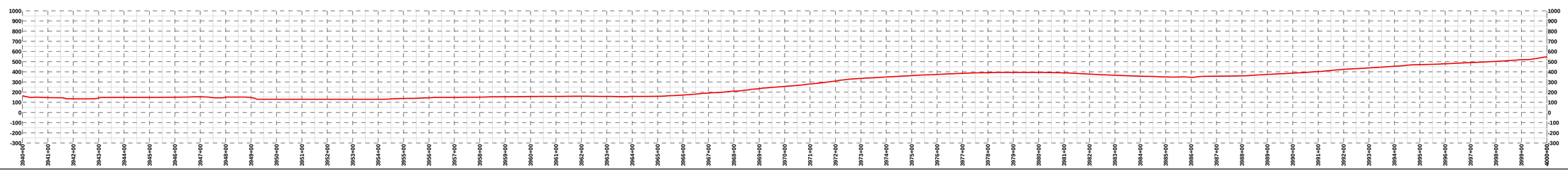
PLAN VIEW



PIPE DATA
MAOP:1480

CLASS LOCATION

PROFILE
VERT. SCALE: 1" = 500 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PREPARED BY:

QPS ENGINEERING, LLC
A QUANTA SERVICES COMPANY

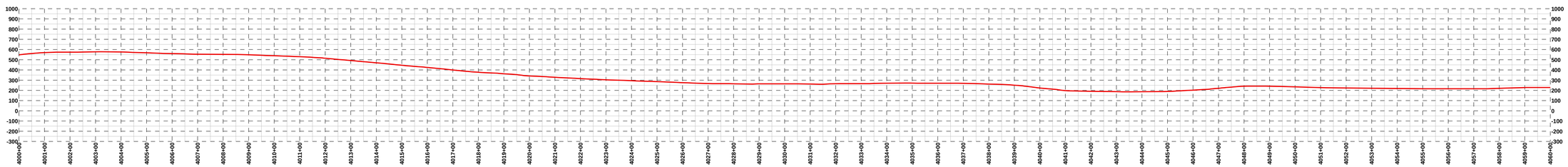
PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

3940+00 TO 4000+00

DRAWN:	JBB	DATE:	10/21/14	SCALE:	1" = 200 ft	PROJECT ID:	80111
CHECKED:	JMA	DATE:	11/04/14	DRAWING NUMBER:	PEN-PL-MA-ALS-069		REV: A
APPROVED:	JMH	DATE:	11/04/14				

OWNERSHIP		Fleischman, Otto U & Lori J (1015-21-3)	Dodds, Earle Kevin (1015-21-4.03)	Godown, Robert (1015-21-5)	Dodds, Earle Kevin (1015-21-4.03)	Dodds, Earle Kevin (1015-21-4)	Smith, Kenneth S & Laura D Wilson (1015-21-18.01)	Dodd, Vera (1015-21-50)	Federal Natl Mortgage Assoc (1015-21-17)	Jenness, Walter (1015-21-18)		Muench, Casey Lynn (1015-20-10)	Lafevre, Richard D. & Pamela A. (1015-20-9)	
	4000+00	4002+91	4003+55	4008+32	4011+52	4019+64	4028+04	4033+61	4039+24	4044+18	4044+66		4056+18	4060+00
	291 ft	64 ft	477 ft	321 ft	811 ft	940 ft	478 ft	542 ft	494 ft		1,152 ft		382 ft	
TOPSOIL SEG.														
STATIONING														
PLAN VIEW														
PIPE DATA MAOP:1480														
CLASS LOCATION														
PROFILE VERT. SCALE: 1" = 500 ft														
DEPTH OF COVER														
ENV. FEATURE														
TYPE														
CROSSING METHOD														
SPECIAL REQ.														

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PREPARED BY:

QPS ENGINEERING, LLC

A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

4000+00 TO 4060+00

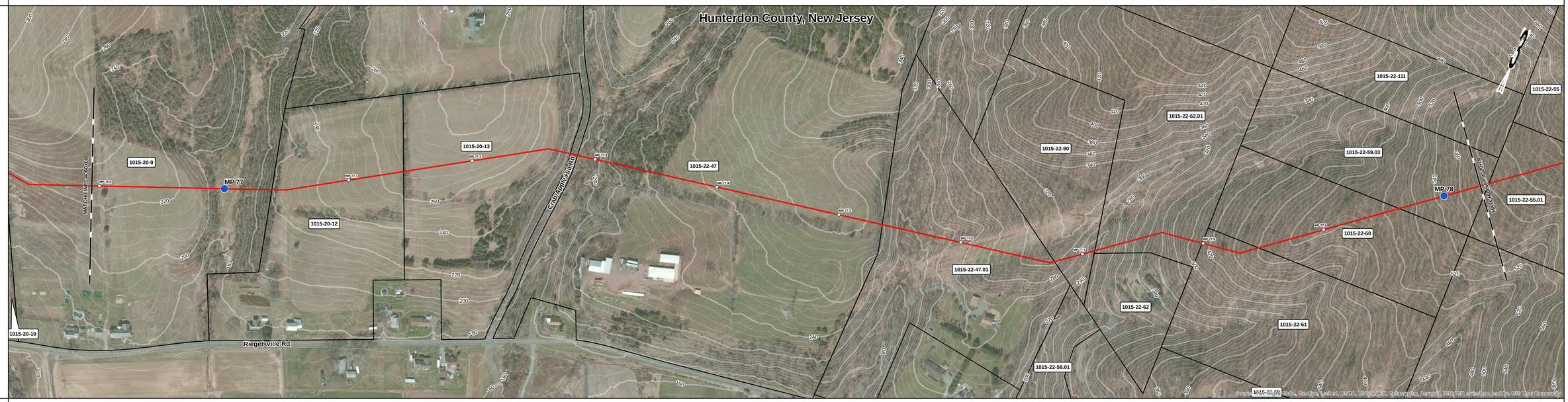
DRAWN: JBB	DATE: 10/21/14	SCALE: 1" = 200 ft	PROJECT ID: 80111		
CHECKED: JMA	DATE: 11/04/14	DRAWING NUMBER: PEN-PL-MA-ALS-070		REV: A	
APPROVED: JMH	DATE: 11/04/14				

OWNERSHIP	Lafevre, Richard D. & Pamela A. (1015-20-9)	Bellis, Chester A Jr & Doris E (1015-20-10)	Bellis, Chester A Jr & Doris E (1015-20-13)	Young, Kathleen M & Duane C (1015-22-47)	Eichlin, Earl R. Jr. & Yvette (1015-22-47.01)	Township Of Holland (1015-22-90)	State Of New Jersey -DEP (1015-22-62)	State Of New Jersey-Dep (1015-22-61)	Karcher, Chris & Sherry (1015-22-60)	State Of New Jersey -DEP (1015-22-59.03)
	4060+00	4067+60	4073+23	4080+37 / 4080+68	4093+88	4101+34	4103+10	4107+80	4110+26	4116+43 / 4120+00
	760 ft	563 ft	714 ft	1,320 ft	746 ft	176 ft	469 ft	247 ft	617 ft	357 ft

TOPSOIL SEG.

STATIONING

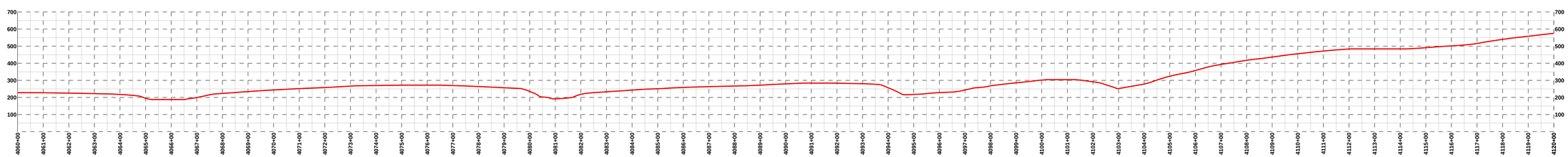
PLAN VIEW



PIPE DATA MAOP:1480

CLASS LOCATION

PROFILE VERT. SCALE: 1" = 300 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PREPARED BY:

QPS ENGINEERING, LLC

A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

4060+00 TO 4120+00

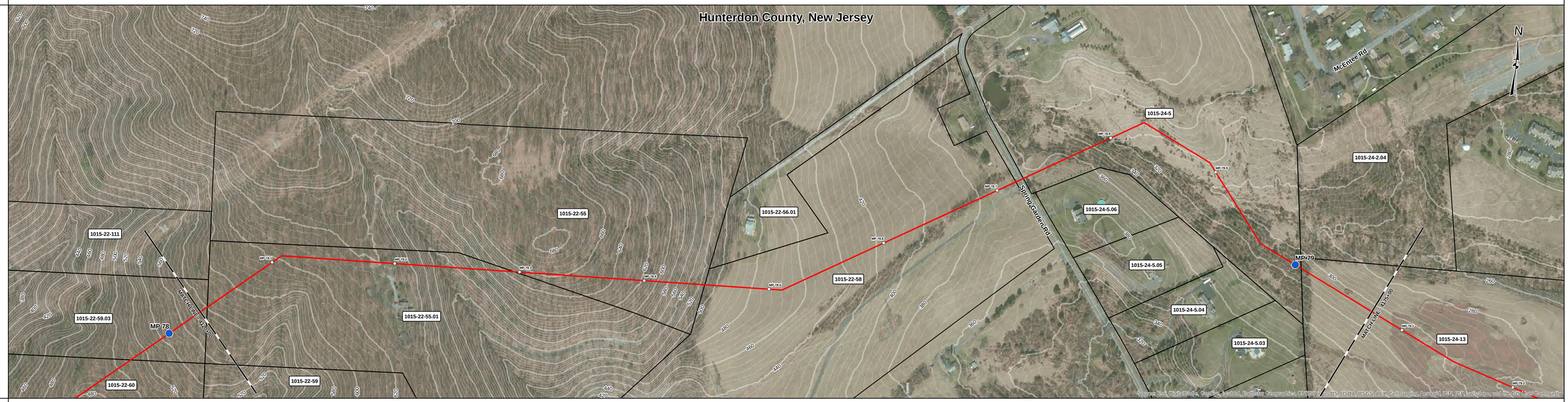
DRAWN:	JBB	DATE:	10/21/14	SCALE:	1" = 200 ft	PROJECT ID:	80111
CHECKED:	JMA	DATE:	11/04/14	DRAWING NUMBER:	PEN-PL-MA-ALS-071	REV:	A
APPROVED:	JMH	DATE:	11/04/14				

OWNERSHIP		State Of New Jersey -DEP (1015-22-56.02)	Lonergan, Robert A & Naomi (1015-22-60.01)	State Of New Jersey -DEP (1015-22-58)	Kaufman, Stephen A & Phyllis L (1015-24-5)	Geibel, Philip & Marceline (1015-24-13)	Jiovino, Vincent Jr (1015-24-18)	
	4120+00	4120+36	4134+02	4142+08	4156+23	4156+58	4171+49	4175+00
		36 ft	1,366 ft	806 ft	1,415 ft	1,491 ft	351 ft	

TOPSOIL SEG.

STATIONING

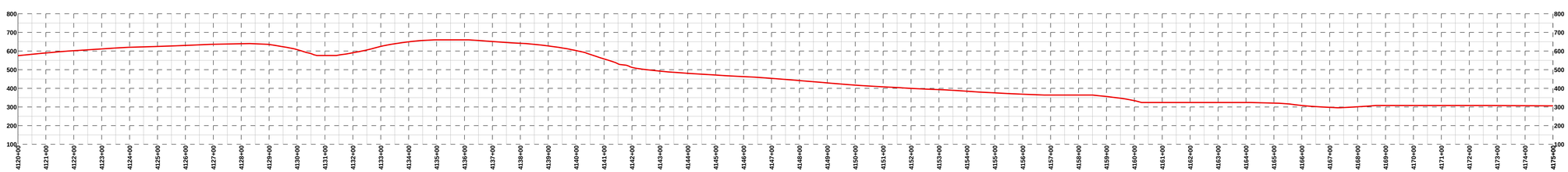
PLAN VIEW



PIPE DATA
MAOP:1480

CLASS LOCATION

PROFILE
VERT. SCALE: 1" = 300 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PennEast PIPELINE

PREPARED BY:

QPS ENGINEERING, LLC

A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

4120+00 TO 4175+00

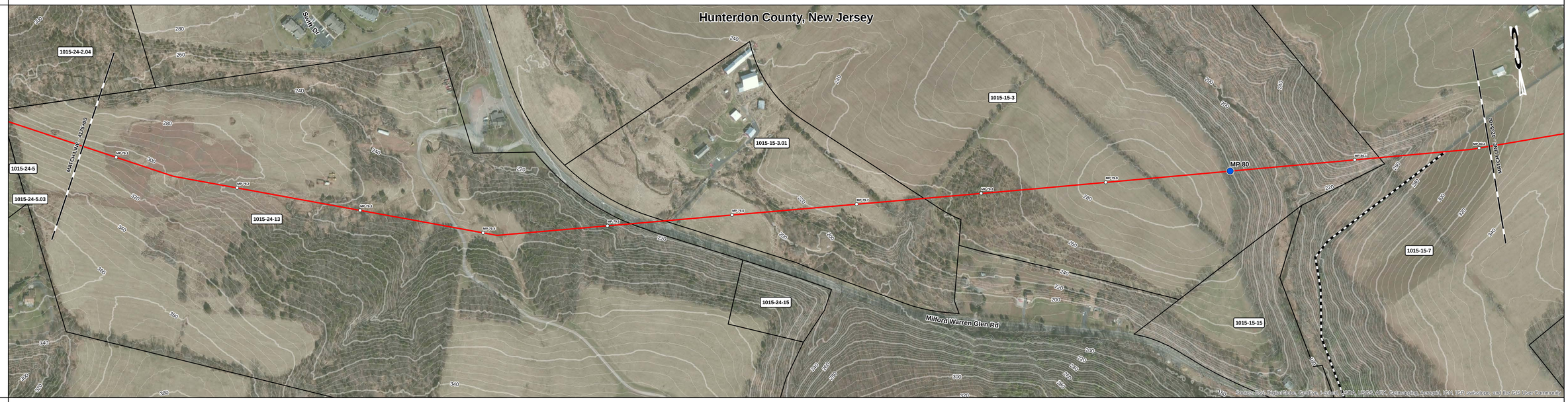
DRAWN: JBB	DATE: 10/21/14	SCALE: 1" = 200 ft	PROJECT ID: 80111		
CHECKED: JMA	DATE: 11/04/14	DRAWING NUMBER: PEN-PL-MA-ALS-072		REV: A	
APPROVED: JMH	DATE: 11/04/14				

OWNERSHIP								
	4175+00	Jiovino, Vincent Jr (1015-24-13)	4198+60	4200+02	Kinney, Lester R Sr & Ruth (1015-15-3.01)	4211+02	Farmer, David W Revocable Living Trust (1015-15-3)	Bossland Farm Llc % R Howard Boss (1015-15-7)	4230+32	4235+00
		2,360 ft			1,100 ft		1,930 ft	468 ft		

TOPSOIL SEG.

STATIONING

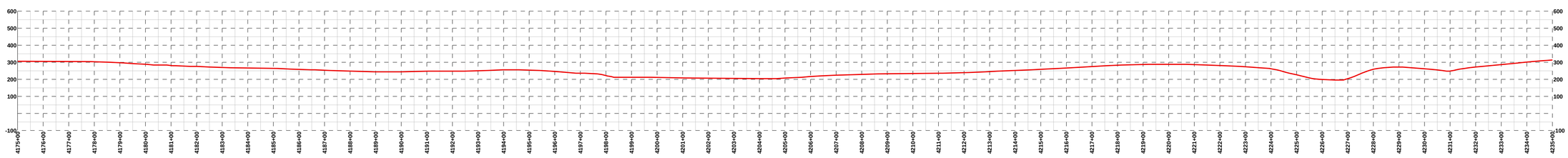
PLAN VIEW



PIPE DATA MAOP:1480

CLASS LOCATION

PROFILE VERT. SCALE: 1" = 300 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PREPARED BY:

QPS ENGINEERING, LLC

A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

4175+00 TO 4235+00

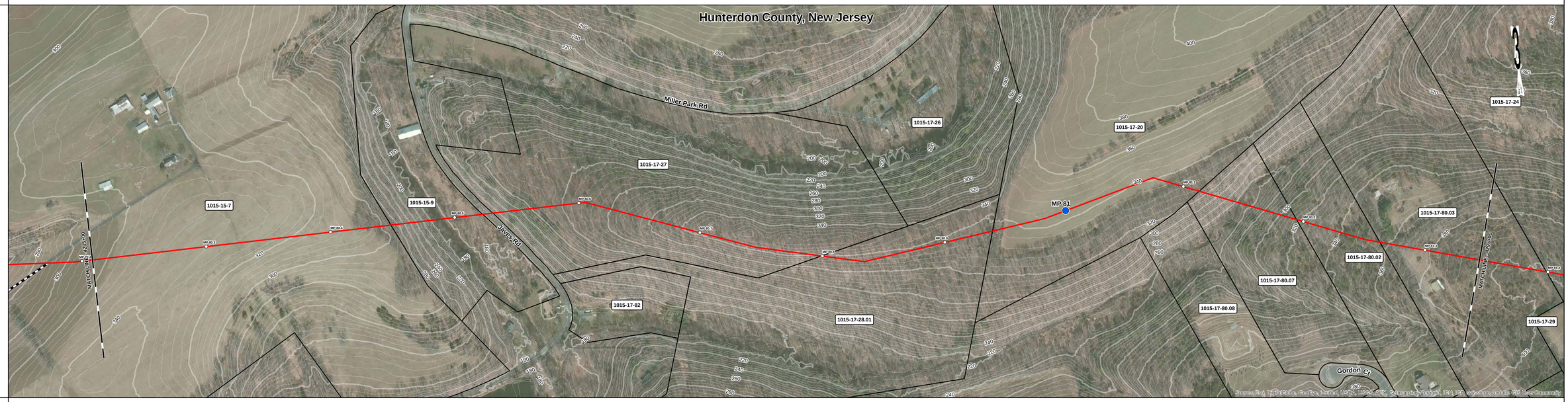
DRAWN:	JBB	DATE:	10/21/14	SCALE: 1" = 200 ft	PROJECT ID: 80111
CHECKED:	JMA	DATE:	11/04/14	DRAWING NUMBER: PEN-PL-MA-ALS-073	REV: A
APPROVED:	JMH	DATE:	11/04/14		

OWNERSHIP	Bossland Farm Llc % R Howard Boss (1015-15-7)	Keep, Chris (1015-15-9)	Indridson, Eric Christian (1015-17-27)	Jackson, Marc (1015-17-28.01)	Siuda, Chester Andrew & Leslie Joy (1015-17-80.08)	Depaul, Steven (1015-17-80.07)	Dalley, Darren J. & Debra A. (1015-17-80.02)	Seiff, Michael R (1015-17-80.03)
	4235+00 – 4247+69	4247+69 – 4251+59	4251+59 – 4266+20	4266+20 – 4273+59	4273+59 – 4282+77	4282+77 – 4287+06	4287+06 – 4290+71	4290+71 – 4295+00
	1,269 ft	390 ft	1,418 ft	739 ft	919 ft	429 ft	365 ft	429 ft

TOPSOIL SEG.

STATIONING

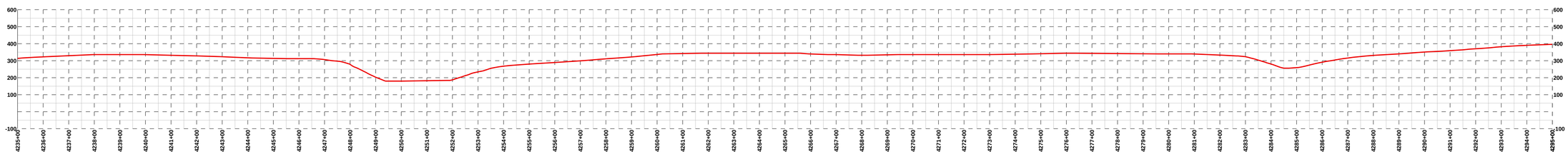
PLAN VIEW



PIPE DATA
MAOP:1480

CLASS LOCATION

PROFILE
VERT. SCALE: 1" = 300 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PennEast PIPELINE

PREPARED BY:

QPS ENGINEERING, LLC

A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

4235+00 TO 4295+00

DRAWN: JBB	DATE: 10/21/14	SCALE: 1" = 200 ft	PROJECT ID: 80111		
CHECKED: JMA	DATE: 11/04/14	DRAWING NUMBER: PEN-PL-MA-ALS-074		REV: A	
APPROVED: JMH	DATE: 11/04/14				

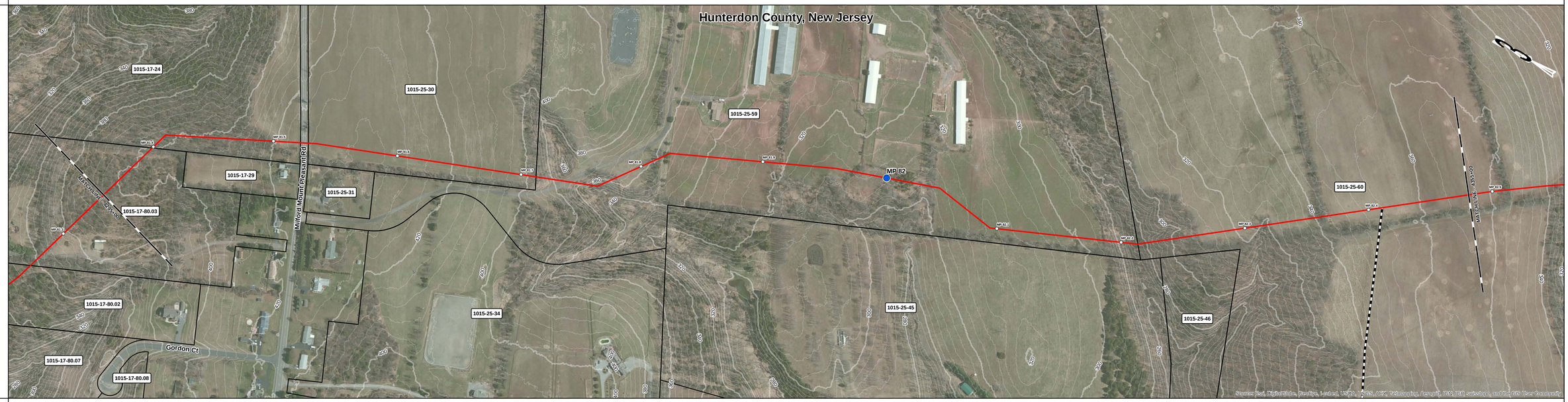
OWNERSHIP	Seiff, Michael R (1015-17-80.03)	Gombosi Holland Farms LLC (1015-17-24)	Gombosi, Lydia M Etals (1015-25-30)	Kozak, Paul E & Edith S (1015-25-59)	White, Jonathan Seth & Nina Stein (1015-25-60)
	4295+00 – 285 ft	4297+85 – 650 ft	4304+35 – 971 ft	4314+40 – 2,647 ft	4340+87 – 1,413 ft

4355+00

TOPSOIL SEG.

STATIONING

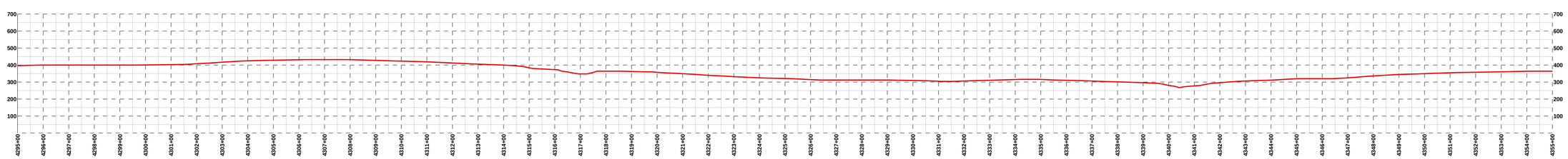
PLAN VIEW



PIPE DATA MAOP:1480

CLASS LOCATION

PROFILE VERT. SCALE: 1" = 300 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PennEast PIPELINE

PREPARED BY:

QPS ENGINEERING, LLC

A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

4295+00 TO 4355+00

DRAWN:	JBB	DATE:	10/21/14	SCALE: 1" = 200 ft	PROJECT ID: 80111
CHECKED:	JMA	DATE:	11/04/14	DRAWING NUMBER: PEN-PL-MA-ALS-075	REV: A
APPROVED:	JMH	DATE:	11/04/14		

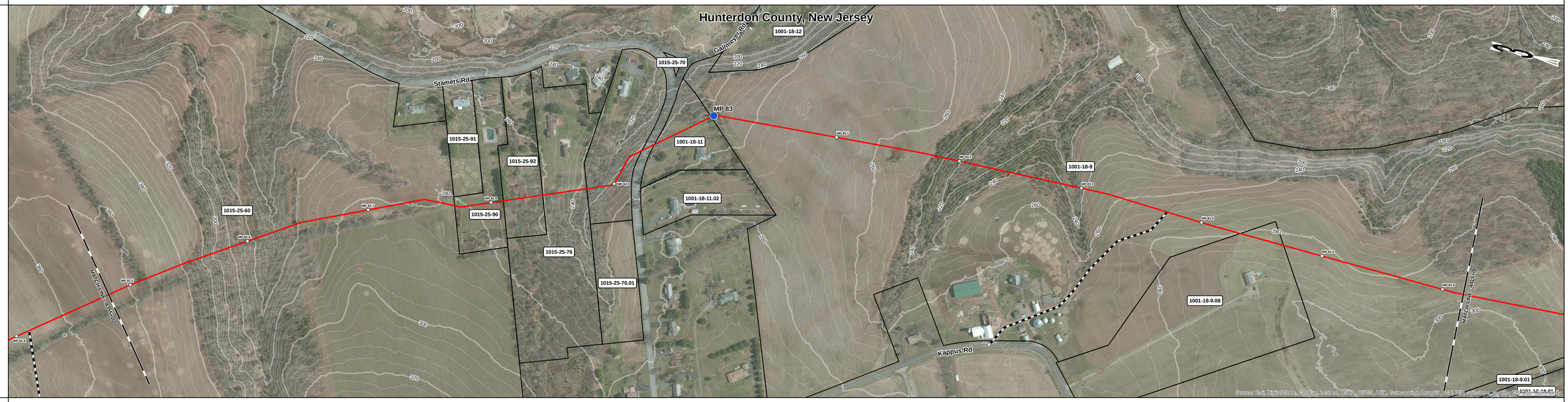
OWNERSHIP													
	4335+00	White, Jonathan Seth & Nina Stein (1015-25-60)	4370+28	Gunia, Thomas A & Robin L (1015-25-90)	4372+36	Warnecke, Madeline C & Robert E (1015-25-91)	4374+04	Waldron, Jeffrey L & Winifred M (1015-25-76)	4375+92	Woodrose Properties Llc (1015-25-70)	4379+02	Linden, Douglas E (1001-18-11)	4379+61
	1,528 ft		208 ft		169 ft		188 ft		310 ft			266 ft	

OWNERSHIP						
	4382+28	Kappus, Ronald W & Johanna M (1001-18-9)	4405+22	Kappus, Scott J & Cindy L (1001-18-9.08)	4407+12	Kappus, Ronald W & Johanna M (1001-18-9)	4415+00
	2,294 ft		190 ft		788 ft		

TOPSOIL SEG.

STATIONING

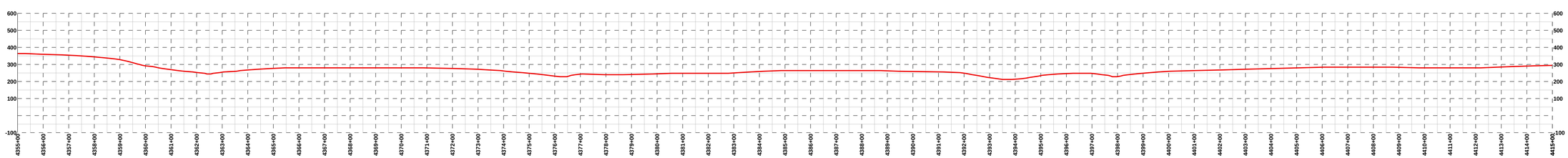
PLAN VIEW



PIPE DATA MAOP:1480

CLASS LOCATION

PROFILE – VERT. SCALE: 1" = 300 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PennEast PIPELINE

PREPARED BY:

QPS ENGINEERING, LLC

A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

4355+00 TO 4415+00

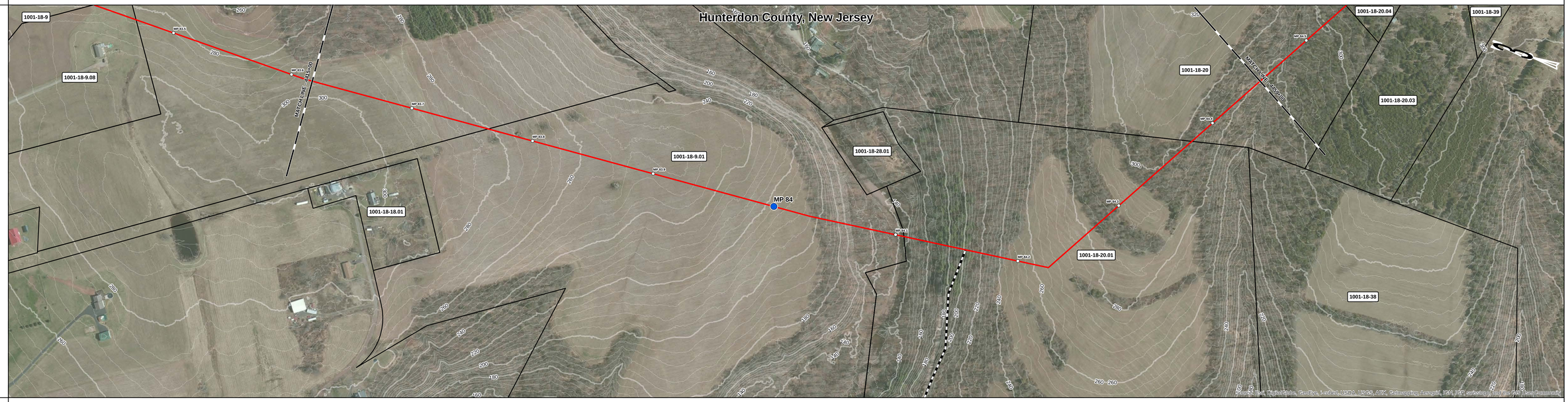
DRAWN: JBB	DATE: 10/21/14	SCALE: 1" = 200 ft	PROJECT ID: 80111		
CHECKED: JMA	DATE: 11/04/14	DRAWING NUMBER: PEN-PL-MA-ALS-076		REV: A	
APPROVED: JMH	DATE: 11/04/14				

OWNERSHIP	Kappus, Ronald W & Johanna M (1001-18-9)	Kappus, Kathleen L. & ETAL (1001-18-9.01)	Dotoli, Vincent & Louisa (1001-18-20.01)	Santoro, Michael D & Maureen Patern (1001-18-20)
	4415+00 – 770 ft	4422+70 – 1,814 ft	4440+84 – 1,432 ft	4455+15 – 385 ft (4459+00)

TOPSOIL SEG.

STATIONING

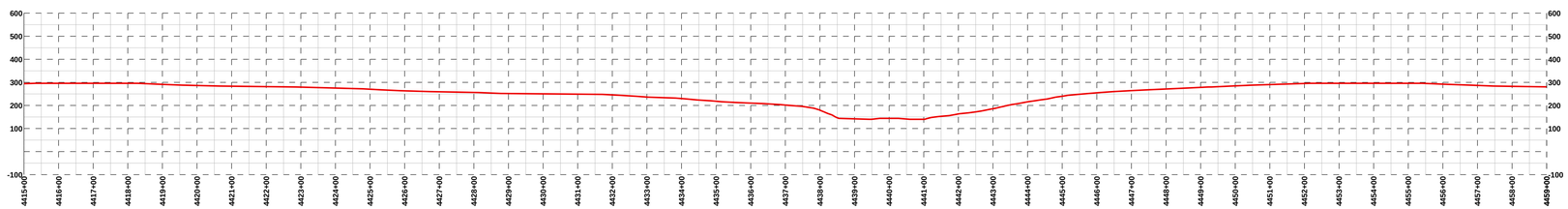
PLAN VIEW



PIPE DATA
MAOP:1480

CLASS LOCATION

PROFILE
VERT. SCALE: 1" = 300 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PREPARED BY:
QPS ENGINEERING, LLC
A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET
PROPOSED 36" PIPELINE
4415+00 TO 4459+00

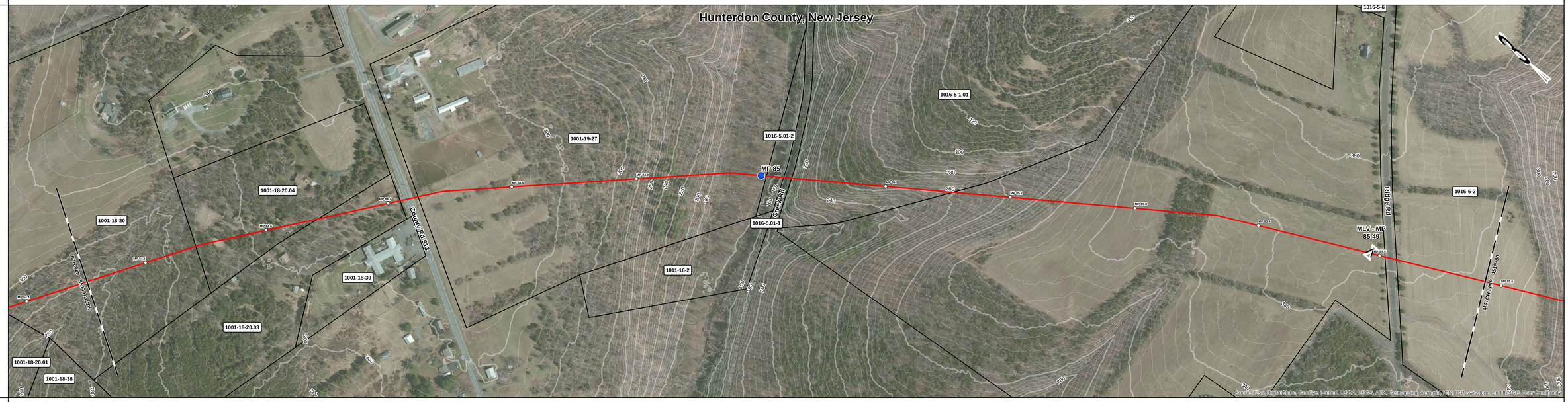
DRAWN:	JBB	DATE:	10/21/14	SCALE:	1" = 200 ft	PROJECT ID:	80111
CHECKED:	JMA	DATE:	11/04/14	DRAWING NUMBER:	PEN-PL-MA-ALS-077		REV: A
APPROVED:	JMH	DATE:	11/04/14				

OWNERSHIP	Santoro, Michael D & Maureen Patern (1001-18-20)	Goins, Leonard J & Sharon A (1001-18-20.04)	Wingel (Gebhard), Barbara (1001-18-20.03)	Sandor, Thomas E & Maryellen (1001-19-27)	Sandor, Thomas E & Maryellen (1016-5.01-2)	Tranquility Farms Lp/ Mase Lp (1016-5-1.01)	Desapio, Gaetano M (1016-5-6)	Desapio ET AL C/O James L Desapio (1016-6-2)
	4459+00 – 4463+63	4463+63 – 4469+13	4469+13 – 4472+67	4472+67 – 4488+22	4488+22 – 4488+95	4488+95 – 4496+12	4496+12 – 4514+63	4514+63 – 4519+00
	483 ft	529 ft	355 ft	1,477 ft	73 ft	684 ft	1,851 ft	387 ft

TOPSOIL SEG.

STATIONING

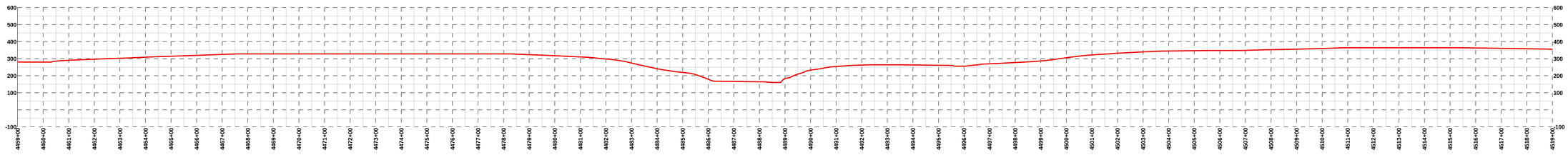
PLAN VIEW



PIPE DATA
MAOP:1480

CLASS LOCATION

PROFILE
VERT. SCALE: 1" = 300 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PennEast PIPELINE

PREPARED BY:
QPS ENGINEERING, LLC
A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

4459+00 TO 4519+00

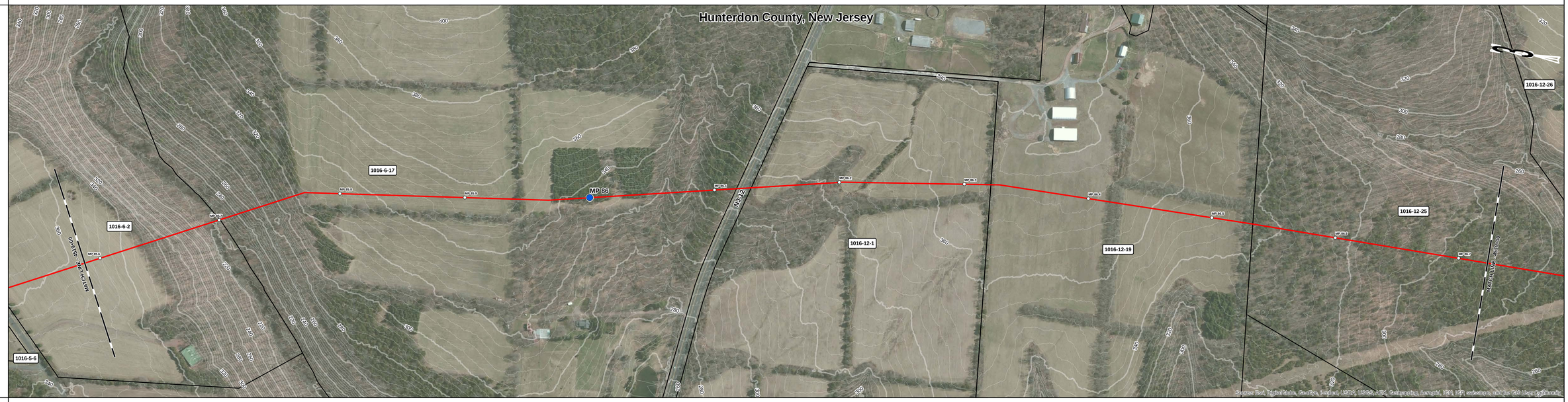
DRAWN: JBB	DATE: 10/21/14	SCALE: 1" = 200 ft	PROJECT ID: 80111		
CHECKED: JMA	DATE: 11/04/14	DRAWING NUMBER: PEN-PL-MA-ALS-078		REV: A	
APPROVED: JMH	DATE: 11/04/14				

OWNERSHIP	Desapio ET AL C/O James L Desapio (1016-6-2)	Gombosi, Frances & Alan Etals (1016-6-17)	Felix, Philip & Mary (1016-12-1)	Kjaer, Ruth (1016-12-19)	United Reformed Church (1016-12-26)
	4519+00 – 4524+99	4524+99 – 4547+00	4547+00 – 4557+76	4557+76 – 4568+95	4568+95 – 4579+00
	599 ft	2,201 ft	1,013 ft	1,119 ft	1,005 ft

TOPSOIL SEG.

STATIONING

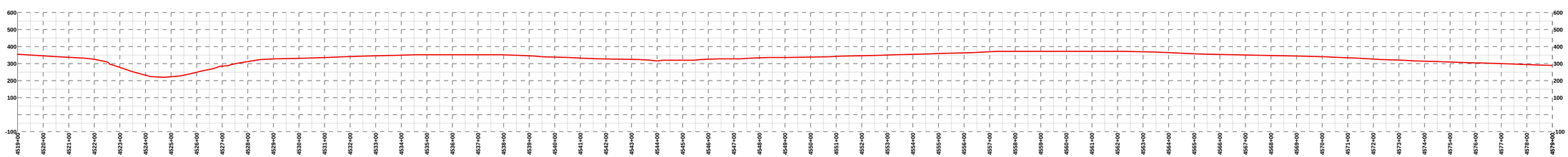
PLAN VIEW



PIPE DATA
MAOP:1480

CLASS LOCATION

PROFILE
VERT. SCALE: 1" = 300 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PennEast PIPELINE

PREPARED BY:

QPS ENGINEERING, LLC
A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

4519+00 TO 4579+00

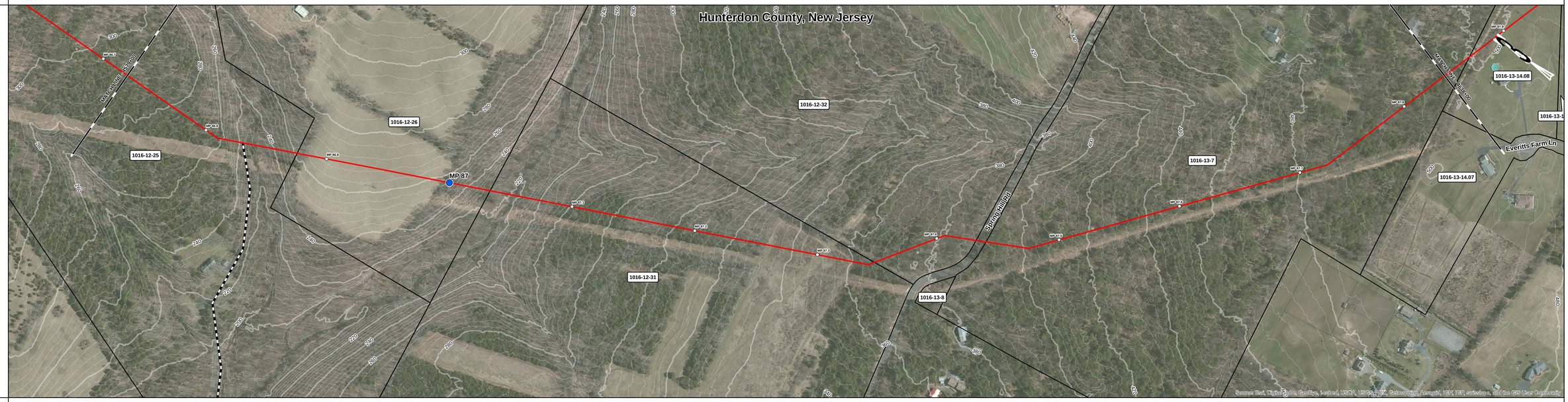
DRAWN: JBB	DATE: 10/21/14	SCALE: 1" = 200 ft	PROJECT ID: 80111		
CHECKED: JMA	DATE: 11/04/14	DRAWING NUMBER: PEN-PL-MA-ALS-079		REV: A	
APPROVED: JMH	DATE: 11/04/14				

OWNERSHIP	United Reformed Church (1016-12-25)	Covalesky, Andrew & Patricia (1016-12-26)	Frenchtown Run Llc (1016-12-31)	Pandy, Grace William & Beth Ann (1016-12-32)	Kursinski, Anne (1016-13-7)
	4579+00 – 4587+05	4587+05 – 4595+35	4595+35 – 4611+90	4611+90 – 4616+84	4616+84 – 4638+00
	805 ft	830 ft	1,655 ft	452 ft	2,116 ft

TOPSOIL SEG.

