



# Northeast Upgrade Project

## Tennessee Gas Pipeline Company

Montague Municipal Building  
August 17, 2011

Ringwood Municipal Building  
August 18, 2011



# Introductions

- Tennessee Gas Pipeline Company
  - Melissa Dettling, Environmental Project Manager
  - Penny Paul, Stakeholder Outreach Coordinator
  - Dan Gredvig, Manager, Land/Permitting
  - Jerry Creel, Project Manager

# El Paso Corporation Overview



**El Paso Corporation provides natural gas and related energy products in a safe, efficient, and dependable manner.**

# Tennessee Gas Pipeline Background

## Size

- Over 13,700 Miles of pipeline
- Over 90 Bcf of Working Gas Storage
- 1.4 million certificated horsepower
- Spans from the Mexican border to the Canadian border

## Growing Markets and Supply

- **Supply Regions:** Gulf of Mexico, Texas, Appalachia, Mid-Continent & Apps Shale, Rockies, and Canada
- **Markets:** Northeast (including major metropolitan centers in NY/NJ and Boston), Mid-Atlantic, and the Southeast
- **Pipeline Interconnects:** >100 interconnects with most major interstate and intrastate pipeline systems in and around TGP's markets

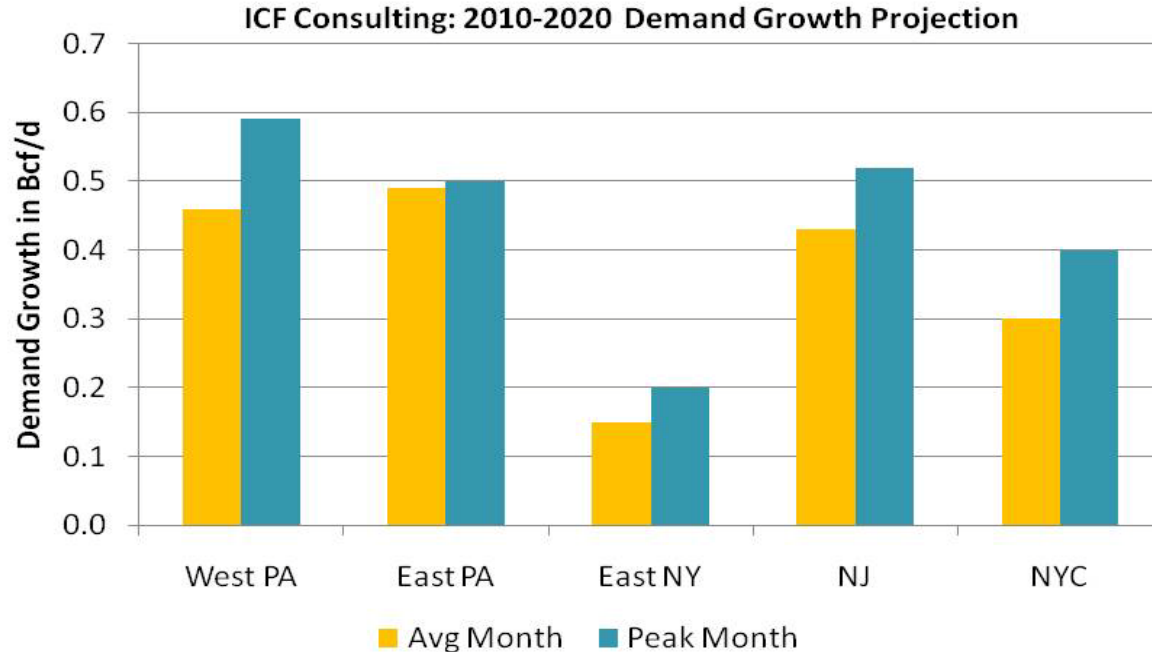
## Experience and Reliability

- Over 50 years of experience in pipeline system design, construction, and operation
- Tennessee is prepared to meet the demands of a growing market with the integrity and commitment to service that have made it one of the safest and most reliable pipelines in the United States



# Natural Gas Demand Growth Across Regions

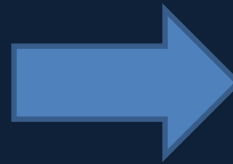
## 10 Year Demand Growth Forecast



Source: ICF April 2011 Reference Case

# Northeast Upgrade Project Benefits

- Natural gas storage struggles to meet peak day Winter requirements and strains regional pipeline capacity
- The Project will help alleviate strain on infrastructure and provide access to natural gas supplies across the country
- Increased supply access:
  - **Supply Reliability**
  - **Diversification**
  - **Price Competition**



**Benefits  
Northeast  
Consumers**

# Northeast Upgrade Project

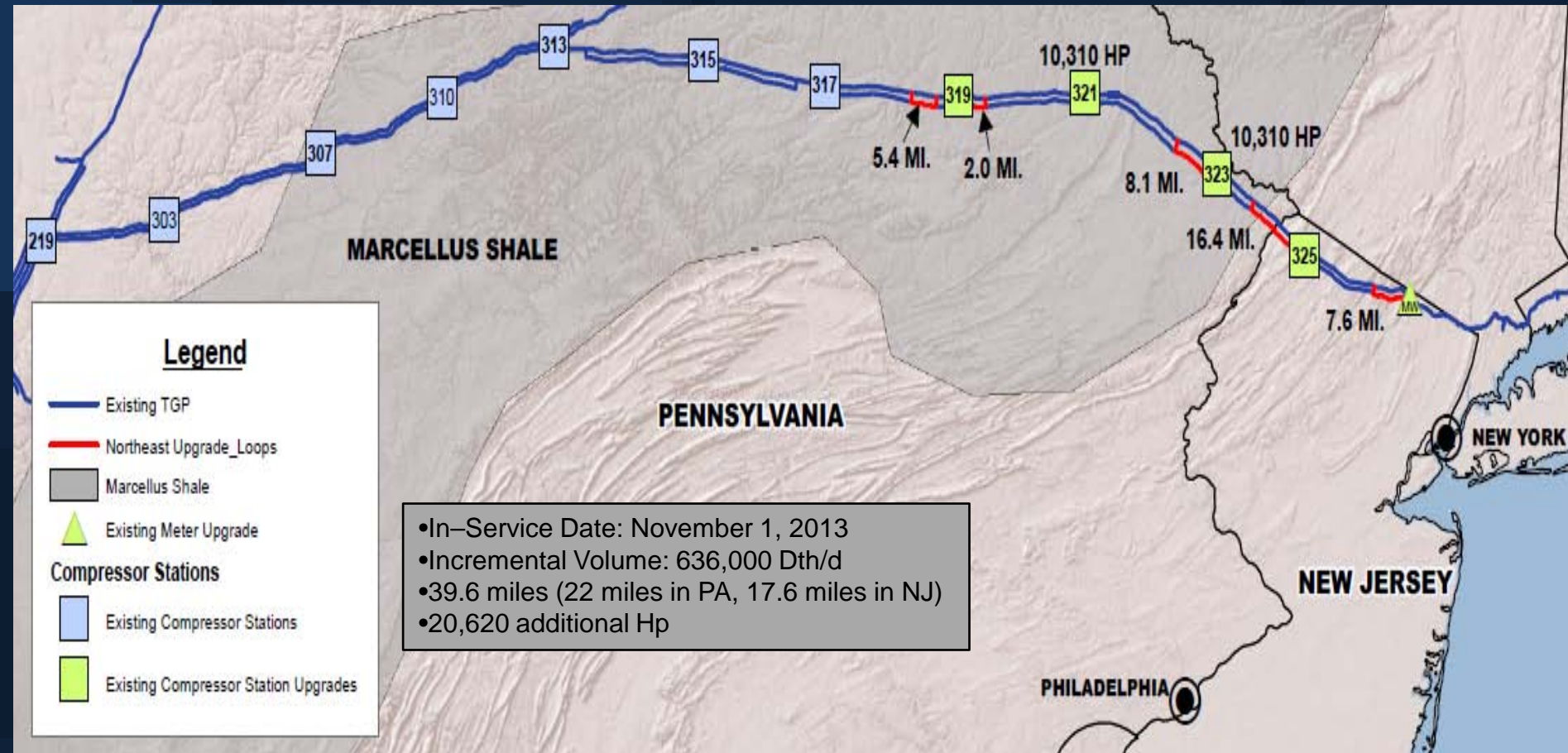
## Public Need

- Compelling Public Need
  - Transport natural gas to meet increasing Northeastern U.S. demand for energy
  - Will help alleviate demand by increasing pipeline capacity to the high-demand markets in the northeast, and will also assist with the FERC's goal of providing more natural gas to markets by providing access to natural gas supplies in the Northeast supply area
  - Cleaner source of fuel than coal or petroleum
  - Project is consistent with New Jersey Energy Master Plan

