Office of

Energy Projects

April 2017

Texas Eastern Transmission, LP **Docket No. CP17-6-000**

Idle Line 1 Abandonment Project

Environmental Assessment

COOPERATING
AGENCY

US Army Corps of Engineers®

Washington, DC 20426

FEDERAL ENERGY REGULATORY COMMISSION
WASHINGTON, D.C. 20426

OFFICE OF ENERGY PROJECTS

In Reply Refer To:
OEP/DG2E/Gas Branch 4
Texas Eastern Transmission, LP
Idle Line 1 Abandonment Project
Docket No. CP17-6-000

TO THE PARTY ADDRESSED:

The staff of the Federal Energy Regulatory Commission (FERC or Commission) has prepared this environmental assessment (EA) for the Idle Line 1 Abandonment Project proposed by Texas Eastern Transmission, LP (Texas Eastern) in the above-referenced docket. Texas Eastern requests authorization to abandon in place and by removal approximately 165 miles of its Line 1 pipeline that runs from Fayette County, Ohio, to Greene County, Pennsylvania. Specifically, Texas Eastern is proposing to abandon portions of the Line 1 pipeline that were placed into idle service in 1989, including three segments of 24-inch-diameter pipeline, associated lateral lines 10-L and 10-M, metering and regulating facilities, and other related aboveground facilities. Texas Eastern has stated that abandonment of these idle facilities would not impact certificated parameters on Texas Eastern's system or affect service to existing customers of Texas Eastern.

The EA assesses the potential environmental effects of the abandonment activities for Idle Line 1 in accordance with the National Environmental Policy Act (NEPA). The FERC staff concludes that approval of the proposed project, with appropriate mitigating measures, would not constitute a major federal action significantly affecting the quality of the human environment.

The U.S. Army Corps of Engineers participated as a cooperating agency in the preparation of the EA. Cooperating agencies have jurisdiction by law or special expertise with respect to resources potentially affected by the proposal and participate in the NEPA analysis.

Specifically, Texas Eastern would abandon in place the following facilities:

- 5.03 miles of the 24-inch-diameter Line 1 from milepost (MP) 837.05 in Fayette County, Ohio to MP 842.08 in Pickaway County, Ohio (Segment 1);
- 155.37 miles of Line 1 from MP 848.33 in Pickaway County, Ohio to MP 1003.7 in Green County, Pennsylvania (Segment 2);

- 5.48 miles of Line 1 from MPs 1004.35 to 1009.83 in Greene County, Pennsylvania (Segment 3);
- 0.5 mile of Texas Eastern's 8-inch-diameter Line 10-M in Marshall County, West Virginia; and
- 0.07 mile of Texas Eastern's 4.5-inch-diameter Line 10-L in Greene County, Pennsylvania.

Two metering and regulation facilities, as well as related launcher/receiver barrels, mainline valves, and other appurtenances would also be abandoned by removal.

The FERC staff mailed copies of the EA to federal, state, and local government representatives and agencies; elected officials; environmental and public interest groups; Native American tribes; potentially affected landowners and other interested individuals and groups; and libraries in the project areas. In addition, the EA is available for public viewing on the FERC's website at www.ferc.gov using the eLibrary link. A limited number of copies of the EA are available for distribution and public inspection at:

Federal Energy Regulatory Commission
Public Conference Room
888 First Street NE, Room 2A
Washington, DC 20426
(202) 502-8371

Any person wishing to comment on the EA may do so. Your comments should focus on the potential environmental effects, reasonable alternatives, and measures to avoid or lessen environmental impacts. The more specific your comments, the more useful they will be. To ensure that the Commission has the opportunity to consider your comments prior to making its decision on this project, it is important that the FERC receives your comments in Washington, DC on or before **May 22, 2017**.

For your convenience, there are three methods you can use to submit your comments to the Commission. In all instances, please reference the project docket number CP17-6-000 with your submission. The Commission encourages electronic filing of comments and has dedicated eFiling expert staff available to assist you at (202) 502-8258 or FercOnlineSupport@ferc.gov.

(1) You can file your comments electronically by using the eComment feature, located on the Commission's website (www.ferc.gov) under the link to Documents and Filings. This is an easy method for submitting brief, text-only comments on a project;

(2) You can file your comments electronically by using the eFiling feature on the Commission's website (www.ferc.gov) under the link to Documents and Filings. With eFiling, you can provide comments in a variety of formats by

attaching them as a file with your submission. New eFiling users must first create an account by clicking on "eRegister." You must select the type of filing you are making. A comment on a particular project is considered a "Comment on a Filing"; or

(3) You can file a paper copy of your comments by mailing them to the following address:

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street NE, Room 1A
Washington, DC 20426

Any person seeking to become a party to the proceeding must file a motion to intervene pursuant to Rule 214 of the Commission's Rules of Practice and Procedures (18 CFR 385.214).[1] Only intervenors have the right to seek rehearing of the Commission's decision. The Commission grants affected landowners and others with environmental concerns intervenor status upon showing good cause by stating that they have a clear and direct interest in this proceeding which no other party can adequately represent. **Simply filing environmental comments will not give you intervenor status, but you do not need intervenor status to have your comments considered.**

Additional information about the projects is available from the Commission's Office of External Affairs, at **(866) 208-FERC**, or on the FERC website (www.ferc.gov) using the eLibrary link. Click on the eLibrary link, click on "General Search," and enter the docket number excluding the last three digits in the Docket Number field (i.e., CP17-6). Be sure you have selected an appropriate date range. For assistance, please contact FERC Online Support at FercOnlineSupport@ferc.gov or toll free at (866) 208-3676, or for TTY, contact (202) 502-8659. The eLibrary link also provides access to the texts of formal documents issued by the Commission, such as orders, notices, and rulemakings.

In addition, the Commission offers a free service called eSubscription, which allows you to keep track of all formal issuances and submittals in specific dockets. This can reduce the amount of time you spend researching proceedings by automatically providing you with notification of these filings, document summaries, and direct links to the documents. Go to http://www.ferc.gov/docs-filing/esubscription.asp.

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[1] See the previous discussion on the methods for filing comments.

ENVIRONMENTAL ASSESSMENT
IDLE LINE 1 ABANDONMENT PROJECT

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ABBREVIATIONS AND ACRONYMS

CFR	Code of Federal Regulations
Commission	Federal Energy Regulatory Commission
dBA	decibel level on the A-weighted scale
E&SCP	Texas Eastern's Erosion & Sediment Control Plan
EA	environmental assessment
EI	environmental inspector
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
FERC	Federal Energy Regulatory Commission
L_{dn}	day-night sound level
L_{eq}	equivalent sound level
MP	milepost
NEPA	National Environmental Policy Act
NAAQS	National Ambient Air Quality Standards
NOAA Fisheries	National Oceanic and Atmospheric Administration National Marine Fisheries Service
NOI	*Notice of Intent to Prepare an Environmental Assessment for the Texas Eastern Transmission Idle Line 1 Abandonment Project and Request for Comments on Environmental Issues*
NPS	National Park Service
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
ODNR	Ohio Department of Natural Resources
OEP	Office of Energy Projects
PACM	presumed asbestos-containing material
PCB	polychlorinated biphenyl
PDCNR	Pennsylvania Department of Conservation and Natural Resources
PFBC	Pennsylvania Fish and Boat Commission
Plan	FERC's *Upland Erosion Control, Revegetation, and Maintenance Plan*
PNDI	Pennsylvania Natural Diversity Inventory
Procedures	FERC's *Wetland and Waterbody Construction and Mitigation Procedures*
SHPO	State Historic Preservation Office
Spill Plan	Texas Eastern's Spill Control and Countermeasure Plan

TSCA	Toxic Control Substances Act
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

A. PROPOSED ACTION

1. Introduction

On October 28, 2016, Texas Eastern Transmission, LP (Texas Eastern) filed an application with the Federal Energy Regulatory Commission (FERC or Commission) in Docket No. CP17-6-000 for authorization under Section 7(b) of the Natural Gas Act and Part 157 of the Commission's regulations to abandon natural gas pipelines and aboveground facilities in Ohio, West Virginia, and Pennsylvania. Texas Eastern's proposed abandonment is referred to as the Idle Line 1 Abandonment Project (Project).

Texas Eastern proposes to abandon in place 165.3 miles of 24-inch-diameter Line 1 mainline pipeline and appurtenant natural gas facilities. Texas Eastern would also abandon 0.5 mile of 8-inch-diameter Line 10-M and 0.07 mile of 4.5-inch-diameter Line 10-L in West Virginia and Pennsylvania, respectively. Along Line 1, exposed pipe would be removed at 48 stream crossings and the pipeline would be cut, grouted, and capped at 46 road or railway crossings. Appurtenant natural gas facilities that would be removed include 2 metering and regulating stations, 3 launcher and receiver barrels, 19 mainline valves, and aboveground appurtenances at 3 compressor stations.

The general Project location is shown in figure 1. Appendix A provides U.S. Geological Survey (USGS) Quadrangle maps of the proposed Project.

We[1] prepared this environmental assessment (EA) in compliance with the requirements of the National Environmental Policy Act of 1969 (NEPA), the Council on Environmental Quality's regulations for implementing NEPA (Title 40 Code of Federal Regulations, Parts 1500-1508 [40 CFR 1500-1508]), and the Commission's regulations for implementing NEPA (18 CFR 380). Consistent with its NEPA and other regulatory responsibilities, the U.S. Army Corps of Engineers (USACE) is a cooperating agency[2] in the preparation of this EA. Cooperating agencies have jurisdiction by law or special expertise with respect to environmental impacts involved with a proposal.

The assessment of environmental impacts is an important and integral part of the Commission's decision-making process. Our principal purposes in preparing this EA are to:

- identify and assess the potential impacts on the natural and human environment that would result from the implementation of the Project;

[1] "We," "us," and "our" refer to the environmental staff of the Office of Energy Projects.

[2] A cooperating agency is an agency that participates in the preparation of the NEPA document to satisfy its responsibilities related to a project or due to special expertise in the project area or resources affected by the project.

- identify and recommend reasonable alternatives and specific mitigation measures to avoid or minimize environmental impacts; and
- encourage and facilitate public involvement in the environmental review process.

As such, we prepared this EA to assess the environmental impacts that would likely occur as a result of the proposed abandonment of the identified facilities. We have developed and incorporated measures into this EA that we believe would appropriately and reasonably avoid, minimize, or mitigate environmental impacts associated with the abandonment activities. This EA will be used by the Commission in its decision-making process to determine whether to authorize Texas Eastern's proposal.

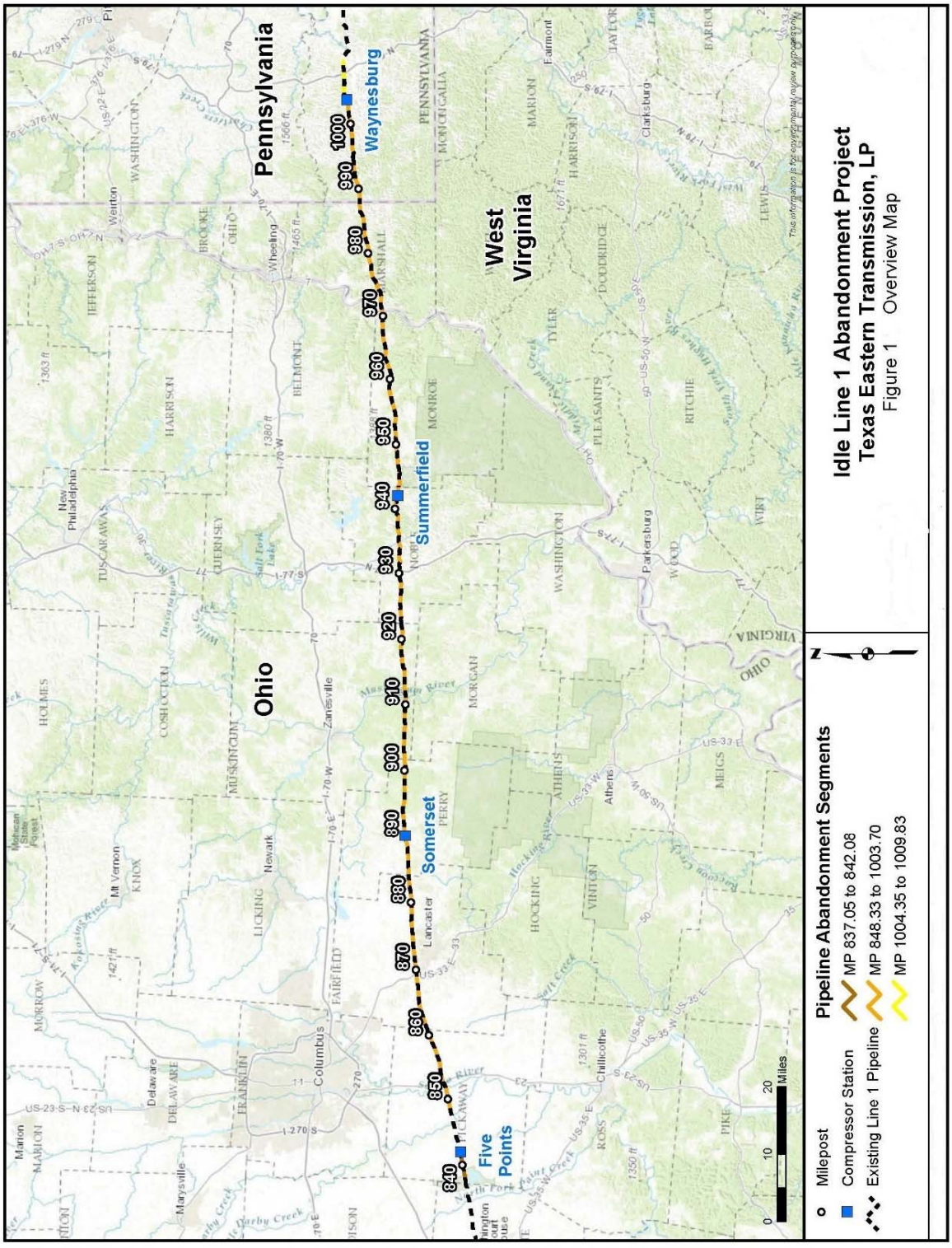

Figure 1: General Project Overview Map

2. Purpose and Need

The purpose of the Project is to abandon approximately 165.3 miles of 24-inch-diameter Line 1 pipeline within Fayette, Pickaway, Fairfield, Perry, Muskingum, Noble, and Monroe Counties, Ohio; Marshall County, West Virginia; and Greene County, Pennsylvania. Texas Eastern's Line 1 was initially constructed as an oil pipeline in the early 1940s and placed into natural gas operation in 1947 under Federal Power Commission Docket Number G-880. Line 1 was part of Texas Eastern's original system and was taken out of service in 1989 under Docket No. CP87-5-003. The purpose of this Project is to abandon the last remaining portions of these facilities that have been in idle service since 1989.

Section 7(b) of the Natural Gas Act specifies that no natural gas company shall abandon any portion of its facilities subject to the Commission's jurisdiction without the Commission first finding that the abandonment will not negatively affect the present or future public convenience and necessity. Texas Eastern states that abandonment of the idle Line 1 would not result in any impact on the certificated parameters of Texas Eastern's system, or in a reduction in service to any existing customers. In addition, abandonment would avert costs for future operation and maintenance expenditures on facilities that are no longer in service.

3. Public Review and Comment

On December 21, 2016, the Commission issued a *Notice of Intent to Prepare an Environmental Assessment for the Texas Eastern Transmission Idle Line 1 Abandonment Project and Request for Comments on Environmental Issues* (NOI). The NOI was published in the Federal Register[3] and was mailed to approximately 850 interested parties, including federal, state, and local officials; agency representatives; environmental and public interest groups; Native American Tribes; and property owners along the portion of Line 1 that is proposed to be abandoned. Written comments were requested from the public on specific concerns about the Project or environmental issues that should be considered during the preparation of the EA.

In response to the NOI, the Commission received comments from one Pennsylvania and two Ohio landowners, the USACE, the Ohio Department of Natural Resources (ODNR), and the Miami Tribe of Oklahoma. Comments are summarized below and addressed in the applicable sections of this EA. The three landowners requested additional information concerning how the proposed work would affect their property. Texas Eastern contacted each of the landowners and informed them that no Project-related abandonment activities would be occurring on their properties. The Miami Tribe of Oklahoma stated that it had no objection to the Project and requested a

[3] The NOI was published in the Federal Register on December 28, 2016 (81 *Federal Register* 95,575).

copy of any reports submitted to the State Historic Preservation Offices (SHPO) of each state. The Tribe also requested to serve as a consulting party on the Project. Details regarding cultural resources are discussed further in section B.6 of this EA. The USACE stated that the Project would require authorization under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act.

The ODNR provided information concerning the species listed under the Endangered Species Act (ESA) that could occur within the Project area. Impacts on these species are discussed further in section B.4 of this EA. The ODNR also identified that the Project would affect land within the Perry State Forest and that consultation with the Forest Manager should be undertaken. Details regarding impacts on state and federal lands are discussed further in section B.6.

4. Land Requirements

The Project would involve ground-disturbing activities that would affect 121.9 total acres. This includes 112.2 acres of existing pipeline right-of-way, appurtenant facility sites, and temporary workspace. In addition, the Project would require use of 9.7 acres of construction wareyard and 21.8 acres of temporary access roads (20.8 acres of existing roads that would need no improvements and 0.9 acre of new or improved access roads).[4] Texas Eastern's use of existing temporary access roads would primarily occur without improvement or modification and would require only limited traffic. However, these roads may require the addition of gravel or crushed stone, and tree/shrub trimming and/or isolated tree removal for vehicle or rubber tire backhoe access. No new permanent right-of-way would be required for the Project abandonment activities. The existing permanent right-of-way ranges from 50 feet wide where there is no parallel pipeline to 100 feet where the easement contains two other Texas Eastern pipelines.

A total of 124 discrete abandonment activities would take place at different types of facility locations or features, including:

- removal of 29 piping, valves, launcher/receivers, and other appurtenances from within the maintained easement or at 23 existing Texas Eastern aboveground facilities;
- abandonment in place by grouting at 7 railroad crossings;
- abandonment in place by grouting at 39 state and federal road crossings in Ohio;
- removal of pipeline sections at 38 waterbody crossings;
- removal or grouting of pipeline sections at 9 waterbody crossings; and
- grouting of the pipeline beneath the Ohio River.

[4] The sum of acres may not equal because of rounding.

The existing easement would be used for access to and removal of the aforementioned appurtenant facilities. A total of 0.6 acre of temporary workspaces that are not within an existing easement or on Texas Eastern property would be required for the Project.

Where Idle Line 1 parallels other Texas Eastern pipelines within the same right-of-way, the pipeline easement would be maintained in accordance with appropriate regulations. Where the easement contains only the abandoned Idle Line 1 pipeline, Texas Eastern would continue to own the existing easement. However, the need to conduct vegetation management or to maintain the pipeline in operating condition would cease upon abandonment.

If additional or alternative work areas are identified in the future due to changes in site-specific construction requirements, Texas Eastern would be required to file information on each of those areas for review and approval by the Director of the Office of Energy Projects (OEP) prior to use.

5. Abandonment Procedures

Texas Eastern would abandon in place the 165.9-mile-long segment of 24-inch-diameter pipeline, with the exception of 46 locations where the pipeline would be grouted and capped beneath a road or railroad; 30 locations where aboveground pipeline appurtenances such as valves would be removed, 47 locations where exposed pipe or aboveground spans would be cut and capped, and 1 location under the Ohio River where the pipeline would be grouted.

The pipeline sections to be abandoned in place include:

- 5.03 miles of 24-inch-diameter Line 1 from milepost (MP) 837.05 in Fayette County, Ohio to MP 842.08 in Pickaway County, Ohio (Segment 1);
- 155.37 miles of 24-inch-diameter Line 1 from MP 848.33 in Pickaway County, Ohio to MP 1003.7 in Green County, Pennsylvania (Segment 2); and
- 5.48 miles of 24-inch-diameter Line 1 from MPs 1004.35 to 1009.83 in Greene County, Pennsylvania (Segment 3).

In addition, Texas Eastern would abandon:

- 0.5 mile of 8-inch-diameter Line 10-M in Marshall County, West Virginia; and
- 0.07 mile of 4.5-inch-diameter Line 10-L in Greene County, Pennsylvania.

Metering and regulation facilities and related launcher/receiver barrels, mainline valves, and other appurtenances would also be removed.

Appendix B lists the 124 discrete activities required to abandon the pipeline. The abandonment activities would be completed by one crew of about 15 workers over an approximate 18 month time period commencing in June 2017. New or existing temporary access roads that would be used during the abandonment activities are provided in appendix C. The Project would be completed in accordance with all applicable requirements as defined by U.S. Department of Transportation regulations in 49 CFR 192, Transportation of Natural and Other Gas by Pipeline: Minimum Federal Safety Standards; by 18 CFR 380.15, Siting and Maintenance Requirements; and by other applicable federal and state regulations. Texas Eastern would follow industry-standard procedures for abandoning or modifying pipelines and associated facilities.

Abandonment activities would be confined to the approved areas of disturbance and conducted in accordance with FERC's *Upland Erosion Control, Revegetation, and Maintenance Plan* (Plan) and *Wetland and Waterbody Construction and Mitigation Procedures* (Procedures).[5] The Plan and Procedures are incorporated into Texas Eastern's Erosion & Sediment Control Plan (E&SCP) and will be incorporated into contract documents. Texas Eastern has requested modifications to the Procedures; these are discussed below, in section B.2.

As previously discussed, the abandonment activities that require ground disturbance have been grouped into two categories: grouting in place or abandonment by removal. Descriptions of the work to be conducted at each type of construction feature are provided below.

Construction Procedures for Pipeline Abandonment

Prior to the start of abandonment activities, Texas Eastern would mark the limits of proposed construction workspace and the locations of known underground facilities. Wetland and waterbody boundaries within each construction workspace would also be delineated and marked in the field prior to construction activities at a given location.

Minimal clearing of workspace vegetation is anticipated since construction would take place primarily within existing maintained easement. The work crew would clear the area of vegetation and any other obstacles present, such as brush or rocks. Limited tree clearing would be necessary within portions of Texas Eastern's existing easement,

[5] The FERC Plan and Procedures are a set of construction and mitigation measures that were developed to minimize the potential environmental impacts of the construction of pipeline projects in general. The FERC Plan can be viewed on the FERC internet website at http//www.ferc.gov/industries/gas/enviro/plan.pdf. The FERC Procedures can be viewed on the FERC internet website at http//www.ferc.gov/industries/gas/enviro/procedures.pdf.

but would be conducted during time windows requested by the U.S. Fish and Wildlife Service (USFWS) to avoid impacts on protected species (see section B.4). Excavation areas would be graded, if necessary, and temporary erosion and sediment controls would be installed in accordance with the E&SCP. Erosion and sediment controls would be maintained throughout construction to minimize erosion. Equipment mats would be used within construction workspace, including across wetlands to prevent compaction and where necessary to prevent soil mixing in cultivated agricultural areas.

A trench would be excavated to a depth sufficient to expose the pipeline and conduct the necessary abandonment activities. All trenching activities would take place within the existing maintained easement. At each feature, specific pipeline locations would be cut and removed or grouted and capped in place. Excavation required to expose the pipeline and remove/grout the pipe would be conducted using a track-mounted backhoe or similar equipment. The excavation activity would cover an area sufficient for work crews to safely remove facilities as indicated above and to provide a minimum of 3 feet of cover over the pipeline after completion of work.

Restoration would begin after backfilling. Construction debris would be collected from each workspace and taken to an approved disposal facility. Permanent erosion controls would be installed, where necessary, gravel surfaces would be restored, and temporary workspace would be seeded with an appropriate seed mix as identified in the E&SCP or as requested by affected landowners.

Abandonment Activities at Railroad and Roadway Crossings

The existing pipeline would be grouted under a total of 39 state roads and federal highways in Ohio, as well as 7 active railroad locations in Ohio and West Virginia (no active railroad crossings were identified within the pipeline segments to be abandoned in Pennsylvania). Highways would remain open during construction as grouting of the pipe segments would not impact the road surface. Likewise, the Project would not result in surface impacts on rail tracks, beds, or ballast.

Appropriate measures, such as posting of warning signs and flaggers, would be implemented to maintain safe conditions at road and railroad construction areas. Before abandonment activities are conducted at highway crossings in Ohio, Texas Eastern would make provisions for traffic management in work areas as required by the Ohio Department of Transportation.

The full width of the road or railroad easement crossed by Line 1 would be grouted in place using either a foam or concrete grout. A small bellhole would be excavated outside either side of the road surface or ballast at the boundary of the existing easement for the road or railroad. Line 1 would then be cut, filled with either foam or

cement slurry, and capped, whether the crossing is cased or uncased. For highway crossings, casing would not be removed when grouting roads with an existing casing. For cased crossings, all casing vents would be removed to below grade. The use of trench boxes or additional trench width may be required at the railroad/highway crossing to maintain stability of trench walls for the safety of pipeline workers and equipment.

Foam can be applied for grouting up to a 300-foot-long distance of pipe. Once the bell holes are excavated and holes are cut in the pipe section to be filled with foam, the fill process would be completed in approximately 10 to 20 minutes per side. A flexible funnel rod would be used from one side and placed in the pipe section to be filled. The funnel rod would be withdrawn as the product is injected into the annulus of the pipe. Once one side is filled, the same process would be repeated from the other side until the specified pipe length is grouted. Excavated areas would be backfilled once grouting is complete. The construction workspace associated with the railroad or road grouting locations would then be graded to preconstruction elevation and reseeded.

Abandonment Activities at Waterbody Crossings

Portions of pipeline that are clearly visible aboveground or suspended would be abandoned by removal (a total of 39 locations). Thirty two of these locations are where pipeline is exposed across a waterbody and seven locations are where the pipeline is exposed aboveground.

Nine other waterbody crossing locations where the pipeline is not exposed or suspended would either be grouted with concrete and abandoned in place or removed in accordance with U.S. Environmental Protection Agency (EPA) requirements. The Ohio River crossing would be grouted with concrete and abandoned in place.

For pipeline segments that are grouted under perennial waterbodies, including the Ohio River, the full width of the waterbody crossed by Line 1 would be grouted in place using concrete grout. A small bellhole would be excavated to the depth of the existing pipeline within uplands outside the top of bank for the waterbody. Line 1 would then be cut, cement slurry would be pumped into the pipeline filling the annulus with cement slurry, and then capped. Excavated areas would be backfilled once grouting is complete. Then, construction workspace would be graded to preconstruction elevation and reseeded. Appropriate erosion controls would be used during construction and restoration at all waterbody locations.

For removal of exposed or suspended pipe across a waterbody, Texas Eastern's abandonment activities would be accomplished using conventional construction methods for work within waterbodies in accordance with the Procedures. Where in-stream activities would be required for the removal of exposed or suspended pipe, Texas Eastern

would use a dry-ditch technique in accordance with state and federal water crossing permit requirements. The use of either a dam-and-pump or flume method would depend upon the actual conditions at the waterbody at the time of construction.

Initially, Texas Eastern would excavate a hole on each side of the waterbody to the depth of the existing pipeline. Excavation would continue to create a trench over the existing pipeline and expose the entire portion of pipe that would be removed across the waterbody. Next, the exposed portion of pipe would be cut at either end and removed from the trench for proper offsite disposal. The pipe would be removed across the full length of the waterbody along with up to 10 feet of pipe beyond the top of each bank. Support structures for these spans, if present, would also be removed to ground level. Caps or steel plates would be welded over the ends of cut pipe remaining in ground, outside of the waterbody. Last, the excavated area would be backfilled and restored to preconstruction contours. Appropriate erosion controls would be used during construction and restoration of any disturbed areas. Temporary bridges would also be installed to span waterbodies within the construction workspace and facilitate equipment access.

Abandonment Activities at Aboveground Facility Locations

Aboveground appurtenances dedicated to Idle Line 1, such as a launcher or mainline valve, would be removed to below grade at 28 discrete locations. Abandonment work at aboveground facilities would involve excavation to expose the entire appurtenance and associated pipe, cutting Idle Line 1 on either side of the appurtenance, removing the appurtenance, and then capping the line at each cut location. The disturbed area would then be backfilled and restored.

Because aboveground facility elements are located within existing fenced facilities or within portions of existing maintained easement, no clearing of trees, and little if any clearing of vegetation would be required. As necessary, gravel would be removed to expose the area for excavation. Temporary erosion and sediment controls would be installed as appropriate, in accordance with the Plan and the E&SCP. These controls would be maintained throughout the abandonment activities. No reseeding would occur for construction workspace within an existing graveled facility.

Once Idle Line 1 and its associated laterals are abandoned, five existing aboveground facilities would be entirely removed, along with the associated fencing and gravel. During restoration, these sites would be restored to surrounding conditions and land use. Line 1 would be cut and capped below grade at the boundary of these facilities and within the construction workspace. The north end of the two associated laterals would likewise be cut and capped.

Texas Eastern has developed a Spill Control and Countermeasure Plan (Spill Plan) to ensure all hazardous liquids are handled appropriately and contained within secondary containment, and contingency plans are in place in case of accidental releases of hazardous materials into the environment. As required by FERC's Plan, Texas Eastern would designate an environmental inspector (EI) during the Project removal activities who would have the authority to stop any work activity, oversee proper installation of appropriate erosion control and pollution prevention measures and evaluate their effectiveness, and ensure all applicable environmental conditions are satisfied. The EI would also be responsible for the preparation of the environmental reports.

6. Nonjurisdictional Facilities

While there are no nonjurisdictional facilities proposed to be constructed in association with the Project, appendix D provides a list of locations where Texas Eastern also plans to remove certain nonjurisdictional segments of Lines 2 and 3 and associated facilities (previously abandoned pursuant to Natural Gas Act Section 7(b) authorization) located within the same right-of-way as the idled Line 1 facilities proposed for abandonment as part of this Project. The work associated with removal of these other facilities would occur within the same construction area using the same techniques as described herein.

7. Permits and Consultations

Table 1 summarizes the permits, approvals, and consultations applicable to the proposed Project. Texas Eastern is responsible for obtaining all necessary permits, licenses, and approvals for the Project, regardless of whether they are listed in the table.

Table 1 Permits and Consultations

Administering Agency	Permit/Consultation	Status
FEDERAL		
Federal Energy Regulatory Commission	Section 7(b) Application	Under review
U.S. Army Corps of Engineers (USACE) - Huntington District	Department of the Army Permit under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act for facilities in Pickaway, Fairfield, Perry, Muskingum, Noble, and Monroe counties and for part of Monroe County, Ohio	Nationwide Permit 12 authorization request submitted to USACE on January 6, 2017.

Table 1 Permits and Consultations		
Administering Agency	**Permit/Consultation**	**Status**
USACE - Pittsburgh District	Department of the Army Permit under Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act for facilities in part of Monroe County, Ohio, Marshall County, West Virginia, and Greene County, Pennsylvania	Pre-construction notification submitted to USACE on October 31, 2016.
U.S. Fish and Wildlife Service (USFWS) - Ecological Services, Ohio Field Office	-Consultation regarding compliance with Section 7 of the Endangered Species Act -Consultation under Migratory Bird Treaty Act and Bald & Golden Eagle Protection Act -Consultation under Section 2 of the Fish and Wildlife Coordination Act	USFWS commented that Indiana bat, northern long-eared bat, running buffalo clover, and eastern massasauga may potentially occur in the Project area in Ohio.
USFWS - Ecological Services, Pennsylvania Field Office	-Consultation regarding compliance with Section 7 of the Endangered Species Act -Consultation under Migratory Bird Treaty Act and Bald & Golden Eagle Protection Act -Consultation under Section 2 of the Fish and Wildlife Coordination Act	USFWS commented that federally listed Indiana bat and northern long-eared bat may be present in the Project area.
USFWS - Ecological Services, West Virginia Field Office	-Consultation regarding compliance with Section 7 of the Endangered Species Act -Consultation under Migratory Bird Treaty Act and Bald & Golden Eagle Protection Act -Consultation under Section 2 of the Fish and Wildlife Coordination Act	USFWS provided information concerning federally listed endangered or threatened species that may be present in the Project area.
Federally Recognized Native American Tribes	**Native American Tribal Consultation**	**Responses to Correspondence sent June 27, 2016 by applicant.**
	Wyandotte Nation	No response received.
	Absentee-Shawnee Tribe of Oklahoma	No response received.
	Citizen Potawatomi Nation	No response received.
	Delaware Nation	No response received.
	Delaware Tribe of Indians	Response received July 16, 2016.
	Eastern Shawnee Tribe of Oklahoma	Response received August 12, 2016.
	Forest County Potawatomi Community	No response received.

Table 1 Permits and Consultations		
Administering Agency	**Permit/Consultation**	**Status**
	Hannahville Indian Community	No response received.
	Miami Tribe of Oklahoma	Response received July 18, 2016.
	Nottawaseppi Huron Band of the Potawatomi	Response received July 14, 2016.
	Osage Nation	Response received August 14, 2016.
	Ottawa Tribe of Oklahoma	No response received.
	Peoria Tribe of Indians of Oklahoma	No response received.
	Prairie Band of Potawatomi Nation	No response received.
	Seneca Nation of Indians	No response received.
	Seneca-Cayuga Tribe of Oklahoma	No response received.
	Shawnee Tribe	No response received.
	St. Regis Mohawk Tribe	No response received.
	Turtle Mountain Band of Chippewa Indians of North Dakota	No response received.
STATE		
Ohio State Historic Preservation Office (SHPO)	Consultation under Section 106 of the National Historic Preservation Act	Consultation letters sent December 3, 2015 and June 27, 2016. Concurrence received January 15, 2016 and August 2, 2016. Amended consultation letter submitted October 14, 2016. Concurrence received November 15, 2016.
Ohio Department of Natural Resources (ODNR)	State-listed rare, threatened, and endangered species consultation	Consultation letters sent by applicant on December 3, 2015, July 13, 2016, and October 17, 2016. The ODNR concurred with findings and no further consultation necessary.
Ohio Environmental Protection Agency	Clean Water Act Section 401 Water Quality Certification	Authorization request submitted October 31, 2016.
Ohio Environmental Protection Agency	Isolated Wetland Permit	To be submitted prior to start of construction.
Pennsylvania SHPO	Consultation under Section 106 of the National Historic Preservation Act	Consultation letters sent December 3, 2015 and June 27, 2016. Concurrence received January 6, 2016 and July 29, 2016. Amended consultation letter submitted October 14, 2016. Concurrence received October 25, 2016.

Table 1 Permits and Consultations

Administering Agency	Permit/Consultation	Status
Pennsylvania Department of Conservation and Natural Resources, Bureau of Recreation and Conservation (PDCNR)	State-listed rare, threatened, and endangered species consultation	Consultation letters sent by applicant on June 21, 2016, June 24, 2016, June 27, 2016, and September 21, 2016. The PDCNR concurred with findings and no further consultation necessary.
Pennsylvania Fish and Boat Commission (PFBC)	State-listed rare, threatened, and endangered species consultation	Consultation letters sent by applicant on June 21, 2016 and October 17, 2016. The PFBC concurred with findings and no further consultation necessary.
Pennsylvania Game Commission, Bureau of Wildlife Habitat Management (PGC)	State-listed birds and mammals species consultation	Consultation letters sent by applicant on June 27, 2016. The PGC concurred with findings and no further consultation necessary.
Pennsylvania Department of Environmental Protection, Bureau of Waterways	Clean Water Act Section 401 Water Quality Certification	Consultation letter submitted October 31, 2016.
Greene County, PA Conservation District	Section 105 Water Obstruction and Encroachment Permit	Application submitted on October 31, 2016 and amended on December 9, 2016.
Greene County, PA Conservation District	Chapter 102 Erosion & Sediment Control General Permit	Application to be submitted February 2017.
West Virginia SHPO	Consultation under Section 106 of the National Historic Preservation Act	Consultation letters sent December 4, 2015 and June 27, 2016. Concurrence received December 21, 2015 and August 2, 2016. Amended consultation letter submitted October 14, 2016. Concurrence received November 9, 2016.
West Virginia Division of Natural Resources	State-listed rare, threatened, and endangered species consultation	Consultation letters sent by applicant on April 28, 2016, May 31, 2016 and September 30, 2016. Response pending.
West Virginia Department of Environmental Protection	Clean Water Act Section 401 Water Quality Certification	Authorization letter submitted October 31, 2016.
West Virginia Department of Environmental Protection	National Pollutant Discharge Elimination System General Permit for Stormwater Associated with Oil and Gas Related Construction	Application to be submitted May, 2017.

B. ENVIRONMENTAL ANALYSIS

1. Geology and Soils

Geology

The Project crosses the Kanawha Section of the Appalachian Plateaus Province and the Till Plains Section of the Central Lowlands Province. Elevations in the Project area range from approximately 650 to 1,310 feet above mean sea level (U.S. Department of Agriculture [USDA], 2006).

The Kanawha Section is characterized by undulating low, broad ridges and swells parallel to the mountains to the east, reducing in amplitude as the plateau slopes to the west. The Till Plains are characterized by broad, level uplands between valleys that have steep sides and broad floodplains. The majority of the Till Plains lay south of the moraines deposited by the Wisconsin ice sheet (Fenneman, 1983; Fenneman and Johnson, 1946; Hunt, 1967; USGS, 2016).

Texas Eastern conducted an assessment of mineral resources within 0.25 mile of the Project area. Of the 69 active, 266 inactive, and 2 unknown status oil and gas wells identified, all but one are over 300 feet away from the Project construction areas. The remaining inactive well is 63 feet away from the nearest proposed construction area. The Project construction areas overlay several active and historic underground coal mines. However, based on the scope of the Project, no impact on existing coal mines is anticipated (ODNR, 2016; Pennsylvania Department of Environmental Protection, 2016; West Virginia Department of Environmental Protection, 2016). Project activities are not anticipated to impact the occurrence or recovery of mineral resources.

Texas Eastern conducted an assessment of potential geologic hazards in the Project area which could impact Project activities. These potential geologic hazards include the seismicity and associated soil liquefaction potential, abandoned mine subsidence, the occurrence of karst terrain, and landslides. Seismicity refers to the relative frequency and distribution of earthquakes. USGS seismicity mapping (USGS, 2014) shows that the Project area is characterized by peak ground acceleration with a 2 percent probability of exceedance in 50 years of 4 to 6 percent acceleration of gravity (g). A peak ground acceleration of 4 to 6 percent is considered as weak to moderate perceived ground shaking with light to no potential for damage.

The Project does not cross any active faults (USGS, 2006). Soil liquefaction is a phenomenon often associated with seismic activity in which saturated, non-cohesive soils temporarily lose their strength and liquefy when subjected to forces such as intense and prolonged ground shaking. Areas susceptible to liquefaction may include soils that are

generally sandy or silty and are generally along rivers, streams, lakes, and shorelines or in areas with shallow groundwater. Soil conditions necessary for liquefaction to occur are likely present in the Project area. However, due to the low potential for a seismic event that would cause strong and prolonged ground shaking, the potential for soil liquefaction to occur is very low. In summary, the seismic hazard for the Project area is low; therefore, impacts from seismic activity are not expected.

Landslides involve the downslope movement of earth materials under a force of gravity due to natural or man-made causes. Project workspaces between MPs 841 and 893 have a low susceptibility and incidence of landslides, workspaces between MPs 894 and 922 have a high susceptibility and a low incidence of landslides, workspaces between MPs 923 and 940 have a high susceptibility and moderate incidence of landslides, and workspaces between MPs 941 and 995 have a high susceptibility and incidence of landslides. Landslide hazards would be minimized by implementing measures to reduce the potential for slope failure and minimize impacts associated with erosion, such as slope breakers and sediment barriers (e.g., hay bales and silt fences). The potential for slope failure and erosion during construction would be adequately minimized by Texas Eastern implementing the measures in its E&SCP.

Soils in the Project area are well drained and, with the exception of stream crossings, groundwater is anticipated to be below the pipeline abandonment work depth. Further, the pipeline would be depressurized and abandoned in place and would not carry natural gas or any other product. As such, unanticipated seismic events, and associated potential for soil liquefaction would have no impact on the Project.

Soils

Soil information for the Project area was obtained from the USDA Natural Resources Conservation Service (NRCS) Soil Survey Geographic (SSURGO) database. A total of 43.0 acres of land in the Project area (30 percent) are classified as prime farmland soils. According to the NRCS (Soil Survey Staff, 2016b), prime farmland soils consist of soils classified as those best suited for production of food, feed, forage, fiber, and oilseed crops which generate the highest yields with the smallest amount of expenditure.

Soil impacts that could occur during pipeline abandonment activities include erosion, compaction, rutting, and mixing of topsoil with subsoil. Texas Eastern would mitigate impacts on soils during abandonment of the pipeline by implementing its E&SCP and in compliance with FERC's Plan. Soils would be restored to their preconstruction land use after the abandonment is complete and farming practices would not be precluded. Disturbances associated with abandonment activities would be temporary and workspaces would be reclaimed by re-contouring the ground surface to

match preconstruction topography, replacing segregated stockpiled topsoil and subsoils in the proper sequence to mitigate impacts on future crop production, and would reseed workspaces. Further, restoration would not be considered complete until revegetation is successful, which would ensure soil stability. Therefore, we conclude Project impacts on soils would be temporary and not significant.

2. Water Use and Quality; Wetlands

Groundwater

In the Project area, localized surficial aquifers provide the greatest water withdrawals. Project abandonment activities would not occur within areas designated by the EPA or within state-designated wellhead protection areas in Ohio and Pennsylvania (EPA, 2015a; Ohio Environmental Protection Agency, 2015; and Pennsylvania Department of Environmental Protection, 2016). One wellhead protection area overlaps approximately 2.8 acres of Project areas just east of the Ohio River in West Virginia (West Virginia Department of Health and Human Services, 2015). Project activities could include shallow excavation at discreet sites to expose pipe segments and remove aboveground structures. These excavation activities would occur at depths above the surficial aquifers. Dewatering is not anticipated during abandonment activities. Texas Eastern identified seven inactive and seven active private water supply wells within 150 feet of construction work areas in Ohio (ODNR, 2016), the closest of which would be an inactive well within the workspace. All active wells would be at least 25 feet from the construction work area. No private wells within 150 feet of construction work areas were identified in West Virginia and Pennsylvania.

Shallow, surficial aquifers are vulnerable to contamination from surface spills. To minimize the potential of inadvertent spills of fuels and oils from construction equipment, Texas Eastern would implement the measures in its Spill Plan as well as the FERC Plan and Procedures, and would designate areas for storage of hazardous materials and refueling of construction equipment. In the event that a well becomes impacted due to the Project abandonment activities, Texas Eastern would repair or replace the well or provide an alternate water source to the landowner. Due to the limited scope of the pipeline abandonment activities and the proposed response should a fuel spill occur, we conclude there would not be any significant impacts on groundwater resources.

Surface Water and Wetlands

Based on the available information from the USGS, USACE, National Oceanographic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries), USFWS correspondence with state and federal agencies, and our review, we have determined that the proposed Project would not affect NOAA Fisheries-

designated essential fish habitat or coastal zone management areas (NOAA-Office for Coastal Management, 2016). Therefore, these resources are not discussed further in this EA.

The proposed Project is located within eight sub-basins of the Ohio River Regional Watershed: Lower Scioto, Upper Scioto, Hocking, Muskingum, Little Muskingum-Middle Island, Wills, Upper Ohio-Wheeling, and Lower Monongahela (USGS, 1994). Texas Eastern inventoried the locations of surface water and wetlands that would be impacted by the Project using desktop analysis, National Wetlands Inventory maps, and field surveys. The Project would cross ten EPA-designated impaired waterbodies in Ohio, West Virginia, and Pennsylvania. These streams and causes of impairment are listed in appendix E.

Surface Waters

A total of 81 waterbodies are within Project work areas: 68 defined as minor (less than 10 feet wide at time of crossing), 13 intermediate (10 to 100 feet wide), and 1 major (greater than 100 feet wide). Twenty three of these waterbodies are ephemeral, 22 are intermittent, and 36 are perennial (see appendix E). No impacts would occur at 3 of the 81 waterbodies because an existing bridge or culverted crossing would be used. Nine of the 81 waterbodies are crossed by the Project at more than one location, for a total of 84 waterbody crossings. Of these 84 waterbody crossings, up to 48 streams would potentially require in-stream work associated with pipeline removal, 28 are within or would be crossed by construction workspace, 7 are along temporary access roads, 1 would be crossed by both an access road and construction workspace, and 1 (the Ohio River) would be avoided due to the grouting/abandoning-in-place process described in section A.5, above.

Equipment crossings would be installed to span waterbodies within the construction work areas and facilitate equipment access. Equipment crossings would consist of clean rock fill and culverts; or equipment pads, wooden mats, and/or culverts. Where culverts are used for an equipment crossing, devices would also be placed at the outlet to prevent scouring of the stream bottom, if necessary. Equipment crossings would be installed during and after clearing to minimize streambed disturbance and downstream siltation. An estimated 78 waterbody crossings would require equipment crossings, including the 48 streams that potentially require in-stream work. After equipment crossings are established, construction equipment would not be permitted to drive through the waterbody for access, and the equipment crossings would be removed once access in the area is no longer needed. No waterbodies are within or would be crossed to access the Mt. Braddock Wareyard.

The Scioto River and Big Darby Creek are both on the Nationwide River Inventory and are crossed by the Line 1 centerline within the pipeline segments proposed for abandonment (National Park Service [NPS], 2016). In addition, where Line 1 crosses Big Darby Creek, the Creek is a federally designated Wild and Scenic River (Interagency Wild and Scenic River Council, 2016). However, both crossings would be abandoned in place without grouting, and the waterbodies or their banks would not be impacted by the Project. The Project crosses the Ohio River, which is a USACE River and Harbors Act of 1899 Section 10 Navigable Water. In this location the pipeline segment under the Ohio River would be abandoned in place through grouting, and Project activities would not disturb the waterbody or its banks.

Texas Eastern contacted the Ohio Environmental Protection Agency to obtain location data for public surface water intakes in Ohio. A number of Drinking Water Source Protection Areas are crossed by the Project in Ohio. Eight active public surface water supply intakes are within 3 miles of the Project work areas in Ohio. No surface water intakes were identified within 3 miles of the Line 1 construction workspace in West Virginia or Pennsylvania.

Where in-stream activities would be required for the removal of exposed or suspended pipe, Texas Eastern would use a dry-ditch crossing technique in accordance with state and federal water crossing permit requirements. The use of either a dam-and-pump or flume method would depend upon the actual conditions at the waterbody at the time of construction.

Abandonment activities could result in impacts on waterbodies by causing disturbance in stream channels and adjacent slopes and banks. Clearing and grading of stream banks, equipment crossing, in-stream excavation, trench dewatering, and backfilling could all result in temporary, local modifications of aquatic habitat by causing erosion, sedimentation, and turbidity, inadvertent release of chemical contaminants such as fuel or lubricants, and decreased dissolved oxygen concentrations. However, these impacts would be short-term and the waterbody would return to pre-construction conditions shortly after stream restoration activities are completed. Texas Eastern does not anticipate the need for blasting in association with the Project.

Concrete grout would be used to abandon portions of pipe in place, including the existing crossing of the Ohio River. Grouting of existing pipeline segments under waterbodies would not directly impact the bed or banks of the waterbody. However, to minimize potential impacts of unintended releases of concrete into a nearby surface water or wetland, Texas Eastern would closely monitor grouting activities and take necessary steps to halt activities as needed. Any inadvertent releases would be small and localized in nature. As necessary and feasible, Texas Eastern would remove any unintended releases of concrete.

Typically, equipment refueling and lubricating would take place in upland areas that are at least 100 feet from the edge of the waterbody and adjacent wetlands. However, certain instances, such as use of water pumps, may require equipment refueling and lubricating in or near waterbodies. Texas Eastern's Spill Plan addresses the proper handling of fuel and other materials associated with the Project near sensitive resource areas, including the use of secondary containment systems for any stationary motorized equipment within 100 feet of waterbodies. Further, Texas Eastern has requested modifications to sections V.B.2.a and VI.B.1.a. of the FERC Procedures for 16 construction workspaces that would be within 50 feet of a wetland and/or waterbody. Due to the location of the existing features to be grouted or pipeline sections to be removed, placement of construction workspace cannot avoid all waterbodies and wetlands. Appendix F lists each location where Texas Eastern requests a modification from the Procedures and provides site-specific justifications for each request. We find these justifications to be acceptable.

Following construction, Texas Eastern would restore stream banks to preconstruction contours and stabilize the waterbody bed and banks using a native seed mixture, installation of erosion control blankets, or installation of riprap materials, as appropriate. Abandonment activities would occur within the appropriate timeframes for warmwater fisheries and in accordance with applicable permit restrictions (see sections B.3. and B.4. of this EA). Prior to construction, Texas Eastern would obtain Section 401 Water Quality Certification from the applicable state agencies. Based on Texas Eastern's proposed construction and mitigation measures, adherence to its E&SCP and Spill Plan, and compliance with conditions of any additional permits, we conclude that the Project's impacts on waterbodies would be temporary and not significant.

Wetlands

Wetlands are areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation adapted for life in saturated soil conditions. Wetlands can be a source of substantial biodiversity and serve a variety of functions that include providing recreational opportunities, wildlife habitat, controlling floodwaters and improving water quality by filtering out pollutants.

Texas Eastern conducted desktop analysis and field surveys to identify wetlands in the Project area utilizing the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region (Version 2.0) (USACE, 2010), the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0), and the USACE Wetland Delineation Manual (USACE, 1987) and the National Wetland Inventory (Cowardin, 1979).

A total of 34 palustrine emergent wetlands in Ohio and West Virginia would be impacted by abandonment activities: 30 would be located within construction workspaces, 3 would be crossed by temporary access roads, and one would be crossed by both a temporary access road and a construction workspace. Of the 31 wetlands within construction workspaces, 19 would be impacted by excavation areas, 7 are within the existing right-of-way and would be used to access construction workspaces, and 5 would be impacted by both. While workspaces would be situated at least 50 feet from a wetland or waterbody whenever possible, placement of construction workspaces may need to be within this 50-foot setback because of the location of existing features. As previously mentioned, Texas Eastern has requested modifications to sections V.B.2.a and VI.B.1.a. of the FERC Procedures for 16 construction workspaces that would be within 50 feet of a wetland and/or waterbody (see appendix F). No wetlands are within proposed construction workspaces in Pennsylvania.

Clearing and grading of wetlands, trenching, backfilling, and trench dewatering can affect wetlands through the alteration of wetland vegetation, topsoil mixing, and hydrology; loss or change to wildlife habitat; erosion and sedimentation; and accidental spills of fuels and lubricants. The clearing of the construction workspace adjacent to and within a wetland, and grading in adjacent upland areas, can cause erosion of soil and the deposition of sediment into the wetland. Compaction of soil by construction equipment can affect runoff and may contribute to erosion and sedimentation.

The alteration of wetland vegetation is the primary impact of abandonment activities on wetlands. Impacts on emergent wetlands would be temporary as the land would be returned to pre-construction contours, and vegetation is expected to fully regenerate to pre-construction conditions within one to three years. To minimize impacts during clearing activities, Texas Eastern would cut the existing wetland vegetation to ground level, leaving existing root systems intact. Erosion and soil compaction within a wetland would be minimized by the use of equipment mats or timber riprap within construction workspaces if wetland soils are not excessively saturated at the time of construction and can support construction equipment. Erosion would further be minimized by the installation of temporary erosion control devices between the upland construction areas and the wetland to limit the potential for soil to leave the construction workspaces or enter a wetland. Texas Eastern would allow wetlands impacted during construction to return to pre-construction conditions.

The E&SCP includes measures for re-establishing herbaceous and/or woody species, controlling the spread of noxious weeds and invasive species, and monitoring the success of the revegetation and weed control efforts. Lastly, to minimize the risk of inadvertent spills of fluids used during construction, Texas Eastern would implement measures in its Spill Plan, which include storing hazardous materials, chemicals,

lubricating oils, and fuels at least 100 feet from wetland boundaries and not parking equipment within 100 feet of wetland boundaries.

Relevant state and federal permits for abandonment activities in and around wetland areas are included in table 1. Based on Texas Eastern's construction and mitigation measures, adherence to its E&SCP and our Procedures, and compliance with permit requirements, we conclude that impacts on wetlands would be adequately minimized and would not be significant.

3. Vegetation, Wildlife, and Fisheries

Vegetation

Project abandonment activities would primarily affect agricultural land, open land and forest. Agricultural land consists of both cultivated (e.g., row crops) and uncultivated land (e.g., pasture, hay meadows). Open land consists of cover that is non-forested and non-industrial cleared land, including maintained utility easement corridors and lawns, which are typically covered by various grasses and herbaceous plants. Forest consists of land cover that is evergreen-dominated forest, deciduous-dominated forest, mixed evergreen/deciduous forest, and woodlots. Typical tree species found along the existing Line 1 corridor include maples, oaks, ash, and beeches.

Texas Eastern's consultations with the ODNR indicate that three abandonment locations are located within two areas of state-owned land: Wolf Run State Park and Perry State Forest. However, neither park is known to contain any unique, sensitive, or significant ecological communities. No tree clearing is proposed within the parks, and all Project activities would take place within Texas Eastern's existing rights-of-way.

