Office of
Energy Projects

October 2020

Texas Eastern Transmission, LP **Docket No. CP20-471-000**

Bailey East Mine Panel 12J Project

Environmental Assessment

Washington, DC 20426

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

TECHNICAL ACRONYMS AND ABBREVIATIONS

APE	area of potential effects
AQCR	Air Quality Control Region
ATWS	Additional temporary workspace
Certificate	Certificate of Public Convenience and Necessity
CAA	Clean Air Act of 1963
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalents
Commission	Federal Energy Regulatory Commission
CONSOL	CONSOL Energy Inc.
CWA	Clean Water Act of 1948
dB	Decibel
dBA	A-weighted decibel
DOT	U.S. Department of Transportation
E&SCP	Erosion and Sediment Control Plan
EA	environmental assessment
ECD	Erosion Control Devices
EI	environmental inspector
EO	Executive Order
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act of 1973
FDCP	Fugitive Dust Control Plan
FERC	Federal Energy Regulatory Commission
FWS	U.S. Fish and Wildlife Service
G	Gravity
GHG	greenhouse gas
GWP	global warming potential
HAP	hazardous air pollutants
hp	horsepower
HUC	Hydrologic Unit Code
L_{eq}	equivalent sound level
L_{dn}	day-night sound level
MBTA	Migratory Bird Treaty Act of 1918
MOU	Memorandum of Understanding
MP	Milepost
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act of 1969
NGA	Natural Gas Act of 1935
NHPA	National Historic Preservation Act of 1966
NNSR	Nonattainment New Source Review

NO_2	nitrogen dioxide
NO_x	nitrogen oxides
N_2O	nitrous oxide
NOI	*Notice of Intent to Prepare an Environmental Assessment for the Proposed Bailey East Mine Panel 12 J Project and Request for Comments on Environmental Issues*
NRHP	National Register of Historic Places
NSA	noise sensitive area
OEP	Office of Energy Projects
Order	FERC's *Order Issuing Certificate*
PADCNR	Pennsylvania Department of Conservation and Natural Resources
PCB	polychlorinated biphenyl
Plan	FERC's *Upland Erosion Control, Revegetation, and Maintenance Plan*
$PM_{2.5}$	particulate matter with an aerodynamic diameter less than or equal to 2.5 microns
PM_{10}	particulate matter with an aerodynamic diameter less than or equal to 10 microns
Procedures	FERC's *Wetland and Waterbody Construction and Mitigation Procedures*
Project	Bailey East Mine Panel 12J Project
PSD	Prevention of Significant Deterioration
Secretary	Secretary of the Commission
SHPO	State Historic Preservation Officer
SO_2	sulfur dioxide
SPCC	Spill Prevention, Control, and Countermeasure
Texas Eastern	Texas Eastern Transmission LP
TAR	temporary access road
USGS	U.S. Geological Service
VOC	volatile organic compound
WVDEP	West Virginia Department of Environmental Protection
WVGES	West Virginia Geological and Economic Survey

A. PROPOSED ACTION

1.0 INTRODUCTION

The staff of the Federal Energy Regulatory Commission (Commission or FERC) has prepared this environmental assessment (EA) to assess the environmental effects of the natural gas pipeline facilities proposed by Texas Eastern Transmission LP (Texas Eastern) in Marshall County, West Virginia.

We[1] prepared this EA in compliance with the requirements of the National Environmental Policy Act of 1969 (NEPA), the Council on Environmental Quality's (CEQ) regulations for implementing NEPA (Title 40 of the Code of Federal Regulations, Parts 1500-1508 [40 CFR 1500-1508])[2], and with the Commission's implementing regulations under 18 CFR 380.

On June 1, 2020, Texas Eastern filed an application with the Commission in Docket No. CP20-471-000 for the Bailey East Mine Panel 12J Project (Project) under section 7(c) of the Natural Gas Act of 1935 (NGA) and part 157 of the Commission's regulations. Texas Eastern seeks to excavate, elevate, replace and reinstall certain sections of four pipelines due to the anticipated longwall coal mining activities of CONSOL Energy, Inc. (CONSOL).

2.0 PURPOSE AND NEED

Texas Eastern stated that the Project purpose would be to mitigate safety hazards associated with the longwall mining of coal under Texas Eastern's existing pipeline facilities in Marshall County, West Virginia. Texas Eastern was notified that CONSOL plans to mine beginning March 2022. Longwall mining is a form of underground coal mining where a long wall of coal is mined in a single slice and the roof of the mine is allowed to collapse as mining advances. Texas Eastern has designed the Project to ensure the integrity of Texas Eastern's facilities and to ensure that certificated levels of service are maintained throughout the duration of the mining activities.

Under Section 7(c) of the NGA, the Commission determines whether interstate natural gas transportation facilities are in the public convenience and necessity and, if so, grants a Certificate of Public Convenience and Necessity (Certificate) to construct and operate them. The Commission bases its decisions on both economic issues, including need, and environmental impacts concerning a proposed project.