# PROJECT DESCRIPTION



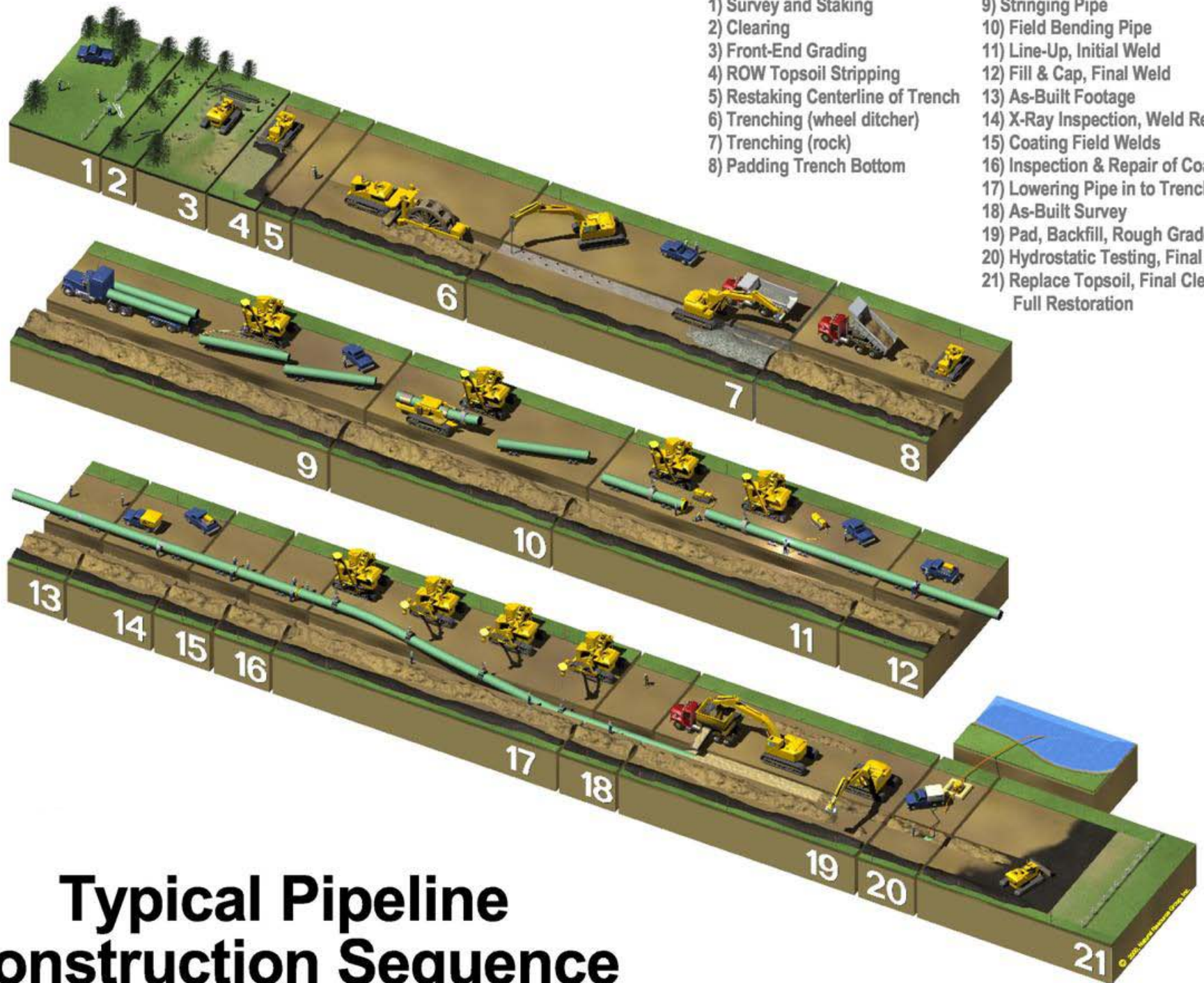
# Northeast Upgrade Project Overview



# Northeast Upgrade Project Pipeline Looping

- What is Pipeline Looping?
  - A segment of pipeline installed adjacent to an existing pipeline and connected to it at both ends
  - A loop allows more gas to be moved through the system

- 1) Survey and Staking
- 2) Clearing
- 3) Front-End Grading
- 4) ROW Topsoil Stripping
- 5) Restaking Centerline of Trench
- 6) Trenching (wheel ditcher)
- 7) Trenching (rock)
- 8) Padding Trench Bottom
- 9) Stringing Pipe
- 10) Field Bending Pipe
- 11) Line-Up, Initial Weld
- 12) Fill & Cap, Final Weld
- 13) As-Built Footage
- 14) X-Ray Inspection, Weld Repair
- 15) Coating Field Welds
- 16) Inspection & Repair of Coating
- 17) Lowering Pipe in to Trench
- 18) As-Built Survey
- 19) Pad, Backfill, Rough Grade
- 20) Hydrostatic Testing, Final Tie-In
- 21) Replace Topsoil, Final Clean-Up, Full Restoration



# Typical Pipeline Construction Sequence

# Northeast Upgrade Project Planning – Timeline

## ■ FERC Pre-filing Process

- Initial letters to elected officials – Mar 29<sup>th</sup>
- Initial agency consultations completed
- Open Houses – Week of Sept 13<sup>th</sup>
- FERC Scoping Meetings – Week of Nov 1<sup>st</sup>
- Scoping period ends – Nov 12<sup>th</sup>
- File Draft Environmental Report – Dec 10<sup>th</sup>