In total, Texas Eastern would affect 28.6 acres of agricultural land, 65.5 acres of open land, and 4.5 acres of deciduous forest by Project abandonment activities. Vegetation removal would include a maximum of 4.5 acres of tree clearing. All tree clearing would be conducted within Texas Eastern's existing easement, except for less than 0.1 acre of tree clearing within a portion of temporary workspace at AF-962.01, which is located adjacent to the existing, maintained pipeline easement. Trees, brush and limbs would be removed or cut into lengths and then may be disposed of by chipping or burning (depending on local and state restrictions, permits and landowner approval).

Areas disturbed by the Project would be restored to pre-abandonment conditions in accordance with Texas Eastern's E&SCP. Disturbed areas would be reseeded with the appropriate seed mixes, rates, and dates as coordinated with landowners and local land management agencies. The herbaceous vegetation impacts in the temporary workspaces and permanent right-of-way workspaces would be short-term (typically one to three

growing seasons). These areas would be allowed to revert to pre-construction use for the full width of the right-of-way. Impacts on forest vegetation would be long-term (up to 30 years) in the temporary workspaces. Texas Eastern does not plan to do any vegetation maintenance following abandonment activities; however, vegetation within the right-of-way for the adjacent Lines 2 and 3 would be maintained in accordance with appropriate state regulations.

Based on Texas Eastern's proposed construction and mitigation measures, we conclude that Texas Eastern would minimize impacts on vegetation to the greatest possible extent. We conclude that impacts on vegetation from the proposed Project would not be significant.

Pollinator Habitat

On June 20, 2014, President Barack Obama signed the Presidential Memorandum Creating a Federal Strategy to Promote the Health of Honey Bees and Other Pollinators (The White House--Office of the Press Secretary, 2014). According to the memorandum, "there has been a significant loss of pollinators, including honey bees, native bees, birds, bats, and butterflies, from the environment." The memorandum also states, "given the breadth, severity, and persistence of pollinator losses, it is critical to expand Federal efforts and take new steps to reverse pollinator losses and help restore populations to healthy levels." In response to the Presidential Memorandum, the federal Pollinator Health Task Force published a National Strategy to Promote the Health of Honey Bees and Other Pollinators in May 2015. This strategy established a process to increase and improve pollinator habitat.

The Project would temporarily impact about 70 acres of pollinator habitat including upland open land, forested land, and emergent wetland. The temporary loss of this habitat would increase the rates of stress, injury, and mortality experienced by honey bees and other pollinators. Texas Eastern would revegetate temporary construction workspaces immediately after abandonment activities are completed with herbaceous and riparian seed mixes developed in consultation with landowners and local land management and/or resource agencies. Once revegetated, the restored workspace and permanent rights-of-way could provide pollinator habitat in the Project area.

On January 25, 2017, the USFWS commented that revegetation of disturbed areas should include nectar-producing plants and milkweed endemic to the area in order to assist butterflies, bees, and other pollinators. To ensure impacts on pollinator habitat are sufficiently minimized and consistent with the USFWS recommendation and Presidential Memorandum and subsequent strategy regarding pollinators, **we recommend that:**

- **Prior to commencement of abandonment activities, Texas Eastern should file with the Secretary of the Commission (Secretary) a plan describing the feasibility of incorporating plant seeds that support pollinators into the native seed mixes used for restoration of construction workspaces. The plan should also describe Texas Eastern's consultations with the relevant federal and/or state agencies.**

Invasive Species and Noxious Weeds

Invasive species are those that display rapid growth and spread, becoming established over large areas (USDA, 2006). Most commonly, invasive species are exotic species that have been introduced from another part of the United States, another region, or another continent, although some species that exhibit rapid growth and spread are also considered invasive. Similar to invasive species, noxious weeds are defined as those that are injurious to commercial crops, livestock, or natural habitats, and typically grow aggressively in the absence of natural controls (USDA, 2016c). Noxious weeds are frequently introduced but occasionally are native. Noxious weeds and invasive species can change or degrade natural vegetation communities which can reduce the quality of habitat for wildlife and native plant species.

To date, Texas Eastern has identified populations of non-native invasive species within the proposed construction workspace including, but not limited to, autumn olive, garlic mustard, and Japanese knotweed. Removal of existing vegetation and disturbance of soils during construction of the Project could create conditions conducive to the establishment of noxious weeds and invasive species. However, construction workspaces for the Project are primarily within fencelines of existing facilities or within the existing pipeline easements or maintained property. Project activities would take place at individual, discrete sites and would not require a continuous corridor of ground disturbance along the entire pipeline easement. Site access would be from existing public and private roads or along maintained areas, mainly utility easements. Therefore, the potential to transfer noxious weeds between sites is limited and unlikely. Texas Eastern has incorporated measures to minimize the introduction of noxious weeds and invasive species in its E&SCP. All disturbed areas would be revegetated in accordance with Texas Eastern's E&SCP.

Wildlife

The Project area is predominantly open land, agricultural land, and forest. The forest habitat type may provide foraging and cover habitat for many species of raptors and other birds, as well as mammals, including bats, deer, and coyotes. Waterbodies in the Project area are designated as warmwater fisheries (addressed below).

Project abandonment activities could result in short-term impacts on wildlife including the displacement, stress, injury, and mortality of some mammals, reptiles, birds, and amphibians that are unable to leave the work areas. Although individuals of some wildlife species would be affected by the Project, most of the impacts on wildlife would be short-term and limited to the construction period. The Project would not permanently alter the character of available habitats. Areas adjacent to Project sites provide similar and ample habitats for wildlife displaced during abandonment activities.

Abandonment activities at all Project sites would be conducted entirely within Texas Eastern's existing rights-of-way, including existing fenced facilities or existing pipeline easements, with the exception of six locations of temporary workspace within primarily disturbed areas. Effects on most upland and wetland habitats disturbed by abandonment activities would be temporary, and these areas are expected to recover quickly once construction and restoration is completed. Disturbed areas would be seeded with native seed mix promptly after abandonment activities are completed. In addition, Texas Eastern has proposed to avoid impacts on several waterbodies and adjacent land by abandoning the pipe in place instead of removing it. Lastly, to minimize impacts on vegetation and wildlife habitat, Texas Eastern would implement the measures specified in its E&SCP. Based on the proposed avoidance, minimization, and restoration measures, we conclude that abandonment activities associated with the Project would not have a significant impact on local wildlife populations or habitat.

Migratory Birds

Migratory birds are species that nest in the United States and Canada during the summer, and make short- or long-distance migrations for the non-breeding season. These migratory species fly to and from the tropical regions of Mexico, Central and South America, and the Caribbean.

Migratory birds are protected under the Migratory Bird Treaty Act (16 U.S. Code 703-711), and Bald and Golden Eagles are additionally protected under the Bald and Golden Eagle Protection Act (16 U.S. Code 668-668d). The Migratory Bird Treaty Act prohibits the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, or nests unless authorized by the USFWS. Executive Order 13186 directs federal agencies to identify where unintentional take is likely to have a measurable negative effect on migratory bird populations and avoid or minimize adverse impacts on migratory birds through enhanced collaboration with the USFWS. Executive Order 13186 emphasizes species of concern, priority habitats, and key risk factors, and that particular focus should be given to population-level impacts.

In addition to the above, the USFWS and FERC established a *Memorandum of Understanding between the Federal Energy Regulatory Commission and the U.S.*

Department of the Interior United States Fish and Wildlife Service about Implementation of Executive Order 13186, "Responsibilities of Federal Agencies to Protect Migratory Birds" in 2011. According to this memorandum, the USFWS and FERC have agreed to integrate bird conservation principles, measures, and practices into agency actions, avoid or minimize the take of migratory birds and adverse effects on their habitat, improve habitat conditions for migratory birds on lands affected by energy projects, and prevent or reduce pollution detrimental to migratory birds and their habitats. Part of FERC's commitment includes evaluating project-related impacts on species deemed most important or sensitive in a particular project area.

The USFWS has also established a list of Birds of Conservation Concern, which is a subset of migratory bird species that have particular management challenges, including human-interest conflicts and low population numbers. The Project spans three Bird Conservation Regions: the Eastern Tallgrass Prairie, the Lower Great Lakes/St. Lawrence Plain, and the Appalachian Mountains Region.

Potential impacts on nesting migratory bird species include direct impacts on nesting birds; noise generated during construction which could disturb nesting birds; and loss of wooded habitat, including temporary removal of vegetation, which could cause nesting species to relocate to other suitable habitat. Texas Eastern proposes to start abandonment activities as soon as possible after a Commission approval. Based on USFWS recommendations, Texas Eastern would conduct vegetation clearing between October 1 and March 31; this would avoid impacts on nesting birds. However, if construction activities were delayed past this seasonal window, Texas Eastern would consult with USFWS before clearing any vegetation. The potential for the Project to impact migratory birds and their habitat is minor because of the small amount of bird habitat that would be disturbed. The Project would disturb 4.5 acres of forested land and 65.5 acres of open land. The remainder would be agricultural or disturbed lands.

In addition to the Migratory Bird Treaty Act, the bald eagle receives protection under the Bald and Golden Eagle Protection Act. Bald eagle nesting in the northern United States generally occurs from October through August. No nest sites were documented during field reviews conducted by Texas Eastern for the Project in 2015 and 2016. If a bald eagle nest is discovered within 660 feet of proposed Project activities, Texas Eastern states that it would take appropriate actions in accordance with the USFWS' National Bald Eagle Management Guidelines (USFWS, 2007).

Given the seasonal clearing restriction, the limited area of disturbance (particularly forested areas), the high proportion of adjacent similar habitat associated with abandonment of the Project facilities, along with a commitment to communicate with the USFWS, as required, we conclude that the Project would not significantly affect bald eagles and other migratory birds.

Fisheries

Based on the information available, correspondence with state and federal agencies, and our review, we have determined that the proposed Project would not affect wild trout streams, cool or cold water habitats, or as mentioned previously, NOAA Fisheries-designated Essential Fish Habitat.

Eight of the waterbodies within the Project work areas in Ohio are designated warmwater fisheries. In-stream work is proposed at 17 crossings of 14 different perennial warmwater streams in order to grout or remove portions of pipe, including one high quality water crossing in West Virginia. Two of the nine waterbodies within the Project work areas in Pennsylvania are designated trout-stocking fisheries. In-stream work is proposed at these two fisheries to remove exposed portions of pipe.

In-stream equipment crossings and removal of vegetation could cause a temporary increase in turbidity (water cloudiness from suspended silt and clay), which can also increase the turbidity downstream of the work area. The removal of stream bank vegetation at equipment bridge sites could affect aquatic species by reducing shade, as well as reducing egg deposit and refuge areas. Water temperature increases from construction are not likely as clearing for waterbody crossings would be minimal. Abandonment activities involving pipeline removal could also pollute the water or kill fish larvae. In-stream equipment crossings would occur within a limited timeframe and be restricted to one pass per vehicle to reduce the in-stream impacts, including sedimentation. The majority of fish populations could move to similar adjacent habitats up or downstream during construction; however, the stress, injury, or death of individual fish may still occur.

Texas Eastern would use construction mitigation measures outlined in its E&SCP to minimize impacts on waterbodies and fisheries. These mitigation measures include reducing the size of workspaces near waterbodies where possible, maintaining buffers of vegetation around waterbodies to prevent run-off from entering waterbodies, and installing erosion control devices. After the abandonment, Texas Eastern would recontour stream banks to pre-construction conditions and stabilize them, which would reduce erosion and long-term impacts on fisheries.

Texas Eastern would conduct abandonment activities in or near waterbodies within appropriate timeframes for warmwater fisheries and in accordance with applicable permit conditions. In Ohio and Pennsylvania, Texas Eastern would conduct abandonment activities during the in-stream work time window recommendations to minimize impacts on state-listed fish species (see section B.4.). It is anticipated that the West Virginia Department of Natural Resources would require an in-stream work timing

restriction from April through June to minimize impacts on spawning fish; however, per the FERC Procedures, section V.B.1, Texas Eastern would be required to conduct in-stream work in warmwater fisheries from June 1 through November 30, unless expressly permitted or further restricted by the appropriate federal or state agency in writing.

Texas Eastern would comply with its Spill Plan and E&SCP to minimize impacts on fishery resources. Based on the proposed construction methods, implementation of the proposed avoidance and minimization measures, and the limited extent and duration of bridge construction, we conclude that the Project would not cause any long-term or significant impacts on fisheries.

4. Special Status Species

Special status species are those species for which state or federal agencies provide an additional level of protection by law, regulation, or policy. Included in this category are federally listed and federally proposed species that are protected under the ESA, or are considered as candidates for such listing by the USFWS, and those species that are state-listed as threatened or endangered.

Federally Listed Species

Texas Eastern, as a non-federal representative to the FERC, consulted with the USFWS Pennsylvania Field Office, West Virginia Field Office, and Ohio Field Office to identify the potential for the Project to affect federal endangered and threatened species, species of special concern, and critical habitats. The Indiana bat, northern long-eared bat, American burying beetle, scioto madtom, and seven mussel species were identified as having the potential to occur within the Project vicinity. Appendix G identifies and summarizes status and suitable habitat for federally listed species potentially occurring in the Project area.

Texas Eastern reviewed the Pennsylvania Natural Diversity Inventory (PNDI) regarding construction work areas within the jurisdiction of the USFWS Pennsylvania Field Office. As a result of the PNDI reviews (dated September 20, 2016, June 20, 2016, April 27, 2016, and April 25, 2016), Texas Eastern found no potential impacts on federally listed species in Pennsylvania, and that no further consultation with the Pennsylvania Field Office is required. However, on January 25, 2017, we received subsequent correspondence from the Pennsylvania Field office, and this is discussed below.

Texas Eastern initiated consultations for the Project directly with USFWS field offices in Ohio and West Virginia in December 2015, and sent updated Project information to each office on July 13, 2016. In addition, Texas Eastern added one

additional workspace in West Virginia along the associated lateral Line 10-M, referred to as Feature AF-10M-714.10. Texas Eastern submitted a supplemental consultation request to the USFWS West Virginia Field Office regarding this location on September 26, 2016.

In a letter dated January 25, 2017, the USFWS Pennsylvania and Ohio Field Offices provided additional comments in response to our NOI. In this letter, the Pennsylvania Field Office identified that the Project lies within the range of the Indiana bat and the northern long-eared bat. The Ohio Field Office mentioned that, in addition to the Indiana bat and the northern long-eared bat, an additional two species, running buffalo clover and eastern massasauga may potentially occur in the Project area in Ohio. Further, the Ohio Field Office mentioned that the Project lies within the range of the eastern hellbender, a federal salamander species of concern. Further, it recommended surveys be conducted to determine the presence or probable absence, identify if the proposed Project directly or indirectly impacts suitable hellbender habitat, and to do so in coordination with the ODNR. Both offices requested more information in order to complete a more thorough review of the Project's impacts on federally listed species.

Texas Eastern provided the requested information to the USFWS Ohio Field Office on February 2, 2017. On February 3, 2017, the USFWS confirmed that its letter dated August 9, 2016 is still valid. This letter stated that by adhering to the recommended tree clearing window of October 1- March 31, impacts on federally listed bats would be avoided, and no impacts on other listed species in Ohio are anticipated. In addition, the USFWS clarified that a paragraph included in the USFWS letter dated January 25, 2017 about pre-construction clearing outside of migratory bird nesting season did not pertain to the Project and should be disregarded. Texas Eastern provided the requested information to the USFWS Pennsylvania Field Office on February 14, 2017. No response has been received to date.

The Project would not involve disturbance at the Muskingum, Scioto, or Little Miami rivers; therefore, the Project would have *no effect* on the scioto madtom. The Project would not impact streams with suitable habitat for any of the seven mussel species; therefore we conclude that the Project would have *no effect* on these mussel species. Because the Project would not cross any beetle reintroduction areas, the Project would have *no effect* on the American burying beetle. No in-water work is proposed in a perennial stream of sufficient size, therefore the Project is not likely to impact the eastern hellbender.

The rusty patched bumblebee was listed as endangered under the ESA on March 21, 2017. According to a search of USFWS data, the rusty-patched bumblebee is not known or believed to occur in any of the counties in Ohio or Pennsylvania where the

Project would occur, or in the state of West Virginia (USFWS, 2017). Therefore, we conclude the Project would have *no effect* on the rusty patched bumble bee.

Indiana Bat and Northern Long-eared Bat

The Indiana bat is a federally listed endangered species that may use the Project area for foraging and roosting between April 1 and November 15. Indiana bat summer foraging habitats are generally defined as riparian, bottomland, or upland forest, and old fields or pastures with scattered trees. Roosting/maternity habitat consists primarily of live or dead hardwood tree species which have exfoliating bark that provides space for bats to roost between the bark and the bole of the tree. Tree cavities, crevices, splits, or hollow portions of tree boles and limbs also provide roost sites.

The northern long-eared bat is a federally listed species that is threatened by white-nose syndrome. Similar to the Indiana bat, northern long-eared bat foraging habitat includes forested hillsides and ridges, and small ponds or streams. Northern long-eared bats are typically associated with large tracts of mature, upland forests with more canopy cover than is preferred by Indiana bats. Northern long-eared bats seem to be flexible in selecting roosts, choosing roost trees based on suitability to retain bark or provide cavities or crevices, and this species is known to use a wider variety of roost types than the Indiana bat. Males and non-reproductive females may also roost in cooler places, like caves and mines. This bat has also occasionally been found roosting in structures like barns and sheds.

Indiana bats and northern long-eared bats use caves or mine portals for winter hibernation between November 15 and March 31. These species also use the hibernacula and the areas around them for fall warming and spring-staging activity (August 15 to November 14 and April 1 to May 14, respectively). Some males have been known to stay close to the hibernacula during the summer and may use the hibernacula as summer roosts. There may be other landscape features being used by northern long-eared bats during the winter that have yet to be documented (USFWS, 2016c).

In an email correspondence on August 9, 2016, the Ohio USFWS stated that if Texas Eastern implemented seasonal tree cutting between October 1 to March 31, USFWS would not anticipate adverse effects to any federally endangered, threatened, proposed, or candidate species. In correspondence dated July 28, 2016, the West Virginia USFWS determined the Project is not likely to adversely affect the Indiana bat because the Project would affect less than 17 acres of potential Indiana bat foraging or roosting habitat, construction activities would not take place within any known Indiana bat hibernacula or summer use buffers, or would affect any caves or mines that could be used as hibernacula for this species. In an email dated October 18, 2016, in response to Texas Eastern's updated Project scope, the USFWS West Virginia Field Office stated

that because changes to the Project plans are minor and do not require additional tree clearing, these changes would not adversely affect federally listed endangered or threatened species. Texas Eastern proposes to conduct clearing of trees in Ohio measuring less than or equal to 3 inches diameter-at-breast-height between October 1 and March 31 and they agree to limit tree clearing in West Virginia to less than 17 acres.

Work would be primarily conducted within previously disturbed areas, including existing industrial facilities and easements within maintained open land, and the Project would not impact caves or mines. Several small areas of tree clearing would be necessary; however, these areas are within existing permanent rights-of-way and/or adjacent to maintained utility corridors. Lastly, Texas Eastern would adhere to the October 1 to March 31 tree clearing window recommended by USFWS. Therefore, we conclude that the Project *is not likely to adversely affect* both the Indiana bat and Northern long-eared bat.

In compliance with Section 7 of the ESA, we are requesting concurrence from the USFWS (Ohio, West Virginia, and Pennsylvania offices) for the Project-related impacts on federally listed species. Because this consultation has not yet been completed for two species (Indiana bat and northern long-eared bat), **we recommend that**:

- **Texas Eastern should not begin abandonment activities <u>until</u>:**

  a. FERC staff receives comments from the USFWS regarding the proposed action;

  b. FERC staff completes any necessary Section 7 consultation with the USFWS; and

  c. Texas Eastern receives written notification from the Director of OEP that construction and/or use of the mitigation (including implementation of conservation measures) may begin.

<u>State-listed Species</u>

West Virginia does not have a dedicated program that designates protection of state-listed species. Instead, West Virginia defers to the USFWS' list of federally listed threatened and endangered species. However, all native freshwater mussels species are protected in the state of West Virginia. In-stream work would be conducted in Grave Creek at ST-976.30, a stream identified as having potential native mussel habitat. However, a correspondence from West Virginia Division of Natural Resources on August 26, 2016, identified that surveys were recently conducted near the Project's crossing location and did not indicate mussels were present. As a result, a mussel survey is not required for the Project, and no impacts to native mussels in West Virginia are expected.

In a letter dated August 30, 2016, the ODNR identified a total of 40 state-listed species, including a number of state-listed mussel species, as potentially present within the Project area in Ohio. Mussel surveys and associated mussel relocations per the Ohio Mussel Survey Protocol were completed at crossings of the Ohio Canal and Little Rush Creek on September 11, 2016. No federally or state listed species were identified during the survey efforts, and live mussels collected at each location were relocated upstream of the proposed impact area; therefore, it is unlikely that construction activities associated with the Project would impact populations of mussel species at these two locations. Texas Eastern submitted survey results to the ODNR; which concurred via email correspondence to Texas Eastern dated October 17, 2016.

Texas Eastern used the PNDI to review the proposed Project work areas within Pennsylvania. Several species were identified as potentially occurring within select workspace locations for the Project. Texas Eastern received responses from the Pennsylvania Game Commission, the Pennsylvania Department of Conservation and Natural Resources (PDCNR) and the Pennsylvania Fish and Boat Commission (PFBC) regarding recommendations and potential impacts to state-listed species.

As a result of PNDI reviews, the PFBC responded with concerns about the Project's potential impacts on the spotted sucker and brindled madtom. They requested that in-stream activity be conducted from May 15 to August 15 for the North Fork and South Fork Dunkard Fork crossings in order to avoid adverse impacts during the spawning season for these species. The PFBC also indicated that a rare mussel species, wabash pigtoe, was known within the North Fork of Dunkard Fork in the vicinity of Feature EL-991.59. As requested by the PFBC, Texas Eastern performed surveys at the site but did not identify wabash pigtoe within the Project work area. Several other mussel species were found and subsequently relocated outside the proposed impact area. Texas Eastern submitted to the PFBC the final report documenting mussel survey and associated salvage activities at EL-991.59, and the PFBC concurred with the survey results on October 20, 2016. No impacts on wabash pigtoe or native mussels are expected at this location.

In response to PNDI reviews, the PDCNR requested that botanical surveys be conducted for single-headed pussy-toes, yellow passion-flower, wild senna, leaf cup, and Nuttall's hedgenettle in the vicinity of Feature EL-990.98. The PDCNR also requested and that botanical surveys be conducted for the yellow passion-flower and wild senna in the vicinity of Features EL-989.32 and EL-989.30. Surveys were conducted on July 28, 2016, and no species of special concern were found. On September 22, 2016 and September 23, 2016, the PDCNR agreed with survey results and determined that no impact is likely on these species.

5. Land Use, Recreation, and Visual Resources

The Project crosses a combination of private and public lands. Table 2 shows the land uses affected by the Project.

Abandonment activities would cause ground disturbance at 109 locations, including 39 road crossings, 7 rail crossings, 48 waterbodies, as well as the removal of appurtenant facilities, including mainline valves, launcher barrels, and piping at three compressor stations. Construction activities associated with cutting and capping or removal of pipeline segments and pipeline appurtenances during the abandonment would result in temporary impacts on 134 acres of existing permanent right-of-way and 9.7 acres of temporary construction wareyard. There would be no permanent impacts on land use as a result of the abandonment Project.

Table 2 Land Uses Affected by Construction the Project (acres)							
Project Component	**Forest & Woodland**	**Agricultural**	**Open Land**	**Residential**	**Industrial / Commercial**	**Open Water**	**Total Acres**
Existing Pipeline Right-of-Way	4.5	28.3	64.9	1.5	13.0	0	112.2
Access Roads	0	0.3	0.6	0	20.9	0	21.8
Contractor Wareyard	0	0	0	0	9.7	0	9.7
TOTAL	**4.5**	**28.6**	**65.5**	**1.5**	**43.6**	**0**	**143.7**

The temporary workspaces within the existing pipeline right-of-way would make up 78 percent of the total 143.7 acres of construction workspace. With the exception of 0.6 acre of temporary workspace that would be outside the existing easement, the temporary workspaces would be entirely within the existing right-of-way and vary in dimension depending on construction needs and the topographic conditions present at each location. Texas Eastern would restore the temporary workspaces to preconstruction land use after completion of the Project. The remaining areas affected by construction consist of the access roads and wareyard.

Texas Eastern would use a total of 54 access roads (affecting about 21.8 acres), of which 45 are existing, 6 are existing but would be extended to the construction site, and 3 would be new (see appendix C). Existing access roads consist primarily of paved or gravel-covered roads. The temporary access extensions would cross open or cultivated agricultural land. No new permanent access roads would be constructed, and the new temporary access road sections would be returned to previous conditions upon completion of construction.

The abandonment activities would not impact or permanently change current land uses. In cases where facilities are removed, Texas Eastern would restore the site to the surrounding land use. Following construction activities, Texas Eastern would re-seed disturbed areas with an appropriate seed mix and allow them to revegetate. We conclude the Project would not have significant impacts on land use.

Existing Residences

The Project is in a rural area with few residences or buildings within 50 feet of the edge of the construction workspaces. A total of 16 residences are within 50 feet of proposed construction workspace. Of these, six would be within 25 feet. Texas Eastern has developed site-specific residential construction mitigation plans for these locations. These plans are included in appendix H of this EA. These plans show the typical construction area to be disturbed and the installation of construction safety fencing.

To minimize impacts on residences, Texas Eastern, in consultation with landowners, would implement the following general measures in residential areas as necessary, including the following:

- Notifying the landowner prior to the commencement of any construction activity;
- Erecting a temporary construction barrier fence between the work area and adjacent structures;
- Prohibiting hazardous liquid or fuel storage or refueling within 200 feet of a well;
- Maintaining access by vehicle to the residence throughout the abandonment process;
- Configuring the construction workspace to avoid the removal of trees where possible; and
- Restoring disturbed areas as soon as practical after completion of the abandonment activities.

Our review of these plans find that Texas Eastern's mitigation measures would adequately minimize the impacts on residents in the Project area. We encourage the owners of each of these residences to provide us comments on the plan for their property. The Project would not result in construction of new facilities; therefore, no effects on planned residential or commercial/business development would occur.

Public Land, Recreation, and Other Designated Areas

Construction workspaces for the Project would be entirely on private lands, with the exception of public road crossings, and the Perry State Forest and Wolf Run State Park, which are managed by the ODNR. There are no special land uses (such as orchards or specialty crops) within 0.25 mile of Project work areas. The Project does not cross any known federal wildlife refuges, national forests, or federal or local parks (The Nature Conservancy, 2016; USFWS, 2016; USDA-Forest Service, 2015; NPS, 2016). Texas Eastern has identified that Project activities would occur on four properties that are currently enrolled in agricultural easement programs administered by the NRCS. These

are as follows:

- Pickaway County, Ohio – one property
    - Conservation Reserve Enhancement Program & Grassland Reserve Program
- Fairfield County, Ohio – two properties
    - Conservation Stewardship Program
- Perry County, Ohio – one property
    - Conservation Reserve Enhancement Program

Texas Eastern states it will continue to consult with the USDA-NRCS and work with landowners to ensure that abandonment activities will not impact their participation in the programs in which they are enrolled.

Certain Project work areas would be within 0.25 mile of the Deer Creek State Park and Deer Creek Wildlife Area, the Muskingum River Water Trail, the Muskingum River Navigational Historic District, the Ohio River Scenic Byway, and Ryerson Station State Park.

Texas Eastern's maintained pipeline easement between MPs 894.0 and 895.4, which includes Line 1, crosses nearly 1.5 miles of the Perry State Forest in Ohio. Perry State Forest comprises 4,567 acres in Perry County and contains 24 miles of hiking trails, 8 miles of bridle trails, and 16 miles of ATV trails. Within Perry State Forest, a 0.23-acre area of construction workspace (associated with Feature AF-895.19) and a nearly 1-mile-long temporary access road (1.3 acres of disturbance) would be required for the abandonment activities. Work areas for the Project would within an area of the State Forest designated for ATV use; however, no ATV trails would be crossed or directly impacted by abandonment activities. The land cover for the work areas is open land entirely within an existing utility corridor. The vegetation in the construction workspace includes maintained grasses, forbs, saplings, and shrubs.

Temporary impacts on users of the Perry State Forest would result from the movement of equipment and noise during Project abandonment activities. The Project-related impacts would be unavoidable; however, the duration of the impacts would be short term. Project work activities are expected to last an average of 1 to 3 days to complete construction, from initial ground disturbance to cleanup and restoration. No permanent impacts on the Perry State Forest from the abandonment activities are expected to occur because construction workspace would be within the existing maintained pipeline easement and in a previously disturbed area, and the land would be returned to its previous condition. Texas Eastern would coordinate with the ODNR regarding Perry State Forest for use of the access road and to minimize disruption to visitors and staff.

The Project also crosses Wolf Run State Park which is located near the town of Caldwell in Noble County, Ohio. The park consists of 1,046 acres of woodlands surrounding Wolf Run Lake. The ODNR manages activities at the park include camping, boating, fishing, hiking, picnicking, swimming, and winter recreation. The Idle Line 1 pipeline passes through a total of 1.5 miles of Wolf Run State Park between Interstate 77 and Ohio State Route 215 between MPs 930.4 to 930.9 and MPs 930.9 to 931.9. About one-half of the construction workspace required for the work at the two roadway grouting locations would be within the Park. Approximately 0.4 acre of parkland would be needed for abandonment activities at Feature HW-931.95 along Ohio State Route 215, and 0.6 acre would be necessary for work at Feature HW-930.40 on the east side of Interstate 77. The vegetation and land cover for the workspaces within park property is maintained, vegetated uplands in open land (non-forested open space including road or utility rights-of-way).

While located within park property, these workspaces would not impact commonly used recreational areas within the park, such as trails, picnic areas and Wolf Lake. Temporary impacts on users of the state park may result from the movement of equipment and noise during Project abandonment activities. Some of the Project-related impacts would be unavoidable; however, the duration of the impacts would be short term. No permanent impacts from the abandonment activities are expected to occur because all work would be within the existing pipeline easement and in previously disturbed areas. Texas Eastern would restore all Project workspaces within the Park to pre-construction condition following completion of the grouting, and all impacts would be temporary. Texas Eastern would coordinate with the ODNR regarding construction work activities within Wolf Run State Park to minimize disruption to visitors and staff.

The Idle Line 1 Abandonment Project area is not within 0.25 mile of any federally designated natural, recreational, or scenic areas, wild and scenic rivers, national wildlife areas, national wilderness preservation system lands, Indian reservation lands, or registered natural landmarks (American Trails, 2016; National Wild and Scenic Rivers System, 2016; NPS, 2016). The Project would not cross any areas known to be used as landfills, hazardous waste sites, or quarries.

The Project would be within 0.25 mile of nine natural, recreational, and scenic areas in Ohio and two in Pennsylvania as discussed below.

Deer Creek State Park & Deer Creek Wildlife Area

The existing Texas Eastern easement enters Deer Creek State Park and Deer Creek Wildlife Area at MP 837.05 in Fayette County, Ohio and exits property for these areas at MP 838.82 in Pickaway County, Ohio. No construction activities are proposed within

Deer Creek State Park and Deer Creek Wildlife Area, however, as Line 1 would be abandoned in place with no ground-disturbing activities.

Cooks Creek Golf Course

The Cooks Creek 18-hole public golf course is situated between the Scioto River, Walnut Creek, and U.S. Highway 23 in Asheville, Ohio at approximate MP 852. A construction workspace for roadway grouting would be located in a parking area approximately 100 feet east of the golf course layout within the course property. No permanent impacts on golf course users are expected to occur as a result of Project activities because all work would take place within the existing pipeline easement and outside of the playing area. Temporary impacts on golfers could result from reduced availability of parking and the movement of equipment and noise during Project activities. Texas Eastern would coordinate with golf course management to develop plans to minimize disruption to visitors and staff.

Fairfield County Airport and Museum

The Fairfield County Airport is a public airport in Lancaster, Ohio. Project construction workspace would be located about 320 feet from the airport property boundary, which includes a historical aircraft museum. Because of the distance between the airport and workspace boundary, the short duration of construction activities at this Feature (grouting under U.S. 33-B), as well as the fact that work will occur along an existing maintained pipeline easement, no impacts on this area are anticipated.

Rockside Winery and Vineyards

Rockside Winery and Vineyard is located approximately 2 miles north of Lancaster, Ohio in Fairfield County. Texas Eastern proposes to grout the pipeline at the crossing of SR 37. Construction workspace would be sited outside of any vineyards about 690 feet from the establishment. Because of the distance between the winery and the construction workspace, short duration of construction activities at this Feature, as well as the fact that work would occur along an existing easement, no impacts on this area are anticipated.

Noll's Farm Market and Pumpkin Farm

Noll's Farm Market and Pumpkin Farm is about 3 miles southeast of Somerset in Perry County, Ohio. Construction workspace would be located about 1,425 feet from the market/farm. Because of the distance between the construction workspace and this business, the short duration of construction activities at this Feature, and the fact that work would occur along an existing easement, no impacts on this area are anticipated.

Crooksville Village Park

Crooksville Village Park is on the north side of Crooksville, Ohio. The construction workspace would be located about 100 feet from Village Park within the

existing pipeline easement. Temporary impacts on park users may result from the movement of equipment and noise during Project abandonment activities. Project-related impacts would be unavoidable; however, the duration of the impacts would be short term. Texas Eastern would coordinate with Crooksville Village Park to minimize disruption to visitors and staff.

Muskingum River Water Trail

Line 1 crosses the Muskingum River at about MP 910. The Muskingum River is a tributary of the Ohio River and was an important commercial route in the nineteenth century. The river is navigable for much its length through a series of locks and dams. The Muskingum waterway is one of the few remaining systems in the United States to use hand operated river locks and has been designated a national Historic Civil Engineering Landmark (American Society of Civil Engineers, 2016). The Muskingum River is a designated Ohio Water Trail used for motorized and non-motorized boating and recreation. The water trail is 112 miles long and accessible through multiple boat ramps and other carry-in access points. Other amenities along the trail include marinas, campgrounds, birding trail stops, ODNR public lands, and historic sites marking the Underground Railroad (ODNR, 2016).

Construction workspaces are proposed near the east bank and the west bank of the Muskingum River in Muskingum County, Ohio. No work such as grouting and removal is proposed to the idled Line 1 crossing of the Muskingum River, and no direct impacts on the river are expected to occur. No recreational amenities along the river are within 0.25 mile of the Project work area. Because the Project activities near the River would be of short duration and would have no direct impact on the Muskingum River, the Project is not anticipated to impact the recreational users of the river.

Muskingum River Navigational Historic District

The 160-year old navigation system of the Muskingum River was designated a National Historic Civil Engineering Landmark by the American Society of Civil Engineers in 2001 and, in 2007, the Muskingum River lock system was designated the first Navigation Historic District in the United States by the National Park Service; the system of lock and dams is also listed in the National Register of Historic Places (Ohio History, 2016). This navigation system originally consisted of 11 dams and 11 hand-operated wooden locks. It was built by the State of Ohio between 1837 and 1841 to link the Ohio and Erie Canal to the Ohio River.

Construction adjacent to the Muskingum River includes removal of pipeline appurtenances at aboveground facilities and grouting beneath adjacent Ohio State Route 60, with no work in or under the river. The duration of the Project activities is short term and through implementation of the FERC Plan and Procedures, no direct impacts on the

Muskingum River are anticipated from Project activities. Therefore, abandonment activities are not anticipated to impact this Historic District.

Ohio River Scenic Byway

The Ohio River Scenic Byway (Ohio State Route 7) is 943 miles long following the Ohio River through Ohio, Indiana, and Illinois. This byway follows Ohio River along much of the Ohio border, featuring scenery that includes the river valley, undeveloped land, forests, prehistoric sites, and riverfront towns. The byway crosses an area with historic ties to the Lewis and Clark Expedition, the Underground Railroad, the Civil War and presidential birthplaces.

The primary work activity at the Byway crossing at MP 970.4 would be the grouting of the pipeline beneath the Ohio River. The nearest construction workspace to the Byway abuts the west side of Ohio State Route 7, approximately 100 feet from the edge of the River. This workspace, entirely within the Texas Eastern easement, would be used during abandonment activities on the west side of the Ohio State Route 7 and the River. The construction activities on the east bank of the Ohio River in West Virginia would be more than 500 feet from the river and located on oil-field successional lands and former coal mining lands.

The abandonment activities are not anticipated to impact the Byway's use or scenic values. No direct construction impacts on Ohio State Route 7 or the Ohio River are expected. The duration of Project impacts would also be short term. Grouting of the Ohio River crossing from MPs 970.4 to 970.9 is estimated to require a week to complete.

Deer Orchard

Deer Orchard is an apple orchard located near Wind Ridge, Pennsylvania on the on Roy E. Furman Highway (Pennsylvania State Highway 21) in Greene County. The orchard is about 1,100 feet from proposed Project workspace. Because of the distance between the Project workspace and the orchard, the short duration of construction activities at this Feature, and the fact that work would occur along an existing easement, no impacts on this area are anticipated.

Ryerson Station State Park

Ryerson Station State Park, a 1,164-acre park featuring a swimming pool, campground, hiking, fishing, picnicking, hunting, and winter activities, is located in Richhill Township, Greene County, Pennsylvania. Proposed Project workspaces are less than 0.1 mile from the northwest corner of the park. No direct or permanent impacts on the Ryerson Station State Park from the abandonment activities are expected to occur because activities would are within the existing pipeline easement and in a previously disturbed area. Temporary impacts on users of the state park may result from the movement of equipment and noise during Project activities. Some of the Project-related

impacts would be unavoidable; however, the duration of the impacts would be short term. Project activities are expected to last an average of 1 to 3 days from initial ground disturbance to cleanup and restoration. Texas Eastern would coordinate with Ryerson Station State Park regarding use of the access road to minimize disruption to visitors and staff.

No natural, recreational, or scenic areas were identified within 0.25-mile of Idle Line 1 Abandonment workspaces in West Virginia.

Because all areas associated with the Project (both within the existing right-of-way and proposed temporary workspaces) would be allowed to revert to the surrounding land use, we conclude there would not be any significant impacts on special land use areas.

Visual Resources

The scenery of the Project area is a generally rural landscape with flat to rolling terrain. There are no special or unique scenic features in the affected area, or any designated scenic areas or views. Construction activities would be temporary and would not result in long-term changes to the visual landscape in the Project area. There are no plans for new aboveground facilities; therefore, no associated visual screening is proposed. As the majority of the work involves the removal of exposed pipelines crossing streams, appurtenances at 24 existing aboveground facilities, or the removal of existing aboveground facilities, the Project would result in a beneficial impact on the surrounding visual landscape.

Based on the limited scope of the Project, we conclude that the Project would have temporary impacts on visual resources during construction, but would not be significant.

6. Cultural Resources

Section 106 of the National Historic Preservation Act, as amended, requires the FERC to take into account the effects of its undertakings on properties on or eligible for listing on the National Register of Historic Places (NRHP) and to afford the Advisory Council on Historic Preservation an opportunity to comment. Texas Eastern, as a non-federal party, is assisting us in meeting our obligations under Section 106 and the implementing regulations at 36 CFR 800.

In letters dated December 3, 2015, June 27, 2016, and October 14, 2016, Texas Eastern contacted the Ohio SHPO regarding the Project, each time providing a description of the Project, the results of background research, and mapping. The multiple contacts were due to additions or revisions to the Project scope. Background research identified 13 previously recorded archaeological sites that overlapped with Project

workspaces. Eight of the sites had been recommended as not eligible for the NRHP, and five had been recommended as eligible for the NRHP. However, because the workspaces overlapping site boundaries were all within the previously disturbed pipeline corridor, and excavation associated with the Project would be confined to the existing, maintained right-of-way in these areas, Texas Eastern recommended there would be no adverse effects to these sites.

The December 3, 2015 letter also identified Line 1 as the historic "Big Inch Pipeline" constructed during World War II. The pipeline is part of the "Inch Lines Historic District," a linear multi-state historic district eligible for the NRHP. In 2000, mitigation for the pipeline (including inventory of surviving elements of the pipeline) was completed under the terms of a Programmatic Agreement, which covered all future alterations and/or updates to the pipeline, including abandonment. The June 27, 2016 letter also included an unanticipated discoveries plan.

In a letter dated January 15, 2016 (responding to the December 3, 2015 letter), the Ohio SHPO concurred that there would be "no adverse effects to historic properties," including Line 1, as a result of the Project. In a letter dated August 2, 2016 (responding to the June 27, 2016 letter), the SHPO indicated that the Project "will have no adverse effect on properties eligible for listing on the National Register," but requested some revisions to the unanticipated discoveries plan (the October 14, 2016 letter included a revised unanticipated discoveries plan). In a letter dated November 15, 2016 (responding to the October 14, 2016 letter) the Ohio SHPO indicated that the Project "will have no adverse effect on properties eligible for listing on the National Register." On November 16, 2016, the Ohio SHPO requested an additional revision to the unanticipated discoveries plan. Texas Eastern provided a revised plan addressing the SHPO's comment.

In letters dated December 3, 2015, June 27, 2016, and October 14, 2016, Texas Eastern contacted the Pennsylvania SHPO regarding the Project, providing a Project description, the results of background research, and mapping. Background research identified two previously recorded archaeological sites that overlapped with Project workspaces. Both sites had been recommended as not eligible for the NRHP. The December 3, 2015 letter also identified Line 1 as the historic "Big Inch Pipeline" (see above). The June 27, 2016 letter also included an unanticipated discoveries plan.

In a letter dated January 6, 2016 (responding to the December 3, 2015 letter), the Pennsylvania SHPO indicated the Project would have "no effect" on archaeological resources, and no further review of the "Big Inch Pipeline" was required by their office. In a letter dated July 29, 2016 (responding to the June 27, 2016 letter), the SHPO indicated the Project would have "no effect" on historic structures or archaeological resources. In a letter dated October 25, 2016 (responding to the October 14, 2016 letter),

the Pennsylvania SHPO indicated the Project would have "no effect" on historic structures or archaeological resources.

On December 4, 2015 and June 27, 2016, Texas Eastern contacted the West Virginia SHPO regarding the Project, providing a Project description, the results of background research, and mapping. Background research identified no previously recorded archaeological sites at the Project workspaces. The December 4, 2015 letter also identified Line 1 as the historic "Big Inch Pipeline" (see above). The June 27, 2016 letter also included an unanticipated discoveries plan.

In a letter dated December 21, 2015 (responding to the December 4, 2015 letter), the West Virginia SHPO indicated the Project would have "no effect" on archaeological resources, and "no adverse effect" on the historic pipeline. In a letter dated August 2, 2016 (responding to the June 27, 2016 letter), the West Virginia SHPO indicated the Project would have "no effect" on archaeological resources, "no adverse effect" on the historic pipeline, and concurred with the unanticipated discoveries plan. In addition, the SHPO requested additional documentation, which Texas Eastern provided in an October 14, 2016 letter. In a letter dated November 9, 2016, the West Virginia SHPO responded to this additional documentation and indicted the Project would have "no effect" on archaeological resources, and "no adverse effect" on architectural resources.

We agree with the SHPOs and have determined the Project would have no adverse effect on historic properties.

Texas Eastern provided an unanticipated discoveries plan for each state to the FERC and respective SHPOs. SHPO comments, to date, are noted above. We have reviewed the plans and find them acceptable.

Texas Eastern contacted the following Native American Tribes regarding the Project, and followed up with emails: Absentee-Shawnee Tribe of Oklahoma; Citizen Potawatomi Nation; Delaware Nation; Delaware Tribe of Indians; Eastern Shawnee Tribe of Oklahoma; Forest County Potawatomi Community; Hannahville Indian Community; Miami Tribe of Oklahoma; Nottawaseppi Huron Band of the Potawatomi; Osage Nation; Ottawa Tribe of Oklahoma; Peoria Tribe of Indians of Oklahoma; Prairie Band of Potawatomi Nation; Seneca Nation of Indians; Seneca-Cayuga Tribe of Oklahoma; Shawnee Tribe; St. Regis Mohawk Tribe; Turtle Mountain Band of Chippewa Indians of North Dakota; and Wyandotte Nation.

The Delaware Tribe of Indians provided information regarding its consultation fee and requested the results of the background research. The Eastern Shawnee Tribe requested site numbers for any pre-contact sites located in the workspaces for Ohio. The Miami Tribe of Oklahoma indicated it had no objection to the Project, but requested to be

consulted if any human remains or Native American cultural items were discovered. The Nottawaseppi Huron Band of the Potawatomi indicated it wished to be consulted for unanticipated discoveries and be involved in all consultations. The Osage Nation requested copies of the sites forms for 13 previously recorded sites in Ohio and Pennsylvania. Texas Eastern provided the Delaware Tribe of Indians, Eastern Shawnee Tribe, Miami Tribe of Oklahoma, and Osage Nation with the results of the background research. No other responses have been received.

We sent our NOI to these same tribes. The Miami Tribe of Oklahoma responded and offered no objection to the Project, and requested a copy of any report. The tribe also asked to be a consulting party and requested to be consulted if any human remains or Native American cultural items were discovered. The unanticipated discoveries plans provide for notification of Native American tribes in the event of an unanticipated discovery of historic properties or human remains. No other responses have been received.

7. Air Quality and Noise

Air Quality

Federal and state air quality standards are designed to protect human health. The EPA has developed National Ambient Air Quality Standards (NAAQS) for criteria air pollutants such as oxides of nitrogen and carbon monoxide, sulfur dioxide, and inhalable particulate matter. NAAQS were set at levels the EPA believes are necessary to protect human health and welfare. Volatile organic compounds and hazardous air pollutants are also emitted during fossil fuel combustion.

Measured ambient air pollutant concentration levels are used to determine the status of air quality for a given area. Areas that are at or below the NAAQS are designated as "attainment areas," whereas those areas that are above the NAAQS are designated "nonattainment areas." Those areas lacking data to determine attainment status are referred to as "unclassified areas." Attainment areas that were once in nonattainment of the NAAQS for a given pollutant, but brought back within the NAAQS, are referred to as "maintenance areas" for that pollutant.

Air Quality Control Regions have been established by the EPA in accordance with Section 107 of the Clean Air Act of 1970. These regions are defined as contiguous areas considered to have relatively uniform ambient air quality, and are treated as single geographical units. The Project is in Fairfield, Fayette, Monroe, Muskingum, Perry, Pickaway, and Noble counties, Ohio which are in attainment for all criteria pollutants; Marshall County, West Virginia which is in attainment for all criteria pollutants with the

exception of sulfur dioxide; and Greene County, Pennsylvania which is in attainment for all criteria pollutants.

There would be no operational emissions as a result of the Project, as it only includes abandonment activities. During abandonment work, a temporary reduction in ambient air quality may result from criteria pollutant emissions and fugitive dust generated by construction equipment. However, the construction equipment emissions associated with removal of minor ancillary aboveground facilities, cutting and removal of a total of 0.6 mile of exposed pipeline, and cutting, grout filling, and capping at road crossings would be insignificant. In addition, Texas Eastern would use hand tools, where possible, which would further reduce emissions.

Because this Project includes only minor construction equipment, we do not believe there would be regionally significant impacts on air quality.

Noise

The noise environment can be affected both during construction and operation of pipeline projects. The magnitude and frequency of environmental noise may vary considerably over the course of the day, throughout the week, and across seasons, in part due to changing weather conditions and the effects of seasonal vegetation cover. Two measures to relate the time-varying quality of environmental noise to its known effect on people are the 24-hour equivalent sound level (L_{eq}) and day-night sound level (L_{dn}). The L_{eq} is the level of steady sound with the same total (equivalent) energy as the time-varying sound of interest, averaged over a 24-hour period. The L_{dn} is the L_{eq} plus 10 decibels on the A-weighted scale (dBA) added to account for people's greater sensitivity to nighttime sound levels (between the hours of 10 p.m. and 7 a.m.). The A-weighted scale is used because human hearing is less sensitive to low and high frequencies than mid-range frequencies. The human ear's threshold of perception for noise change is considered to be 3 dBA; 6 dBA is clearly noticeable to the human ear, and 10 dBA is perceived as a doubling of noise.

Construction noise is highly variable. Many construction machines operate intermittently, and the types of machines in use at a construction site change with the construction phase. The sound level impacts due the construction activities would depend on the type of equipment used, the duration of use for each piece of equipment, the number of construction vehicles and machines used simultaneously, and the distance between the sound source and receptor. Nighttime noise due to construction would be limited because construction generally occurs during daylight hours, Monday through Saturday.

Because the construction activities associated with this abandonment Project are minor and temporary, we conclude that no significant noise impacts are anticipated from

construction of the proposed Project. No operational noise would occur as a result of this Project.

8. Reliability and Safety

Because Texas Eastern's abandonment activities would permanently remove the pipeline segments from service and allow the curtailment of ongoing maintenance activities, we conclude the Project would have no effect on safety of the surrounding community.

9. Polychlorinated Biphenyls and Asbestos

In 1989, the FERC Commission authorized Texas Eastern to place Line 1 into idle service under Docket No. CP87-5-003. That authorization, among other things, directed Texas Eastern to place 344.73 miles of 20- and 24-inch-diameter pipeline facilities into "idle service" by capping the ends of the lines, maintaining cathodic protection, retaining approximately 50 pounds per square inch pressure in the lines, and maintaining the facilities. The Commission authorized idling these pipelines in light of the permit issued by the EPA, under the terms and conditions of the September 30, 1988 agreement entitled "Approval to Remove Natural Gas Pipelines Contaminated with Polychlorinated Biphenyls (PCBs)," reached between Texas Eastern and the EPA.

Texas Eastern entered into a Consent Decree with the EPA on October 1, 1989, that required Texas Eastern to assess soil and groundwater at numerous sites, such as compressor stations, mainline valves, and pig launcher/receivers; and to remediate PCB-contaminated soils to achieve specific cleanup levels. These assessments included past PCB investigation/remediation at the Somerset, Summerfield, and Wind Ridge Compressor Stations, and at other associated aboveground facilities, such as meter or valve sites where abandonment of the pipeline segments for the proposed Project would take place.

Consistent with the requirements of 40 CFR 761 – Polychlorinated Biphenyls Manufacturing, Processing, Distribution in Commerce, and Use Prohibitions, approximately 19.0 miles of idled Line 1 remain classified as PCB-contaminated. Within pipeline Segment 2, perennial waterbody crossings located along the 19.0 miles of the PCB-classified system pipeline would be grouted or removed in accordance with 40 CFR 761. Specifically, the Ohio River crossing and all other perennial waterbodies along the alignment between MPs 971.0 to 990.0 would be abandoned in accordance with EPA requirements in 40 CFR 761.

Texas Eastern may remove PCB-contaminated equipment (e.g., pipe, valves, fittings) during Project activities. The abandonment by removal of any potentially PCB-contaminated existing piping or equipment would be managed in accordance with the PCB rules and regulations issued by the EPA and contained within 40 CFR 761.

Line 1 is PCB-regulated in the Project area because of the historical detection of PCBs at concentrations greater than 50 parts per million in pipeline liquids. Free flowing liquids (if present) would be removed and sampled to determine off-site disposal options. The abandoned and removed pipe would be wipe-sampled in accordance with 40 CFR Subpart M procedures to determine pipe disposal or resale options. If contaminated soils are encountered during construction, they would be managed in accordance with applicable federal and state regulations.

Line 1

Wipe samples were collected by Texas Eastern on the three segments of Line 1 between MPs 837.05 and 1009.83 to determine PCB status. These results are summarized below:

- MPs 837.05 to 970.87. PCBs were not detected at concentrations greater than 10 micrograms per 100 square centimeters (10 ug/100 cm^2) in any of the wipe samples collected. This portion of Line 1 is not PCB regulated and would be abandoned in place by sealing all ends.
- MPs 970.87 to 990.39. PCBs were detected at concentrations greater than 10ug/100 cm^2. This portion of Line 1 is PCB regulated and would be abandoned in place by sealing all ends. At perennial waterbodies, the pipeline would either be grouted with cement or removed from the waterbody.
- MPs 990.39 to 1009.83. While PCBs were detected in a limited number of samples at concentrations greater than 10 ug/100 cm^2, this portion of Line 1 is not PCB regulated based on an analysis of the arithmetic mean in accordance with 40 CFR 761.257, and would be abandoned in place by sealing all ends.

Lines 10-L and 10-M

Wipe samples of lateral lines 10-L and 10-M would be taken as part of the abandonment activities in accordance with 40 CFR 761.257. Based on the results of the wipe samples, Texas Eastern would comply with all applicable requirements and regulations in the abandonment of the pipeline(s).

For the abandoned or replaced segments of pipeline regulated under the Toxic Substances Control Act (TSCA) for PCBs, the pipeline segments would be disposed of in compliance with this act after removing free flowing liquids (if present). The removed pipe would be wipe-sampled in accordance with 40 CFR Subpart M procedures to determine removed pipe disposal or resale options.

Removed pipe with wipe sampling results less than or equal to 10µg/100 cm^2 (or 50 parts per million) PCB would be managed as scrap material. Pipe with wipe sampling

results greater than 10 µg/100cm^2 PCB with or without asbestos coating would be managed by:

- disposal at a TSCA-permitted landfill; or
- decontaminated and wipe sampled until PCB results are less than or equal to 10 µg/100cm^2 and coal tar coating would be removed.