STATIONING

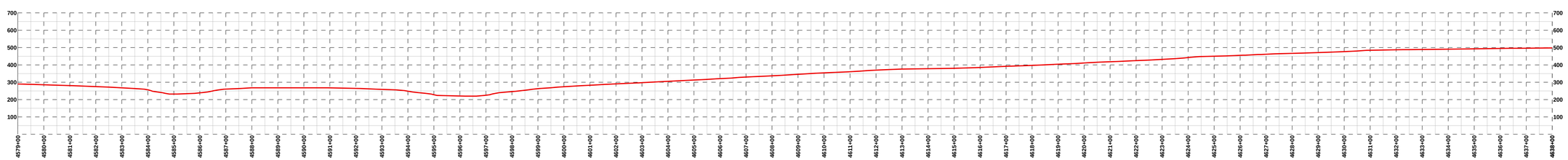
PLAN VIEW



PIPE DATA
MAOP:1480

CLASS LOCATION

PROFILE
VERT. SCALE: 1" = 300 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	JBB	JMA	JMH

PREPARED BY:

QPS ENGINEERING, LLC

A QUANTA SERVICES COMPANY

PennEast PIPELINE

PENNEAST PIPELINE PROJECT

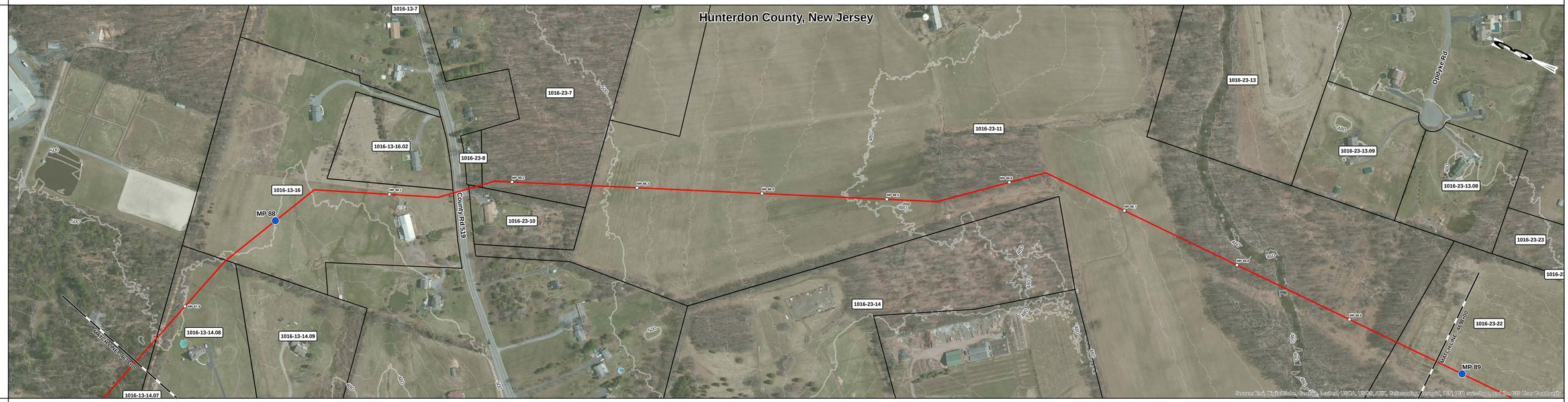
PRELIMINARY ALIGNMENT SHEET
PROPOSED 36" PIPELINE
4579+00 TO 4638+00

DRAWN: JBB	DATE: 10/21/14	SCALE: 1" = 200 ft	PROJECT ID: 80111		
CHECKED: JMA	DATE: 11/04/14	DRAWING NUMBER: PEN-PL-MA-ALS-080		REV: A	
APPROVED: JMH	DATE: 11/04/14				

OWNERSHIP		Kursinski, Anne (1016-13-7)	Ponter, Nancy E (1016-13-14.08)	Juray, Ernest & Robert (1016-13-16)		Francescone, Felice (1016-23-10)	Davis, Earl W Jr (1016-23-8)	Thompson, Paul & Kathleen (1016-23-7)	Perrotti, Irma (1016-23-11)	Silkotch, Frances M. Trustee (1016-23-22)	
	4638+00	4639+30	4643+72		4654+40	4655+09	4655+43	4655+67	4660+31	4698+12	4698+00
TOPSOIL SEG.		130 ft	443 ft	1,068 ft		34 ft	24 ft	465 ft	3,581 ft	188 ft	

STATIONING

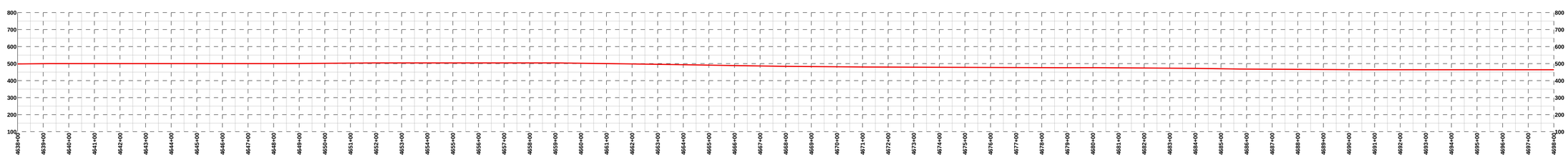
PLAN VIEW



PIPE DATA
MAOP:1480

CLASS LOCATION

PROFILE
VERT. SCALE: 1" = 300 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PennEast PIPELINE

PREPARED BY:
QPS ENGINEERING, LLC
A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET
PROPOSED 36" PIPELINE
4638+00 TO 4698+00

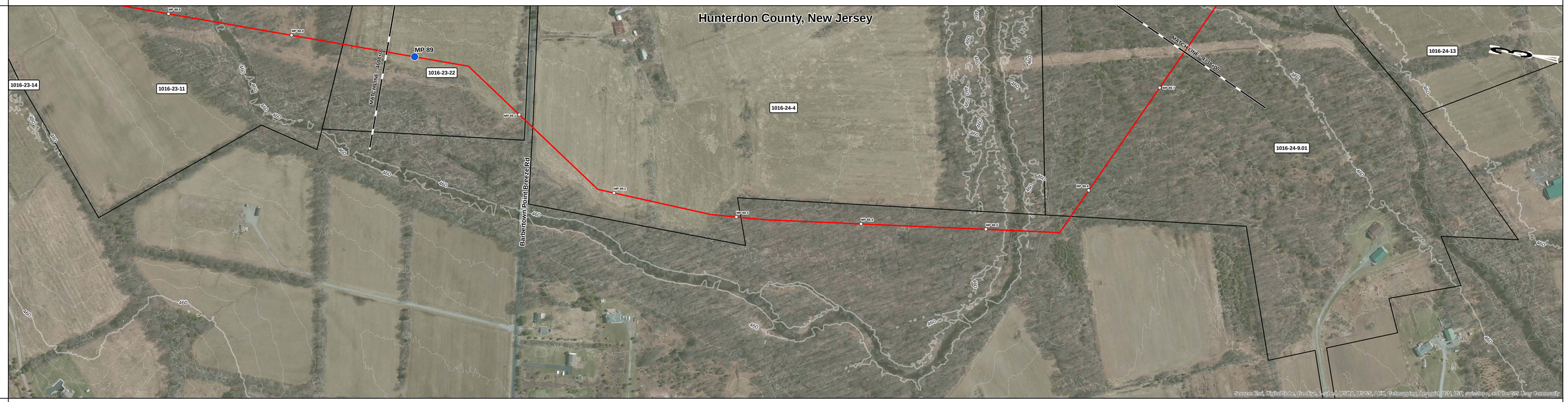
DRAWN: JBB	DATE: 10/21/14	SCALE: 1" = 200 ft	PROJECT ID: 80111		
CHECKED: JMA	DATE: 11/04/14	DRAWING NUMBER: PEN-PL-MA-ALS-081		REV: A	
APPROVED: JMH	DATE: 11/04/14				

OWNERSHIP	Silkotch, Frances M. Trustee (1016-23-22)	Frenchtown Iii Solar Llc (1016-24-4)	Sommo, Thomas (1016-24-9.01)
	4698+00 – 4704+83	4705+26 – 4715+23	4729+55 – 4738+00
	683 ft	997 ft	845 ft

TOPSOIL SEG.

STATIONING

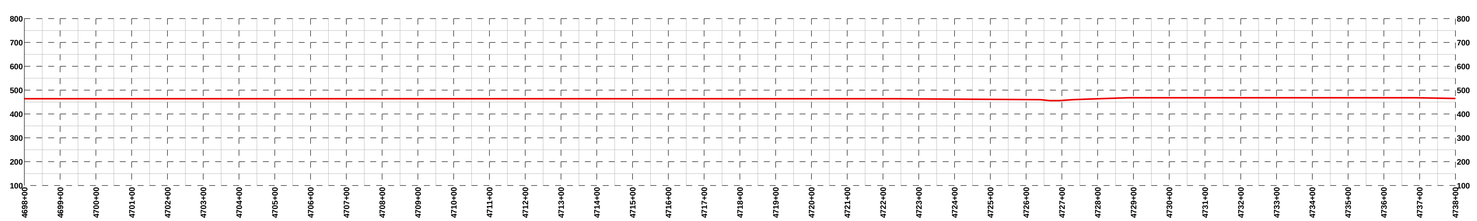
PLAN VIEW



PIPE DATA MAOP:1480

CLASS LOCATION

PROFILE VERT. SCALE: 1" = 300 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PREPARED BY:

QPS ENGINEERING, LLC

A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

4698+00 TO 4738+00

DRAWN: JBB	DATE: 10/21/14	SCALE: 1" = 200 ft	PROJECT ID: 80111		
CHECKED: JMA	DATE: 11/04/14	DRAWING NUMBER: PEN-PL-MA-ALS-082		REV: A	
APPROVED: JMH	DATE: 11/04/14				

OWNERSHIP	Start	Owner	Parcel	Length
	4738+00	Sommo, Thomas	1016-24-9.01	711 ft
	4745+11	Hunterdon Land Trust Alliance Etal	1016-24-14.01	1,519 ft
	4760+30			
	4760+73	Honeymar, Sara & Peter	1016-26-4	1,127 ft
	4772+00	Lamson, Jane S.	1016-26-3.01	708 ft
		Folk, Sara M	1016-26-15	10 ft
	4779+08			
	4779+18	Degrado, Vincent & Catherine	1016-26-16	1,401 ft
	4793+19	Kugler, Robert C & Catherine M	1016-26-23.01	481 ft
	4798+00			

TOPSOIL SEG.

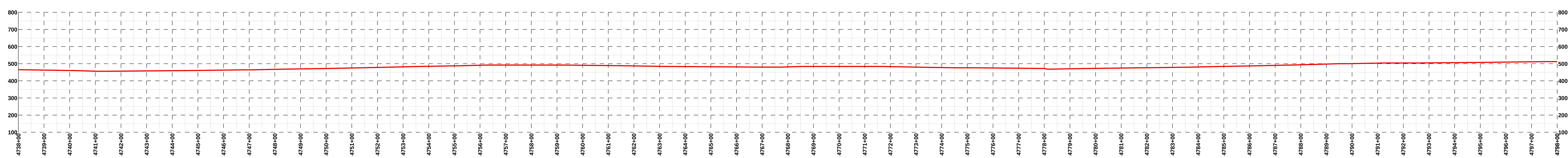
STATIONING

PLAN VIEW

PIPE DATA
MAOP:1480

CLASS LOCATION

PROFILE
VERT. SCALE: 1" = 300 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

▭	PARCEL BOUNDARY	>	MLV
▭	COUNTY BOUNDARY	#	INTERCONNECT
▭	STATE BOUNDARY	●	MILEPOST
—	PROPOSED PIPELINE	○	1/10TH MILE
- - -	ACCESS ROAD		

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PREPARED BY:

QPS ENGINEERING, LLC
A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

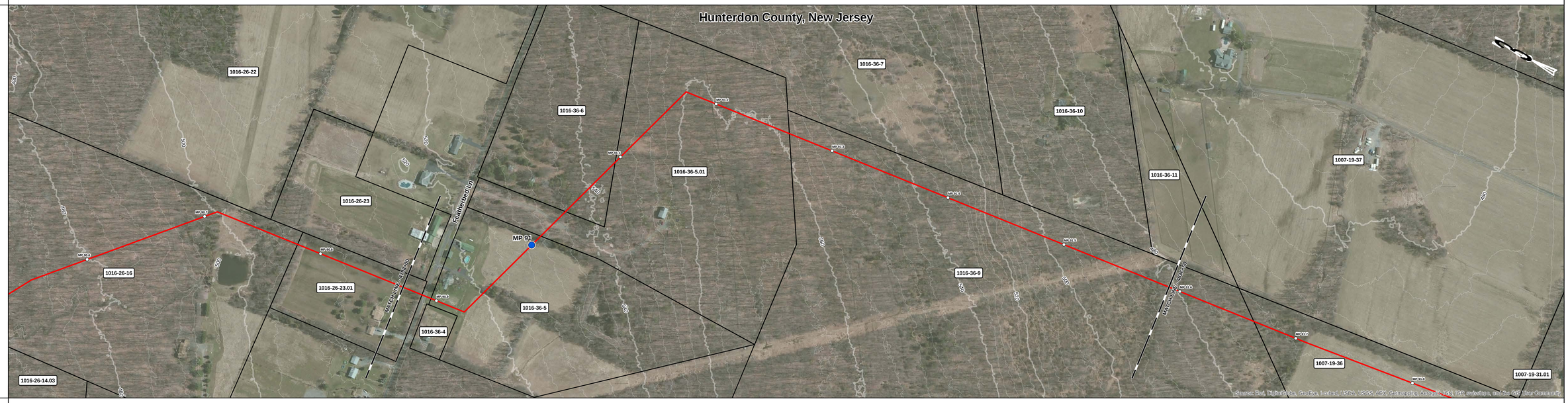
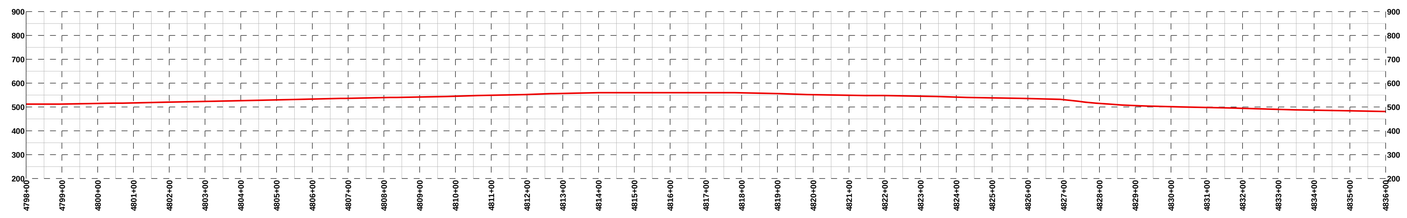
PRELIMINARY ALIGNMENT SHEET

PROPOSED 36'' PIPELINE

4738+00 TO 4798+00

DRAWN:	JBB	DATE:	10/21/14	SCALE: 1" = 200 ft	PROJECT ID: 80111
CHECKED:	JMA	DATE:	11/04/14	DRAWING NUMBER: PEN-PL-MA-ALS-083	REV: A
APPROVED:	JMH	DATE:	11/04/14		

OWNERSHIP		Kugler, Robert C & Catherine M (1016-26-23.01)		Davis, Gary D & Carole L (1016-36-5)	Potts Terri Lynn / Kyron J Corus (1016-36-5.01)	Marinzel, William (1016-36-4)	Potts Terri Lynn / Kyron J Corus (1016-36-3.01)	Calandra's Italian & French Bakery (1016-36-2)	
	4798+00	86 ft	4798+86	606 ft	147 ft	296 ft	892 ft	1,731 ft	4836+00

TOPSOIL SEG.	
STATIONING	
PLAN VIEW	
PIPE DATA MAOP:1480	
CLASS LOCATION	
PROFILE VERT. SCALE: 1" = 300 ft	
DEPTH OF COVER	
ENV. FEATURE	
TYPE	
CROSSING METHOD	
SPECIAL REQ.	

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PREPARED BY:

QPS ENGINEERING, LLC

A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

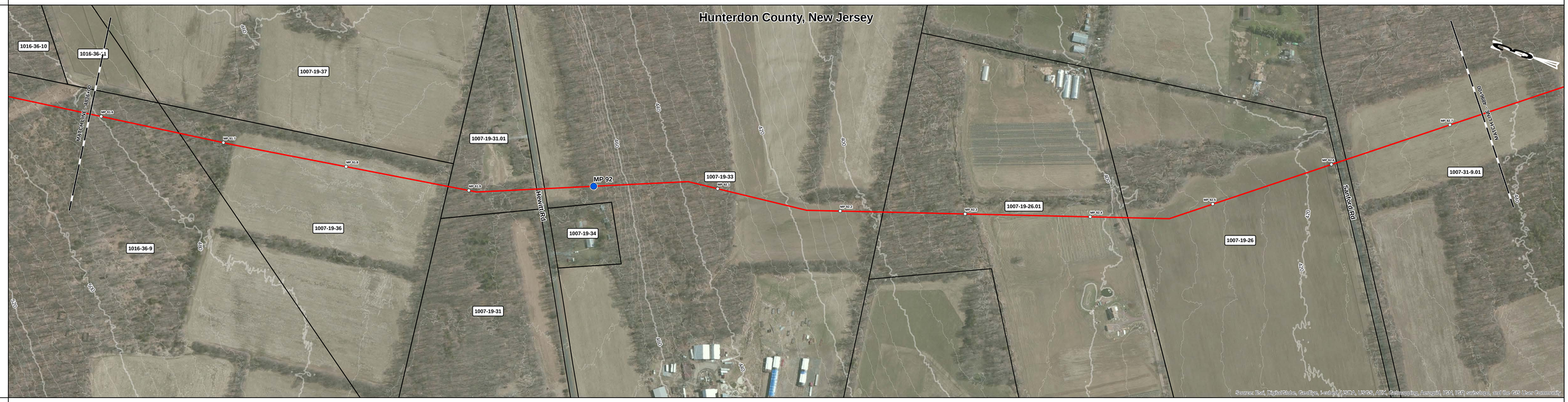
4798+00 TO 4836+00

DRAWN:	JBB	DATE:	10/21/14	SCALE: 1" = 200 ft	PROJECT ID: 80111
CHECKED:	JMA	DATE:	11/04/14	DRAWING NUMBER: PEN-PL-MA-ALS-084	REV: A
APPROVED:	JMH	DATE:	11/04/14		

OWNERSHIP	Calandra's Italian & French Bakery (1016-36-5)	Calandra's Italian & French Bakery (1007-19-38)	Kuenstner, Cindy L. (1007-19-31.01)	Michalenko, Thomas D. & Harry G. (1007-19-33)	Lee, Wai Kun & Sau Kam Lau (1007-19-26.01)	New Jersey Conservation Foundation (1007-19-26)	Plum Brook Partners LLC (1007-31-9.01)
	4836+00 – 4839+65	4839+65 – 4851+43	4851+43 – 4855+19	4855+19 – 4889+97	4889+97 – 4890+31	4890+31 – 4890+52	4890+52 – 4896+00
TOPSOIL SEG.	385 ft	1,158 ft	377 ft	1,445 ft	1,034 ft	921 ft	607 ft

STATIONING

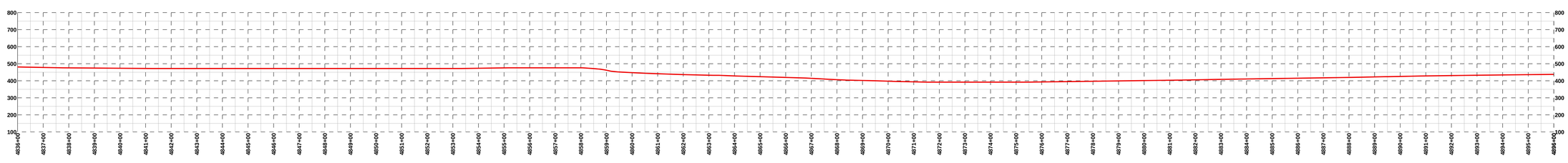
PLAN VIEW



PIPE DATA
MAOP:1480

CLASS LOCATION

PROFILE
VERT. SCALE: 1" = 300 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	JBB	JMA	JMH

PREPARED BY:

QPS ENGINEERING, LLC
A QUANTA SERVICES COMPANY

PennEast PIPELINE

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

4836+00 TO 4896+00

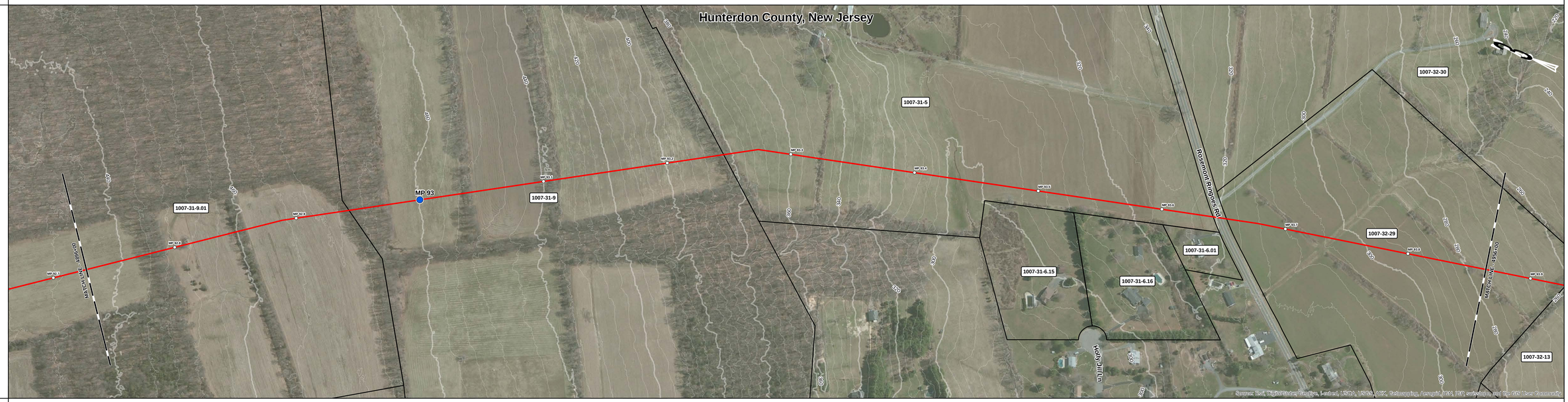
DRAWN: JBB	DATE: 10/21/14	SCALE: 1" = 200 ft	PROJECT ID: 80111		
CHECKED: JMA	DATE: 11/04/14	DRAWING NUMBER: PEN-PL-MA-ALS-085		REV: A	
APPROVED: JMH	DATE: 11/04/14				

OWNERSHIP	Plum Brook Partners LLC (1007-31-6.01)	Sayles, Charity C (1007-31-9)	Curtis, Alexandra M (1007-31-5)	Evans, Lloyd T B & Jacqueline Haut (1007-32-29)
	4896+00 – 4907+37	4907+37 – 4923+37	4923+37 – 4944+26	4944+84 – 4956+00
	1,137 ft	1,599 ft	2,090 ft	1,116 ft

TOPSOIL SEG.

STATIONING

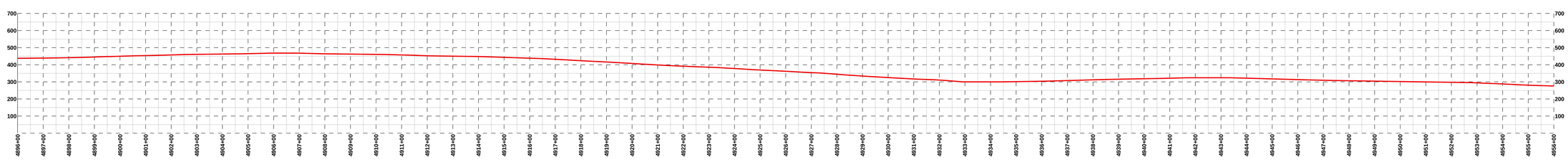
PLAN VIEW



PIPE DATA MAOP:1480

CLASS LOCATION

PROFILE
VERT. SCALE: 1" = 300 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	RJC	JMA	JMH

PennEast PIPELINE

PREPARED BY:
QPS ENGINEERING, LLC
A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

4896+00 TO 4956+00

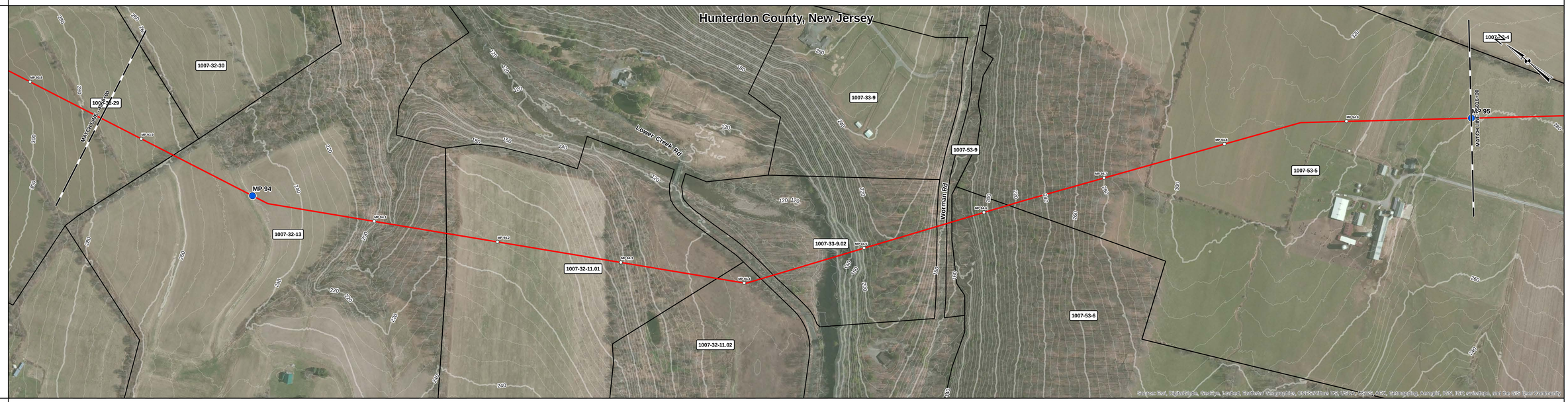
DRAWN: JBB	DATE: 10/21/14	SCALE: 1" = 200 ft	PROJECT ID: 80111		
CHECKED: JMA	DATE: 11/04/14	DRAWING NUMBER: PEN-PL-MA-ALS-086		REV: A	
APPROVED: JMH	DATE: 11/04/14				

OWNERSHIP		Evans, Lloyd T B & Jacqueline Haut (1007-32-30)	Hilton, Patrica C (1007-32-11)	New Jersey Conservation Foundation (1007-32-11.01)	New Jersey Conservation Foundation (1007-32-11.02)	New Jersey Conservation Foundation (1007-33-9.02)	Township Of Delaware (1007-53-9)	Bodine, Wesley B & Prall H (1007-53-5)	Bodine, Wesley B & Prall H (1007-53-6)	
	4956+00	4959+43	4971+57	4983+15	4985+05	4985+60	4992+81	4993+22	4993+47	4995+95	5016+00
	343 ft	1,214 ft	1,159 ft	190 ft		720 ft		23 ft	248 ft	2,005 ft	

TOPSOIL SEG.

STATIONING

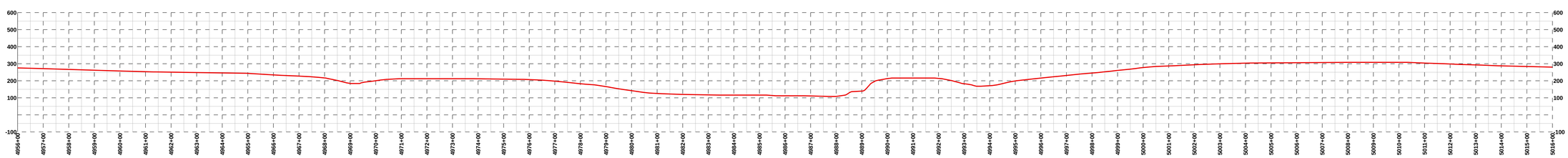
PLAN VIEW



PIPE DATA
MAOP:1480

CLASS LOCATION

PROFILE
VERT. SCALE: 1" = 300 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	JBB	JMA	JMH

PREPARED BY:

QPS ENGINEERING, LLC
A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

4956+00 TO 5016+00

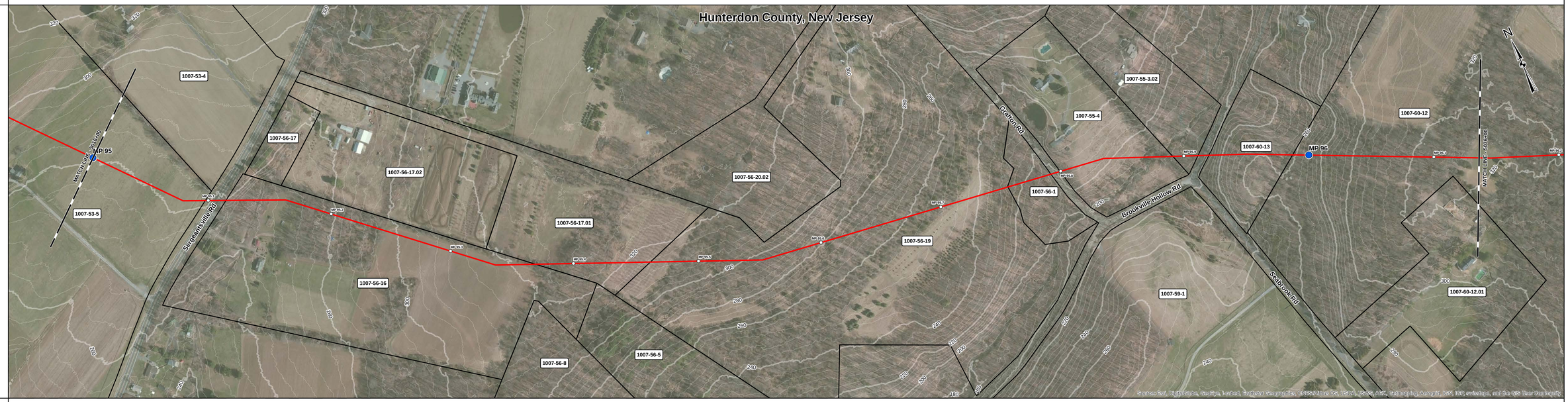
DRAWN: JBB	DATE: 10/21/14	SCALE: 1" = 200 ft	PROJECT ID: 80111		
CHECKED: JMA	DATE: 11/04/14	DRAWING NUMBER: PEN-PL-MA-ALS-087		REV: A	
APPROVED: JMH	DATE: 11/04/14				

OWNERSHIP		Bodine, Wesley B & Prall H (1007-53-6)		King, Ray & Deborah Scoblink Etal (1007-56-16)	Locandro, Roger R & Marylyn A (1007-56-17.01)	Locandro, Roger R & Marylyn A (1007-56-18)	Locandro, Roger R & Marylyn A (1007-56-1)		Rappaport, Charles O & Valerie B Ackerman (1007-55-3)	Keener, Philip L (1007-55-3.02)		Pfenninger, E. Brian (1007-60-13)	Spolar, William A (1007-60-12)	
	5016+00	515 ft	5021+15	5022+02 1,350 ft	5035+53 483 ft	5040+36 1,555 ft	5055+91 190 ft	5057+81	5058+21 484 ft	5063+05 106 ft	5064+11	5064+57 354 ft	5068+11 789 ft	5076+00

TOPSOIL SEG.

STATIONING

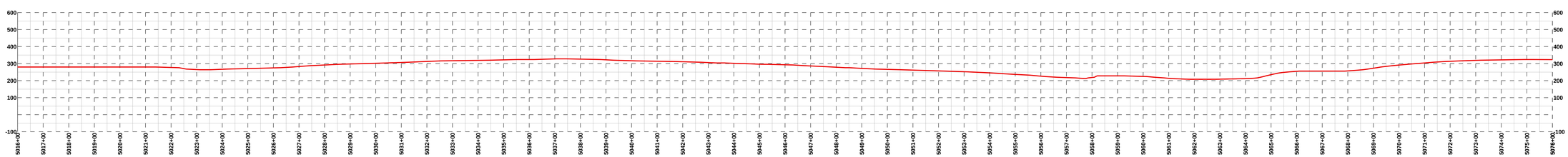
PLAN VIEW



PIPE DATA
MAOP:1480

CLASS LOCATION

PROFILE
VERT. SCALE: 1" = 300 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	JBB	JMA	JMH

PennEast PIPELINE

PREPARED BY:
QPS ENGINEERING, LLC
A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

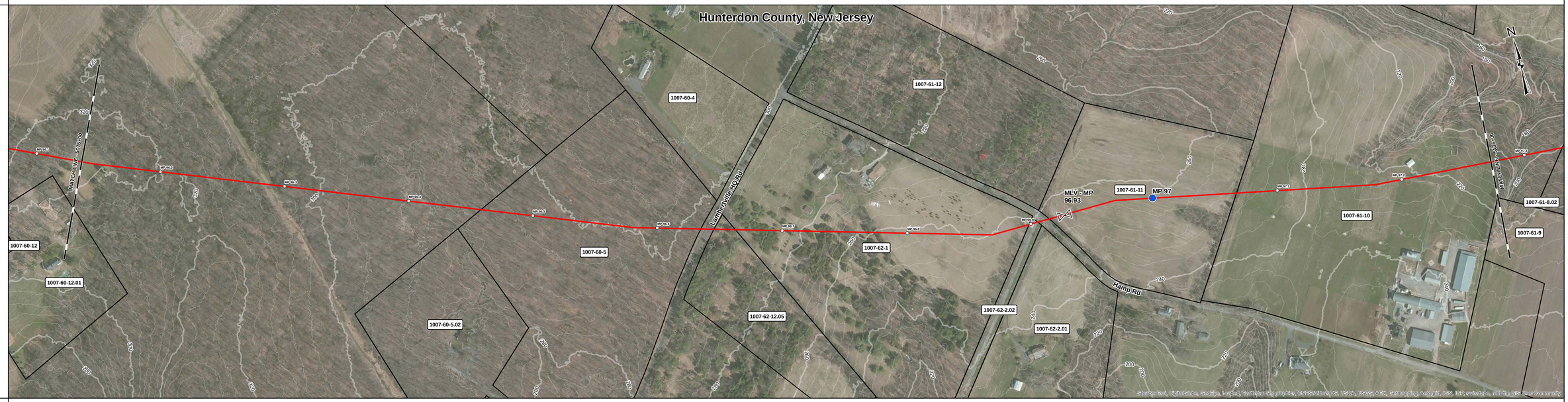
5016+00 TO 5076+00

DRAWN: JBB	DATE: 10/21/14	SCALE: 1" = 200 ft	PROJECT ID: 80111		
CHECKED: JMA	DATE: 11/04/14	DRAWING NUMBER: PEN-PL-MA-ALS-088		REV: A	
APPROVED: JMH	DATE: 11/04/14				

OWNERSHIP	Spolar, William A (1007-60-11)	Spolar, William A (1007-60-5)	Kohler, Richard J & Elizabeth (1007-62-12.05)	Hooven, Ralph O & Cindy (1007-62-1)	Warner, Gary C & Joan (1007-62-2.02)	Shull Irrevocable Trust C/O Bierman (1007-61-11)	Cooper, Frank B & Sons, LLC (1007-61-10)
	5076+00	5092+99	5102+32 / 5102+67	5103+78	5116+25 / 5116+62	5117+13	5125+15 / 5136+00
TOPSOIL SEG.	1,699 ft	933 ft	91 ft	1,247 ft	38 ft	802 ft	1,085 ft

STATIONING

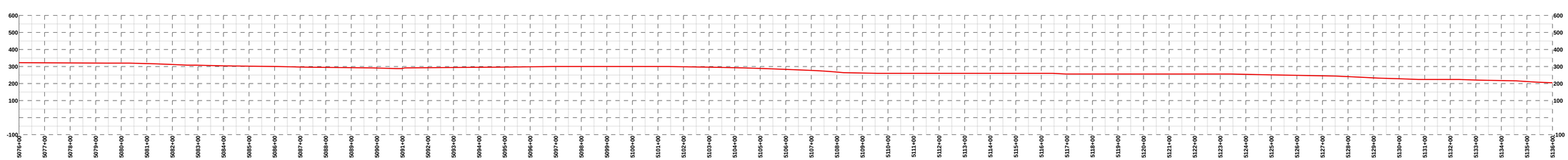
PLAN VIEW



PIPE DATA
MAOP:1480

CLASS LOCATION

PROFILE
VERT. SCALE:1" = 300 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	JBB	JMA	JMH

PennEast PIPELINE

PREPARED BY:

QPS ENGINEERING, LLC
A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

5076+00 TO 5136+00

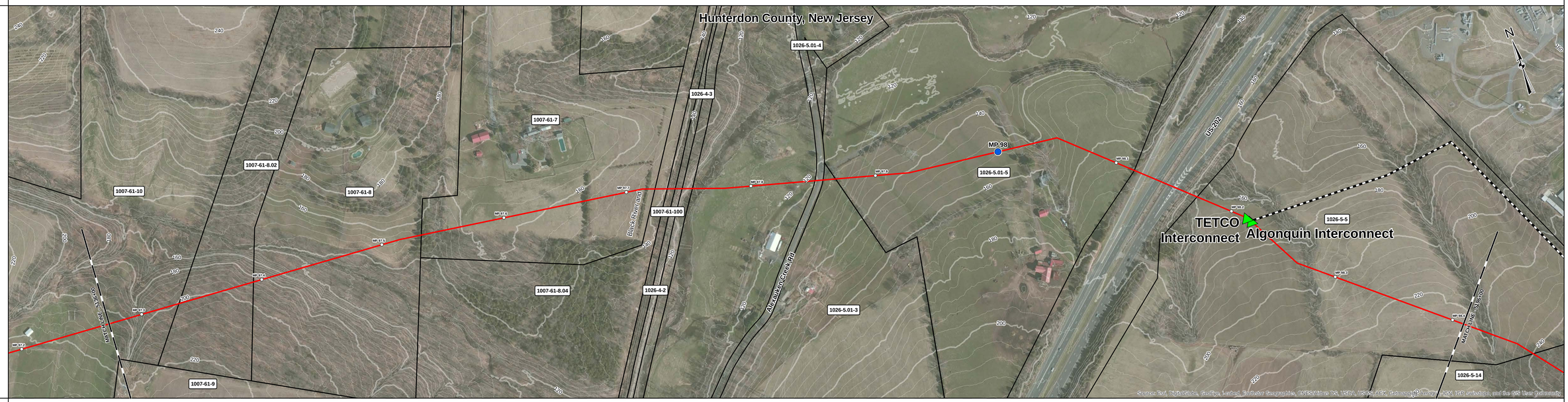
DRAWN: JBB	DATE: 10/21/14	SCALE: 1" = 200 ft	PROJECT ID: 80111		
CHECKED: JMA	DATE: 11/04/14	DRAWING NUMBER: PEN-PL-MA-ALS-089		REV: A	
APPROVED: JMH	DATE: 11/04/14				

OWNERSHIP		Cooper, Frank B & Sons, LLC (1007-61-10)	Bozarth, William T. & Judith A. (1007-61-8.02)	Williams, William O & Ruth (1007-61-8)	Kuhlman, John W & Evelyn G (1007-61-7)	Kuhlman, John W & Evelyn G (1007-61-8.04)	Miller, John L & Barbara J (1026-4-2)		Black River & Western Corp (1026-4-3)	Miller, John L & Barbara J (1026-4-2)		Miller, John L & Barbara J (1026-5.01-3)	Kiriluk, William M Barbara A & Mark (1026-5.01-4)		Kiriluk, William M & Barbara Ann (1026-5-5)	
	5136+00	5139+07	5142+35	5149+71	5159+78	5160+30	5160+63	5160+93	5161+36	5166+55	5166+89	5167+43	5180+50	5183+38	5196+00	
		307 ft	328 ft	736 ft	1,007 ft	51 ft	34 ft	30 ft	43 ft	519 ft		53 ft	1,308 ft		1,262 ft	

TOPSOIL SEG.