Spring 2010-Winter 2011

## ■ Survey Work

Spring/Summer 2010/2011

## ■ FERC Certificate Application Filed

March 2011

## ■ Commence NJ/PA Permitting Process

Spring 2011

## ■ Commence Preliminary JD

Spring 2011

## ■ FERC issues EA (anticipated)

Fall 2011

## ■ FERC Certificate (requested)

January 2012

## ■ Commence Construction

Fall 2012

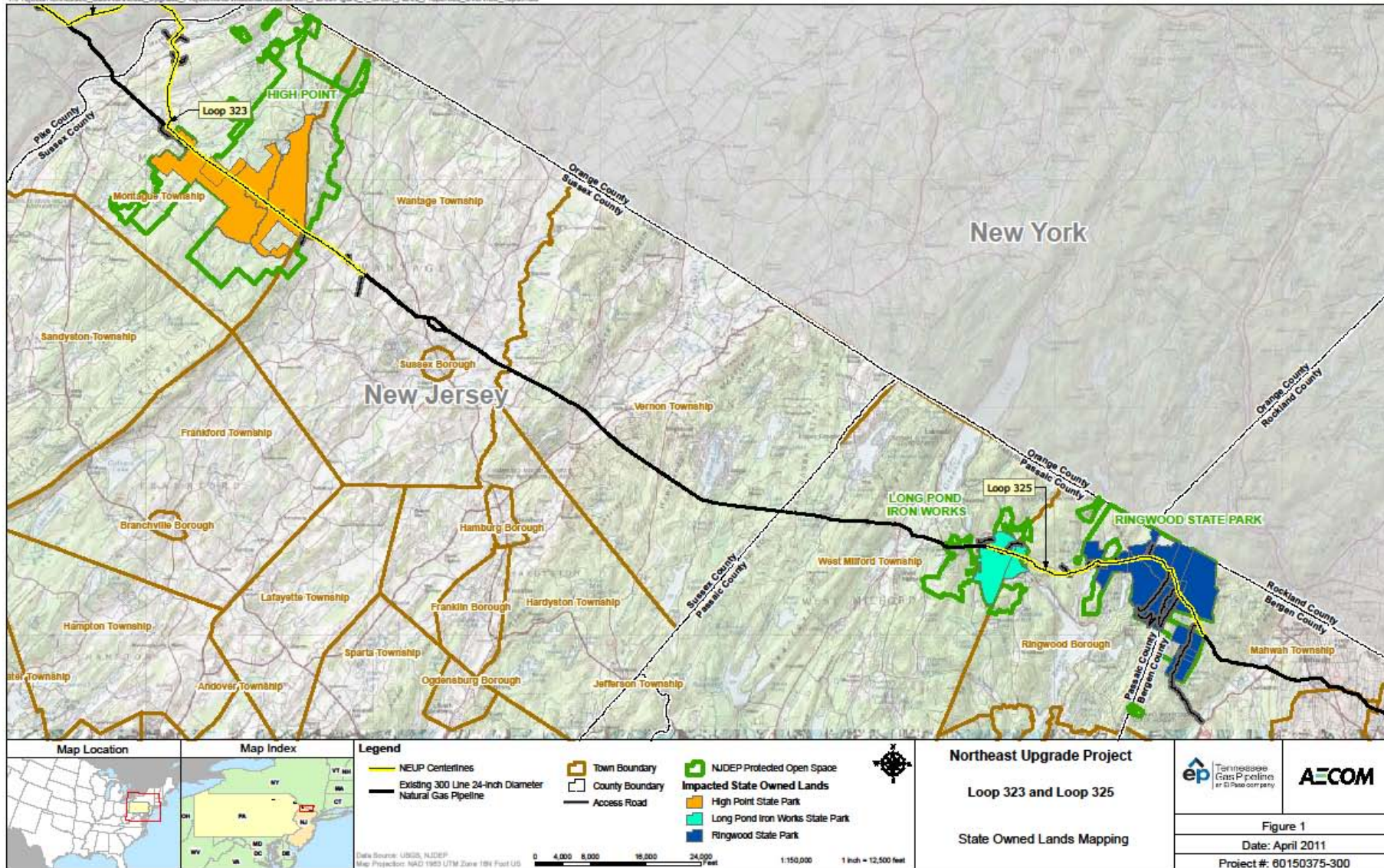
## ■ In-Service Date

November 2013



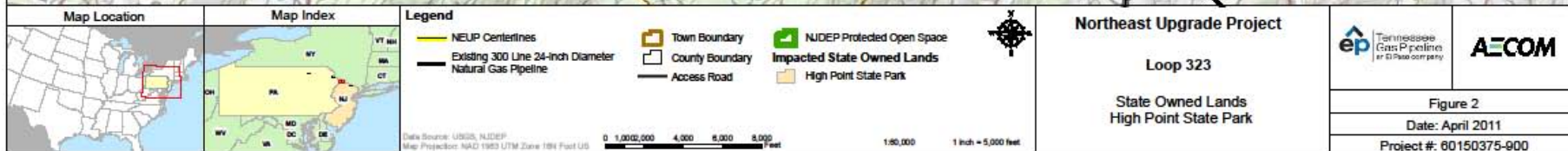
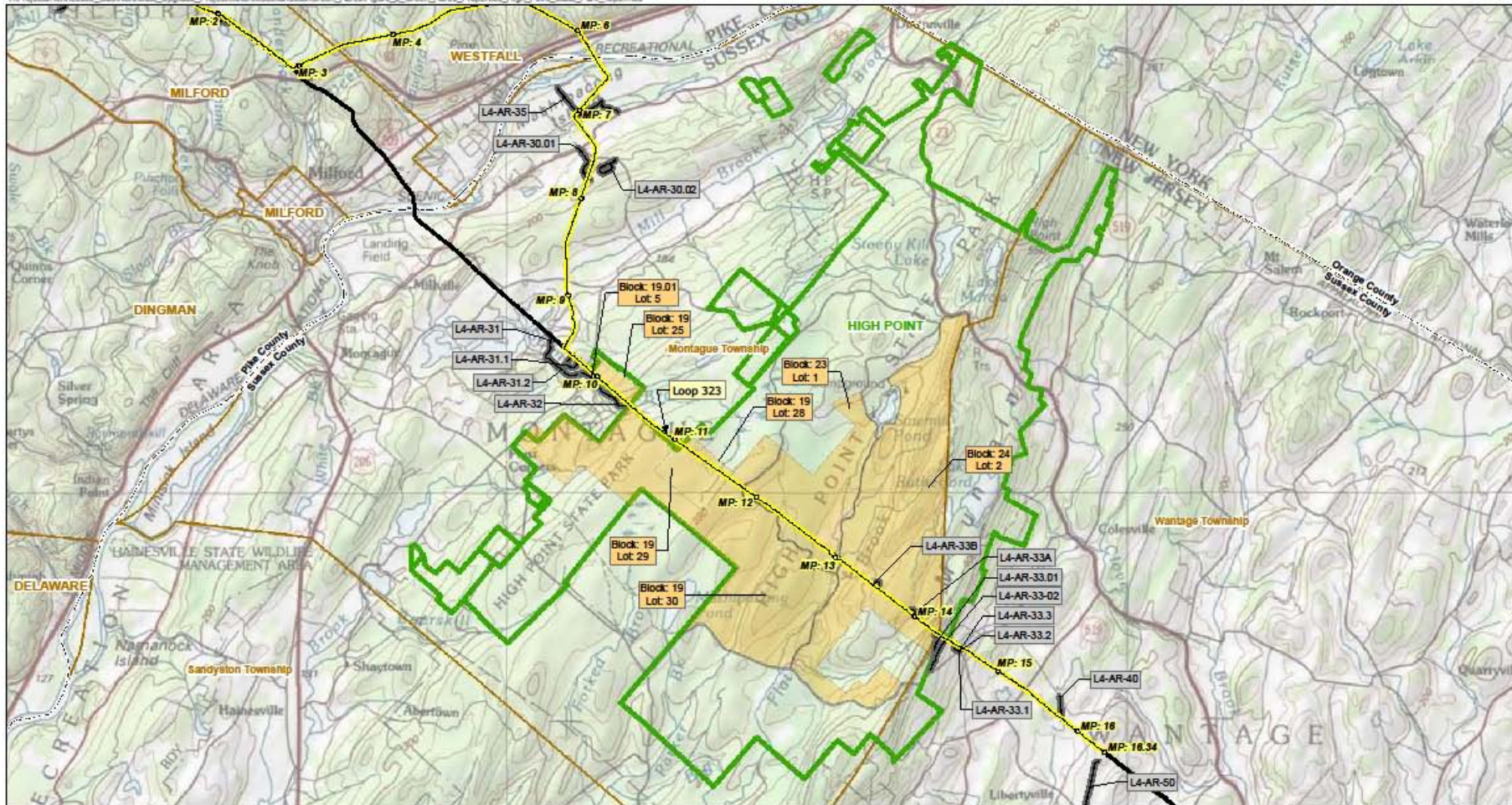
# Northeast Upgrade Project

- The Northeast Upgrade Project intersects the following NJDEP State Parks:
  - High Point State Park
  - Long Pond Iron Works State Park
  - Ringwood State Park
  - Ramapo Mountain State Park



# High Point State Park







**LAND AFFECTED WITHIN EACH TRACT OF STATE-OWNED PARCELS**  
**NEUP- LOOP 323**  
**HIGH POINT STATE PARK**

Block/Lot	Length of ROW (ft)	Proposed Perm.	TWS (acres)	ATWS (acres)	Total (acres)
19/25	0	0	0.19	0	0.19
19.01/5	157.87	0.09	0.15	0	0.24
19/30	2,777.80	1.64	5.04	0.37	7.05
19/29	2,140.51	1.27	3.36	0.34	4.97
19/28	1,174.27	1.18	1.09	0.17	2.44
23/1	6,481.20	3.99	9.53	1.13	14.65
24/2	6,512.35	3.67	10.67	0.65	14.99
<b>Total</b>	<b>19,244</b>	<b>11.84</b>	<b>30.02</b>	<b>2.68</b>	<b>44.54</b>
<b>Total Construction Impacts (acres) HPSP</b>					<b>44.54</b>
<b>Total Permanent Conveyance (acres) HPSP</b>					<b>11.84</b>
<b>Total Temporary Impacts (acres) HPSP</b>					<b>32.70</b>

# High Point State park – Access Roads

- No new access roads proposed, all access roads are existing

ACCESS ROADS ASSOCIATED WITH THE NORTHEAST UPGRADE PROJECT					
STATE-OWNED TRACTS					
HIGH POINT STATE PARK					
Access Road ID	Block/Lot	Approx. Milepost	Road Type	Length (feet)	Affected Area (acres) <sup>c</sup>
L4 AR 33B	24/2	13.59	Path	624	0.34
L4 AR 33A	24/2	13.99	Two-track	572	0.32
L4 AR 33.01	24/2	14.36	Path	292	0.16
Total				1488	0.82

# Highpoint State Park – Environmental

- 8 waterbody crossings
  - 5 perennial streams - Shimers Brook, Parker Brook, and Big Flat Brook
  - 3 Intermittent streams – unnamed tributaries
- 24 wetland crossings
  - Total of approximately 4,700 linear feet of crossings
  - Approximately 7.50 acres of temporary impacts, 1.13 acres of conversion
- 2 Natural Heritage Priority Sites
  - Sawmill Pond Swamp
  - Mashipacong Bogs

*Note: No federally or state-listed species (including plants) were identified in field surveys on either property*

- Federally listed species potentially occurring in or near Highpoint State Park (as identified through consultation with USFWS):
  - Bald eagle (no longer threatened or endangered near Delaware, Wanaque Reservoir) - Surveys found no nests within or adjacent to project area. MBTA recommended tree clearing timing restrictions will be adhered to for the project.
  - Bog turtle – received concurrence of “not likely to adverse effect” from USFWS
  - Dwarf wedgemussel - Big Flat Brook is only stream identified with known occurrence, but locations are downstream of project.
  - Indiana bat – No bats were captured in mist net surveys. Due to presence of foraging range for known maternity colony near park, Tennessee will adhere to a tree-clearing timing restriction for the eastern 2.5 miles of Loop 323 starting at approximately MP 13.85 in Highpoint State Park.