Texas Eastern has developed procedures to ensure worker health and safety that includes the use of personal protective equipment to prevent exposure to PCBs in a Project-specific safety plan and Texas Eastern's standard operating procedures. These procedures provide for dermal and respiratory protection and methods for preventing PCB releases to the environment. Specific procedures include:

- inspecting and removing pipeline liquids;
- cutting the pipe;
- management and storage of PCB impacted material (recovered pipeline liquids and pipe); and
- methods for transporting removed PCB material to the disposal facility.

Line 1 may have coal tar coating, and because of the potential that coal tar coating contains asbestos, pipe with coal tar pipe coating would be sampled. The following steps and measures would be followed by Texas Eastern with respect to presumed asbestos-coated pipe to be removed as part of the proposed abandonment activities:

Coating Removal in Ditch

An impermeable or plastic drop-cloth would be placed in the excavated area so all areas around and beneath the pipeline are covered. The drop-cloth would extend to the edges of the pipe trench. All presumed asbestos-containing material (PACM) coatings would be removed from the pipe in accordance with safe work practices and procedures.

After all of the coating has been removed, the pipeline would be sprayed and wiped down with absorbent material. The drop-cloth used would be removed in a manner that contains and confines all coating material. Care would be taken to avoid leaving any of the coating in the excavated area. After the drop-cloth is folded and removed, it would be placed in a properly labeled waste drum lined with an asbestos disposal bag. If waste drum is not used, waste shall be double bagged, sealed, and labeled appropriately.

Any additional PACM will be placed in plastic bags sealed with duct tape so that the bags are airtight, labeled as required, and the bags stored in a designated waste storage area on the right-of-way prior to transport to the Mt. Braddock wareyard. Upon receipt at the yard, Texas Eastern would arrange for disposal. All equipment and tools would be removed from the excavated area and cleaned.

Ditch Pipe Removal

Care would be taken to minimize the abrasion of the pipe coatings and to capture dislodged pieces of pipe coating, as practicable. All pipe and pipe components excavated for removal will be wrapped with black UV 120 gauge stretch wrap, shrink wrap, or equivalent to protect the pipe coating during transportation and storage. Steel chains, hooks, or cables or other similar devices would not be used on the portion of the pipe covered with pipe coating, but may be used to connect to the ends of the pipe section after the pipe coating has been removed. Wrapping of the pipe and or pipe components would occur once the pipe is excavated and cut into less than 40 feet joints (with pipe bends cut out) but prior to loading on trucks to transport to the Mt. Braddock wareyard.

Any loose coatings that are dislodged from the pipe during handling would be collected to the extent practicable. Any coating that is loose and is not properly adhering to the pipe or has the potential to become loose during the wrapping process would be secured in plastic bags sealed with duct tape so that the bags are airtight, and removed prior to wrapping the pipe.

Pipe Disposal

All fully wrapped pipe and piping removed from the right-of-way would be stored for disposal at the Mt. Braddock wareyard. Any required sampling would be conducted during storage by Texas Eastern staff. A decision on disposal would be made based on the sampling results.

Removed non-PCB pipe (wipe sample results less than or equal to 10 μg/100cm^2) with pipe coating containing asbestos would be managed by one of the following options:

- disposal at a subtitle D landfill that is permitted to accept asbestos-containing material; or
- a Texas Eastern approved vender would remove the pipe coating and the pipe would be managed as scrap material, and the removed coating would be disposed at a subtitle D landfill that is permitted to accept asbestos-containing material.

Pipe with wipe sampling results greater than 10 μg/100cm^2 PCB with or without asbestos coating would be managed by one of the following options:

- disposal at a TSCA permitted landfill; or
- decontaminated and wipe sampled until results are less than or equal to 10 μg/100cm^2 PCB and coating removed.

Personal protective equipment would be used by workers to prevent exposure to asbestos along with the measures in the Project-specific safety plan and Texas Eastern's standard operating procedures. These procedures include respiratory protection and methods for preventing asbestos releases to the environment. Specific requirements include:

- contractor personnel must have asbestos removal certification; and
- specific containment procedures to be followed when coating is removed from the pipe, when pipe with asbestos containing coating is removed from the pipe trench, and during pipe transportation and storage.

The use of personal protective equipment by workers during pipe removal containing PCBs and/or asbestos and the implementation of Texas Eastern's project-specific safety plan and standard operating procedures would minimize risk to workers and ensure proper disposal of contaminated pipe or coating.

10. Cumulative Impacts

In accordance with NEPA and FERC policy, we considered the cumulative impacts of the proposed Project along with other projects in the general area. Cumulative impacts represent the incremental effects of the proposed action when added to other past, present, or reasonably foreseeable future actions, regardless of the agency or party undertaking such other actions within a defined geographic scope. Cumulative impacts can result from individually minor, but collectively significant actions taking place over a period of time. We address the direct and indirect impacts of the Project in the above sections of this EA.

The purpose of this cumulative impacts analysis is to identify and describe cumulative impacts that would potentially result from implementation of the Project. This cumulative impact analysis generally follows the methodology set forth in relevant guidance (Council on Environmental Quality, 1997; EPA, 1999). Under these guidelines, inclusion of other projects within this analysis is based on identifying commonalities of impacts from other projects with impacts that would result from the Project. The cumulative impacts analysis includes actions meeting the following three criteria:

- impact a resource area potentially impacted by the proposed Project;
- cause this impact within all or part of the proposed geographic scope of the Project; and
- cause this impact within all, or part, of the time span for the potential impact from the Project.

The actions considered in the cumulative impact analysis may vary from the Project in nature, magnitude, and duration. We include these actions based on the likelihood of Project completion, and only projects that have been recently completed (3 years prior to construction of the Project), current (ongoing impacts), or reasonably foreseeable (planned or approved but not yet constructed) future actions. Projects considered were infrastructure, community development, FERC jurisdictional and nonjurisdictional linear pipeline projects, and other industrial facilities within the geographic scope for the Project. Such projects are identified in appendix I.

Potential Cumulative Impacts of the Proposed Action

As described in section B of this EA, abandonment activities associated with the Project would be temporary. The Project would have a limited contribution to overall cumulative impacts on geology, soils, cultural resources, wetlands, land use, vegetation, air quality, and noise. In addition, the relatively minor extent of abandonment activities that would require ground disturbance would occur almost entirely within the Idle Line 1 previously disturbed right-of-way. Therefore, we conclude that the impacts from this Project when considered cumulatively with past, present, and reasonably foreseeable projects would not contribute significant cumulative impacts on these resources. In addition, based on our consultations with the USFWS, we find that the Project would have no effect or would not likely adversely affect listed species. Therefore, these resources are not discussed further in this section. Based on our review, the only resource with potential for the Project to contribute to overall cumulative impacts at some level is water resources, as discussed below.

Past, present, and reasonably foreseeable future actions in the HUC-12 watersheds (the defined geographic scope boundary for water resources for the Project), have and continue to contribute to impacts on surface water quality and the fisheries in the streams that would be affected by construction. Construction work areas for the Idle Line 1 Abandonment Project exist in 14 sub-watersheds where at least one other project listed in appendix I has or will occur. The projects listed in appendix I would either involve direct construction within the streams impacted by the Idle Line 1 Project, or would disturb soil in close proximity to these streams, potentially resulting in decreased water quality and related impairment of in-stream fisheries. However, because we have concluded that such impacts from the proposed Project are so minor, and we have no reason to believe impacts on water resources from the other projects being considered here are or would be significant, any additional cumulative impact would also be minor.

C. ALTERNATIVES

In accordance with NEPA and Commission policy, we considered alternatives to the proposed action, including the No-Action alternative and pipeline abandonment by

removal alternative. These alternatives were evaluated to determine whether they would be reasonable and environmentally preferable to the proposed action.

The following evaluation criteria were used to determine whether an alternative would be environmentally preferable:

- technical feasibility and practicality;
- significant environmental advantage over the proposed action; and
- ability to meet the Project's stated objective.

As discussed in section A.1, the Project purpose is to abandon (mostly in place) 165.3 miles of idled 24-inch-diameter Line 1 mainline pipeline and appurtenant natural gas facilities because these facilities are not necessary to support Texas Eastern's current or future business obligations.

1. No-Action Alternative

Under the No-Action alternative, Texas Eastern would not implement the proposed action, thus avoiding the potential environmental impacts associated with the Project as described in this EA; however, the Project objectives would not be met. Due to the age and condition of Line 1, Texas Eastern states that implementation of the No-Action alternative would result in continued operating and maintenance expenditures on pipeline segments and facilities that are not needed. Texas Eastern would be required to continue maintenance of the pipeline (including cathodic protection) in accordance with U.S. Department of Transportation regulations, thus to incurring costs that Texas Eastern anticipates will increase significantly over time. We believe this is a reasonable assumption and conclude that the No-Action alternative is not preferable to the proposed Project.

2. Complete Removal of the Idle Line 1 Pipeline

Complete removal by Texas Eastern of the 165.9 miles of the Idle Line 1 pipeline facilities would require approximately 1,000 acres of ground disturbance, at least 877 acres more than the approximate 123 acres associated with the proposed action, not including the use of additional access roads that would be necessary for complete pipe removal. Impacts on sensitive resources, such as fisheries and threatened and endangered species, would also increase due to increased scope of removing the entire Idle Line 1 pipe.

Therefore, because complete removal of the Texas Eastern pipeline would require a significantly larger area of disturbance, which would have cascading effects on

sensitive environmental resources, we do not recommend this alternative and are not considering it further.

We conclude that the proposed Project is the preferred alternative to meet the Project objectives.

D. STAFF'S CONCLUSION AND RECOMMENDATIONS

Based on the above environmental analysis, the staff has determined that approval of the Project would not constitute a major federal action significantly affecting the quality of the human environment. The staff recommends that the Commission Order contain a finding of no significant impact and include the mitigation measures listed below as conditions to any authorization the Commission may issue to Texas Eastern.

1. Texas Eastern shall follow the construction procedures and mitigation measures described in its application and supplements (including responses to staff data requests) and as identified in the EA, unless modified by the Order. Texas Eastern must:

    a. request any modification to these procedures, measures, or conditions in a filing with the Secretary;
    b. justify each modification relative to site-specific conditions;
    c. explain how that modification provides an equal or greater level of environmental protection than the original measure; and
    d. receive approval in writing from the Director of OEP **before using that modification**.

2. The Director of OEP has delegated authority to take whatever steps are necessary to ensure the protection of all environmental resources during Project abandonment activities. This authority shall allow:

    a. the modification of conditions of the Order; and
    b. the design and implementation of any additional measures deemed necessary (including stop-work authority) to assure continued compliance with the intent of the environmental conditions as well as the avoidance or mitigation of adverse environmental impact resulting from Project activities.

3. **Prior to any abandonment activities**, Texas Eastern shall file an affirmative statement with the Secretary, certified by a senior company official, that all company personnel, EIs, and contractor personnel will be informed of the EI's authority and have been or will be trained on the implementation of the

environmental mitigation measures appropriate to their jobs **before** becoming involved with construction and restoration activities.

4. The authorized facility abandonment work shall be as shown in the EA, as supplemented by filed maps and/or alignment sheets. **As soon as they are available, and before the start of abandonment activities**, Texas Eastern shall file with the Secretary any revised detailed survey alignment maps/sheets at a scale not smaller than 1:6,000 with station positions for all work approved by the Order. All requests for modifications of environmental conditions of the Order or site-specific clearances must be written and must reference locations designated on these alignment maps/sheets.

5. Texas Eastern shall file with the Secretary detailed alignment maps/sheets and aerial photographs at a scale not smaller than 1:6,000 identifying any revisions of facility abandonment sites, staging areas, storage/equipment yards, access roads, and other areas that would be used or disturbed and have not been previously identified in filings with the Secretary. Approval for each of these areas must be explicitly requested in writing. For each area, the request must include a description of the existing land use/cover type, documentation of landowner approval, whether any cultural resources or federally listed threatened or endangered species would be affected, and whether any other environmentally sensitive areas are within or abutting the area. All areas shall be clearly identified on the maps/sheets/aerial photographs. Each area must be approved in writing by the Director of OEP **before beginning abandonment work in or near that area**.

   This requirement does not apply to extra workspace allowed by the FERC Plan and/or minor field realignments per landowner needs and requirements which do not affect other landowners or sensitive environmental areas such as wetlands.

   Examples of alterations requiring approval include all workspace realignments and facility location changes resulting from:

   a. implementation of cultural resources mitigation measures;
   b. implementation of endangered, threatened, or special concern species mitigation measures;
   c. recommendations by state regulatory authorities; and
   d. agreements with individual landowners that affect other landowners or could affect sensitive environmental areas.

6. **Within 60 days of the Order and before abandonment activity begins,** Texas Eastern shall file an Implementation Plan with the Secretary for review and written

approval by the Director of OEP. Texas Eastern must file revisions to the plan as schedules change. The plan shall identify:

a. how Texas Eastern will implement the Project abandonment procedures and mitigation measures described in its application and supplements (including responses to staff data requests), identified in the EA, and required by the Order;
b. how Texas Eastern will incorporate these requirements into the contract bid documents, construction contracts (especially penalty clauses and specifications), and construction drawings so that the mitigation required at each site is clear to onsite construction and inspection personnel;
c. the number of EIs assigned, and how the company will ensure that sufficient personnel are available to implement the environmental mitigation;
d. company personnel, including EIs and contractors, who will receive copies of the appropriate material;
e. the location and dates of the environmental compliance training and instructions Texas Eastern will give to all personnel involved with abandonment and restoration (initial and refresher training as the Project progresses and personnel change);
f. the company personnel (if known) and specific portion of Texas Eastern's organization having responsibility for compliance;
g. the procedures (including use of contract penalties) Texas Eastern will follow if noncompliance occurs; and
h. for each discrete facility, a Gantt or PERT chart (or similar project scheduling diagram), and dates for:

    (1) the completion of all required surveys and reports;
    (2) the environmental compliance training of onsite personnel;
    (3) the start of abandonment activities; and
    (4) the start and completion of restoration.

7. Texas Eastern shall employ at least one EI. The EI shall be:

a. responsible for monitoring and ensuring compliance with all mitigation measures required by the Order and other grants, permits, certificates, or other authorizing documents;
b. responsible for evaluating the construction contractor's implementation of the environmental mitigation measures required in the contract (see condition 6 above) and any other authorizing document;
c. empowered to order correction of acts that violate the environmental conditions of the Order, and any other authorizing document;

d. a full-time position, separate from all other activity inspectors;
e. responsible for documenting compliance with the environmental conditions of the Order, as well as any environmental conditions/permit requirements imposed by other federal, state, or local agencies; and
f. responsible for maintaining status reports.

8. Beginning with the filing of its Implementation Plan, Texas Eastern shall file updated status reports with the Secretary on a **biweekly basis until all abandonment and restoration activities are complete**. On request, these status reports must also be provided to other federal and state agencies with permitting responsibilities. Status reports shall include:

a. an update on Texas Eastern's efforts to obtain the necessary federal authorizations;
b. the activity status of the Project, work planned for the following reporting period, and any schedule changes for stream crossings or work in other environmentally-sensitive areas;
c. a listing of all problems encountered and each instance of noncompliance observed by the EI during the reporting period (both for the conditions imposed by the Commission and any environmental conditions/permit requirements imposed by other federal, state, or local agencies);
d. a description of the corrective actions implemented in response to all instances of noncompliance, and their cost;
e. the effectiveness of all corrective actions implemented;
f. a description of any landowner/resident complaints which may relate to compliance with the requirements of the Order, and the measures taken to satisfy their concerns; and
g. copies of any correspondence received by Texas Eastern from other federal, state, or local permitting agencies concerning instances of noncompliance, and Texas Eastern's response.

9. **Prior to receiving written authorization from the Director of OEP to commence abandonment of any Project facilities**, Texas Eastern shall file with the Secretary documentation that it has received all applicable authorizations required under federal law (or evidence of waiver thereof).

10. **Within 30 days of abandoning and removing the facilities**, Texas Eastern shall file an affirmative statement with the Secretary, certified by a senior company official:

a. that the facilities have been abandoned in compliance with all applicable conditions, and that continuing activities will be consistent with all applicable conditions; or
b. identifying which of the conditions in the Order Texas Eastern has complied with or will comply with. This statement shall also identify any areas affected by the Project where compliance measures were not properly implemented, if not previously identified in filed status reports, and the reason for noncompliance.

11. **Prior to commencement of abandonment activities**, Texas Eastern shall file with the Secretary a plan describing the feasibility of incorporating plant seeds that support pollinators into the native seed mixes used for restoration of construction workspaces. The plan shall also describe Texas Eastern's consultations with the relevant federal and/or state agencies.

12. Texas Eastern shall not begin abandonment activities **until**:
    a. FERC staff receives comments from the USFWS regarding the proposed action;
    b. FERC staff completes any necessary Section 7 consultation with the USFWS; and
    c. Texas Eastern receives written notification from the Director of OEP that abandonment activities may begin.

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APPENDIX A

USGS TOPOGRAPHIC MAPS

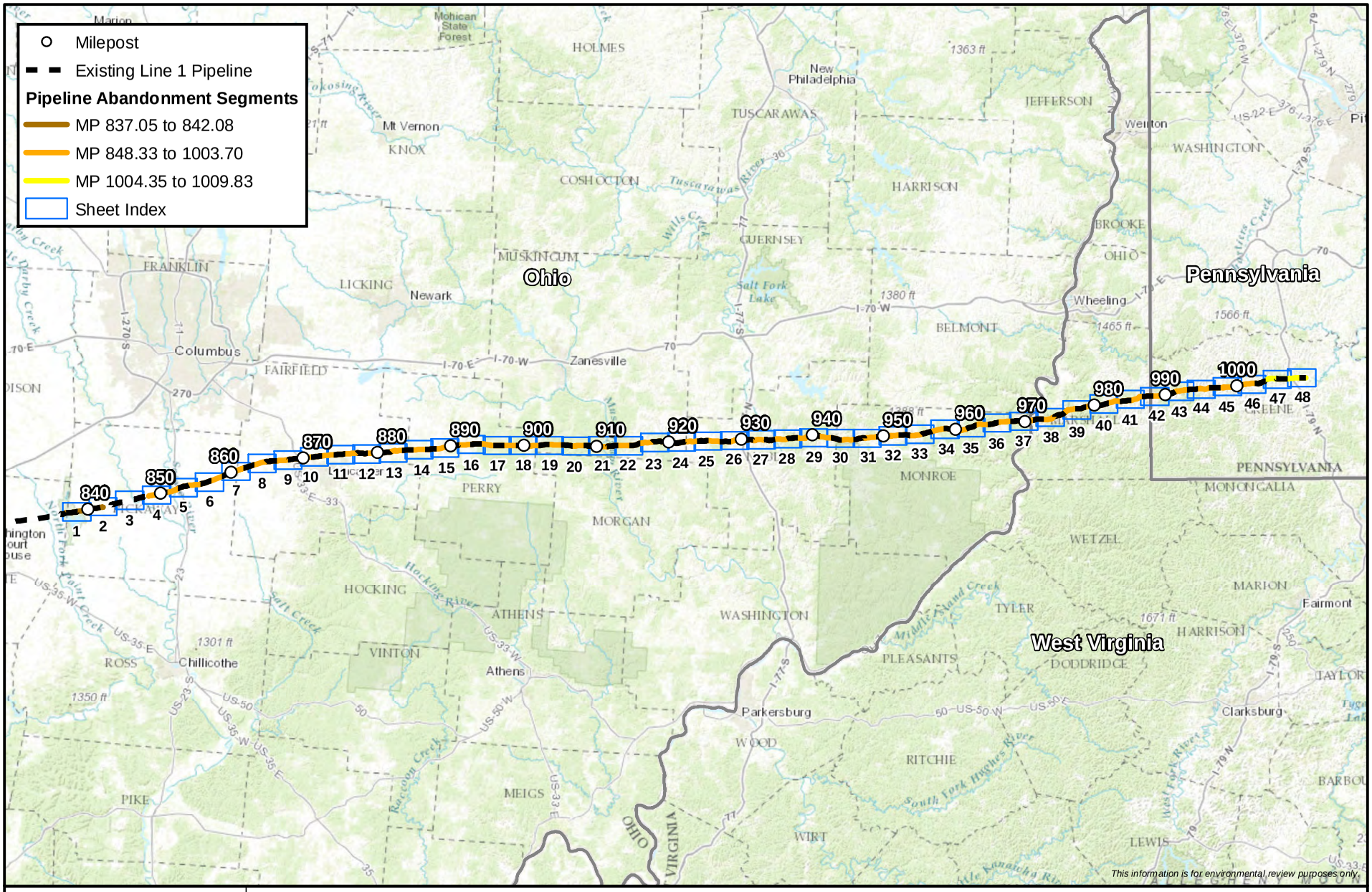

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Figure 1A-1
Idle Line 1 Abandonment Project
Texas Eastern Transmission, LP
USGS Topo Maps of Line 1 from MP 837-1009 and 124 Construction Features
Index Map

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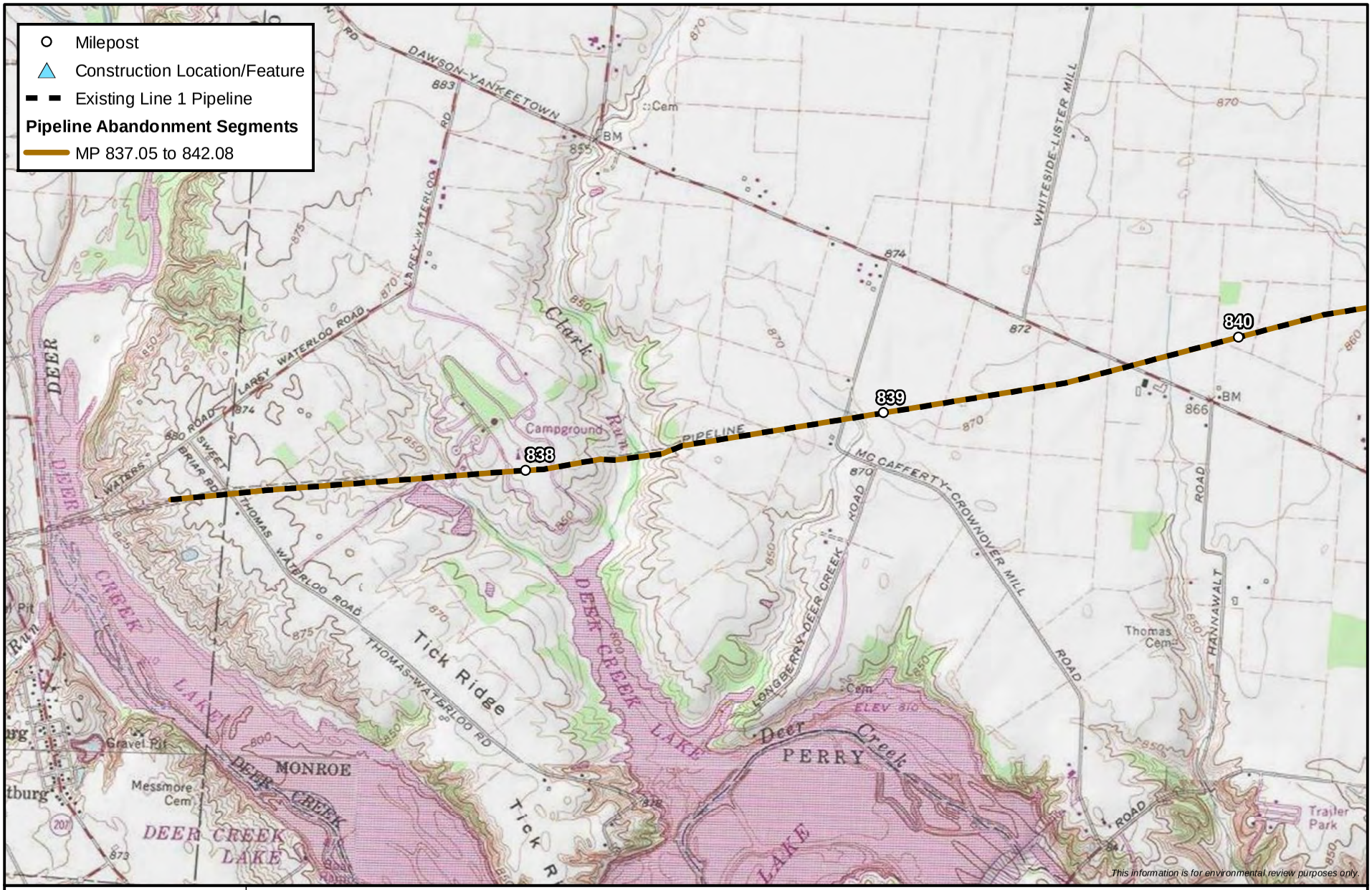

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Figure 1A-1
Idle Line 1 Abandonment Project
Texas Eastern Transmission, LP
USGS Topo Maps of Line 1 from MP 837-1009 and 124 Construction Features
MP 837.02 to 840.35 - Ohio

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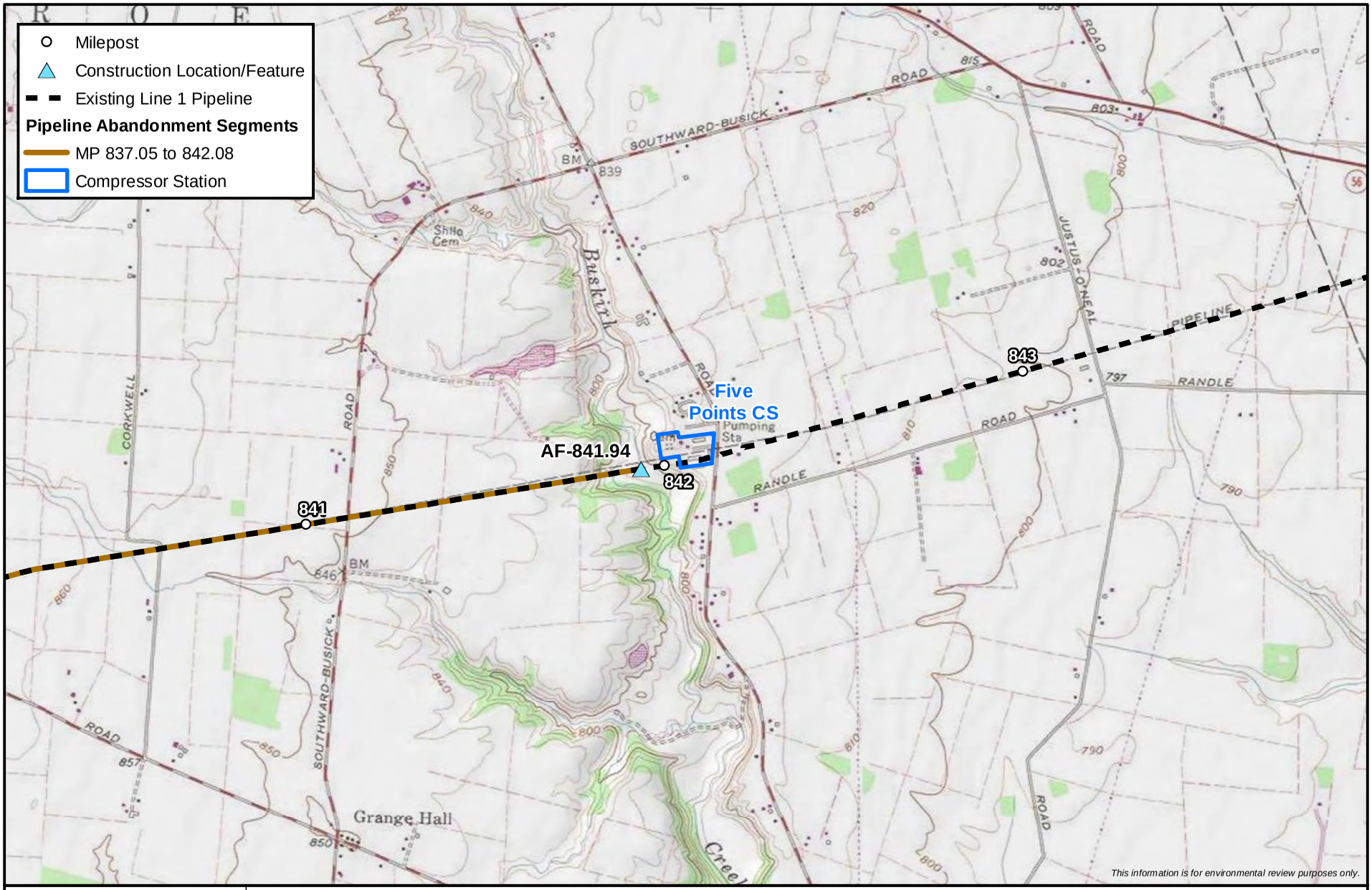

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Figure 1A-1
Idle Line 1 Abandonment Project
Texas Eastern Transmission, LP
USGS Topo Maps of Line 1 from MP 837-1009 and 124 Construction Features
MP 840.17 to 843.97 - Ohio

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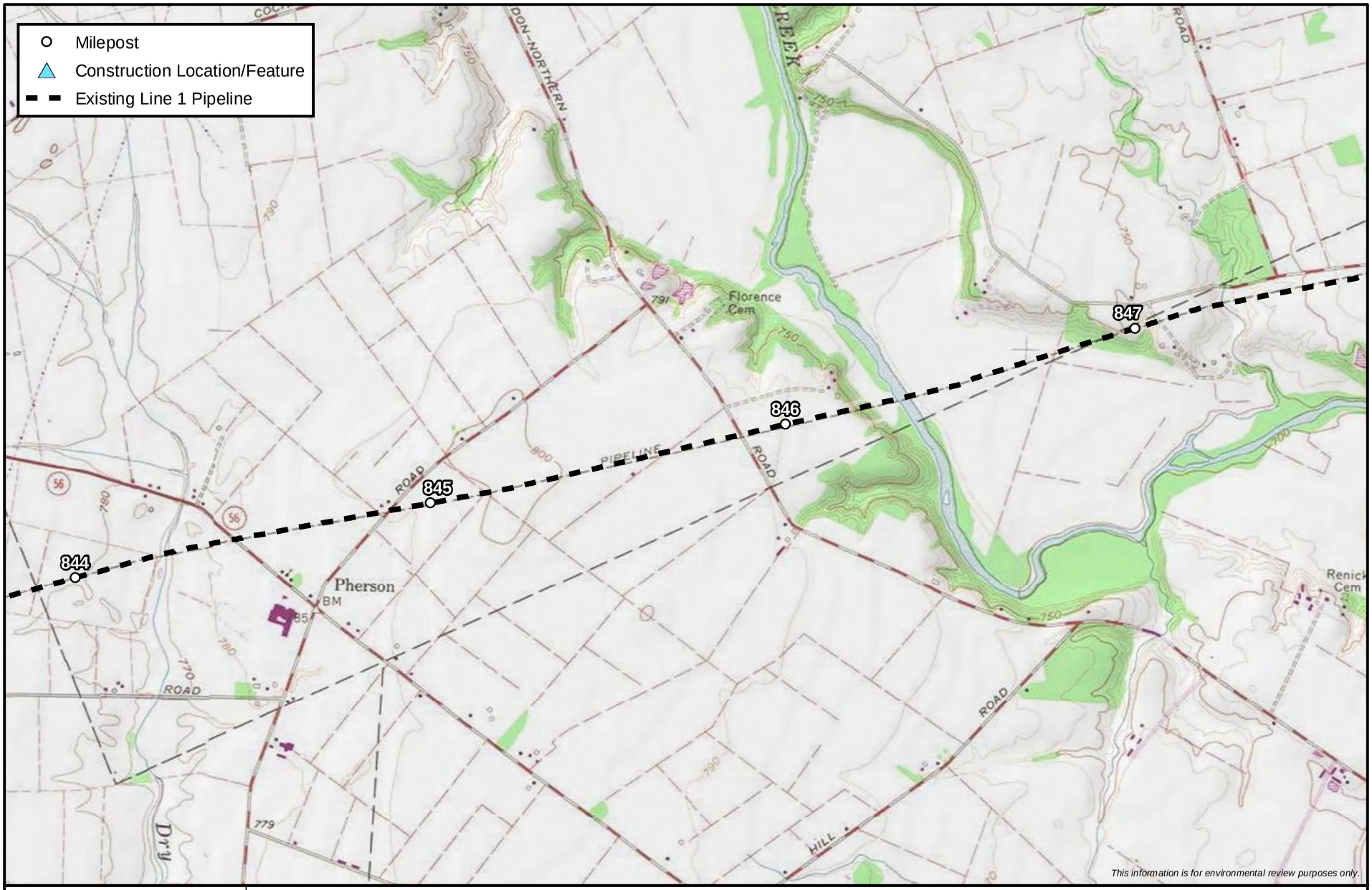

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Figure 1A-1
Idle Line 1 Abandonment Project
Texas Eastern Transmission, LP
USGS Topo Maps of Line 1 from MP 837-1009 and 124 Construction Features
MP 843.81 to 847.65 - Ohio

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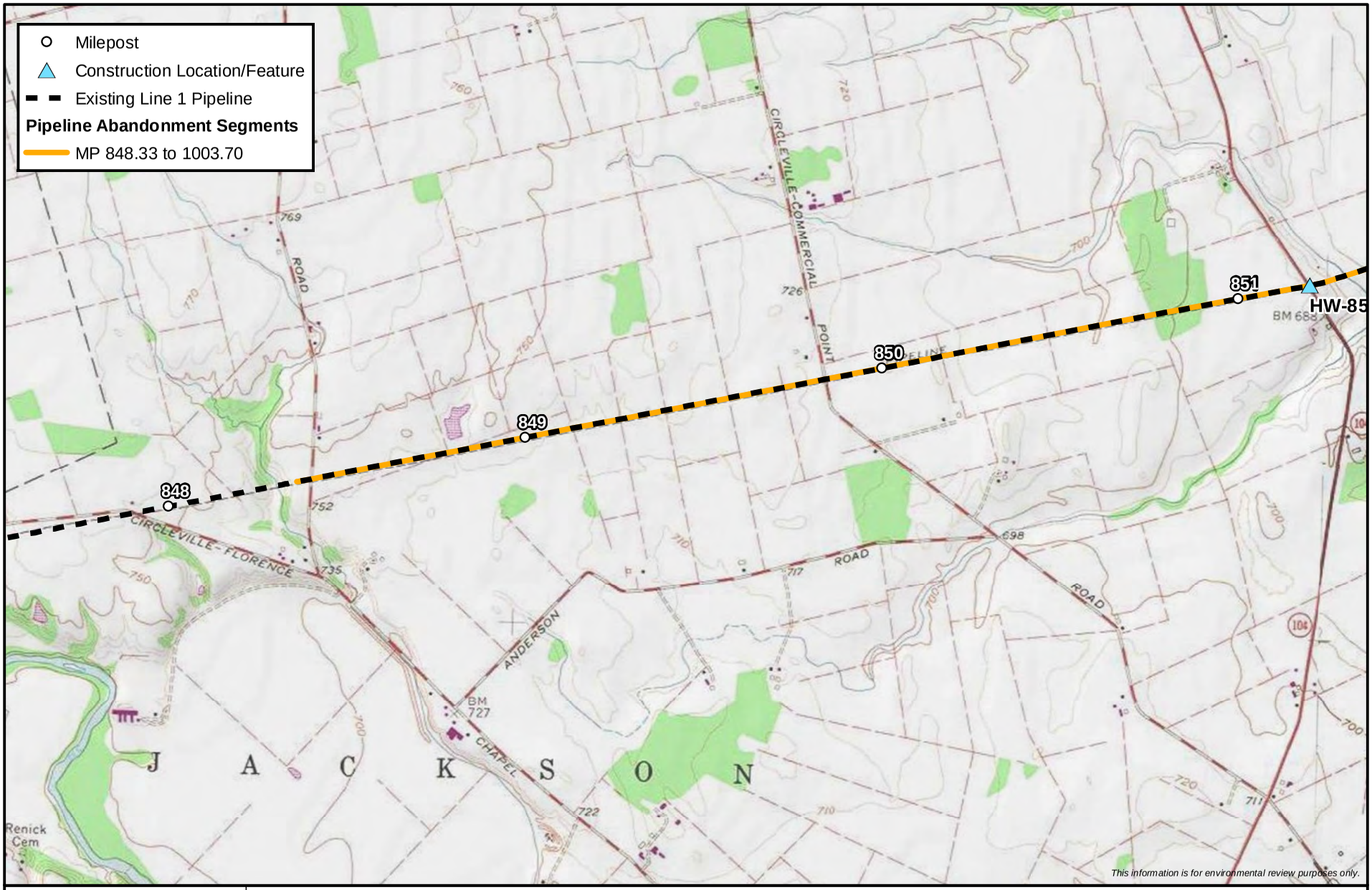

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Figure 1A-1
Idle Line 1 Abandonment Project
Texas Eastern Transmission, LP
USGS Topo Maps of Line 1 from MP 837-1009 and 124 Construction Features
MP 847.55 to 851.35 - Ohio

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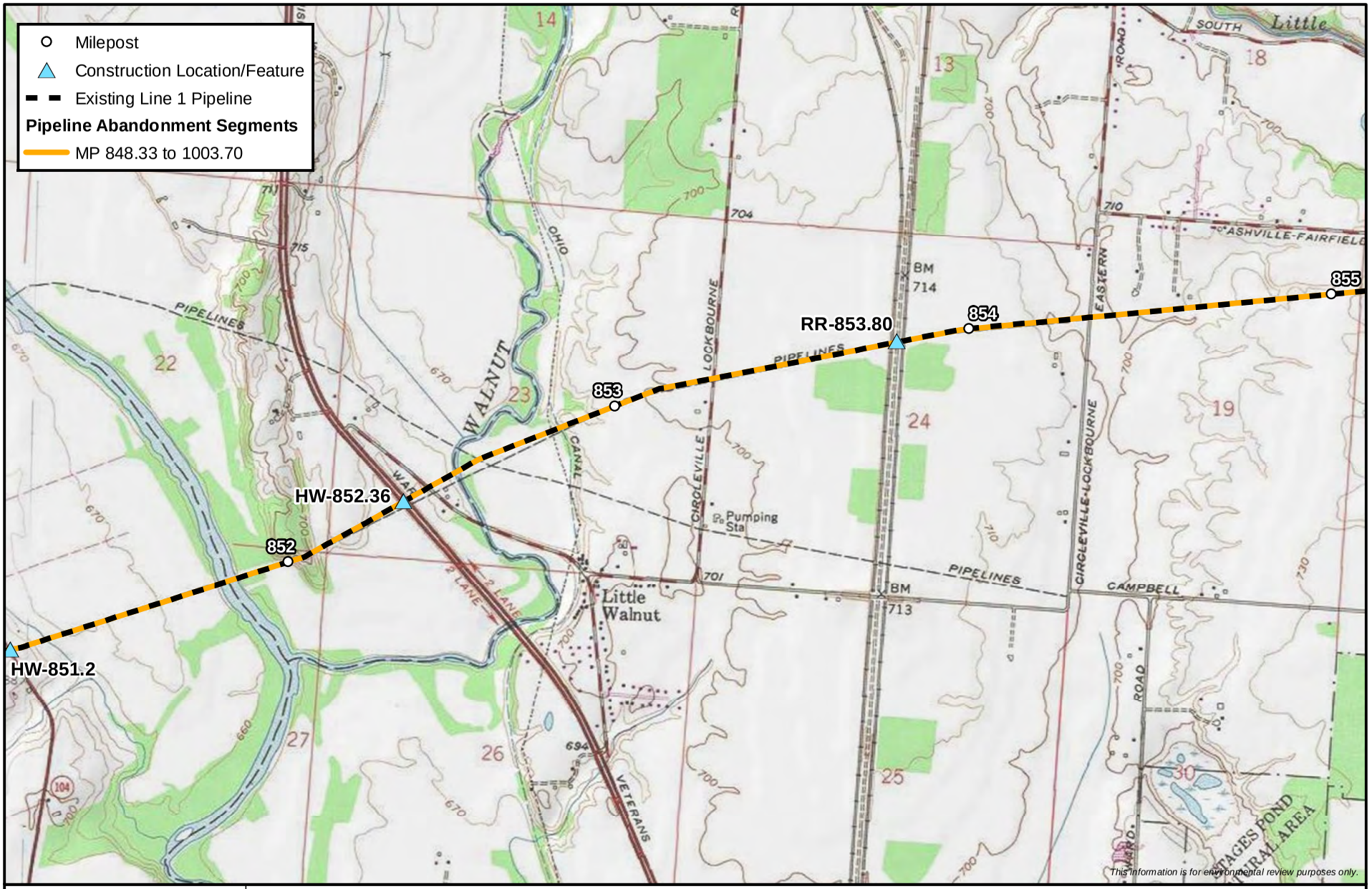

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Figure 1A-1
Idle Line 1 Abandonment Project
Texas Eastern Transmission, LP
USGS Topo Maps of Line 1 from MP 837-1009 and 124 Construction Features
MP 851.19 to 855.08 - Ohio

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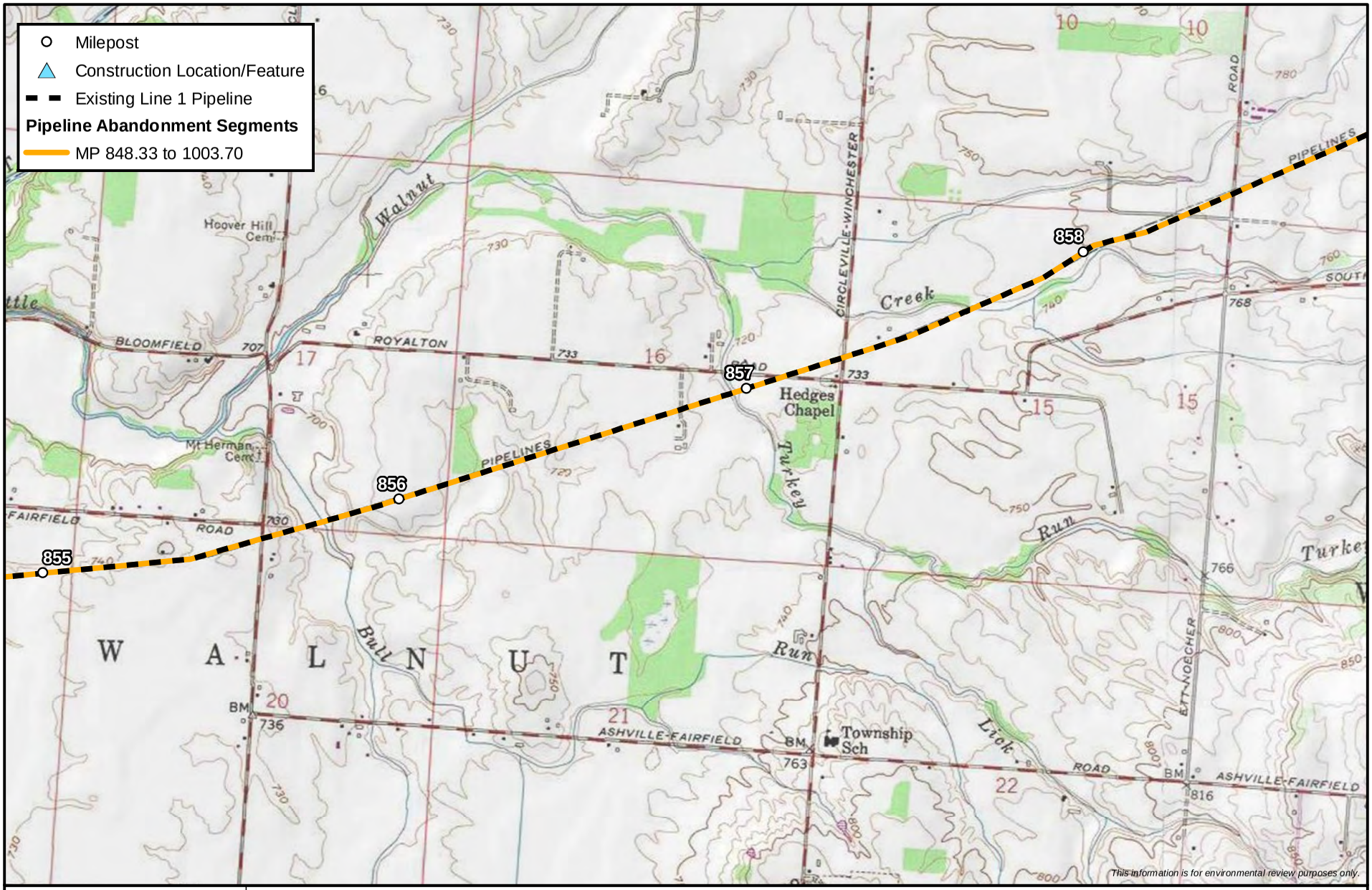

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Figure 1A-1
Idle Line 1 Abandonment Project
Texas Eastern Transmission, LP
USGS Topo Maps of Line 1 from MP 837-1009 and 124 Construction Features
MP 854.90 to 858.83 - Ohio

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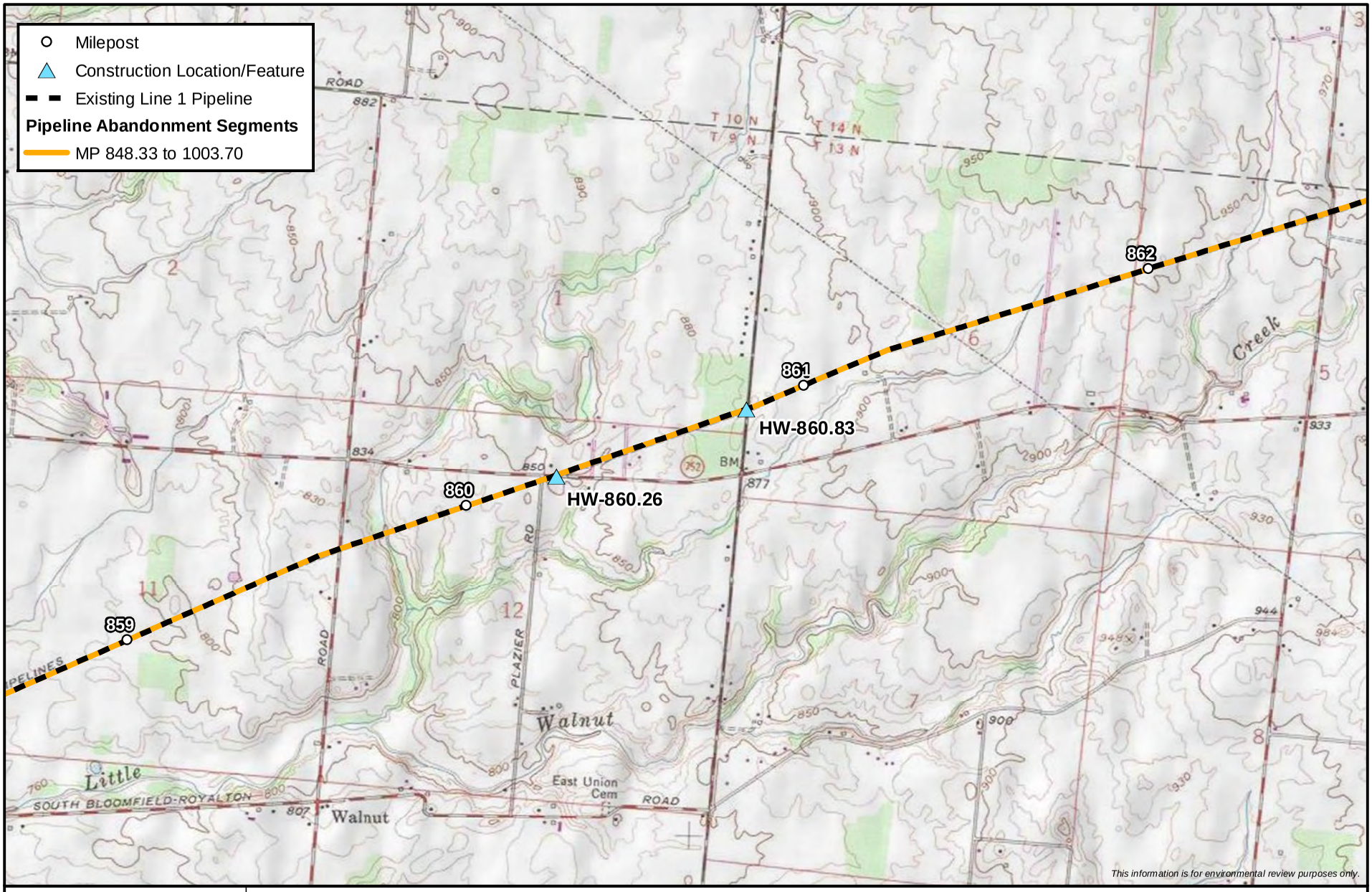

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Figure 1A-1
Idle Line 1 Abandonment Project
Texas Eastern Transmission, LP
USGS Topo Maps of Line 1 from MP 837-1009 and 124 Construction Features
MP 858.64 to 862.62 - Ohio

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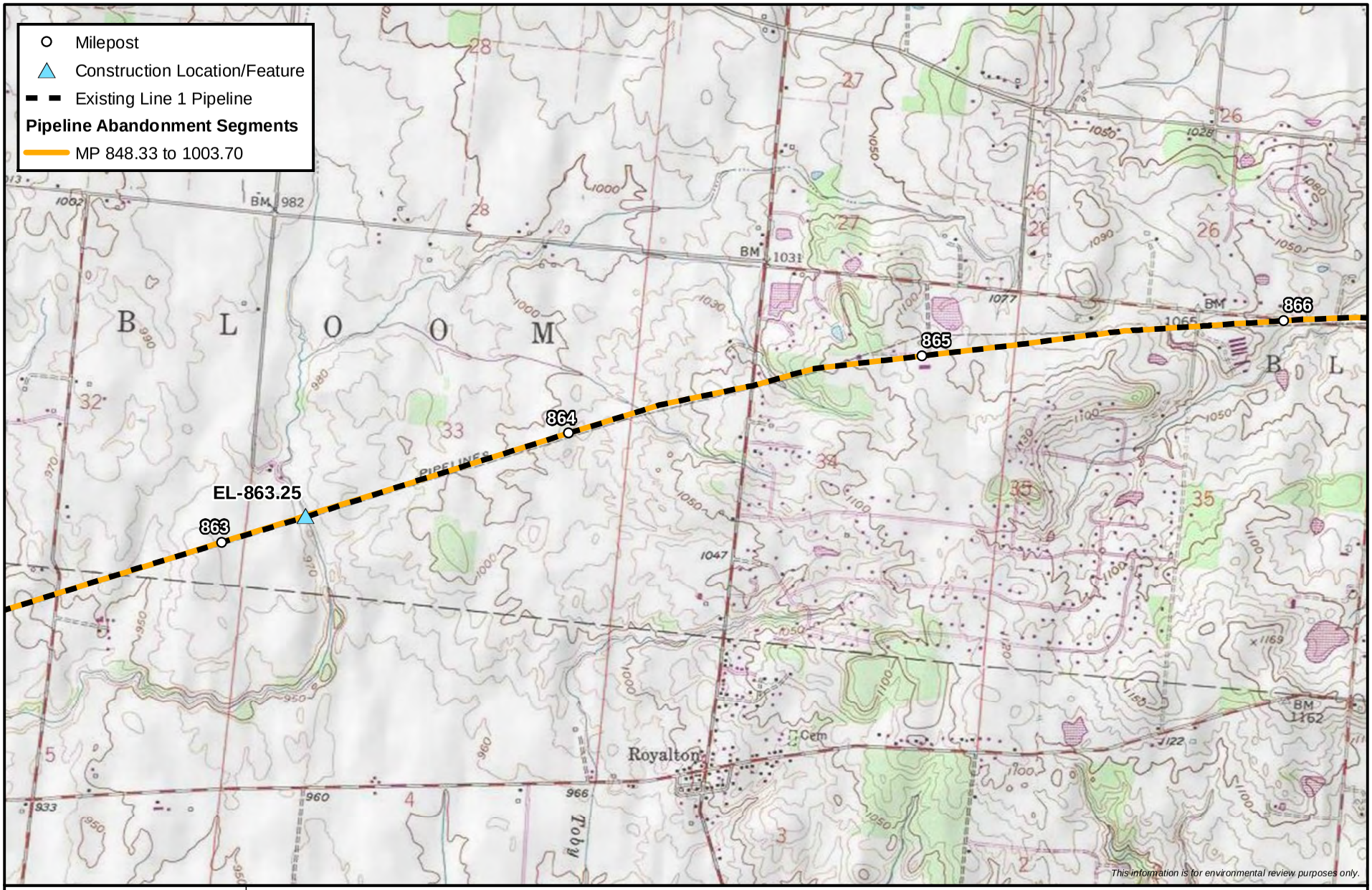

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Figure 1A-1
Idle Line 1 Abandonment Project
Texas Eastern Transmission, LP
USGS Topo Maps of Line 1 from MP 837-1009 and 124 Construction Features
MP 862.38 to 866.22 - Ohio