3.0 PROPOSED FACILITIES

Texas Eastern's existing Lines 10, 15, 25, and 30 are all located in Marshall County, West Virginia, with a proposed wareyard located in Greene County, Pennsylvania. Pipeline activities would include:

---

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

[2] On July 16, 2020, CEQ issued a final rule, Update to the Regulations Implementing the Procedural Provisions of the National Environmental Policy Act (Final Rule, 85 Fed. Reg. 43,304), which was effective as of September 14, 2020; however, the NEPA review of this project was in process at that time and was prepared pursuant to the 1978 regulations.

- excavating and replacing approximately 3,917 feet of 30-inch-diameter Line 10 from milepost (MP) 723.7 to MP 724.5;
- excavating and replacing approximately 3,928 feet of 30-inch-diameter Line 15 from approximately MP 724.2 to MP 725.0;
- excavating approximately 3,916 feet of 36-inch-diameter Line 25 from MP 43.4 to MP 44.1; and
- excavating approximately 3,930 feet of 36-inch-diameter Line 30 from MP 724.2 to MP 724.9.

All excavated pipelines would be elevated, offset from the backfill trench, and hydrostatically tested before placing it back into service for the duration of mining activities. They would also be monitored for stress and strain levels from potential ground subsidence during mining activities. Following mining activities, all pipeline segments would be reinstalled below ground surface, hydrostatically tested, and placed back into service.

Figure 1 shows the map of the Project area.

4.0 NON-JURISDICTIONAL FACILITIES

There are no non-jurisdictional facilities associated with the Project.

5.0 PUBLIC REVIEW AND COMMENT

On July 13, 2020, the Commission issued a *Notice of Intent to Prepare an Environmental Assessment for the Proposed Bailey East Mine Panel 12J Project and Request for Comments on Environmental Issues* (NOI). The NOI was mailed to affected landowners, federal, state, and local government representatives and agencies; elected officials; Native American tribes; environmental and public interest groups; and newspapers and libraries in the Project area. The NOI requested written comments from the public on the scope of the analysis for the EA. The public scoping period closed on August 12, 2020; the Commission received scoping comments from the Environmental Protection Agency (EPA) for inclusion of maps, various construction procedures, land use impacts, and air quality analysis in the EA. These are addressed in in sections A.7, B.3, B.6, B.7 and Appendix A, as part of our review process.

In preparing this EA, we are fulfilling our obligation under NEPA to consider and disclose the environmental impacts of the Project. This EA addresses the impacts that could occur on a wide range of resources, should the Project be approved and constructed.

6.0 PERMITS, APPROVALS, AND REGULATORY CONSULTATIONS

Texas Eastern would obtain all necessary permits, licenses, clearances, and approvals related to construction and operation of the Project, outlined in table 1.