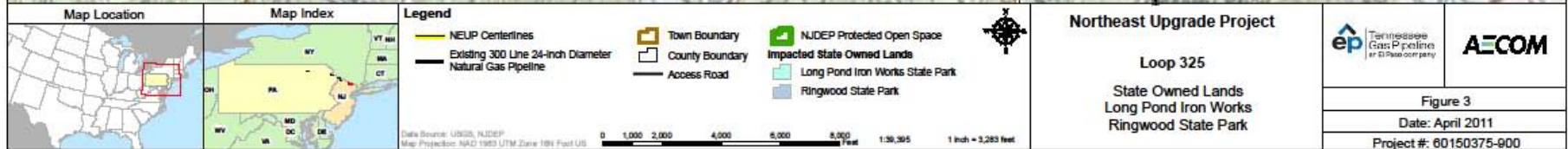
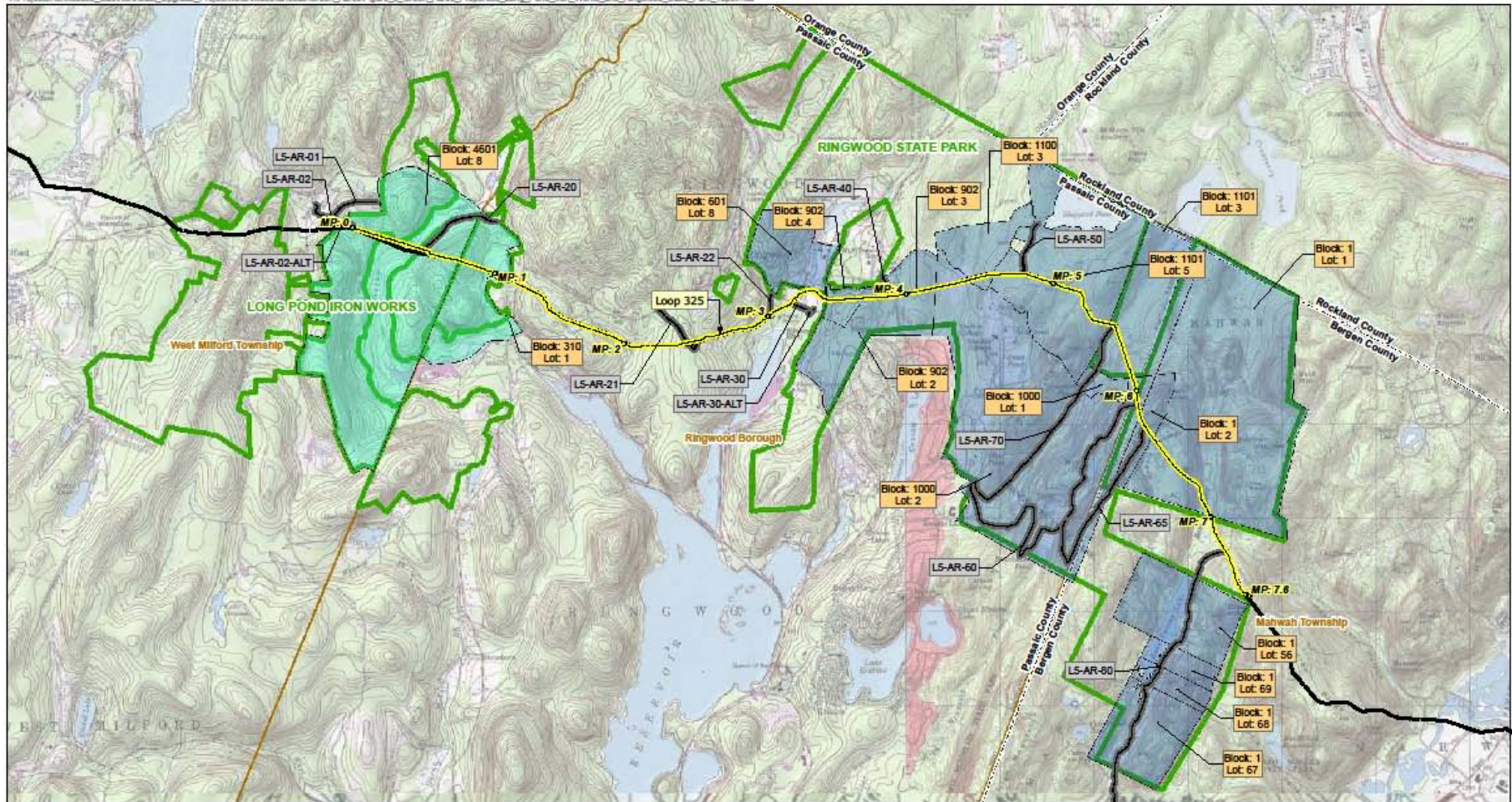
*Note: No federally or state-listed species were identified in field surveys on Highpoint State Park*

Long Pond Iron Works State Park

Ringwood State Park

Ramapo Mountain State Forest





# Summary of Impacts – Long pond Iron Works State Park

LAND AFFECTED WITHIN EACH TRACT OF STATE-OWNED PARCELS NORTHEAST UPGRADE PROJECT LOOP 325 LONG POND IRONWORKS STATE PARK					
Block/Lot	Total Length of Proposed ROW (feet)	Proposed Permanent ROW (acres)	Temporary Workspace (acres)	Additional Temporary Workspace (acres)	Total Impacts
4601/8	3,966.33	3.95	2.12	1.90	7.97
310/1	1,476.81	0.83	2.32	0.07	3.23
<b>Total</b>	<b>5,443.14</b>	<b>4.79</b>	<b>4.44</b>	<b>1.97</b>	<b>11.20</b>
Total Construction Impacts (acres) LPI					11.20
Total Permanent Conveyance (acres) LPI					4.79
Total Temporary Impacts (acres) LPI					6.41

# Summary of Impacts – Ringwood State Park

LAND AFFECTED WITHIN EACH TRACT OF STATE-OWNED PARCELS NORTHEAST UPGRADE PROJECT LOOP 325					
RINGWOOD STATE PARK					
Block/Lot	Total Length of Proposed ROW (feet)	Proposed Permanent ROW (acres)	Temporary Workspace (acres)	Additional Temporary Workspace (acres)	Total Impacts
601/8	535.39	0.28	0.44	0	0.72
902/4	0	0	0	0.02	0.02
902/2	2,571.36	1.49	3.99	0.21	5.68
902/3	1,285.68	0.74	2.18	0.38	3.30
1000/2	2,575.58	1.43	4.28	0.26	5.97
1100/3	816.28	0.44	1.31	0.07	1.81
1101/5	4,811.66	2.73	7.38	0.63	10.74
1101/3	2,115.69	1.24	3.52	0.11	4.88
1/2	913.44	0.53	1.53	0.17	2.23
1/1	3,471.07	1.95	5.36	0.44	7.76
<b>Total</b>	<b>19,096.15</b>	<b>10.83</b>	<b>29.98</b>	<b>2.30</b>	<b>43.10</b>
Total Construction Impacts (acres) RSP					43.10
Total Permanent Conveyance (acres) RSP					10.83
Total Temporary Impacts (acres) RSP					32.28

# Proposed Access Roads Long Pond Ironworks / Ringwood State park

ACCESS ROADS NORTHEAST UPGRADE PROJECT – LOOP 325 STATE-OWNED TRACTS					
Access Road ID	Block/Lot	Approx. Milepost	Road Type	Length (feet)	Affected Area (acres) <sup>c</sup>
LONG POND IRONWORKS STATE PARK					
L5 AR 02	4601/8	0.01	Two-track	687	0.38
L5 AR 20	4601/8 310/1	0.49	Paved / Gravel	3,208	1.77
RINGWOOD STATE PARK					
L5 AR 50	1101/5	4.78	Paved / Dirt	2,153	1.19
L5 AR 70	1000/1 1101/3 1000/2	5.53	Gravel	8,540	4.71
L5 AR 60	1000/2	6.09	Rock	13,068	7.20
L5 AR 65	1000/2 1/2	6.25	Rock	6,618	3.65
State-owned Access Roads Total				<b>35,762</b>	<b>19.72</b>