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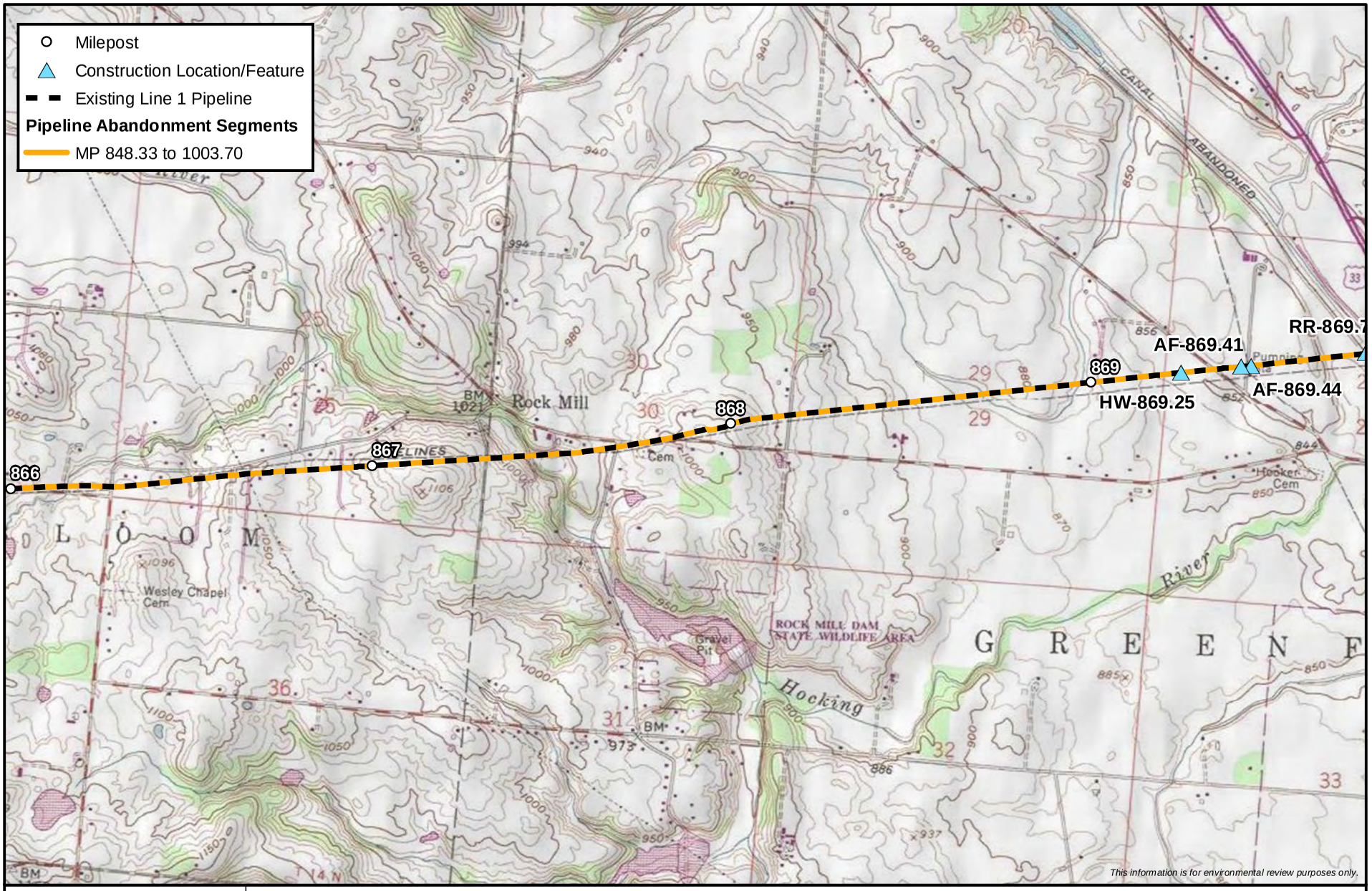

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Figure 1A-1
Idle Line 1 Abandonment Project
Texas Eastern Transmission, LP
USGS Topo Maps of Line 1 from MP 837-1009 and 124 Construction Features
MP 865.99 to 869.76 - Ohio

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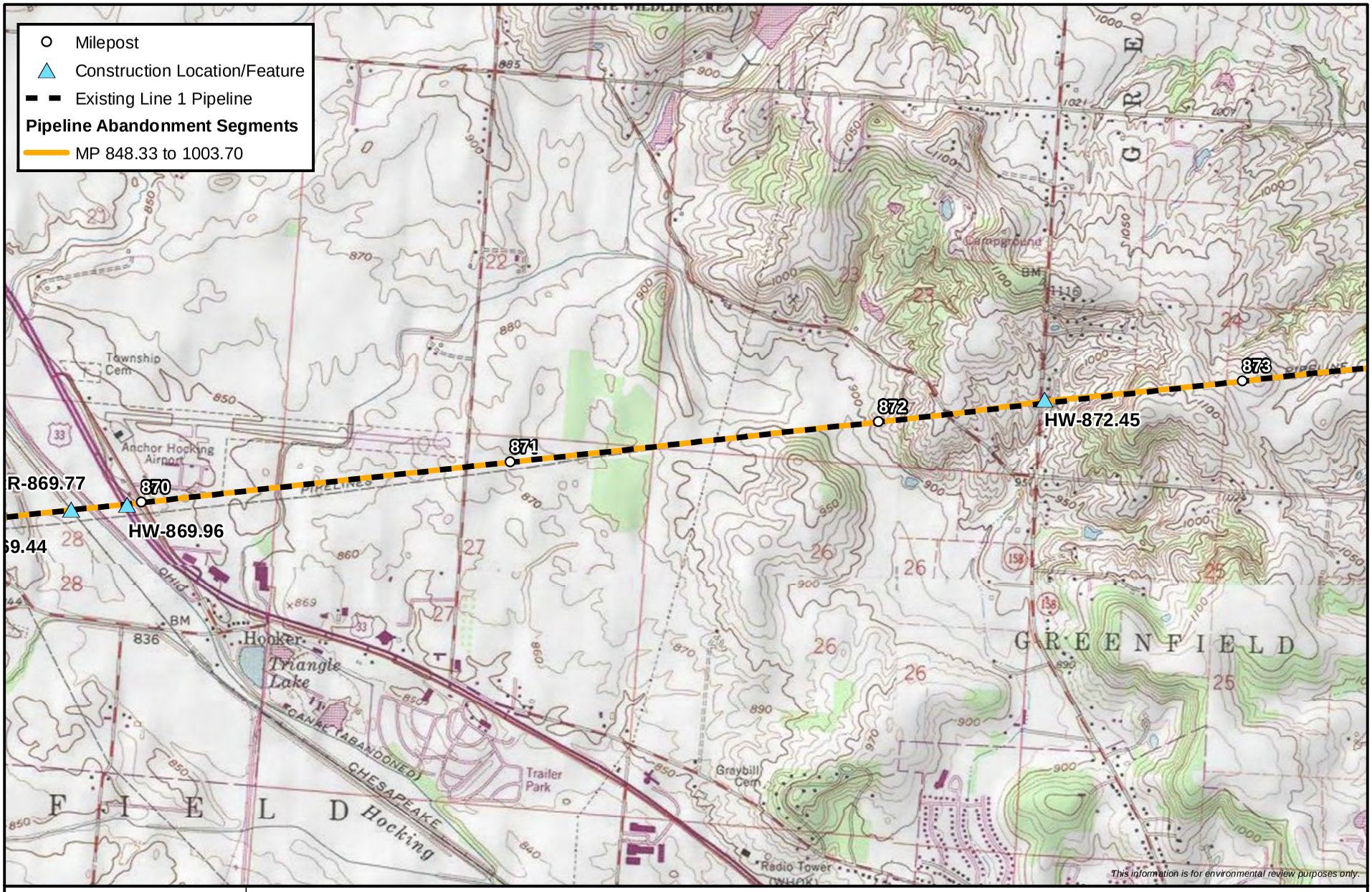

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Spectra Energy Partners

Figure 1A-1
Idle Line 1 Abandonment Project
Texas Eastern Transmission, LP
USGS Topo Maps of Line 1 from MP 837-1009 and 124 Construction Features
MP 869.59 to 873.34 - Ohio

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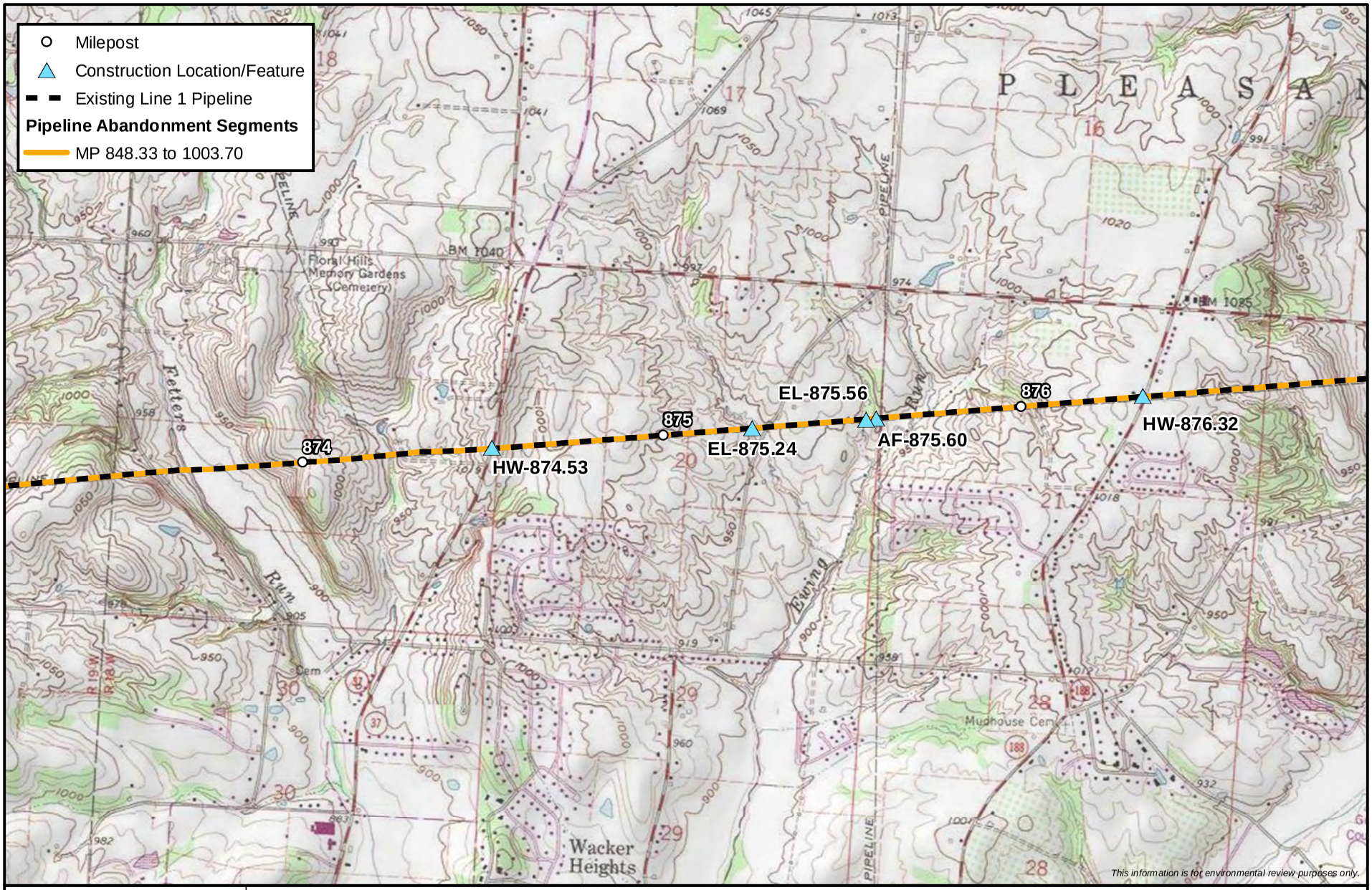

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Figure 1A-1
Idle Line 1 Abandonment Project
Texas Eastern Transmission, LP
USGS Topo Maps of Line 1 from MP 837-1009 and 124 Construction Features
MP 873.18 to 876.94 - Ohio

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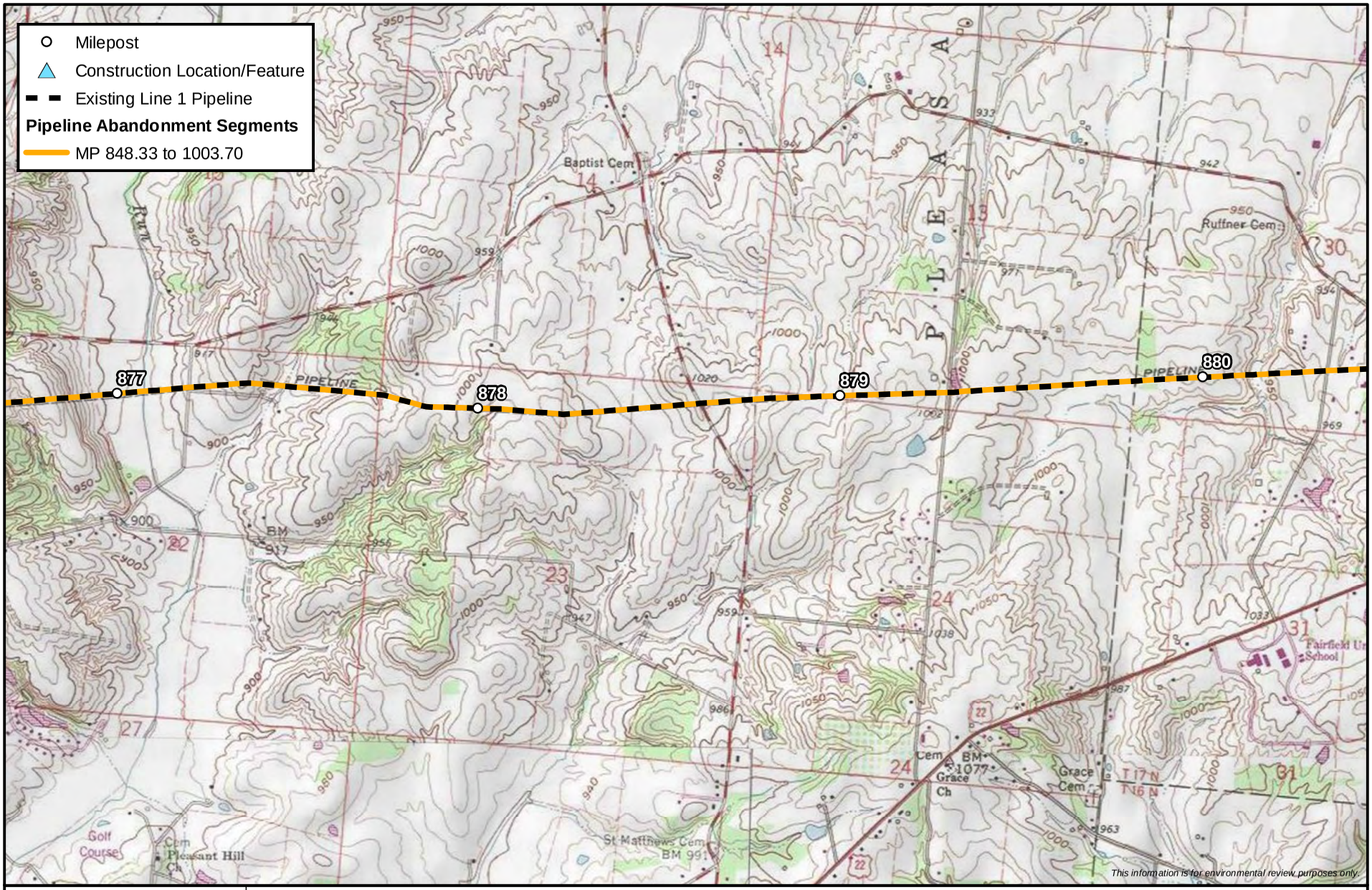

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Figure 1A-1
Idle Line 1 Abandonment Project
Texas Eastern Transmission, LP
USGS Topo Maps of Line 1 from MP 837-1009 and 124 Construction Features
MP 876.70 to 880.44 - Ohio

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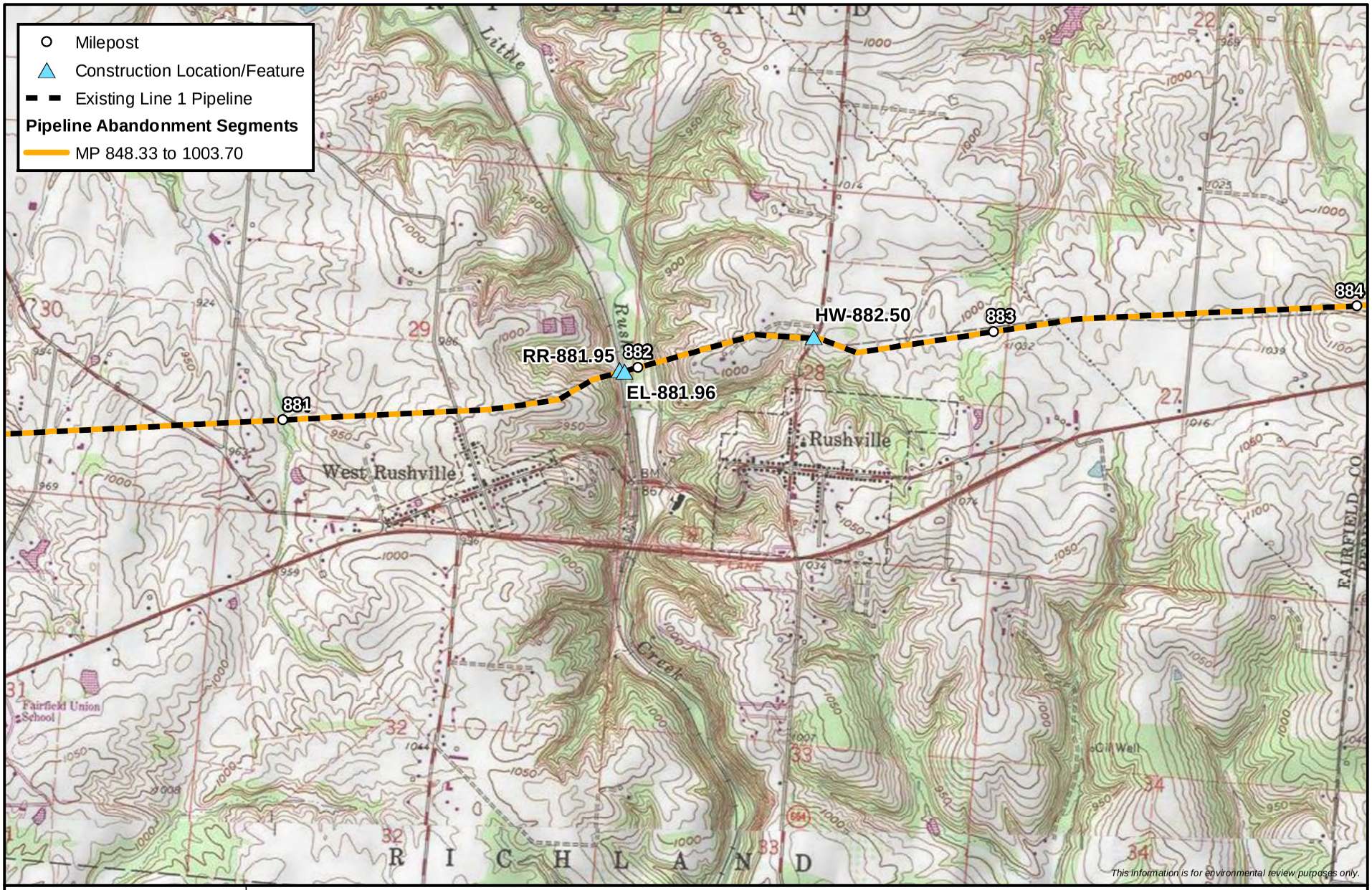

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Figure 1A-1
Idle Line 1 Abandonment Project
Texas Eastern Transmission, LP
USGS Topo Maps of Line 1 from MP 837-1009 and 124 Construction Features
MP 880.24 to 884.02 - Ohio

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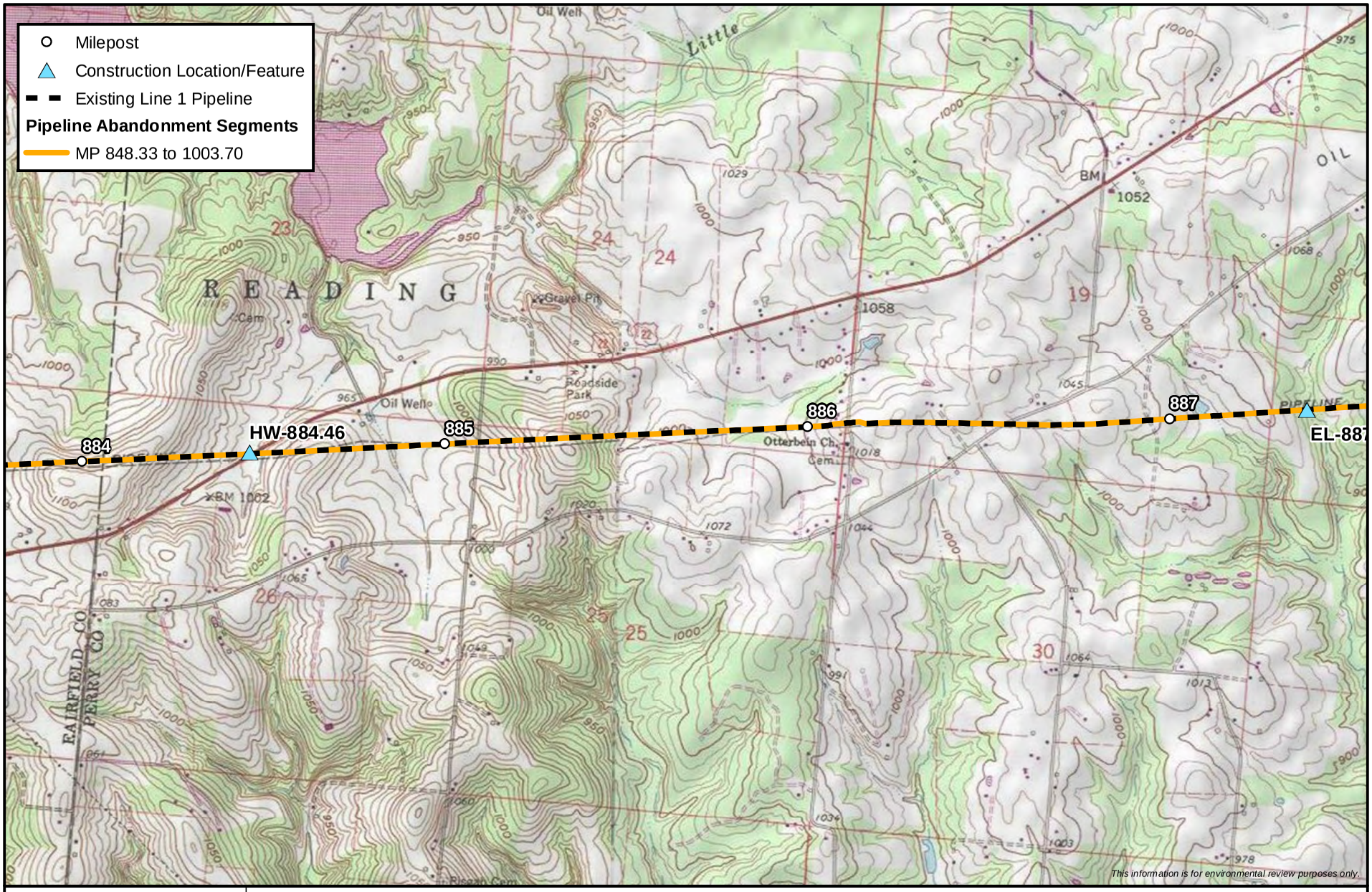

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Figure 1A-1
Idle Line 1 Abandonment Project
Texas Eastern Transmission, LP
USGS Topo Maps of Line 1 from MP 837-1009 and 124 Construction Features
MP 883.80 to 887.53 - Ohio

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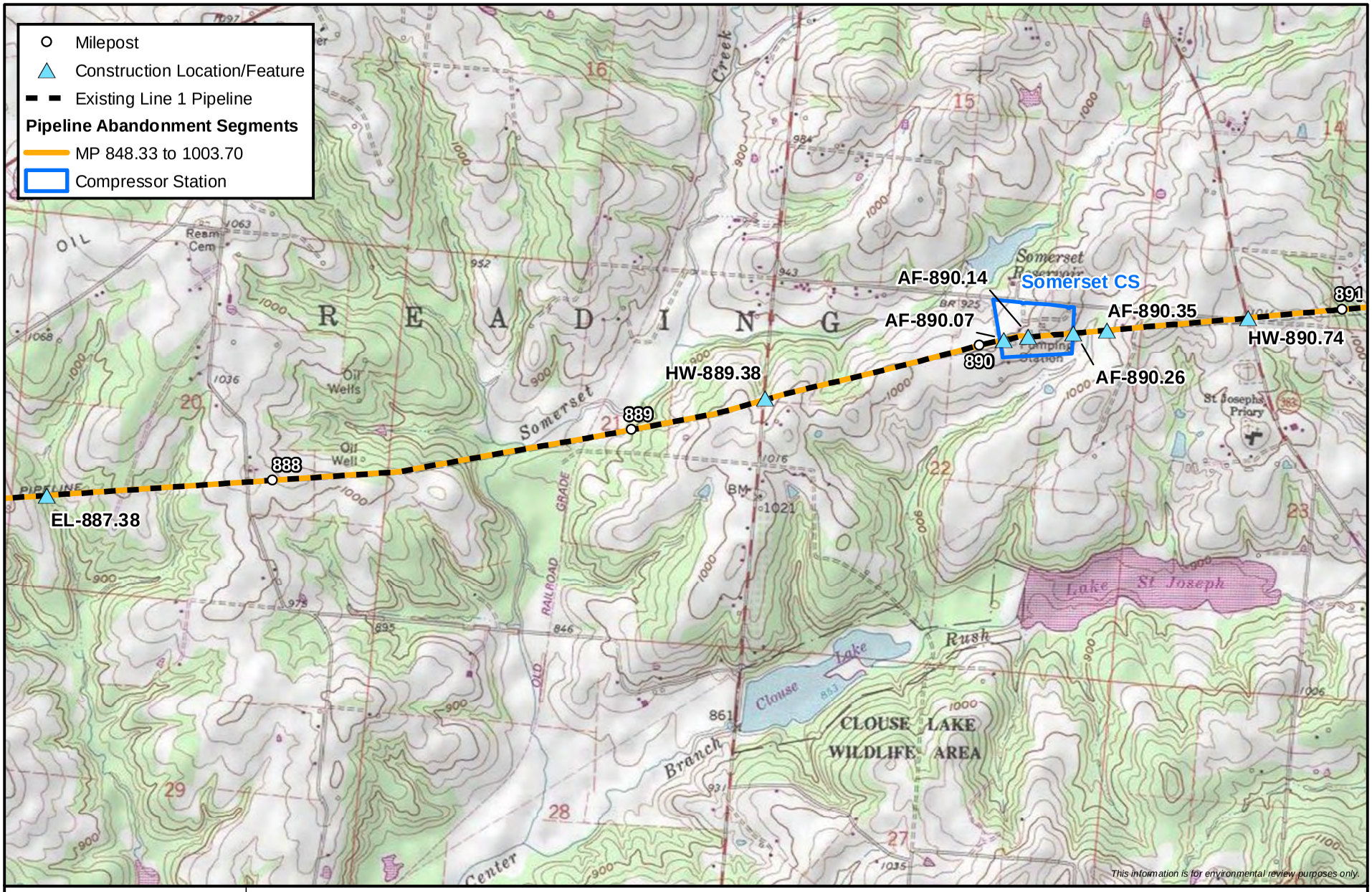

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Spectra Energy Partners

Figure 1A-1
Idle Line 1 Abandonment Project
Texas Eastern Transmission, LP
USGS Topo Maps of Line 1 from MP 837-1009 and 124 Construction Features
MP 887.27 to 891.06 - Ohio

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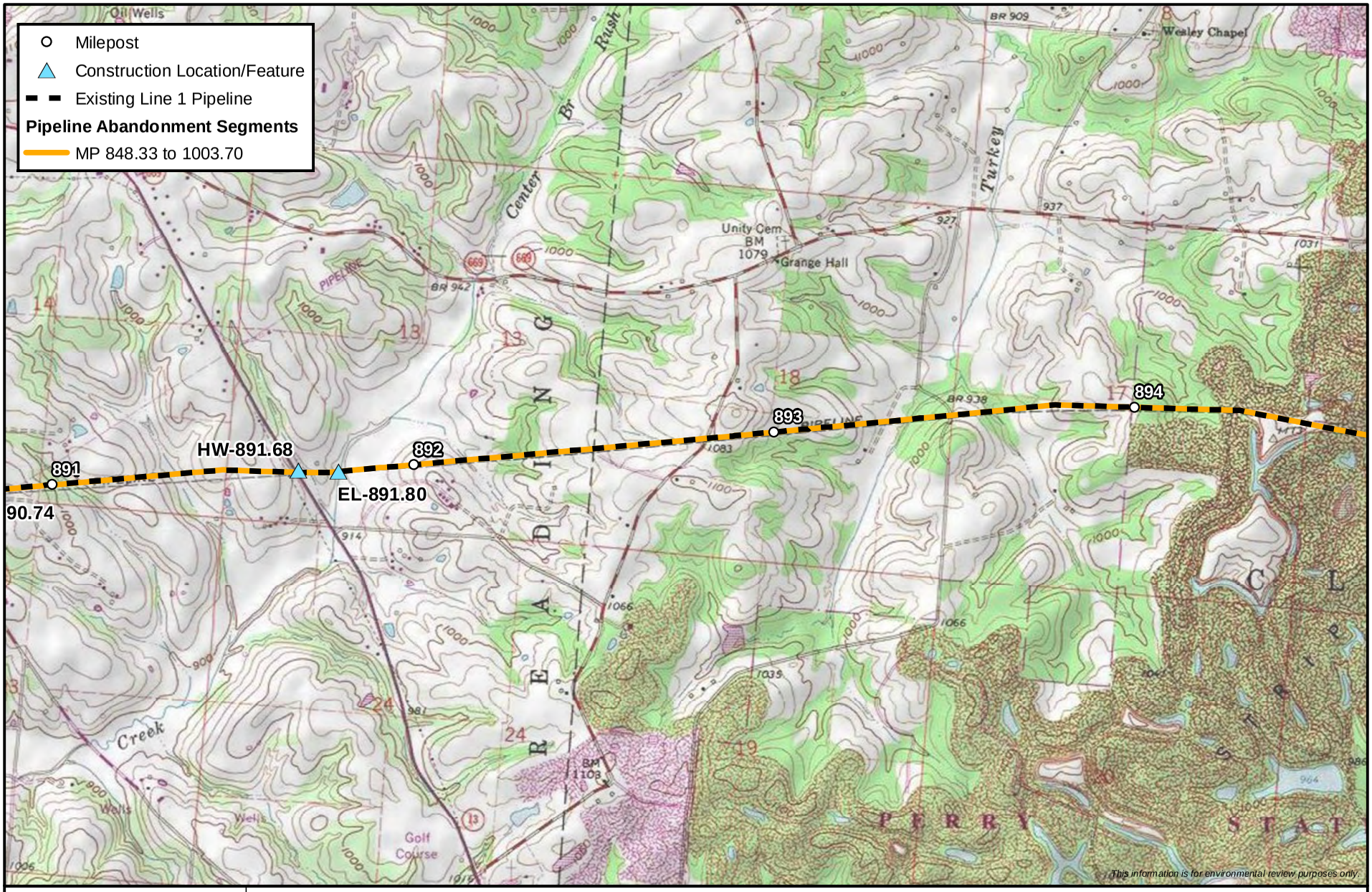

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Spectra Energy Partners

Figure 1A-1
Idle Line 1 Abandonment Project
Texas Eastern Transmission, LP
USGS Topo Maps of Line 1 from MP 837-1009 and 124 Construction Features
MP 890.88 to 894.64 - Ohio

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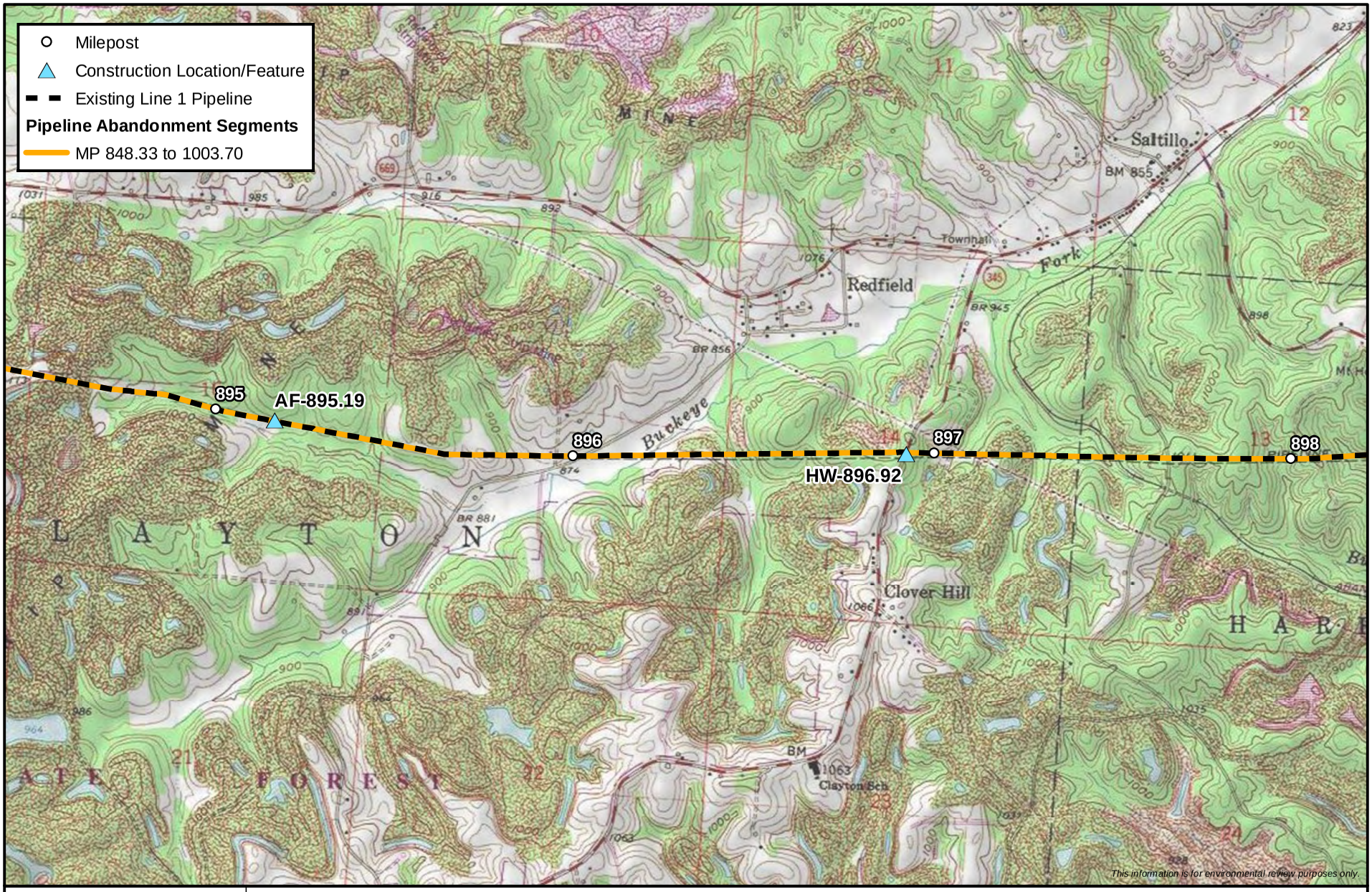

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Spectra Energy Partners

Figure 1A-1
Idle Line 1 Abandonment Project
Texas Eastern Transmission, LP
USGS Topo Maps of Line 1 from MP 837-1009 and 124 Construction Features
MP 894.41 to 898.20 - Ohio

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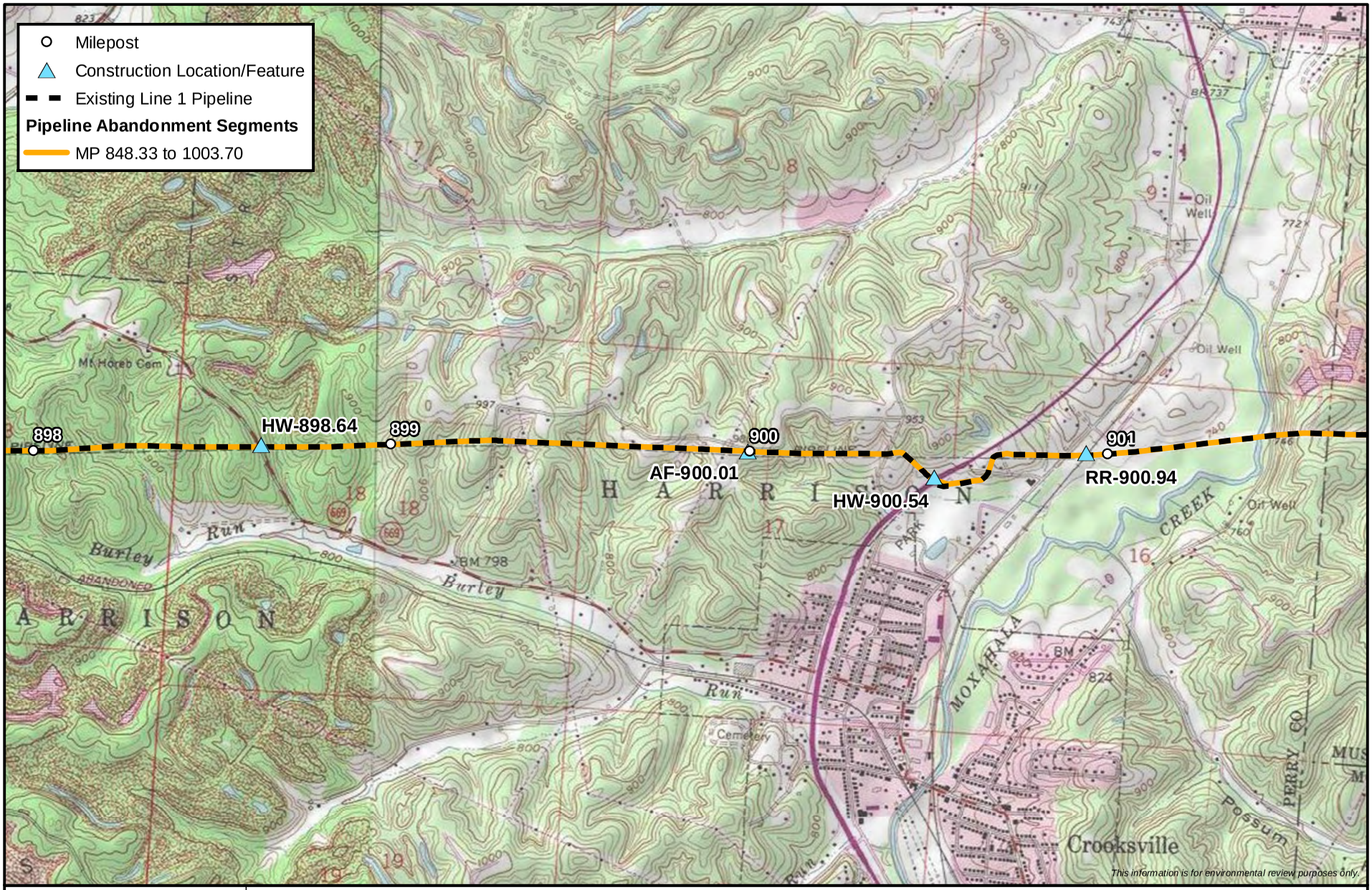

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Figure 1A-1
Idle Line 1 Abandonment Project
Texas Eastern Transmission, LP
USGS Topo Maps of Line 1 from MP 837-1009 and 124 Construction Features
MP 897.93 to 901.72 - Ohio

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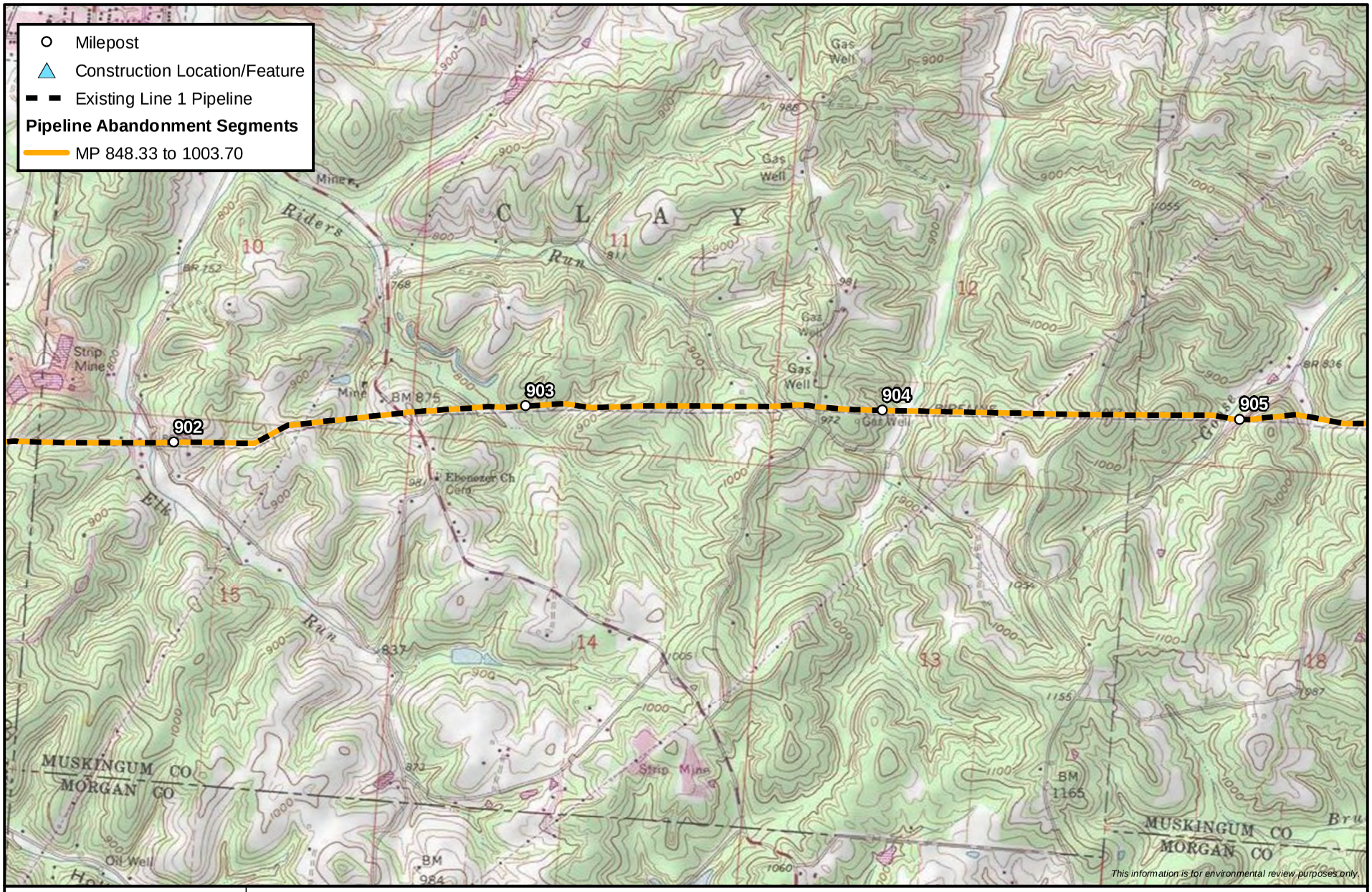

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Figure 1A-1
Idle Line 1 Abandonment Project
Texas Eastern Transmission, LP
USGS Topo Maps of Line 1 from MP 837-1009 and 124 Construction Features
MP 901.54 to 905.35 - Ohio

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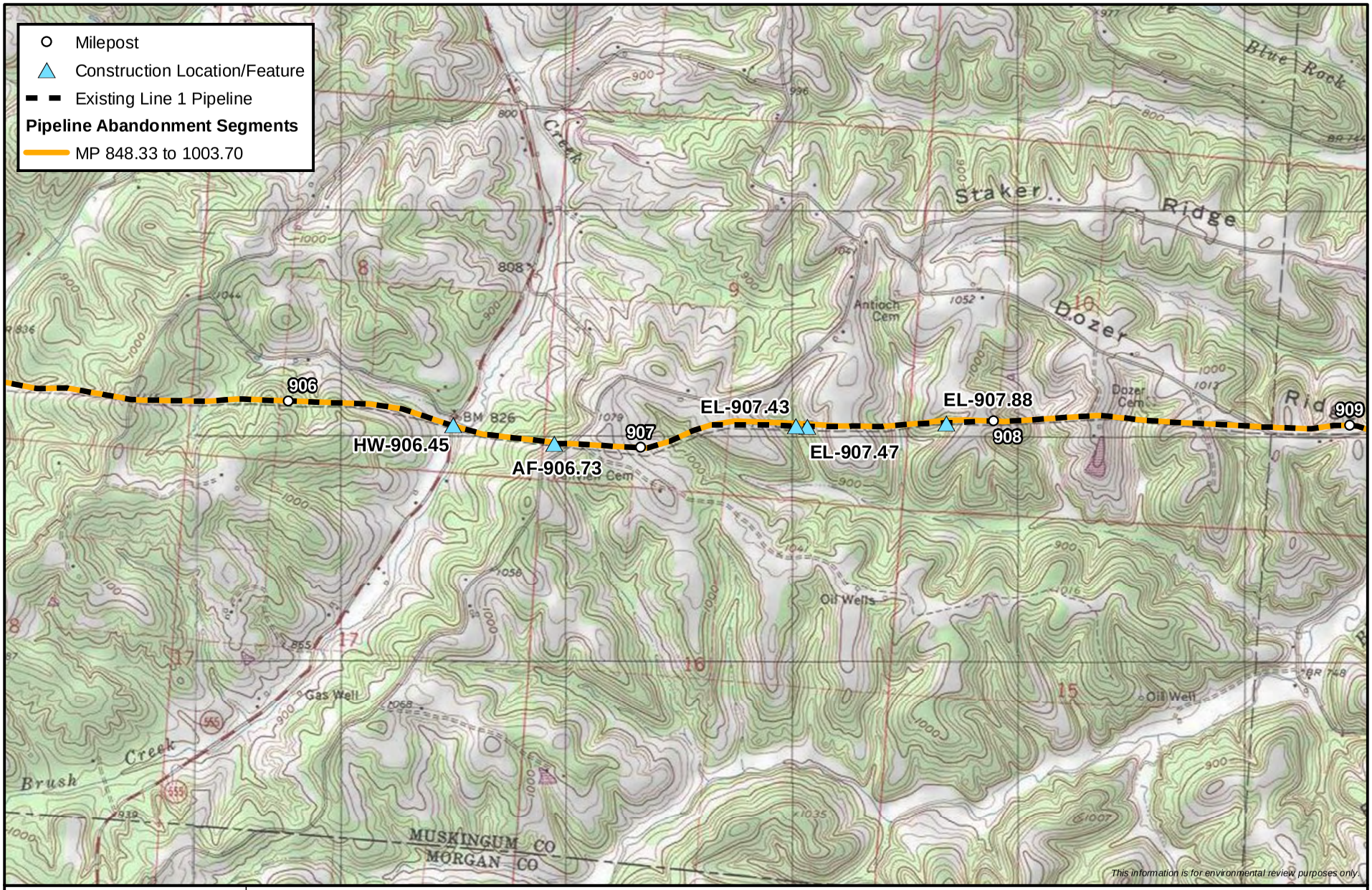

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Figure 1A-1
Idle Line 1 Abandonment Project
Texas Eastern Transmission, LP
USGS Topo Maps of Line 1 from MP 837-1009 and 124 Construction Features
MP 905.21 to 909.04 - Ohio

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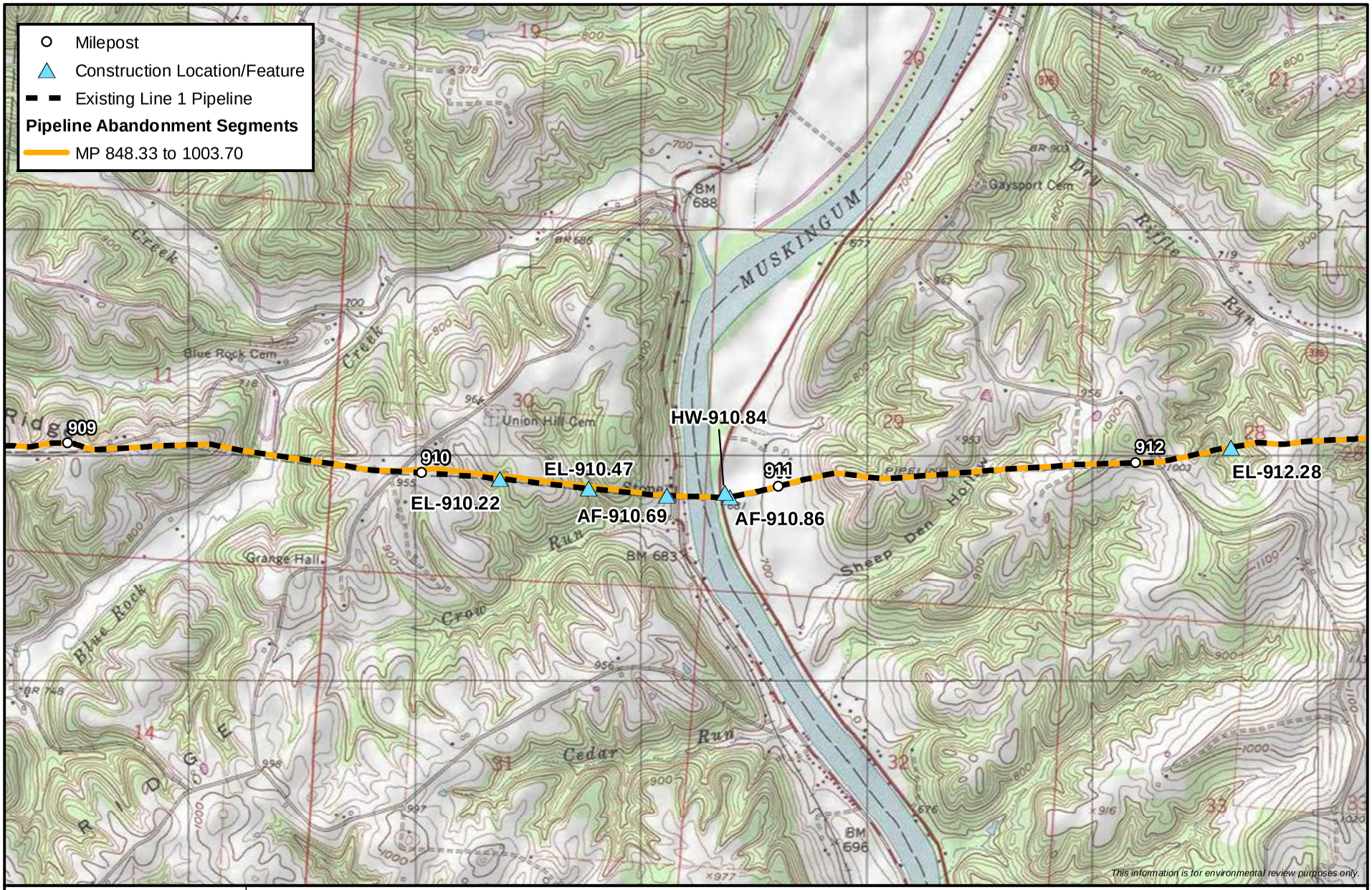

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Figure 1A-1
Idle Line 1 Abandonment Project
Texas Eastern Transmission, LP
USGS Topo Maps of Line 1 from MP 837-1009 and 124 Construction Features
MP 908.83 to 912.64 - Ohio