STATIONING

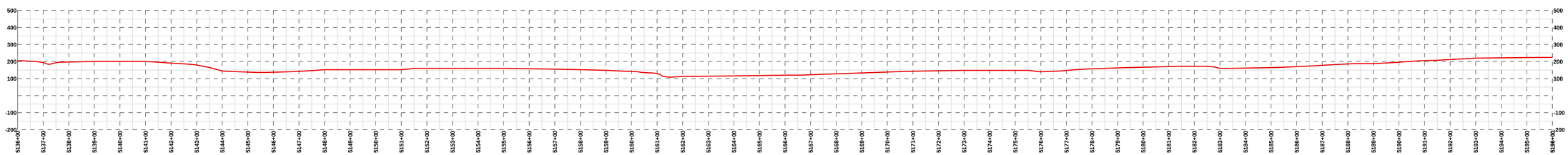
PLAN VIEW



PIPE DATA MAOP:1480

CLASS LOCATION

PROFILE VERT. SCALE: 1" = 300 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	JBB	JMA	JMH

PennEast PIPELINE

PREPARED BY:

QPS ENGINEERING, LLC

A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

5136+00 TO 5196+00

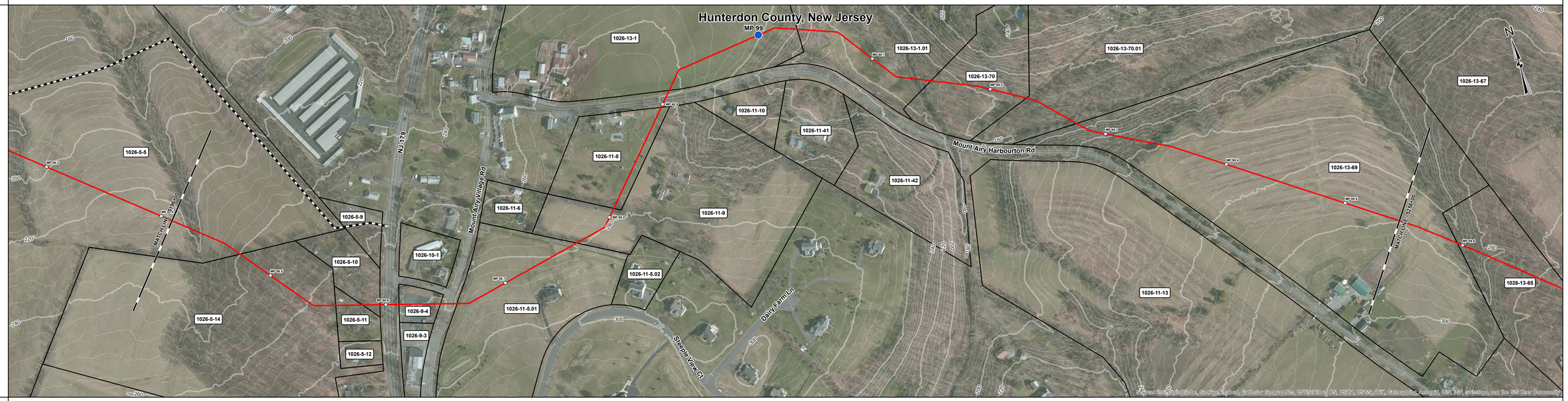
DRAWN: JBB	DATE: 10/21/14	SCALE: 1" = 200 ft	PROJECT ID: 80111		
CHECKED: JMA	DATE: 11/04/14	DRAWING NUMBER: PEN-PL-MA-ALS-090		REV: A	
APPROVED: JMH	DATE: 11/04/14				

OWNERSHIP	Kiriluk, William M & Barbara Ann (1026-5-5)	Runkle, R Bruce (1026-5-14)	Lelie, Eugene C. & Linda P. (1026-5-11)	Hicks, Daniel S & Lauren P Johnson (1026-5-12)	Township Of West Amwell (1026-9-3)	Pickup, Richard D & Catherine A S (1026-11-5.02)	Williamson, Stephen C & Pamela A (1026-11-9)	Marchisotto, Robert (1026-11-8)	Runkle, R Bruce & Christina M (1026-13-1)	Runkle, Raymond C & Hazel W (1026-13-1.01)	Russo, Bryan D. (1026-13-70)	John H. Galloway Trust (1026-13-70.01)	Hunt, R Wayne & Betty Jane (1026-13-67)
	5196+00 322 ft	5199+22 473 ft	5203+96 113 ft	5205+09 74 ft	5206+83 176 ft	5209+08 572 ft	5214+81 225 ft	5217+06 472 ft	5221+78 633 ft	5228+91 631 ft	5235+22 411 ft	5239+33 239 ft	5241+72 1,428 ft

TOPSOIL SEG.

STATIONING

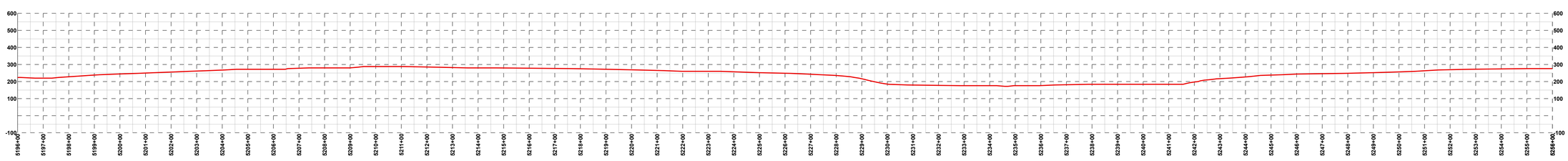
PLAN VIEW



PIPE DATA
MAOP:1480

CLASS LOCATION

PROFILE
VERT. SCALE:1" = 300 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	JBB	JMA	JMH

PennEast PIPELINE

PREPARED BY:
QPS ENGINEERING, LLC
A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

5196+00 TO 5256+00

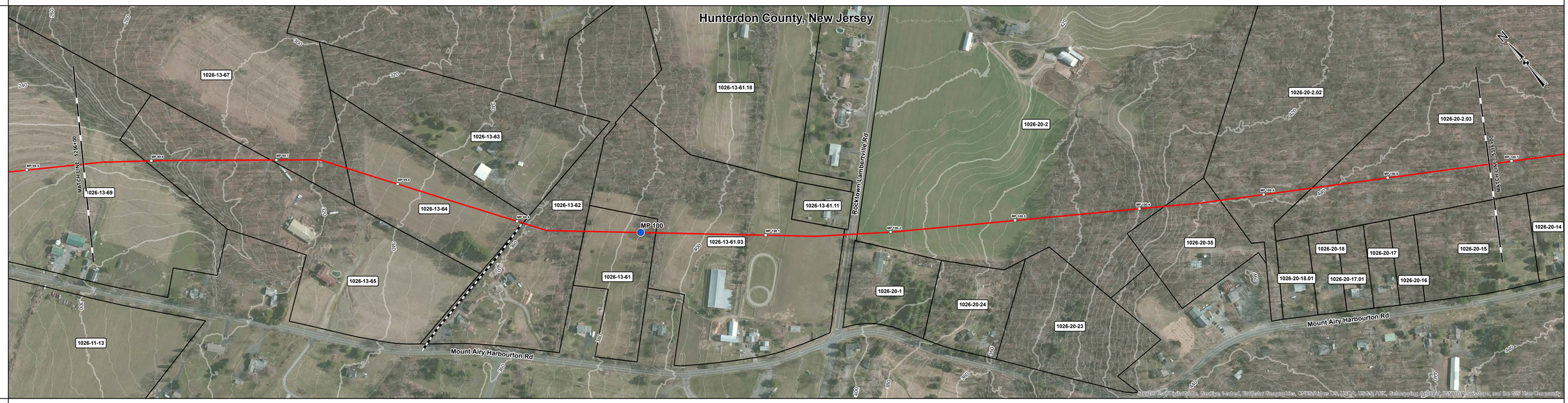
DRAWN: JBB	DATE: 10/21/14	SCALE: 1" = 200 ft	PROJECT ID: 80111		
CHECKED: JMA	DATE: 11/04/14	DRAWING NUMBER: PEN-PL-MA-ALS-091		REV: A	
APPROVED: JMH	DATE: 11/04/14				

OWNERSHIP	Hunt, R Wayne & Betty Jane (1026-13-69)	King Sr, Thomas M (1026-13-68)	Ludwig, Joseph & Evelyn (1026-13-67)	Ludwig, Joseph & Evelyn (1026-13-66)	Vavrence, Jason & Erica (1026-13-65)	Emery, Elizabeth M (1026-13-64)	Emery, Elizabeth M (1026-13-61.03)	Fulper Preservation Llc (1026-20-2)	American Towers Inc (1026-20-35)	Fulper Preservation Llc (1026-20-2.02)	State of New Jersey DEP (1026-20-2.03)
	5256+00	5258+63	5263+92	5267+19	5274+97	5277+61	5280+63	5289+15	5302+17	5304+54	5308+45
	263 ft	529 ft	327 ft	779 ft	263 ft	302 ft	794 ft	1,302 ft	237 ft	391 ft	755 ft

TOPSOIL SEG.

STATIONING

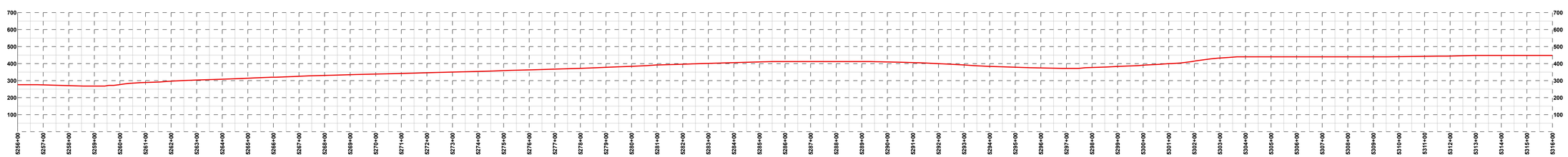
PLAN VIEW



PIPE DATA
MAOP:1480

CLASS LOCATION

PROFILE
VERT. SCALE:1" = 300 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	JBB	JMA	JMH

PREPARED BY:
QPS ENGINEERING, LLC
A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

5256+00 TO 5316+00

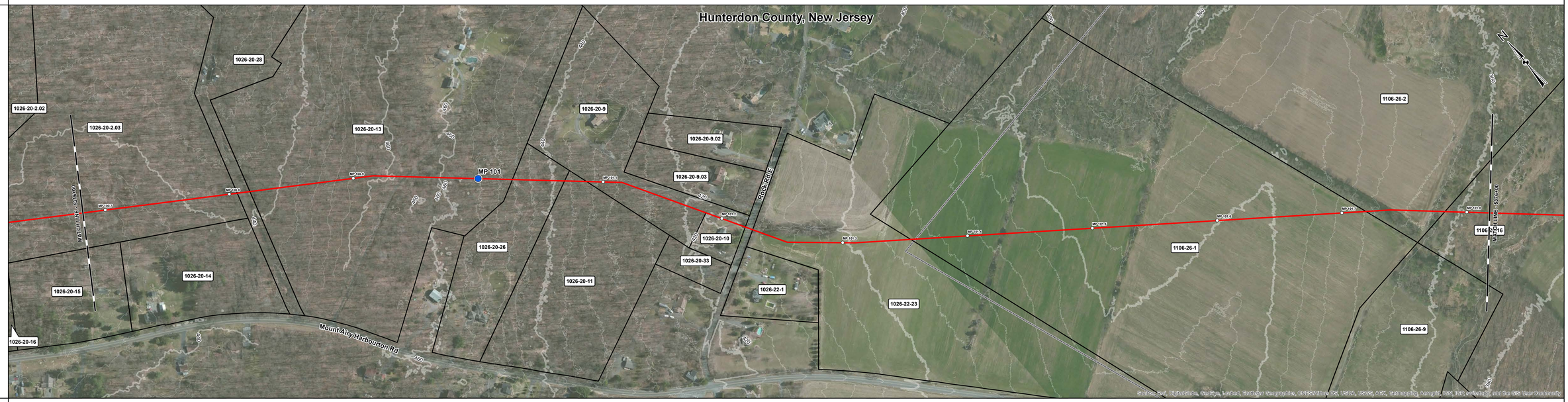
DRAWN:	JBB	DATE:	10/21/14	SCALE:	1" = 200 ft	PROJECT ID:	80111
CHECKED:	JMA	DATE:	11/04/14	DRAWING NUMBER:	PEN-PL-MA-ALS-092	REV:	A
APPROVED:	JMH	DATE:	11/04/14				

OWNERSHIP	State of New Jersey DEP (1026-20-2.03)	Miller, Robert & Sarah Jane (1026-20-28)	Kennedy, Kathryn E (1026-20-13)	Lipson, Carl (1026-20-26)	Hartpence, Patricia A (1026-20-11)	Hoff, Evelyn M (1026-20-9)	Hall, Joseph J & Ruth J (1026-20-10)	Ramsin, Thomas (1026-22-23)	Fulper Preservation Llc (1106-26-1)	Lanwin Development Corp (1106-26-2)	Broad Oak Farms Llc C/O Weide (1106-26-16)
	5316+00 – 658 ft	5322+58 – 54 ft	5323+12 – 1,113 ft	5334+24 – 221 ft	5336+45 – 92 ft	5337+37 – 590 ft	5343+27 – 114 ft	5344+41 – 5344+74 – 677 ft	5351+52 – 1,926 ft	5370+77 – 334 ft	5374+11 – 189 ft – 5376+00

TOPSOIL SEG.

STATIONING

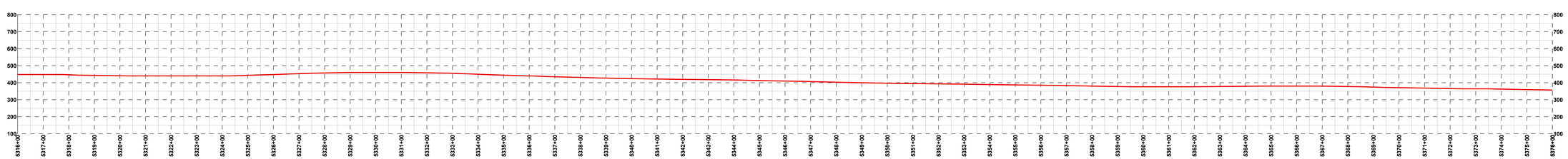
PLAN VIEW



PIPE DATA MAOP:1480

CLASS LOCATION

PROFILE VERT. SCALE: 1" = 300 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	JBB	JMA	JMH

PennEast PIPELINE

PREPARED BY:

QPS ENGINEERING, LLC

A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

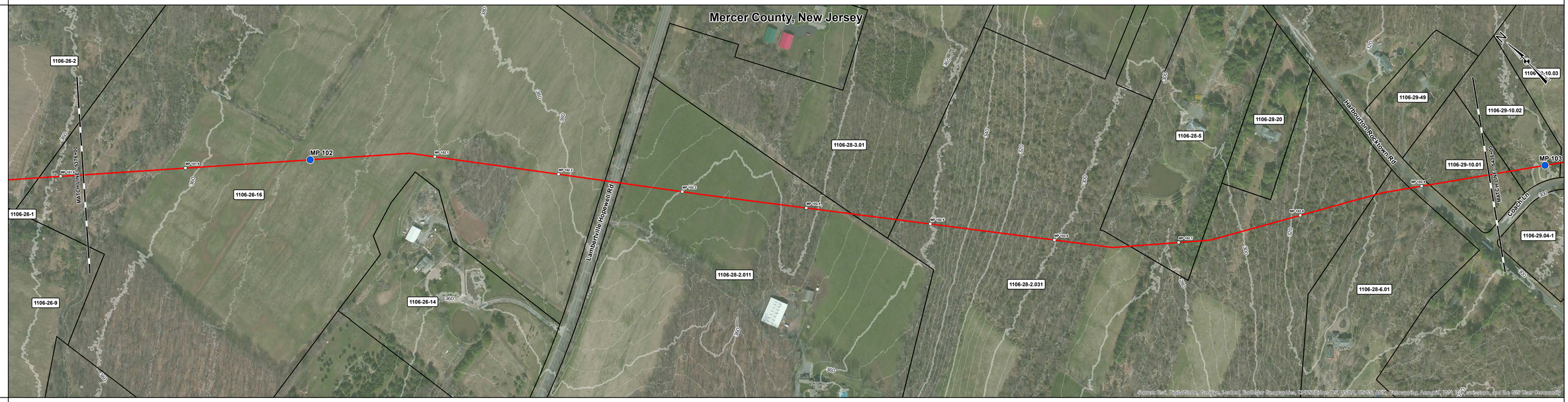
PRELIMINARY ALIGNMENT SHEET

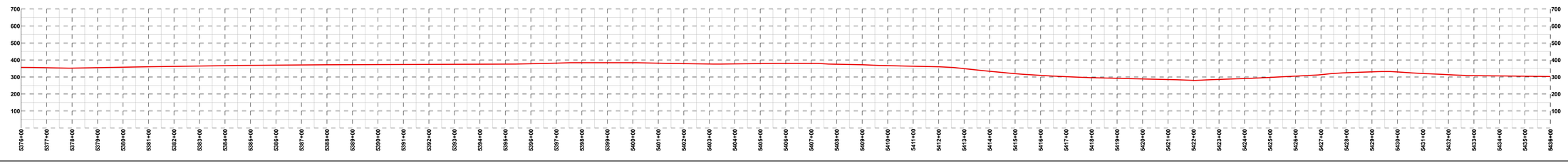
PROPOSED 36" PIPELINE

5316+00 TO 5376+00

DRAWN:	JBB	DATE:	10/21/14	SCALE: 1" = 200 ft	PROJECT ID: 80111
CHECKED:	JMA	DATE:	11/04/14	DRAWING NUMBER: PEN-PL-MA-ALS-093	REV: A
APPROVED:	JMH	DATE:	11/04/14		

OWNERSHIP		Broad Oak Farms Llc C/O Weide (1106-26-16)		Weidel, Richard A Jr & Abigail W (1106-28-2.011)	Twp Of Hopewell/Friends Of Hopewell Valley Open Space, Inc. (1106-28-3.01)	Benioff, Richard B & Mary R (1106-28-2.031)	Ransom, Lynne M & Guilmartin Kenneth (1106-28-5)	Benioff, Richard B & Mary R (1106-28-2.031)	Cook, Robert K & Heidi K (1106-28-8.01)		G S Realty Corp (1106-29-10.01)	
	5376+00	2,214 ft	5398+14	986 ft	5408+66	994 ft	5420+49	757 ft	5431+11	151 ft	5433+46	254 ft
TOPSOIL SEG.												
STATIONING												
PLAN VIEW												
PIPE DATA MAOP:1480												
CLASS LOCATION												
PROFILE VERT. SCALE: 1" = 300 ft												
DEPTH OF COVER												
ENV. FEATURE												
TYPE												
CROSSING METHOD												
SPECIAL REQ.												





LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	JBB	JMA	JMH

PREPARED BY:

QPS ENGINEERING, LLC

A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

5376+00 TO 5436+00

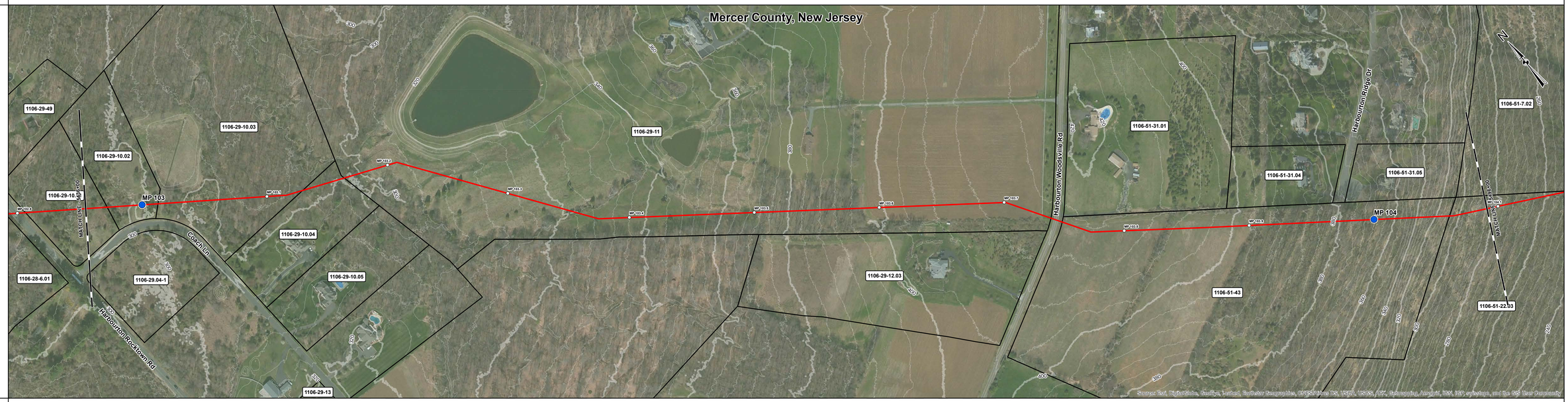
DRAWN:	JBB	DATE:	10/21/14	SCALE: 1" = 200 ft	PROJECT ID: 80111
CHECKED:	JMA	DATE:	11/04/14	DRAWING NUMBER: PEN-PL-MA-ALS-094	REV: A
APPROVED:	JMH	DATE:	11/04/14		

OWNERSHIP		G S Realty Corp (1106-29-10.01)	G S Realty Corp (1106-29-10.00)	Compass at Hopewell LLC (1106-29-10.03)	Horgan, Paul L Sr & Anne Marie S (1106-29-10.04)	Gillespie, Richard J & Donna M (1106-29-11)		Padalino, Joseph R (1106-51-43)	Regan, James S & Amy (1106-51-22.03)	
	5436+00	5437+92	5439+07	5444+21	5447+05	5477+44	5477+95	5484+39	5486+00	
		92 ft	215 ft	614 ft	184 ft	3,039 ft		1,644 ft	161 ft	

TOPSOIL SEG.

STATIONING

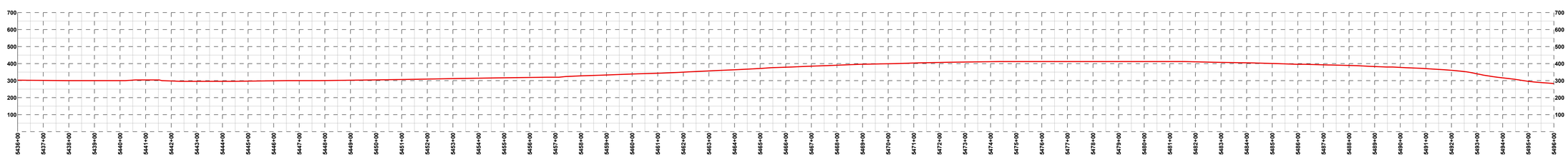
PLAN VIEW



PIPE DATA MAOP:1480

CLASS LOCATION

PROFILE VERT. SCALE: 1" = 300 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14			

PennEast PIPELINE

PREPARED BY:

QPS ENGINEERING, LLC

A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

5436+00 TO 5496+00

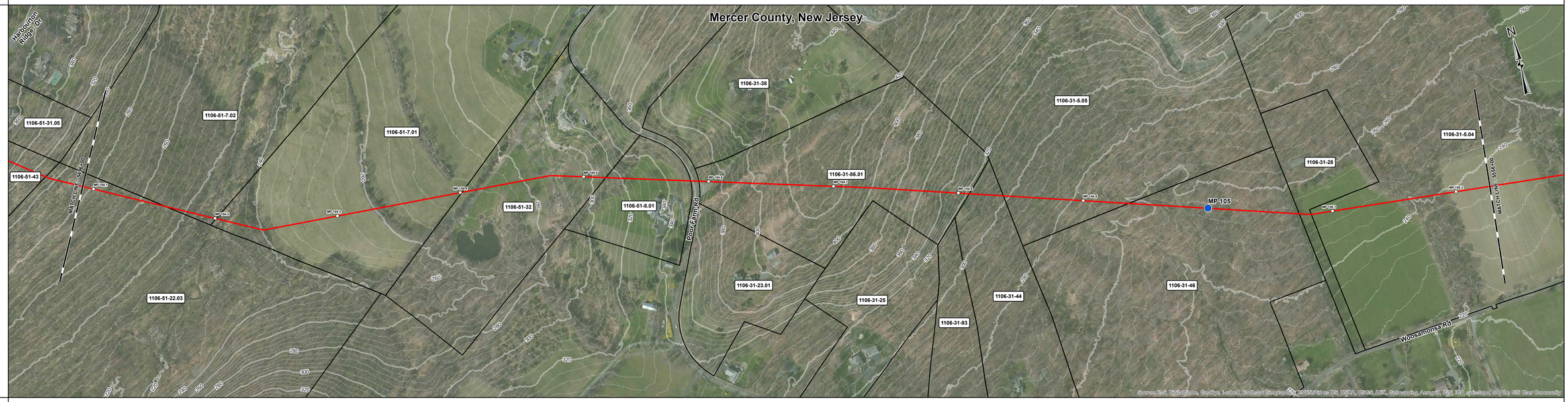
DRAWN:	JBB	DATE:	10/21/14	SCALE: 1" = 200 ft	PROJECT ID: 80111
CHECKED:	JMA	DATE:	11/04/14	DRAWING NUMBER: PEN-PL-MA-ALS-095	REV: A
APPROVED:	JMH	DATE:	11/04/14		

OWNERSHIP		Regan, James S & Amy (1106-51-27.01)	Trap Rock Industries Inc (1106-51-7.02)	Townsend, Paul H. & Charlene J. (1106-51-7.01)	Hemenetz, Martin A & Joann S (1106-51-33)	Tarasov, Robin K. (1106-51-8.01)		Townsend, James G. & Linda M. (1106-31-86.01)	De Tiberge, Alice (1106-31-25)	Trap Rock Industries Inc (1106-31-5.05)	Brescia, Donald & Elaine S. (1106-31-46)	Stavola Inc Joseph & William (1106-31-28)	Trap Rock Industries/ Joseph and William Stavola Inc. (1106-31-5.04)	
	5496+00	359 ft	5499+59 221 ft	5501+80 1,059 ft	5512+39 614 ft	5518+53 359 ft	5522+12 5522+46	1,144 ft	5533+90 144 ft	5535+34 530 ft	5540+64 721 ft	5547+86 51 ft	5548+37 763 ft	5556+00

TOPSOIL SEG.

STATIONING

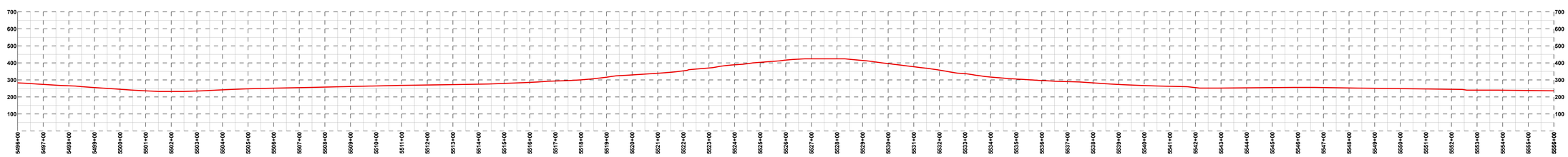
PLAN VIEW



PIPE DATA
MAOP:1480

CLASS LOCATION

PROFILE
VERT. SCALE: 1" = 300 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	JBB	JMA	JMH

PennEast PIPELINE

PREPARED BY:

QPS ENGINEERING, LLC
A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

5496+00 TO 5556+00

DRAWN:	JBB	DATE:	10/21/14	SCALE:	1" = 200 ft	PROJECT ID:	80111
CHECKED:	JMA	DATE:	11/04/14	DRAWING NUMBER:	PEN-PL-MA-ALS-096		REV: A
APPROVED:	JMH	DATE:	11/04/14				

OWNERSHIP	Trap Rock Industries/ Joseph and William Stavola Inc. (1106-31-5.03)	Leeper, Samuel C & Lee A (1106-49-3)	Camp, Raymond A & Martha F (1106-49-14)	Lynn, John William & Majeed Rehan (1106-49-15)	Miller, Megan E (1106-49-16)	Strycharz, Eva (1106-49-17)	Mcpeek, Carole-Anne S & Pastore M (1106-49-18)	Else, Joann M (1106-49-19)	Successor Co-Trustees of the Philomena M. Dicocco Trust (1106-49-3)	Mawlt Inc (1106-49-10)	Lovero Investment Company (1106-46-12)	Borough Of Pennington (1106-46-13)	Conrail-Delaware Bound Brook Rr (1106-46-3)	Medley, Kenneth E & Debra J (1106-46-14.03)
	5556+00 – 5570+97	5570+97 – 5571+47	5571+47 – 5576+08	5576+08 – 5578+46	5578+46 – 5581+34	5581+34 – 5584+18	5584+18 – 5587+06	5587+06 – 5588+00	5588+00 – 5598+63	5598+63 – 5602+43	5602+43 – 5603+79	5603+79 – 5604+46	5604+46 – 5608+91	5608+91 – 5613+37
	1,497 ft	461 ft	260 ft	267 ft	283 ft	288 ft	94 ft	1,083 ft	360 ft	136 ft	445 ft	446 ft	148 ft	116 ft

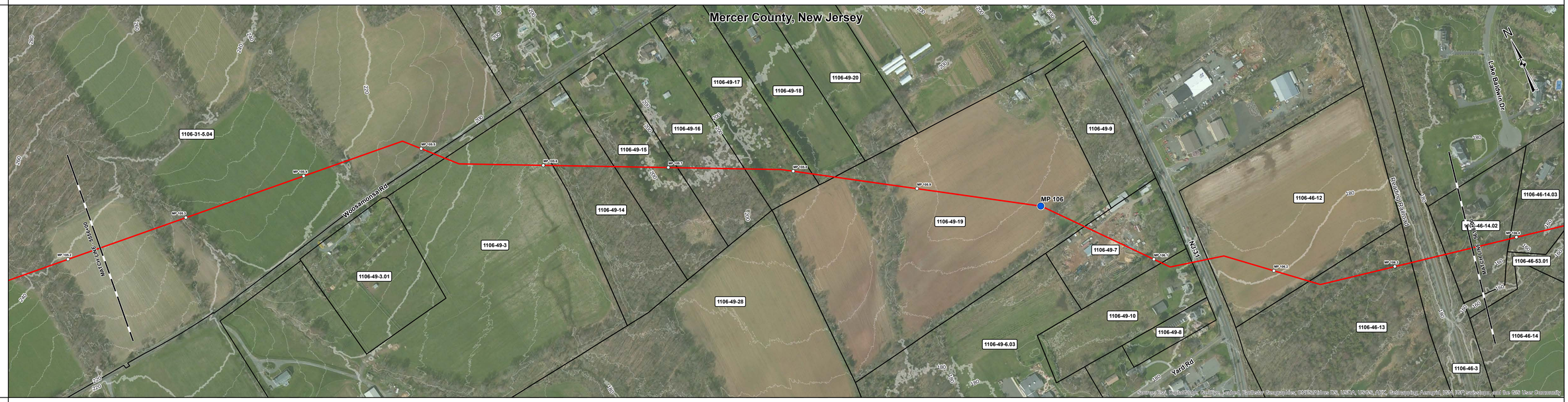
OWNERSHIP	Medley, Kenneth E & Debra J (1106-46-14.02)
	5613+37 – 5614+54
	116 ft

OWNERSHIP	Medley, Kenneth E & Debra J (1106-46-14.01)
	5614+54 – 5616+00
	116 ft

TOPSOIL SEG.

STATIONING

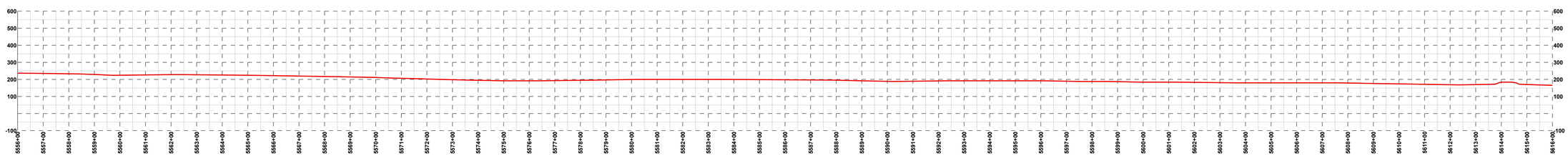
PLAN VIEW



PIPE DATA
MAOP:1480

CLASS LOCATION

PROFILE
VERT. SCALE: 1" = 300 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	JBB	JMA	JMH

PennEast PIPELINE

PREPARED BY:
QPS ENGINEERING, LLC
A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

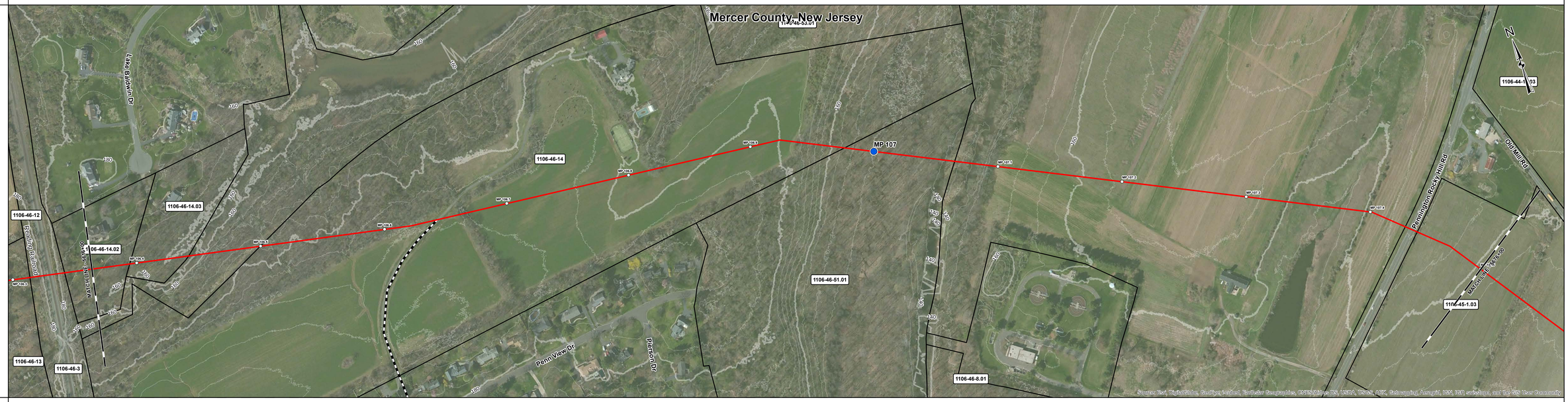
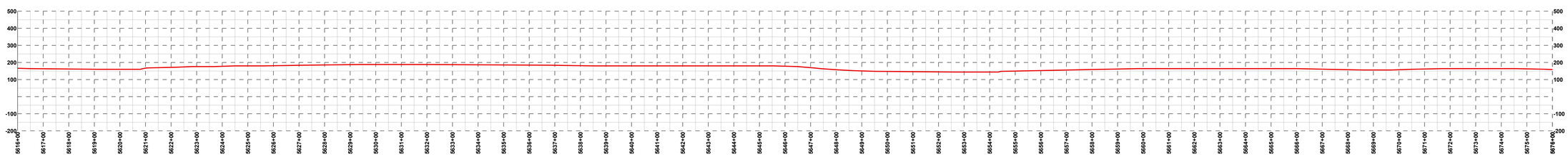
PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

5556+00 TO 5616+00

DRAWN:	JBB	DATE:	10/21/14	SCALE:	1" = 200 ft	PROJECT ID:	80111
CHECKED:	JMA	DATE:	11/04/14	DRAWING NUMBER:	PEN-PL-MA-ALS-097	REV:	A
APPROVED:	JMH	DATE:	11/04/14				

OWNERSHIP		Medley, Kenneth E & Debra J (1106-46-14.00)	Suen, Wu & Lily Heng Zhu (1106-46-14.03)	State Of New Jersey (1106-46-53.01)	Hanson, Laura F (1106-46-14)	Delaware & Raritan Greenway Inc (1106-46-51.01)	Bristol Myers Squibb Co/S Paul (1106-46-8.01)	County Of Mercer (1106-45-1.03)
	5616+00	162 ft	251 ft	305 ft	2,517 ft	469 ft	1,929 ft	312 ft

TOPSOIL SEG.	
STATIONING	
PLAN VIEW	
PIPE DATA MAOP:1480	
CLASS LOCATION	
PROFILE VERT. SCALE: 1" = 300 ft	
DEPTH OF COVER	
ENV. FEATURE	
TYPE	
CROSSING METHOD	
SPECIAL REQ.	

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/4/2014	JBB	JMA	JMH

PREPARED BY:

QPS ENGINEERING, LLC

A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

5616+00 TO 5676+00

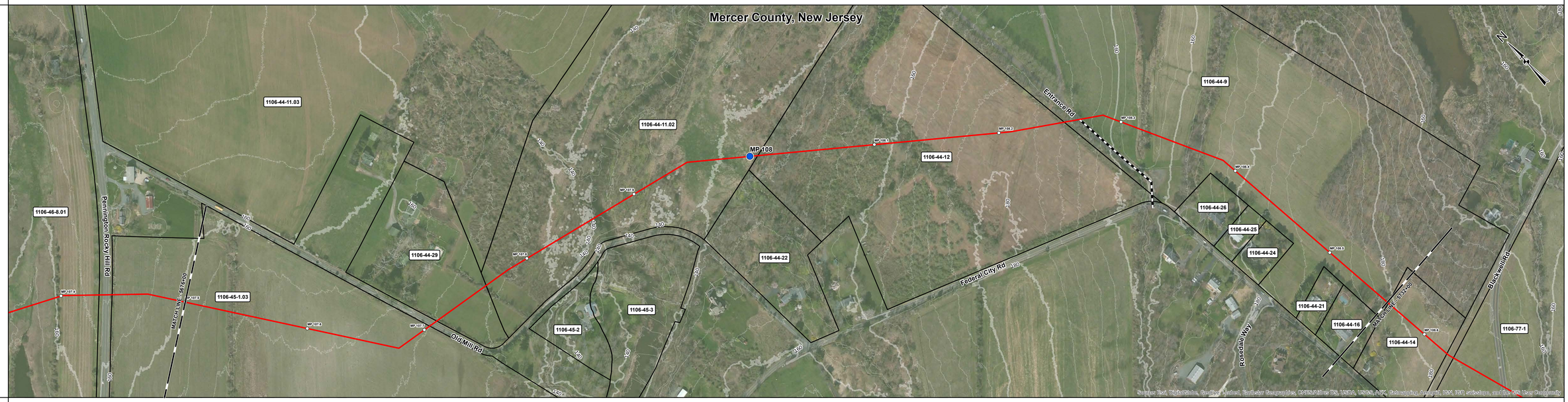
DRAWN: JBB	DATE: 10/21/14	SCALE: 1" = 200 ft	PROJECT ID: 80111		
CHECKED: JMA	DATE: 11/04/14	DRAWING NUMBER: PEN-PL-MA-ALS-098		REV: A	
APPROVED: JMH	DATE: 11/04/14				

OWNERSHIP	County Of Mercer (1106-45-1.03)	Mcdougald, Frank A Jr & Martha L (1106-45-3.01)	County Of Mercer (1106-44-11.02)	County Of Mercer (1106-44-12)	County Of Mercer (1106-44-9)
	5676+00 – 5686+83	5686+83 – 5687+30	5687+30 – 5689+77	5689+77 – 5702+73	5702+73 – 5715+76
	1,083 ft	257 ft	1,296 ft	1,303 ft	1,624 ft

TOPSOIL SEG.

STATIONING

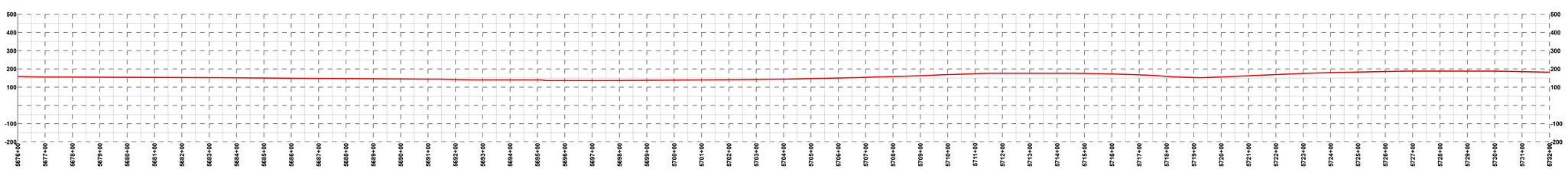
PLAN VIEW



PIPE DATA
MAOP:1480

CLASS LOCATION

PROFILE
VERT. SCALE:1" = 300 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	JBB	JMA	JMH

PREPARED BY:
QPS ENGINEERING, LLC
A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

5676+00 TO 5732+00

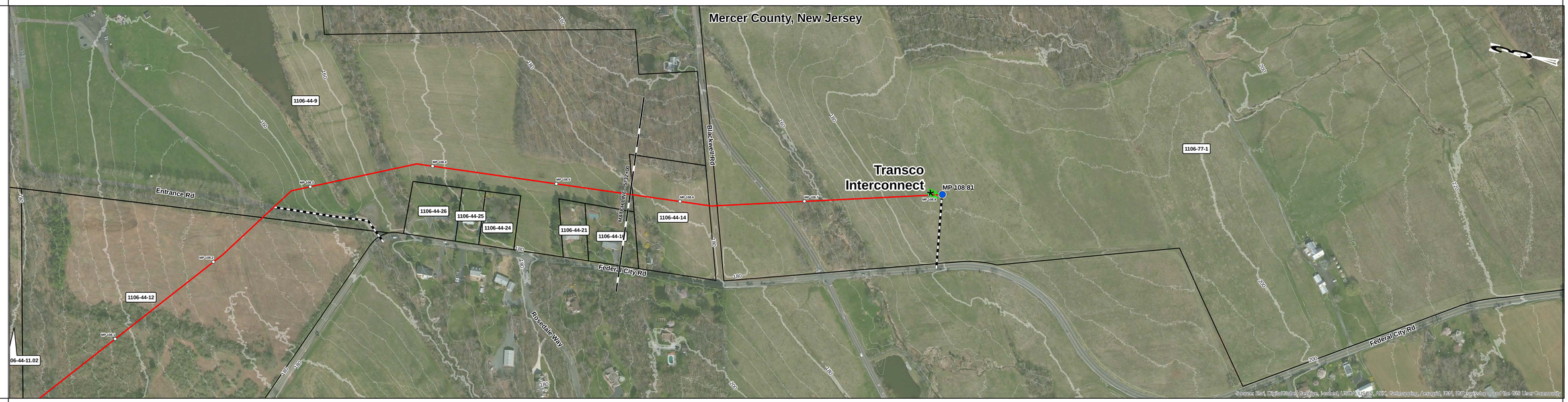
DRAWN:	JBB	DATE:	10/21/14	SCALE:	1" = 200 ft	PROJECT ID:	80111
CHECKED:	JMA	DATE:	11/04/14	DRAWING NUMBER:	PEN-PL-MA-ALS-099		REV: JBB
APPROVED:	JMH	DATE:	11/04/14				

OWNERSHIP	County Of Mercer (106-44-9)	Capes, Joseph & Pearl (106-44-14)	County Of Mercer (106-77-1)
	5732+00 – 5732+06 (6 ft)	5732+06 – 5735+33 (327 ft)	5735+33 – 5745+20 (953 ft)

TOPSOIL SEG.