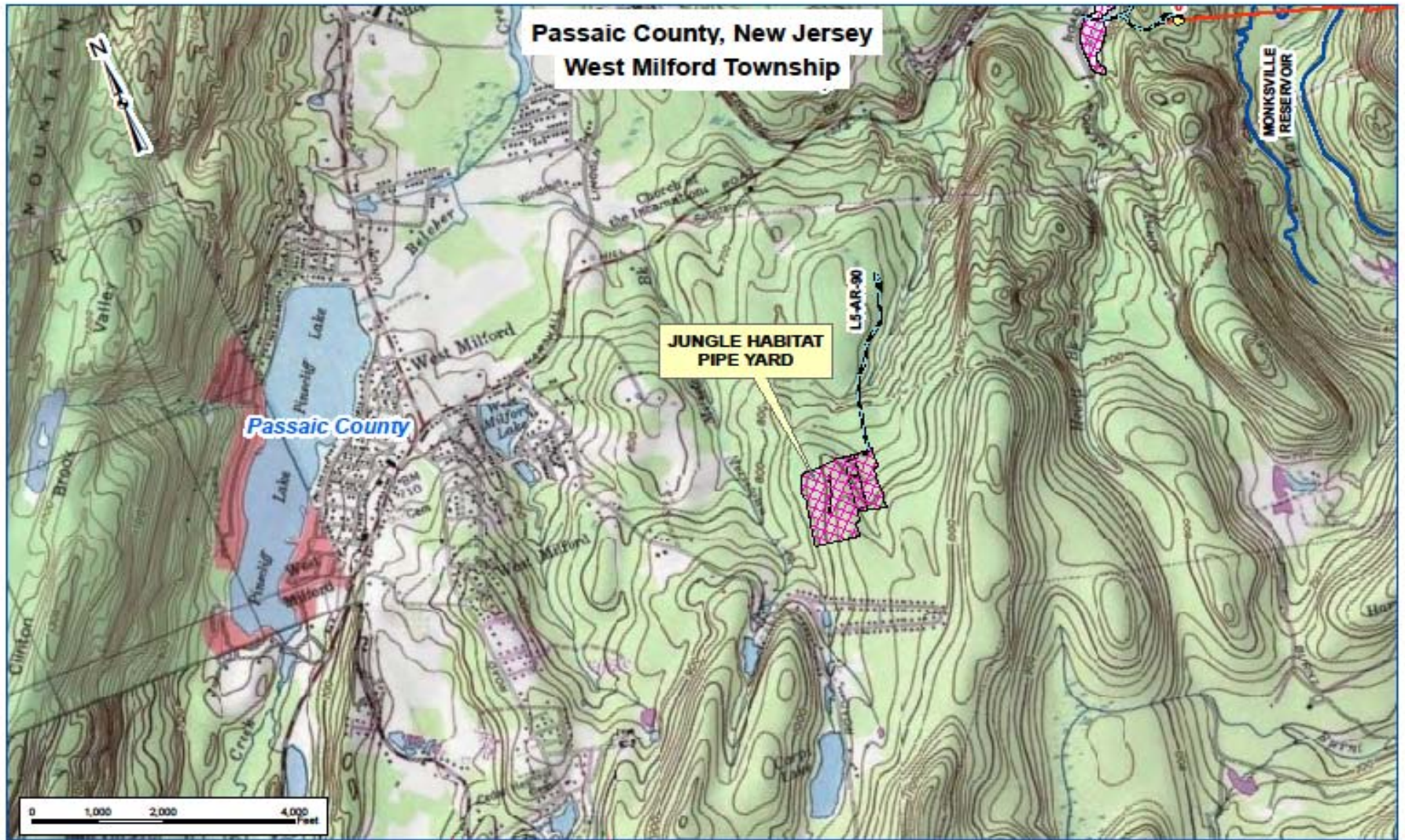


# Long Pond Ironworks State Park – Environmental

- 2 waterbody crossings
  - Wanaque River / Monksville Reservoir – to be crossed via Horizontal Directional Drill (HDD)
  - Wanaque River – approximately 13-feet crossing width
- 2 wetland crossings
  - 374-feet total wetland linear crossing
  - Approximately 0.72 acres temporary impact, 0.13 acres conversion
- No Natural Heritage Priority Sites
- Federally listed species potentially occurring in or Long Pond Ironworks State Park (as identified through consultation with USFWS):
  - Bald eagle (no longer threatened or endangered) – No known nests within 3 miles of Long pond ironworks State Park. Surveys found no nests within or adjacent to project area. MBTA recommended tree clearing timing restrictions will be adhered to for the project.
  - Bog turtle – Potentially suitable habitat occurs, but no turtles found in Phase I or Phase II surveys.
  - Dwarf wedgemussel - No suitable streams in park to support mussels.
  - Indiana bat – No bats captured in mist net surveys

# Long Pond Ironworks State Park – Jungle Habitat Pipeyard

- Existing paved area on state owned land
- Approximately 35 acres total
  - ~ 27.3 acres not including the forested areas, which will not be impacted



 Access Roads	 Receivers	 Valves
 Milepost	 Facilities	
 LOOP 325		

NO.	DATE	BY	DESCRIPTION	PROJ ID: 51814	APPR
REVISIONS					

Division: NORTHERN	Op. Area: AGAWAM
Co./Par: PASSAIC	State: NEW JERSEY
DFT: JR	Date: 07/29/11
	Scale: 1"=2000'
	Filename: MAPBOOKS_LOOP_325_QUAD_JUNGLE.PY_08.12.11

NORTHEAST UPGRADE PROJECT  
JUNGLE HABITAT  
PIPE YARD  
QUAD BASED  
DETAIL "A"