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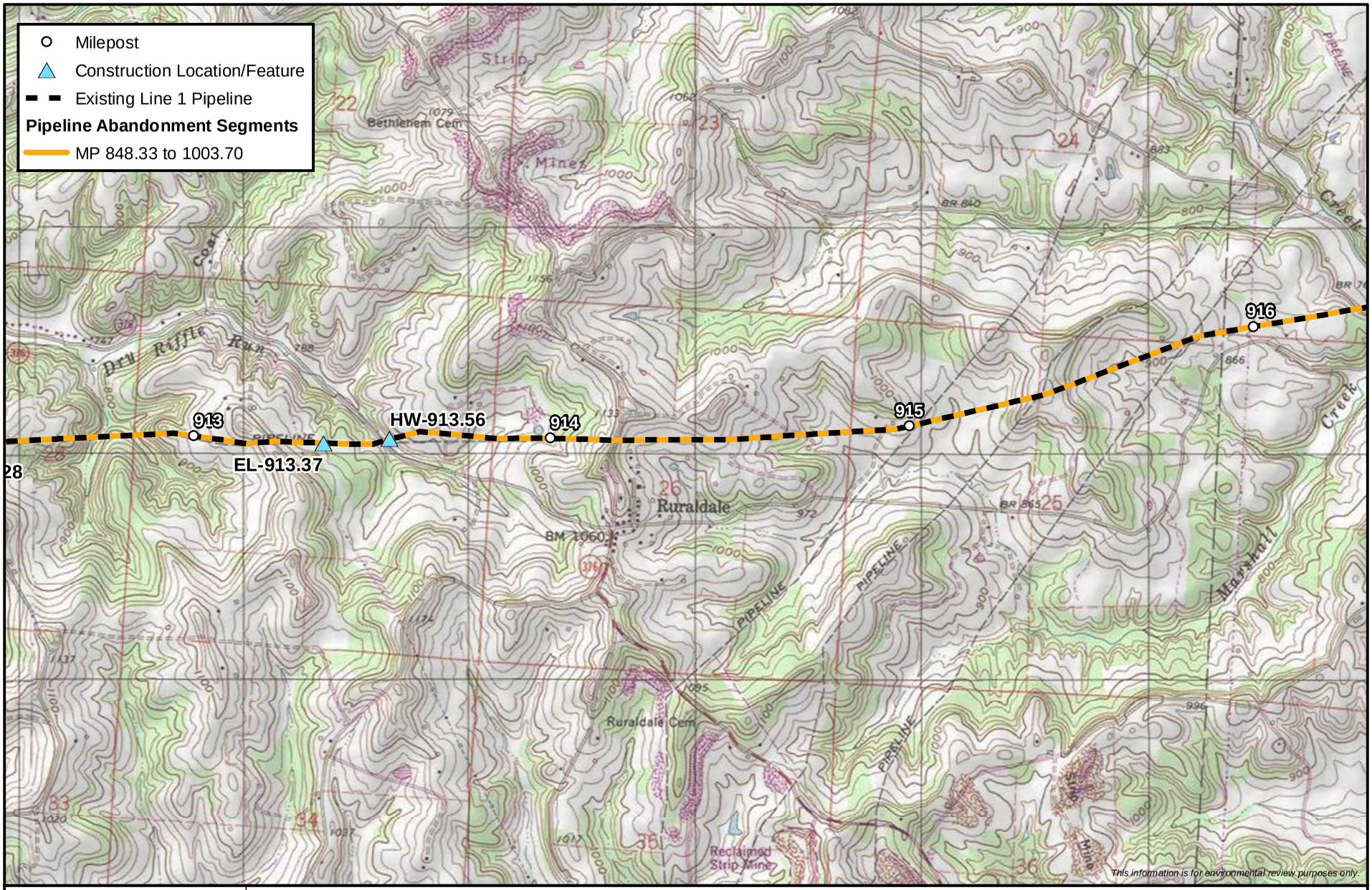

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Figure 1A-1
Idle Line 1 Abandonment Project
Texas Eastern Transmission, LP
USGS Topo Maps of Line 1 from MP 837-1009 and 124 Construction Features
MP 912.48 to 916.31 - Ohio

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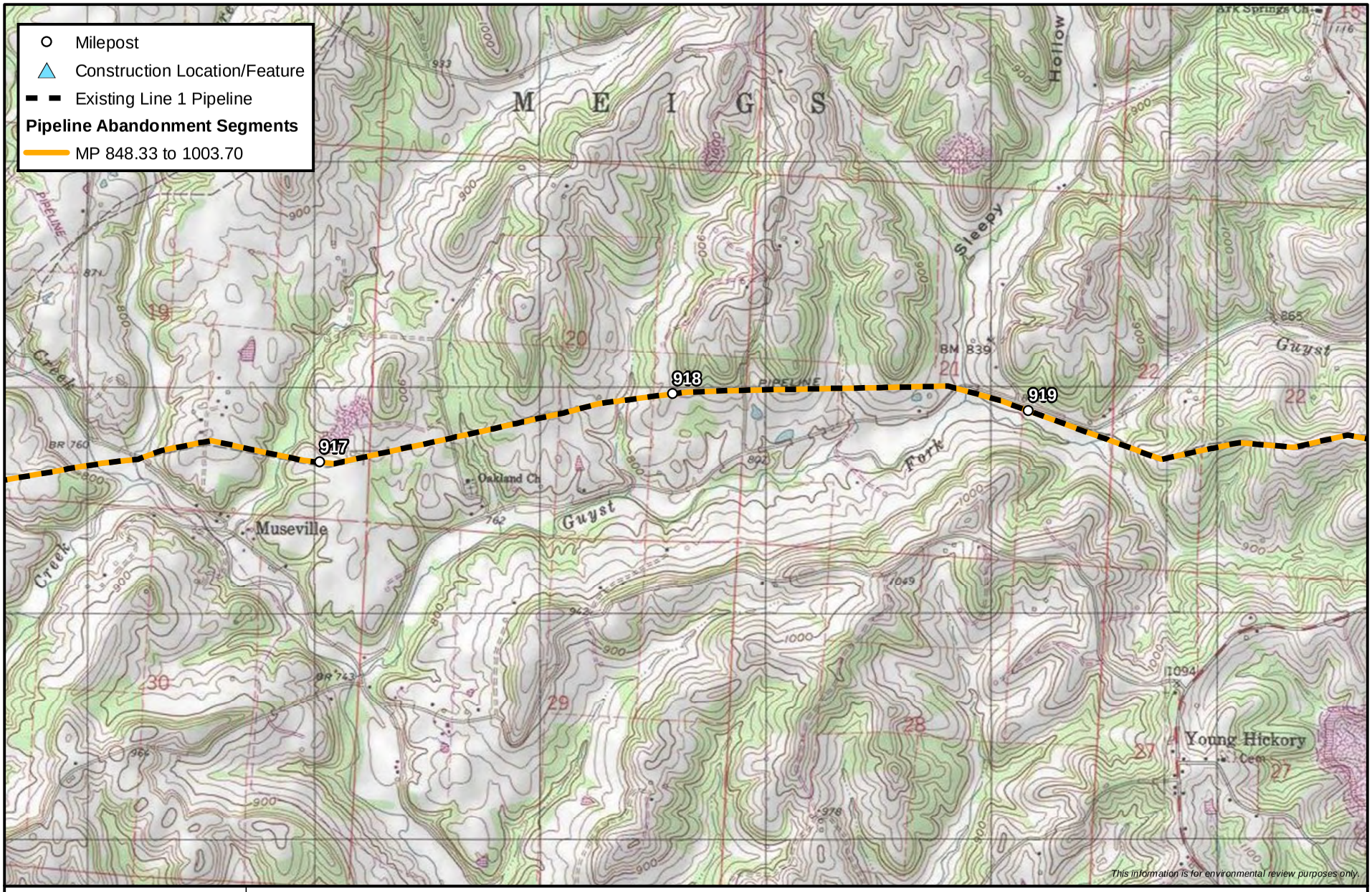

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Figure 1A-1
Idle Line 1 Abandonment Project
Texas Eastern Transmission, LP
USGS Topo Maps of Line 1 from MP 837-1009 and 124 Construction Features
MP 916.12 to 919.97 - Ohio

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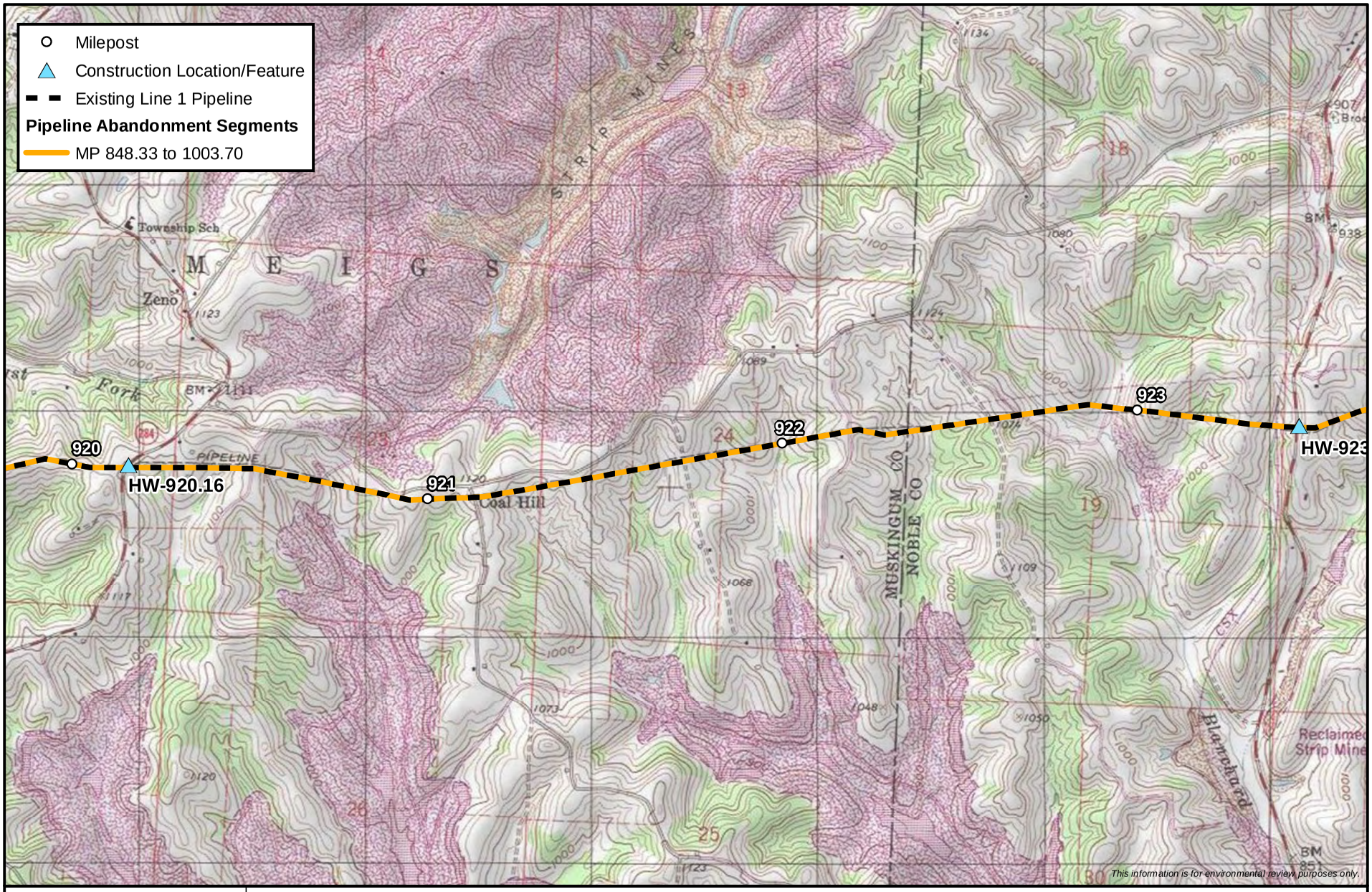

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Figure 1A-1
Idle Line 1 Abandonment Project
Texas Eastern Transmission, LP
USGS Topo Maps of Line 1 from MP 837-1009 and 124 Construction Features
MP 919.82 to 923.64 - Ohio

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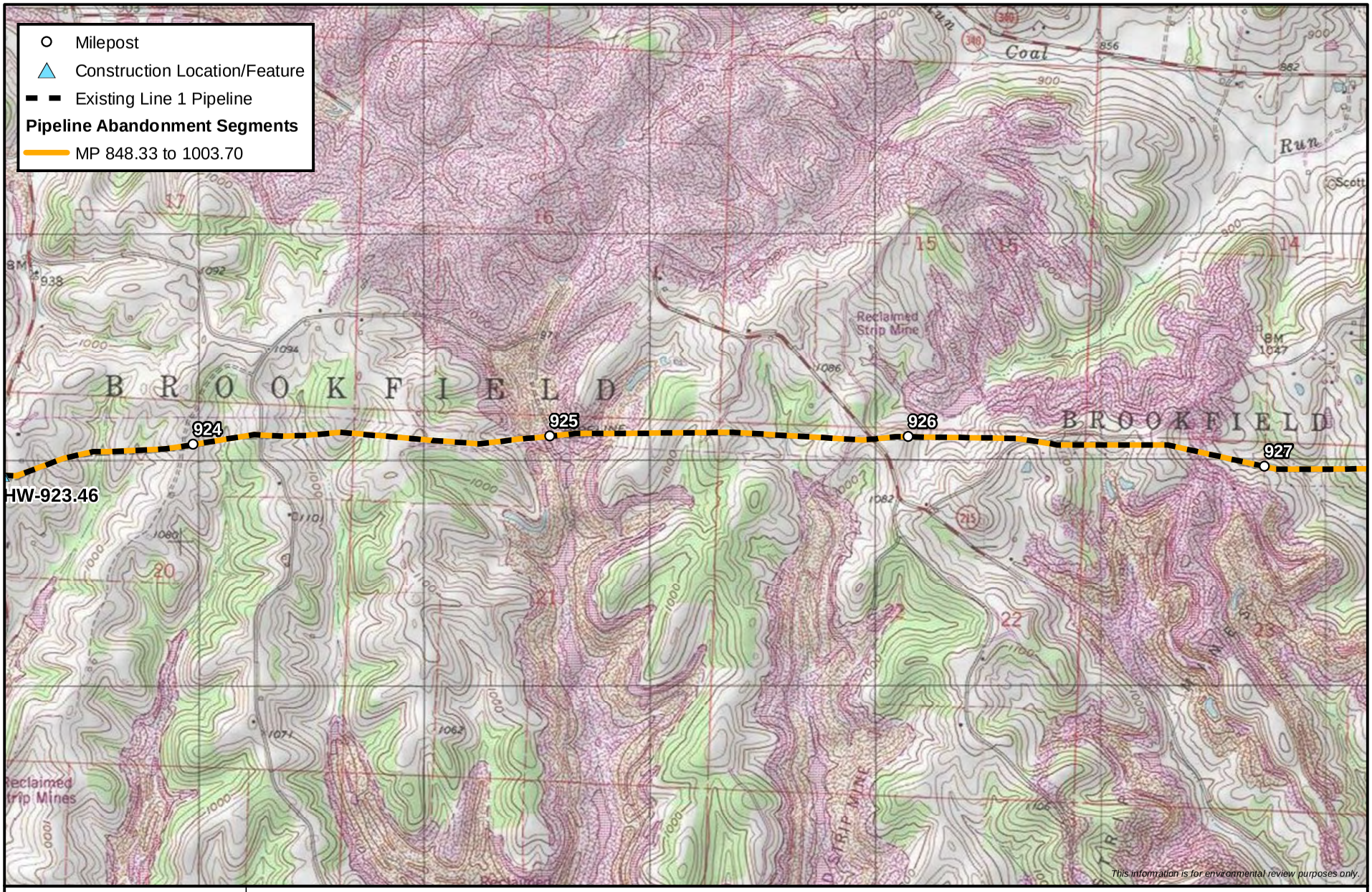

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Figure 1A-1
Idle Line 1 Abandonment Project
Texas Eastern Transmission, LP
USGS Topo Maps of Line 1 from MP 837-1009 and 124 Construction Features
MP 923.47 to 927.28 - Ohio

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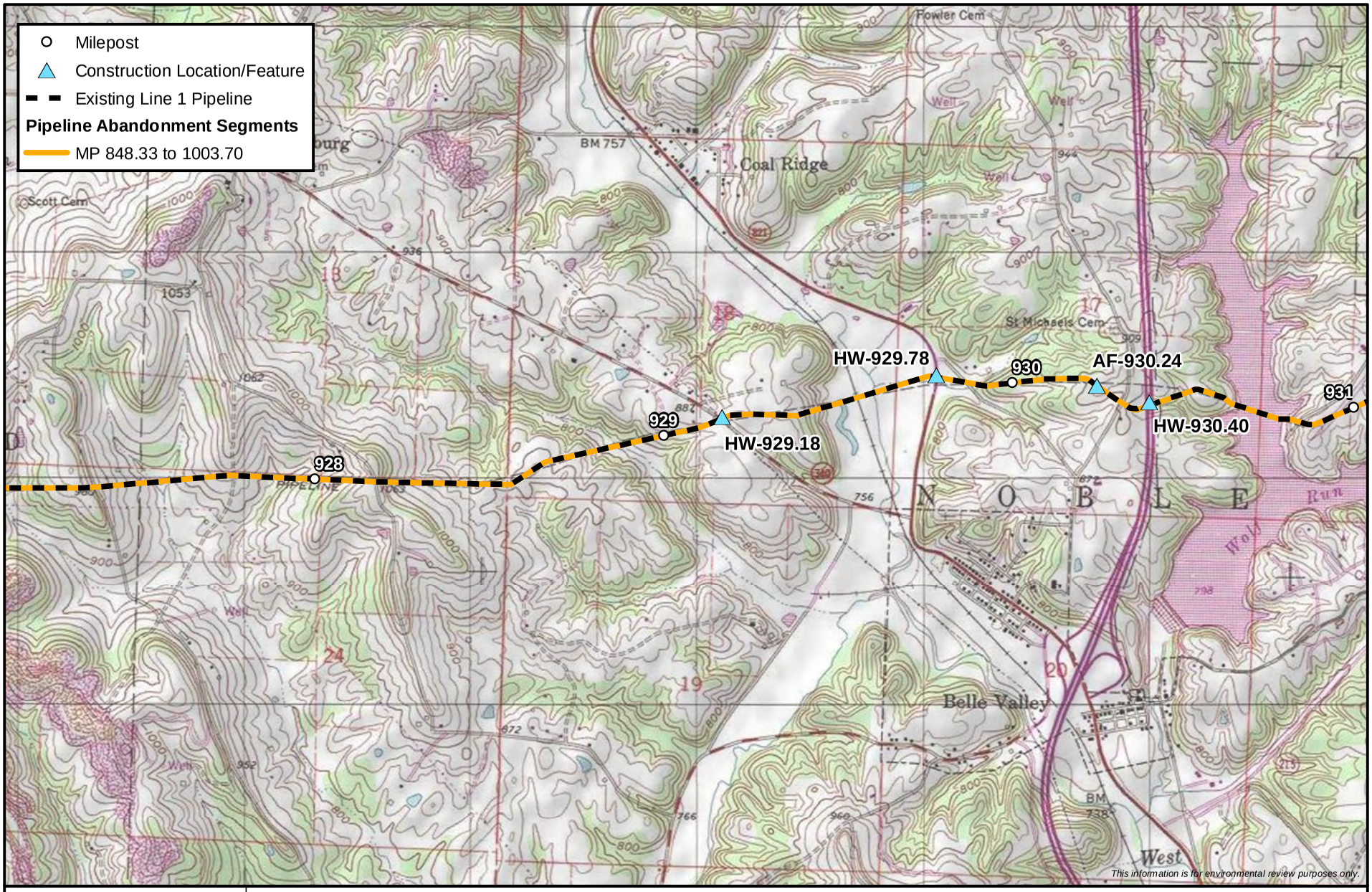

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Figure 1A-1
Idle Line 1 Abandonment Project
Texas Eastern Transmission, LP
USGS Topo Maps of Line 1 from MP 837-1009 and 124 Construction Features
MP 927.14 to 931.03 - Ohio

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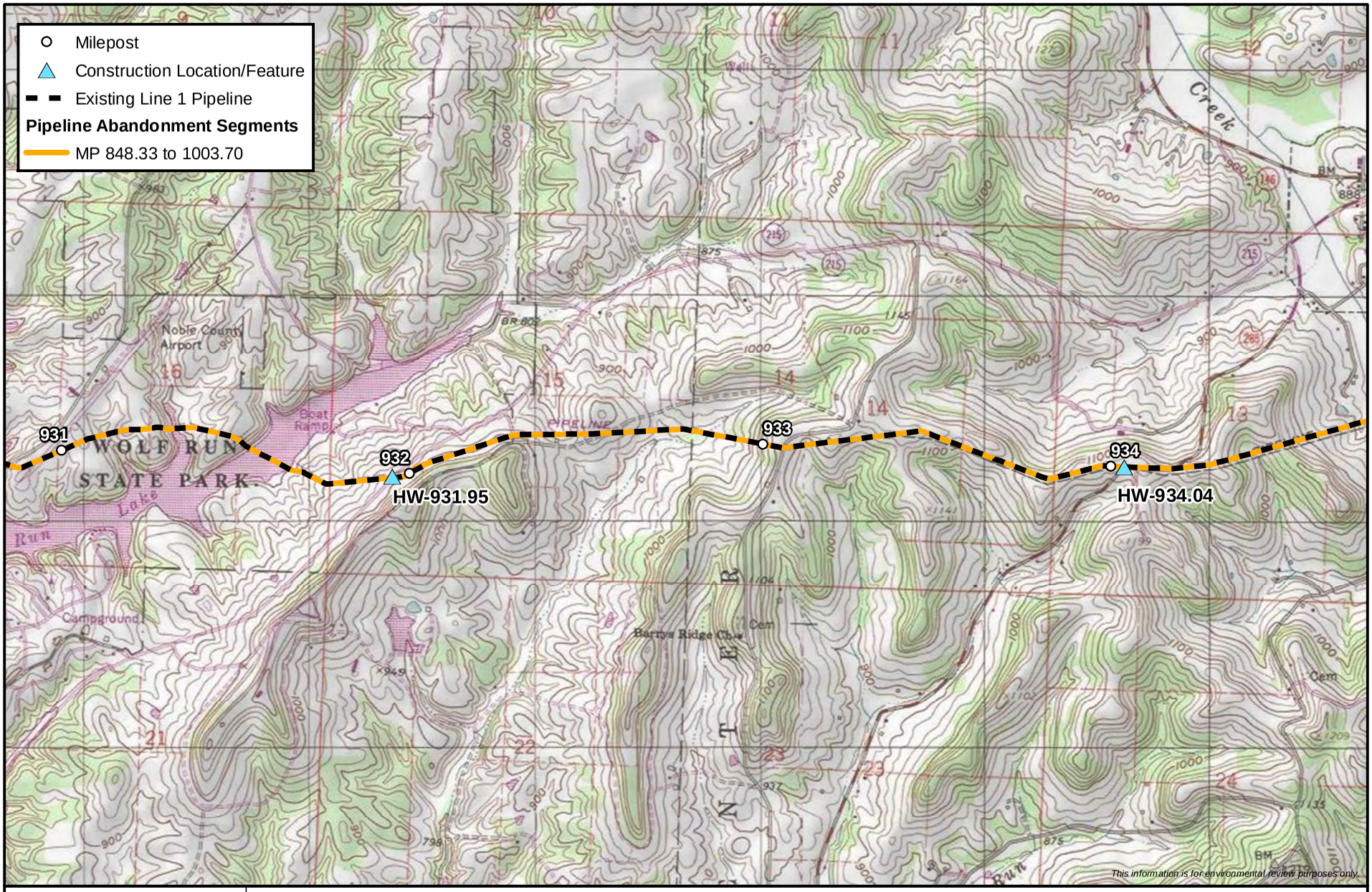

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Figure 1A-1
Idle Line 1 Abandonment Project
Texas Eastern Transmission, LP
USGS Topo Maps of Line 1 from MP 837-1009 and 124 Construction Features
MP 930.84 to 934.72 - Ohio

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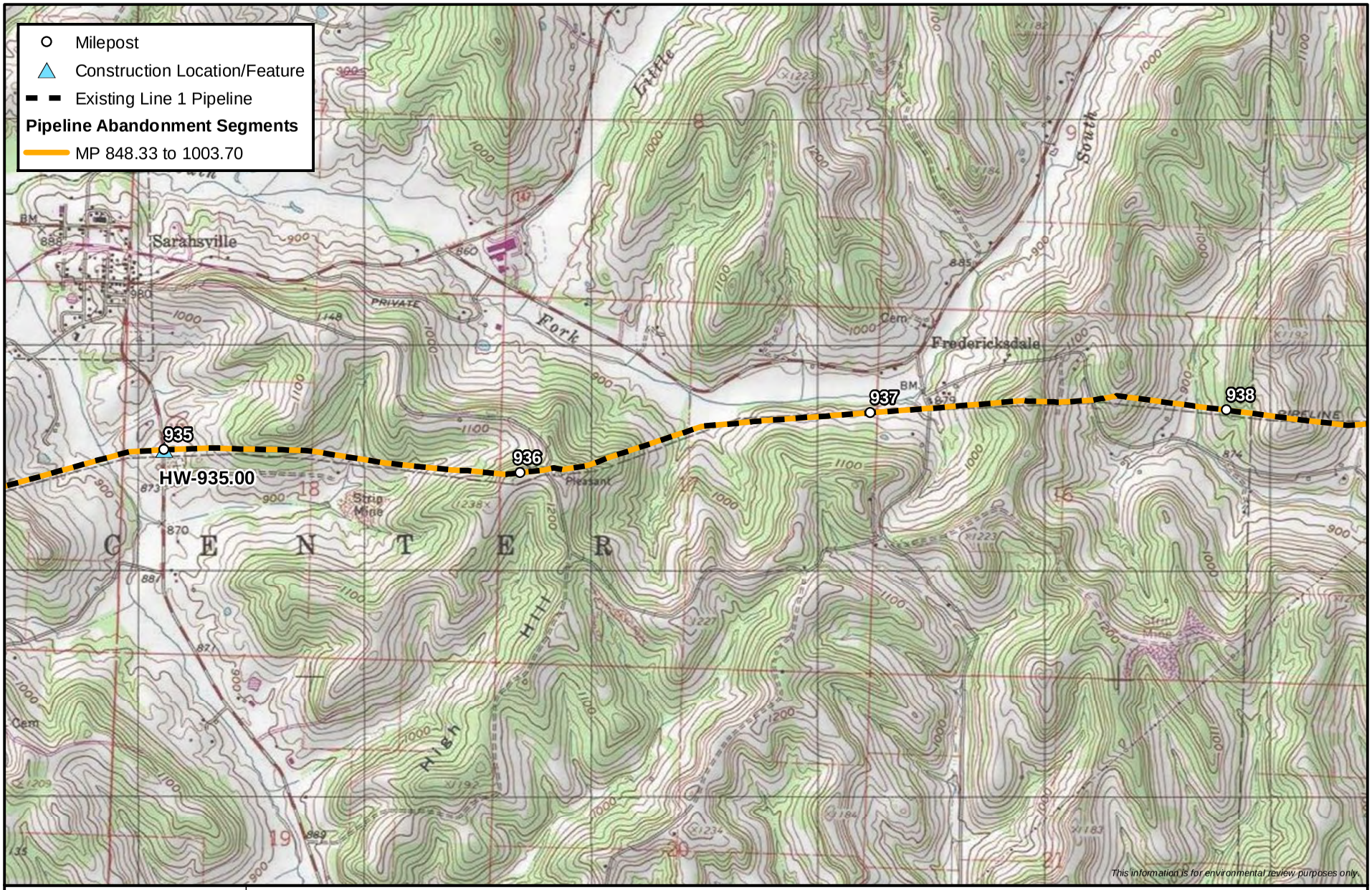

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Figure 1A-1
Idle Line 1 Abandonment Project
Texas Eastern Transmission, LP
USGS Topo Maps of Line 1 from MP 837-1009 and 124 Construction Features
MP 934.55 to 938.39 - Ohio

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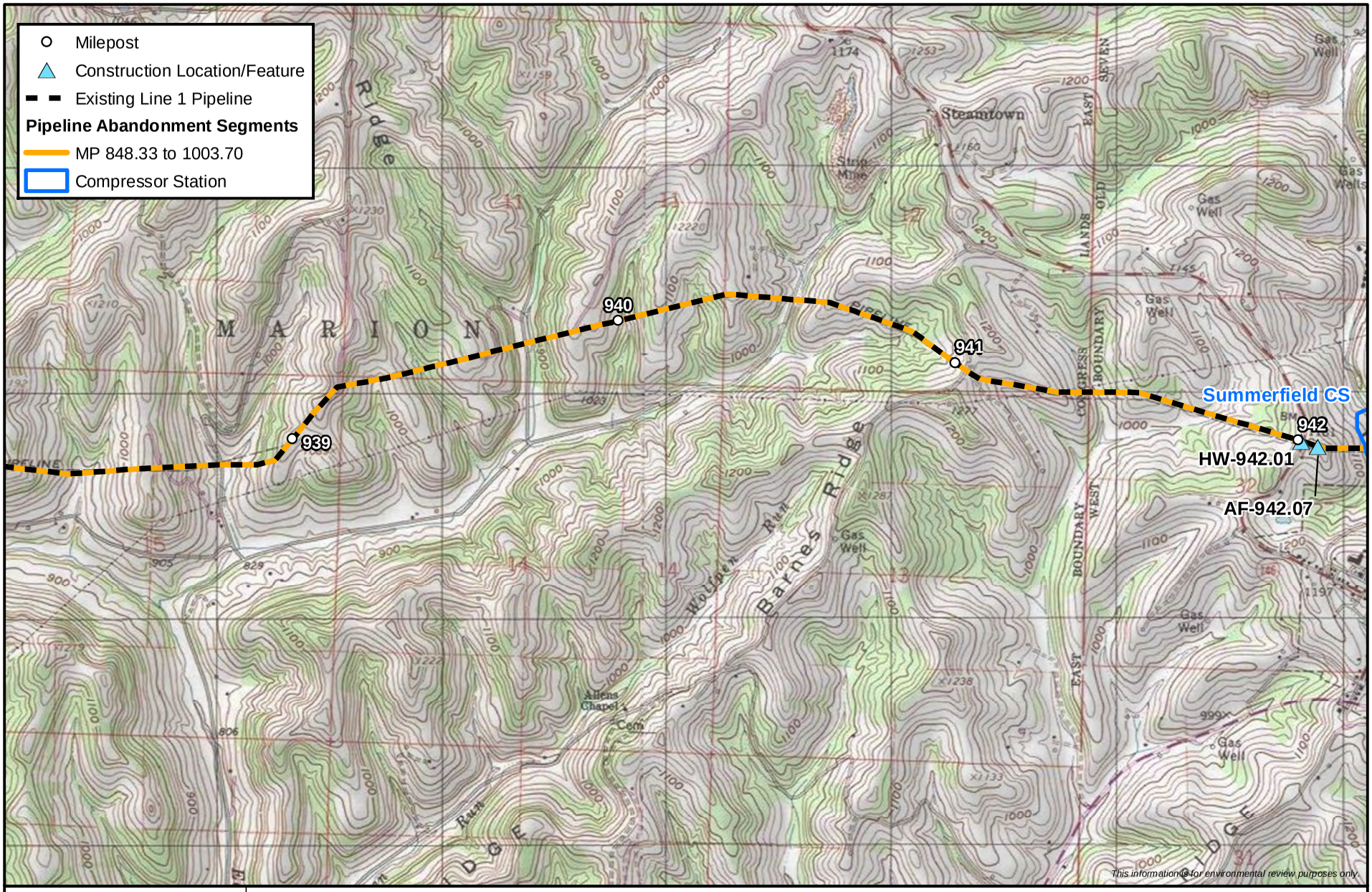

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Figure 1A-1
Idle Line 1 Abandonment Project
Texas Eastern Transmission, LP
USGS Topo Maps of Line 1 from MP 837-1009 and 124 Construction Features
MP 938.17 to 942.19 - Ohio

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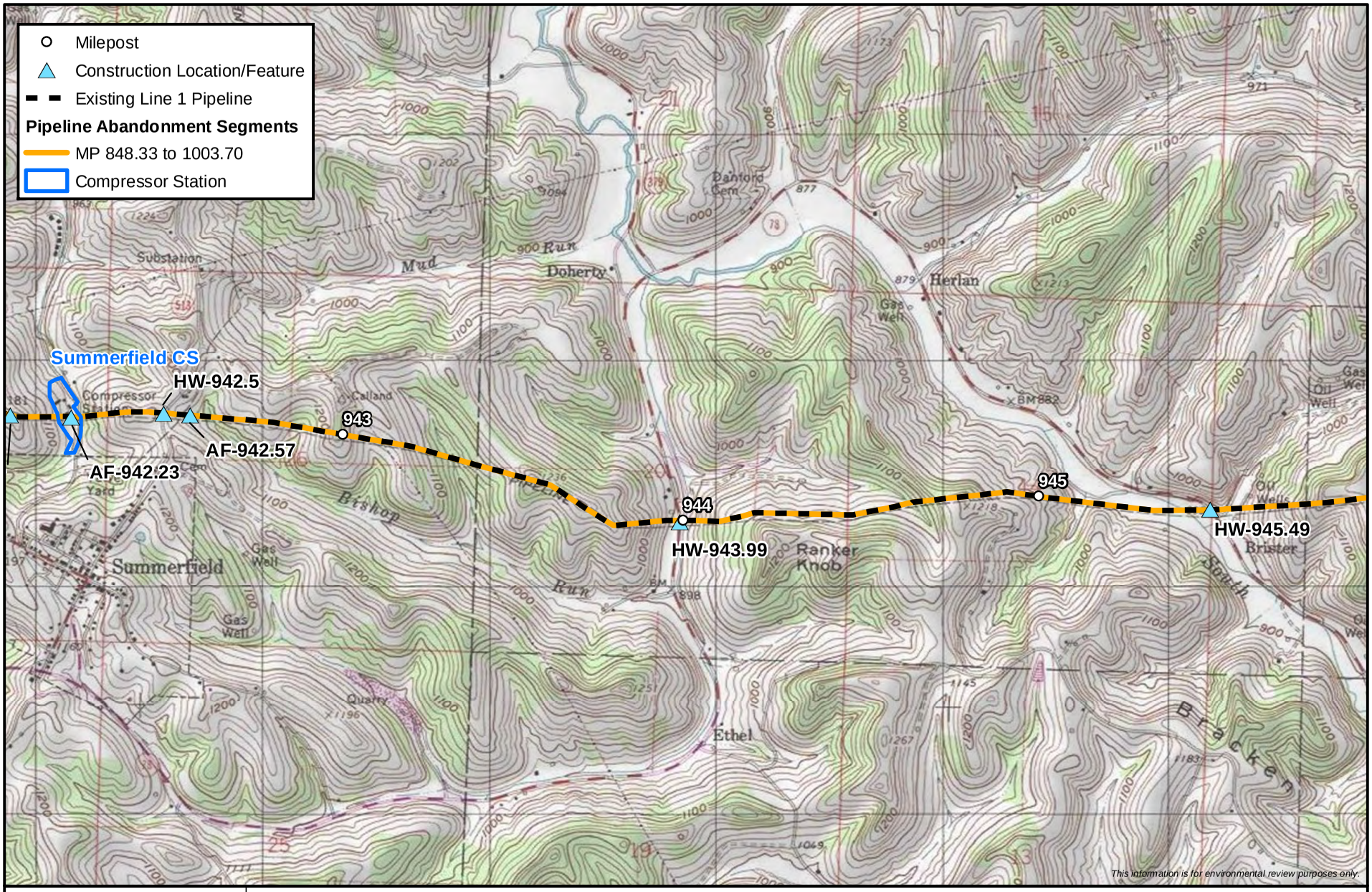

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Figure 1A-1
Idle Line 1 Abandonment Project
Texas Eastern Transmission, LP
USGS Topo Maps of Line 1 from MP 837-1009 and 124 Construction Features
MP 942.05 to 945.91 - Ohio

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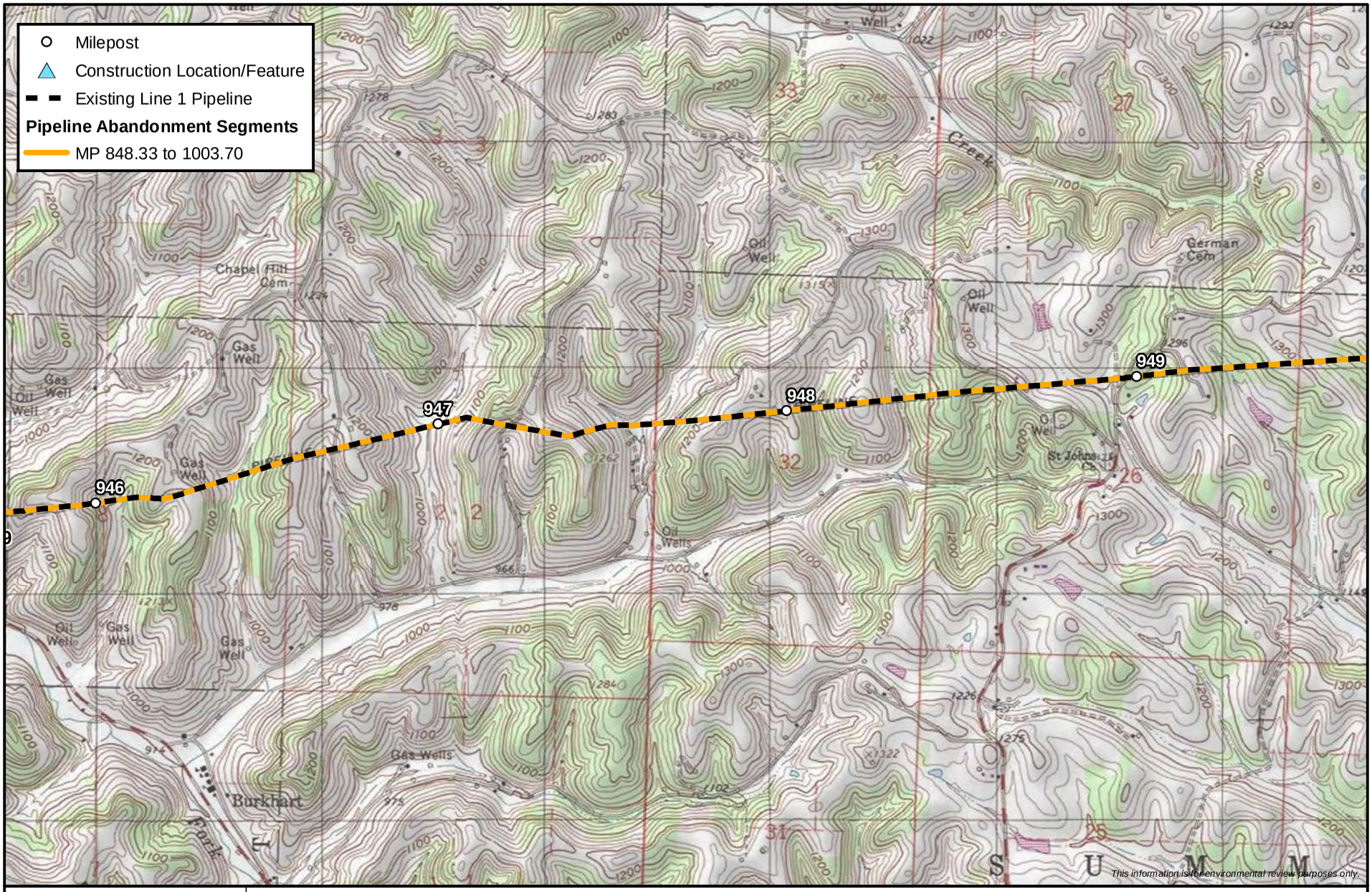

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Figure 1A-1
Idle Line 1 Abandonment Project
Texas Eastern Transmission, LP
USGS Topo Maps of Line 1 from MP 837-1009 and 124 Construction Features
MP 945.75 to 949.66 - Ohio

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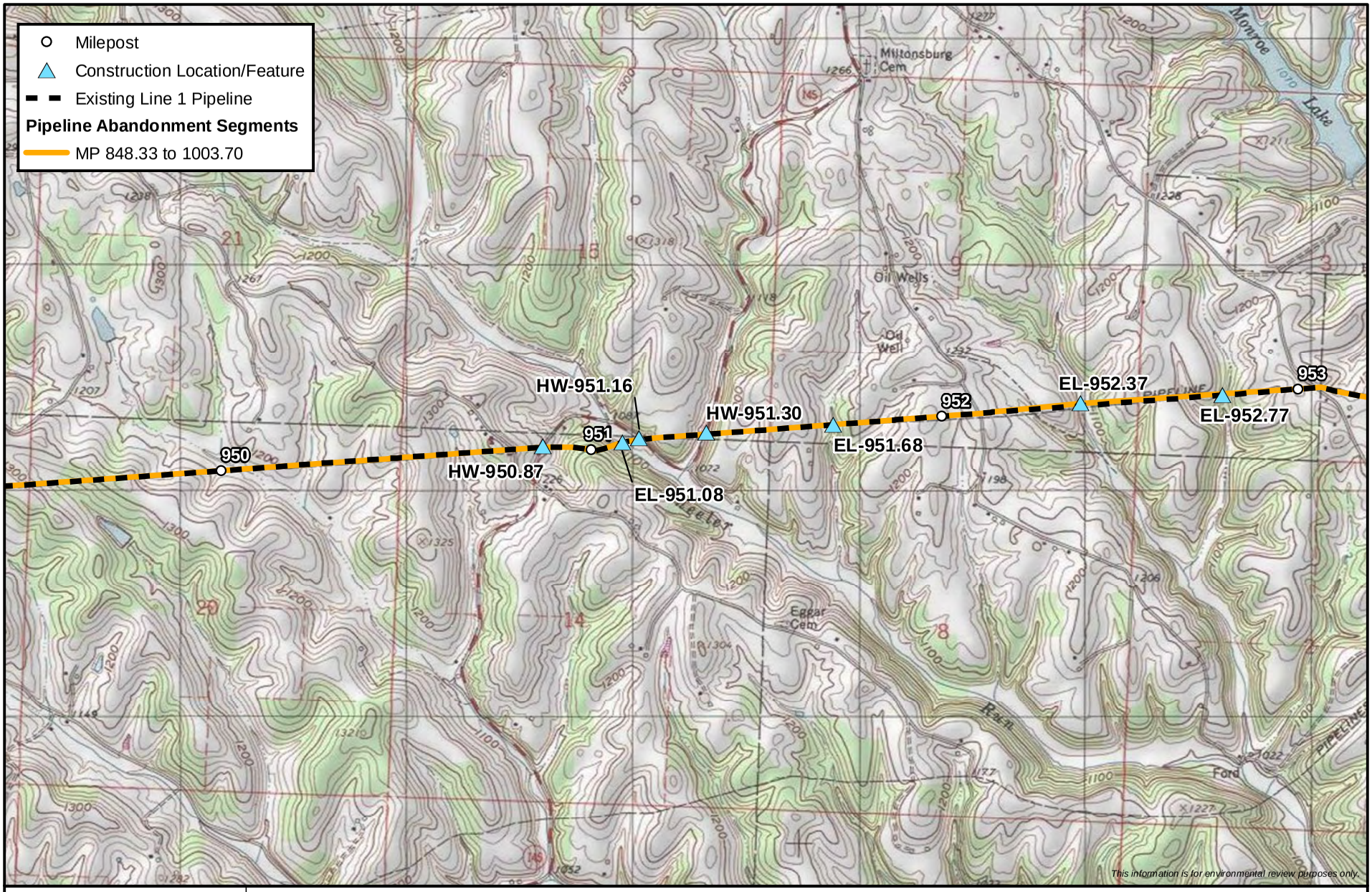

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Figure 1A-1
Idle Line 1 Abandonment Project
Texas Eastern Transmission, LP
USGS Topo Maps of Line 1 from MP 837-1009 and 124 Construction Features
MP 949.42 to 953.19 - Ohio

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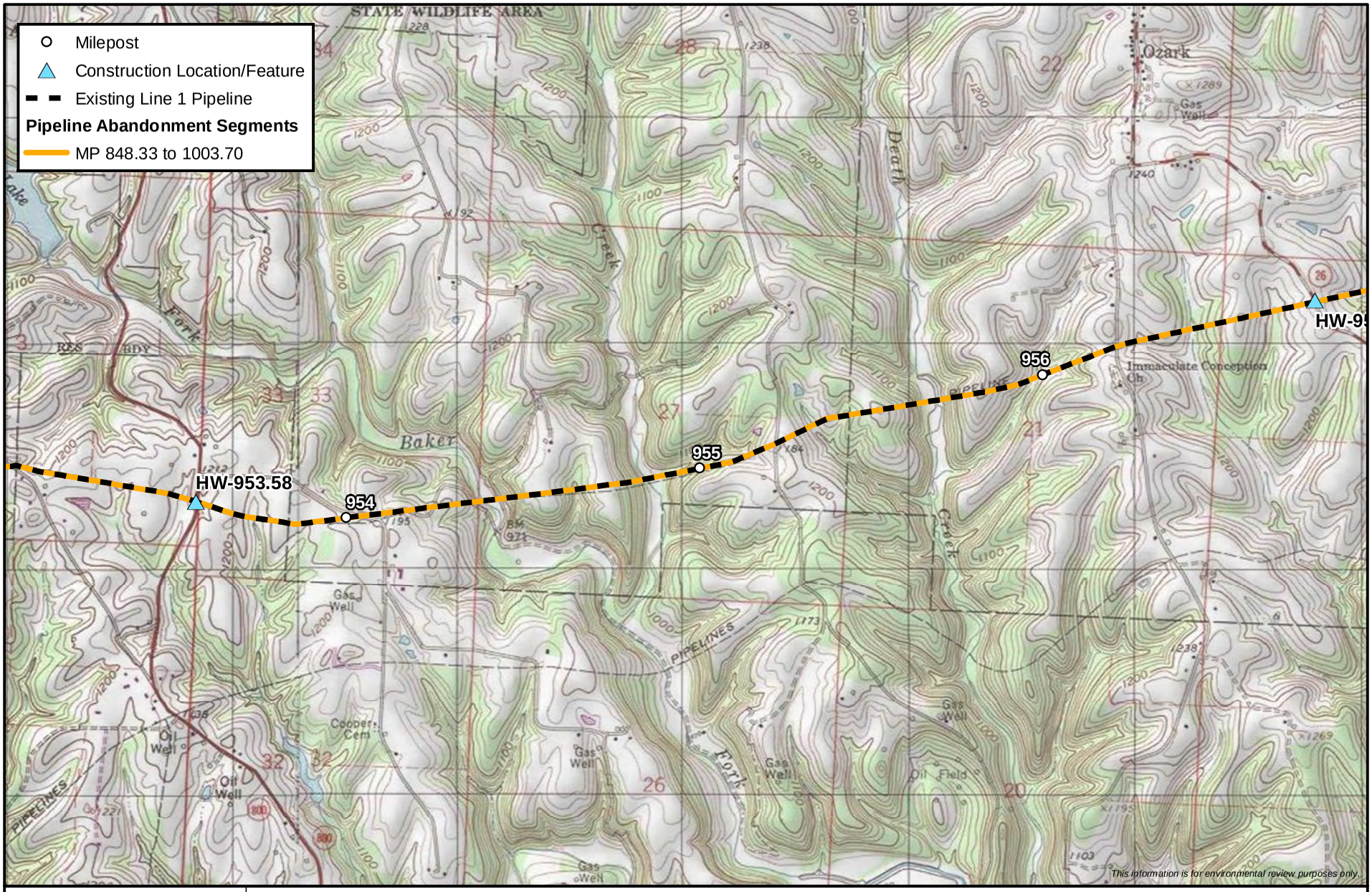

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Figure 1A-1
Idle Line 1 Abandonment Project
Texas Eastern Transmission, LP
USGS Topo Maps of Line 1 from MP 837-1009 and 124 Construction Features
MP 953.04 to 956.94 - Ohio

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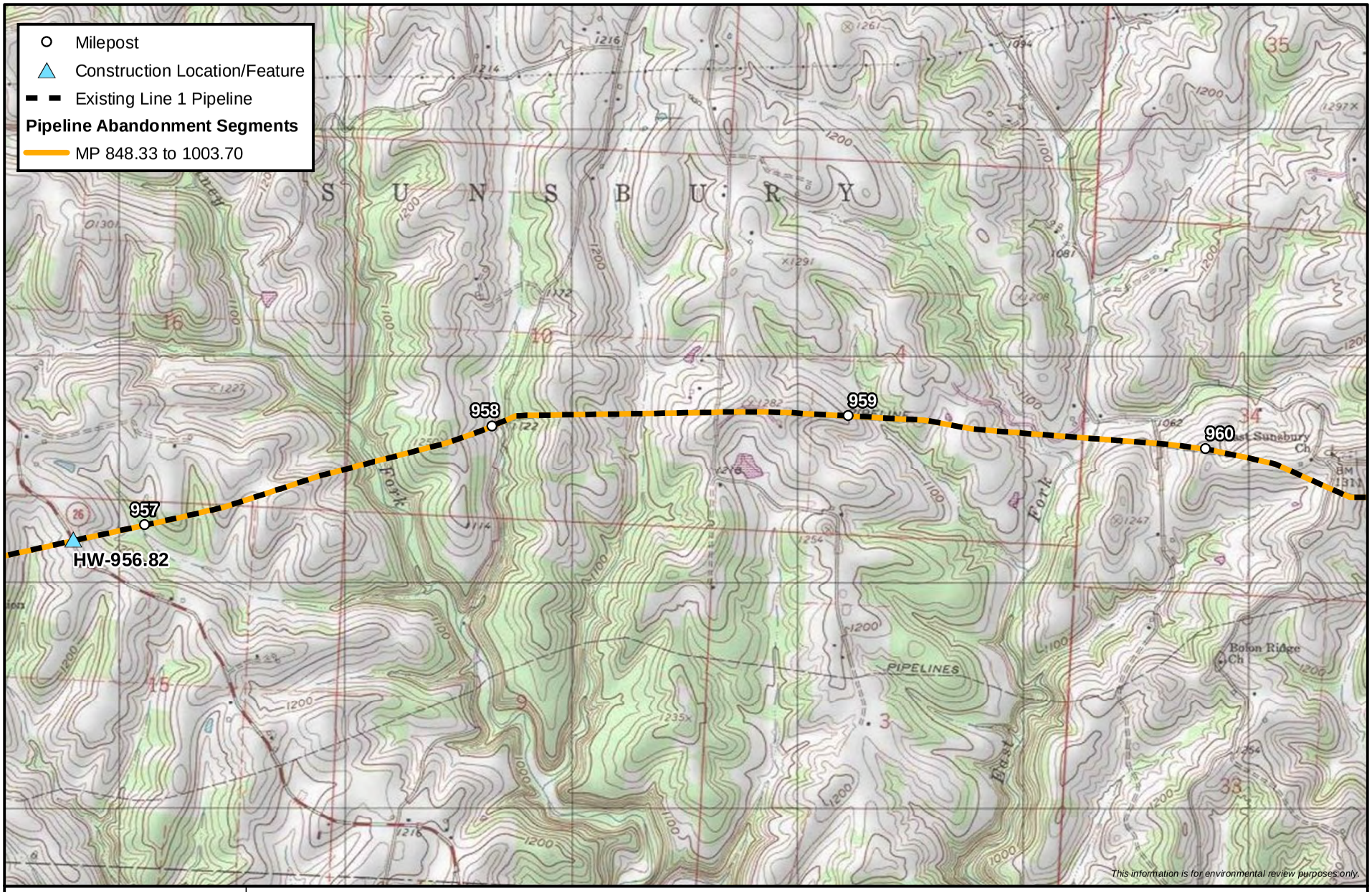

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Figure 1A-1
Idle Line 1 Abandonment Project
Texas Eastern Transmission, LP
USGS Topo Maps of Line 1 from MP 837-1009 and 124 Construction Features
MP 956.61 to 960.46 - Ohio

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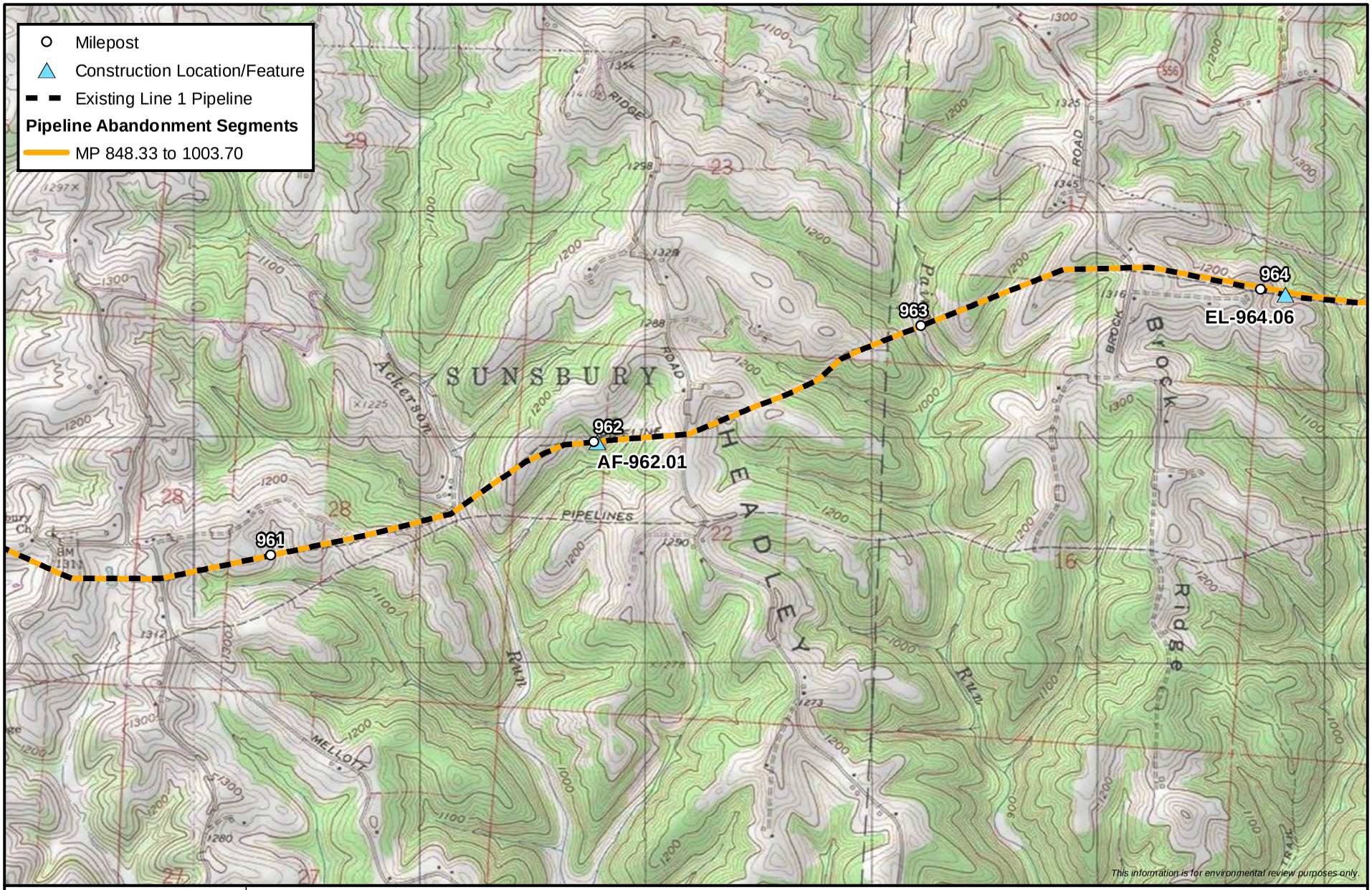