STATIONING

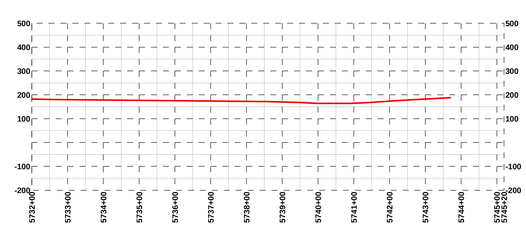
PLAN VIEW



PIPE DATA MAOP:1480

CLASS LOCATION

PROFILE VERT. SCALE:1" = 300 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	JBB	JMA	JMH

PREPARED BY:

QPS ENGINEERING, LLC

A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET

PROPOSED 36" PIPELINE

5732+00 TO 5745+20

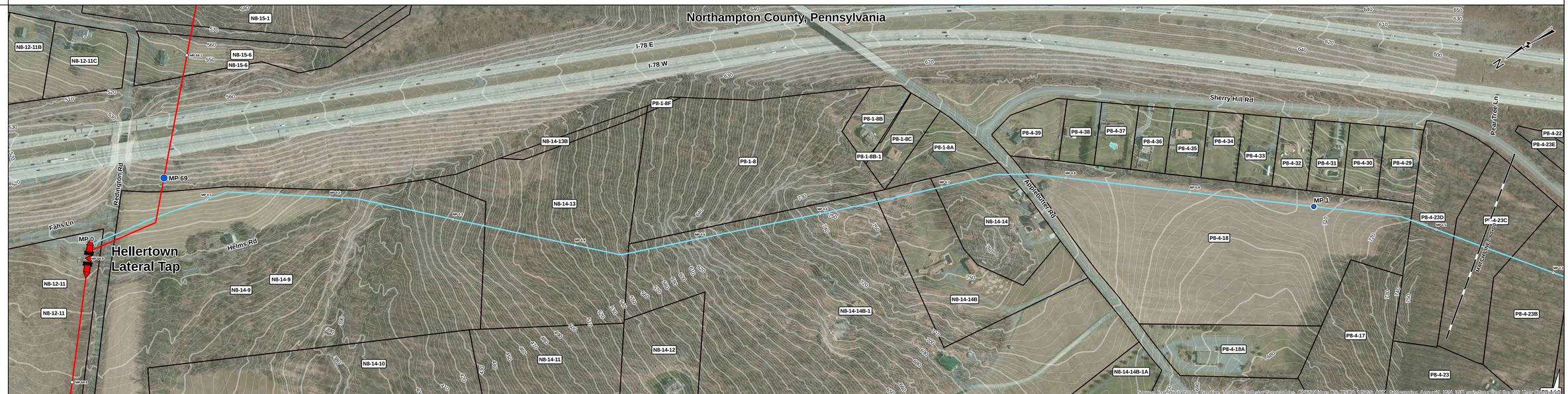
DRAWN:	JBB	DATE:	10/21/14	SCALE: 1" = 200 ft	PROJECT ID: 80111
CHECKED:	JMA	DATE:	11/04/14	DRAWING NUMBER: PEN-PL-MA-ALS-100	REV: A
APPROVED:	JMH	DATE:	11/04/14		

OWNERSHIP	LEHIGH VALLEY SITE CONTRACTORS INC (N8-12-11)	HELMS WILLIAM F (N8-14-9)	PICHEL JAY S (N8-14-13)	PICHEL JAY S (N8-14-14B-1)	PICHEL JAY S (N8-14-14B)	PICHEL JAY S (N8-14-14)	PICHEL RAMON & HELEN C (P8-4-18)	ADAMS CHAS F III & WALTERS W (P8-4-23B)	ADAMS CHAS F III & WALTERS W (P8-4-23C)
	0+00 – 0+55	1+15 – 17+22	17+22 – 23+41	23+41 – 34+17	34+17 – 36+67	36+67 – 39+85	40+53 – 56+95	56+95 – 58+69	58+69 – 60+00
	55 ft	1,607 ft	619 ft	1,076 ft	250 ft	318 ft	1,642 ft	194 ft	111 ft

TOPSOIL SEG.

STATIONING

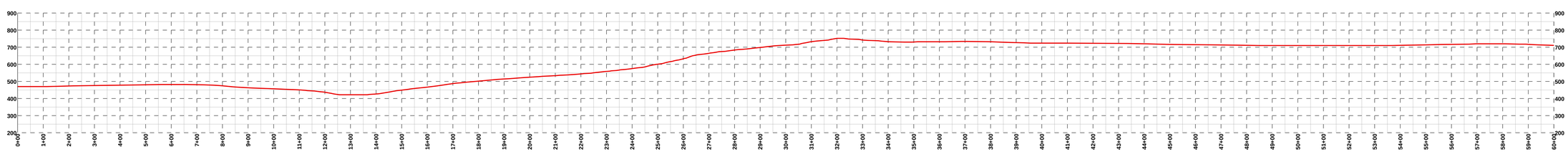
PLAN VIEW



PIPE DATA MAOP:1480

CLASS LOCATION

PROFILE VERT. SCALE: 1" = 300 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- HELLERTOWN LATERAL
- ACCESS ROAD
- COMPRESSOR STATION
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	JBB	JMA	JMH

PennEast PIPELINE

PREPARED BY:

QPS ENGINEERING, LLC

A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

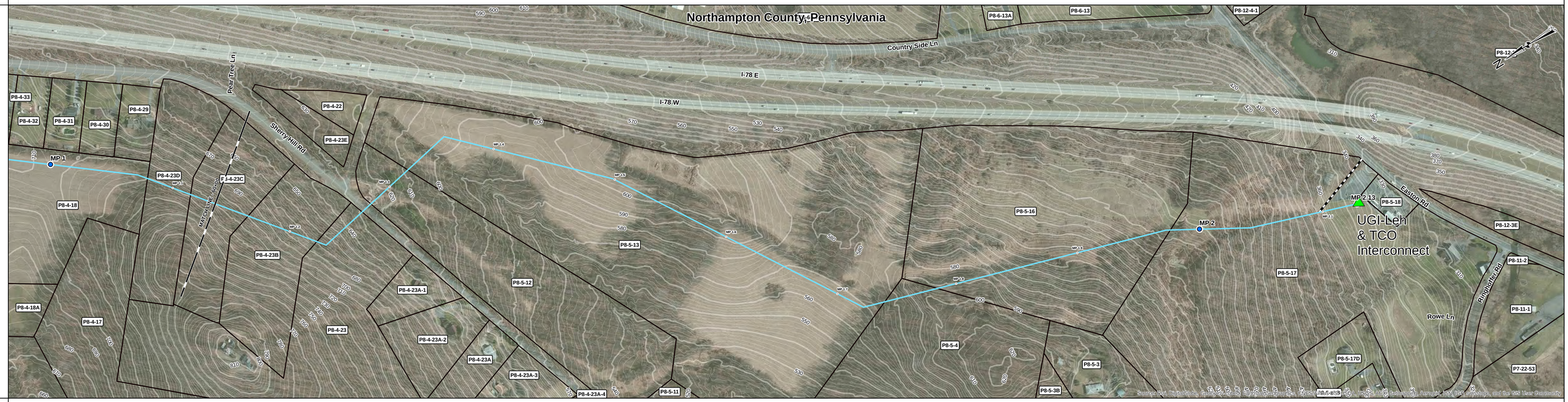
PRELIMINARY ALIGNMENT SHEET
PROPOSED 24" HELLERTOWN LATERAL
0+00 TO 60+00

DRAWN:	JBB	DATE:	10/31/14	SCALE:	1" = 200 ft	PROJECT ID:	80111
CHECKED:	JMA	DATE:	11/04/14	DRAWING NUMBER:	PEN-PL-MA-ALS-101	REV:	A
APPROVED:	JMH	DATE:	11/04/14				

OWNERSHIP	ADAMS CHAS F III & WALTERS W (P8-4-20K)	ADAMS CHAS F III & WALTERS W (P8-4-20B)	ADAMS CHAS F III & WALTERS W (P8-4-20)	PAVELCZE LOUIS JR (P8-5-19)	LENGYEL LASZLO & MARIA (P8-5-18)	YAWNEY KATHERINE & (P8-5-3)	ROWE THOMAS E & MARY ANN (P8-5-16)	ROWE THOMAS E & MARY ANN (P8-5-17)
	60+00	61+48	64+58	67+06	67+56 / 69+69	91+93	94+22	104+37 / 112+37
TOPSOIL SEG.	148 ft	310 ft	249 ft	212 ft	2,224 ft	229 ft	1,015 ft	800 ft

STATIONING

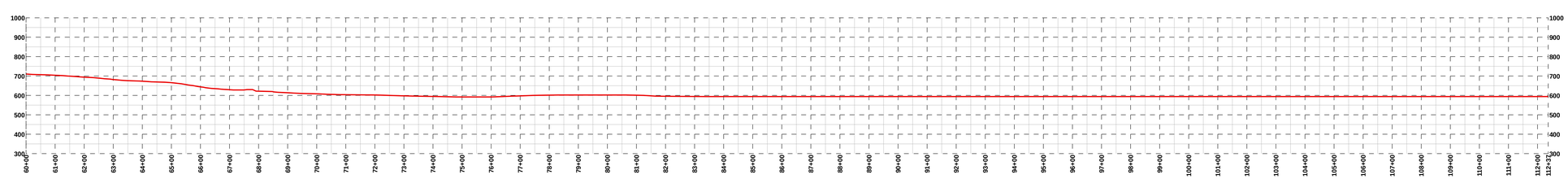
PLAN VIEW



PIPE DATA
MAOP:1480

CLASS LOCATION

PROFILE
VERT. SCALE:1" = 300 ft



DEPTH OF COVER

ENV. FEATURE

TYPE

CROSSING METHOD

SPECIAL REQ.

LEGEND

- PARCEL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- PROPOSED PIPELINE
- HELLERTOWN LATERAL
- ACCESS ROAD
- MLV
- INTERCONNECT
- MILEPOST
- 1/10TH MILE

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY

NOTES

0 100 200 400 Feet

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

REV	DESCRIPTION	DATE	DRN	CHK	APPR
A	ISSUED FOR DRAFT RESOURCE REPORT 1	11/04/14	JBB	JMA	JMH

PennEast PIPELINE

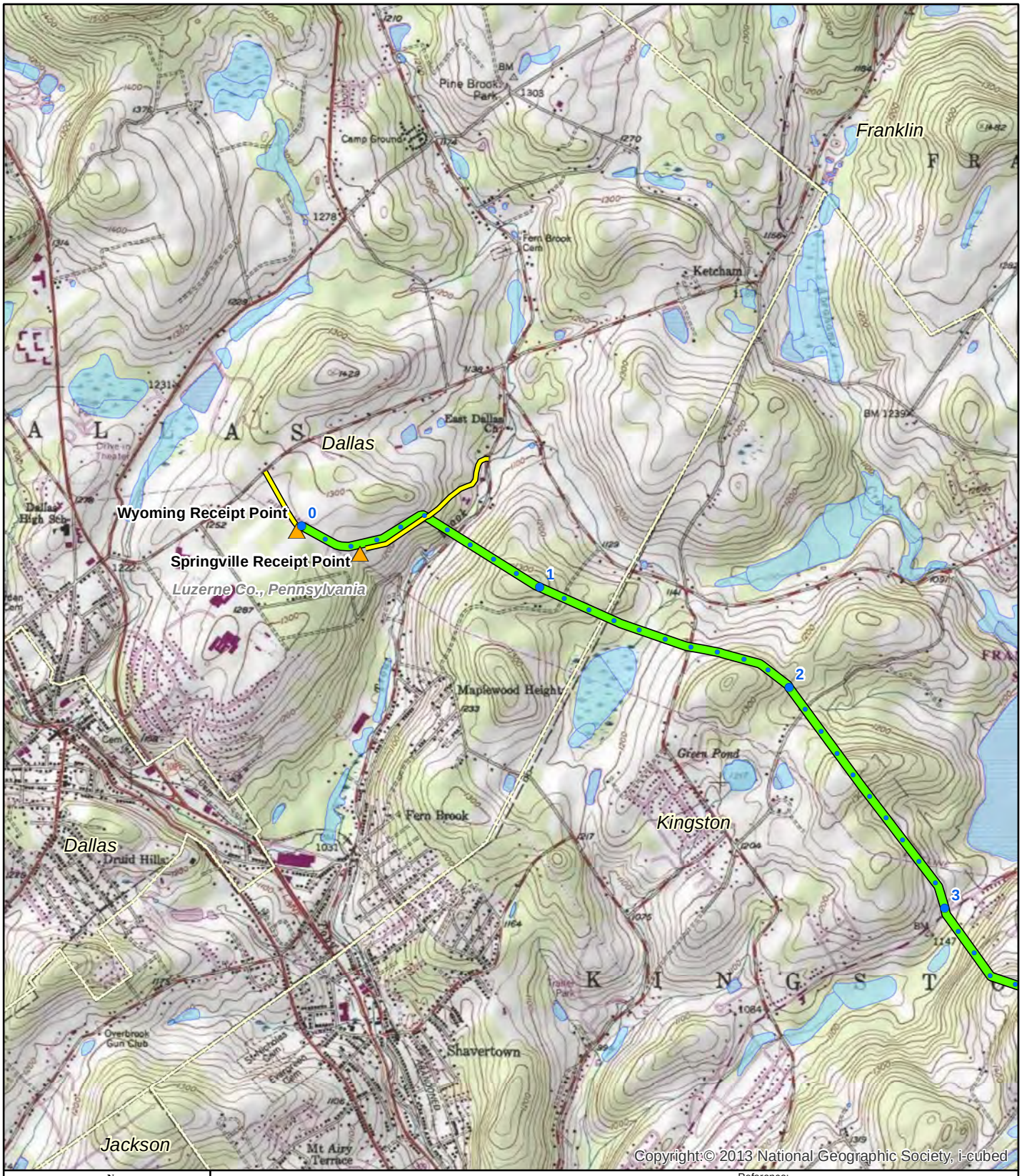
PREPARED BY:

QPS ENGINEERING, LLC
A QUANTA SERVICES COMPANY

PENNEAST PIPELINE PROJECT

PRELIMINARY ALIGNMENT SHEET
PROPOSED 24" HELLERTOWN LATERAL
60+00 TO 112+37

DRAWN:	JBB	DATE:	10/31/14	SCALE: 1" = 200 ft	PROJECT ID: 80111
CHECKED:	JMA	DATE:	11/04/14	DRAWING NUMBER: PEN-PL-MA-ALS-102	REV: A
APPROVED:	JMH	DATE:	11/04/14		



N
W E
S

0 800 1,600 3,200 Feet

Legend

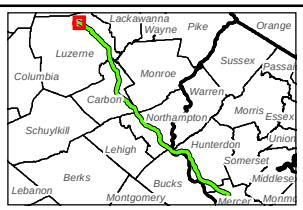
- Mile Postings
- Access Road
- USFWS CONUS NWI Wetlands
- PennEast Pipeline
- Municipality Boundary
- Interconnect
- County Boundary

Reference:
Municipal and County boundaries from PA DOT and NJDEP

TITLE:

PennEast Pipeline Project
USFWS Wetland Inventory Maps

LOC: Kingston Quadrangle			REV.:
CKD. BY: BH	ENG.:	Date: 11/5/2014	W.O.:
DRN. BY: VP	SCALE: SEE GRAPHIC SCALE	DWG. NO.:	SHEET: 1 of 33



PennEast PIPELINE

PennEast Pipeline Company, LLC

N
W E
S

0 800 1,600 3,200 Feet

Legend

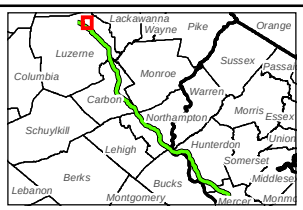
- Mile Postings
- PennEast Pipeline
- Interconnect
- Access Road
- USFWS CONUS NWI Wetlands
- Municipality Boundary
- County Boundary

Reference:
Municipal and County boundaries from PA DOT and NJDEP

TITLE:

PennEast Pipeline Project
USFWS Wetland Inventory Maps

LOC: Kingston, Pittston Quadrangle			REV.:
CKD. BY: BH	ENG.:	Date: 11/5/2014	W.O.:
DRN. BY: VP	SCALE: SEE GRAPHIC SCALE	DWG. NO.:	SHEET: 2 of 33



PennEast PIPELINE

PennEast Pipeline Company, LLC

N
W E
S

0 800 1,600 3,200 Feet

Legend

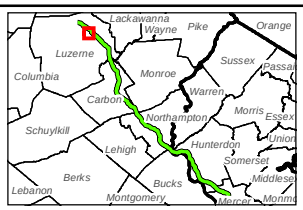
- Mile Postings
- Access Road
- USFWS CONUS NWI Wetlands
- PennEast Pipeline
- Municipality Boundary
- Interconnect
- County Boundary

Reference:
Municipal and County boundaries from PA DOT and NJDEP

TITLE:

PennEast Pipeline Project
USFWS Wetland Inventory Maps

LOC: Kingston, Pittston Quadrangle			REV.:
CKD. BY: BH	ENG.:	Date: 11/5/2014	W.O.:
DRN. BY: VP	SCALE: SEE GRAPHIC SCALE	DWG. NO.:	SHEET: 3 of 33



PennEast PIPELINE

PennEast Pipeline Company, LLC

N
W E
S

0 800 1,600 3,200 Feet

Legend

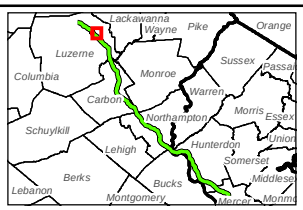
- Mile Postings
- Access Road
- USFWS CONUS NWI Wetlands
- PennEast Pipeline
- Municipality Boundary
- Interconnect
- County Boundary

Reference:
Municipal and County boundaries from PA DOT and NJDEP

TITLE:

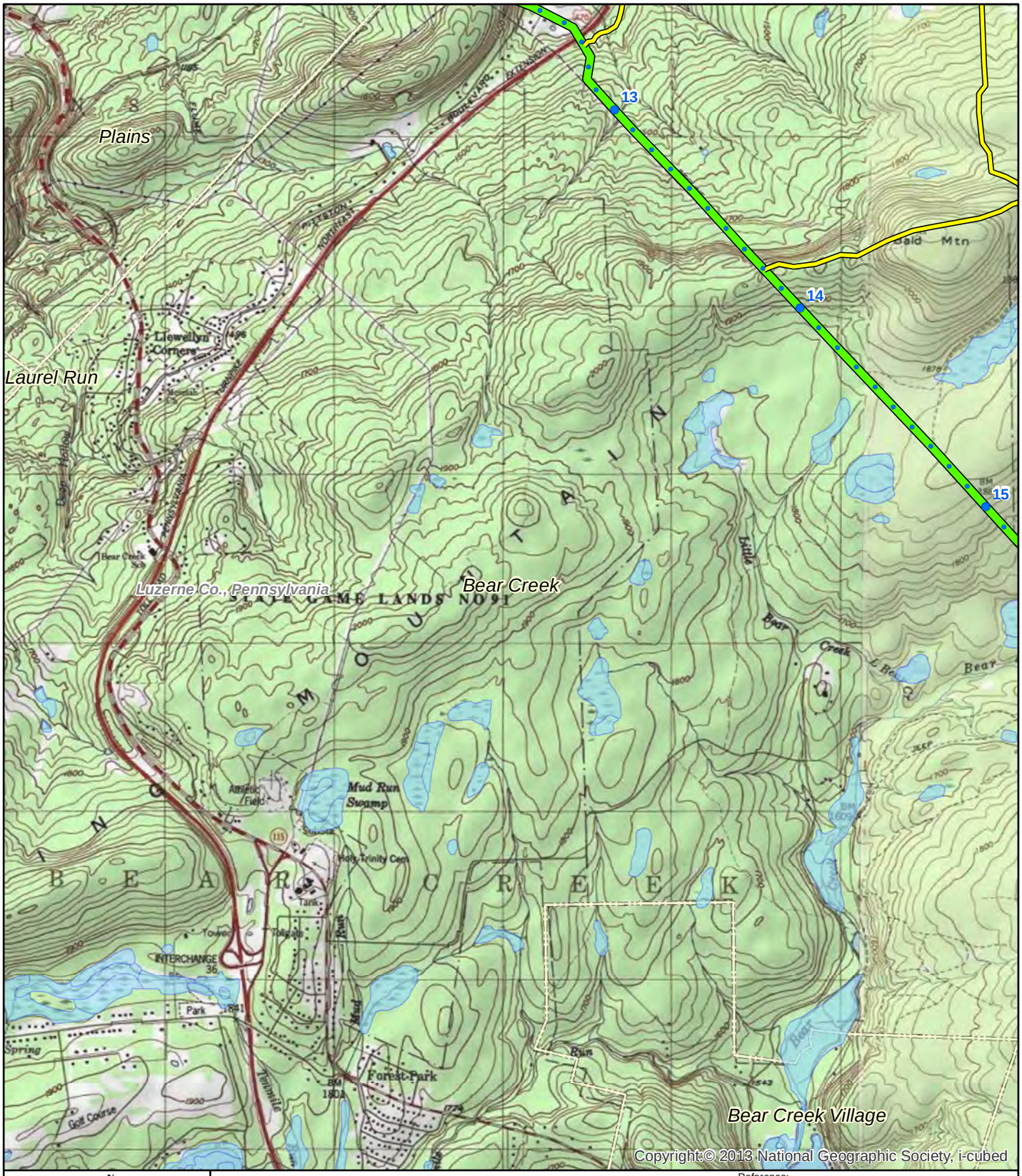
PennEast Pipeline Project
USFWS Wetland Inventory Maps

LOC: Pittston Quadrangle			REV.:
CKD. BY: BH	ENG.:	Date: 11/5/2014	W.O.:
DRN. BY: VP	SCALE: SEE GRAPHIC SCALE	DWG. NO.:	SHEET: 4 of 33



PennEast PIPELINE

PennEast Pipeline Company, LLC



N
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0 800 1,600 3,200 Feet

Legend

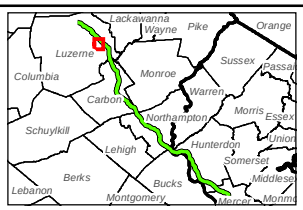
- Mile Postings
- PennEast Pipeline
- Access Road
- Municipality Boundary
- County Boundary
- USFWS CONUS NWI Wetlands

Reference:
Municipal and County boundaries from PA DOT and NJDEP

TITLE:

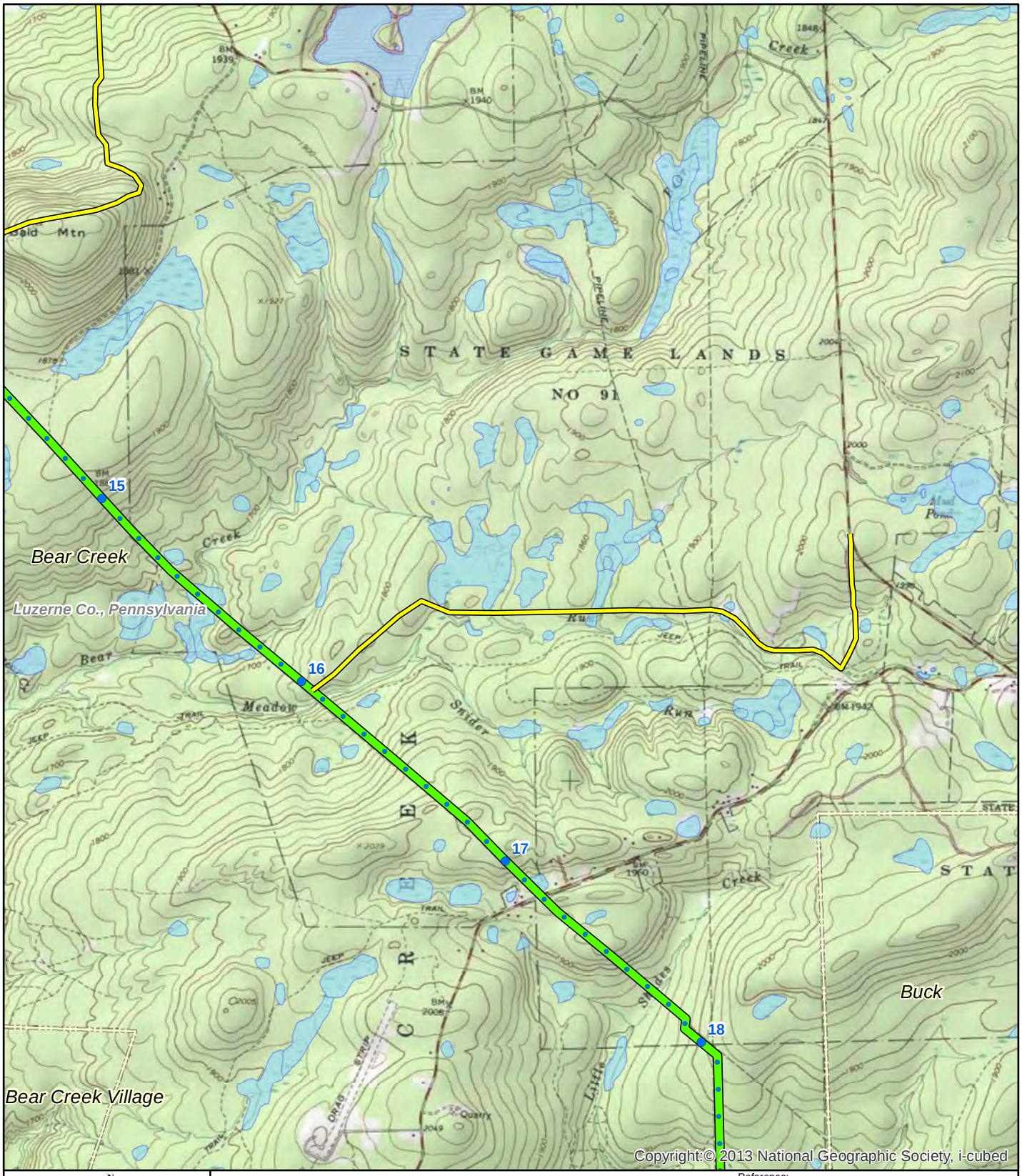
PennEast Pipeline Project
USFWS Wetland Inventory Maps

LOC: Wilkes-Barre East, Pleasant View Summit Quadrangle			REV.:
CKD. BY: BH	ENG.:	Date: 11/5/2014	W.O.:
DRN. BY: VP	SCALE: SEE GRAPHIC SCALE	DWG. NO.:	SHEET: 5 of 33



PennEast PIPELINE

PennEast Pipeline Company, LLC



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0 800 1,600 3,200 Feet

Legend

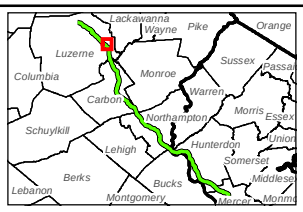
- Mile Postings
- PennEast Pipeline
- Access Road
- Municipality Boundary
- County Boundary
- USFWS CONUS NWI Wetlands

Reference:
Municipal and County boundaries from PA DOT and NJDEP

TITLE:

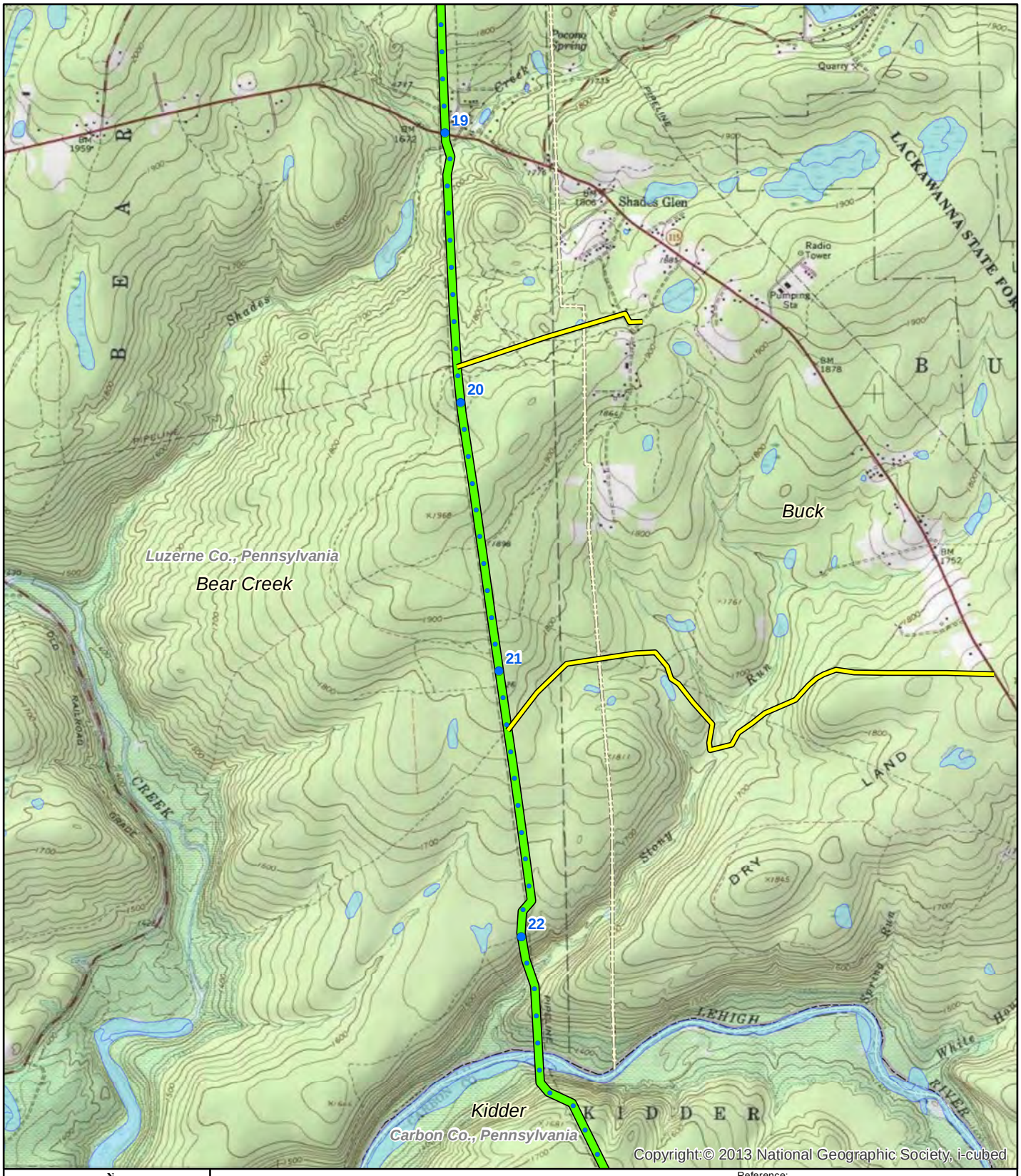
PennEast Pipeline Project
USFWS Wetland Inventory Maps

LOC: Pleasant View Summit Quadrangle			REV.:
CKD. BY: BH	ENG.:	Date: 11/5/2014	W.O.:
DRN. BY: VP	SCALE: SEE GRAPHIC SCALE	DWG. NO.:	SHEET: 6 of 33



PennEast PIPELINE

PennEast Pipeline Company, LLC



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0 800 1,600 3,200 Feet

Legend

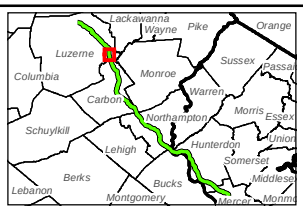
- Mile Postings
- PennEast Pipeline
- Access Road
- USFWS CONUS NWI Wetlands
- Municipality Boundary
- County Boundary

Reference:
Municipal and County boundaries from PA DOT and NJDEP

TITLE:

PennEast Pipeline Project
USFWS Wetland Inventory Maps

LOC: Pleasant View Summit Quadrangle			REV.:
CKD. BY: BH	ENG.:	Date: 11/5/2014	W.O.:
DRN. BY: VP	SCALE: SEE GRAPHIC SCALE	DWG. NO.:	SHEET: 7 of 33



PennEast PIPELINE

PennEast Pipeline Company, LLC

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0 800 1,600 3,200 Feet

Legend

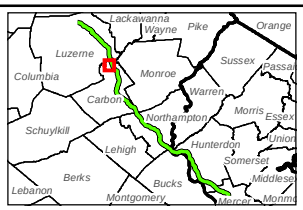
- Mile Postings
- PennEast Pipeline
- Interconnect
- Proposed Compressor Station Location
- Access Road
- Workspace
- USFWS CONUS NWI Wetlands
- Municipality Boundary
- County Boundary

Reference:
Municipal and County boundaries from PA DOT and NJDEP

TITLE:

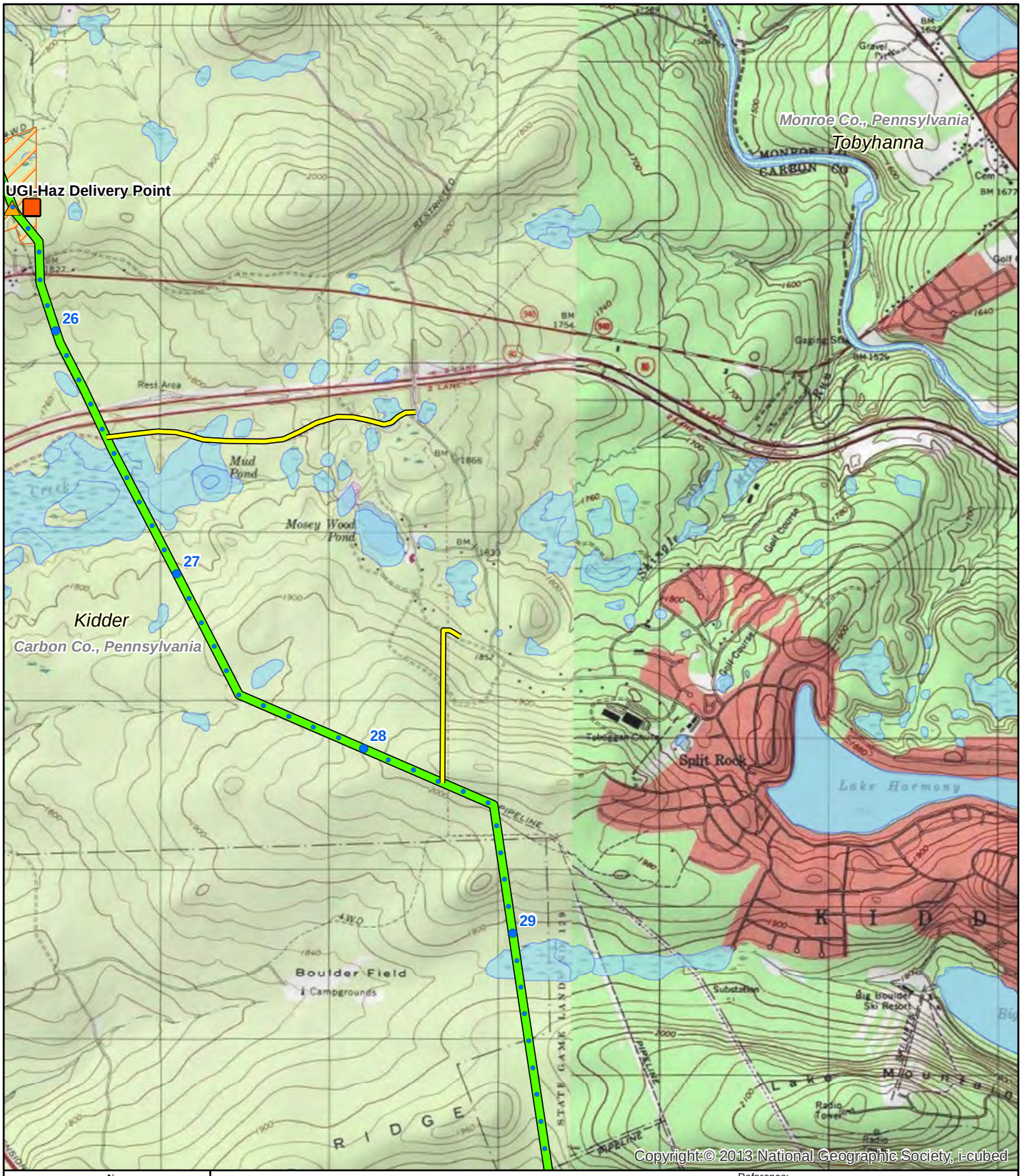
PennEast Pipeline Project
USFWS Wetland Inventory Maps

LOC: Hickory Run Quadrangle			REV.:
CKD. BY: BH	ENG.:	Date: 11/5/2014	W.O.:
DRN. BY: VP	SCALE: SEE GRAPHIC SCALE	DWG. NO.:	SHEET: 8 of 33



PennEast PIPELINE

PennEast Pipeline Company, LLC



Legend

- Mile Postings
- PennEast Pipeline
- Interconnect
- Proposed Compressor Station Location
- Access Road
- Workspace
- USFWS CONUS NWI Wetlands
- Municipality Boundary
- County Boundary

N W E S

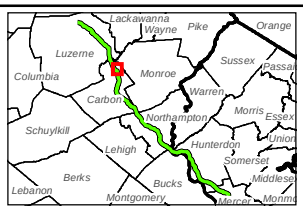
0 800 1,600 3,200 Feet

Reference:
Municipal and County boundaries from PA DOT and NJDEP

TITLE:

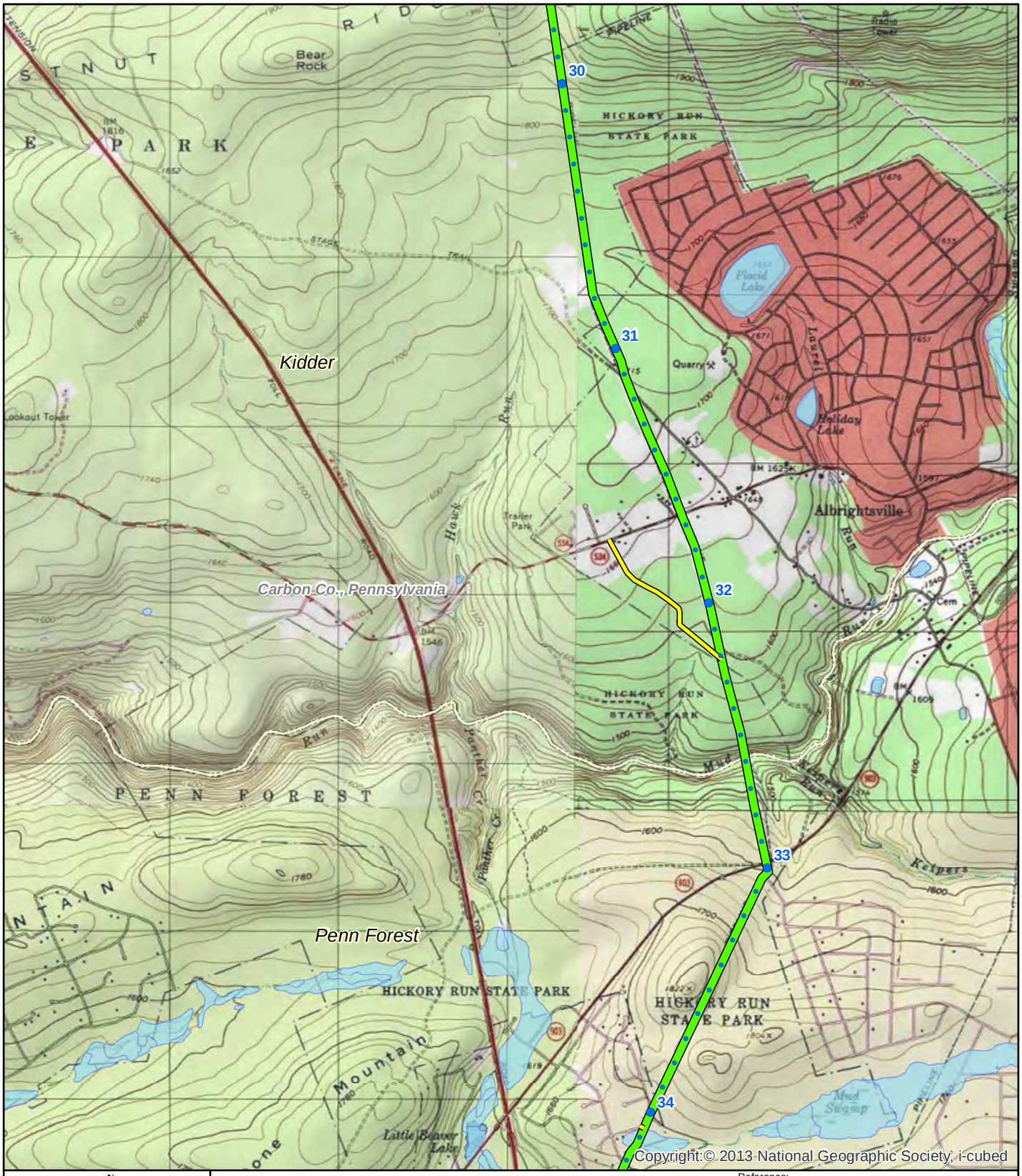
PennEast Pipeline Project
USFWS Wetland Inventory Maps

LOC: Hickory Run, Blakeslee Quadrangle			REV.:
CKD. BY: BH	ENG.:	Date: 11/5/2014	W.O.:
DRN. BY: VP	SCALE: SEE GRAPHIC SCALE	DWG. NO.:	SHEET: 9 of 33



PennEast PIPELINE

PennEast Pipeline Company, LLC



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Legend

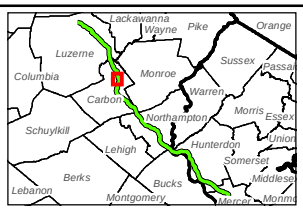
- Mile Postings
- PennEast Pipeline
- Access Road
- USFWS CONUS NWI Wetlands
- Municipality Boundary
- County Boundary

Reference:
Municipal and County boundaries from PA DOT and NJDEP

TITLE:

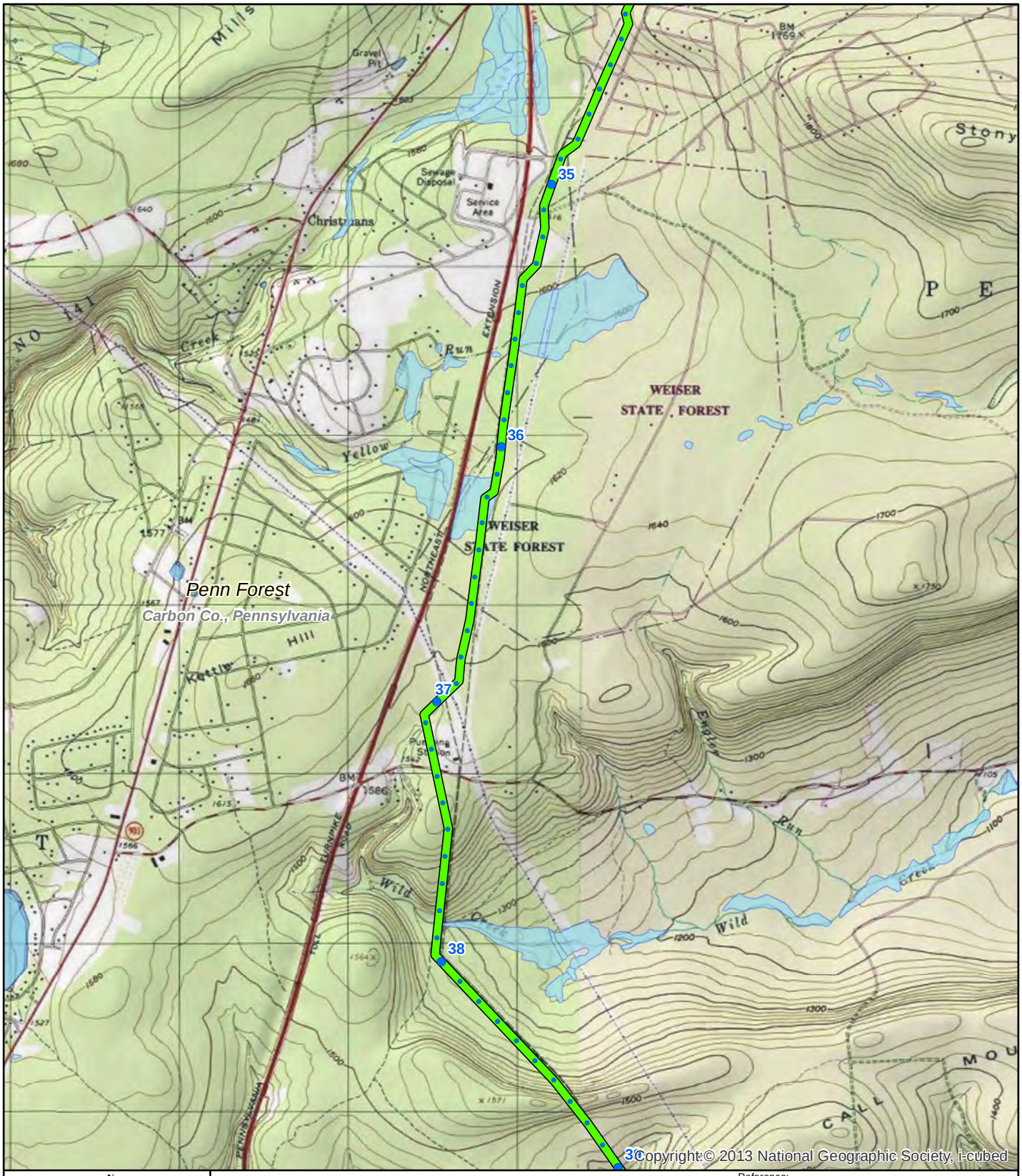
PennEast Pipeline Project
USFWS Wetland Inventory Maps