**ep** Tennessee  
Gas Pipeline  
an El Paso company

Sheet: Page 1 of 1  
Type: MAPBOOK

A

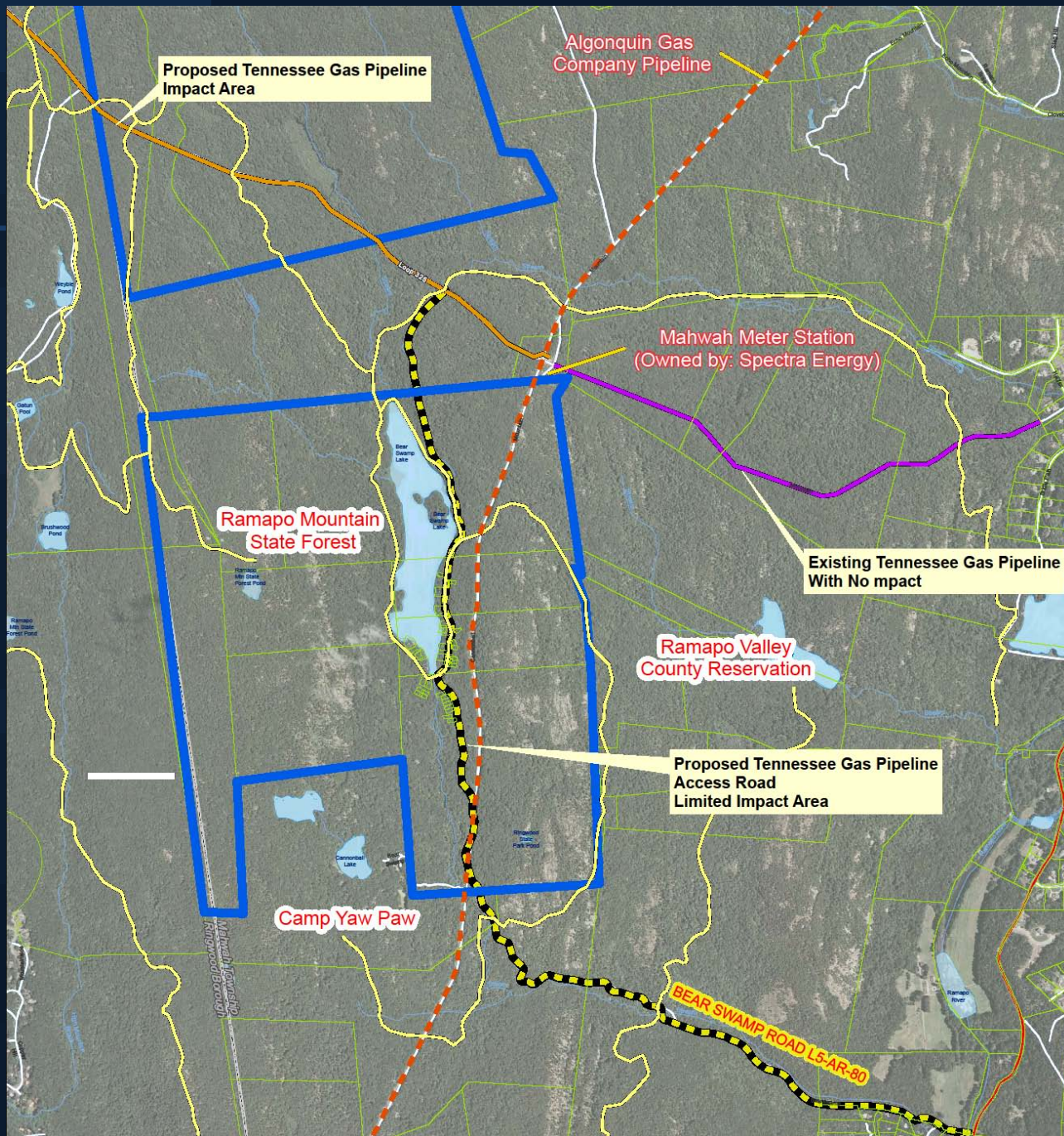


# Ringwood State Park – Environmental

- 7 waterbody crossings
  - 2 perennial –
    - Cupsaw Brook - approximately 19-feet crossing width
    - Ringwood Creek - approximately 45-feet crossing width
  - 5 Intermittent – tributaries
- 17 wetland crossings
  - Approximately 3,559-feet total wetland linear crossing
  - Approximately 5.60 acres of temporary impacts, 0.87 acres of conversion
- No Natural Heritage Priority Sites
- Federally listed species potentially occurring in or near Ringwood State Park (as identified through consultation with USFWS):
  - Bald eagle (no longer threatened or endangered) - Surveys found no nests within or adjacent to project area. MBTA recommended tree clearing timing restrictions will be adhered to for the project.
  - Bog turtle – No surveys recommended by USFWS due to lack of historic occurrence in County.
  - Dwarf wedgemussel – Ringwood Creek has potential habitat but no mussels were found in surveys.
  - Indiana bat – No bats captured in mist net surveys.

## Bear Swamp Road

- Existing road that crosses Ramapo Mountain State Forest for approximately 7,355 linear feet (estimated 4.06 acres)
  - Minimal use planned on road
  - Improvements to existing road bed as needed
  - Side trimming of woody vegetation as needed





# Recreation - Trails

- High Point State Park
  - Appalachian National Scenic Trail (“AT”) - State of NJ-owned property operated by NJDEP, Div. of Parks and Forestry
    - Loop 323 crosses the AT at MP 14.37
    - 150-feet in each direction from the center of the Footpath, the construction ROW will be reduced to 75 feet in width, utilizing 50 feet of existing maintained ROW associated with Tennessee’s 300 Line and 25 feet of new ROW
    - Outside of this 300 foot wide area of reduced workspace at the Footpath within the AT Corridor, Tennessee will utilize a variable width construction ROW for construction. These workspaces are required to facilitate specialized construction techniques required to work on the steep side slopes and bedrock outcrops located within the AT corridor.
    - Appalachian Trail Crossing Plan was prepared to:
      - minimize adverse effects to the AT and the environment;
      - maintain the AT experience for hikers to the maximum degree;
      - maintain the safety of hikers during construction; and
      - facilitate coordination with stakeholders throughout the regulatory process.

# Recreation – Trails

- General Trail Crossing Plan
  - 18 Trails other than the Appalachian Trail to be crossed.
    - 2 on Loop 323
      - ❖ Sawmill Loop
      - ❖ Iris Trail
    - 16 on Loop 325
      - ❖ Hewitt-Butler Trail
      - ❖ Monks Trail
      - ❖ Cooper Union Trail
      - ❖ Crossover Trail
      - ❖ Ringwood-Ramapo Trail
      - ❖ Mountain Bike Loop
      - ❖ Halifax Trail
      - ❖ Pierson Ridge Trail
      - ❖ Shore Trail
      - ❖ Schuber Trail
      - ❖ Yellow Silver Trail
      - ❖ Halifax
      - ❖ Jungle Habitat (W)
      - ❖ Skyland
      - ❖ Red-Silver Trail
      - ❖ Jungle Habitat (R)



# Recreation – Trails

## ■ General Trail Crossing Plan

- Mitigation measures will be put in place to minimize closures and impacts to hikers during construction.
- Trailheads will be posted to notify hikers of the construction work in progress. This will include notice during the limited times when access to the trail across the pipeline is not available due to safety considerations. The park will also be notified as well as the NY/NJ Trail conservancy so website updates regarding trail impacts can be posted.
- Once construction is completed, the Right of Way will be returned as close as practicable to its original condition (contour, grade and reseeded).
- As authorized by the NJDEP, Tennessee will use various techniques to discourage ORV/ATV access and use of the Right of Way such as:
  - installing water bars to direct water off from the Right of Way into established vegetation,
  - strategically placing rocks across the Right of Way at key access locations, and if needed and approved, place rock windrows and fences/gates at key access points.

# No Net Loss Reforestation Act

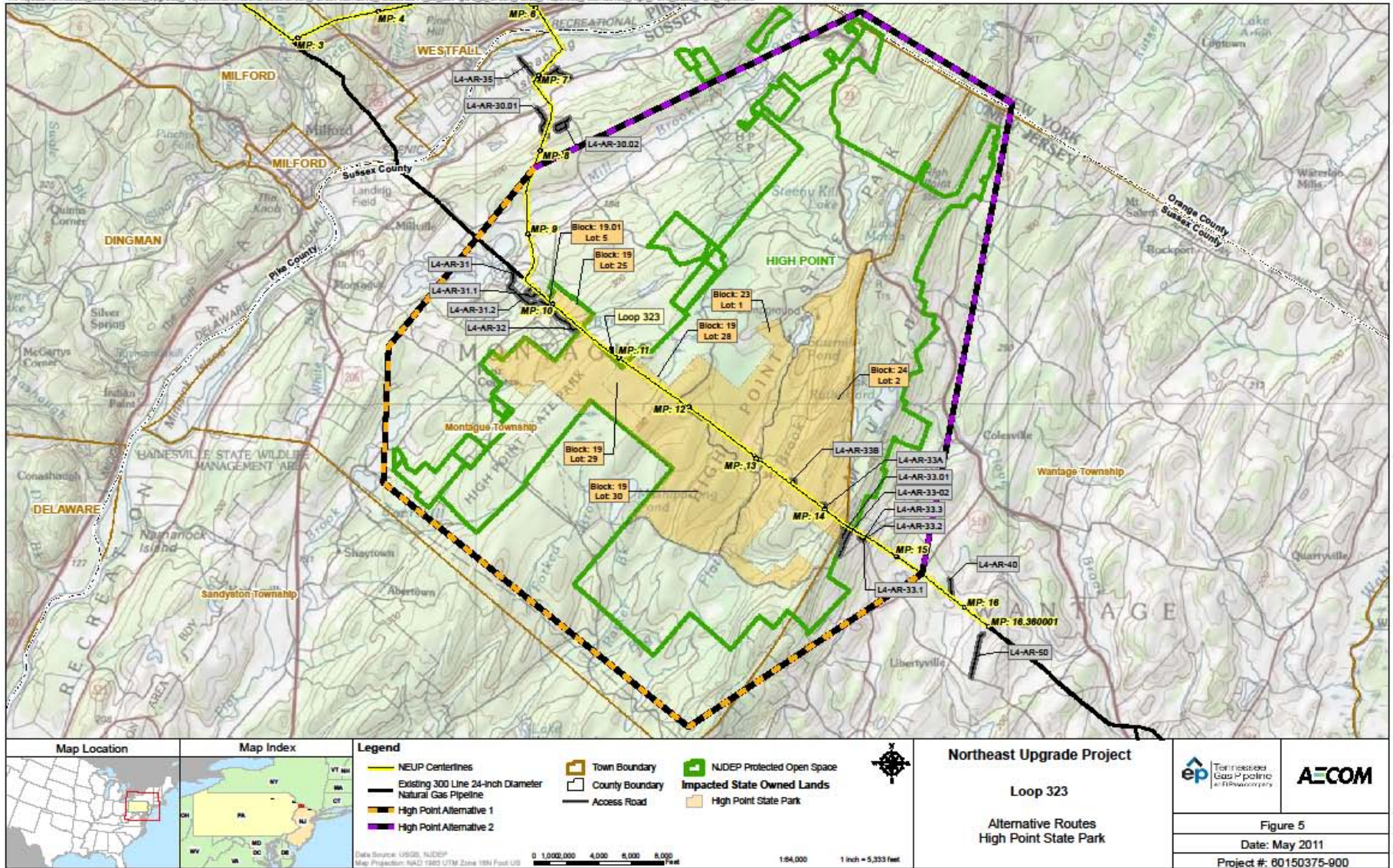
(N.J.S.A. 13:1L-14.1 et seq.)