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Figure 1A-1
Idle Line 1 Abandonment Project
Texas Eastern Transmission, LP
USGS Topo Maps of Line 1 from MP 837-1009 and 124 Construction Features
MP 960.24 to 964.29 - Ohio

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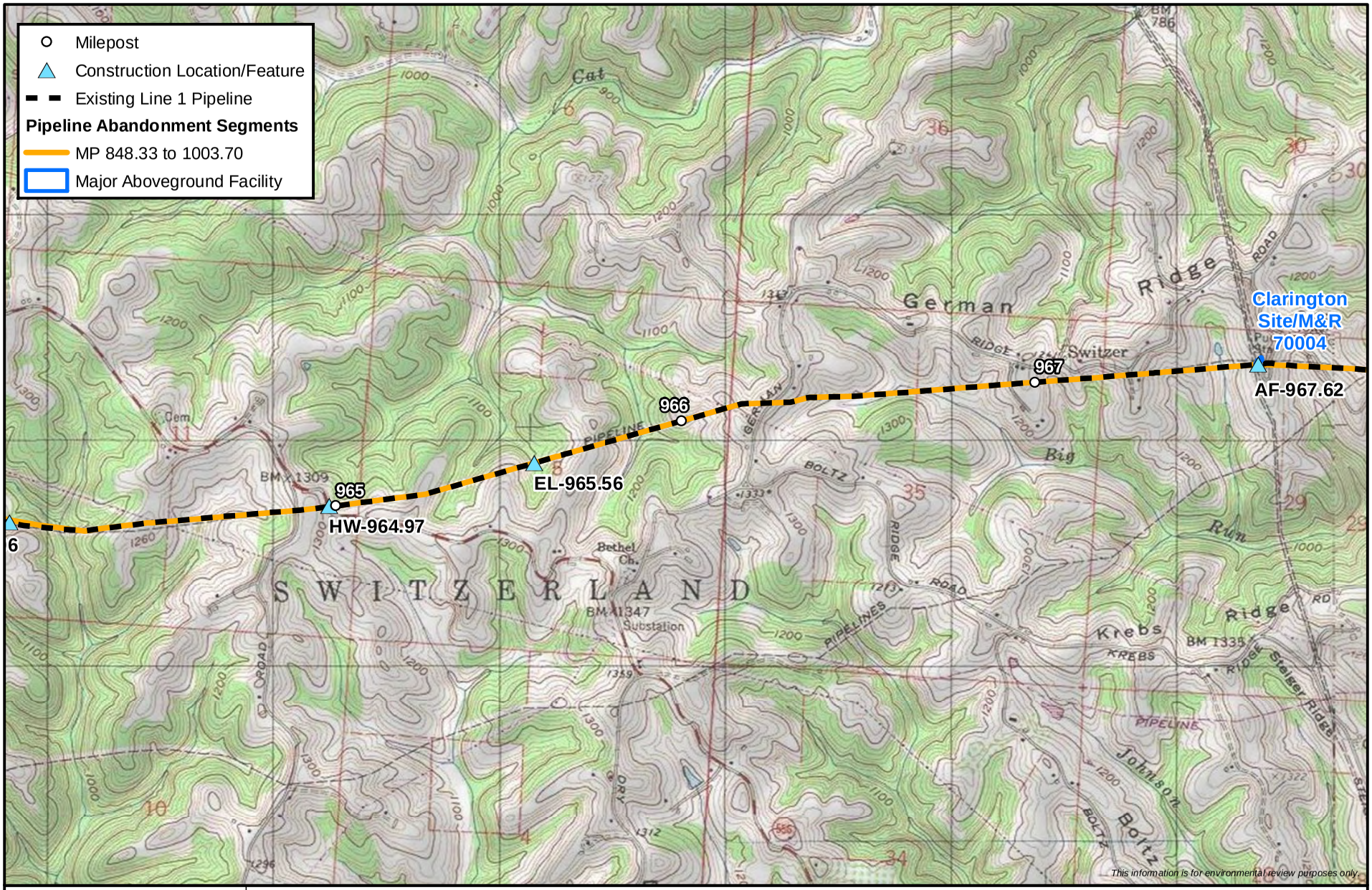

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Figure 1A-1
Idle Line 1 Abandonment Project
Texas Eastern Transmission, LP
USGS Topo Maps of Line 1 from MP 837-1009 and 124 Construction Features
MP 964.07 to 967.93 - Ohio

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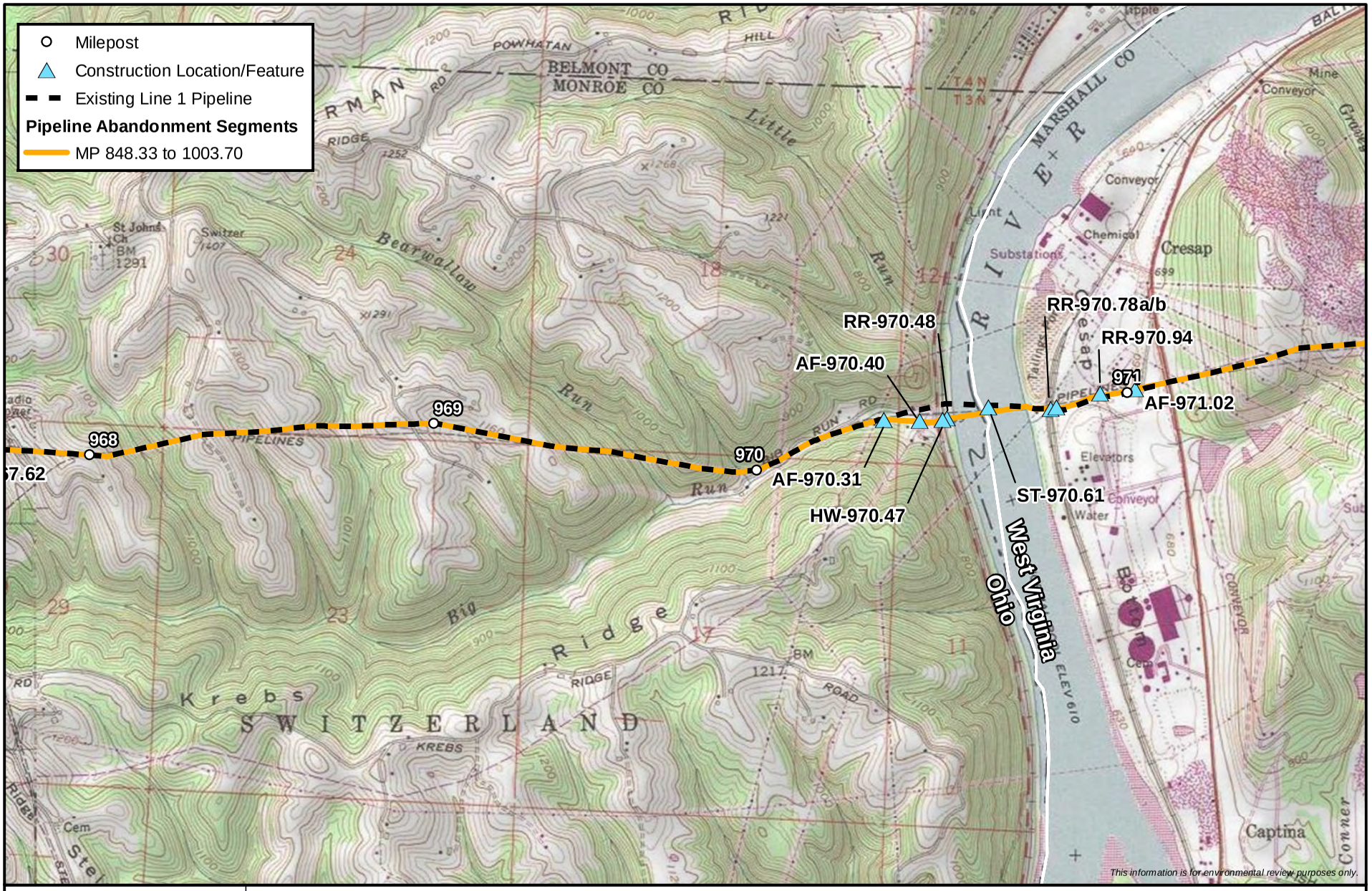

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Figure 1A-1
Idle Line 1 Abandonment Project
Texas Eastern Transmission, LP
USGS Topo Maps of Line 1 from MP 837-1009 and 124 Construction Features
MP 967.77 to 971.66 - Ohio/West Virginia

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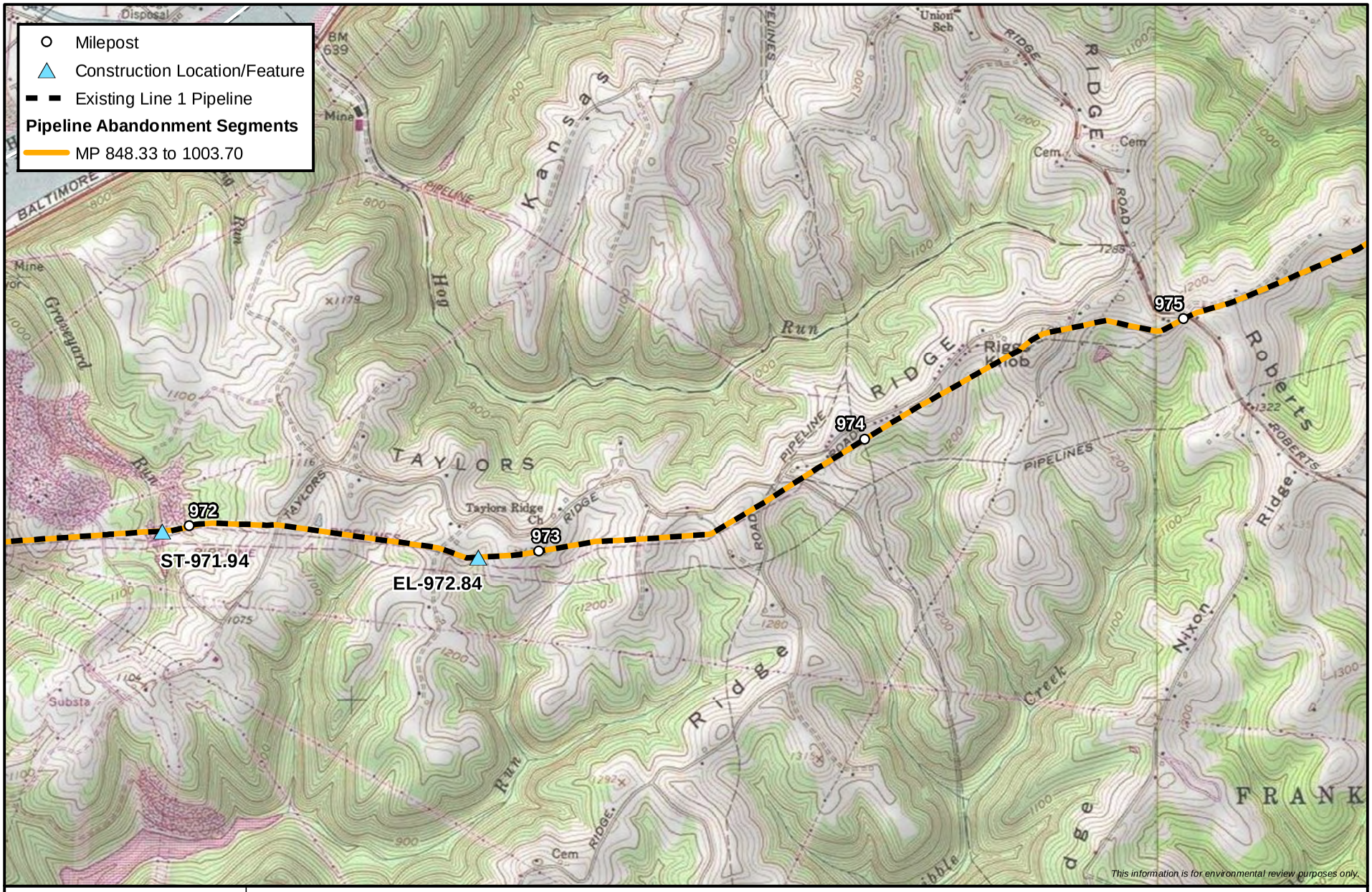

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Figure 1A-1
Idle Line 1 Abandonment Project
Texas Eastern Transmission, LP
USGS Topo Maps of Line 1 from MP 837-1009 and 124 Construction Features
MP 971.50 to 975.55 - West Virginia

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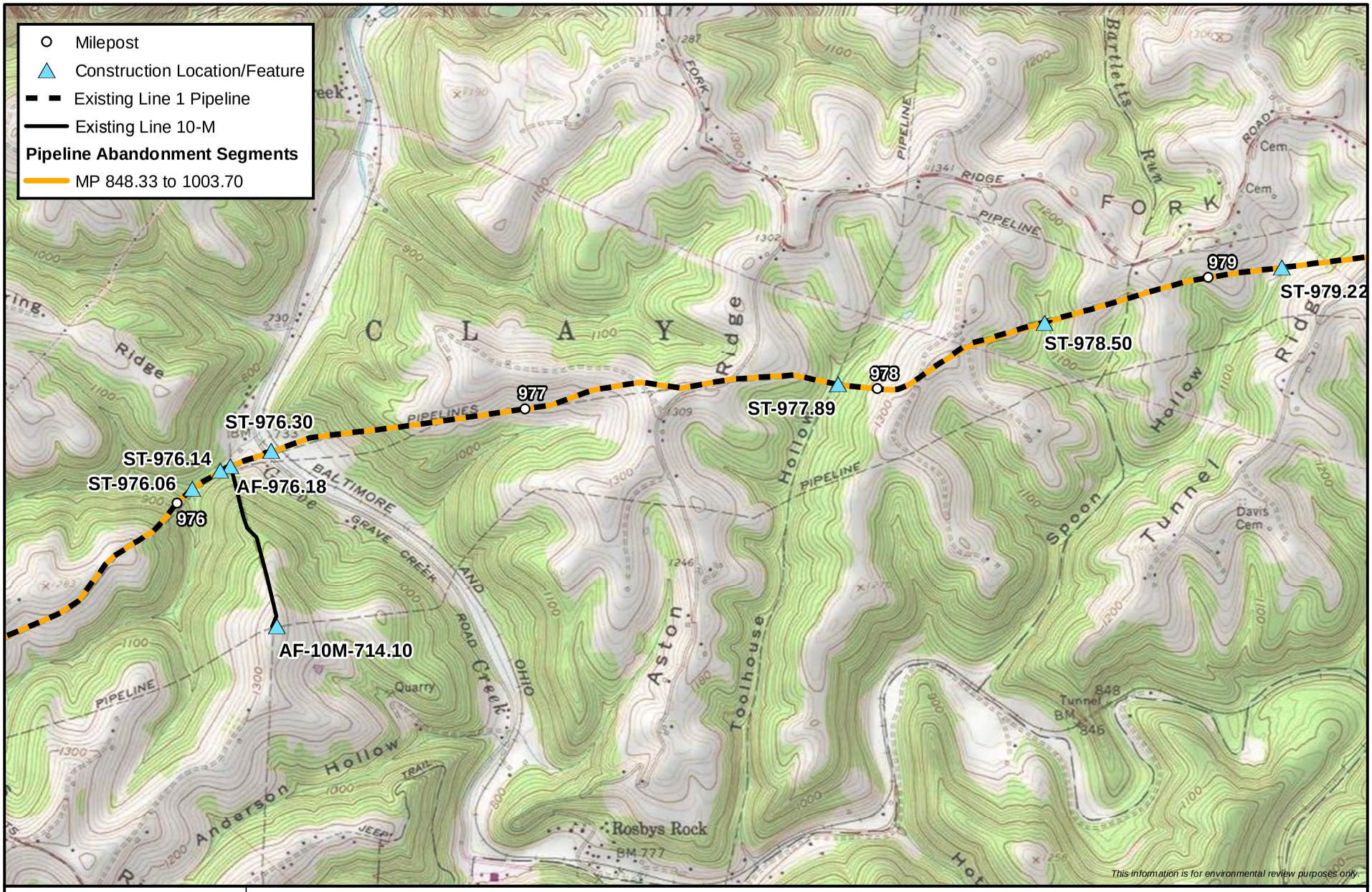

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Figure 1A-1
Idle Line 1 Abandonment Project
Texas Eastern Transmission, LP
USGS Topo Maps of Line 1 from MP 837-1009 and 124 Construction Features
MP 975.38 to 979.45 - West Virginia

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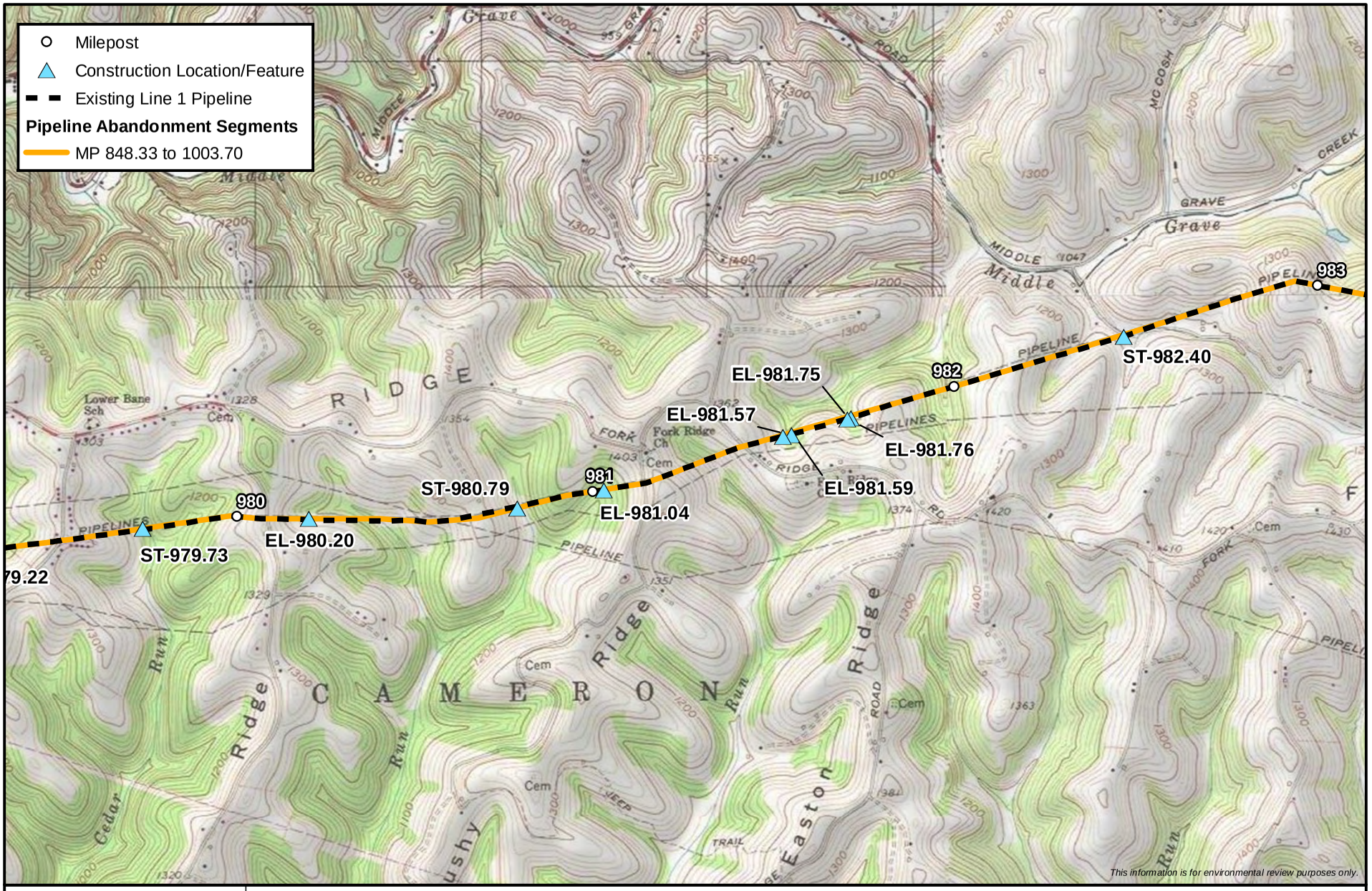

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Figure 1A-1
Idle Line 1 Abandonment Project
Texas Eastern Transmission, LP
USGS Topo Maps of Line 1 from MP 837-1009 and 124 Construction Features
MP 979.35 to 983.14 - West Virginia

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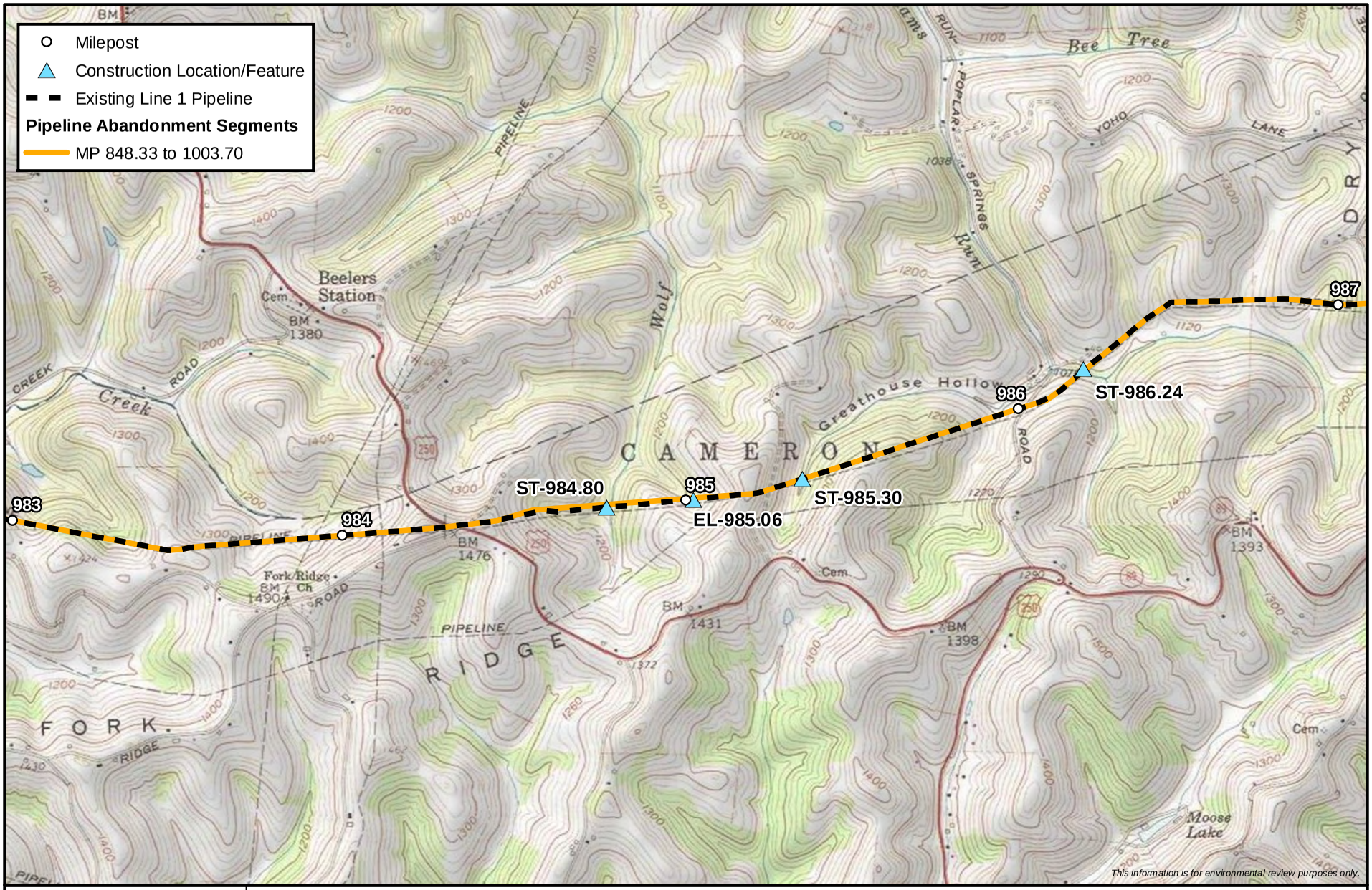

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Figure 1A-1
Idle Line 1 Abandonment Project
Texas Eastern Transmission, LP
USGS Topo Maps of Line 1 from MP 837-1009 and 124 Construction Features
MP 982.99 to 987.07 - West Virginia

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Figure 1A-1
Idle Line 1 Abandonment Project
Texas Eastern Transmission, LP
USGS Topo Maps of Line 1 from MP 837-1009 and 124 Construction Features
MP 986.62 to 990.46 - West Virginia/Pennsylvania

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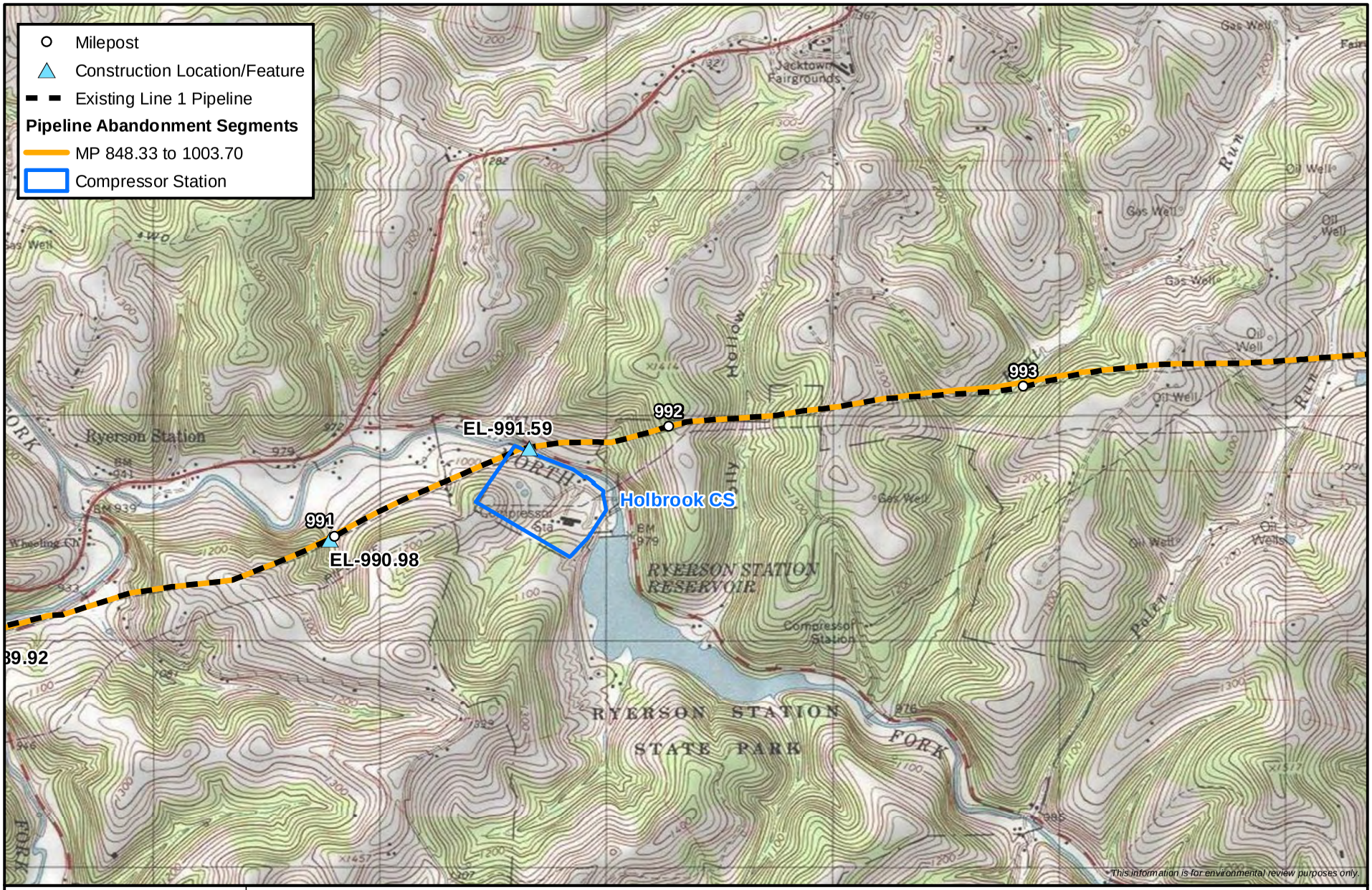

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Figure 1A-1
Idle Line 1 Abandonment Project
Texas Eastern Transmission, LP
USGS Topo Maps of Line 1 from MP 837-1009 and 124 Construction Features
MP 990.05 to 993.96 - Pennsylvania

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Natural Resource Group, an ERM Group company

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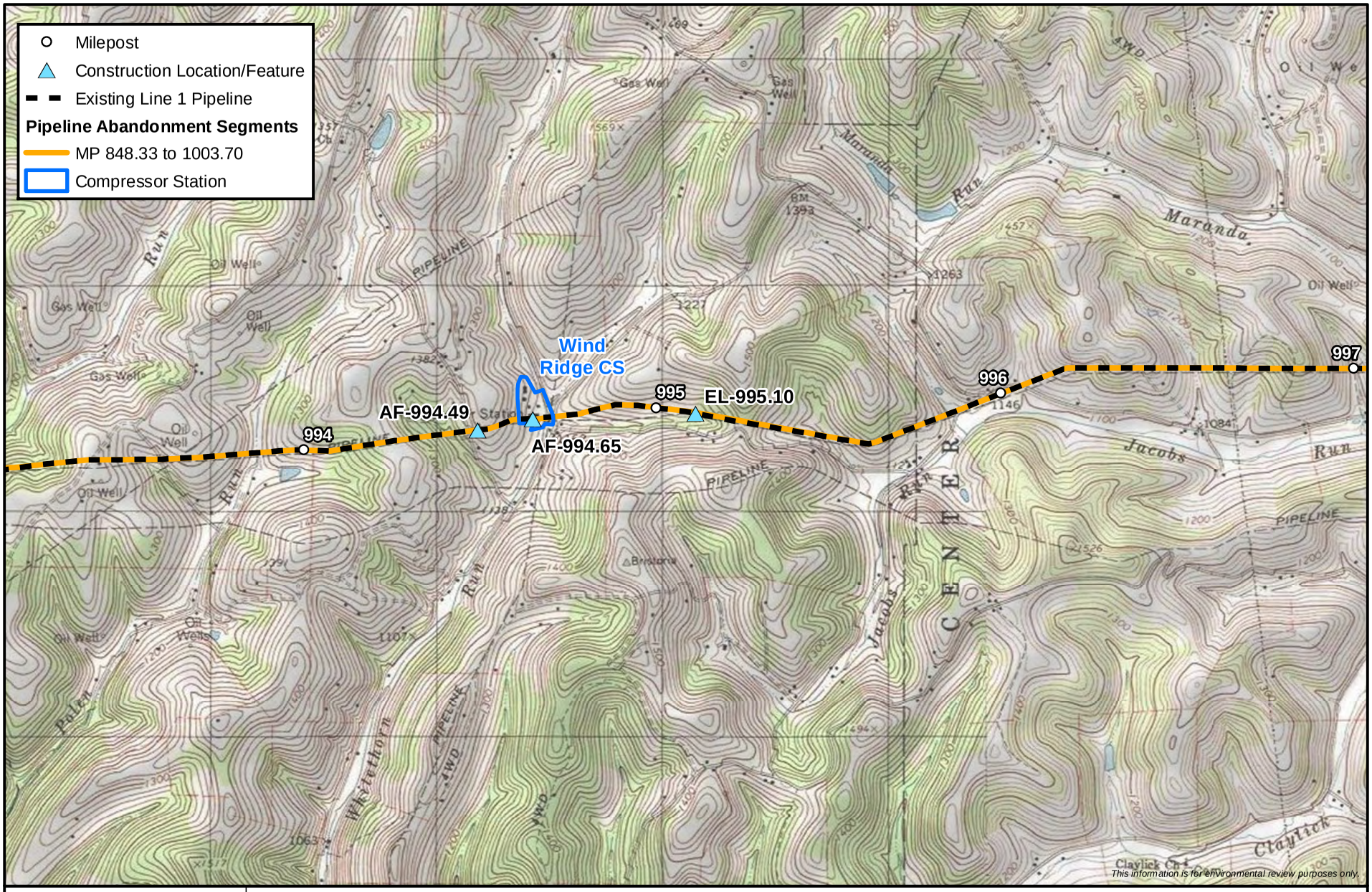

Sheet 44 of 48

0 1,000 2,000 Feet

Spectra Energy Partners

Figure 1A-1
Idle Line 1 Abandonment Project
Texas Eastern Transmission, LP
USGS Topo Maps of Line 1 from MP 837-1009 and 124 Construction Features
MP 993.17 to 997.03 - Pennsylvania

NATURAL RESOURCE GROUP
an ERM Group company

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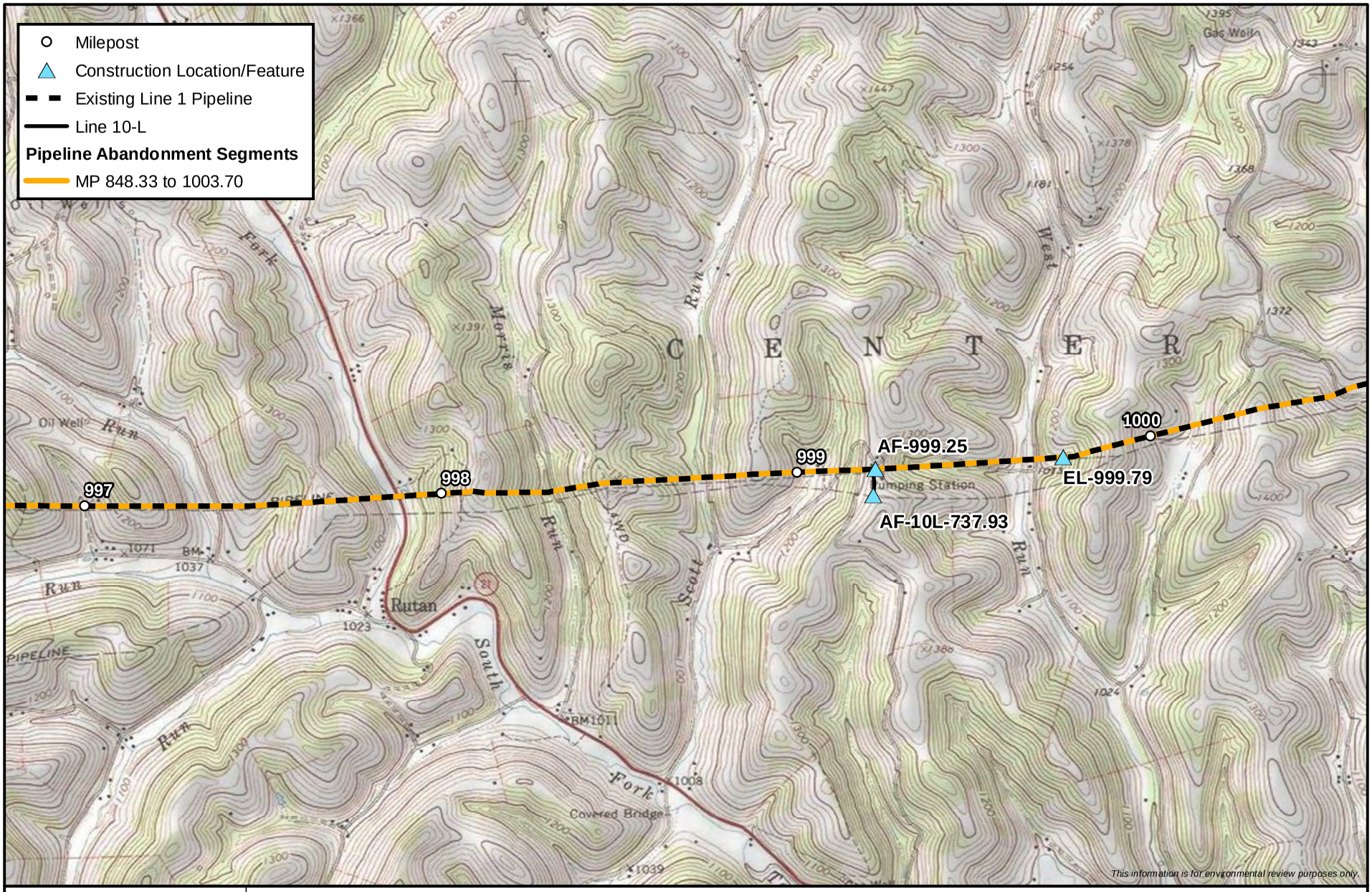

Sheet 45 of 48

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Figure 1A-1
Idle Line 1 Abandonment Project
Texas Eastern Transmission, LP
USGS Topo Maps of Line 1 from MP 837-1009 and 124 Construction Features
MP 996.79 to 1000.61 - Pennsylvania

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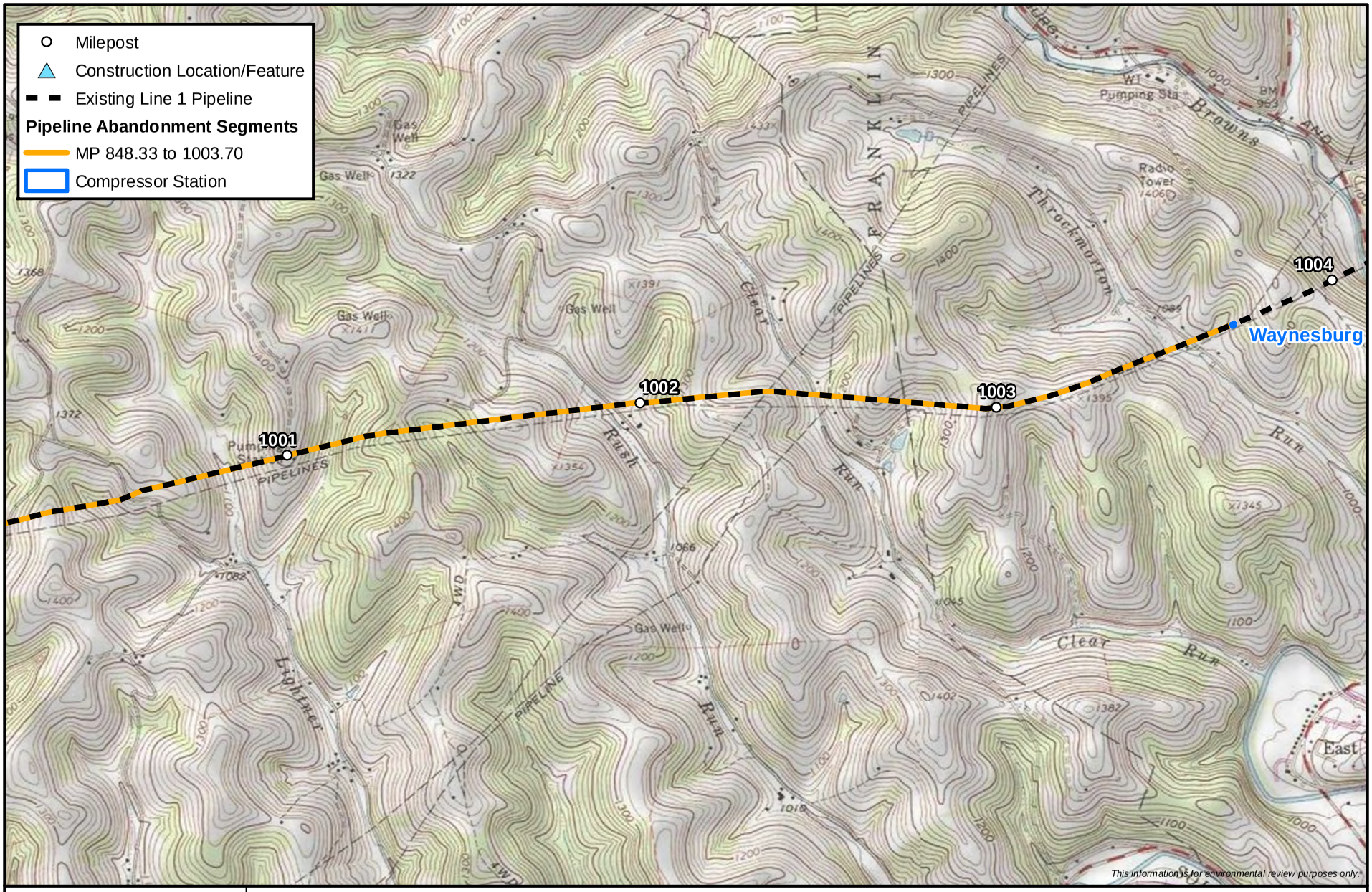

Sheet 46 of 48

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Spectra Energy Partners

Figure 1A-1
Idle Line 1 Abandonment Project
Texas Eastern Transmission, LP
USGS Topo Maps of Line 1 from MP 837-1009 and 124 Construction Features
MP 1000.20 to 1004.10 - Pennsylvania

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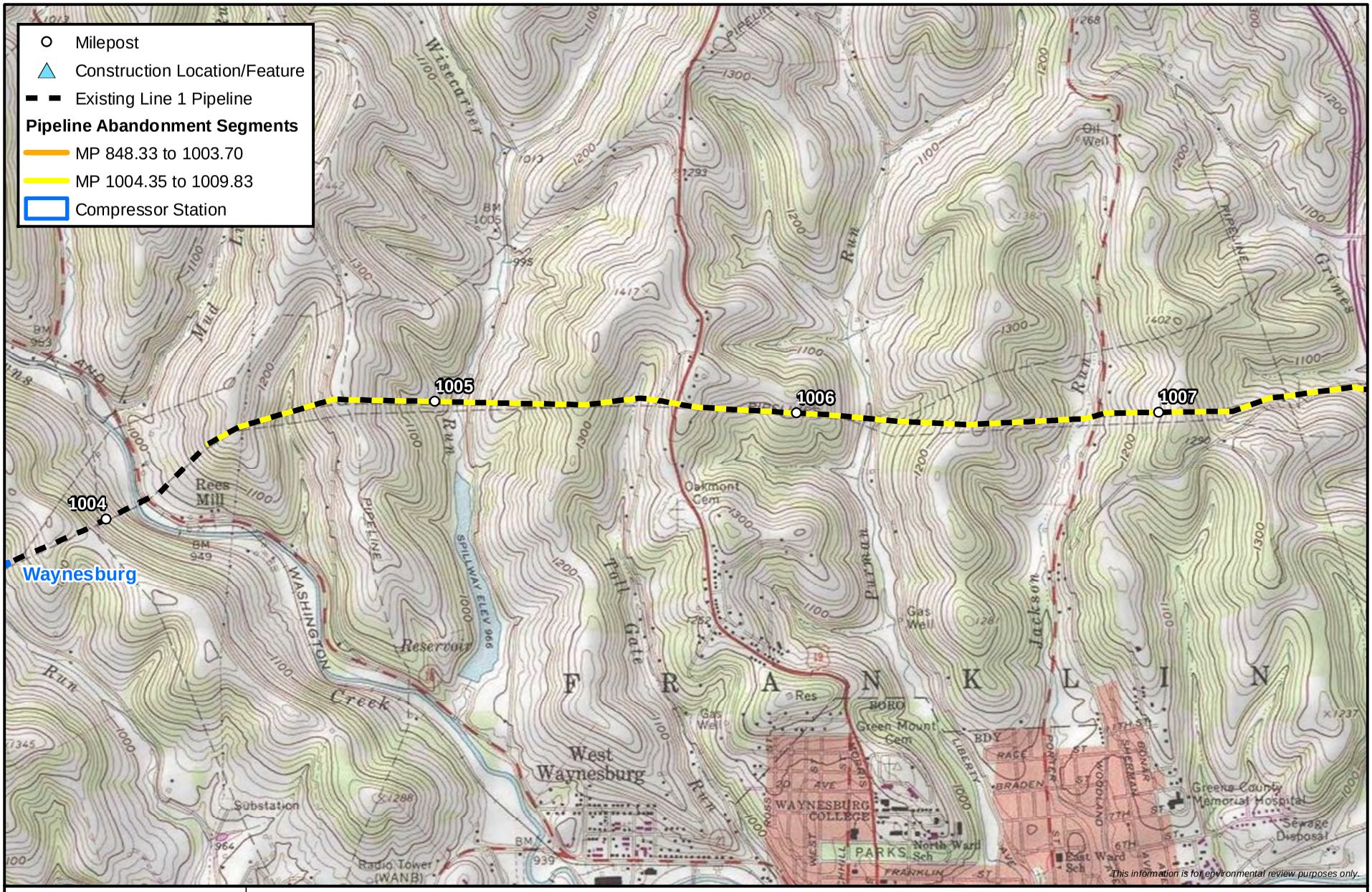

Sheet 47 of 48

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Figure 1A-1
Idle Line 1 Abandonment Project
Texas Eastern Transmission, LP
USGS Topo Maps of Line 1 from MP 837-1009 and 124 Construction Features
MP 1003.71 to 1007.57 - Pennsylvania

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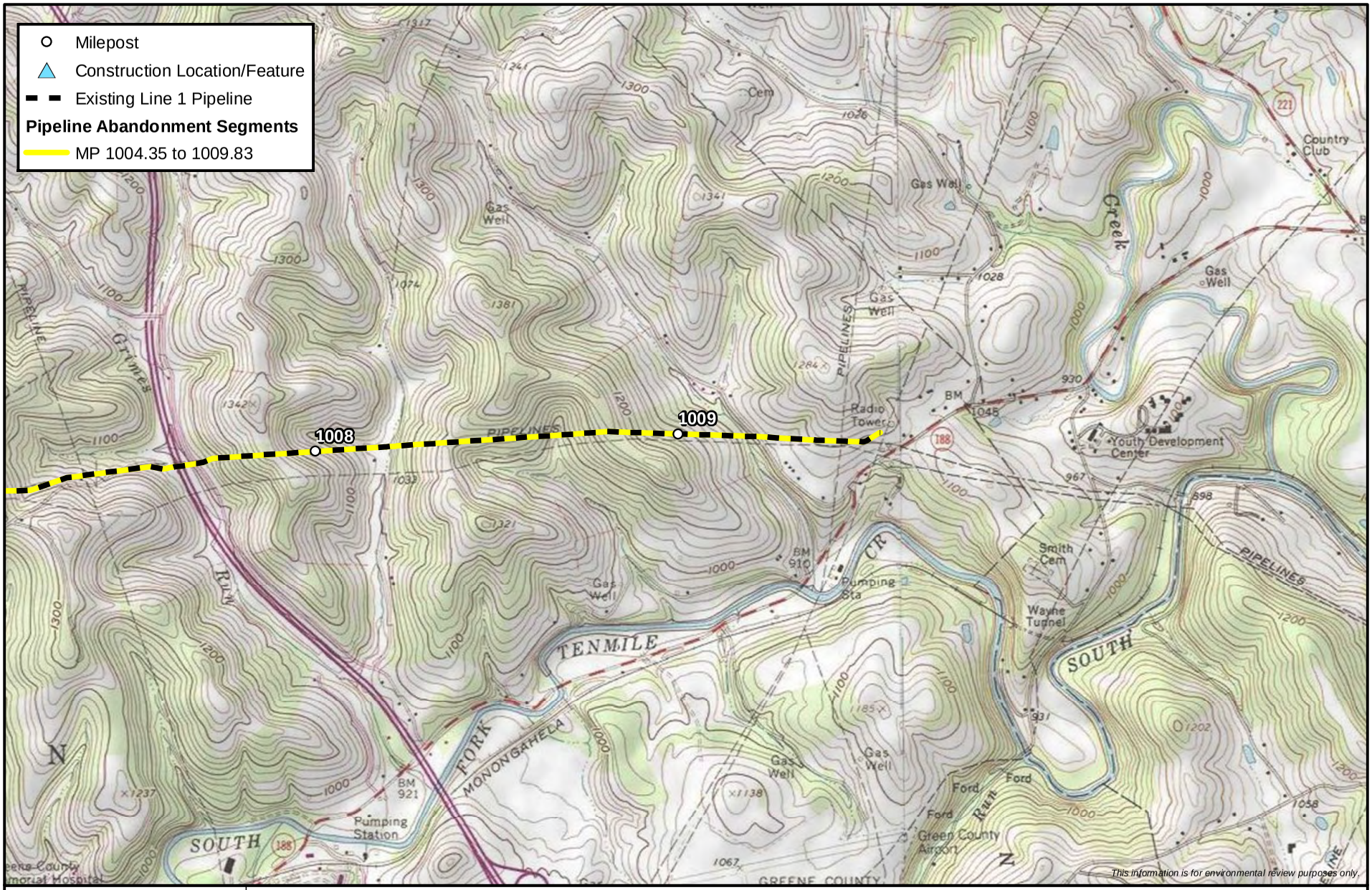
FILE: M:\Clients\S-U\SPE\Line1_Abandonment_ArcGIS\2016\06\Topo_Mapsets_24k_SPE_Line1_Aban_Sites_topos24k_entire_route.mxd | REVISED: 10/07/2016 | SCALE: 1:24,000 DRAWN BY: JPB



Sheet 48 of 48

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Figure 1A-1
Idle Line 1 Abandonment Project
Texas Eastern Transmission, LP
USGS Topo Maps of Line 1 from MP 837-1009 and 124 Construction Features
MP 1007.14 to 1009.56 - Pennsylvania

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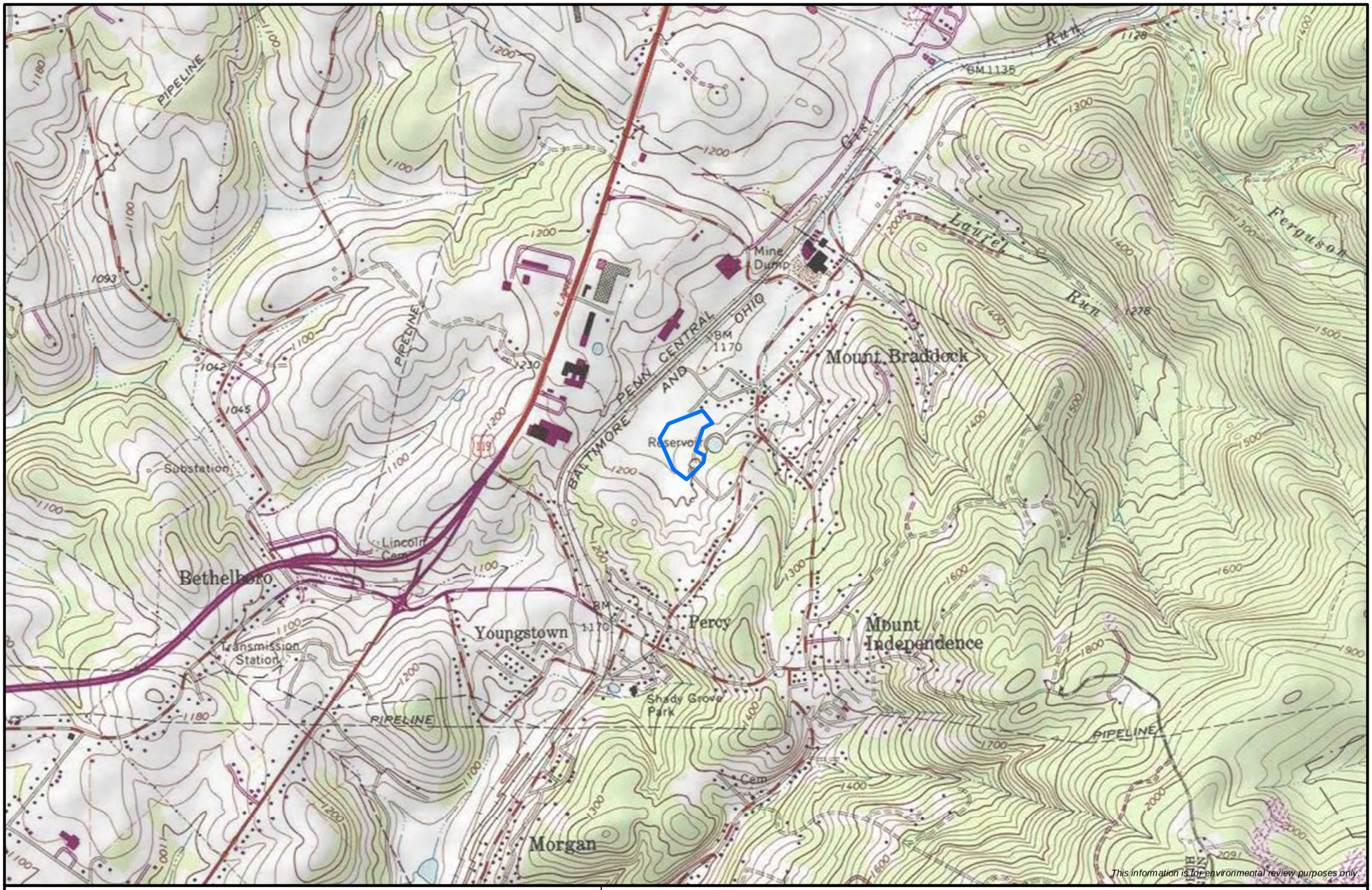