LOC: Hickory Run, Blakeslee, Pohopoco Mnt. Quadrangle			REV.:
CKD. BY: BH	ENG.:	Date: 11/5/2014	W.O.:
DRN. BY: VP	SCALE: SEE GRAPHIC SCALE	DWG. NO.:	SHEET: 10 of 33



PennEast PIPELINE

PennEast Pipeline Company, LLC



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Legend

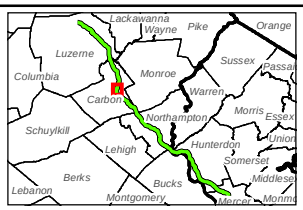
- Mile Postings
- PennEast Pipeline
- USFWS CONUS NWI Wetlands
- Municipality Boundary
- County Boundary

Reference:
Municipal and County boundaries from PA DOT and NJDEP

TITLE:

PennEast Pipeline Project
USFWS Wetland Inventory Maps

LOC: Christmans, Pohopoco Mnt. Quadrangle			REV.:
CKD. BY: BH	ENG.:	Date: 11/5/2014	W.O.:
DRN. BY: VP	SCALE: SEE GRAPHIC SCALE	DWG. NO.:	SHEET: 11 of 33



PennEast PIPELINE

PennEast Pipeline Company, LLC

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0 800 1,600 3,200 Feet

Legend

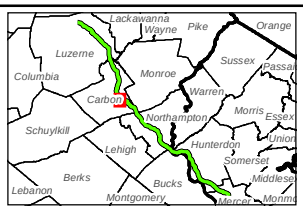
- Mile Postings
- PennEast Pipeline
- Interconnect
- Access Road
- Municipality Boundary
- County Boundary
- USFWS CONUS NWI Wetlands

Reference:
Municipal and County boundaries from PA DOT and NJDEP

TITLE:

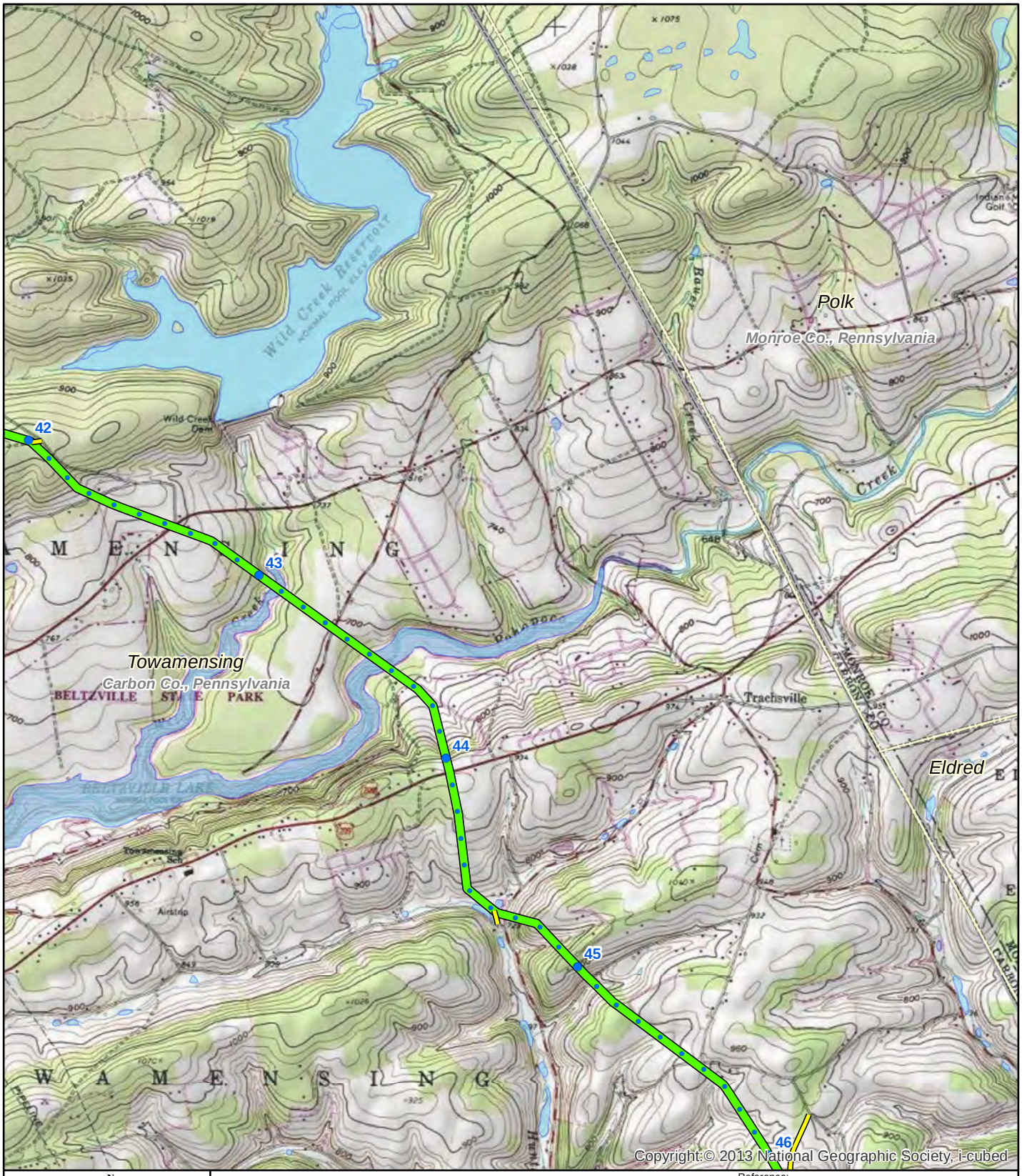
PennEast Pipeline Project
USFWS Wetland Inventory Maps

LOC: Pohopoco Mnt., Palmerton Quadrangle			REV.:
CKD. BY: BH	ENG.:	Date: 11/5/2014	W.O.:
DRN. BY: VP	SCALE: SEE GRAPHIC SCALE	DWG. NO.:	SHEET: 12 of 33



PennEast PIPELINE

PennEast Pipeline Company, LLC



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Legend

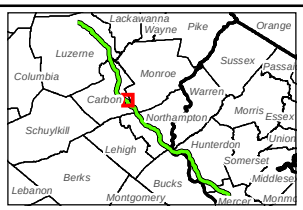
- Mile Postings
- PennEast Pipeline
- Access Road
- Municipality Boundary
- County Boundary
- USFWS CONUS NWI Wetlands

Reference:
Municipal and County boundaries from PA DOT and NJDEP

TITLE:

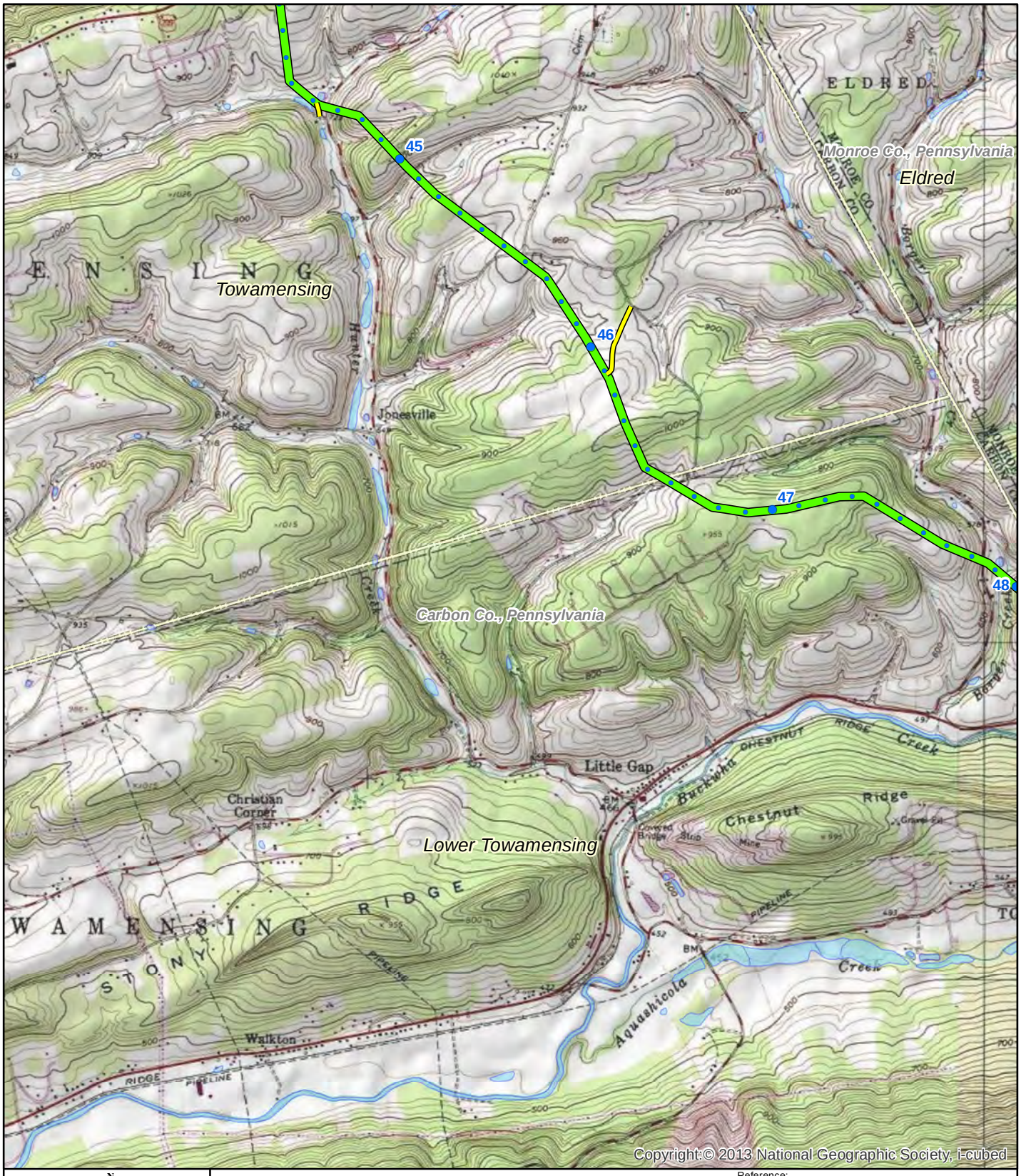
PennEast Pipeline Project
USFWS Wetland Inventory Maps

LOC: Pohopoco Mnt., Palmerton Quadrangle			REV.:
CKD. BY: BH	ENG.:	Date: 11/5/2014	W.O.:
DRN. BY: VP	SCALE: SEE GRAPHIC SCALE	DWG. NO.:	SHEET: 13 of 33



PennEast PIPELINE

PennEast Pipeline Company, LLC



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Legend

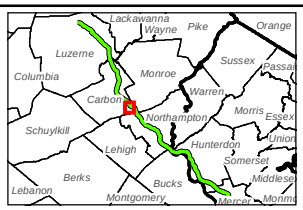
- Mile Postings
- PennEast Pipeline
- Access Road
- Municipality Boundary
- County Boundary
- USFWS CONUS NWI Wetlands

Reference:
Municipal and County boundaries from PA DOT and NJDEP

TITLE:

PennEast Pipeline Project
USFWS Wetland Inventory Maps

LOC: Palmerton Quadrangle			REV.:
CKD. BY: BH	ENG.:	Date: 11/5/2014	W.O.:
DRN. BY: VP	SCALE: SEE GRAPHIC SCALE	DWG. NO.:	SHEET: 14 of 33



PennEast PIPELINE

PennEast Pipeline Company, LLC

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Legend

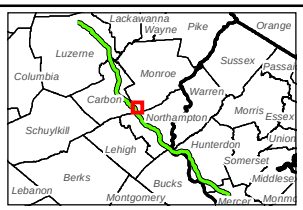
- Mile Postings
- PennEast Pipeline
- Interconnect
- Access Road
- Municipality Boundary
- County Boundary
- USFWS CONUS NWI Wetlands

Reference:
Municipal and County boundaries from PA DOT and NJDEP

TITLE:

PennEast Pipeline Project
USFWS Wetland Inventory Maps

LOC: Kunkletown Quadrangle			REV.:
CKD. BY: BH	ENG.:	Date: 11/5/2014	W.O.:
DRN. BY: VP	SCALE: SEE GRAPHIC SCALE	DWG. NO.:	SHEET: 15 of 33



PennEast PIPELINE

PennEast Pipeline Company, LLC

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Legend

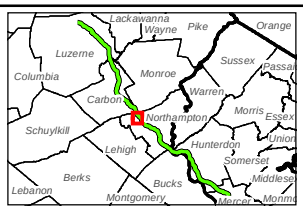
- Mile Postings
- PennEast Pipeline
- Access Road
- USFWS CONUS NWI Wetlands
- Municipality Boundary
- County Boundary

Reference:
Municipal and County boundaries from PA DOT and NJDEP

TITLE:

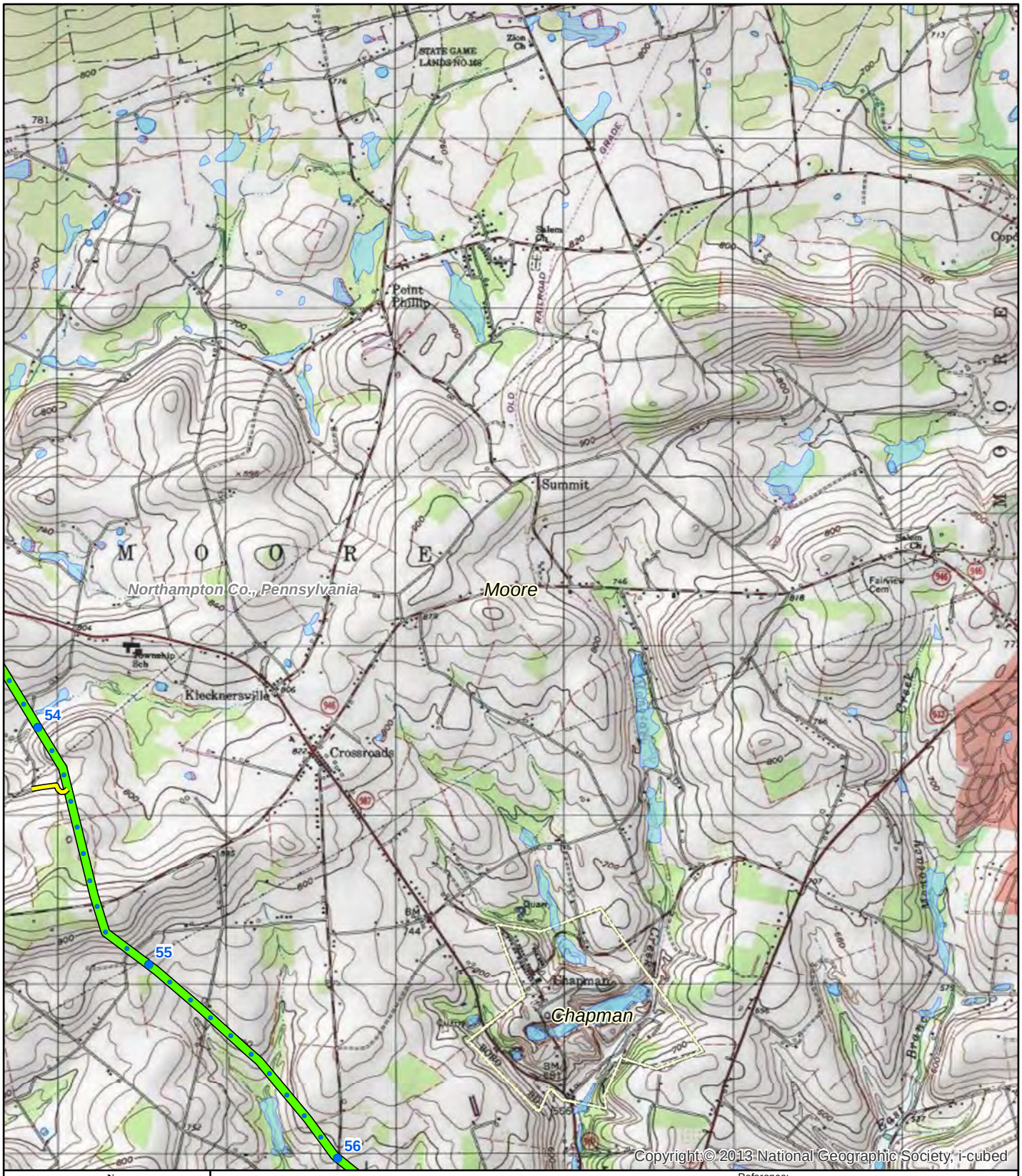
PennEast Pipeline Project
USFWS Wetland Inventory Maps

LOC: Kunkletown Quadrangle			REV.:
CKD. BY: BH	ENG.:	Date: 11/5/2014	W.O.:
DRN. BY: VP	SCALE: SEE GRAPHIC SCALE	DWG. NO.:	SHEET: 16 of 33



PennEast PIPELINE

PennEast Pipeline Company, LLC



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0 800 1,600 3,200 Feet

Legend

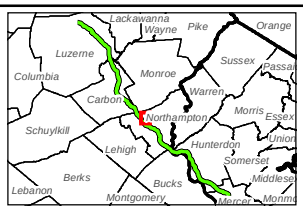
- Mile Postings
- Access Road
- USFWS CONUS NWI Wetlands
- PennEast Pipeline
- Municipality Boundary
- County Boundary

Reference:
Municipal and County boundaries from PA DOT and NJDEP

TITLE:

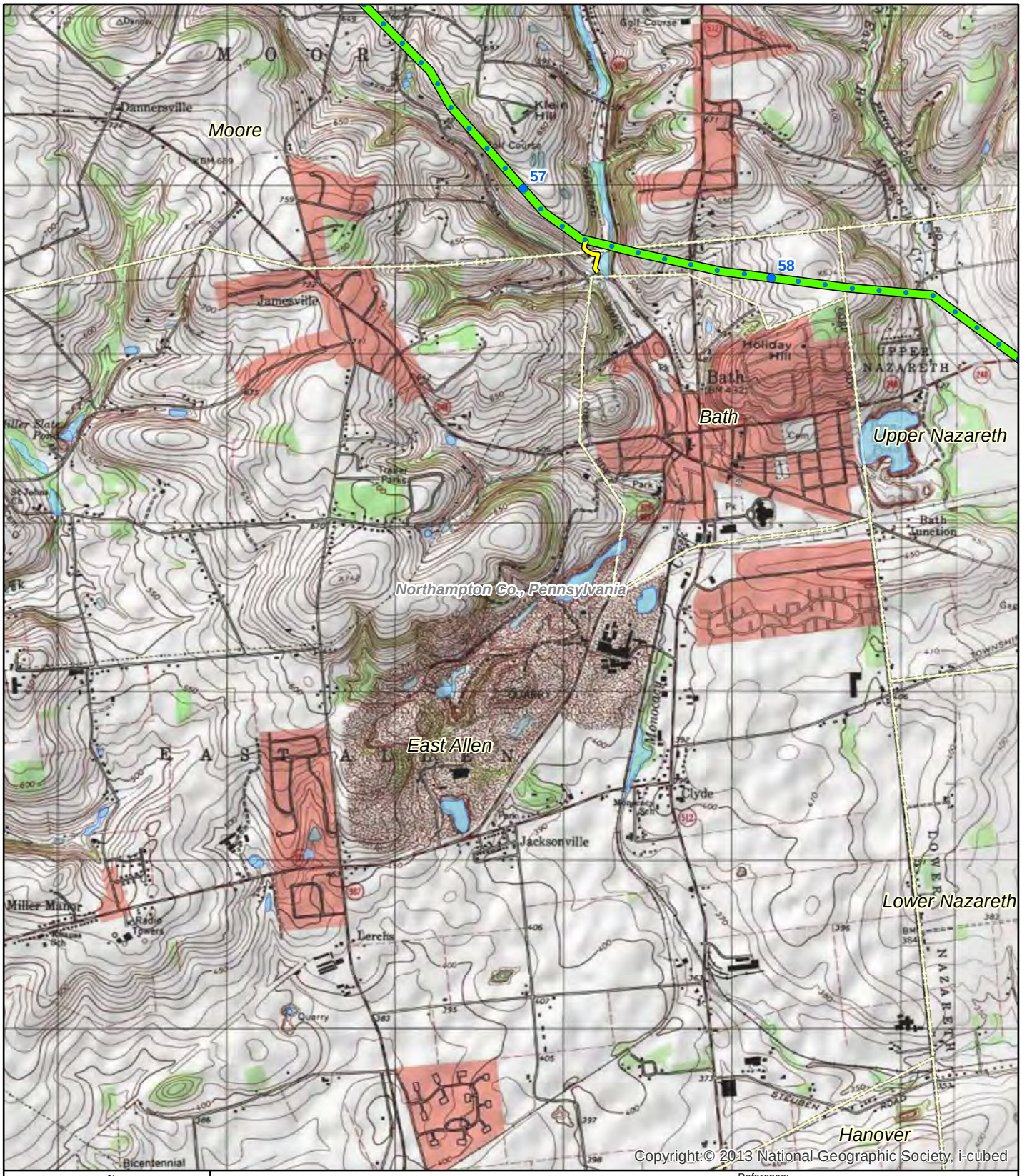
PennEast Pipeline Project
USFWS Wetland Inventory Maps

LOC: Kunkletown Quadrangle			REV.:
CKD. BY: BH	ENG.:	Date: 11/5/2014	W.O.:
DRN. BY: VP	SCALE: SEE GRAPHIC SCALE	DWG. NO.:	SHEET: 17 of 33



PennEast PIPELINE

PennEast Pipeline Company, LLC



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Legend

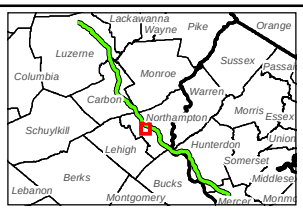
- Mile Postings
- PennEast Pipeline
- Access Road
- USFWS CONUS NWI Wetlands
- Municipality Boundary
- County Boundary

Reference:
Municipal and County boundaries from PA DOT and NJDEP

TITLE:

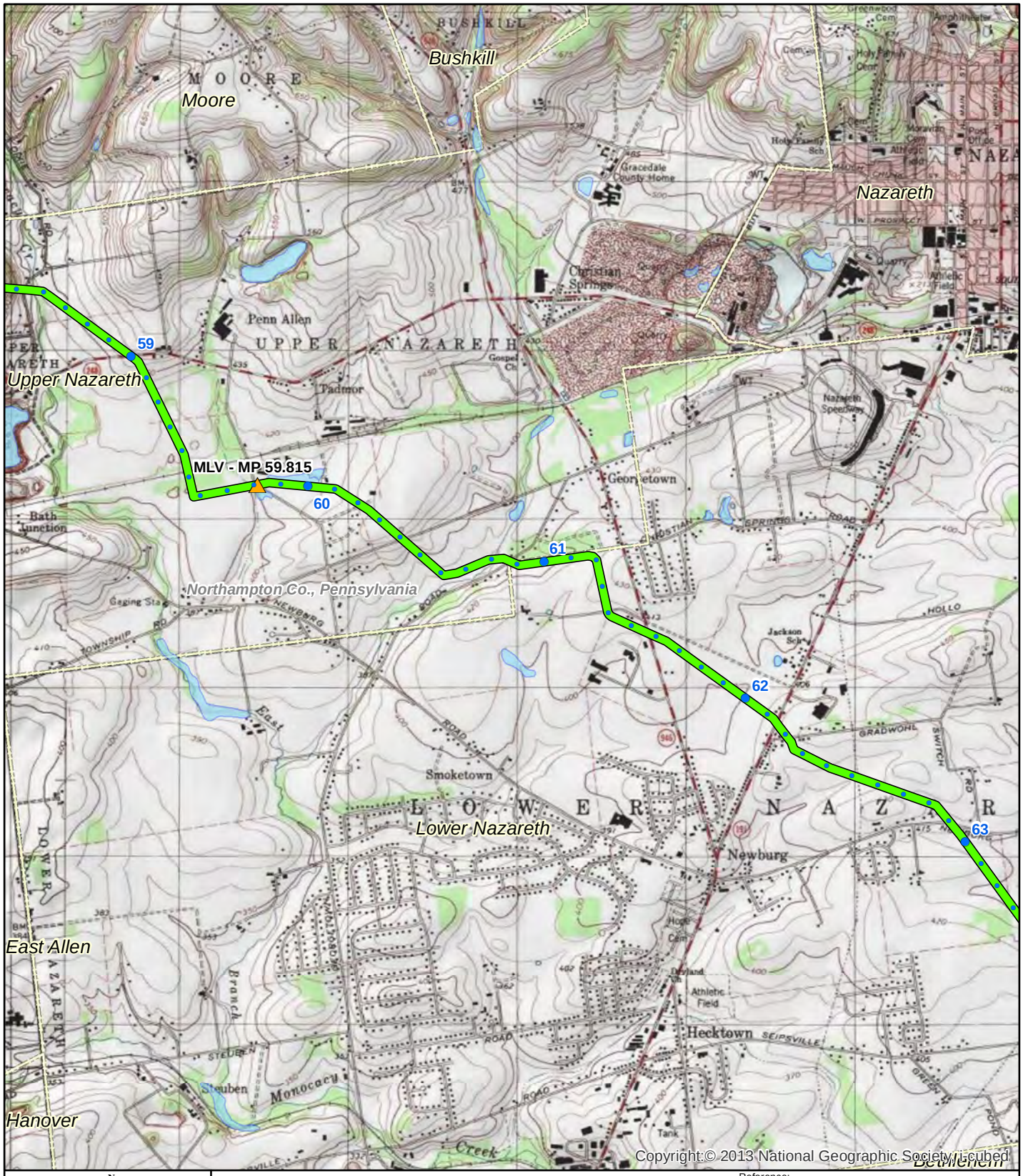
PennEast Pipeline Project
USFWS Wetland Inventory Maps

LOC: Catasauqua Quadrangle			REV.:
CKD. BY: BH	ENG.:	Date: 11/5/2014	W.O.:
DRN. BY: VP	SCALE: SEE GRAPHIC SCALE	DWG. NO.:	SHEET: 18 of 33



PennEast PIPELINE

PennEast Pipeline Company, LLC



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0 800 1,600 3,200 Feet

Legend

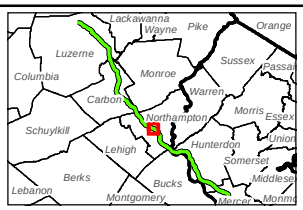
- Mile Postings
- PennEast Pipeline
- Interconnect
- USFWS CONUS NWI Wetlands
- Municipality Boundary
- County Boundary

Reference:
Municipal and County boundaries from PA DOT and NJDEP

TITLE:

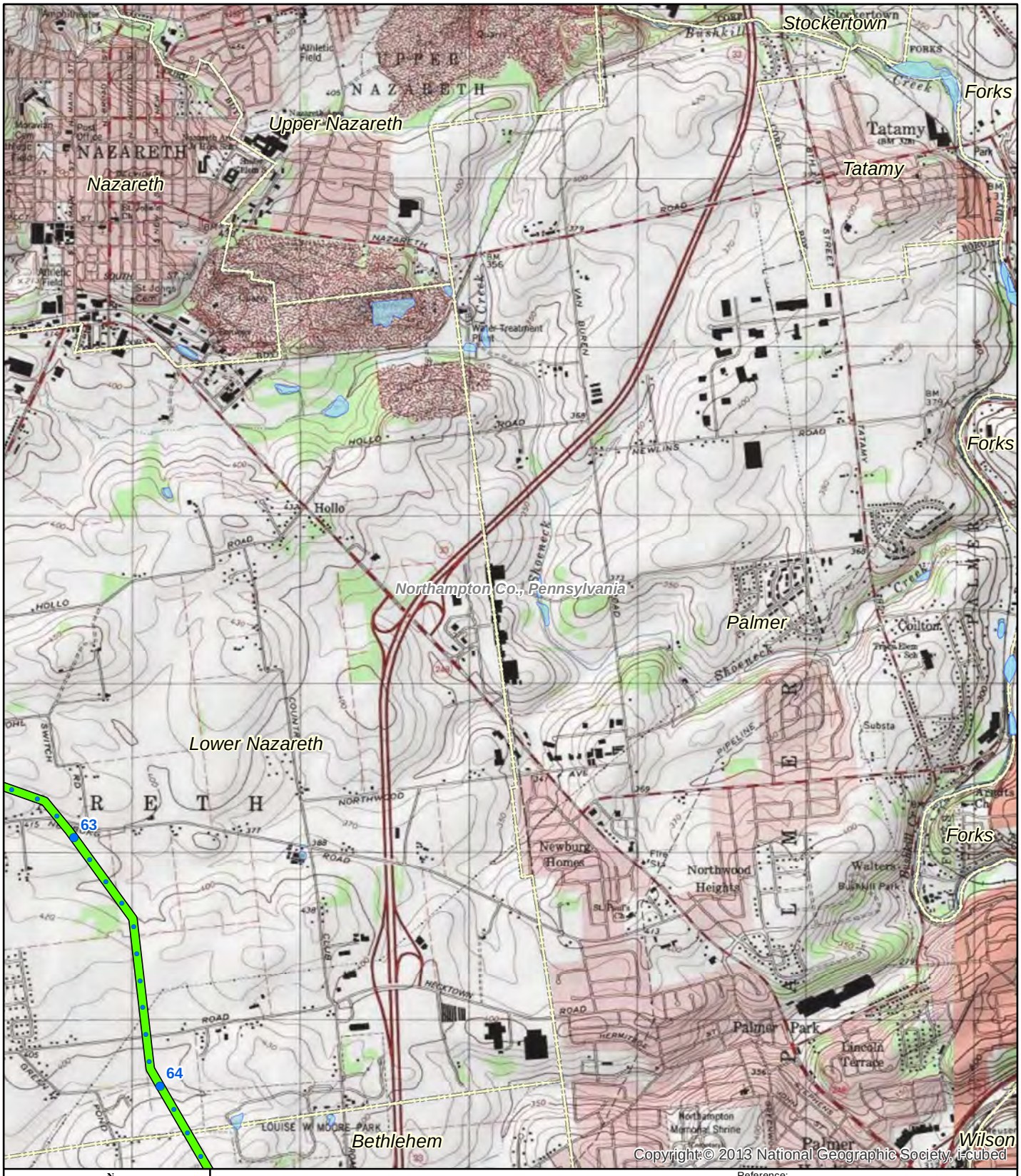
PennEast Pipeline Project
USFWS Wetland Inventory Maps

LOC: Nazareth Quadrangle			REV.:
CKD. BY: BH	ENG.:	Date: 11/5/2014	W.O.:
DRN. BY: VP	SCALE: SEE GRAPHIC SCALE	DWG. NO.:	SHEET: 19 of 33



PennEast PIPELINE

PennEast Pipeline Company, LLC



Reference:
Municipal and County boundaries from PA DOT and NJDEP

N
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0 800 1,600 3,200 Feet

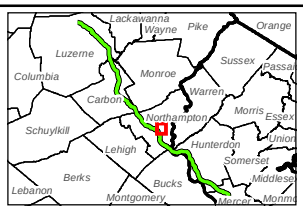
Legend

- Mile Postings
- PennEast Pipeline
- USFWS CONUS NWI Wetlands
- Municipality Boundary
- County Boundary

TITLE:

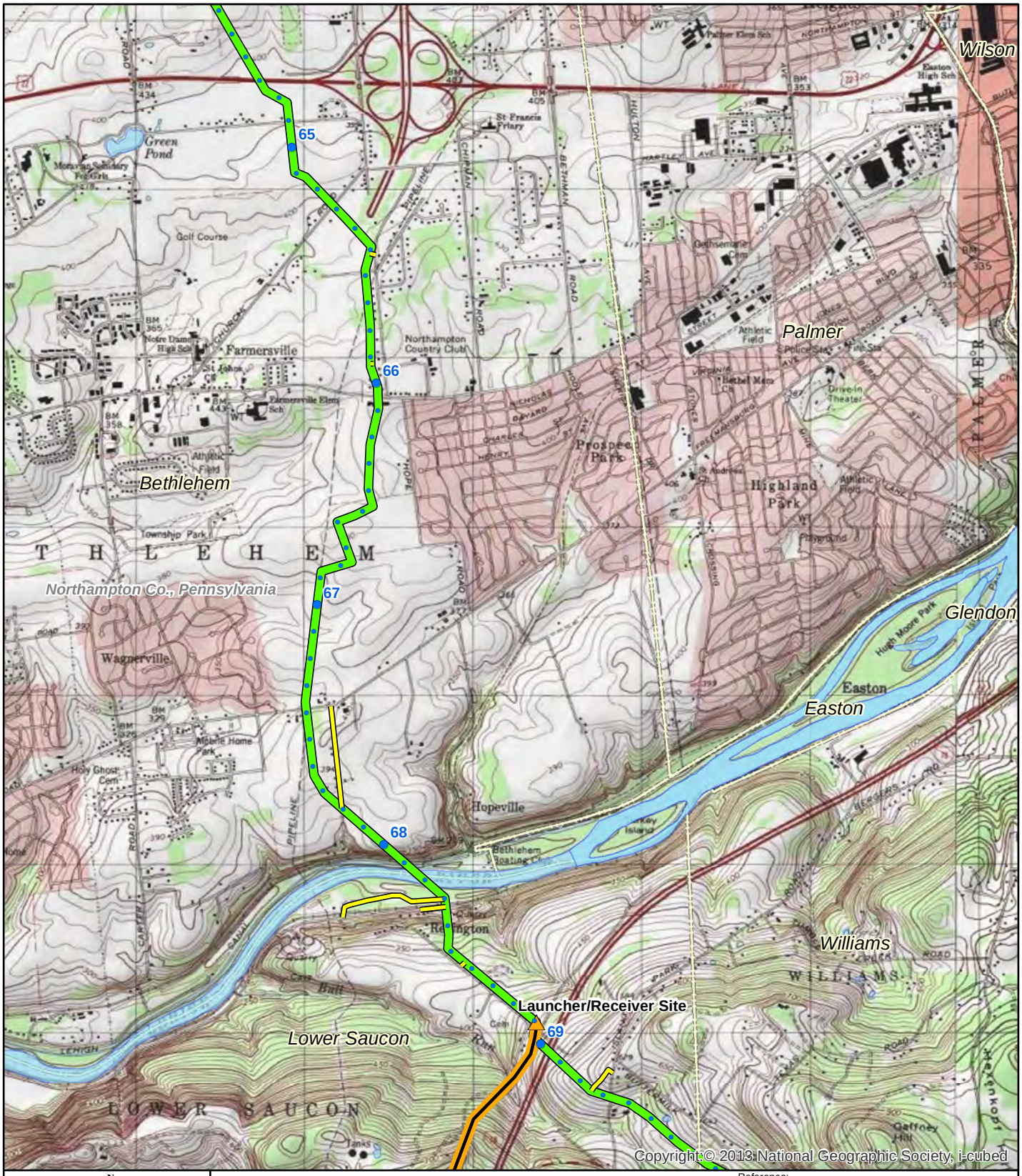
PennEast Pipeline Project
USFWS Wetland Inventory Maps

LOC: Nazareth Quadrangle			REV.:
CKD. BY: BH	ENG.:	Date: 11/5/2014	W.O.:
DRN. BY: VP	SCALE: SEE GRAPHIC SCALE	DWG. NO.:	SHEET: 20 of 33



PennEast PIPELINE

PennEast Pipeline Company, LLC



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Legend

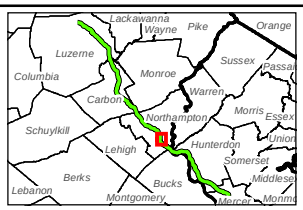
- Mile Postings
- PennEast Pipeline
- Interconnect
- Access Road
- Hellertown 24" Lateral
- USFWS CONUS NWI Wetlands
- Municipality Boundary
- County Boundary

Reference:
Municipal and County boundaries from PA DOT and NJDEP

TITLE:

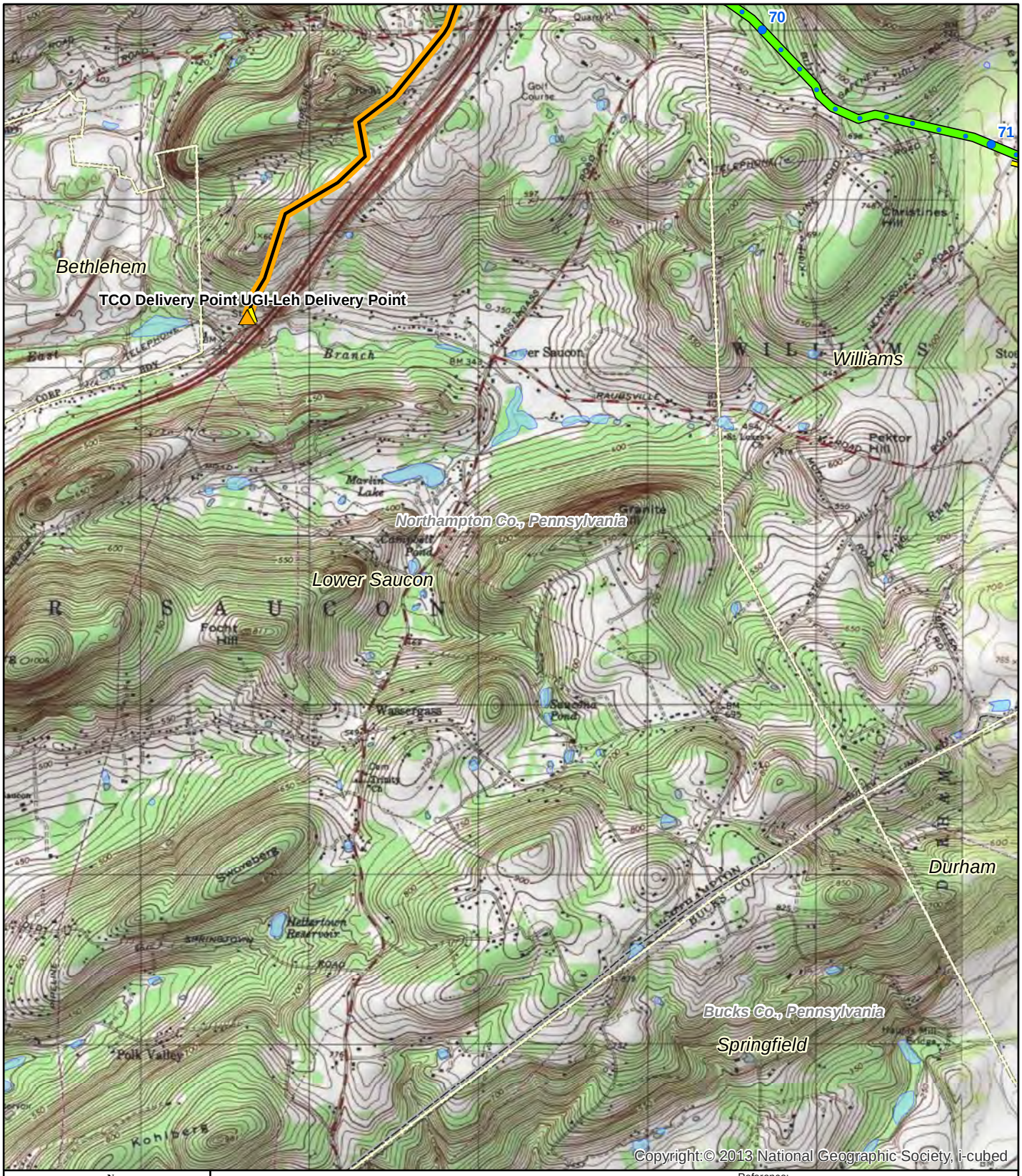
PennEast Pipeline Project
USFWS Wetland Inventory Maps

LOC: Nazareth Quadrangle			REV.:
CKD. BY: BH	ENG.:	Date: 11/5/2014	W.O.:
DRN. BY: VP	SCALE: SEE GRAPHIC SCALE	DWG. NO.:	SHEET: 21 of 33



PennEast PIPELINE

PennEast Pipeline Company, LLC



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Legend

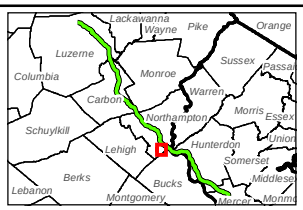
- Mile Postings
- PennEast Pipeline
- Interconnect
- Access Road
- Hellertown 24" Lateral
- USFWS CONUS NWI Wetlands
- Municipality Boundary
- County Boundary

Reference:
Municipal and County boundaries from PA DOT and NJDEP

TITLE:

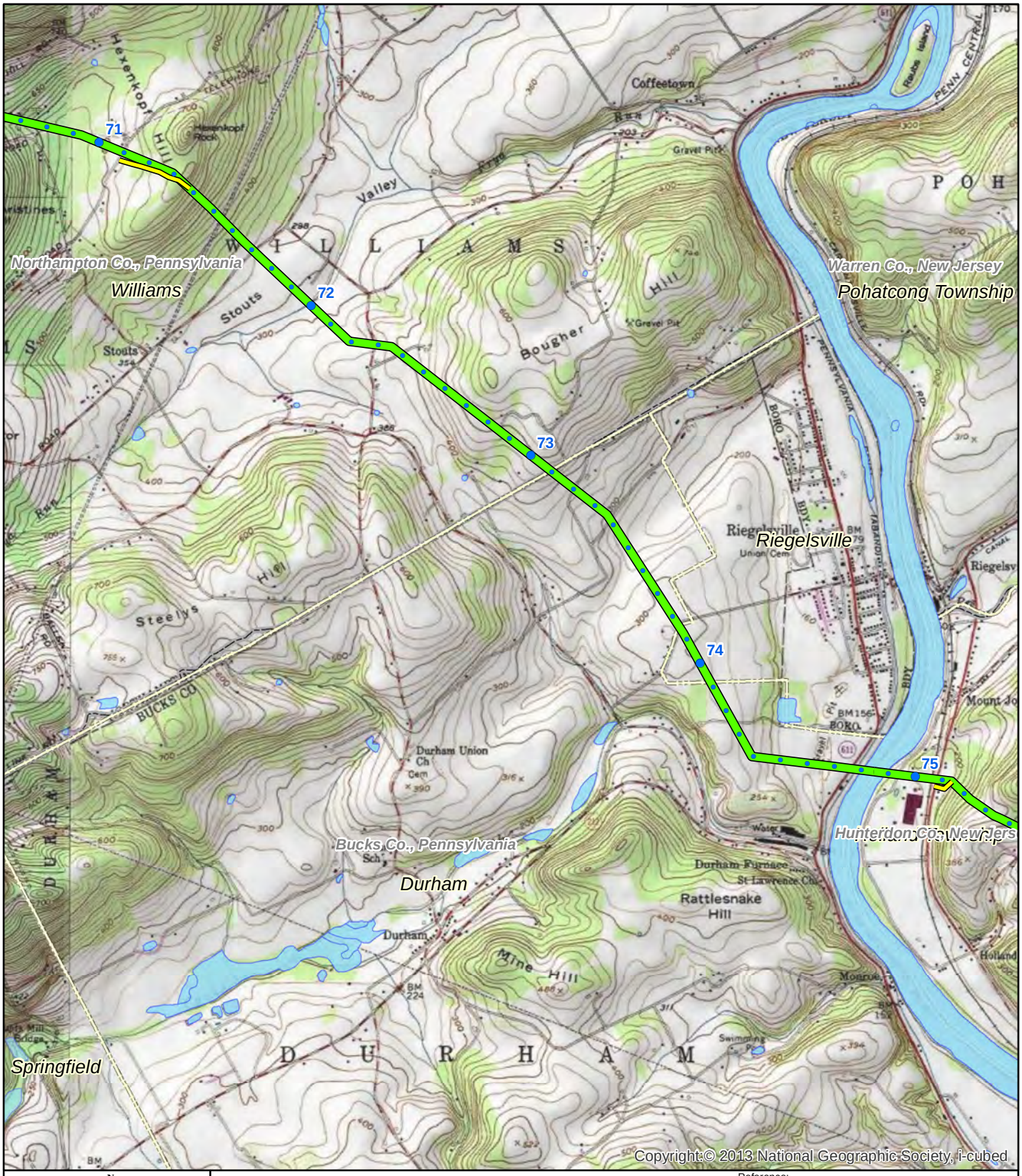
PennEast Pipeline Project
USFWS Wetland Inventory Maps

LOC: Hellertown Quadrangle			REV.:
CKD. BY: BH	ENG.:	Date: 11/5/2014	W.O.:
DRN. BY: VP	SCALE: SEE GRAPHIC SCALE	DWG. NO.:	SHEET: 22 of 33



PennEast PIPELINE

PennEast Pipeline Company, LLC



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Legend

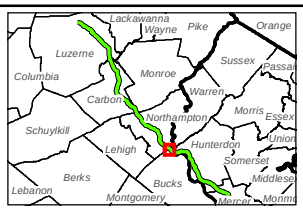
- Mile Postings
- PennEast Pipeline
- Access Road
- Municipality Boundary
- County Boundary
- USFWS CONUS NWI Wetlands

Reference:
Municipal and County boundaries from PA DOT and NJDEP

TITLE:

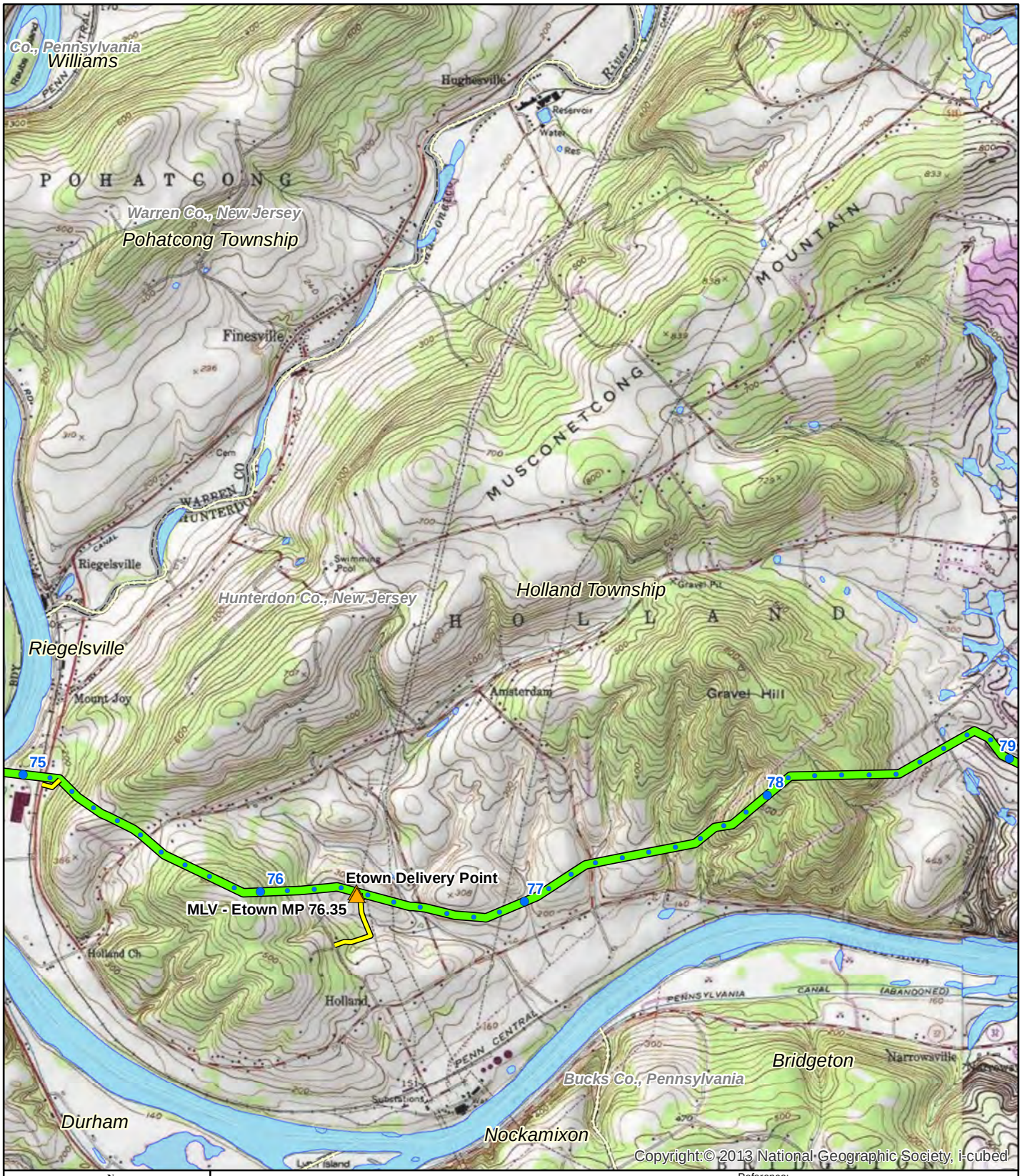
PennEast Pipeline Project
USFWS Wetland Inventory Maps

LOC: Riegelsville Quadrangle			REV.:
CKD. BY: BH	ENG.:	Date: 11/5/2014	W.O.:
DRN. BY: VP	SCALE: SEE GRAPHIC SCALE	DWG. NO.:	SHEET: 23 of 33



PennEast PIPELINE

PennEast Pipeline Company, LLC



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0 800 1,600 3,200 Feet

Legend

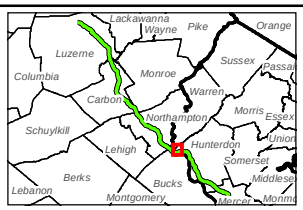
- Mile Postings
- Access Road
- USFWS CONUS NWI Wetlands
- PennEast Pipeline
- Municipality Boundary
- Interconnect
- County Boundary

Reference:
Municipal and County boundaries from PA DOT and NJDEP

TITLE:

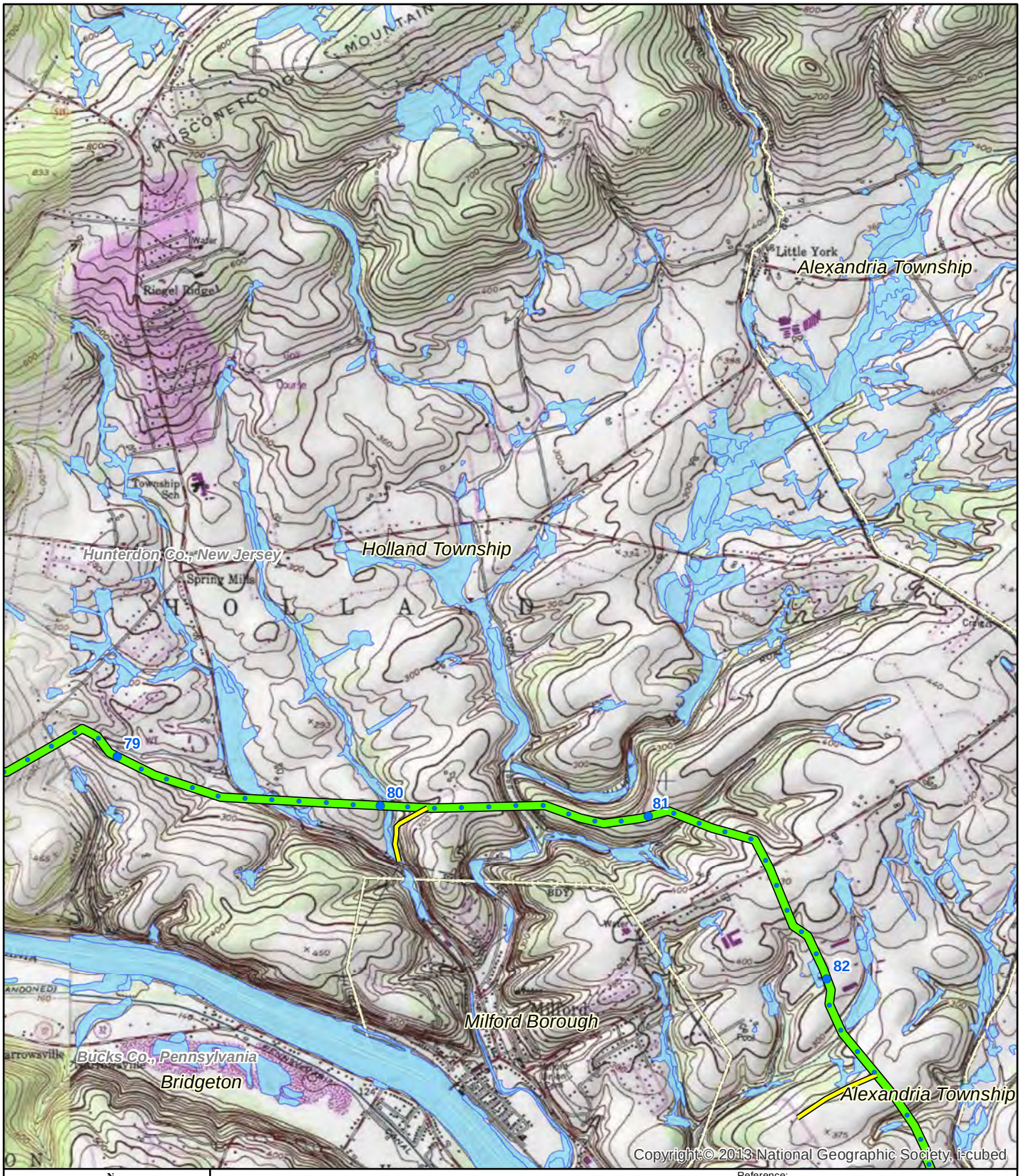
PennEast Pipeline Project
USFWS Wetland Inventory Maps

LOC: Riegelsville Quadrangle			REV.:
CKD. BY: BH	ENG.:	Date: 11/5/2014	W.O.:
DRN. BY: VP	SCALE: SEE GRAPHIC SCALE	DWG. NO.:	SHEET: 24 of 33



PennEast PIPELINE

PennEast Pipeline Company, LLC



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0 800 1,600 3,200 Feet

Legend

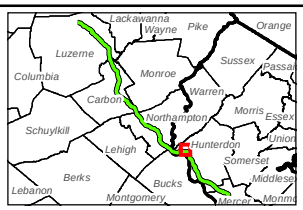
- Mile Postings
- PennEast Pipeline
- Access Road
- Municipality Boundary
- County Boundary
- USFWS CONUS NWI Wetlands

Reference:
Municipal and County boundaries from PA DOT and NJDEP

TITLE:

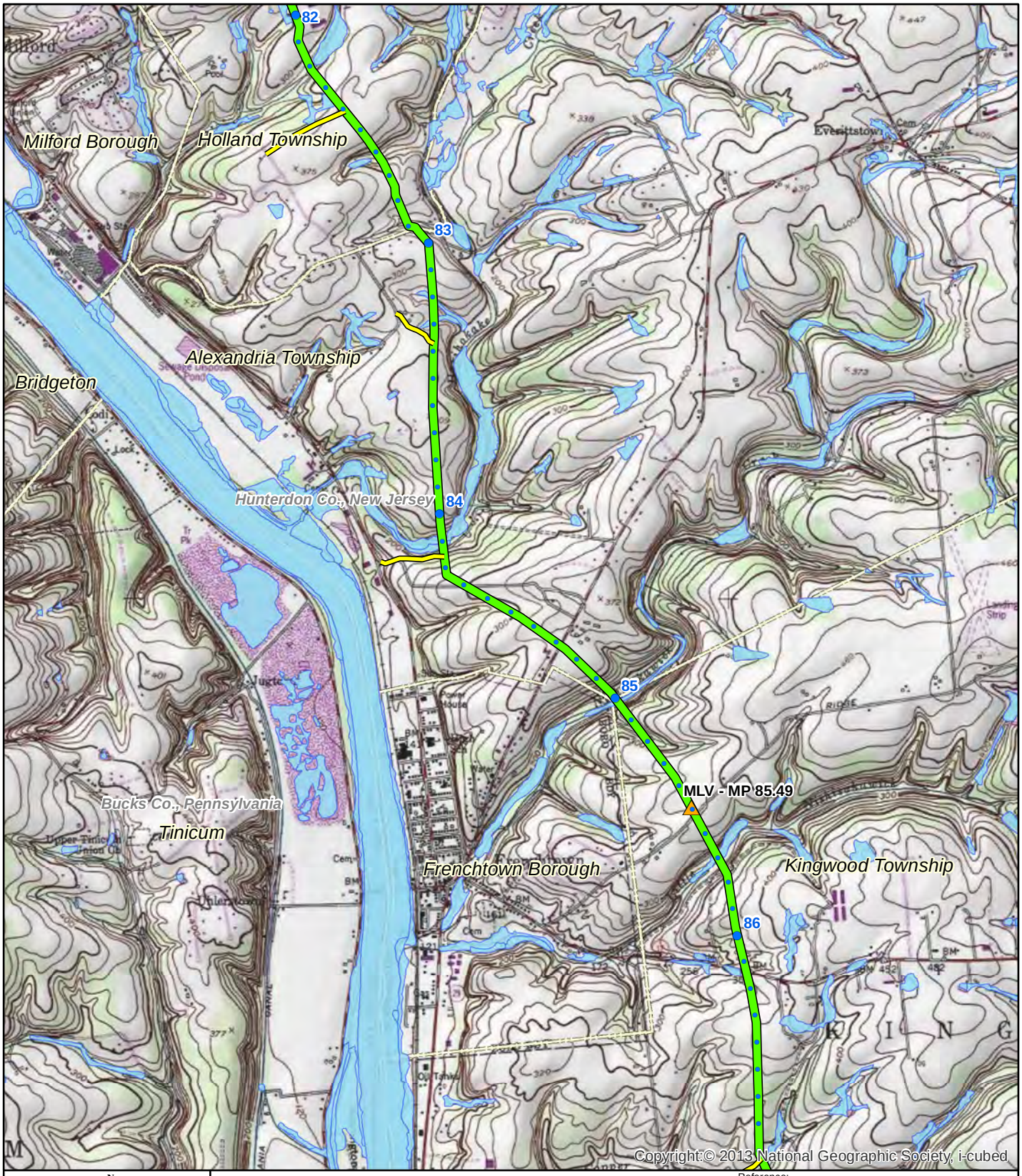
PennEast Pipeline Project
USFWS Wetland Inventory Maps

LOC: Frenchtown Quadrangle			REV.:
CKD. BY: BH	ENG.:	Date: 11/5/2014	W.O.:
DRN. BY: VP	SCALE: SEE GRAPHIC SCALE	DWG. NO.:	SHEET: 25 of 33



PennEast PIPELINE

PennEast Pipeline Company, LLC



Reference:
Municipal and County boundaries from PA DOT and NJDEP

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0 800 1,600 3,200 Feet

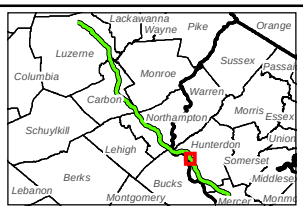
Legend

- Mile Postings
- Access Road
- USFWS CONUS NWI Wetlands
- PennEast Pipeline
- Municipality Boundary
- Interconnect
- County Boundary

TITLE:

PennEast Pipeline Project
USFWS Wetland Inventory Maps

LOC: Frenchtown Quadrangle			REV.:
CKD. BY: BH	ENG.:	Date: 11/5/2014	W.O.:
DRN. BY: VP	SCALE: SEE GRAPHIC SCALE	DWG. NO.:	SHEET: 26 of 33



PennEast PIPELINE

PennEast Pipeline Company, LLC

Reference:
Municipal and County boundaries from PA DOT and NJDEP

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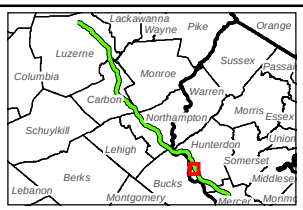
Legend

- Mile Postings
- PennEast Pipeline
- Access Road
- County Boundary
- USFWS CONUS NWI Wetlands

TITLE:

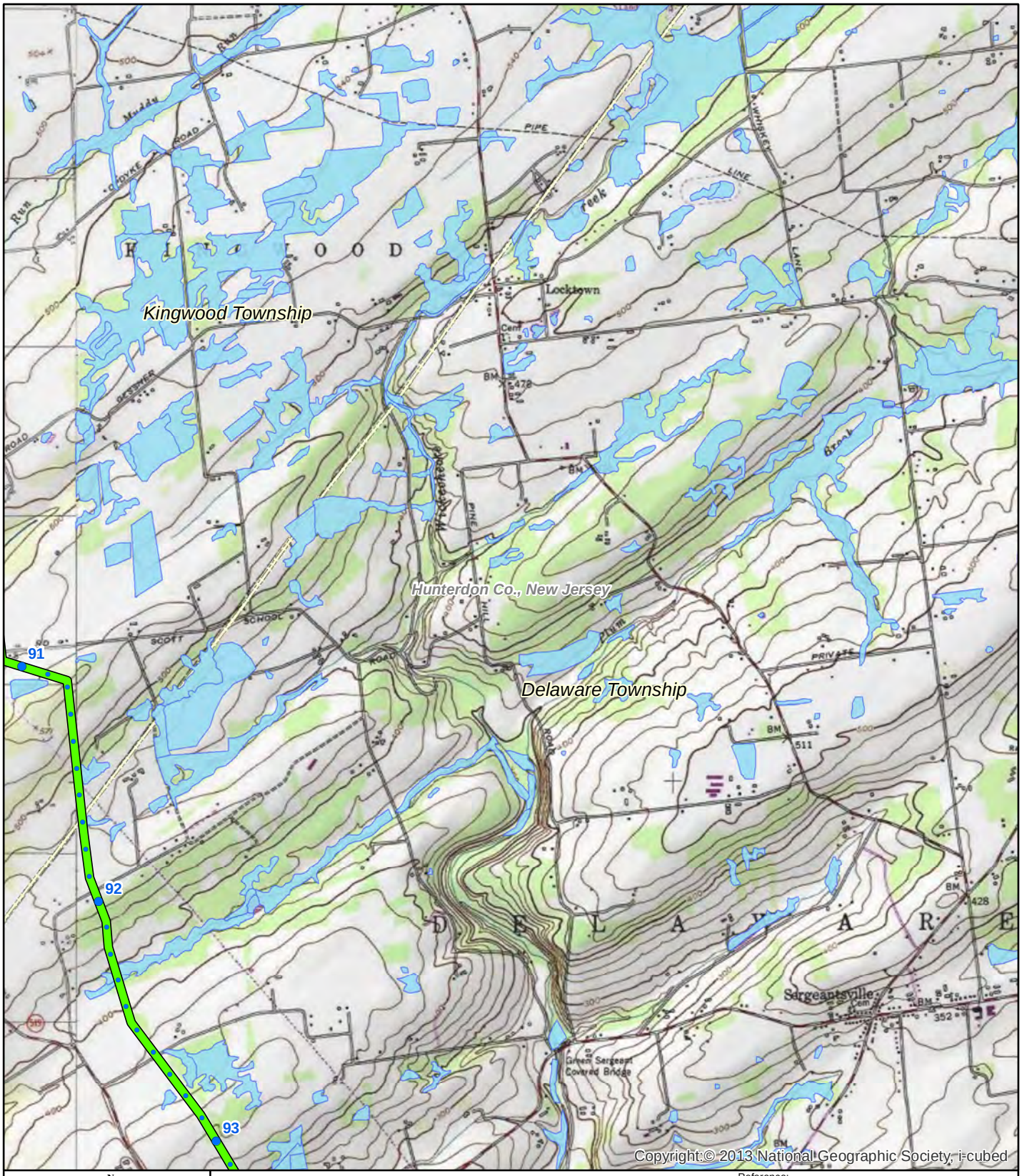
PennEast Pipeline Project
USFWS Wetland Inventory Maps

LOC: Frenchtown, Lumberville Quadrangle			REV.:
CKD. BY: BH	ENG.:	Date: 11/5/2014	W.O.:
DRN. BY: VP	SCALE: SEE GRAPHIC SCALE	DWG. NO.:	SHEET: 27 of 33



PennEast PIPELINE

PennEast Pipeline Company, LLC



Reference:
Municipal and County boundaries from PA DOT and NJDEP

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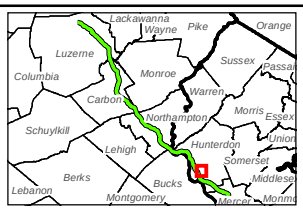
Legend

- Mile Postings
- PennEast Pipeline
- USFWS CONUS NWI Wetlands
- County Boundary

TITLE:

PennEast Pipeline Project
USFWS Wetland Inventory Maps

LOC: Stockton Quadrangle			REV.:
CKD. BY: BH	ENG.:	Date: 11/5/2014	W.O.:
DRN. BY: VP	SCALE: SEE GRAPHIC SCALE	DWG. NO.:	SHEET: 28 of 33



PennEast PIPELINE

PennEast Pipeline Company, LLC

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Legend

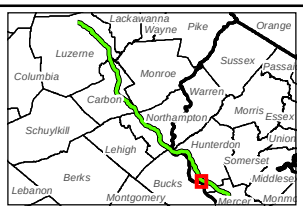
- Mile Postings
- PennEast Pipeline
- Interconnect
- USFWS CONUS NWI Wetlands
- Municipality Boundary
- County Boundary

Reference:
Municipal and County boundaries from PA DOT and NJDEP

TITLE:

PennEast Pipeline Project
USFWS Wetland Inventory Maps

LOC: Stockton Quadrangle			REV.:
CKD. BY: BH	ENG.:	Date: 11/5/2014	W.O.:
DRN. BY: VP	SCALE: SEE GRAPHIC SCALE	DWG. NO.:	SHEET: 29 of 33



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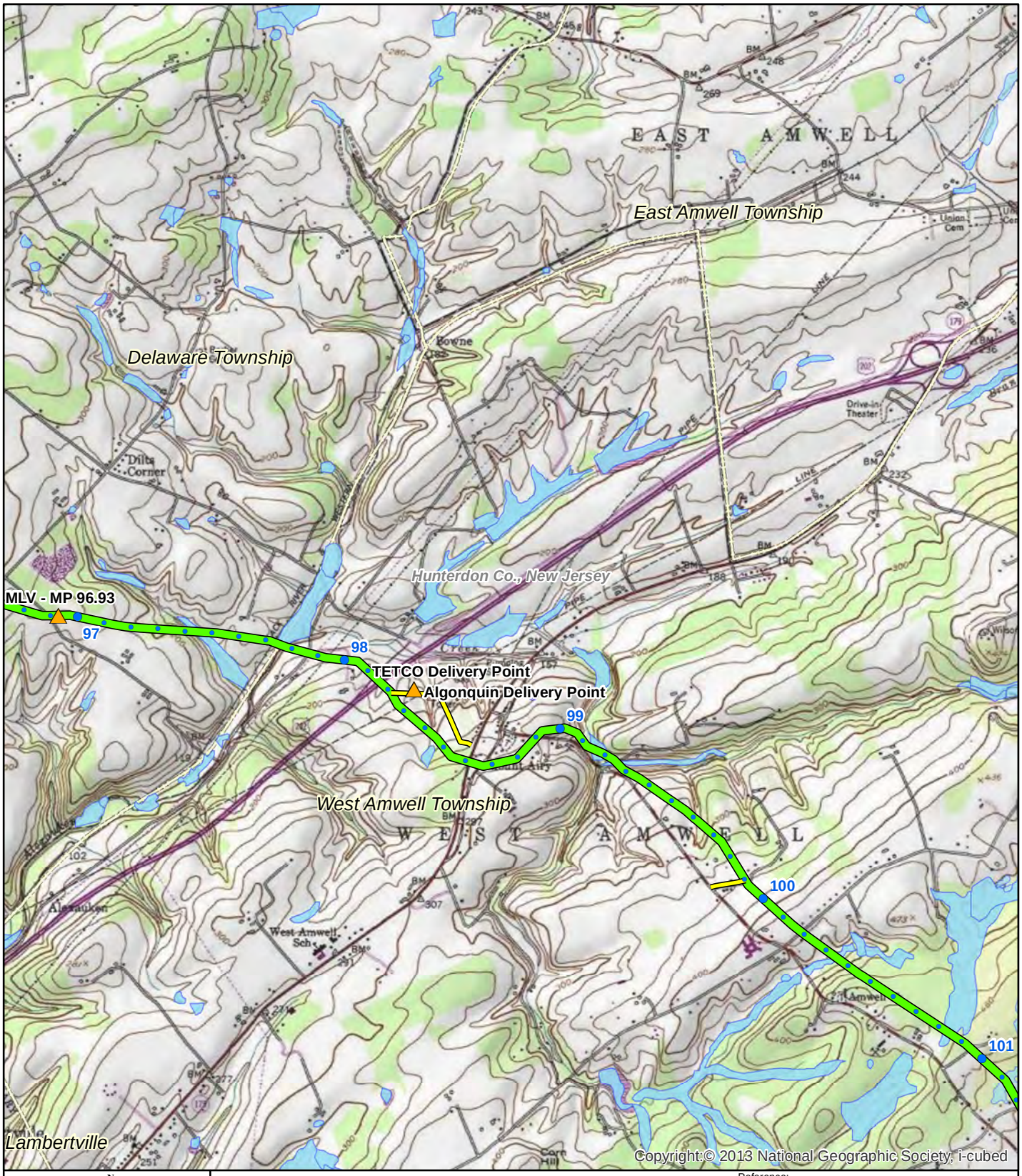

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Legend

- Mile Postings
- PennEast Pipeline
- Interconnect
- Access Road
- USFWS CONUS NWI Wetlands
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Reference:
Municipal and County boundaries from PA DOT and NJDEP

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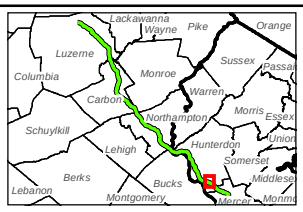
USFWS Wetland Inventory Maps

LOC: Stockton Quadrangle			REV.:
CKD. BY: BH	ENG.:	Date: 11/5/2014	W.O.:
DRN. BY: VP	SCALE: SEE GRAPHIC SCALE	DWG. NO.:	SHEET: 30 of 33



PennEast PIPELINE

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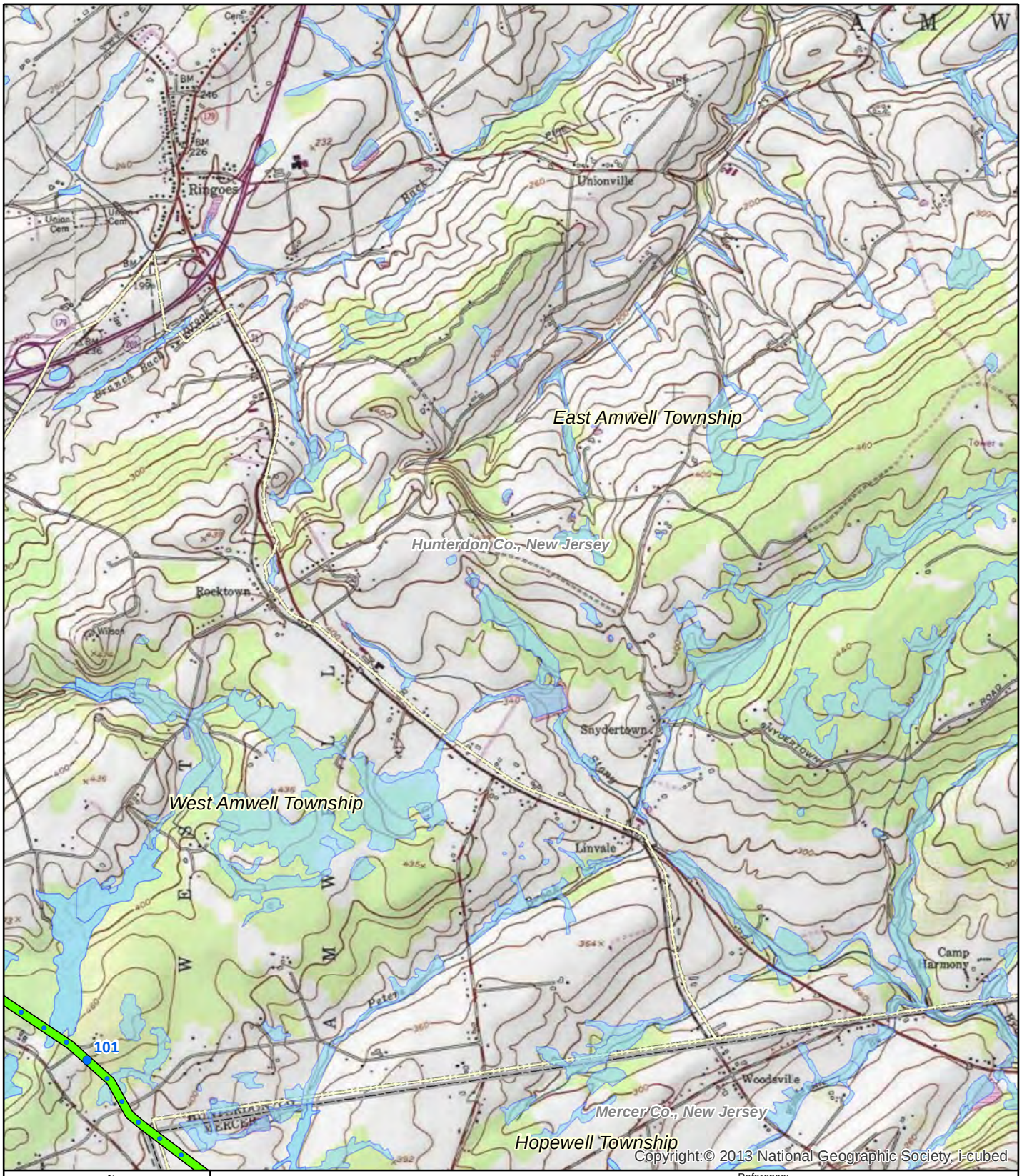

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Legend

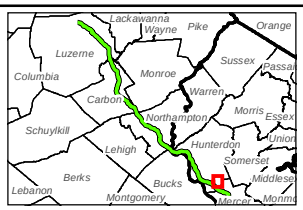
- Mile Postings
- PennEast Pipeline
- USFWS CONUS NWI Wetlands
- County Boundary

Reference:
Municipal and County boundaries from PA DOT and NJDEP

TITLE:

PennEast Pipeline Project
USFWS Wetland Inventory Maps

LOC: Hopewell Quadrangle			REV.:
CKD. BY: BH	ENG.:	Date: 11/5/2014	W.O.:
DRN. BY: VP	SCALE: SEE GRAPHIC SCALE	DWG. NO.:	SHEET: 31 of 33



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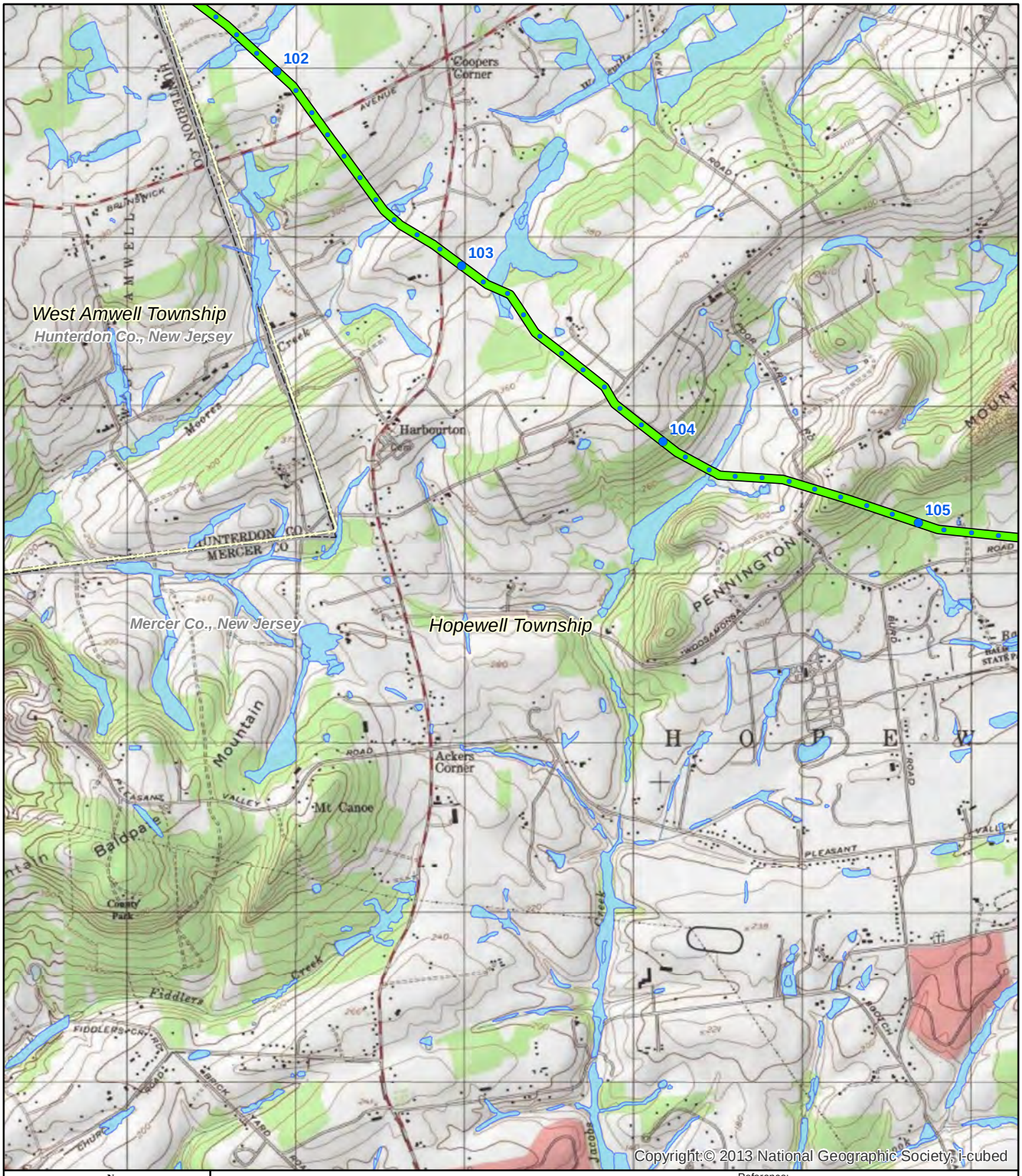

Reference:
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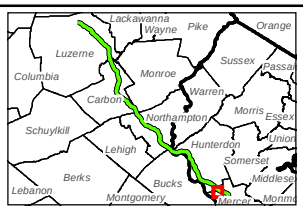
TITLE:

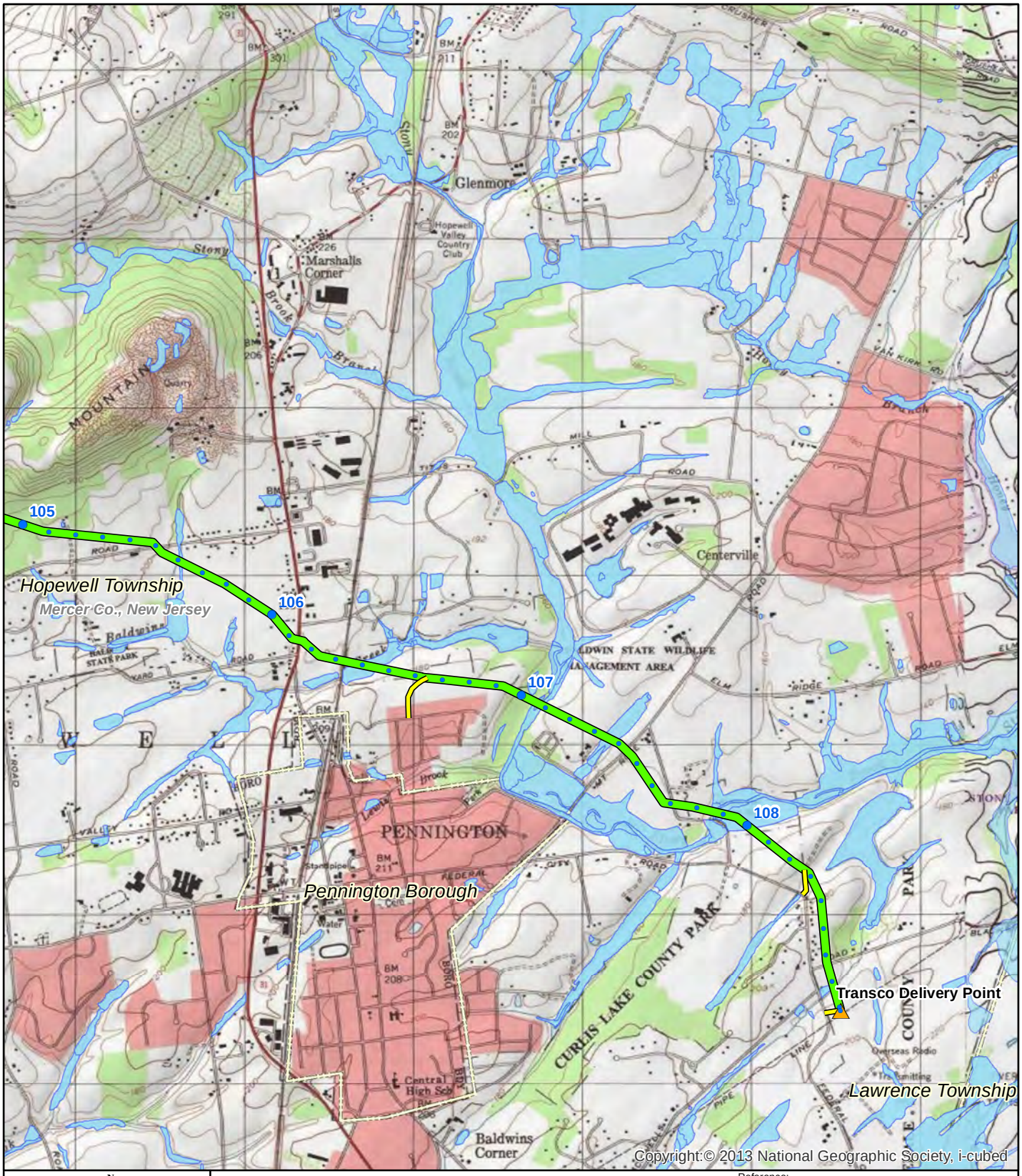
PennEast Pipeline Project
USFWS Wetland Inventory Maps

LOC: Pennington Quadrangle			REV.:
CKD. BY: BH	ENG.:	Date: 11/5/2014	W.O.:
DRN. BY: VP	SCALE: SEE GRAPHIC SCALE	DWG. NO.:	SHEET: 32 of 33



PennEast PIPELINE

PennEast Pipeline Company, LLC



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Legend

- Mile Postings
- PennEast Pipeline
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- USFWS CONUS NWI Wetlands
- County Boundary

Reference:
Municipal and County boundaries from PA DOT and NJDEP

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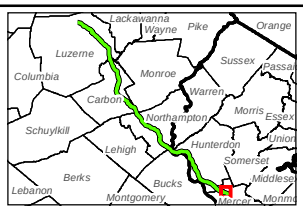
PennEast Pipeline Project
USFWS Wetland Inventory Maps

LOC: Pennington Quadrangle			REV.:
CKD. BY: BH	ENG.:	Date: 11/5/2014	W.O.:
DRN. BY: VP	SCALE: SEE GRAPHIC SCALE	DWG. NO.:	SHEET: 33 of 33