- Reforestation Plan (dated August 2010) prepared in conjunction with and based upon input, guidance and direction from NJ DEP Division of Parks and Forestry Staff and NJ Forest Service *No Net Loss Reforestation Program Guidelines* (January 2002; rev. September 2007)
  - Replanting of TWS/ATWS areas
  - Off-Site Restoration & Monetary Compensation for new permanent easement impacts
- Specialized Methods for:
  - Palustrine Forested Wetlands
  - Upland Forest Seed Mixes
  - Areas with Moderate-Poor Suitability for Planting
  - Eastern Hemlock / Oak Community Restoration

# State Lands Alternatives

- No-action Alternative
- System Alternatives
- Route Alternatives
- Alternative Waterbody Crossing Method
- Construction Alternatives

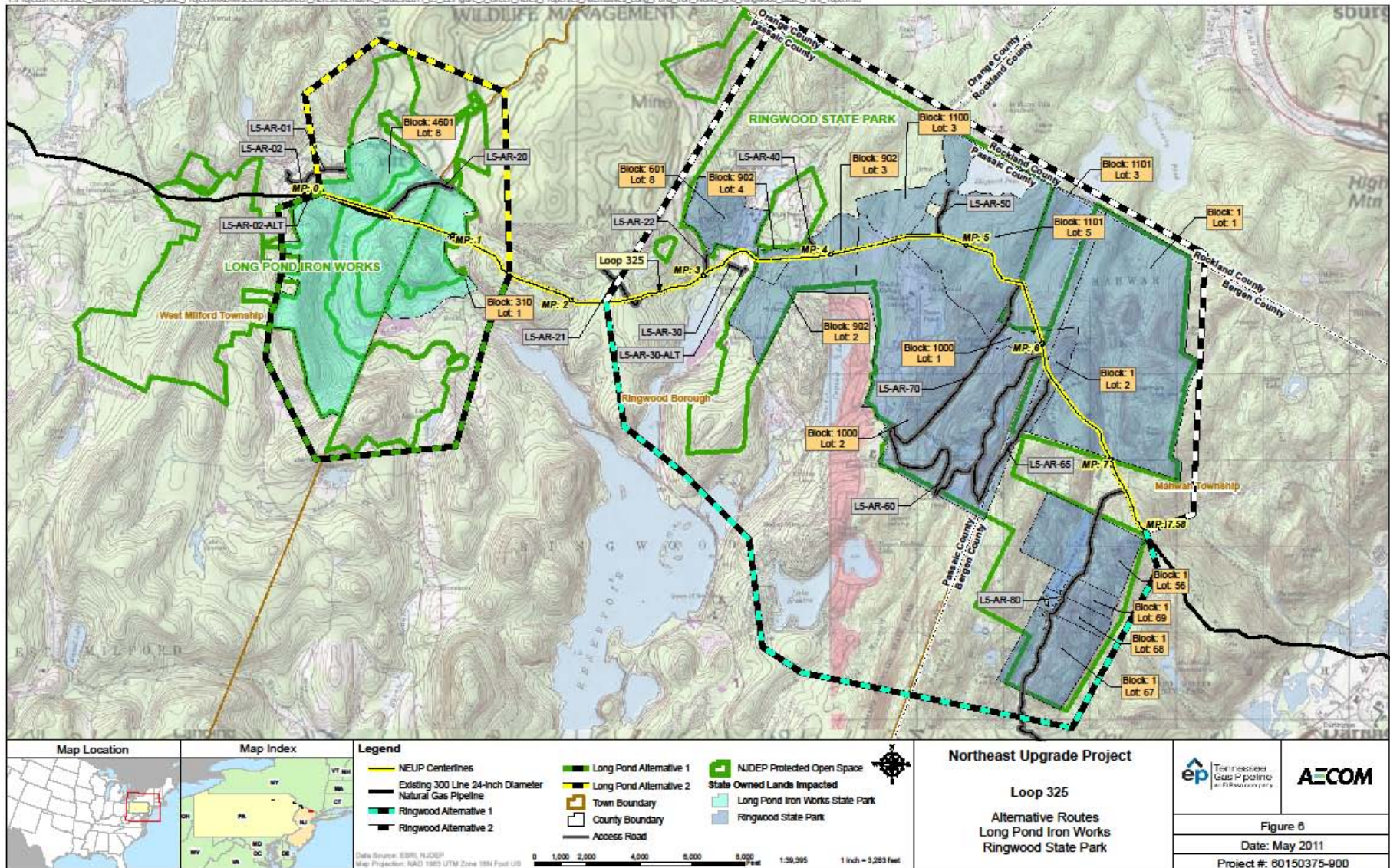




# Avoidance Route Alternatives

Highpoint State Park			
	Proposed Route	Alternative #1	Alternative #2
Distance (miles)	7.15	12.12	11.89
Waterbodies Crossed	9	12	14
Waters Disturbed (acres)	0.36	3.94	0.34
Wetlands Disturbed (acres)	9.86	14.37	24.51
NHP Priority Sites (acres)	12.51	8.43	1.69
Bald Eagle Foraging (acres)	0	8.4	0
Wood Turtle Habitat (acres)	29.74	36.84	69.11
NHP Vernal Pools (acres)	0	0	0
Contaminated Sites Within Workspaces	0	0	0
Forested Area (acres)	47.08	103.92	67.5
Residential Area (acres)	2.07	10.73	8.54





# Avoidance Route Alternatives

Long Pond Ironworks State Park			
	Proposed Route	Alternative #1	Alternative #2
Distance (miles)	1.52	6.8	8.16
Waterbodies Crossed	2	5	6
Waters Disturbed (acres)	0	1.3	0
Wetlands Disturbed (acres)	1.46	5.27	4.21
NHP Priority Sites (acres)	0	0	0
Bald Eagle Foraging (acres)	0	3.46	0
Wood Turtle Habitat (acres)	0	0	0
NHP Vernal Pools (acres)	8.43	9.76	19.28
Contaminated Sites Within Workspaces	0	0	0
Forested Area (acres)	10.55	33.87	36.97
Residential Area (acres)	0.75	7.58	0

# Avoidance Route Alternatives

Ringwood State Park			
	Proposed Route	Alternative #1	Alternative #2
Distance (miles)	5.33	4.55	3.68
Waterbodies Crossed	3	10	11
Waters Disturbed (acres)	0	5.85	2.05
Wetlands Disturbed (acres)	7.07	4.82	4.08
NHP Priority Sites (acres)	0	0	0
Bald Eagle Foraging (acres)	2.23	9.46	0
Wood Turtle Habitat (acres)	0	0	0
NHP Vernal Pools (acres)	6.56	14.32	0
Contaminated Sites Within Workspaces	0	0	1
Forested Area (acres)	52.38	61.86	40.13
Residential Area (acres)	0	8.69	3.21