Mount Braddock Wareyard

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Spectra Energy Partners

Idle Line 1 Abandonment Project

Texas Eastern Transmission, LP

USGS Topo Map of Mount Braddock Wareyard
Fayette County, Pennsylvania
Figure 1A-1 (Sheet 49)

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APPENDIX B

LIST OF ABANDONMENT ACTIVITIES

Appendix B
Idle Line 1 Abandonment Project
Abandonment Activities by Feature ID

STATE Feature ID[a]	Location / County	Feature Description[b]	Abandonment Construction Type [c]
OHIO			
AF-841.94	Pickaway	Remove pipeline appurtenances at aboveground facility near the Five Points Compressor Station	Removal
HW-851.20	Pickaway	Grout pipeline at road crossing of Ohio State Road (SR) 104	In-place
HW-852.36	Pickaway	Grout pipeline at road crossing of US Highway 23	In-place
RR-853.80	Pickaway	Grout pipeline at railroad crossing	In-place
HW-860.26	Pickaway	Grout pipeline at road crossing of SR 752	In-place
HW-860.83	Pickaway	Grout pipeline at road crossing of SR 674	In-place
EL-863.25	Pickaway / Fairfield	Remove pipeline at waterbody crossing (Little Walnut Creek, sfab001)	Removal
HW-869.25	Fairfield	Grout pipeline at road crossing of US Highway 33	In-place
AF-869.41	Fairfield	Remove pipeline appurtenances at aboveground facility	Removal
AF-869.44	Fairfield	Remove pipeline appurtenances at M&R 70077	Removal
RR-869.77	Fairfield	Grout pipeline at railroad crossing	In-place
HW-869.96	Fairfield	Grout pipeline at road crossing of US Highway 33 B	In-place
HW-872.45	Fairfield	Grout pipeline at road crossing of SR 158	In-place
HW-874.53	Fairfield	Grout pipeline at road crossing of SR 37	In-place
EL-875.24	Fairfield	Remove pipeline at waterbody crossing (tributary to Ewing Run, sfaa005)	Removal
EL-875.56	Fairfield	Remove pipeline at waterbody crossing (tributary to Ewing Run, sfaa003)	Removal
AF-875.60	Fairfield	Remove appurtenances within maintained pipeline easement	Removal
HW-876.32	Fairfield	Grout pipeline at road crossing of SR 188	In-place
RR-881.95	Fairfield	Grout pipeline at railroad crossing	In-place
EL-881.96	Fairfield	Remove pipeline at waterbody crossing (Little Rush Creek, sfaa001)	Removal
HW-882.50	Fairfield	Grout pipeline at road crossing of SR 664	In-place
HW-884.46	Perry	Grout pipeline at road crossing of US Highway 22	In-place
EL-887.38	Perry	Remove pipeline at waterbody crossing (Center Branch of Rush Creek, speb001)	Removal
HW-889.38	Perry	Grout pipeline at road crossing of SR 668	In-place
AF-890.07 AF-890.14 AF-890.26	Perry	Remove pipeline appurtenances within Somerset Compressor Station	Removal
AF-890.35	Perry	Remove pipeline appurtenances at aboveground facility	Removal
HW-890.74	Perry	Grout pipeline at road crossing	In-place
HW-891.68	Perry	Grout pipeline at road crossing of SR 13	In-place
EL-891.80	Perry	Remove pipeline at waterbody crossing (Center Branch of Rush Creek, speb005)	Removal
AF-895.19	Perry	Remove pipeline appurtenances at aboveground facility	Removal
HW-896.92	Perry	Grout pipeline at road crossing of SR 345	In-place

Appendix B
Idle Line 1 Abandonment Project
Abandonment Activities by Feature ID

STATE Feature ID[a]	Location / County	Feature Description[b]	Abandonment Construction Type [c]
(OHIO, continued)			
HW-898.64	Perry	Grout pipeline at road crossing of SR 669	In-place
AF-900.01	Perry	Remove pipeline appurtenances at aboveground facility	Removal
HW-900.54	Perry	Grout pipeline at road crossing of SR 93	In-place
RR-900.94	Perry	Grout pipeline at railroad crossing	In-place
HW-906.45	Muskingum	Grout pipeline at road crossing of SR 555	In-place
AF-906.73	Muskingum	Remove pipeline appurtenances at aboveground facility	Removal
EL-907.43	Muskingum	Remove pipeline at waterbody crossing (tributary to Blue Rock Creek, smub002)	Removal
EL-907.47	Muskingum	Remove pipeline at waterbody crossing (tributary to Blue Rock Creek, smub001)	Removal
EL-907.88	Muskingum	Remove pipeline at waterbody crossing (tributary to Blue Rock Creek, smub004)	Removal
EL-910.22	Muskingum	Remove pipeline at waterbody crossing (tributary to Crow Run, smub005)	Removal
EL-910.47	Muskingum	Remove pipeline at waterbody crossing (tributary to Crow Run, smub006)	Removal
AF-910.69	Muskingum	Remove pipeline appurtenances at aboveground facility	Removal
HW-910.84	Muskingum	Grout pipeline at road crossing of SR 60	In-place
AF-910.86	Muskingum	Remove pipeline appurtenances at aboveground facility	Removal
EL-912.28	Muskingum	Remove pipeline at waterbody crossing (tributary to Dry Riffle Run, smub007)	Removal
AF-913.37	Muskingum	Remove appurtenances at pipeline crossover within existing, maintained easement	Removal
HW-913.56	Muskingum	Grout pipeline at road crossing of SR 376	In-place
HW-920.16	Muskingum	Grout pipeline at road crossing of SR 284	In-place
HW-923.46	Noble	Grout pipeline at road crossing of SR 83	In-place
HW-929.18	Noble	Grout pipeline at road crossing of SR 340	In-place
HW-929.78	Noble	Grout pipeline at road crossing of SR 821	In-place
AF-930.24	Noble	Remove pipeline appurtenances at aboveground facility	Removal
HW-930.40	Noble	Grout pipeline at road crossing of Interstate 77	In-place
HW-931.95	Noble	Grout pipeline at road crossing of SR 215	In-place
HW-934.04	Noble	Grout pipeline at road crossing of SR 285	In-place
HW-935.00	Noble	Grout pipeline at road crossing of SR 147	In-place
HW-942.01	Noble	Grout pipeline at road crossing of SR 146	In-place
AF-942.07	Noble	Remove pipeline appurtenances at aboveground facility	Removal
AF-942.23	Noble	Remove pipeline appurtenances at Summerfield Station	Removal
HW-942.50	Noble	Grout pipeline at road crossing of SR 513	In-place
AF-942.57	Noble	Remove pipeline appurtenances at aboveground facility	Removal
HW-943.99	Monroe	Grout pipeline at road crossing of SR 78	In-place
HW-945.49	Monroe	Grout pipeline at second road crossing of SR 78	In-place
HW-950.87	Monroe	Grout pipeline at road crossing of SR 145	In-place

Appendix B
Idle Line 1 Abandonment Project
Abandonment Activities by Feature ID

STATE Feature ID[a]	Location / County	Feature Description[b]	Abandonment Construction Type [c]
(OHIO, continued)			
EL-951.08	Monroe	Remove pipeline at waterbody crossing (Wheeler Run, smoa013)	Removal
HW-951.16	Monroe	Grout pipeline at second road crossing of SR 145	In-place
HW-951.30	Monroe	Grout pipeline at third road crossing of SR 145	In-place
EL-951.68	Monroe	Remove pipeline at waterbody crossing (tributary to Wheeler Run, smob001)	Removal
EL-952.37	Monroe	Remove pipeline at waterbody crossing (tributary to Wheeler Run, smob003)	Removal
EL-952.77	Monroe	Remove pipeline at waterbody crossing (tributary to Wheeler Run, smob005)	Removal
HW-953.58	Monroe	Grout pipeline at road crossing of SR 800	In-place
HW-956.82	Monroe	Grout pipeline at road crossing of SR 26	In-place
AF-962.01	Monroe	Remove entire aboveground facility (Gate Setting 3-213)	Removal
EL-964.06	Monroe	Remove pipeline at waterbody crossing (tributary to Paine Run, smoc004)	Removal
HW-964.97	Monroe	Grout pipeline at road crossing of SR 556	In-place
EL-965.56	Monroe	Remove pipeline at waterbody crossing (tributary to Cat Run, smoc003)	Removal
AF-967.62	Monroe	Remove appurtenances at aboveground facility (Clarington Site / M&R 70004)	Removal
AF-970.31	Monroe	Remove entire aboveground facility	Removal
AF-970.40	Monroe	Remove appurtenances at aboveground facilities & cut and cap ends of connecting piping called Summerfield Auxiliary / Ohio River Lateral	Removal
HW-970.47	Monroe	Grout pipeline at road crossing of SR 7	In-place
RR-970.48	Monroe	Grout pipeline at railroad crossing	In-place
OH / WV border			
ST-970.61	Monroe, OH Marshall, WV	Grout pipeline at major waterbody crossing (Ohio River, smaa038)	In-place
WEST VIRGINIA			
RR-970.78a/b	Marshall	Grout pipeline at active railroad crossings	In-place
RR-970.94	Marshall	Grout pipeline at active railroad crossing	In-place
AF-971.02	Marshall	Remove appurtenances at aboveground facility	Removal
ST-971.94	Marshall	Grout or remove pipeline at waterbody crossing (Graveyard Run, smaa039)	In-place or Removal
EL-972.84	Marshall	Remove pipeline on upland slope	Removal
ST-976.06	Marshall	Remove pipeline at waterbody crossing (tributary to Grave Creek, smaa033)	Removal
ST-976.14	Marshall	Remove pipeline at waterbody crossing (tributary to Grave Creek, smaa033)	Removal
AF-976.18	Marshall	Remove entire aboveground facility (M&R 70005) Disconnect Line 10-M from Line 1, and cut and cap north end of pipeline lateral	Removal

Appendix B
Idle Line 1 Abandonment Project
Abandonment Activities by Feature ID

STATE Feature ID[a]	Location / County	Feature Description[b]	Abandonment Construction Type [c]
(WEST VIRGINIA, continued)			
AF-10M-714.10	Marshall	Remove appurtenances at aboveground facilities Disconnect lateral Line 10-M from Line 10 and Line 15, and cut and cap south end of pipeline lateral	Removal
ST-976.30	Marshall	Grout or remove pipeline at waterbody crossing (Grave Creek, smaa031)	In-place or Removal
ST-977.89	Marshall	Grout or remove pipeline at waterbody crossing (tributary to Grave Creek, smaa030)	In-place or Removal
ST-978.50	Marshall	Remove pipeline at waterbody crossing (tributary to Grave Creek, smaa026)	Removal
ST-979.22	Marshall	Grout or remove pipeline at waterbody crossing (tributary to Grave Creek, smaa023)	In-place or Removal
ST-979.73	Marshall	Grout or remove pipeline at waterbody crossing (Cedar Run, smaa020)	In-place or Removal
EL-980.20	Marshall	Remove pipeline at waterbody crossing (tributary. to Lick Run, smac013)	Removal
ST-980.79	Marshall	Grout or remove pipeline at waterbody crossing (Lick Run, smaa014)	In-place or Removal
EL-981.04	Marshall	Remove pipeline at waterbody crossing (tributary to Lick Run, smac005)	Removal
EL-981.57	Marshall	Remove pipeline at waterbody crossing (tributary to Middle Grave Creek, smac007)	Removal
EL-981.59	Marshall	Remove pipeline at waterbody crossing (tributary to Middle Grave Creek, smac008)	Removal
EL-981.75	Marshall	Remove pipeline at waterbody crossing (tributary to Middle Grave Creek, smac009)	Removal
EL-981.76	Marshall	Remove pipeline at waterbody crossing (tributary to Middle Grave Creek, smac010)	Removal
ST-982.40	Marshall	Remove pipeline at waterbody crossing (tributary to Middle Grave Creek, smaa013)	Removal
ST-984.80	Marshall	Remove pipeline at waterbody crossing (Wolf Run, smaa006)	Removal
EL-985.06	Marshall	Remove pipeline at waterbody crossing (tributary to Wolf Run, smac002)	Removal
ST-985.30	Marshall	Grout or remove pipeline at waterbody crossing (tributary to Williams Run, smaa004)	In-place or Removal
ST-986.24	Marshall	Grout or remove pipeline at waterbody crossing (Williams Run, smaa003)	In-place or Removal
ST-987.56	Marshall	Grout or remove pipeline at waterbody crossing (Wharton Run, smaa001)	In-place or Removal
PENNSYLVANIA			
EL-988.78	Greene	Remove pipeline at waterbody crossing (tributary to Dunkard Fork, sgr016)	Removal
EL-989.30	Greene	Remove pipeline at waterbody crossing (tributary to Barneys Run, sgrc013)	Removal

Appendix B
Idle Line 1 Abandonment Project
Abandonment Activities by Feature ID

STATE Feature ID[a]	Location / County	Feature Description[b]	Abandonment Construction Type [c]
(PENNSYLVANIA, continued)			
EL-989.32	Greene	Remove pipeline at waterbody crossing (tributary to Barneys Run, sgrc014)	Removal
ST-989.92	Greene	Remove pipeline at waterbody crossing (South Fork of Dunkard Fork / Wheeling Creek, sgra003)	Removal
EL-990.98	Greene	Remove pipeline at waterbody crossing (tributary to North Fork of Dunkard Fork, sgrc019)	Removal
EL-991.59	Greene	Remove pipeline at waterbody crossing (North Fork of Dunkard Fork, sgrc012)	Removal
AF-994.49	Greene	Remove appurtenances at aboveground facility	Removal
AF-994.65	Greene	Remove appurtenances at Wind Ridge Compressor Station	Removal
EL-995.10	Greene	Remove pipeline at waterbody crossing (tributary to Whitethorn Run, sgrc004)	Removal
AF-999.25	Greene	Remove entire aboveground facility (M&R 70054) Disconnect lateral Line 10-L from Line 1, and cut and cap north end of pipeline lateral	Removal
AF-10L-737.93	Greene	Remove entire aboveground facility Disconnect lateral Line 10-L from Line 10 and Line 15, and cut and cap south end of pipeline lateral	Removal
EL-999.79	Greene	Remove pipeline at waterbody crossing (tributary to West Run, sgrc001)	Removal

[a] Feature ID consists of a two letter acronym and the mainline milepost location where the Feature crosses Line 1, except Features AF-10L-737.93 and AF-10M-714.10 reference a MP location along Texas Eastern's Line 10 because these Features are not on Line 1. Aboveground facilities are indicated as "AF." Railroads are indicated as "RR." Federal and state highways are indicated as "HW." Perennial waterbody crossings, including the Ohio River, are indicated as "ST." Sections of pipe that have become exposed by erosion or supported spans of pipe aboveground are indicated as "EL."

[b] The Feature Description includes the project-specific Unique ID and waterbody name where pipe will either be grouted or removed at a waterbody (Features EL- and ST-).

[c] Abandonment Construction Type is either "In-place," which includes Features where pipe will remain in the ground and excavation or surface disturbance is required to grout pipe in place, or "Removal" includes segments of pipe or appurtenances that are excavated, cut, and removed from the ground.

APPENDIX C

TEMPORARY ACCESS ROADS

Appendix C
Idle Line 1 Abandonment Project
Access Roads for Abandonment Activities

STATE / Access Road No.[a]	Feature ID	New or Existing Road	Existing Land Use within Impact Area	Existing Road Area (acres)	Project Impact Area[b] (acres)	Total Road Area[c] (acres)	Construction Road Dimensions (feet)	Description
OHIO								
AR-841.94	AF-841.94	Existing	Industrial	0.04	0.00	0.04	142 X 12	• Existing gravel road from Five Points Compressor Station yard to Texas Eastern pipeline easement and aboveground facility at AF-841.94. • Points Pike is the public road used to access this station. • Existing permanent road will continue to be used for operation of other Texas Eastern pipelines.
AR-852.25	HW-852.36	Existing	Industrial	0.06	0.00	0.06	173 x 13	• Asphalt road providing access to HW-852.36 for the construction workspace on the southwest side of US Hwy 23 from the south.
AR-852.36	HW-852.36	Existing	Industrial	0.21	0.00	0.21	466 x 20	• Asphalt road providing access to HW-852.36 for the construction workspace on the southwest side of US Hwy 23 from the north.
AR-853.75	RR-853.80	Existing	Industrial	0.67	0.00	0.67	2410 x 12	• Gravel farm road providing access to construction workspace on the west side of two railroad crossings from County Road (CR) 28 / Cromley Road to Texas Eastern's existing easement.
AR-853.85	RR-853.80	Existing New	Industrial Agricultural	0.97	0.06	1.03	2814 x 16	• Existing gravel road provides temporary access to construction workspace on the east side of two railroad crossings from Lockbourne Eastern Road / Township (Twp) Hwy 31. • Far west end of this existing, gravel 2634-feet-long access road will be extended by 180 feet across cultivated agricultural land to access the Texas Eastern easement.
AR-863.25	EL-863.25	Existing	Industrial	0.44	0.00	0.44	1198 x 16	• Dirt farm road providing access from Sitterly Road NW to EL-863.25 • Bridge will be installed and maintained to cross Little Walnut Creek, sfab001, at north end of road.
AR-869.41	AF-869.41 AF-869.44 & RR-869.77	Existing	Industrial	0.07	0.00	0.07	219 x 14	• Asphalt road providing access to construction workspace for 3 Features from Schwartz Place.
AR-869.85	RR-869.77 & HW-869.96	Existing	Industrial	0.79	0.00	0.79	2141 x 16	• Gravel road providing access to construction workspace for 2 Features from Old Columbus Road NW.
AR-869.96	RR-869.77 & HW-869.96	Existing	Industrial	0.25	0.00	0.25	897 x 12	• Gravel road providing access to construction workspace between a railroad crossing and the west side of US Hwy 33-B.
AR-872.45	HW-872.45	Existing New	Industrial Agricultural	< 0.01	0.05	0.06	104 x 25	• Access across 10-foot-long existing gravel access pad and 94 feet across cultivated agricultural land to access the construction workspace on the west side of Ohio State Road (SR) 158.
AR-875.60	EL-875.56 & AF-875.60	Existing	Industrial	0.90	0.00	0.90	2441 x 16	• Gravel road providing access to construction workspace for 2 Features from Old Millersport Road NE. • Existing culverted crossing of one stream, tributary to Ewing Run (sfaa003), along access road.

Access Road No.[a]	State / Feature ID	New or Existing Road	Existing Land Use within Impact Area	Existing Road Area (acres)	Project Impact Area[b] (acres)	Total Road Area[c] (acres)	Construction Road Dimensions	Description
AR-887.60	EL-887.38	Existing	Industrial	0.63	0.00	0.63	2437 x 12	• Gravel road providing access to construction workspace at EL-887.38 from CR 25 / Toll Gate Road.
AR-890.35	AF-890.35	Existing	Open land	0.13	0.00	0.13	284 x 20	• Unimproved road across mowed grass area accessed through existing gate for use by Texas Eastern operations staff leading to construction workspace from CR45 / Big Inch Road NW. • Route currently used by Operations to access this existing, fenced aboveground facility site.
AR-895.17	AF-895.19	Existing	Industrial	1.35	0.00	1.35	4831 x 12	• Dirt two-track road within Perry State Forest providing access to construction workspace at AF-895.19 from Twp Hwy 1/State Park Rd. • Two wetlands, wpee008e and wpee006e are crossed by this dirt road. • Existing culverted crossings of two tributaries to Two Mile Run, spee004 and spee003, will be crossed by use of this dirt road.
AR-898.64	HW-898.64	Existing New	Industrial Open Land	0.02	0.02	0.04	160 x 12	• Access overlaps 90 feet of existing gravel road and extends 70 feet to the south/southeast across open land to access the construction workspace on the east side of SR 669. • Use of 90-foot-long gravel road and 20 feet of open land requires temporary easement. Fifty of the 70-foot-long section of road is within existing Texas Eastern easement.
AR-900.01	AF-900.01	Existing	Industrial	0.01	0.00	0.01	26 x 14	• Access across 26-foot-long existing gravel pad to access the construction workspace from Twp Hwy 167. • Currently used by Operations to access this existing, fenced aboveground facility site.
AR-900.54	HW-900.54	Existing	Industrial	0.23	0.00	0.23	813 x 12	• Gravel road providing access to the construction workspace on the southeast side of SR 93.
AR-900.94A	RR-900.94	Existing	Industrial	0.13	0.00	0.13	151 x (irregular widths)	• Gravel driveway for access to west side of construction workspace from CR 98 / Ceramic Road / China St.
AR-900.94B	RR-900.94	Existing	Industrial	0.15	0.00	0.15	516 x 12	• Gravel road for access to east side of construction workspace from CR 98/Ceramic Road/China St.
AR-907.25	EL-907.43 & EL-907.47	Existing	Industrial	0.10	0.00	0.10	373 x 12	• Dirt farm road for access to west end of construction workspace from Dozer Ridge Road.
AR-908.29	EL-907.88	Existing	Industrial	0.32	0.00	0.32	1129 X 13	• Gravel road / driveway for access to east side of construction workspace from Twyman Hill Road.
AR-910.25	EL-910.22 & EL-910.47	Existing	Industrial	0.48	0.00	0.48	1287 x 15	• Gravel driveway leading to dirt road for access to construction workspace for 2 Features from Union Hill Road.
AR-913.25	EL-913.37	Existing New	Industrial Open Land	0.56	0.01	0.57	2,065 x 12	• Existing dirt road providing access from Ohio SR 376 to AF-913.37. • The south end of this existing 2,015-feet-long access road will be extended by 50 feet within maintained open land to access the Texas Eastern easement. • Existing bridge will be used across stream, Dry Riffle Run (smud002), at north end of road.

Access Road No.[a]	State / Feature ID	New or Existing Road	Existing Land Use within Impact Area	Existing Road Area (acres)	Project Impact Area[b] (acres)	Total Road Area[c] (acres)	Construction Road Dimensions (feet)	Description
AR-930.24A	AF-930.24	Existing	Industrial	0.11	0.00	0.11	411 x 12	• Unimproved driveway for access to south side of construction workspace from Twp Hwy 108/Outpost Rd.
AR-930.24B	AF-930.24	Existing	Industrial	0.10	0.00	0.10	383 x 12	• Unimproved driveway for access to the north side of construction workspace from Twp Hwy 108/Outpost Rd.
AR-931.95	HW-931.95	Existing	Industrial	0.25	0.00	0.25	518 x 20	• Gravel driveway to Texas Eastern aboveground facility used to access construction workspace on east side of SR 215.
AR-934.08	HW-934.04	Existing	Industrial	0.02	0.00	0.02	75 x 12	• Gravel road / driveway for access to east side of construction workspace from SR 285.
AR-942.07	HW-942.01 & AF-942.07	Existing	Industrial	0.09	0.00	0.09	320 x 12	• Gravel driveway to Texas Eastern aboveground facility used to access construction workspace on east side of SR 146.
AR-942.23	AF-942.23	Existing	Industrial	0.09	0.00	0.09	133 x (irregular widths)	• Gravel driveway to access south end of construction workspace at Summerfield Station from CR 5a / Glady Road. • Existing culverted crossing of one waterbody, Glady Run (snoa001), along access road. • Driveway is currently used by Operations to access this existing, fenced aboveground facility site.
AR-951.75	EL-951.68	Existing / New	Industrial Agricultural	0.02	0.21	0.23	820 x 12	• Existing dirt driveway and new access located along the edge of a cultivated agricultural field. • Temporary road will be used during construction to access EL-951.68 from Twp Hwy 2070.
AR-962.01	AF-962.01	Existing	Industrial	0.52	0.00	0.52	2031 x 12	• Gravel road to access construction workspace from CR 38.
AR-963.97	EL-964.06	New	Open Land	0.00	0.09	0.09	232 x 16	• New temporary road within open land that is adjacent to forested land for access to construction workspace from Twp Hwy 2192.
AR-965.75	EL-965.56	Existing	Industrial	0.67	0.00	0.67	1825 x 16	• Gravel driveway to industrial facility used to access construction workspace from SR 556.
AR-967.62	AF-967.62	Existing	Industrial	0.06	0.00	0.06	142 x 15	• Gravel driveway to access south side of construction workspace at Texas Eastern's M&R 70004/Clarington Site from Twp Road 2168.
AR-970.28	AF-970.31	Existing	Industrial	0.07	0.00	0.07	250 x 12	• Existing partially graveled driveway to aboveground facility with existing culverted crossing of Big Run (smoa001) for access from the west side of AF-970.30 via Twp Hwy 947/Big Run Road. • One wetland is crossed by this existing road, wmod001e.
AR-970.32	AF-970.31	New	Open Land	0.00	0.17	0.17	293 x 25	• New temporary road used during construction for access to the east side of AF-970.30 from Twp Hwy 947/Big Run Road. • This road is entirely within existing maintained Texas Eastern pipeline easement. • Temporary bridge over Big Run (smoa001) will be installed and maintained during construction.

Access Road No.[a]	State / Feature ID	New or Existing Road	Existing Land Use within Impact Area	Existing Road Area (acres)	Project Impact Area[b] (acres)	Total Road Area[c] (acres)	Construction Road Dimensions (feet)	Description
WEST VIRGINIA								
AR-970.87	RR-970.94	Existing	Industrial	0.03	0.00	0.03	144 x 12	• Gravel road used to facilitate turn-arounds north of construction workspace (not connected to a public road).
AR-970.94	RR-970.94	Existing	Industrial	0.98	0.00	0.98	1476 x (irregular widths)	• Of the total 1476-foot-long road, an asphalt driveway to utility corridor, which is 297-feet-long, will be used to access construction workspace on west side of railroad from unnamed concrete road, which is approximately 1179-feet-long. • Concrete road within industrial area (Cresap Bottom) connecting asphalt driveway to SR 2.
AR-971.02	AF-971.02	Existing	Industrial	2.99	0.00	2.99	2341 x (irregular widths)	• Gravel road, which is 741-feet-long, used to access east side of construction workspace for aboveground facility from unnamed concrete road, which is approximately 1600-feet-long. • Concrete road within industrial area (Cresap Bottom/Cresap Bend) connecting gravel road at aboveground facility to SR 2.
AR-971.94	ST-971.94	Existing	Industrial	1.10	0.00	1.10	2990 x 16	• Gravel road for access west side of construction workspace from Taylors Ridge Road.
AR-972.71	EL-972.84	Existing	Industrial	0.22	0.00	0.22	477 x 20	• Asphalt road for access to construction workspace from Taylors Ridge Road.
AR-976.06	ST-976.06, ST-976.14 & AF-976.18	Existing	Industrial	0.12	0.00	0.12	445 x 12	• Shared gravel driveway called Icy Hollow Drive for use by residence and Texas Eastern aboveground facility at MP 976.18. Project will use to access construction workspace at MP 976.1 from CR 54. • Driveway is currently used by Operations to access this existing, fenced aboveground facility site.
AR-976.30	ST-976.30	Existing	Industrial	0.01	0.00	0.01	81 x 6	• Residential driveway abutting the construction workspace for access to south side of construction workspace from CR 54 / Big Grave Creek Road.
AR-976.32	ST-976.30	Existing	Industrial	0.19	0.00	0.19	511 x 15	• Gravel road for access to the east side of Grave Creek (smaa031) and construction workspace from CR 54.
AR-10-714.10	AR-10M-714.10	Existing	Industrial	1.79	0.00	1.79	4910 x 15	• Gravel road for access to construction workspace at southern terminus of Line 10-M from Roberts Ridge Road / CR 21. (A portion of this private road is named Spindle Lane.)
AR-977.89	ST-977.89	Existing	Industrial	0.31	0.00	0.31	1003 x 12	• Gravel road for access to east side of construction workspace from Fork Ridge Road. • North end of AR-977.89 is connected to AR-978.50 which leads to CR 17 / Fork Ridge Road.
AR-978.50	ST-978.50	Existing	Industrial	1.15	0.00	1.15	2588 x 20	• Gravel road for access to west side of construction workspace from CR 17 / Fork Ridge Road.
AR-980.67	ST-980.79	Existing	Industrial	0.41	0.00	0.41	1477 x 12	• Gravel road/driveway for access to west side of construction workspace from CR 17 / Fork Ridge Road.
AR-982.40	ST-982.40	Existing	Industrial	0.07	0.00	0.07	135 x (irregular widths)	• Gravel road / driveway for access to east side of construction workspace from CR 34 / 4.
AR-986.24	ST-986.24	Existing	Industrial	0.13	0.00	0.13	483 x 12	• Gravel road for access to construction workspace from CR 52.

Access Road No.[a]	State / Feature ID	New or Existing Road	Existing Land Use within Impact Area	Existing Road Area (acres)	Project Impact Area[b] (acres)	Total Road Area[c] (acres)	Construction Road Dimensions (feet)	Description
AR-987.56	ST-987.56	Existing	Industrial	0.54	0.00	0.54	1963 x 12	• Gravel road for access to construction workspace from CR 48/Dry Ridge Loan Oak Rd.
PENNSYLVANIA								
AR-989.12	EL-988.78	New	Open Land	0.00	0.04	0.04	63 x 25	• New temporary road, within mowed lawn near commercial business, used during construction to access construction workspace from SR 21.
AR-990.58	EL-990.98	Existing New	Industrial Open Land	0.24	0.28	0.52	1410 x 16	• Existing 640-foot-long unimproved road, which is adjacent to forested land, for access from McClellan Ave. • The north end of the existing access road will be extended by 770 feet across maintained open land to access the west end of the construction workspace at MP 990.58 on Line 1.
AR-995.25	EL-995.10	Existing	Industrial	0.03	0.00	0.03	90 x (irregular widths)	• Gravel road for access to east side of construction workspace from Jones Road.
AR-999.25	AF-999.25	Existing	Industrial / Open Land	0.01	0.00	0.01	111 x 16	• Partially graveled road adjacent to forested area for access to construction workspace from Pine Road. • Currently used by Operations to access this existing, fenced aboveground facility site.

a. Access road reference number consists of access road abbreviation (AR-) and the milepost reference which corresponds to the nearest location where the temporary access road intersects the pipeline. Milepost corresponds to Texas Eastern's existing 24-inch-diameter mainline Line 1, except for AR-10-714.10 which corresponds to a milepost location along Texas Eastern's Line 10.

b. Area to be impacted to lengthen or extend a road beyond the existing road footprint. If project impact area for use of existing roads is 0.00, no impacts to widen or lengthen/extend the road beyond the existing road footprint are proposed. Any existing driveway or access road for Texas Eastern property, such as roads at the compressor station yards, may be used to access construction workspace. Existing driveways or access roads within existing compressor stations are not listed because no improvements to these access roads will be required.

APPENDIX D

ABANDONMENT ACTIVITIES ASSOCIATED WITH LINE 2 AND LINE 3

Appendix D

Locations by Line 1 Feature ID where Non-jurisdictional Facilities on Lines 2 and 3 would also be removed as part of Idle Line 1 Abandonment Project

Work Area Location STATE Feature ID[a]	County	Description of Activities [b]
OHIO		
AF-890.14 AF-890.26	Perry	Remove pipeline appurtenances within Somerset Compressor Station
AF-890.35	Perry	Remove pipeline appurtenances at aboveground facility
AF-900.01	Perry	Remove pipeline appurtenances at aboveground facility
AF-906.73	Muskingum	Remove pipeline appurtenances at aboveground facility
EL-907.47	Muskingum	Remove pipeline at waterbody crossing (trib. to Blue Rock Creek, smub001)
EL-910.22	Muskingum	Remove pipeline at waterbody crossing (trib. to Crow Run, smub005)
AF-910.69	Muskingum	Remove pipeline appurtenances at aboveground facility
AF-910.86	Muskingum	Remove pipeline appurtenances at aboveground facility
EL-912.28	Muskingum	Remove pipeline at waterbody crossing (tributary to Dry Riffle Run, smub007)
AF-913.37	Muskingum	Remove appurtenances at pipeline crossover within existing, maintained easement
AF-942.07	Noble	Remove pipeline appurtenances at aboveground facility
AF-942.23	Noble	Remove pipeline appurtenances at Summerfield Station
AF-942.57	Noble	Remove pipeline appurtenances at aboveground facility
EL-951.08	Monroe	Remove pipeline at waterbody crossing (Wheeler Run, smoa013)
EL-951.68	Monroe	Remove pipelines at waterbody crossing (trib to Wheeler Run, smob001)
EL-952.37	Monroe	Remove pipelines at waterbody crossing (trib to Wheeler Run, smob003)
EL-952.77	Monroe	Remove pipeline at waterbody crossing (trib to Wheeler Run, smob005)
AF-962.01	Monroe	Remove entire aboveground facility (Gate Setting 3-213)
EL-964.06	Monroe	Remove pipeline at waterbody crossing (trib. to Paine Run, smoc004)
EL-965.56	Monroe	Remove pipeline at waterbody crossing (trib. to Cat Run, smoc003)
AF-967.62	Monroe	Remove appurtenances at aboveground facility (Clarington Site / M&R 70004)
AF-970.40	Monroe	Remove appurtenances at aboveground facilities & cut and cap ends of connecting piping called Summerfield Auxiliary / Ohio River Lateral
WEST VIRGINIA		
AF-971.02	Marshall	Remove appurtenances at aboveground facility
EL-972.84	Marshall	Remove pipeline on upland slope
AF-976.18	Marshall	Remove entire aboveground facility (M&R 70005) Disconnect Line 10-M from Line 1, and cut and cap north end of pipeline lateral
EL-980.20	Marshall	Remove pipeline at waterbody crossing (trib. to Lick Run, smac013)
EL-981.04	Marshall	Remove pipeline at waterbody crossing (trib. to Lick Run, smac005)
EL-981.57	Marshall	Remove pipeline at waterbody crossing (trib. to Middle Grave Creek, smac007)
EL-981.59	Marshall	Remove pipeline at waterbody crossing (trib. to Middle Grave Creek, smac008)
EL-981.75	Marshall	Remove pipeline at waterbody crossing (trib. to Middle Grave Creek, smac009)
EL-981.76	Marshall	Remove pipeline at waterbody crossing (trib. to Middle Grave Creek, smac010)
ST-982.40	Marshall	Remove pipeline at waterbody crossing (trib. to Middle Grave Creek, smaa013)
ST-984.80	Marshall	Remove pipeline at waterbody crossing (Wolf Run, smaa006)
EL-985.06	Marshall	Remove pipeline at waterbody crossing (trib. to Wolf Run, smac002)
ST-986.24	Marshall	Remove pipeline at waterbody crossing (Williams Run, smaa003)
EL-989.30	Greene	Remove pipeline at waterbody crossing (tributary to Barneys Run, sgrc013)

ST-989.92	Greene	Remove pipeline at waterbody crossing (South Fork of Dunkard Fork / Wheeling Creek, sgra003)
EL-990.98	Greene	Remove pipeline at waterbody crossing (trib. to North Fork of Dunkard Fork, sgrc019)
AF-994.49	Greene	Remove appurtenances at aboveground facility

[a] *Feature ID* consists of a two letter acronym and the mainline milepost location where the Feature crosses Line 1. Aboveground facilities are indicated as “AF”. Perennial waterbody crossings, including the Ohio River, are indicated as “ST”. Sections of pipe that have become exposed by erosion or supported spans of pipe aboveground are indicated as “EL”.

[b] *Description of Activities* column includes the project-specific Unique ID and waterbody name where pipe will be removed at a waterbody (Features EL- and ST-) on Line 1 as well as Line 2 and/or 3.

APPENDIX E

WATERBODY CROSSINGS WITHIN CONSTRUCTION WORK AREAS

Appendix E Waterbody Crossings
Idle Line 1 Abandonment Project
Waterbody Crossings within Construction Work Areas for the Project

Work Area Location / Feature ID [a]	Line 1 Milepost	Waterbody Unique ID [b]	Waterbody Name	FERC Classification	Flow Regime	OHWM Crossing (feet)[c]	Work Area Type [d]	WATER QUALITY DESIGNATIONS: State Water Quality Classification [e]	WATER QUALITY DESIGNATIONS: Fishery Type [f]	WATER QUALITY DESIGNATIONS: Section 303(d) Impairment Cause [g]
OHIO										
Fairfield Co										
AR-863.25	---	sfab001	Little Walnut Creek	Intermediate	Perennial	15 [h]	TAR	WWH, AWS, IWS, PCR	Warmwater	Human Health Use - Cause Unknown; Recreational Use - Escherichia Coli (E. Coli)
EL-863.25	863.25	sfab001	Little Walnut Creek	Intermediate	Perennial	15	EA	WWH, AWS, IWS, PCR	Warmwater	Human Health Use - Cause Unknown; Recreational Use - E. Coli
RR-869.77	869.84	sfaa008	Ohio Canal	Intermediate	Perennial	20 [h]	ROW	N/A	N/A	Recreational Use - Cause Unknown; Aquatic Life - Direct Habitat Alterations, Nutrients, Organic Enrichment/Low Dissolved Oxygen, Sedimentation/Siltation
EL-875.24	875.24	sfaa005	Trib. to Ewing Run	Minor	Perennial	7	EA	N/A	N/A	N/A
AR-875.60	---	sfaa003	Trib. to Ewing Run	Minor	Ephemeral	N/A	TAR	N/A	N/A	N/A
EL-875.56 (AF-875.60)	875.56	sfaa003	Trib. to Ewing Run	Minor	Ephemeral	2	EA	N/A	N/A	N/A
EL-881.96 (RR-881.95)	881.96	sfaa001	Little Rush Creek	Intermediate	Perennial	40	EA	WWH, AWS, IWS, PCR	Warmwater	Recreational Use - Cause Unknown; Aquatic Life - Direct Habitat Alterations, Nutrients, Organic Enrichment/Low Dissolved Oxygen, Sedimentation/Siltation
Perry Co										
EL-887.38	887.38	speb001	Trib. to Center Branch Rush Creek	Minor	Perennial	9	EA	N/A	N/A	N/A
EL-887.38	887.50	speb002	Trib. to Center Branch Rush Creek	Minor	Ephemeral	8	ROW	N/A	N/A	N/A
HW-891.68 & EL-891.80	891.71	spea004	Trib. to Center Branch Rush Creek	Minor	Intermittent	3	EA	N/A	N/A	N/A
EL-891.80 (HW-891.68)	891.80	speb005	Center Branch Rush Creek	Minor	Perennial	8	EA	WWH, AWS, IWS, PCR	Warmwater	N/A
AR-895.17	---	spee004	Trib. to Two Mile Run	Minor	Intermittent	N/A	TAR	N/A	N/A	N/A
AR-895.17	---	spee003	Trib. to Two Mile Run	Minor	Intermittent	N/A	TAR	N/A	N/A	N/A
HW-900.54	900.49	spea003	Trib. to Moxahala Creek	Minor	Intermittent	4	ROW	N/A	N/A	N/A

Appendix E (cont'd)
Idle Line 1 Abandonment Project
Waterbody Crossings within Construction Work Areas for the Project

Work Area Location / Feature ID [a]	Line 1 Milepost	Waterbody Unique ID [b]	Waterbody Name	FERC Classification	Flow Regime	OHWM Crossing (feet)[c]	Work Area Type [d]	WATER QUALITY DESIGNATIONS: State Water Quality Classification [e]	WATER QUALITY DESIGNATIONS: Fishery Type [f]	WATER QUALITY DESIGNATIONS: Section 303(d) Impairment Cause [g]
Muskingum	**Co**									
HW-906.45	906.48	smud009	Brush Creek	Intermediate	Perennial	15	EA	WWH, AWS, IWS, PCR	Warmwater	Recreational Use - E. Coli; Aquatic Life Use - Bottom Deposits, Fish Passage Barrier, Manganese, Natural Conditions (Flow or Habitat), Sedimentation/Siltation, Specific Conductivity, Total Dissolved Solids (TDS), pH
EL-907.43 (EL-907.47)	907.42	smub003	Trib. to Blue Rock Creek	Minor	Ephemeral	7	EA	N/A	N/A	N/A
EL-907.43 (EL-907.47)	907.43	smub002	Trib. to Blue Rock Creek	Minor	Intermittent	9	EA	N/A	N/A	N/A
EL-907.47 (EL-907.43)	907.47	smub001	Trib. to Blue Rock Creek	Minor	Ephemeral	6	EA	N/A	N/A	N/A
EL-907.88	907.88	smub004	Trib. to Blue Rock Creek	Minor	Ephemeral	6	EA	N/A	N/A	N/A
EL-910.22	910.22	smub005	Trib. to Crow Run	Minor	Ephemeral	6	EA	N/A	N/A	N/A
EL-910.47	910.47	smub006	Trib. to Crow Run	Minor	Intermittent	9	EA	N/A	N/A	N/A
EL-912.28	912.15	smub009	Trib. to Dry Riffle Run	Minor	Ephemeral	5	ROW	N/A	N/A	N/A
EL-912.28	912.28	smub007	Trib. to Dry Riffle Run	Minor	Perennial	9	EA	N/A	N/A	N/A
EL-912.28	near 912.29	smub008	Trib. to Dry Riffle Run	Minor	Intermittent	5	EA	N/A	N/A	N/A
AR-913.25	---	smud002	Dry Riffle Run	Minor	Perennial	N/A	TAR	WWH, AWS, IWS, PCR	Warmwater	Recreational Use - E. Coli; Human Health Use - Polychlorinated Biphenyls (PCBs); Aquatic Life Use - Natural Conditions (Flow or Habitat), Other Flow Regime Alterations, Physical Substrate Habitat Alterations
HW-913.56	913.57	smud004	Dry Riffle Run	Minor	Perennial	10	EA	WWH, AWS, IWS, PCR	Warmwater	Recreational Use - E. Coli; Human Health Use - PCBs; Aquatic Life Use - Natural Conditions (Flow or Habitat), Other Flow Regime Alterations, Physical Substrate Habitat Alterations

Appendix E (cont'd)
Idle Line 1 Abandonment Project
Waterbody Crossings within Construction Work Areas for the Project

Work Area Location / Feature ID [a]	Line 1 Milepost	Waterbody Unique ID [b]	Waterbody Name	FERC Classification	Flow Regime	OHWM Crossing (feet)[c]	Work Area Type [d]	WATER QUALITY DESIGNATIONS: State Water Quality Classification [e]	WATER QUALITY DESIGNATIONS: Fishery Type [f]	WATER QUALITY DESIGNATIONS: Section 303(d) Impairment Cause [g]
Noble Co										
AR-942.23	---	snoa001	Glady Run	Minor	Perennial	N/A	TAR	WWH, AWS, IWS, PCR	Warmwater	Not Assessed
Monroe Co										
HW-943.99	944.00	smod015	Trib. to South Fork	Intermediate	Perennial	12	EA	N/A	N/A	N/A
EL-951.08 (HW-951.16)	951.08	smoa013	Wheeler Run	Intermediate	Perennial	15	EA	WWH, AWS, IWS, PCR	Warmwater	Aquatic Life Use - Cause Unknown
HW-951.30	951.30	smoa009	Trib. to Wheeler Run	Minor	Perennial	9	EA	N/A	N/A	Aquatic Life Use - Cause Unknown
EL-951.68	951.68	smob001	Trib. to Wheeler Run	Minor	Perennial	9	EA	N/A	N/A	N/A
EL-952.37	952.23	smob004	Trib. to Wheeler Run	Minor	Ephemeral	5	ROW	N/A	N/A	N/A
EL-952.37	952.37	smob003	Trib. to Wheeler Run	Minor	Perennial	9	EA	N/A	N/A	Aquatic Life Use - Cause Unknown
EL-952.77	952.77	smob005	Trib. to Wheeler Run	Minor	Perennial	6	EA	N/A	N/A	N/A
EL-964.06	964.06	smoc004	Trib. to Paine Run	Minor	Perennial	6	EA	N/A	N/A	N/A
HW-964.97	near 964.99	smod006	Trib. to Cat Run	Minor	Intermittent	6	EA	N/A	N/A	N/A
EL-965.56	965.56	smoc003	Trib. to Cat Run	Minor	Intermittent	4	EA	N/A	N/A	N/A
AR-970.28	---	smoa001	Big Run	Intermediate	Perennial	N/A	TAR	N/A	N/A	Aquatic Life Use - Cause Unknown, Flow Alteration(s)
AR-970.32	---	smoa001	Big Run	Intermediate	Perennial	20 [h]	TAR	N/A	N/A	Aquatic Life Use - Cause Unknown, Flow Alteration(s)
AF-970.40	offline	smoc002	Trib. to Big Run	Minor	Ephemeral	2	EA	N/A	N/A	N/A
AF-970.40	offline	smoc001 & smoc001_ext	Trib. to Big Run	Minor	Ephemeral	6	EA	N/A	N/A	N/A
Monroe County, OH to Marshall County, WV										
ST-970.61	970.51-970.71	smaa038	Ohio River	Major	Perennial	1,250	N/A	OH – WWH, PWS, AWS, IWS, BW; WV – A, B1, C, E3, E4	Warmwater (OH & WV)	OH & WV – Fecal Coliform, Polychlorinated biphenyls (PCBs), Dioxin
WEST VIRGINIA										
Marshall Co										
ST-971.94	971.94	smaa039	Graveyard Run	Minor	Perennial	10 bank-to-bank [i]	EA	B1	Warmwater	N/A
ST-971.94	971.98 – 972.00	smaa039	Graveyard Run	Intermediate	Perennial	80 bank-to-bank [i]	EA	B1	Warmwater	N/A
ST-971.94	972.21	smaa035	Trib. to Graveyard Run	Minor	Intermittent	5	ROW		N/A	N/A

Appendix E (cont'd)
Idle Line 1 Abandonment Project
Waterbody Crossings within Construction Work Areas for the Project

Work Area Location / Feature ID [a]	Line 1 Milepost	Waterbody Unique ID [b]	Waterbody Name	FERC Classification	Flow Regime	OHWM Crossing (feet)[c]	Work Area Type [d]	WATER QUALITY DESIGNATIONS: State Water Quality Classification [e]	WATER QUALITY DESIGNATIONS: Fishery Type [f]	WATER QUALITY DESIGNATIONS: Section 303(d) Impairment Cause [g]
ST-976.06 (ST-976.14 & AF-976.18)	976.05 - 970.08	smaa033	Trib. to Grave Creek	Intermediate	Perennial	18	EA	B1	Warmwater	N/A
ST-976.14 (ST-976.06 & AF-976.18)	976.14	smaa033	Trib. to Grave Creek	Intermediate	Perennial	18	EA	B1	Warmwater	N/A
ST-976.06, ST-976.14 & AF-976.18	near 976.09	smaa034	Trib. to Grave Creek	Minor	Intermittent	5	EA	HQW	N/A	N/A
ST-976.30	976.30	smaa031	Grave Creek	Intermediate	Perennial	35	EA	B1, HQW	Warmwater	Conditions Not Allowable (CNA) - Biological, Iron, Fecal Coliform
ST-977.89	977.89	smaa030	Trib. to Grave Creek	Intermediate	Perennial	15	EA	B1	Warmwater	N/A
ST-977.89	977.89	smaa029	Trib. to Grave Creek	Minor	Ephemeral	3	EA		N/A	N/A
ST-977.89	977.90	smaa029	Trib. to Grave Creek	Minor	Ephemeral	3	ROW		N/A	N/A
ST-978.50	near 978.36	smaa024	Trib. to Grave Creek	Minor	Ephemeral	1	ROW		N/A	N/A
ST-978.50	near 978.49	smaa025	Trib. to Grave Creek	Minor	Ephemeral	1	EA		N/A	N/A
ST-978.50	978.50	smaa026	Trib. to Grave Creek	Minor	Perennial	7	EA	B1	Warmwater	N/A
ST-978.50	near 978.51	smaa027	Trib. to Grave Creek	Minor	Ephemeral	3	EA		N/A	N/A
ST-978.50	near 978.54	smaa028	Trib. to Grave Creek	Minor	Ephemeral	3	EA		N/A	N/A
ST-979.22	979.22	smaa023	Trib. to Grave Creek	Minor	Perennial	3	EA	B1	Warmwater	N/A
ST-979.22	979.32	smaa022	Trib. to Grave Creek	Minor	Ephemeral	3	ROW		N/A	N/A
ST-979.73	near 979.70	smaa019	Trib. to Cedar Run	Minor	Ephemeral	1	ROW		N/A	N/A
ST-979.73	near 979.71	smaa019	Trib. to Cedar Run	Minor	Ephemeral	1	EA		N/A	N/A
ST-979.73	979.73	smaa020	Cedar Run	Minor	Perennial	3	EA	B1	Warmwater	N/A
EL-980.20	near 980.18	smad005	Trib. to Lick Run	Minor	Ephemeral	2	EA		N/A	N/A
EL-980.20	980.20	smac013	Trib. to Lick Run	Minor	Perennial	4	EA	B1	Warmwater	N/A
ST-980.79	980.79	smaa014	Lick Run	Minor	Perennial	4	EA	B1	Warmwater	Fecal Coliform
EL-981.04	981.04	smac005	Trib. to Lick Run	Minor	Intermittent	6	EA		N/A	N/A
EL-981.04	near 981.04	smac006	Trib. to Lick Run	Minor	Intermittent	3	EA		N/A	N/A

Appendix E (cont'd)
Idle Line 1 Abandonment Project
Waterbody Crossings within Construction Work Areas for the Project

Work Area Location / Feature ID [a]	Line 1 Milepost	Waterbody Unique ID [b]	Waterbody Name	FERC Classification	Flow Regime	OHWM Crossing (feet)[c]	Work Area Type [d]	WATER QUALITY DESIGNATIONS: State Water Quality Classification [e]	WATER QUALITY DESIGNATIONS: Fishery Type [f]	WATER QUALITY DESIGNATIONS: Section 303(d) Impairment Cause [g]
EL-981.04	near 981.05	smad004	Trib. to Lick Run	Minor	Ephemeral	1	EA		N/A	N/A
EL-981.57 (EL-981.59)	981.57	smac007	Trib. to Middle Grave Ck	Minor	Ephemeral	4	EA		N/A	N/A
EL-981.59 (EL-981.57)	981.59	smac008	Trib. to Middle Grave Ck	Minor	Intermittent	6	EA		N/A	N/A
EL-981.75 (EL-981.76)	981.75	smac009	Trib. to Middle Grave Ck	Minor	Intermittent	6	EA		N/A	N/A
EL-981.76 (EL-981.75)	981.76	smac010	Trib. to Middle Grave Ck	Minor	Intermittent	4	EA		N/A	N/A
ST-982.40	982.40	smaa013	Trib. to Middle Grave Ck	Minor	Perennial	9	EA	B1	Warmwater	N/A
ST-984.80	984.80	smaa006	Wolf Run	Minor	Perennial	3	EA	B1	Warmwater	N/A
ST-984.80	near 984.82	smaa007	Trib. to Wolf Run	Minor	Ephemeral	2	ROW		N/A	N/A
EL-985.06	985.06	smac002	Trib. to Wolf Run	Minor	Intermittent	4	EA		N/A	N/A
ST-985.30	985.30	smaa004	Trib. to Williams Run	Minor	Perennial	4	EA	B1	Warmwater	N/A
ST-986.24	986.24	smaa003	Williams Run	Minor	Perennial	2	EA	B1	Warmwater	N/A
ST-986.24	986.26	smaa003	Williams Run	Minor	Perennial	2	EA	B1	Warmwater	N/A
ST-987.56	near 987.55	smaa002	Trib. to Wharton Run	Minor	Intermittent	2	EA		N/A	N/A
ST-987.56	987.56	smaa001	Wharton Run	Minor	Perennial	2	EA	B1	Warmwater	N/A
PENNSYLVANIA										
Greene Co										
EL-988.78	988.78	sgrc016	Trib. to Dunkard Fork/Wheeling Creek	Minor	Intermittent	6	EA	N/A	N/A	N/A
EL-989.30 (EL-989.32)	989.30	sgrc013	Trib. to Barneys Run	Minor	Intermittent	5	EA	N/A	N/A	N/A
EL-989.32 (EL-989.30)	989.32	sgrc014	Trib. to Barneys Run	Minor	Ephemeral	3	EA	N/A	N/A	N/A
ST-989.92	989.92	sgra003	South Fork of Dunkard Fork/Wheeling Creek	Intermediate	Perennial	40	EA	TSF	Trout-Stocked	N/A
EL-990.98	990.98	sgrc019	Trib. to North Fork Dunkard Fork	Minor	Perennial	8	EA	N/A	N/A	N/A
EL-991.59	991.59	sgrc012	North Fork of Dunkard Fork	Intermediate	Perennial	20	EA	TSF	Trout-Stocked	Siltation
EL-995.10	995.10	sgrc004	Trib. to Whitethorn Run	Minor	Intermittent	8	EA	N/A	N/A	N/A
EL-995.10	near 995.14	sgrc003	Trib. to Whitethorn Run	Minor	Ephemeral	1	EA	N/A	N/A	N/A
EL-999.79	999.79	sgrc001	Trib. to West Run	Minor	Intermittent	6	EA	N/A	N/A	N/A

Appendix E (cont'd)
Idle Line 1 Abandonment Project
Waterbody Crossings within Construction Work Areas for the Project

Work Area Location / Feature ID [a]	Line 1 Milepost	Waterbody Unique ID [b]	Waterbody Name	FERC Classification	Flow Regime	OHWM Crossing (feet)[c]	Work Area Type [d]	WATER QUALITY DESIGNATIONS: State Water Quality Classification [e]	WATER QUALITY DESIGNATIONS: Fishery Type [f]	WATER QUALITY DESIGNATIONS: Section 303(d) Impairment Cause [g]

[a] Feature ID associated with construction impacts is listed. Because workspace or access can be shared by multiple Features, some entries have multiple Features listed. Feature IDs located within a shared workspace are within parenthesis. Feature ID includes the milepost (MP) location along Texas Eastern's Line 1 mainline and two letter description of construction location: AF = aboveground facility; ST = Ohio River and perennial streams between MP 971-990; RR = active railroad; HW = highway (US and state highways in Ohio). EL = pipe that has become exposed by erosion or supported spans of pipe aboveground. Access road reference numbers consist of access road abbreviation (AR-) and the milepost reference which corresponds to the nearest location where the temporary access road intersects Line 1. No waterbodies will be impacted by the work areas for Line 10-L, Line 10-M or the Mount Braddock Wareyard.