PennEast PIPELINE

PennEast Pipeline Company, LLC

Contact Name	Leave Blank	Contact Title	Contact Organization/Agency	PO Box	Address 1	Address 2	City	Zip	Zip 2	State	Docket
Mr. Bob Martin		Commissioner	New Jersey Department of Environmental Protection				Trenton	08625	0402	NJ	PF15-1-000
Mr. Robert Powelson		Chairman	Pennsylvania Public Utility Commission		Commonwealth Keystone Building	3rd Floor, Room N-304	Harrisburg	17105		PA	PF15-1-000
Mr. John Coleman		Vice Chairman	Pennsylvania Public Utility Commission		Commonwealth Keystone Building	4th Floor, Room N-306	Harrisburg	17105		PA	PF15-1-000
Ms. Gladys Brown		Commissioner	Pennsylvania Public Utility Commission		Commonwealth Keystone Building	4th Floor, Room N-305	Harrisburg	17105		PA	PF15-1-000
Ms. Pamela Witmer		Commissioner	Pennsylvania Public Utility Commission		Commonwealth Keystone Building	4th Floor, Room N-307	Harrisburg	17105		PA	PF15-1-000
Mr. James Cawley		Commissioner	Pennsylvania Public Utility Commission		Commonwealth Keystone Building	4th Floor, Room N-308	Harrisburg	17105		PA	PF15-1-000
Mr. Jan Freeman		Commissioner	Pennsylvania Public Utility Commission		Commonwealth Keystone Building	4th Floor, Room N-309	Harrisburg	17105		PA	PF15-1-000
Ms. Dianne Soloman		President	State of New Jersey Board of Public Utilities		44 S. Clinton Avenue		Trenton	8625		NJ	PF15-1-000
Mr. Jerome May		Director	State of New Jersey Board of Public Utilities		44 S. Clinton Avenue		Trenton	8625		NJ	PF15-1-000
Ms. Becky Bradley		Executive Director	Lehigh Valley Planning Commission		961 Marcon Boulevard	Suite 310	Allentown	18109		PA	PF15-1-000
Mr. Geoffrey Reese		Director of Environmental Planning	Lehigh Valley Planning Commission		961 Marcon Boulevard	Suite 310	Allentown	18109		PA	PF15-1-000
The Honorable Zach Rich		Deputy Mayor	West Amwell Township		150 Rocktown Lambertville Road		Lambertville	08530		NJ	PF15-1-000
The Honorable George Fisher		Mayor	West Amwell Township		150 Rocktown Lambertville Road		Lambertville	08007		NJ	PF15-1-000
The Honorable Robert Walton		Freeholder	Hunterdon County		71 Main Street	Building #1, 1st Floor	Flemington	08822	02900	NJ	PF15-1-000
The Honorable Patrick Torpey		Chair	Republican Party of Hunterdon County		71 Main Street		Flemington	08101		NJ	PF15-1-000
The Honorable Roger Locandro		Deputy Mayor	Delaware Township	PO Box 500	570 Rosemont-Ringoes Road		Sergeantsville	08557		NJ	PF15-1-000
Mrs. Judith A. Allen		Township Clerk	Delaware Township	PO Box 500	570 Rosemont-Ringoes Road		Sergeantsville	08557		NJ	PF15-1-000
The Honorable John Cimino		Freeholder	Mercer County		McDade Administration Building	640 South Broad Street	Trenton	08611		NJ	PF15-1-000
The Honorable Paul Abraham		Mayor	Alexandria Township		782 Frenchtown Road		Milford	08848		NJ	PF15-1-000
The Honorable Arlene Quinones Perez		Chair	Democratic Party of Hunterdon County	P.O. BOX 473			Flemington	08822		NJ	PF15-1-000
The Honorable John King		Freeholder	Hunterdon County		71 Main Street	Building #1, 1st Floor	Flemington	08822	02900	NJ	PF15-1-000
The Honorable Susan Lagay		Freeholder	Hunterdon County		71 Main Street	Building #1, 1st Floor	Flemington	08822	02900	NJ	PF15-1-000
The Honorable Anthony Roselle		Mayor	Holland Township		Town Hall	61 Church Road	Milford	08848		NJ	PF15-1-000
Mr. Brian Hughes		Executive	Mercery County		McDade Administration Building	640 South Broad Street	Trenton	08611		NJ	PF15-1-000
The Honorable Phillip Lubitz		Mayor	Kingwood Township	P.O. Box 199			Baptistown	08803	00199	NJ	PF15-1-000
The Honorable Warren Cooper		Mayor	Frenchtown Borough		29 Second Street		Frenchtown	08825		NJ	PF15-1-000
The Honorable Vanessa Sandom		Mayor	Hopewell Township		201 Washington Crossing-Pennington Road		Titusville	08560		NJ	PF15-1-000
Mr. Matt Holt		Freeholder Director	Hunterdon County		71 Main Street	Building #1, 1st Floor	Flemington	08822	02900	NJ	PF15-1-000
The Honorable John Lanza		Freeholder	Hunterdon County		71 Main Street	Building #1, 1st Floor	Flemington	08822	02900	NJ	PF15-1-000
Mr. George Wagner		Interim County Administrator	Hunterdon County	PO Box 2900	71 Main Street, Building #1		Flemington	08822	02900	NJ	PF15-1-000
The Honorable Chris Christie		Governor	Office of the Governo	PO Box 001			Trenton	08625		NJ	PF15-1-000
The Honorable Erik Peterson		Assemblyman	New Jersey Assembly		178 Center St.	Suite 2B	Clinton	08809		NJ	PF15-1-000
The Honorable Kip Bateman		Senator	New Jersey Senate		36 East Main St.		Somerville	08876		NJ	PF15-1-000
The Honorable Jack Ciattarelli		Assemblyman	New Jersey Assembly		50 Division St.	Suite 200	Somerville	08876		NJ	PF15-1-000
The Honorable Donna Simon		Assemblywoman	New Jersey Assembly		57 Main St.		Flemington	08822		NJ	PF15-1-000
The Honorable Michael Doherty		Senator	New Jersey Senate		127 Belvidere Ave.	2nd Floor	Washington	07882		NJ	PF15-1-000
The Honorable John DiMaio		Assemblyman	New Jersey Assembly		245 Route 22	Suite 208	Bridgewater	08807		NJ	PF15-1-000
The Honorable Shirley Turner		State Senator	New Jersey Senate		1230 Parkway Ave.	Suite 103	Ewing Twp.	08628		NJ	PF15-1-000
The Honorable Reed Gusciora		Assemblyman	New Jersey Assembly		144 W. State St.		Trenton	08608		NJ	PF15-1-000
The Honorable Bonnie Watson Coleman		Assemblywoman	New Jersey Assembly		144 W. State St.		Trenton	08608		NJ	PF15-1-000
The Honorable Andrew Koontz		Chair, Freeholder	Mercery County Board of Chosen Freeholders		McDade Administration Building	640 South Broad Street	Trenton	08611		NJ	PF15-1-000
The Honorable Samuel Frisby		Vice Chair, Freeholder	Mercery County Board of Chosen Freeholders		McDade Administration Building	640 South Broad Street	Trenton	08611		NJ	PF15-1-000
The Honorable Amy Cannon		Freeholder	Mercery County Board of Chosen Freeholders		McDade Administration Building	640 South Broad Street	Trenton	08611		NJ	PF15-1-000
The Honorable Anthony Carabelli		Freeholder	Mercery County Board of Chosen Freeholders		McDade Administration Building	640 South Broad Street	Trenton	08611		NJ	PF15-1-000
The Honorable Pasquale Colavita, Jr		Freeholder	Mercery County Board of Chosen Freeholders		McDade Administration Building	640 South Broad Street	Trenton	08611		NJ	PF15-1-000
The Honorable Lucylle Walter		Freeholder	Mercery County Board of Chosen Freeholders		McDade Administration Building	640 South Broad Street	Trenton	08611		NJ	PF15-1-000
The Honorable John Cimino		Freeholder	Mercery County Board of Chosen Freeholders		McDade Administration Building	640 South Broad Street	Trenton	08611		NJ	PF15-1-000
Mr. Brian Hughes		County Executive	Mercery County		McDade Administration Building	640 South Broad Street	Trenton	08611		NJ	PF15-1-000
Mr. Kelvin Ganges		Chief of Staff	Mercer County		McDade Administration Building	640 South Broad Street	Trenton	08611		NJ	PF15-1-000
Mr. Andy Mair		County Administrator	Mercer County		McDade Administration Building	640 South Broad Street	Trenton	08611		NJ	PF15-1-000
The Honorable Elizabeth Muoio		Democrat Party Chair	Mercer County		123 Voorhees Ave		Pennington	08534	2738	NJ	PF15-1-000
The Honorable Lisa Richford		Republican Party Chair	Mercer County		3635 Quakerbridge Rd	Suite 1	Hamilton	08619		NJ	PF15-1-000
The Honorable Matthew Holt		Freeholder Director	Hunterdon County		71 Main Street	Building #1, 1st Floor	Flemington	08822	2900	NJ	PF15-1-000
The Honorable John King		Freeholder Deputy Directo	Hunterdon County		71 Main Street	Building #1, 1st Floor	Flemington	08822	2900	NJ	PF15-1-000
The Honorable Susan Lagay		Freeholder	Hunterdon County		71 Main Street	Building #1, 1st Floor	Flemington	08822	2900	NJ	PF15-1-000
The Honorable John Lanza		Freeholder	Hunterdon County		71 Main Street	Building #1, 1st Floor	Flemington	08822	2900	NJ	PF15-1-000
The Honorable Robert Walton		Freeholder	Hunterdon County		71 Main Street	Building #1, 1st Floor	Flemington	08822	2900	NJ	PF15-1-000
Mr. George Wagner		County Administrator	Hunterdon County		71 Main Street	Building #1, 1st Floor	Flemington	08822	2900	NJ	PF15-1-000
The Honorable Mike Flynn		Democrat County Chair	Hunterdon County	P.O. BOX 473			Flemington	08822		NJ	PF15-1-000
The Honorable Patrick Torpey		Republican County Chair	Hunterdon County		71 Main Street		Flemington	08822	2900	NJ	PF15-1-000
The Honorable Paul Abraham		Mayor	Alexandria Township		782 Frenchtown Road		Milford	08848		NJ	PF15-1-000
The Honorable Harry Swift		Deputy Mayor	Alexandria Township		782 Frenchtown Road		Milford	08848		NJ	PF15-1-000
The Honorable Curtis Schick		Committeeman	Alexandria Township		782 Frenchtown Road		Milford	08848		NJ	PF15-1-000
Ms. Michele Bobrowski		Township Clerk	Alexandria Township		782 Frenchtown Road		Milford	08848		NJ	PF15-1-000
The Honorable Kenneth J. Novak		Mayor	Delaware Township	PO Box 500	570 Rosemont-Ringoes Road	570 Rosemont-Ringoes Road	Sergeantsville	08557		NJ	PF15-1-000
The Honorable Roger Locandro		Deputy Mayor	Delaware Township	PO Box 500	570 Rosemont-Ringoes Road	570 Rosemont-Ringoes Road	Sergeantsville	08557		NJ	PF15-1-000
Ms. Susan D. Lockwood		Committee Member	Delaware Township	PO Box 500	570 Rosemont-Ringoes Road	570 Rosemont-Ringoes Road	Sergeantsville	08557		NJ	PF15-1-000
Ms. Kristin McCarthy		Committee Member	Delaware Township	PO Box 500	570 Rosemont-Ringoes Road	570 Rosemont-Ringoes Road	Sergeantsville	08557		NJ	PF15-1-000
Mr. Joseph Vocke		Committee Member	Delaware Township	PO Box 500	570 Rosemont-Ringoes Road	570 Rosemont-Ringoes Road	Sergeantsville	08557		NJ	PF15-1-000
Ms. Judith A. Allen		Township Clerk	Delaware Township	PO Box 500	570 Rosemont-Ringoes Road	570 Rosemont-Ringoes Road	Sergeantsville	08557		NJ	PF15-1-000
The Honorable Warren E. Coope		Mayor	Frenchtown Borough		29 Second Street		Frenchtown	08825		NJ	PF15-1-000
Mr. Seth Grossman		Council President	Frenchtown Borough		29 Second Street		Frenchtown	08825		NJ	PF15-1-000
The Honorable Bradley Myhre		Councilman	Frenchtown Borough		29 Second Street		Frenchtown	08825		NJ	PF15-1-000
The Honorable Jack Opdyke		Councilman	Frenchtown Borough		29 Second Street		Frenchtown	08825		NJ	PF15-1-000
The Honorable Cathy Leach		Councilwoman	Frenchtown Borough		29 Second Street		Frenchtown	08825		NJ	PF15-1-000
The Honorable Michele Liebtag		Councilwoman	Frenchtown Borough		29 Second Street		Frenchtown	08825		NJ	PF15-1-000
The Honorable William Sullivan		Councilman	Frenchtown Borough		29 Second Street		Frenchtown	08825		NJ	PF15-1-000
Ms. Brenda S. Shepherd		Borough Clerk	Frenchtown Borough		29 Second Street		Frenchtown	08825		NJ	PF15-1-000
The Honorable Anthony Roselle		Mayor	Holland Township		Town Hall	61 Church Road	Milford	08848		NJ	PF15-1-000
The Honorable Dan Bush		Deputy Mayor	Holland Township		Town Hall	61 Church Road	Milford	08848		NJ	PF15-1-000
Mr. Kenneth Vogel		Committeeman	Holland Township		Town Hall	61 Church Road	Milford	08848		NJ	PF15-1-000
Mr. Thomas Scheibener		Committeeman	Holland Township		Town Hall	61 Church Road	Milford	08848		NJ	PF15-1-000
Mr. Ray Krov		Committeeman	Holland Township		Town Hall	61 Church Road	Milford	08848		NJ	PF15-1-000
Ms. Catherine M. Miller		Municipal Clerk & Register	Holland Township		Town Hall	61 Church Road	Milford	08848		NJ	PF15-1-000
Mr. Michael Keady		Chairperson	Holland County Environmental Commission		Town Hall	61 Church Road	Milford	08848		NJ	PF15-1-000
The Honorable Phillip Lubitz		Mayor	Kingwood Township	P.O. Box 199			Baptistown	08803	0199	NJ	PF15-1-000
The Honorable Richard Dodds		Deputy Mayor	Kingwood Township	P.O. Box 199			Baptistown	08803	0199	NJ	PF15-1-000
Ms. Diana Haywood		Committee Member	Kingwood Township	P.O. Box 199			Baptistown	08803	0199	NJ	PF15-1-000
Ms. Mary MacConnell		Township Clerk	Kingwood Township	P.O. Box 199			Baptistown	08803	0199	NJ	PF15-1-000
The Honorable Stephen Giocondo		Mayor	Stockton Borough		2 South Main Street		Stockton	08559		NJ	PF15-1-000
The Honorable Neal Esposito		Deputy Mayor	Stockton Borough		2 South Main Street		Stockton	08559		NJ	PF15-1-000
The Honorable Aaron Lipsen		Councilman	Stockton Borough		2 South Main Street		Stockton	08559		NJ	PF15-1-000
The Honorable Nic Messina		Councilman	Stockton Borough		2 South Main Street		Stockton	08559		NJ	PF15-1-000
The Honorable Timothy Nemeth		Councilman	Stockton Borough		2 South Main Street		Stockton	08559		NJ	PF15-1-000
The Honorable Kathryn Steffanelli		Councilwoman	Stockton Borough		2 South Main Street		Stockton	08559		NJ	PF15-1-000
The Honorable Donald Vandegrift		Councilman	Stockton Borough		2 South Main Street		Stockton	08559		NJ	PF15-1-000
Ms. Michele Hovan		Township Clerk	Stockton Borough		2 South Main Street		Stockton	08559		NJ	PF15-1-000
The Honorable Zach Rich		Deputy Mayor	West Amwell Township		150 Rocktown Lambertville Road		Lambertville	08530		NJ	PF15-1-000
The Honorable George Fisher		Mayor	West Amwell Township		150 Rocktown Lambertville Road		Lambertville	08530		NJ	PF15-1-000
Mr. John Dale		Committeeman	West Amwell Township		150 Rocktown Lambertville Road		Lambertville	08530		NJ	PF15-1-000
Ms. Lora L. Olsen		Municipal Clerk	West Amwell Township		150 Rocktown Lambertville Road		Lambertville	08530		NJ	PF15-1-000
Mr. Timothy Brill		Planning Manager	New Jersey State Agriculture Development Committee	P.O. Box 330	369 S. Warren Street		Trenton	08625		NJ	PF15-1-000
The Honorable Anthony Persichill		Mayor	Pennington Borough		30 North Main Street		Pennington	08534		NJ	PF15-1-000
Mr. Edwin Tucker		President	Pennington Borough		30 North Main Street		Pennington	08534		NJ	PF15-1-000
Mr. Glen Griffiths		Councilman	Pennington Borough		30 North Main Street		Pennington	08534		NJ	PF15-1-000
Mr. Charles Marciante		Councilman	Pennington Borough		30 North Main Street		Pennington	08534		NJ	PF15-1-000
Mr. Joseph Lawver		Councilman	Pennington Borough		30 North Main Street		Pennington	08534		NJ	PF15-1-000
Mr. James Davey		Councilman	Pennington Borough		30 North Main Street		Pennington	08534		NJ	PF15-1-000
Ms. Deborah Gnatt		Councilman	Pennington Borough		30 North Main Street		Pennington	08534		NJ	PF15-1-000
Mr. John Jackson		Chairman	Pennington Environmental Commission		30 North Main Street		Pennington	08534		NJ	PF15-1-000
The Honorable Paul Anzano		Mayor	Hopewell Borough		88 East Broad Street		Hopewell	08525		NJ	PF15-1-000
Mr. Paul Pogorzelski		Administrator/Engineer	Hopewell Borough		201 Washington Crossing-Pennington Road		Titusville	08560		NJ	PF15-1-000
Mr. C. Schuyler Morehouse		Member	Hopewell Borough Council		88 East Broad Street		Hopewell	08525		NJ	PF15-1-000
Mr. Chris Fossel		Member	Hopewell Borough Council		88 East Broad Street		Hopewell	08525		NJ	PF15-1-000
Ms. Deborah Lehman		Member	Hopewell Borough Council		88 East Broad Street		Hopewell	08525		NJ	PF15-1-000
Ms. Roxanne Klett		Member	Hopewell Borough Council		88 East Broad Street		Hopewell	08525		NJ	PF15-1-000
Mr. Robert Lewis		Member	Hopewell Borough Council		88 East Broad Street		Hopewell	08525		NJ	PF15-1-000
Mr. David Mackie		Member	Hopewell Borough Council		88 East Broad Street		Hopewell	08525		NJ	PF15-1-000
Ms. Vanessa Sandom		Mayor	Hopewell Township		201 Washington Crossing-Pennington Road		Titusville	8560		NJ	PF15-1-000
The Honorable Robert Menendez		U.S. Senator	U.S. Senate		528 Senate Hart Office Building		Washington	20510		D.C.	PF15-1-000
Mr. Paul Brubaker		State Director/Press Secretary	Office of U.S. Senator Robert Menendez		528 Senate Hart Office Building		Washington	20510		D.C.	PF15-1-000
The Honorable Cory Booker		U.S. Senator	U.S. Senate		141 Hart Senate Office Building		Washington	20510		D.C.	PF15-1-000
Mr. Modia Butler		State Director/Chief of Staff	Office of U.S. Senator Cory Booker		141 Hart Senate Office Building		Washington	20510		D.C.	PF15-1-000
The Honorable Leonard Lance		Congressman	U.S. Congress		133 Cannon House Office Building		Washington	20515		D.C.	PF15-1-000
The Honorable Frank Lobiondo		Congressman	U.S. Congress		2427 Rayburn House Office Building		Washington	20515		D.C.	PF15-1-000
The Honorable Jon Runyan		Congressman	U.S. Congress		1239 Longworth House Office Building		Washington	20515		D.C.	PF15-1-000
The Honorable Christopher Smith		Congressman	U.S. Congress		2373 Rayburn House Office Building		Washington	20515		D.C.	PF15-1-000
The Honorable Scott Garrett		Congressman	U.S. Congress		2232 Rayburn House Office Building		Washington	20515		D.C.	PF15-1-000
The Honorable Frank Pallone, Jr.		Congressman	U.S. Congress		237 Cannon House Office Building		Washington	20515		D.C.	PF15-1-000
The Honorable Albio Sires		Congressman	U.S. Congress		2342 Rayburn House Office Building		Washington	20515		D.C.	PF15-1-000
The Honorable William Pascrell, Jr.		Congressman	U.S. Congress		2370 Rayburn House Office Building		Washington	20515		D.C.	PF15-1-000
The Honorable Donald Payne, Jr.		Congressman	U.S. Congress		103 Cannon House Office Building		Washington	20515		D.C.	PF15-1-000
The Honorable Rodney Frelinghuysen		Congressman	U.S. Congress		2306 Rayburn House Office Building		Washington	20515		D.C.	PF15-1-000
The Honorable Rush Holt		Congressman	U.S. Congress		1214 Longworth House Office Building		Washington	20515		D.C.	PF15-1-000
Ms. Catie Kawchak		Legislative Director for Congressman Barletta	U.S. Congress		115 Cannon House Office Building		Washington	20515		D.C.	PF15-1-000
Mr. Mike Kerlin		Legislative Director for Congressman Meeha	U.S. Congress		204 Rayburn House Building		Washington	20515		D.C.	PF15-1-000
Mr. Jeremy Marcus		Deputy Chief of Staff & Legislative Director for Congressman Cartwright	U.S. Congress		1419 Longworth House Office Building		Washington	20426		D.C.	PF15-1-000
Mr. Jeff Weiand		Legal Counsel for Congressman Michael Fitzpatric	U.S. Congress		2400 Rayburn House Office Building		Washington	20515		D.C.	PF15-1-000
Robert Lawton		Manager	Luzerne County		325 Smiths Pond Road		Shavertown	18708		PA	PF15-1-000
Rick Morelli		Chair	Luzerne County Council		325 Smiths Pond Road		Shavertown	18708		PA	PF15-1-000
Edward Brominski		Vice Chair	Luzerne County Council		325 Smiths Pond Road		Shavertown	18708		PA	PF15-1-000
Jim Bobeck		Councilman	Luzerne County Council		325 Smiths Pond Road		Shavertown	18708		PA	PF15-1-000
Kathy Dobash		Councilwoman	Luzerne County Council		325 Smiths Pond Road		Shavertown	18708		PA	PF15-1-000
Harry Haas		Councilman	Luzerne County Council		325 Smiths Pond Road		Shavertown	18708		PA	PF15-1-000
Linda Houck		Councilwoman	Luzerne County Council		325 Smiths Pond Road		Shavertown	18708		PA	PF15-1-000
Tim McGinley		Councilman	Luzerne County Council		325 Smiths Pond Road		Shavertown	18708		PA	PF15-1-000
Eileen Sorokas		Councilwoman	Luzerne County Council		325 Smiths Pond Road		Shavertown	18708		PA	PF15-1-000
Stephen Urban		Councilman	Luzerne County Council		325 Smiths Pond Road		Shavertown	18708		PA	PF15-1-000
Rick Williams		Councilman	Luzerne County Council		325 Smiths Pond Road		Shavertown	18708		PA	PF15-1-000
Diane Ellis-Marseglia		Commissioner	Bucks County		55 East Court Street		Doylestown	18901		PA	PF15-1-000
Robert Loughery		Commissioner	Bucks County		55 East Court Street		Doylestown	18901		PA	PF15-1-000
Charles Martin		Commissioner	Bucks County		55 East Court Street		Doylestown	18901		PA	PF15-1-000
Tom Gerhard		Commissioner	Carbon County	P.O. box 129			Jim Thorpe	18229		PA	PF15-1-000
Wayne Nothstein		Commissioner	Carbon County	P.O. box 129			Jim Thorpe	18229		PA	PF15-1-000
William O'Gurek		Commissioner	Carbon County	P.O. box 129			Jim Thorpe	18229		PA	PF15-1-000
John Stoffa		Northampton County Executive	Northampton County		669 Washington Street		Easton	18042		PA	PF15-1-000
Phillip Lauer		Solicitor	Northampton County Council		669 Washington Street		Easton	18042		PA	PF15-1-000
John Cusick		Councilman	Northampton County Council		669 Washington Street		Easton	18042		PA	PF15-1-000
Glenn Geissinger		Councilman	Northampton County Council		669 Washington Street		Easton	18042		PA	PF15-1-000
Margaret Ferraro		Councilwoman	Northampton County Council		669 Washington Street		Easton	18042		PA	PF15-1-000
Robert Boyer		Mayor	Wyoming Borough		277 Wyoming Avenue		Wyoming	18644		PA	PF15-1-000
Tamra Smith		Manager	Wyoming Borough		277 Wyoming Avenue		Wyoming	18644		PA	PF15-1-000
Stephen Nalewajko		Councilman	Wyoming Borough Council		277 Wyoming Avenue		Wyoming	18644		PA	PF15-1-000
Michael Baloga		Councilman	Wyoming Borough Council		277 Wyoming Avenue		Wyoming	18644		PA	PF15-1-000
Michael Flynn		Councilman	Wyoming Borough Council		277 Wyoming Avenue		Wyoming	18644		PA	PF15-1-000
Diane Smiles		Councilwoman	Wyoming Borough Council		277 Wyoming Avenue		Wyoming	18644		PA	PF15-1-000
William Starr		Councilman	Wyoming Borough Council		277 Wyoming Avenue		Wyoming	18644		PA	PF15-1-000
Frank Yurek		Councilman	Wyoming Borough Council		277 Wyoming Avenue		Wyoming	18644		PA	PF15-1-000
Joseph Herbet		Mayor	West Wyoming Borough		464 West 8th Street		West Wyoming	18644		PA	PF15-1-000
Mary Ann Skok		Councilwoman	West Wyoming Borough Council		464 West 8th Street		West Wyoming	18644		PA	PF15-1-000
Gary Stavish		Councilman	West Wyoming Borough Council		464 West 8th Street		West Wyoming	18644		PA	PF15-1-000
William Vinsko		Solicitor	Bear Creek Township Board of Supervisors/ Planning Boar		253 South Franklin Street		Bear Creek Township	18702		PA	PF15-1-000
Gary Zingaretti		President / Chairman	Bear Creek Township Administration		1598 Bald Mountain Road		Bear Creek Township	18702		PA	PF15-1-000
Joseph Masi		Vice Chairman	Bear Creek Township Administration		1228 Laurel Run Road		Bear Creek Township	18702		PA	PF15-1-000
Jeffery Popple		Supervisor	Bear Creek Township Board		51 Sandspring Road		Bear Creek Township	18702		PA	PF15-1-000
Ruth Ann Koval		Member	Bear Creek Township Board		999 Thornhurst Road		Bear Creek Township	18702		PA	PF15-1-000
Jim Smith		Member	Bear Creek Township Board		1560 Bear Creek Blvd		Bear Creek Township	18702		PA	PF15-1-000
Frank Wagner		Chairman	Dallas Township	P.O. Box 518			Dallas	18612		PA	PF15-1-000
Elizabeth Martin		Vice Chair	Dallas Township	P.O. Box 518			Dallas	18612		PA	PF15-1-000
William Grant		Supervisor	Dallas Township	P.O. Box 518			Dallas	18612		PA	PF15-1-000
Mr. Robert Jones		Township Manager	Jenkins Township		46 ½ Main Street		Inkerman	18640		PA	PF15-1-000
Mr. Stanley Rovinsky		President / Chairman	Jenkins Township		46 ½ Main Street		Inkerman	18640		PA	PF15-1-000
Joseph Zelonis		Vice Chair	Jenkins Township		46 ½ Main Street		Inkerman	18640		PA	PF15-1-000
Mr. Robert Linskey		Secretary	Jenkins Township		46 ½ Main Street		Inkerman	18640		PA	PF15-1-000
Mr. John Brown		Executive	Northampton County		1 South 3rd Street		Easton	18042		PA	PF15-1-000
Ms. Melisa Shafer			Bethlehem Township		4225 Easton Avenue		Bethlehem	18020		PA	PF15-1-000
Mr. Joseph M. Kulick		Township Manager / Secretary	Durham Township	PO Box 4	215 Old Furnace Road		Durham	18039		PA	PF15-1-000
Mr. Edward Child		Zoning Officer	Durham Township	PO Box 4	215 Old Furnace Road		Durham	18039		PA	PF15-1-000
Mr. Jack Cahalan		Township Manager	Lower Saucon Township		3700 Old Philadelphia Pike		Bethlehem	18015		PA	PF15-1-000
Mr. David Thrasher		President / Public Works Director, Roadmaster	Moore Township		2491 Community Drive		Bath	18014		PA	PF15-1-000
Mr. Richard Gable		Secretary / Treasurer	Moore Township		2491 Community Drive		Bath	18014		PA	PF15-1-000
Mr. Jason Harhart		Zoning Officer	Moore Township		2491 Community Drive		Bath	18014		PA	PF15-1-000
Mr. Daniel Piorkowski		Vice-Chair of Board Supervisors	Moore Township		2491 Community Drive		Bath	18014		PA	PF15-1-000
Mr. Warren Reiner		President, Board of Supervisors	Penn Forest Township		2010 State Route 903		Jim Thorpe	18229		PA	PF15-1-000
Mr. Greg Stokes		Mayor	Riegelsville Borough	PO Box 551	615 Easton Road		Riegelsville	18077		PA	PF15-1-000
Ms. Sherry Masteller		Secretary	Riegelsville Borough	PO Box 551	615 Easton Road		Riegelsville	18077		PA	PF15-1-000
Mr. Tom Stinnett		Council President	Riegelsville Borough	PO Box 551	615 Easton Road		Riegelsville	18077		PA	PF15-1-000
Mr. Edward Bartosiewicz		Council Member	Riegelsville Borough	PO Box 551	615 Easton Road		Riegelsville	18077		PA	PF15-1-000
Ms. Jen Smethers		Township Manager	Williams Township		655 Cider Press Road		Easton	18042		PA	PF15-1-000
Mr. Tom Corbett		Governor			508 E-floor Main Capitol Building		Harrisburg	17120		PA	PF15-1-000
Mr. Patrick Henderson		Deputy Chief of Staff and Energy Executive			508 E-floor Main Capitol Building		Harrisburg	17120		PA	PF15-1-000
Judith Schwank		Senator		Senate Box 203011	Room 457 Main Capitol		Harrisburg	17120		PA	PF15-1-000
John Yudichak		Senator		Senate Box 203014	Room 366 Main Capitol		Harrisburg	17120		PA	PF15-1-000
Patrick Browne		Senator		Senate Box 203016	Room 171, Capitol Building		Harrisburg	17120		PA	PF15-1-000
Lisa Boscola		Senator		Senate Box 203018	Room 458 Capitol Building		Harrisburg	17120		PA	PF15-1-000
Lisa Baker		Senator		Senate Box 203020	Room: 172 Main Capitol		Harrisburg	17120		PA	PF15-1-000
John Blake		Senator		Senate Box 203022	Room 17, East Wing		Harrisburg	17120		PA	PF15-1-000
Bob Mensch		Senator		Senate Box 203024			Harrisburg	17120		PA	PF15-1-000
John Gordner		Senator		Senate Box 203027	Room: 177 Main Capitol		Harrisburg	17120		PA	PF15-1-000
David Argall		Senator		Senate Box 203029	Room: 16 East Wing		Harrisburg	17120		PA	PF15-1-000
John Rafferty Jr.		Senator		Senate Box 203044			Harrisburg	17120		PA	PF15-1-000
Honorable Sid Kavulich		State Representative		PO Box 202114	111B East Wing		Harrisburg	17120		PA	PF15-1-000
Honorable Tarah Toohill		State Representative		PO Box 202116	153A East Wing		Harrisburg	17120		PA	PF15-1-000
Honorable Karen Boback		State Representative		PO Box 202117	141B East Wing		Harrisburg	17120		PA	PF15-1-000
Honorable Mike Carroll		State Representative		PO Box 202118	300 Main Capitol Building		Harrisburg	17120		PA	PF15-1-000
Honorable Gerald Mullery		State Representative		PO Box 202119	115B East Wing		Harrisburg	17120		PA	PF15-1-000
Honorable Phyllis Mundy		State Representative		PO Box 202120	36 East Wing		Harrisburg	17120		PA	PF15-1-000
Honorable Eddie Pashinski		State Representative		PO Box 202121	203 Irvis Office Building		Harrisburg	17120		PA	PF15-1-000
Honorable Doyle Heffley		State Representative		P.O. Box 202122	423 Irvis Office Building		Harrisburg	17120		PA	PF15-1-000
Honorable Justin Simmons		State Representative		PO Box 202131	5 East Wing		Harrisburg	17120		PA	PF15-1-000
Honorable Daniel McNeill		State Representative		PO Box 202133	25A East Wing		Harrisburg	17120		PA	PF15-1-000
Honorable Ryan Mackenzie		State Representative		PO Box 202134	404 Irvis Office		Harrisburg	17120		PA	PF15-1-000
Honorable Steve Samuelson		State Representative		PO Box 202135	34 East Wing		Harrisburg	17120		PA	PF15-1-000
Honorable Robert Freeman		State Representative		PO Box 202136	207 Irvis Office Building		Harrisburg	17120		PA	PF15-1-000
Honorable Joe Emrick		State Representative		PO Box 202137	160B East Wing		Harrisburg	17120		PA	PF15-1-000
Honorable Marcia Hahn		State Representative		P O Box 202138	402 A Irvis Office Building		Harrisburg	17120		PA	PF15-1-000
Honorable Julie Harhart		State Representative		PO Box 202183	313 Main Capitol Building		Harrisburg	17120		PA	PF15-1-000
Honorable Gary Day		State Representative		PO Box 202187	163B East Wing		Harrisburg	17120		PA	PF15-1-000
Charles Mclhinney, Jr.		Senator		PO Box 203010	187 Main Capitol Building		Harrisburg	17120		PA	PF15-1-000
Honorable Marguerite Quinn		State Representative		PO Box 202143	159A East Wing		Harrisburg	17120		PA	PF15-1-000
Senator Robert Casey, Jr.		U.S. Senator	U.S. Senate		393 Russell Senate Office Building		Washington	20510		D.C.	PF15-1-000

Senator Patrick Toomey		U.S. Senator	U.S. Senate		248 Russell Senate Office Building		Washington	20510		D.C.	PF15-1-000
Congressman Robert Brady		Congressman	U.S. Congress		102 Cannon House Office Building		Washington	20515		D.C.	PF15-1-000
Congressman Chaka Fattah		Congressman	U.S. Congress		2301 Rayburn House Office Building		Washington	20515		D.C.	PF15-1-000
Congressman Mike Kelly		Congressman	U.S. Congress		1519 Longworth House Office Building		Washington	20515		D.C.	PF15-1-000
Congressman Scott Perry		Congressman	U.S. Congress		126 Cannon House Office Building		Washington	20515		D.C.	PF15-1-000
Congressman Glenn Thompson		Congressman	U.S. Congress		124 Cannon House Office Building		Washington	20515		D.C.	PF15-1-000
Congressman Jim Gerlach		Congressman	U.S. Congress		2442 Rayburn House Office Building		Washington	20515		D.C.	PF15-1-000
Congressman Patrick Meehan		Congressman	U.S. Congress		204 Cannon House Office Building		Washington	20515		D.C.	PF15-1-000
Congressman Michael Fitzpatrick		Congressman	U.S. Congress		2400 Rayburn House Office Building		Washington	20515		D.C.	PF15-1-000
Congressman Bill Shuster		Congressman	U.S. Congress		2209 Rayburn House Office Building		Washington	20515		D.C.	PF15-1-000
Congressman Tom Marino		Congressman	U.S. Congress		410 Cannon House Office Building		Washington	20515		D.C.	PF15-1-000
Congressman Lou Barletta		Congressman	U.S. Congress		115 Cannon House Office Building		Washington	20515		D.C.	PF15-1-000
Congressman Keith Rothfus		Congressman	U.S. Congress		503 Cannon House Office Building		Washington	20515		D.C.	PF15-1-000
Congressman Allyson Schwartz		Congresswoman	U.S. Congress		1227 Longworth Building		Washington	20515		D.C.	PF15-1-000
Congressman Michael Doyle, Jr.		Congressman	U.S. Congress		239 Cannon House Office Building		Washington	20515		D.C.	PF15-1-000
Congressman Charlie Dent		Congressman	U.S. Congress		2455 Rayburn House Office Building		Washington	20515		D.C.	PF15-1-000
Congressman Joseph Pitts		Congressman	U.S. Congress		420 Cannon House Office Building		Washington	20515		D.C.	PF15-1-000
Congressman Matthew Cartwright		Congressman	U.S. Congress		1419 Longworth House Office Building		Washington	20515		D.C.	PF15-1-000
Congressman Tim Murphy		Congressman	U.S. Congress		2332 Rayburn House Office Building		Washington	20515		D.C.	PF15-1-000
Mr. Jerald Hoffman		Chief	Frenchtown Union Fire Company No. 1, Station 11		Second Street		Frenchtown	08825		NJ	PF15-1-000
		Chief	Holland Township Volunteer Fire Company, Station 15		971 Milford - Warren	Glen Road	Milford	08848		NJ	PF15-1-000
		Chief	Stockton Fire Company, Station 23	PO Box 100	9 Mill Street		Stockton	08559		NJ	PF15-1-000
		Chief	Milford Fire Company, Station 92	PO Box 25	21 Water Street		Milford	08448		NJ	PF15-1-000
		Chief	Hopewell Fire Department, Station 52		4-6 Columbia Avenue		Hopewell	08525		NJ	PF15-1-000
			Pennington Fire Company	P.O. Box 141			Pennington	08534		NJ	PF15-1-000
Mr. Brayden Fahey		Hunterdon County Emergency Manage	Hunterdon County				Flemington, NJ 08822	08822		NJ	PF15-1-000
			Dallas Borough Fire Department				Dallas	18612		PA	PF15-1-000
			West Wyoming Borough Fire Department		Shoemaker Avenue		West Wyoming	18644		PA	PF15-1-000
								18644		PA	PF15-1-000
								18640		PA	PF15-1-000
								18704		PA	PF15-1-000
							Plains	18705		PA	PF15-1-000
								1860		PA	PF15-1-000
								18704		PA	PF15-1-000
								18704		PA	PF15-1-000
								18704		PA	PF15-1-000
					911 Freedom Way			18974		PA	PF15-1-000
								18920		PA	PF15-1-000
			Plainfield Township Volunteer Fire Dept					18091		PA	PF15-1-000
							Palmer	18045		PA	PF15-1-000
Fire Chief John Bast		Chief						18042		PA	PF15-1-000
Scott T. Forster		Management/Services Directo	Bucks County Emergency Management/Services					18974			PF15-1-000
Mr. Scott Lindenmuth							Allentown	18101		PA	PF15-1-000
					816 Sergeantsville Road			08557		NJ	PF15-1-000
					669 Washington St			18042		PA	PF15-1-000
Ronald W. Rossi			Lehigh County			Courthouse- Room 253				PA	PF15-1-000
								08848		NJ	PF15-1-000
		Kingwood Station					Frenchtown	08825		NJ	PF15-1-000
Edward J. Donnelly		Sheriff					Doylestown, PA 18901	18901		PA	PF15-1-000
							Bath	18014		PA	PF15-1-000
								18043		PA	PF15-1-000
								18042		PA	PF15-1-000
								18229		PA	PF15-1-000
Mr. Mark Nalesnik		Department Coordinato						18240		PA	PF15-1-000
John A. Kernler								08650		NJ	PF15-1-000
		Chief	Hopewell Township Police Department					08560		NJ	PF15-1-000
William Maytrott		Public Safety Director	Pennington Police Department					08534	0095	NJ	PF15-1-000
Edward J. Donnelly		County Sheriff			55 E. Court Street		Doylestown	18901		PA	PF15-1-000
								18947		PA	PF15-1-000
			Dimmick Memorial Library		54 Broadway			18229		PA	PF15-1-000
			Coplay Public Library					18067		PA	PF15-1-000
								18640			PF15-1-000
			Wyoming Free Library					18644		PA	PF15-1-000
			Northampton Area Public Library					18067			PF15-1-000
			Frenchtown Public Library		29 Second Street			08825		NJ	PF15-1-000
								08848		NJ	PF15-1-000
							Pennington	08534		NJ	PF15-1-000
Mr. Steve Tambini		Executive Director			25 State Police Drive		West Trenton, NJ	8628		NJ	PF15-1-000
Mr. Mark Longo		Director of Public Affairs			65 Springfield Avenue	Third Floor	Springfield	7081		NJ	PF15-1-000
		Executive Director	Lehigh Gap Nature Center				Slatington	18080			PF15-1-000
		District Manager					Nazareth	18064		PA	PF15-1-000
		Director						8618		NJ	PF15-1-000
Mr. Eric Boyce		Business Manager			150 Main Street		Lodi	7644		NJ	PF15-1-000
Mr. Jim Waltman		Executive Director					Pennington	8534			PF15-1-000
							Englishtown	7706		NJ	PF15-1-000

Spill Prevention, Control, and Countermeasure (SPCC) Plan and Unanticipated Discovery of Contaminated Soils Standard Operating Procedure (SOP)

PennEast Pipeline Project

Luzerne, Carbon, Northampton, Bucks Counties, Pennsylvania

Hunterdon and Mercer Counties, New Jersey

Prepared for

PennEast Pipeline Company, LLC

1 Meridian Boulevard
Suite 2C01

Wyomissing, PA 19610

November 2014

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Key Emergency Contacts
Petroleum and Hazardous Material Spill Report

Acronyms and Abbreviations

A	acceptable
ABACT	antidegradation best available combination of technologies
BMP	best management practice
CFR	Code of Federal Regulations
EC	Emergency Coordinator
EPA	U.S. Environmental Protection Agency
ESCP	Erosion and Sediment Control Plan
HDD	horizontally directional drilling
ID	identification
MSDS	Material Safety Data Sheet
PADEP	Pennsylvania Department of Environmental Protection
PennEast	PennEast Pipeline Company, LLC
PCB	polychlorinated biphenyl
Plan	Preparedness, Prevention, and Contingency and Spill Prevention Control and Countermeasures Plan
PPC	Preparedness, Prevention, and Contingency
PPE	personal protective equipment
ppm	parts per million
Project	PennEast Pipeline Project
ROW	right-of-way
SOP	standard operation procedure
SPCC	Spill Prevention Control and Countermeasures
SPRP	Spill Prevention and Response Plan
U	unacceptable

Overview

PennEast Pipeline Company, LLC (PennEast) has prepared this Preparedness, Prevention, and Contingency (PPC) and Spill Prevention Control and Countermeasure (SPCC) Plan (Plan) for the PennEast Pipeline Project (Project). The purpose of this Plan is to reduce the probability and risk of a potential spill or release of oil or hazardous materials by PennEast and/or Contractor(s) during construction-related activities by providing instruction and expediting spill response and clean-up. The Contractor is primarily responsible for implementing of the Plan. In the absence of a Contractor, PennEast shall be responsible for the assignments as they are laid out in this Plan. A copy of the Plan must be on site during active construction and should also be maintained at the closest construction field office.

SECTION 2

Waste Management

This waste management section provides an overview and checklist to be used before each construction job. Each job might require different chemicals and equipment with different fuel requirements that must be documented, accounted for, and contained. Also included at the end of this section is the *Weekly Hazardous Materials and Waste Inspection Log* for weekly inspection of hazardous materials and waste.

2.1 Material and Waste Inventory

Prior to each construction job, the material and waste inventory must be completed. The inventory must be provided in the Tables 2-1 to 2-4 below and might include the following:

- Nutrients, such as fertilizers and sanitary wastes;
- Solid waste, such as scrap metals, masonry products, and other raw construction materials and debris;
- Construction chemicals, such as paints, soils additives and acids for cleaning;
- Petroleum products, such as fuels and lubricants; and
- Other materials, including concrete wash from mixers and explosives.