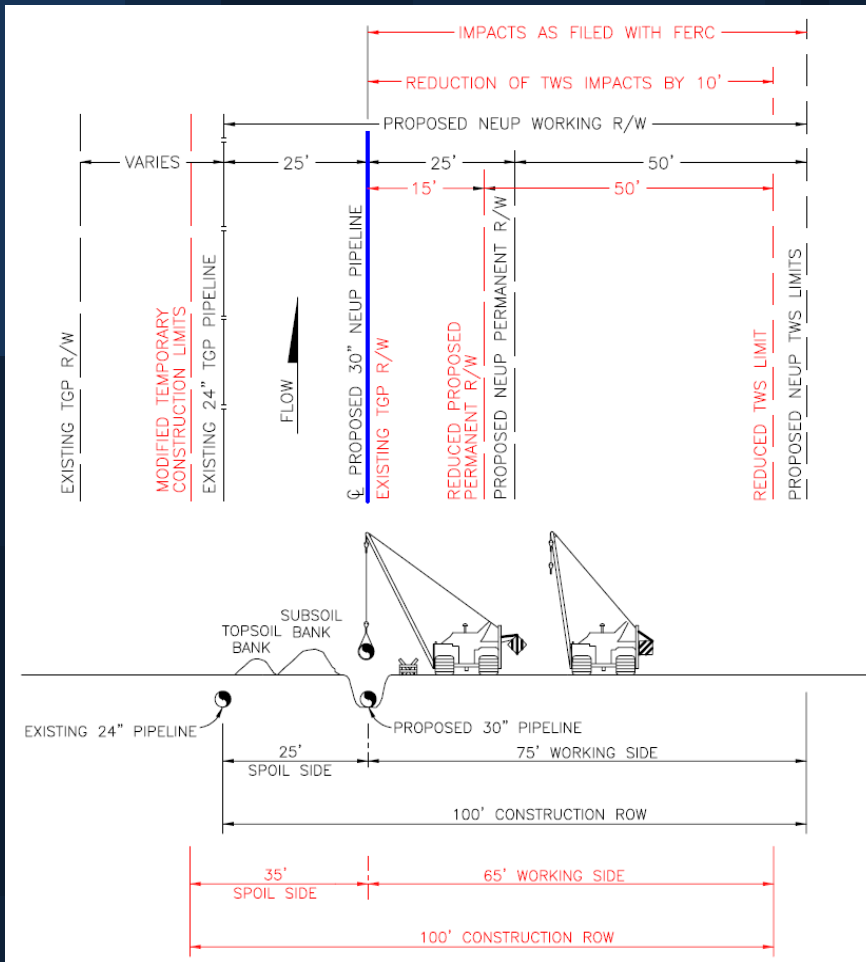


# TGP's Proposed Plan to Further Reduce Project Impacts to NJ State Owned Lands

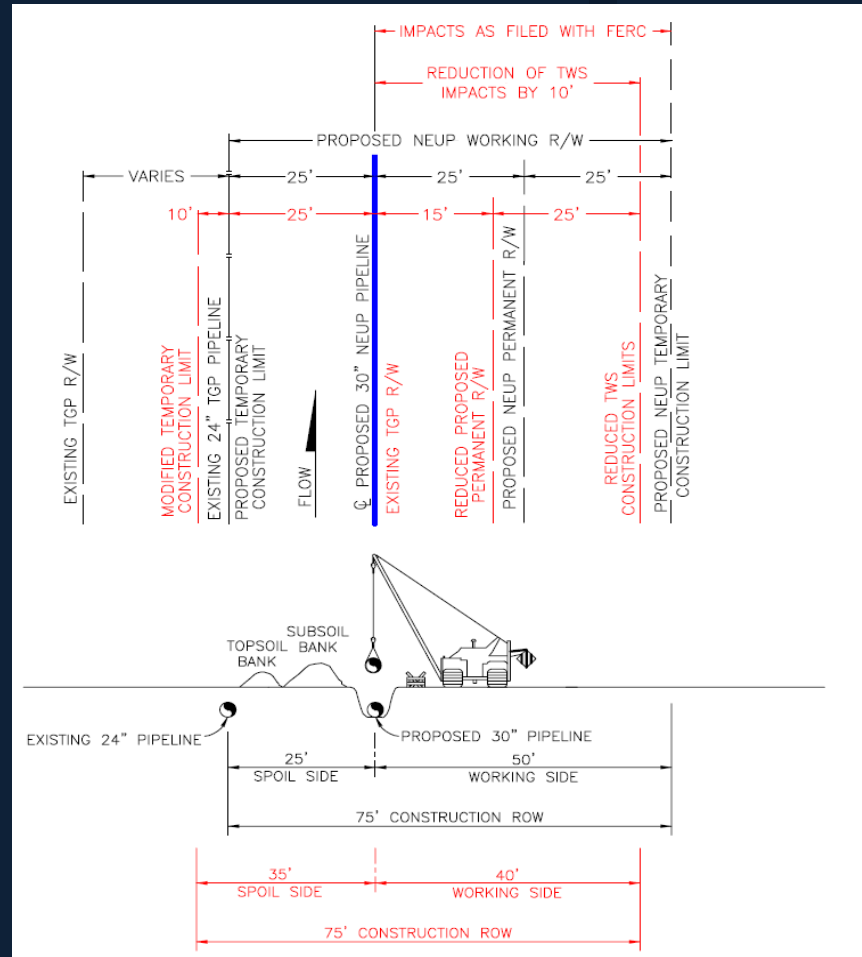
- Intended to further reduce project impacts to NJ State Lands
  - Modified construction technique & special equipment enabling a 10 ft shift of workspace & permanent easement (approx 10 acres) where feasible on state owned lands
  - Riparian zone workspace reduced from 100ft to 75ft excluding road crossings and side slopes
- Plan subject to further site specific NJ LURP/T&E input and constructability review
- Plan maintains economic viability of the project and associated benefits to NJ while reducing environmental impacts in NJ

# Typical Overview of TGP's Proposed Plan to Reduce Project Impacts

## Typical Construction



## Wetlands and Riparian Zones



# Conservation Restrictions

- For parcels that are acquired with Green Acres nonprofit acquisition funds, the NJDEP holds a conservation restriction on the properties in accordance with the “New Jersey Conservation Restriction and Historic Preservation Restriction Act”, N.J.S.A. 13:8B-1, et seq. See N.J.A.C. 7:36-20.1(g).
- In addition to the proposed 25-year lease of the lands owned in fee by the State, Tennessee is seeking the permanent release of a portion of these conservation restrictions in accordance with the Act. See N.J.S.A. 13:8B-5.
- NJDEP Commissioner approval is required for the release of the conservation restrictions.
- Tennessee is complying with the legal requirements for the partial release in accordance with N.J.S.A. 13:8B-5.
- Passaic River Coalition properties are encumbered by Green Acres restrictions and Tennessee is negotiating with Passaic River Coalition in connection with the Green Acres diversion process.
- Compensation for the partial release of the conservation restriction across the Passaic River Coalition properties will be satisfied by the compensation for the diversion in accordance with the compensation requirements set forth in the Green Acres regulations, N.J.A.C. 7:36-26. Compensation is anticipated to be land for land replacement.

# Passaic River Coalition

- In addition to the NJDEP properties, two properties owned by the Passaic River Coalition will be crossed by the NEUP.

**TABLE 1.1-1  
PASSAIC RIVER COALITION GREEN ACRES TRACTS CROSSED BY THE  
NORTHEAST UPGRADE PROJECT - LOOP 325**

<b>Township/County</b>	<b>Milepost</b>	<b>Tract#</b>	<b>Green Acres Block/Lot</b>
<b>PIPELINE FACILITIES</b>			
Ringwood Borough/Passaic	1.22 – 1.64	144	311/1.01
Ringwood Borough/Passaic	1.64 – 1.98	144.02	311/1.03
<b>Total Number of Passaic River Coalition Parcels Affected</b>			<b>2</b>



# Passaic River Coalition

- Approximately nine (9) acres temporarily impacted by construction; 2.3 acres new ROW

**TABLE 1.1-2  
ACREAGES OF LAND AFFECTED WITHIN  
PASSAIC RIVER COALITION GREEN ACRES PARCELS  
NORTHEAST UPGRADE PROJECT - LOOP 325**

<b>Block/Lot</b>	<b>Total Length of Proposed ROW (feet)</b>	<b>Proposed New Permanent ROW (acres)</b>	<b>Temporary Workspace (acres)</b>	<b>Additional Temporary Workspace (acres)</b>	<b>Total Impacts (acres)</b>
311/1.01	2243.20	1.29	3.52	0.20	5.01
311/1.03	1765.66	1.01	2.74	0.23	3.98
<b>Total</b>	<b>4008.86</b>	<b>2.3</b>	<b>6.26</b>	<b>0.43</b>	<b>8.99</b>

# New Jersey Department of Environmental Protection

## Public Hearing Comment Period

The hearing record will close on September 1, 2011.

Interested persons may submit written comments by  
September 1, 2011 to:

Kevin E. Koslosky

Bureau of Legal Services and Stewardship

Green Acres Program

New Jersey Department of Environmental Protection

P.O. Box 420, Trenton, NJ 08625-0420

Mail Code 501-01

Information on the Project is available at [www.ferc.gov](http://www.ferc.gov)  
(Project Docket No. CP11-161).

# Northeast Upgrade Project Public Scoping

- The NJDEP will be holding a second Public Hearing on the proposed conveyance:
  - Wednesday September 7, 2011
  - 4:00 PM EST
  - Department of Environmental Protection
    - 401 East State Street
    - Trenton, NJ 09625