[b] Project-specific Waterbody Unique IDs were assigned during the five field survey efforts in 2015 to 2016 for the Project and are used to identify each waterbody crossing.

[c] Crossing length is based on field survey data from 2015 - 2016, measured from Ordinary High Water Mark(OHWM)-to-OHWM along the centerline of Line 1, if waterbody is crossed by Line 1. Waterbodies not crossed by Line 1 centerline were measured OHWM-to-OHWM within the construction workspace. A crossing length of "N/A" for streams crossed by a temporary access road (TAR) indicates that an existing bridge or culverted crossing is present at the crossing. (Texas Eastern will not install a bridge at these crossings during construction.) No waterbodies are located within or crossed by temporary workspace, including the Mount Braddock Wareyard.

MP reference with "near" indicates that the Line 1 centerline does not cross the waterbody within EA or ROW, but is located within proposed construction workspace for abandonment activities.

[d] Construction workspace for the Project is composed of the Excavation Area and ROW Corridor, where used, for each construction location to abandon 124 Features. Work areas include

EA – Excavation Area

ROW – existing Texas Eastern easement / Right-of-Way (ROW) corridor

TAR – Temporary Access Road

N/A – Abandonment construction activities require grouting Line 1 in-place but no direct impacts to waterbody bed or banks proposed because no work areas cross or overlap waterbody.

[e] Ohio State Water Quality Classifications:

Water supply protection (Public - PWS, Agricultural - AWS, and Industrial - IWS)

Recreation (bathing waters - BW, primary contact - PCR, and secondary contact - SCR)

Aquatic life habitat (warmwater - WWH, limited warmwater - LWWH, exceptional warmwater - EWH, modified warmwater - MWH, seasonal salmonid - SSH, coldwater – CWH [coldwater habitat, inland trout streams and coldwater habitat, native fauna], and limited resource water - LRW [acid mine drainage, small drainage way maintenance, and other specified conditions])

Pennsylvania State Water Quality Classifications:

HQ = High quality water

CWF = Coldwater fishery

TSF = trout stocking fishery

West Virginia State Water Quality Classifications:

State Water Quality Classifications were determined using West Virginia Code of State Regulations, Title 47, Series 2. Category A waters are waterbodies listed in appendices to West Virginia CSR, Title 47. High Quality Waters (HQW) are based on the Sixth Edition of the West Virginia High Quality Streams prepared by the Wildlife Resources Section of the West Virginia Division of Natural Resources. West Virginia Stream Water Use Categories include Category A - Public Water; Category B - Propagation and Maintenance of Fish and Other Aquatic Life; Category B1 - Warm Water Fishery (perennial waterbodies); Category B2 - Trout Waters; Category B4 – Wetlands; Category C - Water Contact Recreation (Category C); Category D - Agricultural and Wildlife Uses; Category D1 – Irrigation; Category D2 - Livestock; Category D3 - Wildlife; Category E - Water Supply Industrial, Water Transport, Cooling and Power ; Category E1 - Water Transport; Category E2 - Cooling Water; Category E3 - Power Production; Category E4 – Industrial. None of the waters crossed by the Project are Tier 3 category or "outstanding national resource waters".

Appendix E (cont'd)
Idle Line 1 Abandonment Project
Waterbody Crossings within Construction Work Areas for the Project

Work Area Location / Feature ID [a]	Line 1 Milepost	Waterbody Unique ID [b]	Waterbody Name	FERC Classification	Flow Regime	OHWM Crossing (feet)[c]	Work Area Type [d]	WATER QUALITY DESIGNATIONS: State Water Quality Classification [e]	WATER QUALITY DESIGNATIONS: Fishery Type [f]	WATER QUALITY DESIGNATIONS: Section 303(d) Impairment Cause [g]

[f] Fisheries type is based on readily available data from agency consultation letters or online data. Additional consultation with state and federal agencies will be on-going to further refine these waterbody designations. According to West Virginia Division of Natural Resources (DNR), in the state of West Virginia, all perennial waterbodies are considered warm water fishery streams, unless otherwise indicated as a cool water lake. Intermittent streams that have a close proximity to a perennial warm water fishery stream may also be considered a warm water fishery. Ephemeral streams would not be considered a warm water fishery. Identification of intermittent streams as warm water fisheries will be identified by the DNR as part of the Stream Activity Permit / Right-of-Entry application review of the Project. (phone correspondence between DNR and NRG on 9/22/2016)

[g] N/A = Waterbody is not listed as a 303(d) Impaired waterbody.

[h] Temporary bridge will be used across these waterbodies, which will be crossed for access to construction workspace.

[i] Due to the presence of several beaver dams, atypical site conditions exist at the crossings of Graveyard Run (smaa039) and OHWM could not be determined during field surveys in December 2015 nor April 2016. Bank-to-bank width of this stream was estimated using historic aerial photography.

APPENDIX F

TEXAS EASTERN-REQUESTED MODIFICATIONS OF FERC PROCEDURES

Appendix F

Project-Specific Modifications to the FERC's Procedures

Location / Feature ID [a]	Unique Field ID [b]	Distance to Resource [c]	Justification for Modification
OHIO			
AF-841.94	wpia001e	0 feet	• Wetland is adjacent to existing gravel road (AR-841.94) within Texas Eastern's existing easement needed for access to workspace.
RR-853.80	wpia007e	<10 feet	• Workspace needed to grout railroad is adjacent to wetland.
RR-869.77	sfaa008	0 feet	• Available work area is constrained by railroad tracks, wetland and Ohio Canal. Workspace placement at edge of Ohio Canal is needed to effectively grout railroad and utilize uplands.
AF-895.19	wpee0058 wpee002e	2 feet	• Removal of pipeline facilities is required at aboveground facility. Existing fenceline for aboveground facility is less than 50 feet from wetlands.
HW-900.54	wped001e	23 feet	• Use of existing Texas Eastern easement needed for access to workspace.
HW-906.45	wmud005e	35 feet	• Workspace needed to safely and effectively grout highway, Ohio State Road (SR) 555, is less than 50 feet from wetland.
HW-929.78	snod004	<10 feet	• Available work area is constrained by wetland to the north of Line 1 and existing stream to the south. Stream is parallel to Line 1 construction workspace needed to safely and effectively grout highway, SR 821.
HW-930.40	snod002	23 feet	• Line 1 centerline is less than 50 feet from stream at the western end of workspace nearest interstate highway. Stream is parallel to Line 1 construction workspace needed to safely and effectively grout I77.
HW-931.95	wnod002e	15 feet	• Workspace needed to safely and effectively grout highway less than 50 feet from wetland.
HW-942.01 & AF-942.07	snod001 wnod001e	<10 feet	• Western limit of one construction workspace for two Features is less than 50 feet from a stream/wetland complex.
AF-942.23	snoa001	<10 feet	• A stream, Glady Run, borders the existing fenceline of the Summerfield Compressor Station facility and is adjacent to proposed construction workspace within existing graveled areas. • Construction workspace required to facilitate removal of existing aboveground appurtenances and auxiliary facilities.
HW-945.49	smod013 wmod006e	41 feet <10 feet	• Due to location of existing roads, western limits of one construction workspace to safely and effectively grout highway is less than 50 feet from a stream and wetland.
EL-965.56	wmod003e	<10 feet	• Use of existing Texas Eastern easement needed for access to workspace.
WEST VIRGINIA			
ST-986.24	wmad002e	25 feet	• Workspace boundary is less than 50 feet from wetland. Proposed workspace is needed to safely and effectively remove exposed pipeline.
PENNSYLVANIA			
EL-988.78	wgrc002e	41 feet	• Workspace boundary is less than 50 feet from wetland. Proposed workspace is needed to safely and effectively remove exposed pipeline.
AF-994.65	wgra001e	<10 feet	• One wetland borders an existing graveled area along the southern boundary of the Wind Ridge Compressor Station facility and is adjacent to proposed construction workspace. • Construction workspace required to facilitate removal of existing aboveground appurtenances and auxiliary facilities.

[a] Milepost references in the Feature ID section correspond to location of the Feature along Line 1.

[b] Unique Field ID number corresponds to wetland or waterbody identification number in the *Wetland Delineation and Waterbody Assessment Report* and illustrated on the Project's construction Workspace Drawings. w = wetland; s = waterbody.

[c] Distance from the resource to the nearest construction workspace boundary. Data are based on field surveys completed in November and December 2015 and April, May, and September 2016 for the Idle Line 1 Abandonment Project by Natural Resource Group and Environment & Archaeology (biological survey); Hatch Mott MacDonald Engineering (civil survey).

APPENDIX G

FEDERALLY LISTED THREATENED AND ENDANGERED SPECIES

Appendix G

Federally Listed Threatened and Endangered Species and Species of Concern Potentially Occurring in the Project Area

Species	Federal Status	State Status	State/County	Habitat Description	Effect Determination
MAMMALS					
Indiana bat (*Myotis sodalis*)	E	E	Entire Project area	Hibernates in caves or mine portals in winter. Maternity sites generally behind exfoliating bark of dead or dying trees or in tree cavities. Foraging and roosting habitat in summer includes riparian areas, upland forests, pastures, and old fields with scattered trees near small ponds and streams. Suitable summer habitat includes those trees > 3 inches in diameter at breast height (DBH) in Ohio or > 5 inches DBH in WV and PA.	*Not likely to adversely affect;* No impacts on hibernacula or summer use buffers. Tree clearing of suitable habitat trees in Ohio would be conducted between October 1 and March 31 to avoid adverse effects to the species. No timing restriction for tree clearing in WV and PA due to the location and minor extent of clearing.
Northern long-eared bat (*Myotis septentrionalis*)	T	T (Ohio)	Entire Project area	Overwinters and occasionally roosts in caves. Summer roosting within large tracts of mature upland forest. Foraging on hillsides and ridges often associated with wetlands, small ponds, and streams. Trees are selected based on the presence of cavities, crevices, or peeling bark.	*Not likely to adversely affect;* Tree clearing of suitable habitat trees in Ohio would be conducted between October 1 to March 31 to avoid adverse effects to the species. Project is not located within radii around known hibernacula or roost trees and would not affect any known hibernacula. No timing restriction for WV and PA tree clearing due to the location and minor extent of tree, and avoidance of summer use buffers.
FISHES					
Scioto madtom *(Noturus trautmani)*	E	E	OH – Pickaway	Found in deep, swift riffles of large rivers. Typically found in cobble and boulder substrate. The species has a limited range within the Muskingum, Scioto, and Little Miami River drainages.	*No effect*; No disturbance is proposed at the Muskingum, Scioto, or Little Miami rivers.
MOLLUSKS					
Fanshell *Cyprogenia stegaria)*	E	E	OH – Muskingum	Freshwater mussel found in medium to large rivers with gravel substrate.	*No effect*; Project would not impact streams with suitable habitat.
Snuffbox (*Epioblasma triquetra*)	E	E	OH – Muskingum PA – Greene,WV – Marshall (Fish Creek)	Occurs in small- to medium-sized creeks, to larger rivers, and in lakes. Occurs in swift currents of riffles and shoals and wave-washed shores of lakes over gravel, cobble, and boulders.	*No effect*; Project would not impact streams with suitable habitat.
Northern riffleshell (*Epioblasma torulosa rangiana*)	E	E	OH – Pickaway	Current populations occur in medium to large rivers. Populations have been documented in riffle and quickly moving water, as well as deep, slower sections of streams.	*No effect*; Project would not impact streams with suitable habitat.

Appendix G

Federally Listed Threatened and Endangered Species and Species of Concern Potentially Occurring in the Project Area

Species	Federal Status	State Status	State/County	Habitat Description	Effect Determination
Sheepnose (*Plethobasus cyphyus*)	E	E	OH – Muskingum	Freshwater mussel found in large rivers with shallow areas present and a moderate to swift current flowing over coarse sand and gravel.	*No effect*; Project does not impact streams with suitable habitat.
Clubshell (*Pleurobema clava*)	E	E	OH – Pickaway	Found in a variety of stream and river conditions, but is most often observed in clean, stable, coarse sand and gravel runs just downstream of riffles, in medium to small rivers and streams.	*No effect;* Project does not impact streams with suitable habitat.
Rabbitsfoot (*Quadrula cylindrica ssp. cylindrica*)	T	E	OH – Pickaway	Found along sand and gravel bottoms, along margins, or adjacent to riffles and runs within streams and small- to medium-sized rivers having water depths up to or greater than 10 feet.	*No effect;* Project does not impact streams with suitable habitat.
Rayed Bean (*Villosa fabalis*)	E	E	OH – Pickaway	Typically known to inhabit smaller, headwater creeks and found in or near shoal or riffle areas. Often found among vegetation such as willows and water milfoil.	*No effect;* Project does not impact streams with suitable habitat.
INSECTS					
American burying beetle (*Nicrophorus americanus*)	E	E	OH – Muskingum, Noble, Perry	Habitat generalist occupying areas ranging from grasslands to open woodlands and brush lands. Reintroduced in Ohio at specific locations.	*No effect;* Project does not cross any reintroduction areas.
REPTILES					
Eastern massasauga *(Sistrurus catenatus)*	T	E	OH-Fairfield	Known to inhabit and hibernate in wet areas including wet prairies, marshes, and low-lying areas along rivers and lakes. Snake will utilize adjacent uplands during active portions of the year.	*No effect;* No known, occupied habitat identified within Project sites.
PLANTS					
Running buffalo clover *(Trifolium stoloniferum)*	E	E	OH	Disturbed bottomland meadows; disturbed sites that have shade during part of each day.	*No effect;* No known habitat identified within Project sites.
AMPHIBIANS					
Eastern hellbender *(Cryptobranchus alleganiensis alleganiensis)*	Species of Concern	E	OH	Found mostly in unglaciated (south and east) Ohio, hellbenders prefer large, swift flowing streams where they hide during the day under large rocks.	*No effect;* No in-water work is proposed in a perennial stream of sufficient size.
BIRDS					

Appendix G

Federally Listed Threatened and Endangered Species and Species of Concern Potentially Occurring in the Project Area

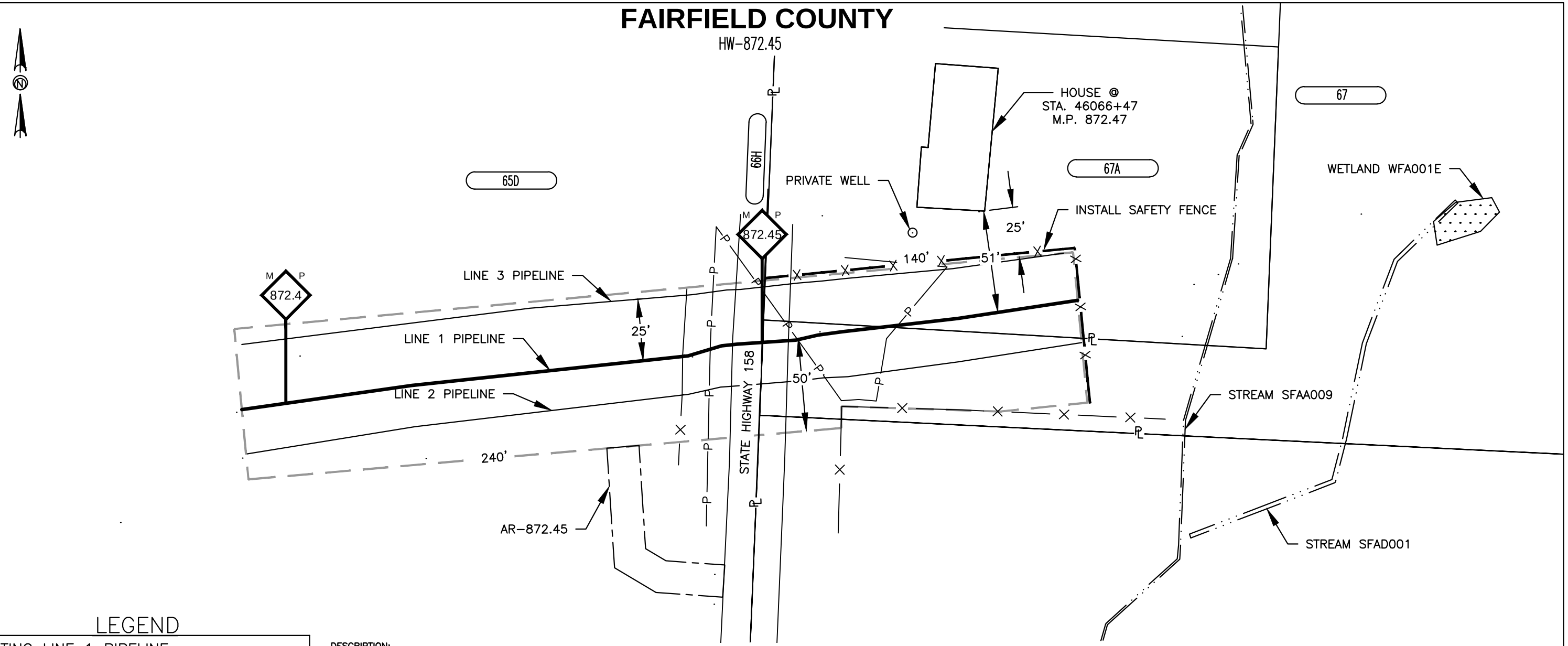
Species	Federal Status	State Status	State/County	Habitat Description	Effect Determination
Bald Eagle	BGEPA	E	Entire Project area	Prefers areas near large, open waterbodies with abundant fish and nearby tall trees suitable for nesting. Adults begin building nests between October and early December, and lay eggs in February to March.	No adverse impacts anticipated; no active nests are within the Project area, and USFWS guidelines would be implemented for newly identified nests.

E = endangered; T = threatened.

APPENDIX H

RESIDENTIAL CONSTRUCTION PLANS

FAIRFIELD COUNTY



LEGEND

- EXISTING LINE 1 PIPELINE
- CONSTRUCTION WORK AREA (CWA)
- SAFETY FENCE
- PROPERTY LINE
- EXISTING FENCE
- ACCESS ROAD
- POWERLINE
- WETLAND OR WATERBODY
- PROPERTY TRACT # (00)

DESCRIPTION:

AT SURVEY STATION 46066+47 THERE IS A HOUSE LOCATED 25' TO THE NORTH OF THE CWA AND 51' NORTH OF LINE 1 PIPELINE.

NOTES:

1. (CWA) REFERS TO THE CONSTRUCTION WORK AREA.
2. SAFETY FENCE WILL BE INSTALLED AT THE EDGE OF THE CONSTRUCTION WORK AREA FOR A DISTANCE OF 100 FEET ON EITHER SIDE OF THE RESIDENCE OR BUSINESS ESTABLISHMENT.
3. STRUCTURES WITHIN CWA WILL BE REMOVED, RELOCATED OR PROTECTED PER LANDOWNER AGREEMENT.
4. AVOID REMOVAL OF MATURE TREES AND LANDSCAPING WITHIN THE CWA UNLESS NECESSARY FOR SAFE OPERATION OF CONSTRUCTION EQUIPMENT, OR AS SPECIFIED IN LANDOWNER AGREEMENTS.
5. RESTORE ALL LAWN AREAS AND LANDSCAPING IMMEDIATELY FOLLOWING CLEAN UP OPERATIONS, OR AS SPECIFIED IN LANDOWNER AGREEMENTS.
6. COMPLETE FINAL GRADING, TOPSOIL REPLACEMENT, AND INSTALLATION OF PERMANENT EROSION CONTROL STRUCTURES WITHIN 10 DAYS AFTER BACKFILLING THE TRENCH IN RESIDENTIAL AREAS.

GRAPHIC SCALE
50' 25' 0 50'

REV.#	DESCRIPTION	DATE		DATE
			PROJ. ENG.	
			CHECKED BY: HMM	
			DRAWN BY: HMM	
			SCALE: 1" = 40'	

TITLE: RESIDENTIAL DRAWING OF HW-872.45
IDLE LINE 1 ABANDONMENT PROJECT
TEXAS EASTERN TRANSMISSION, LP

LOC.: FAIRFIELD COUNTY, OHIO — REV.:

YR.: 2016 | W.B.S. MC.100037.003 | DWG. NO. M.P. 872.45

Spectra Energy
Texas Eastern Transmission, LP
5400 Westheimer Court, Houston, TX 77056-5310

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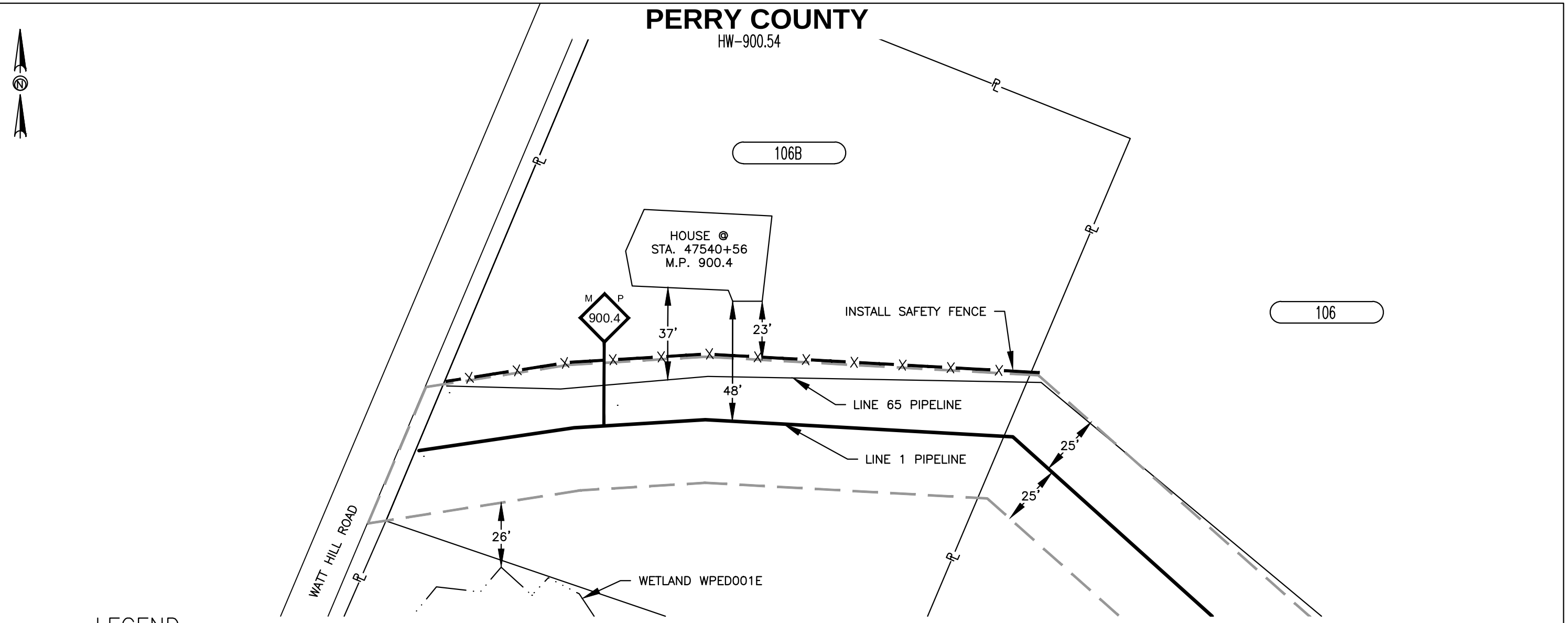
PERRY COUNTY

HW-900.54



LEGEND

- EXISTING LINE 1 PIPELINE
- CONSTRUCTION WORK AREA (CWA)
- SAFETY FENCE — X —
- PROPERTY LINE — PL —
- EXISTING FENCE — x — x — x —
- ACCESS ROAD
- POWERLINE — P —
- WETLAND OR WATERBODY
- PROPERTY TRACT # (00)

DESCRIPTION:

AT SURVEY STATION 47540+57 THERE IS A HOUSE LOCATED 23' TO THE NORTH OF THE CWA AND 48' NORTH OF LINE 1 PIPELINE.

NOTES:

1. (CWA) REFERS TO THE CONSTRUCTION WORK AREA.
2. SAFETY FENCE WILL BE INSTALLED AT THE EDGE OF THE CONSTRUCTION WORK AREA FOR A DISTANCE OF 100 FEET ON EITHER SIDE OF THE RESIDENCE OR BUSINESS ESTABLISHMENT.
3. STRUCTURES WITHIN CWA WILL BE REMOVED, RELOCATED OR PROTECTED PER LANDOWNER AGREEMENT.
4. AVOID REMOVAL OF MATURE TREES AND LANDSCAPING WITHIN THE CWA UNLESS NECESSARY FOR SAFE OPERATION OF CONSTRUCTION EQUIPMENT, OR AS SPECIFIED IN LANDOWNER AGREEMENTS.
5. RESTORE ALL LAWN AREAS AND LANDSCAPING IMMEDIATELY FOLLOWING CLEAN UP OPERATIONS, OR AS SPECIFIED IN LANDOWNER AGREEMENTS.
6. COMPLETE FINAL GRADING, TOPSOIL REPLACEMENT, AND INSTALLATION OF PERMANENT EROSION CONTROL STRUCTURES WITHIN 10 DAYS AFTER BACKFILLING THE TRENCH IN RESIDENTIAL AREAS.

GRAPHIC SCALE
40' 20' 0 40'

REV.#	DESCRIPTION	DATE	SCALE: 1" = 40'	DATE
			PROJ. ENG.	
			CHECKED BY: HMM	
			DRAWN BY: HMM	

TITLE: RESIDENTIAL DRAWING OF HW-900.54
IDLE LINE 1 ABANDONMENT PROJECT
TEXAS EASTERN TRANSMISSION, LP

LOC.: PERRY COUNTY, OHIO		REV.:
YR.: 2016	W.B.S. MC.100037.003	DWG. NO. M.P. 900.54

Spectra Energy®
Texas Eastern Transmission, LP
5400 Westheimer Court, Houston, TX 77056-5310

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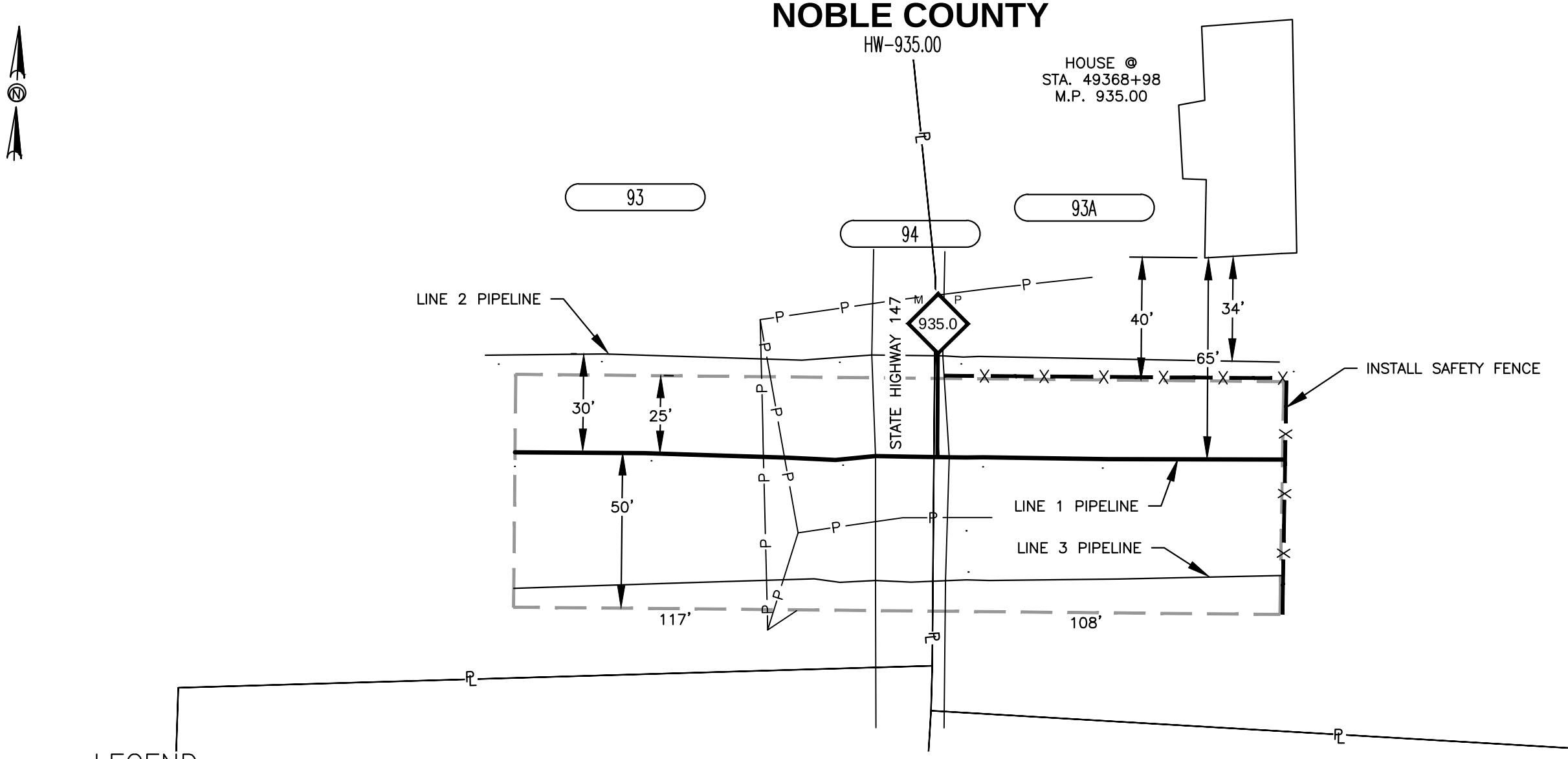
NOBLE COUNTY



LEGEND

- EXISTING LINE 1 PIPELINE
- CONSTRUCTION WORK AREA (CWA)
- SAFETY FENCE — X —
- PROPERTY LINE — PL —
- EXISTING FENCE — x — x — x —
- ACCESS ROAD
- POWERLINE — P —
- WETLAND OR WATERBODY
- PROPERTY TRACT # (00)

DESCRIPTION:

AT SURVEY STATION 49368+98 THERE IS A HOUSE LOCATED 65' TO THE NORTH OF LINE 1 PIPELINE.

NOTES:

1. (CWA) REFERS TO THE CONSTRUCTION WORK AREA.
2. SAFETY FENCE WILL BE INSTALLED AT THE EDGE OF THE CONSTRUCTION WORK AREA FOR A DISTANCE OF 100 FEET ON EITHER SIDE OF THE RESIDENCE OR BUSINESS ESTABLISHMENT.
3. STRUCTURES WITHIN CWA WILL BE REMOVED, RELOCATED OR PROTECTED PER LANDOWNER AGREEMENT.
4. AVOID REMOVAL OF MATURE TREES AND LANDSCAPING WITHIN THE CWA UNLESS NECESSARY FOR SAFE OPERATION OF CONSTRUCTION EQUIPMENT, OR AS SPECIFIED IN LANDOWNER AGREEMENTS.
5. RESTORE ALL LAWN AREAS AND LANDSCAPING IMMEDIATELY FOLLOWING CLEAN UP OPERATIONS, OR AS SPECIFIED IN LANDOWNER AGREEMENTS.
6. COMPLETE FINAL GRADING, TOPSOIL REPLACEMENT, AND INSTALLATION OF PERMANENT EROSION CONTROL STRUCTURES WITHIN 10 DAYS AFTER BACKFILLING THE TRENCH IN RESIDENTIAL AREAS.

GRAPHIC SCALE
40' 20' 0 40'

REV.#	DESCRIPTION	DATE		DATE
			PROJ. ENG.	
			CHECKED BY: HMM	
			DRAWN BY: HMM	
			SCALE: 1" = 40'	

TITLE: RESIDENTIAL DRAWING OF HW-935.00
IDLE LINE 1 ABANDONMENT PROJECT
TEXAS EASTERN TRANSMISSION, LP

LOC.: NOBLE COUNTY, OHIO		REV.:
YR.: 2016	W.B.S. MC.100037.003	DWG. NO. M.P. 935.00

Spectra Energy
Texas Eastern Transmission, LP
5400 Westheimer Court, Houston, TX 77056-5310

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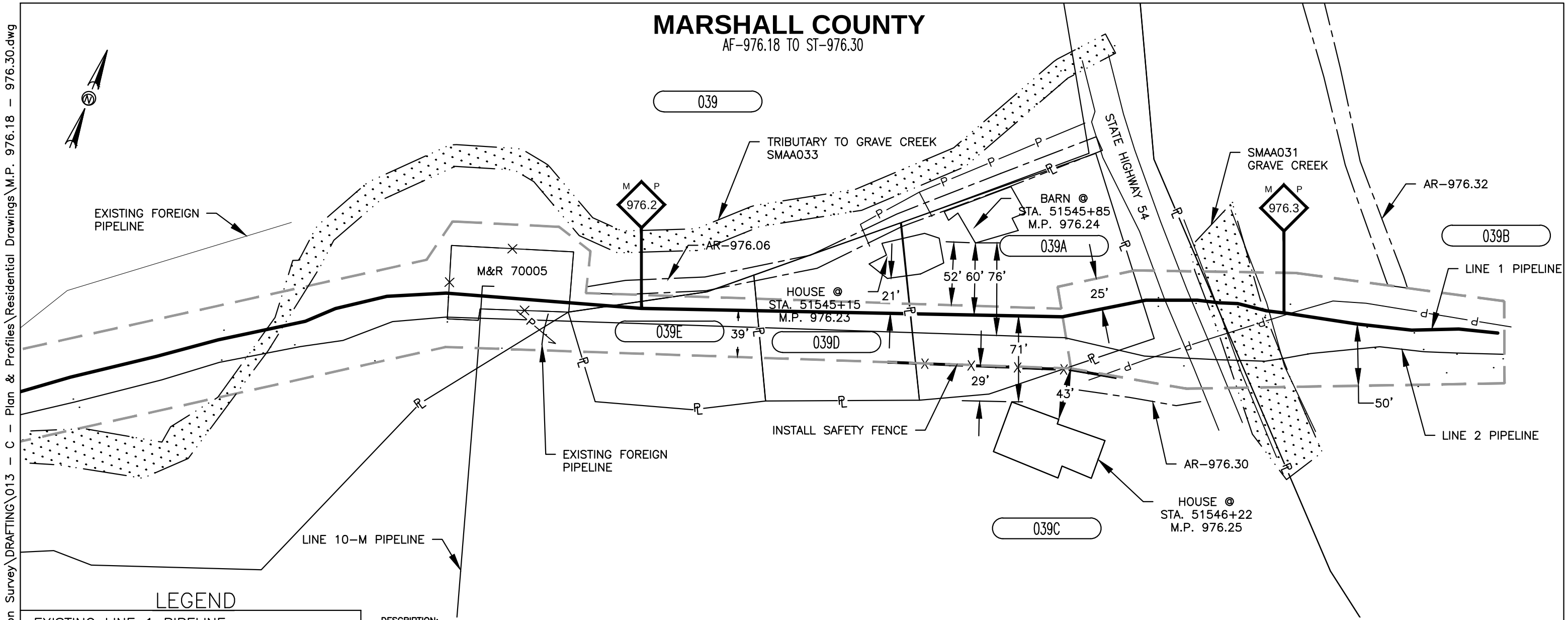
P:\36 - Spectra Energy\364362 - SPECTRA Line 1 Abandon Survey\DRAFTING\013 - C - Plan & Profiles\Residential Drawings\M.P. 976.18 - 976.30.dwg

MARSHALL COUNTY

AF-976.18 TO ST-976.30



LEGEND

- EXISTING LINE 1 PIPELINE
- CONSTRUCTION WORK AREA (CWA)
- SAFETY FENCE
- PROPERTY LINE
- EXISTING FENCE
- ACCESS ROAD
- POWERLINE
- WETLAND OR WATERBODY
- PROPERTY TRACT # (00)

DESCRIPTION:

AT SURVEY STATION 51546+22 THERE IS A HOUSE LOCATED 43' TO THE SOUTH CWA AND 71' SOUTH OF LINE 1 PIPELINE.

AT SURVEY STATION 51546+59 THERE IS A HOUSE LOCATED 52' NORTH OF THE CWA AND 60' NORTH OF LINE 1 PIPELINE.

NOTES:

1. (CWA) REFERS TO THE CONSTRUCTION WORK AREA.
2. SAFETY FENCE WILL BE INSTALLED AT THE EDGE OF THE CONSTRUCTION WORK AREA FOR A DISTANCE OF 100 FEET ON EITHER SIDE OF THE RESIDENCE OR BUSINESS ESTABLISHMENT.
3. STRUCTURES WITHIN CWA WILL BE REMOVED, RELOCATED OR PROTECTED PER LANDOWNER AGREEMENT.
4. AVOID REMOVAL OF MATURE TREES AND LANDSCAPING WITHIN THE CWA UNLESS NECESSARY FOR SAFE OPERATION OF CONSTRUCTION EQUIPMENT, OR AS SPECIFIED IN LANDOWNER AGREEMENTS.
5. RESTORE ALL LAWN AREAS AND LANDSCAPING IMMEDIATELY FOLLOWING CLEAN UP OPERATIONS, OR AS SPECIFIED IN LANDOWNER AGREEMENTS.
6. COMPLETE FINAL GRADING, TOPSOIL REPLACEMENT, AND INSTALLATION OF PERMANENT EROSION CONTROL STRUCTURES WITHIN 10 DAYS AFTER BACKFILLING THE TRENCH IN RESIDENTIAL AREAS.

GRAPHIC SCALE
80' 40' 0 80'

REV.#	DESCRIPTION	DATE		DATE
			PROJ. ENG.	
			CHECKED BY: HMM	
			DRAWN BY: HMM	
			SCALE: 1" = 40'	

TITLE: RESIDENTIAL DRAWING OF AF-976.18 TO ST-976.30
IDLE LINE 1 ABANDONMENT PROJECT
TEXAS EASTERN TRANSMISSION, LP

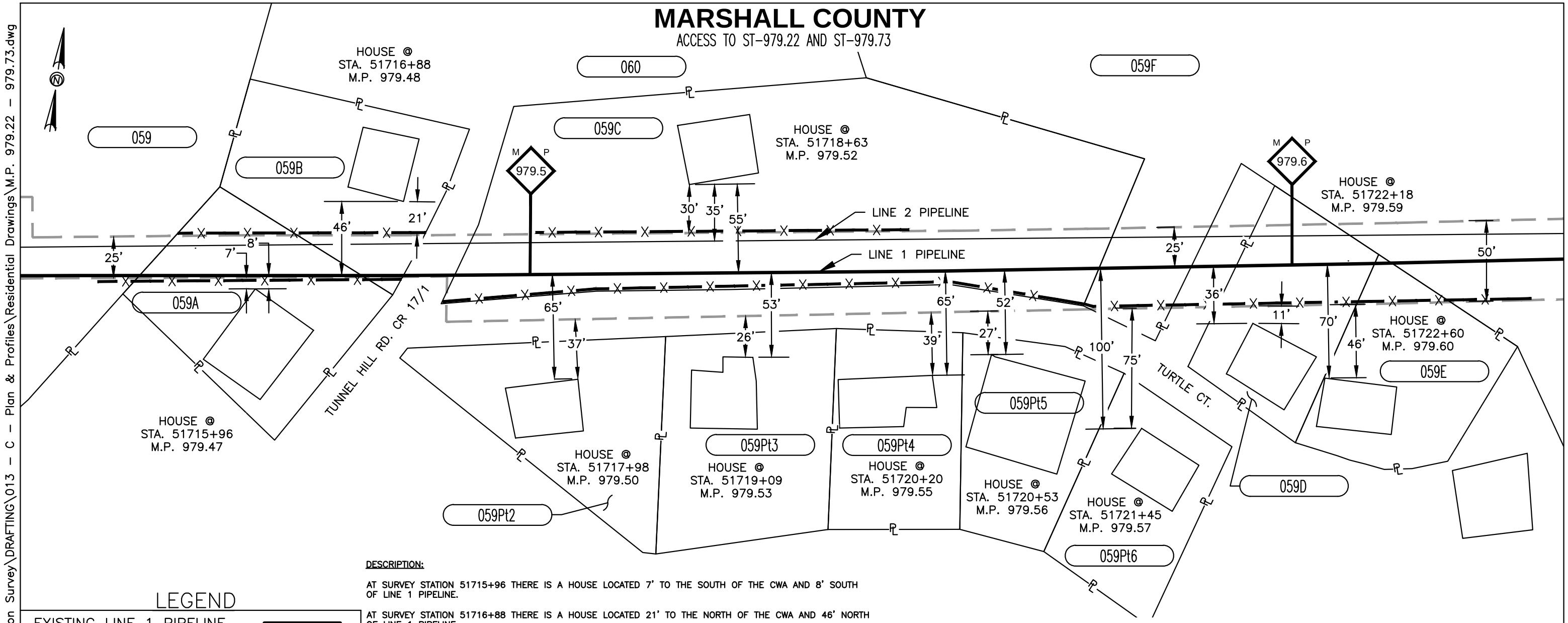
LOC.: MARSHALL COUNTY, WEST VIRGINIA | REV.:

YR.: 2016 | W.B.S. MC.100037.005 | DWG. NO. M.P. 976.18-976.30

Spectra Energy
Texas Eastern Transmission, LP
5400 Westheimer Court, Houston, TX 77056-5310

MARSHALL COUNTY

ACCESS TO ST-979.22 AND ST-979.73



LEGEND

- EXISTING LINE 1 PIPELINE
- CONSTRUCTION WORK AREA (CWA)
- SAFETY FENCE
- PROPERTY LINE
- EXISTING FENCE
- ACCESS ROAD
- POWERLINE
- WETLAND OR WATERBODY
- PROPERTY TRACT # (00)

DESCRIPTION:

AT SURVEY STATION 51715+96 THERE IS A HOUSE LOCATED 7' TO THE SOUTH OF THE CWA AND 8' SOUTH OF LINE 1 PIPELINE.

AT SURVEY STATION 51716+88 THERE IS A HOUSE LOCATED 21' TO THE NORTH OF THE CWA AND 46' NORTH OF LINE 1 PIPELINE.

AT SURVEY STATION 51717+98 THERE IS A HOUSE LOCATED 37' TO THE SOUTH OF THE CWA AND 65' SOUTH OF LINE 1 PIPELINE.

AT SURVEY STATION 51718+63 THERE IS A HOUSE LOCATED 30' TO THE NORTH OF THE CWA AND 55' NORTH OF LINE 1 PIPELINE.

AT SURVEY STATION 51719+09 THERE IS A HOUSE LOCATED 26' TO THE SOUTH OF THE CWA AND 53' SOUTH OF LINE 1 PIPELINE.

AT SURVEY STATION 51720+20 THERE IS A HOUSE LOCATED 39' TO THE SOUTH OF THE CWA AND 65' SOUTH OF LINE 1 PIPELINE.

AT SURVEY STATION 51720+53 THERE IS A HOUSE LOCATED 27' TO THE SOUTH OF THE CWA AND 52' SOUTH OF LINE 1 PIPELINE.

AT SURVEY STATION 51721+45 THERE IS A HOUSE LOCATED 75' TO THE SOUTH OF THE CWA AND 100' SOUTH OF LINE 1 PIPELINE.

AT SURVEY STATION 51722+18 THERE IS A HOUSE LOCATED 11' TO THE SOUTH OF THE CWA AND 36' SOUTH OF LINE 1 PIPELINE.

AT SURVEY STATION 51722+60 THERE IS A HOUSE LOCATED 46' TO THE SOUTH OF THE CWA AND 70' SOUTH OF LINE 1 PIPELINE.

NOTES:

1. (CWA) REFERS TO THE CONSTRUCTION WORK AREA.
2. SAFETY FENCE WILL BE INSTALLED AT THE EDGE OF THE CONSTRUCTION WORK AREA FOR A DISTANCE OF 100 FEET ON EITHER SIDE OF THE RESIDENCE OR BUSINESS ESTABLISHMENT.
3. STRUCTURES WITHIN CWA WILL BE REMOVED, RELOCATED OR PROTECTED PER LANDOWNER AGREEMENT.
4. AVOID REMOVAL OF MATURE TREES AND LANDSCAPING WITHIN THE CWA UNLESS NECESSARY FOR SAFE OPERATION OF CONSTRUCTION EQUIPMENT, OR AS SPECIFIED IN LANDOWNER AGREEMENTS.
5. RESTORE ALL LAWN AREAS AND LANDSCAPING IMMEDIATELY FOLLOWING CLEAN UP OPERATIONS, OR AS SPECIFIED IN LANDOWNER AGREEMENTS.
6. COMPLETE FINAL GRADING, TOPSOIL REPLACEMENT, AND INSTALLATION OF PERMANENT EROSION CONTROL STRUCTURES WITHIN 10 DAYS AFTER BACKFILLING THE TRENCH IN RESIDENTIAL AREAS.

GRAPHIC SCALE
60' 30' 0 60'

REV.#	DESCRIPTION	DATE	SCALE: 1" = 60'	DATE
			PROJ. ENG.	
			CHECKED BY: HMM	
			DRAWN BY: HMM	

TITLE: RESIDENTIAL DRAWING OF ACCESS TO ST-979.22 TO ST-979.73
IDLE LINE 1 ABANDONMENT PROJECT
TEXAS EASTERN TRANSMISSION, LP

LOC.: MARSHALL COUNTY, WEST VIRGINIA | REV.:

YR.: 2016 | W.B.S. MC.100037.005 | DWG. NO. M.P. 979.22-979.73

Spectra Energy
Texas Eastern Transmission, LP
5400 Westheimer Court, Houston, TX 77056-5310

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APPENDIX I

PROJECTS CONSIDERED IN THE CUMULATIVE EFFECTS ANALYSIS

Appendix I
Projects Considered for Cumulative Effects Analysis for the Idle Line 1 Abandonment Project

Company	Description	Location Relative to Project (at closest point)	Potential Contribution to Cumulative Impacts	Schedule
Moundsville Power Plant, Quantum Utility generation	Construct a 595 MW natural gas combined cycle power plant.	4.5 miles	Surface water quality, fisheries	2016-2018
Marietta Area Improvement, American Electric Power	Replace and upgrade aging electrical equipment to improve electric service reliability. This project also involves adding new 138-kV transmission lines and improvements to several distribution substations serving Ohio consumers.	4.0 miles	Surface water quality, fisheries	2017-2022
Tri-County Bare Steel Replacement, Columbia Gas Transmission, LLC	Replacement and modernization of approximately 32 miles of bare steel pipeline.	1.2 miles	Surface water quality, fisheries	2015-Unidentified
South Caldwell-Macksburg 138kV Transmission Line, American Electric Power	Construct a new 8-mile 138kV transmission line to connect the South Caldwell Substation and Macksburg Substation via South Olive Substation.	5.0 miles	Surface water quality, fisheries	2016-2017
Access South Project, Adair Southwest Project, Lebanon Extension Project (Access-Adair-Lebanon Projects), Texas Eastern Transmission, LP	Facilities include modifications to 15.8 miles of 36-inch-diameter pipeline looping segments and related appurtenances, existing aboveground facilities at 12 compressor stations, and installation of additional horsepower. Portions in relevant counties include installation of three new launcher/receivers in Monroe County, installations of 6.7 miles of looping pipeline in Noble and	0.2 to 2.3 mile	Surface water quality, fisheries	2017

Appendix I
Projects Considered for Cumulative Effects Analysis for the Idle Line 1 Abandonment Project

Company	Description	Location Relative to Project (at closest point)	Potential Contribution to Cumulative Impacts	Schedule
	Monroe Counties, and a total of six existing aboveground facility modifications in Greene, Perry, and Monroe Counties, including compressor stations.			
Ohio Valley Connector, Equitrans, LP	Construct 37 miles of pipeline and two compressor stations with a combined horsepower of 36,000. Portions in relevant counties include pipeline and one compressor station.	0.6 mile	Surface water quality, fisheries	2015-2016
Mountaineer XPress Project, Columbia Gas Transmission, LLC	Construct and operate 170.2 miles of various diameter pipeline, three new compressor stations, and modifications to three existing compressor stations and one regulating station to provide natural gas transportation. Portions in relevant counties include modifications to the existing Lone Oak Compressor Station by adding a new gas-fired compressor unit and piping modifications.	1.3 miles	Surface water quality, fisheries	2017-2018
Leach XPress Project, Columbia Gas Transmission, LLC	Expand the capacity of Columbia's existing pipeline system to of stranded Appalachian natural gas production out of the constrained basin to areas of higher market demand through construction of new pipeline infrastructure.	0.7 mile	Surface water quality, fisheries	2016-2017

Appendix I
Projects Considered for Cumulative Effects Analysis for the Idle Line 1 Abandonment Project

Company	Description	Location Relative to Project (at closest point)	Potential Contribution to Cumulative Impacts	Schedule
Unnamed Pipelines and Facilities / Blue Racer – East	Construct 200 miles of natural gas gathering pipelines, including 128 miles of large-diameter pipelines. Construct additional Natural Gas Liquids and Condensate pipelines.	4.2 miles	Surface water quality, fisheries	2015-Unidentified
Biers Run-Circleville Transmission Line / American Electric Power	Construct a new 19-mile 138kV transmission line as part of the larger Biers Run Project to connect the new Biers Run Substation and the Circleville Substation.	6.0 miles	Surface water quality, fisheries	2015-2017
Supply Header Project / Dominion Transmission, Inc.	Construct and operate 37.5 miles of natural gas pipeline and modify existing compressor facilities. Portions in relevant counties include modifications and facility upgrades at existing compressor stations resulting in approximately 63,000 horsepower of additional compression.	20.7 miles	Surface water quality, fisheries	2016-2018
Unnamed Pipelines and Facilities / Blue Racer – West	Construct 200 miles of natural gas gathering pipelines, including 128 miles of large-diameter pipelines. Construct additional Natural Gas Liquids and Condensate pipelines.	4.1 miles	Surface water quality, fisheries	2015-Unidentified
Rover Pipeline / Energy Transfer	Construct and operate a 700-mile-long various diameter pipeline, four mainline compressor stations, six supply lateral compressor stations,	50 feet	Surface water quality, fisheries	2016-2017

Appendix I
Projects Considered for Cumulative Effects Analysis for the Idle Line 1 Abandonment Project

Company	Description	Location Relative to Project (at closest point)	Potential Contribution to Cumulative Impacts	Schedule
	and ancillary facilities to transport natural gas. Portions in relevant counties include three lateral compressor stations and three segments of lateral pipelines.			
Pipeline Infrastructure Replacement / Dominion East Ohio	Replacement of 5,500 miles of the pipeline system, upgrading from bare steel, cast iron, wrought iron, and copper pipe to effectively coated steel or plastic pipe.	2.3 miles	Surface water quality, fisheries	2008-2033
Texas Eastern Appalachian Lease (TEAL) / Texas Eastern Transmission, LP	Construct 4.4 miles of 36-inch-diameter pipeline loop, one new compressor station and additions to an existing compressor station totaling 27,400 horsepower, and related auxiliary facilities. Portions in relevant county include installation of 4.4 miles of pipeline loop constructed in 2017.	0.2 mile	Surface water quality, fisheries	2017-2018

Document Content(s)

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