The list must include oils and fuels, commercial chemicals, hazardous and nonhazardous wastes, and incompatible materials to be used or stored on site during construction.

TABLE 2-1

List of Oil and Fuel to be Used or Stored On Site during Construction

Type	Quantity	Containment Method	Location

Notes:
A Material Safety Data Sheet (MSDS) for all hazardous substances listed in the above tables shall be provided by the contractor.
All containers shall have temporary containment.

TABLE 2-2

List of Commercial Chemicals to be Used or Stored On Site during Construction

Type	Quantity	Containment Method	Location

Notes:
A MSDS for all hazardous substances listed in the above tables shall be provided by the contractor.
All containers shall have temporary containment.

TABLE 2-3
List of Hazardous and Nonhazardous Wastes to be Used or Stored Onsite during Construction

Type	Quantity	Containment Method	Location

Notes:
A MSDS for all hazardous substances listed in the above tables shall be provided by the contractor.
All containers shall have temporary containment.

TABLE 2-4
List of Incompatible Materials to be Used or Stored Onsite during Construction

Type	Quantity	Containment Method	Location

Notes:
A MSDS for all hazardous substances listed in the above tables shall be provided by the contractor.
All containers shall have temporary containment.

Incompatible materials shall be stored in separate areas in accordance with nationally recognized standards. Incompatible materials shall not be consecutively placed into a container or tank. Additionally, sources of ignition are prohibited in hazardous materials and wastes' area.

The Contractor shall identify and list all sources of potential large spills, including tank overflow, rupture, or leakage. SPCC information must be included for all containers **larger than 660 gallons or for locations that have a total capacity of 1,320 gallons** that contain oil, including petroleum, fuel oil, sludge, oil refuse, and oil mixed with waste, as required in Code of Federal Regulations, Title 40, Part 112 (40 CFR 112). The Contractor shall list large spill sources in **Table 2.5A** and **2.5B**. Additional sources of large spills can be listed in **Table 2-5B**. Additional tables shall be provided as needed.

TABLE 2-5A
List of Large Spill Sources (larger than 660 gallons or total capacity greater than 1,320 gallons)

Product	Total Quantity Present	Storage Size, Type, and Location	Potential Direction of Flow	Maximum Rate of Flow	Structures or Equipment to Contain Spills	Location of Use

Note: All containers shall have temporary containment.

TABLE 2-5B
List of Large Spill Sources (larger than 660 gallons or total capacity greater than 1,320 gallons)

Product	Total Quantity Present	Storage Size, Type, and Location	Potential Direction of Flow	Maximum Rate of Flow	Structures or Equipment to Contain Spills	Location of Use

TABLE 2-5B
List of Large Spill Sources (larger than 660 gallons or total capacity greater than 1,320 gallons)

Product	Total Quantity Present	Storage Size, Type, and Location	Potential Direction of Flow	Maximum Rate of Flow	Structures or Equipment to Contain Spills	Location of Use

Note: All containers shall have temporary containment.

2.2 Hazardous Materials and Waste Inspections

The Contractor shall inspect weekly hazardous materials and waste and associated storage areas. These weekly inspections shall document the condition of the hazardous materials and waste and the associated storage containers. The Contractor shall file all inspection records. The Contractor shall provide a copy of the completed form to the Chief Inspector and Environmental Inspector on a weekly basis. The weekly inspection form is at the end of this section and titled *Weekly Hazardous Materials and Waste Inspection Log.*

Weekly Hazardous Materials and Waste Inspection Log

For each item listed below, the Contractor shall indicate whether existing conditions are acceptable (A) or unacceptable (U). Resolution of all unacceptable conditions must be documented. Contractor shall inspect all storage facilities on a regular basis, but not less than weekly. Contractor shall file all inspection records. Contractor shall provide a copy of the completed form to the Chief Inspector and Environmental Inspector on a weekly basis.

I. STORAGE AREAS FOR FUELS, LUBRICANTS, AND CHEMICALS

General

A/U

_____ Construction yard or storage areas secured

_____ National Fire Protection Association symbol posted in storage area or at yard entrance

_____ Storage areas properly prepared and signed

_____ Material Safety Data Sheets available

_____ Hazardous Materials Management Plan and Spill Prevention and Countermeasure Plan available

Hazardous Materials Management

A/U

_____ No evidence of spill or leaking materials

_____ Incompatible materials separated

_____ All containers labeled properly

_____ All containers securely closed

_____ All containers upright

_____ No evidence of container bulging, damage, rust, or corrosion

Secondary Containment Areas

A/U

_____ Containment berm intact and capable of holding 110 percent of material stored plus precipitation

_____ Lining intact

_____ No materials overhanging berms

_____ No materials stored on berms

_____ No flammable materials used for berms

Compressed Gases

A/U

_____ Cylinders labeled with contents

_____ Cylinders secured from falling

_____ Oxygen stored at least 25 feet away from fuel

_____ Cylinders in bulk storage are separated from incompatible materials by fire barriers or by appropriate distance

II. HAZARDOUS WASTE MANAGEMENT

Waste Container Storage

A/U

_____ No evidence of spilled or leaking wastes

_____ Adequate secondary containment for all wastes

_____ Separate containers for each waste watercourse (no piles)

_____ Waste area not adjacent to combustibles or compressed gases

_____ All containers securely closed

_____ Bungs secured tightly

_____ Open-top drum hoops secured

_____ All containers upright

_____ No evidence of container bulging or corrosion

_____ No severe damage or rust

_____ Containers are compatible with waste (e.g. plastic liner for corrosives, metal liner for solvents)

_____ No smoking and general danger and/or warning signs posted

Waste Container Labeling

A/U

_____ Containers properly labeled

_____ Name, address, and U.S. Environmental Protection Agency identification (ID) number or ID number of generator listed (Not required if Contractor is an _____exempt small quantity generator)

_____ Accumulation start date listed

_____ Storage start date listed

_____ Chemical and physical composition of waste listed

_____ Hazardous property listed

Nonhazardous Waste Areas

A/U

_____ No litter in yard

_____ No hazardous wastes or used oil mixed with trash (e.g., contaminated soil, oily rags, diapers, or other oily _____ materials)

_____ Empty oil and aerosol containers for disposal are completely emptied

III. Emergency Response Equipment

A/U

_____ Shovels

_____ Absorbent materials (e.g., booms, pads, pillows, socks, “Speedy Dry”)

_____ Personal protective equipment (e.g., goggles, gloves)

_____ Fire-fighting equipment

_____ First aid supplies (e.g. medical supplies, squeeze bottle eye wash)

_____ Department of Transportation-approved containers

_____ Plastic sheeting, bags, and ties

_____ Communication equipment

_____ Bung wrench (nonsparking)

IV. CORRECTIVE ACTIONS TAKEN (Required for all unacceptable conditions)

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Date: _____ **Contractor Name:** _____

Inspected by (Contractor's Inspector): _____

Signature: _____

SECTION 3

Spill Plan

This section of the SPCC Plan deals with spill preparedness, prevention, and containment. A strong component of spill preparedness and prevention is training, which is also discussed in this section.

3.1 Spill and Leak Preparedness and Prevention

3.1.1 Employee Training

Prior to construction, contractors and PennEast personnel shall be trained in hazardous waste management procedures that will enable them to respond effectively to emergencies by familiarizing them with emergency procedures, equipment, and communication systems. Personnel who handle, sample, or come in direct contact with oils or hazardous matter shall undergo basic training that stresses the importance of pollution control. Spill prevention control procedures shall be thoroughly explained during the training briefings, which will be conducted by the Contractor Superintendent (Contractor Emergency Coordinator [EC]), the PennEast Chief Inspector, and the PennEast EC or their designated representative on the job site. The PennEast EC shall maintain training verification.

Prior to construction, all project Chief and Environmental Inspectors shall receive a copy of this SPCC Plan and an approved list of emergency response contractors (page 4-7). Inspectors shall be trained on equipment maintenance, fuel and hazardous material handling, spill prevention procedures, and spill response.

All personnel involved in constructing the proposed facilities shall be aware of the SPPC/PPC Plan. Regular training briefings shall be conducted on an as-required basis by the Contractor Superintendent and the PennEast Chief Inspector on the job site. These briefings shall include the following:

- Precautionary measures to prevent spills
- Potential sources of spills, including equipment failure and malfunction
- Standard operating procedures (SOPs) in the event of a spill
- Applicable notification requirements
- Equipment, materials, and supplies available for spill clean-up

3.1.2 Security

Hazardous wastes and waste containing polychlorinated biphenyls (PCBs) greater than 50 parts per million (ppm) shall be stored in a secured location (i.e., fenced, locked). Fuel storage areas shall be located to minimize, as much as possible, tampering by unauthorized personnel during nonoperational hours.

3.1.3 Prevention and Preparedness

A discharge from the construction site into waters of the state is unlikely to occur. The construction site shall have onsite spill prevention and control facilities and routinely inspect tank and container storage areas (inspection form: **Weekly Hazardous Materials/Waste Inspection Log** included at the end of Section 2), which shall help to reduce the potential for oil and hazardous material to be released to soil or surface waters. **In areas where hazardous materials are required to be stored or used within a wetland**, the Contractor shall prepare and submit for approval a secondary containment plan before working in the wetland area.

Generally, minor spills or leaks shall be contained within secondary containment areas. **In Pennsylvania, all spills greater than 5 gallons of petroleum or hazardous materials are reportable**. The Pennsylvania Department of Environmental Protection (PADEP) encourages incident commanders to also notify PADEP of the following scenarios:

- All **spills in excess of five gallons** of any hazardous material
- All petroleum spills of five gallons or more with **potential to pollute**
- **Air pollution incidents** where there **might be a release of a toxic substance** or where **smoke from a fire** might create a **public nuisance**

- Incidents that involve **illegal and/or improper disposal** of any material

Areas where potential spills and leaks might occur should be listed in Table 3.1.

TABLE 3-1
Areas Where Potential Spills and Leaks Might Occur

Location\Use or Equipment	Quantity/Reportable Quantity	Containment Method	Product
	/		
	/		
	/		
	/		

Note: All containers shall have temporary containment.

3.1.4 Tanks

The Contractor shall take the following precautions to prevent a spill from occurring within tank storage areas:

- Only those tanks for fuel and material storage that meet the PennEast approval shall be operated.
- **Single-wall tanks** shall be provided with **temporary secondary containment** that will hold at least **110 percent** of the tank capacity of the largest tank inside the containment area.
- Precipitation shall be inspected **first** for evidence of oil, including a sheen, or other contaminants. **If a sheen or other indicators of oil or contamination is present, then the material shall be collected for proper disposal off site**. **Any precipitation** shall be removed **from the containment area** to maintain the available containment volume at **110 percent** of the volume of material stored.
- Only self-supporting tanks constructed of carbon steel or other materials compatible with the contents of each tank shall be used.
- **PCB (50 ppm or greater) storage tanks** shall be **double-walled or have secondary containment that will hold 200 percent** of the tank capacity.
- Elevate tanks shall be a maximum of 2 feet above grade.
- **Tank storage** shall be located in areas that are **at least 100 feet from all waterbodies**, **wetlands**, and **designated municipal watershed areas**, with certain exceptions as approved by the Contractor EC List exceptions approved by the Contractor EC (Table 3.2).

TABLE 3-2
Tank and Container Storage Exception Areas

Material	Quantity	Containment Method	Location

Note: Exception areas must be approved by the EC.

- **All tanks shall be inspected daily for leaks and deterioration** by the Contractor EC or designee. The results of all inspections shall be recorded on the *Weekly Hazardous Materials and Waste Inspection Log* (included at the end of Section 2). Copies of the log for **unsatisfactory storage area inspections** shall be **distributed to PennEast's EC and the Project Manager**. Leaking and/or deteriorated tanks shall be **repaired or replaced** as soon as the condition is first detected.

- Tanks and secondary containment drains **shall remain closed** when not in use.
- **Vehicle-mounted tanks** shall be equipped with **flame and/or spark arrestors on all vents** to prevent self-ignition.
- **Incompatible materials shall not be stored in sequence in tanks prior to decontamination.** A list of incompatible materials is listed in Section 2, Waste Management, Table 2.4.
- Tanks used to store hazardous materials **shall be decontaminated before they are used** at a different construction location if they could contaminate the next material to be placed in the tank. The tanks shall **always** be decontaminated if they are to be returned to a vendor. The tanks shall also be decontaminated if they are being returned to a PennEast yard and no immediate specific same service use is scheduled.
- If a tank contains hazardous material, then the PennEast EC shall be contacted, and transportation shall follow the steps outlined in PennEast's Environmental SOP regarding Waste Transportation.

3.1.5 Containers

The Contractor shall take the following precautions to prevent a spill from occurring within container storage areas:

- For **drum storage**, reference PennEast's **Environmental SOPs;** PennEast EC shall a copy of the current Environmental SOPs.
- Containers **shall remain closed** when not in use.
- **All containers** shall have **temporary containment**. A list of temporary containment is listed in Section 2, Waste Management, Tables 2.1 through 2.4.
- **Small cans of gasoline, diesel, solvents, and other hazardous materials** shall be stored within **the temporary containment or within secured trailers or vehicles** when not in use.
- **Incompatible materials shall not be in sequence in containers before decontamination**. A list of incompatible materials is included in Section 2, Waste Management, Table 2.4.
- **Containers** used to store hazardous materials shall be contaminated **before they are used at a different construction location** if they could contaminate the next material to be placed in the container. The containers shall **always** be decontaminated if they are being returned a PennEast yard and no immediate specific same service use is scheduled.
- If a container contains a hazardous material, then transportation shall follow the steps outlined in PennEast's Environmental SOPs regarding Waste Transportation.
- **No incompatible material shall be stored together in the same containment area**.
- **Leaking and/or deteriorated containers** shall be **replaced** as soon as the condition **is first detected**.
- **Containers shall be stored** in areas that are **at least 100 feet** from all waterbodies, wetlands, and designated municipal watershed areas, with certain exceptions as approved by the Contractor EC as listed in Table 3.2.
- **All** container storage and containment areas shall be used to store waste or products according to the guidelines described in PennEast's Environmental SOPs regarding Facility Inspections.

3.1.6 Loading and Unloading Areas

The Contractor shall take the precautions listed below to prevent a spill from occurring within loading and unloading areas when those areas are located at the construction site; **PennEast personnel shall be present during loading and unloading activities**:

- **Liquids shall be transferred and refueling shall only occur in predesignated and preapproved locations that are at least 100 feet from all waterbodies and wetlands.** Exceptions might be approved by the Environmental

Inspector if no reasonable alternatives are available and secondary containment is used. Certain exceptions are listed in Table 3.2.

- **All loading and unloading areas** shall be **closely monitored** to prevent any leaks and spills.
- **The area beneath loading and unloading** location shall be inspected for spills **before and after** each use.
- **All hose connections shall use drip pans** at the hose connections **while loading and unloading liquids. If a leak or spill occurs**, then the loading and unloading operation **shall be stopped** and the spill shall be contained, cleaned up, and collected **before** operations continue.
- **All tank truck outlets shall be inspected before trucks leave** the loading and unloading area to prevent possible leakage from the truck while in transit.
- Each refueling vehicle shall have a sufficient number of shovels, brooms, 10-millimeter polyethylene sheeting, and fire protection equipment to contain a **moderate** oil and/or fuel spill.
- **Any service vehicle used to transport lubricants and fuel** shall be equipped with an **emergency response kit,** and this kit, at a minimum, must include the following:
  - 25 pounds of granular oil absorbent
  - Ten (10) 48-inch x 3-inch oil socks
  - Five (5) 17-inch x 17-inch oil pillows
  - One (1) 10-inch x 4-inch oil boom
  - Twenty (20) 24-inch x 24-inch x 3/8-inch oil mats
  - Garden-size, 6-millimeter polyethylene bags
  - Ten (10) pair of latex gloves
  - One (1) 55-gallon polyethylene open-head drum

  In addition, a smaller chemical response kit shall be available that contains the following:

  - One (1) bag of loose chemical pulp
  - Two to three (2 to 3) 17-inch x 17-inch chemical pillows
  - Two (2) 48-inch x 3-inch chemical socks
  - Five (5) 18-inch x 18-inch x 3/8-inch absorbent mats
  - Garden-size, 6-millimeter, polyethylene bags
  - Ten (10) pair of latex gloves
  - One (1) 30-gallon polyethylene open-head drum
  - Hazardous waste labels

3.1.7 Concrete Coating Areas for Field Joints

Concrete coating of field joints shall be performed **at least 100 feet from the edge of all waterbodies**. Where topographic conditions and/or work space limitations necessitate applying concrete coating within 100 feet of a watercourse, sufficient containment measures shall be implemented to eliminate the spill of any concrete coating materials into a wetland or watercourse. Containment such as the following (or equivalent as approved by PennEast EC in a secondary containment plan to be submitted by the Contractor) shall be used:

- **Concrete coating materials** shall be **temporarily stored** in an earthen berm with a **polyethylene underling lining of 10-millimeter thickness** or in a **portable containment tray** constructed of steel plate measuring a minimum of 4-feet-square by 1–foot-deep.
- **Portable-mechanical mixing equipment**, if required, shall be **operated within a containment area** constructed of **temporary earthen berms and polyethylene underling lining a minimum of 10-millimeter thickness**.

- **Concrete materials** in a portable container (such as a 55-gallon drum cut in half or equivalent) shall be **mixed within an earthen berm with polyethylene underling lining of 10-millimeter thickness** or within a **portable containment tray** constructed of steel plate, measuring a minimum of 4-feet-square by 1-foot-deep.

3.1.8 Equipment Inspections

All construction equipment in use on the pipeline right-of-way (ROW) **shall be inspected daily. Any** leaks shall be repaired **immediately** or the piece of equipment shall be **removed from service**, **removed from the ROW, and repaired prior** to returning to service. **All inspections** shall be documented on a **daily leak report** submitted to the PennEast.

3.1.9 Emergency Equipment

The construction site and/or contractor yard shall have **adequate manpower and equipment** necessary **to divert any spill from reaching waterbodies and wetland areas**. Emergency equipment shall include, but is not limited to, shovels, backhoes, dozers, front-end loaders, oil-absorbent booms, pillows, socks and/or mats, granular oil absorbent, and chemical absorbent pulp. A list of emergency response equipment and personal protective equipment (PPE) is provided in Section 4.3.

3.1.10 Contractor's Site Map

The Contractor shall prepare a site map before construction begins. At a minimum, the Contractor's site map shall include the following:

- Orientation and scale
- Total land area in square feet
- Access and egress points
- Buildings and/or temporary trailers
- Parking lots
- Adjacent land uses (if business, indicate business name)
- Surround roads, storm drains, and waterways (e.g., waterbodies and wetlands)
- Locations of hazardous materials and waste storage
- Underground and aboveground tanks
- Containment or diversion structures (e.g., dikes, berms, retention ponds)
- Shutoff valves and/or circuit breakers
- Location of emergency response materials and equipment
- Location of MSDS and SPCC Plan
- Location of emergency assembly area

3.2 Housekeeping Program

The **construction area** shall be **maintained** in a neat and orderly manner. Solid wastes, such as food wrappings, cigarette butts and packets, Styrofoam cups and plates, and similar wastes, shall be disposed of off site and not in the construction excavation area**. Any spills or leaks shall be cleaned up as expeditiously as possible**. Trash shall be routinely collected for off-site disposal. Container storage areas shall be maintained in a neat and orderly manner.

SECTION 4

Contingency Plan and Emergency Procedures

Emergency response procedures have been developed for this construction project to guide responses to fires, explosions, oils or hazardous waste, or hazardous waste constituents to the air, land, or waters of the state regardless of the quantity involved in the incident. For **unanticipated release of hydrostatic test waters**, PennEast shall utilize **best management practices (BMPs)**, as described in the **Erosion and Sediment Control Plan (ESCP)** as soon as possible after the release.

4.1 Responsibilities of PennEast and Contractor Personnel

The Contractor and PennEast on-site personnel shall be responsible for SPCC. If notification is given that an **evacuation**
is necessary, **all** personnel shall evacuate the construction area via the **primary evacuation route** (site-specific map with evacuation route to be attached for plant projects) and await further instructions from the EC. If direct access to the primary evacuation route is restricted by fire, spill, smoke, or vapor, facility personnel shall evacuate the facility via **alternate evacuation routes** to the nearest accessible open area.

4.2 First Responder

Any individual who **first** observes a **spill** or any other **imminent or actual emergency** situation shall take the following steps:

1. **Assess** the situation to determine if the situation poses an immediate threat to human health or the environment.
2. **Identify** hazardous substances involved, if any.
3. **Report** the emergency or spill to the PennEast and Contractor EC(s) **immediately**.
4. Standby at a **safe distance** and keep others away.
5. **Activate emergency shutdown**, if necessary.

The Contractor Superintendent shall act as the EC for the Contractor. The Chief Inspector shall act as the EC for PennEast. The responsibilities of the EC are presented in the remainder of this section.

4.2.1 Contractor EC Responsibilities

The Contractor EC shall coordinate the response to all **spills** that occur as a **result of Contractor operations**. The Contractor **shall not** coordinate the response of spills of pipeline liquids, hazardous wastes, or the unanticipated release of hydrostatic test waters; these spills shall be coordinated by the **PennEast EC**.

Following are specific Contractor EC responsibilities:

1. **Determine any immediate threat** to human health, the environment, and the neighboring community.
2. Ensure personnel safety and **evacuate, if necessary**.
3. Identify **source, character, amount, and extent** of release.
4. Determine if **hazardous substances** are involved.
5. **Inform** the PennEast EC and follow instructions.
6. **Direct and document** remediation efforts to contain and control spill release.
7. Document remedial efforts.
8. Coordinate **cleaning and disposal** activities.

4.2.2 PennEast Responsibilities

The **PennEast EC** shall coordinate clean-up of all spills of **pipeline liquids, hazardous wastes, and any unanticipated release of hydrostatic test water**.

4.2.3 PennEast EC Responsibilities

Upon notification of pipeline liquid spills, hazardous materials spills, or the unanticipated release of hydrostatic test waters, the PennEast EC shall be responsible for the following.:

1. **Assess situation** for potential threat to human health, environment, and the neighboring community.
2. Implement **evacuation**, if necessary,
3. Ensure **personnel safety**,
4. **Control source** as conditions warrant,
5. Immediately notify supervisory personnel immediately for spills that meet the following criteria:
   a. **One (1) pound** or more of a solid material (excluding horizontal directional drilling [HDD] mud) spilled on land
   b. **Five (5) gallons** or more of a liquid spilled on land
   c. Any substance that creates a **sheen** on water
   d. **Air pollution** incidents where there might be a **release** of a **toxic substance**.
   e. **Unanticipated release of hydrostatic test water**
6. **If necessary**, notify the **local fire department, law enforcement authority, or health authority** as appropriate, and provide the following information:
   a. **Name** of the caller and **call back number**
   b. The **exact location** and **nature** of the incident
   c. The extent of **personnel injuries** and **damage**
   d. The **extent** of release
   e. The **material involved** and appropriate **safety information**
7. Ensure that any waste or product that might be **incompatible** with a **released material** is **kept away** from the affected area.
8. Keep any potential ignition source **away** from emergency area, if spilled material is flammable.
9. Minimize affected area with appropriate **containment or diking**.
10. **Assemble** required spill response equipment as required (e.g., protective clothing, gear, heavy equipment, pumps, absorbent material, and empty drums).
11. Place spilled material in **appropriate containers**, in accordance with the PennEast Environmental SOPs.
12. **Label and store containers** in accordance with the PennEast Environmental SOPs.
13. Coordinate **waste disposal and equipment decontamination**.
14. Terminate response.
15. Ensure that all emergency response equipment is **fully** functional; **any** equipment that cannot be reused shall be **replaced**.
16. For **PCB** spills, follow **special spill response requirements** related to PCB spills.
17. **Assist** with the coordination of **clean-up and disposal activities** as described in Sections 4.4, 4.5, and 4.6.
18. If necessary, **contact outside remediation services** to assist with clean-up.
19. Complete **Waste Removal Storage and Disposal Record Form** to track waste generated during this project.
20. Complete **Field Spill Report** (included at the end of this section) and distribute accordingly.
21. For **unanticipated release of hydrostatic test waters**, **notify state contact if required** by state permit in accordance with timeframes required by state permit.

22. **As required** by permit, arrange **for immediate sampling** of the test water (from the pipe or a representative sample of released water where possible) or soil where the test water was released and water from adjacent watercourse if test water was released into the watercourse. Samples shall be analyzed in accordance with hydrostatic test discharge permit criteria plus, where applicable, mercaptans.
23. A PennEast representative shall notify the township manager and/or mayor.

4.3 Emergency Equipment

The construction site and /or Contractor ware yard shall have adequate personnel and equipment necessary to divert any spill from reaching waterbodies and wetland areas. Emergency equipment shall include, but is not limited to, shovels, backhoes, dozers, front-end loaders, oil absorbent booms, pillows, socks and/or mats, granular oil absorbent, and chemical absorbent pulp. Table 4.1 lists emergency response equipment and PPE (**to be completed by Contractor**).

TABLE 4-1
Spill Response Equipment

Equipment	Quantity	Location

TABLE 4-2
Fire Response Equipment

Equipment	Quantity	Location

TABLE 4-3
Personal Protective Equipment

Equipment	Quantity	Location

TABLE 4-3
Personal Protective Equipment

Equipment	Quantity	Location

4.4 Spill Clean-Up/Waste Disposal Procedures

The following identifies the clean-up and control measures to be used in the event of a spill of oil, fuel, or hazardous substance or unanticipated release of hydrostatic test water.

4.4.1 Oil and/or Fuel Spills

- Ensure **no immediate** threat to surrounding landowners or environment.
- Remediate small spills and leaks **as soon as feasible**. Use absorbent pads whenever possible to reduce the amount of contaminated articles.
- **Restrict the spill** by stopping or diverting flow to the oil and/or fuel tank.
- If the release exceeds the containment system capacity, then **immediately** construct additional containment using sandbags or fill material. **Every effort** must be made to prevent the seepage of oil into **soils and waterways**.
- If a release occurs into a facility drain or nearby watercourse, then **immediately pump any floating layer into drums**. For **high-velocity watercourses**, place oils booms or hay bales **between** the release area and the site boundary and downstream of affected area. **As soon as possible, excavate** contaminated soils and sediments.
- After all recoverable oil has been collected and drummed, place contaminated soils and articles in **containers**.
- For larger quantities of soils, construct **temporary** waste piles **using plastic liners** and place the contaminated soils on top of the plastic and covered by plastic. Plastic-lined, roll-off bins should be leased for storing this material **as soon as feasible**.
- Label the drum following the procedures outlined in the **PennEast's Environmental SOPs**.
- Move drum to **secure** staging or storage area.
- **Document and report** clean-up activities of the PennEast EC as soon as feasible.
- If environmentally sensitive resources (e.g., wetlands, waterbodies) exist in the area, then ensure that **BMPs** as described in the **ESCP** are used to minimize impact to these resources.

4.4.2 Hazardous Substance Releases

- Ensure **no immediate** threat to surrounding landowners or environment.
- Identify the **material and quantity** released.
- **Block off drains** and containment areas to limit the extent of the spill. **Never** wash down a spill with water.
- Ensure that PPE and containers are **compatible** with the substance.
- **Collect and reclaim** as much of the spill as possible using a hand pump or similar device. **Containerize contaminated soils** in an appropriate DOT container in accordance with the PennEast's Environmental SOPs. (Note: Environmental SOP's are located in all division and area offices and kept by all engineering teams.) **Never** place **incompatible materials** in the materials in the same drum.
- **Sample the substances** for analysis and waste profiling.

- Decontaminate **all** equipment **in a contained area** and collect fluids in drums.
- Label the drum.
- Move the drum to **secure** staging or storage area.
- Document and report activities to the PennEast EC **as soon as feasible**.
- If environmentally sensitive resources (wetlands, waterbodies) exist in the area, then ensure that **BMPs** as described in **the ESCP** are used to minimize impacts to these resources.

4.4.3 Unanticipated Release of Hydrostatic Test Water

- Ensure **no immediate threat** to surrounding landowners or environment.
- If environmentally sensitive resources (wetlands, waterbodies) exist in the area, then ensure that **BMPs** as described in the **ESCP** are used to minimize impacts to these resources.

4.5 Disposal of Contaminated Materials and/or Soils

- The Contractor shall work with the PennEast EC to **characterize waste** generated during this project. **All wastes generated** as a result of spill response activities shall be analyzed to determine if hazardous or if PCBs are greater than 1 ppm. Knowledge of the contaminant(s) might be applied to classify the waste and spill materials as determined by the PennEast EC.
- **The Contractor is responsible** for **properly disposing of wastes** generated during this project that is determined by the PennEast EC to be nonhazardous and to contain PCBs less than 1 ppm; this includes obtaining applicable authorizations and registrations for waste disposal.
- **The PennEast EC is responsible** for the **properly disposing of hazardous and PCB-containing wastes** containing greater than 1 ppm generated during this project, including obtaining applicable U.S. Environmental Protection Agency (EPA) ID numbers.
- Hazardous and PCB-containing waste shall be stored in a **secured** location (i.e. fenced, locked) until the material is transported off site. **At no time shall hazardous waste be stored for more than 90 days nor a PCB-containing waste with more than 50 ppm be stored for more than 30 days**.

4.6 Equipment Cleaning/Storage

- **Upon completion** of remedial activities, the **Contractor** shall **decontaminate emergency response equipment** used to remediate a spill resulting from their operations. PennEast shall be responsible if the spill **is hazardous** material, pipeline liquids, or hydrostatic test water.
- PennEast shall be responsible for disposing of any contaminated waste generated as a result of the decontamination process.
- The **Contractor** shall replace all spent emergency response equipment **prior** to resuming construction activities if spill resulted from their operations.
- The Contractor shall **test and inventory** reusable PPE **prior** to being placed back into service.

Key Emergency Contacts

Following are the key personnel who shall be contacted in the event of an emergency or spill incident.

1. **PennEast Emergency Contacts**	**Contact Name**	**Phone Number**
PennEast Emergency Coordinator (within 15 minutes of incident)		
Project Manager	Kevin Grant	1 610 373 7999 ext 116

2. Contractor Emergency Contact

Contractor Emergency Coordinator

3. Local Authorities (as necessary)

State Police

Local Police

Local Fire Department

Hospital

Ambulance

4. Environmental Agencies

Notification to be made by a PennEast representative.

5. Potential Environmental Remedial Service Contractors (verify before issuing project-specific SPCC Plan)

Clean Harbors Environmental Services, Inc.: 800-645-8265

Safety-Kleen (FS), Inc.: Edward A. Mitchell, 713-750- 5800

U.S.A. Environment: Cesar Garcia, 713-425-6925 or 832-473-5354 (cell phone)

WRS Infrastructure and Environment, Inc.: Steve Maxwell, 281-731-0886

Petroleum and Hazardous Material Spill Report

The Contractor must complete this for any petroleum or hazardous material spill regardless of size, and submit the form to the PennEast EC within 48 hours of the occurrence.

Date of spill: _____ Incident No.: _____ Date of spill discovery:

Time of spill: _____ Time of spill recovery:

Location name: _____ Spread: _____ County:

Section: _____ Township: _____ Range:

Name and title of discoverer:

Type of material spilled and product name:

Manufacturer's name:

Legal description of spill location: _____

Directions from nearest community: _____

_____

_____

Estimated volume of spill: _____ Estimated material recovered:

Weather conditions:

Topography and surface conditions of spill site:

Spill medium (e.g., pavement, sandy soil, water):

Proximity of spill to surface waters or wetland:_____

Did the spill reach a watercourse? _____ Yes _____ No

If so, was a sheen present? _____ Yes _____ No

Direction and time of travel (if in watercourse):

Name and telephone number of responsible party:

Causes and circumstances resulting in the spill: _____

_____

_____

Extent of observed contamination, both horizontal and vertical (e.g., spill-stained soil in a 5-inch radius to a depth of 1 inch):

_____

_____

_____

Potentially affected resources and installations: _____

_____

_____

Potential impact on human health: _____

_____

Immediate spill control and/or clean-up methods used and implementation schedule: _____

_____

_____

Current status of clean-up actions: _____

_____

Name, company, address, and telephone number for the following:

Construction Superintendent: _____

_____

Spill Coordinator: _____

_____

Person who reported the spill: _____

_____

Environmental Inspector: _____

_____

On-Scene Agency Coordinator (where applicable): _____

_____

Form completed by: _____ Date: _____

SECTION 5

Regulatory Compliance

This section provides the user with a high-level overview of the regulatory requirements addressed in this SPCC Plan. This section is arranged by activity, in typical order or occurrence by job, with the corresponding regulation and promulgating authority.

Regulatory Compliance by Activity			
Activity Type	**Federal Regulation Citation**	**State Regulation Citation**	**Plan Section**
General Applicability			
Is facility under purview of regulations?	40 CFR 112 40 CFR 264, Subpart D 40 CFR 265, Subpart D	25 PA Code 245	
Does facility comply with applicable regulations?	40 CFR 112 40 CFR 264, Subpart D 40 CFR 265, Subpart D	25 PA Code 245	
Materials Storage and Handling			
Material and Waste Inventory	40 CFR 112	25 PA Code 245[1]	Spill Plan Waste Management
Material Transport and Disposal	40 CFR 112	25 PA Code 245[1]	Contingency Plan Waste Management
Spill Prevention and Containment			
Emergency Response Contacts	40 CFR 112 40 CFR 264, Subpart D 40 CFR 265, Subpart D	25 PA Code 245[1]	Spill Plan
Training	40 CFR 112	25 PA Code 245[1]	
Security	40 CFR 112	25 PA Code 245	
Prevention and Preparedness	40 CFR 112 40 CFR 264, Subpart D 40 CFR 265, Subpart D	25 PA Code 245	
Facility Information	40 CFR 112	25 PA Code 245[1]	
Facility Drainage and Routes of Flow	40 CFR 112	25 PA Code 245[1]	
Inspections and Reporting			
Emergency Response Contacts	40 CFR 112 40 CFR 264, Subpart D 40 CFR 265, Subpart D	25 PA Code 245[1]	Spill Plan Contingency Plan
Inspections, Tests, and Records	40 CFR 112	25 PA Code 245	
Discharge Reporting	40 CFR 112 40 CFR 264, Subpart D 40 CFR 265, Subpart D	25 PA Code 245	

Regulatory Compliance by Activity			
Activity Type	**Federal Regulation Citation**	**State Regulation Citation**	**Plan Section**
Spills and Response			
Emergency Procedures and Response	40 CFR 112 40 CFR 264, Subpart D	25 PA Code 245[1]	Spill Plan Contingency Plan
Discharge Notification	40 CFR 112	25 PA Code 245	
Clean-up	40 CFR 112	25 PA Code 245[1]	
Wastewater Discharge			
Facility Drainage	40 CFR 112	25 PA Code 245[1]	Spill Plan

[1] if Spill Prevention and Response Plan (SPRP) is required

Unanticipated Discovery Plan for the PennEast Pipeline Project

In order to assist the Federal Energy Regulatory Commission (FERC) in meeting the requirements of Section 106 as defined in the Advisory Council on Historic Preservation (Council) regulations "Protection of Historic Properties" (36 CFR Part 800), URS Corporation (URS) and the PennEast Pipeline Company, LLC (PennEast), have developed the following Unanticipated Discovery Plan to be implemented should new or additional cultural resources be found after construction has begun on the proposed project (undertaking). This plan has been developed in reference to the regulations embodied in "Protection of Historic Properties" issued by the Council (revised August 2004, www.achp.gov/regs-rev04.pdf). While no official guidelines for developing Unanticipated Discovery Plans were accessed through the New Jersey Historic Preservation Office (NJHPO), this plan is based upon previous Unanticipated Discovery Plans used for natural gas pipeline projects. The plan detailed here will be implemented by PennEast if previously undiscovered archaeological resources and/or human remains are identified. The following steps will be implemented should an unanticipated discovery be made by a PennEast inspector, a contractor, or subcontractor during the proposed undertaking:

1) Construction activities within the immediate area of an unanticipated discovery will be halted ("immediate area" is a context-specific measure, however roughly 30–50 feet is generally adequate, although special attention should be given to the possible extension of a new find beyond this buffer zone), and the discovery protected from further disturbance;

2) PennEast will notify their cultural resources consultant (URS), who will notify by telephone and/or email the FERC and the NJHPO and (if necessary) the applicable County Coroner and Sheriff (the latter parties will be notified only in the case of a finding of human remains). These notifications will take place within 24 hours of an unanticipated discovery;

3) Specific FERC and NJHPO instructions concerning an unanticipated discovery resulting from the notification as described above will be followed, although at a minimum sufficient archaeological work will be performed on the unanticipated discovery location to stabilize deposits, protect deposits from scavengers or looters, and to collect readily available samples (e.g., for radiocarbon dating) that may help pinpoint the age of deposits;

4) PennEast and URS will consult with the FERC and the NJHPO to follow through on the course of action. This may involve further archaeological study or consultation with Native American groups or other parties with established cultural affiliation. Construction activities will remain halted until the FERC and the NJHPO indicates to PennEast that it may proceed in the area of a specific unanticipated discovery; and

5) The construction supervisor will have the authority and responsibility to halt construction in the immediate area of the unanticipated discovery. The construction supervisor will notify his immediate supervisor, who will be responsible for notifying URS. Any revisions made to this chain of responsibility will be presented in writing at the pre-construction meeting.

6) The unanticipated discovery and the actions taken to address it will be documented in a written report that will be submitted to FERC and NJHPO. The report format will be determined by the level of effort required.

In the case of an unanticipated discovery of human remains, PennEast proposes to follow all relevant state and federal law, and recommendations regarding treatment of human remains. PennEast recognizes the importance of providing careful and respectful treatment for human remains recovered as an unanticipated discovery or as part of an archaeological investigation. In the event of an unanticipated discovery of human remains, PennEast will consult with the appropriate Native American groups previously identified and contacted through the Section 106 consultation process. Lastly, in coordination with the NJHPO and other interested parties, a decision will be made for the treatment of the remains (e.g., reburial, preservation in place, scientific study, sacred rituals, or a combination thereof).

PennEast will implement the measures outlined in its treatment plan, after the plan has been reviewed and approved by the FERC and the NJHPO, and the FERC has provided written notice to proceed with treatment. PennEast is responsible for all costs regarding the implementation of this plan and associated archaeological investigations, treatment, reporting, and curation of artifacts.

PennEast will conduct a short archaeological resource identification training program for pipeline construction staff in advance of the work. The program will be presented by the project's cultural resources professional and is intended to help construction staff identify unanticipated discoveries in the field and report them to the construction supervisor., scientific study, sacred rituals, or a combination thereof).

Contact List: Unanticipated Discovery Plan for the PennEast Pipeline Project

FERC Contact
To Be Determined

PennEast Contact
Dante D'Alessandro
UGI Energy Services
Office Phone: (610) 373-7999 ext. 173
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ddalessandro@ugies.com

URS Contact
Grace H. Ziesing
URS Corporation
625 West Ridge Pike, Suite E-100
Conshohocken, PA 19428
Office Phone: (610) 832-2791
Fax: (610) 832-2791
Cell: (610) 220-3714
grace.ziesing@urs.com

NJHPO Contact
Daniel Saunders
State of New Jersey
Department of Environmental Protection
Historic Preservation Office
501 E. State Street
Building 5, 4th Floor
Trenton, NJ 08625
Phone: (609) 633-2397

Unanticipated Discovery Plan for the PennEast Pipeline Project

In order to assist the Federal Energy Regulatory Commission (FERC) in meeting the requirements of Section 106 of the National Historic Preservation Act as defined in the Advisory Council On Historic Preservation (Council) regulations "Protection of Historic Properties" (36 CFR 800), URS, on behalf of PennEast Pipeline Company, LLC (PennEast) has developed the following Unanticipated Discovery Plan to be implemented should new or additional cultural resources be found after construction has begun on the proposed project (undertaking). This plan has been developed through reference to the regulations embodied in "Protection of Historic Properties", issued by the Council and revised in August 2004 (www.achp.gov/regs-rev04.pdf).

URS consulted Pennsylvania legislation that covers treatment of burials and cemeteries (P.L. 730, No. 110; P.L. 141, No. 22). Aside from state laws, additional guidance is provided in Appendix C of the Pennsylvania Historical and Museum Commission's (PHMC) November 2008 Revised "Guidelines for Archaeological Investigations in Pennsylvania." Appendix C (PHMC Appendix C, hereafter), entitled "Policy on the Treatment of Human Remains", was used in the development of this plan.

Termed "unanticipated discovery" or "post-review discovery", the identification of new or additional cultural resources during implementation of an undertaking typically occurs in the case of projects that involve excavation or ground-disturbing activities (PHMC Appendix C:92). The plan here will be implemented by PennEast if previously undiscovered archaeological resources and/or human remains are identified during construction of the undertaking.

The following steps will be implemented should an unanticipated discovery be made by a PennEast inspector, a contractor, or a subcontractor during the proposed undertaking:

1) Construction activities within the immediate area of the unanticipated discovery will be halted ("immediate area" is a context-specific measure, however roughly 30 to 50 feet is generally adequate, although special attention should be given to the possible extension of a new find beyond this buffer zone), and the discovery protected from further disturbance.

2) PennEast will notify their cultural resource consultant (URS), who will notify by telephone the FERC and the PHMC. If human remains are identified, the applicable County Coroner and Sheriff will be notified. These notifications will be made within 24 hours of an unanticipated discovery.

3) Specific FERC and PHMC instructions concerning an unanticipated discovery resulting from the notification as described above will be followed, although at a minimum sufficient archaeological work will be performed on the unanticipated discovery location to stabilize deposits, protect deposits from scavengers and looters, and to collect readily available samples (e.g. radiocarbon samples) which may help pinpoint the age of deposits.

4) PennEast and URS will consult with the FERC and the PHMC to follow through on a course of action. This may involve further archaeological study or consultation with Native American groups or other parties with established cultural affiliation (PHMC Appendix C:92-93). Construction activities will remain halted until the FERC and the PHMC indicates to PennEast that it may proceed in the area of a specific unanticipated discovery.

In the case of an unanticipated discovery of human remains, PennEast proposes to follow all relevant state and federal law, and recommendations regarding treatment of human remains as referenced above (e.g. PHMC Appendix C). PennEast recognizes the importance of providing careful and respectful treatment for human remains recovered as an unanticipated discovery or as part of an archaeological investigation. In the event of an unanticipated discovery of human remains, PennEast will refer to the FERC and the PHMC as to the appropriate Native American groups with which to consult. Lastly, in coordination with the PHMC and other interested parties, a decision will be made for the treatment of remains (i.e. reburial, preservation in place, scientific study, sacred rituals, or a combination thereof).

Contact List: Unanticipated Discovery Plan for the PennEast Pipeline Project

FERC Contact
To Be Determined

PennEast Contact
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