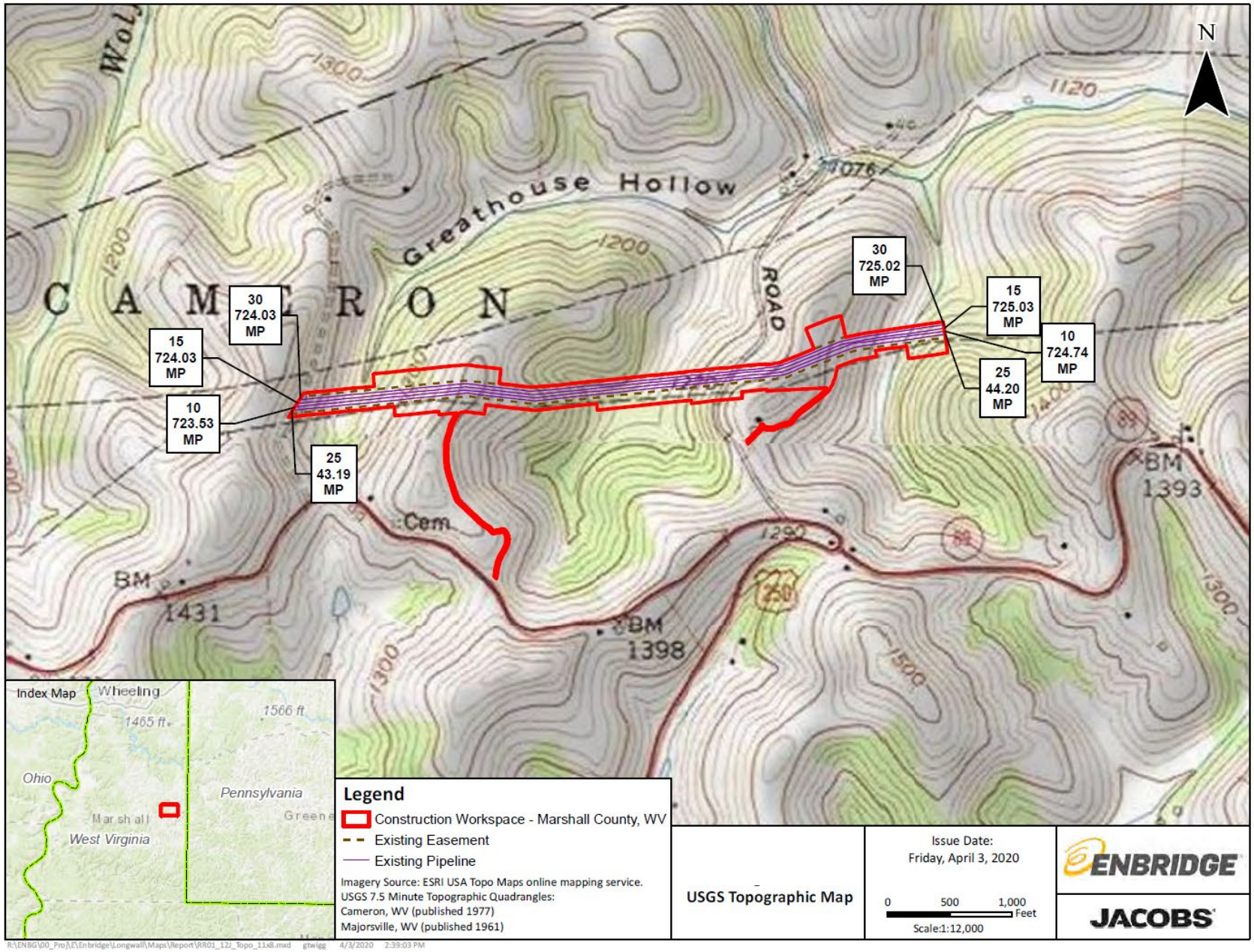

Figure 1
General Location Map

Table 1 Permits and Approvals for the Project			
Agency	**Permit or Approval**	**Submittal Date/*Anticipated Date***	**Approval Date/*Anticipated Date***
Federal			
Federal Energy Regulatory Commission	Section 7(c) of Natural Gas Act, Certificate of Public Convenience and Necessity and Related Authorizations	June 1, 2020	*pending*
U.S. Army Corps of Engineers – Pittsburg District	Clean Water Act Section 404 Permit Nationwide Permit 3	May 2020	May 2020
U.S. Fish and Wildlife Service – West Virginia Field Office	Section 7 Threatened and Endangered Species Consultation and Clearance	March 18, 2020	June 30, 2020
U.S. Fish and Wildlife Service – Pennsylvania Field Office	Section 7 Threatened and Endangered Species Consultation and Clearance	March 9, 2020	Pennsylvania Natural Diversity Index completed March 9, 2020 with no further review required
State – West Virginia			
West Virginia State Historic Preservation Office	Section 106 of the National Historic Preservation Act Clearance	January 6, 2020	January 31, 2020
West Virginia Department of Environmental Protection (WVDEP)	Section 401 Water Quality Certificate	January 2020	January 2020 (approval issued with nonreporting NWP 12)
	General Permit WV0113069 (General Permit Hydrostatic Test Water Discharge)	May 2020	*October 2020*
	General Water Pollution Control Permit, Stormwater Associated with Oil & Gas Construction Activities	June 2020	*October 2020*

	State Operating Permit for Venting	September 2020	*April 2021*
West Virginia Division of Natural Resources (WVDNR) - Office of Land and Streams	Stream Activity Permit	September 2020	*October 2020*
WVDNR - Natural Heritage Program	State Threatened and Endangered Species Consultation and Clearance	March 19, 2020	March 27, 2020
State – Pennsylvania			
Pennsylvania State Historic Preservation Office	Section 106 of the National Historic Preservation Act Clearance	January 6, 2020	January 22, 2020
Pennsylvania Game Commission Pennsylvania Fish and Boat Commission Pennsylvania Department of Conservation and Natural Resources	State Threatened and Endangered Species Consultation and Clearance	Pennsylvania Natural Diversity Index completed March 9, 2020 with no further review required	

7.0 CONSTRUCTION, OPERATION, AND MAINTENANCE

Texas Eastern would construct, operate, and maintain the Project in compliance with all applicable federal and state permit requirements, regulations, and environmental guidelines, including the U.S. Department of Transportation (DOT) under 49 CFR 192 - *Transportation of Natural and Other Gas by Pipeline: Minimum Federal Safety Standards*. During all phases of the Project, Texas Eastern would follow the applicable Occupational Safety and Health Administration Requirements.

Texas Eastern anticipates that construction of the Project would begin in May 2021 and be completed in August 2021 prior to the start of longwall mining activities, which are estimated to occur between March 2022 and May 2022. Texas Eastern's pipelines would be returned to service to operate while aboveground. Reburial of the pipeline segments is planned to begin August 2022, with all pipeline segments being returned to service by November 2022. Construction activities would occur between 7:00AM and 9:00PM Monday through Saturday; with intermittent nighttime and Sunday work when needed for activities such as hydrostatic testing and tie-in activities.

Texas Eastern would construct the Project in accordance with its Erosion and Sedimentation Control Plan (E&SCP) which in consistent with the requirements of FERC's *Upland Erosion Control, Revegetation, and Maintenance Plan* (Plan), and *Wetland and Waterbody Construction and Mitigation Procedures* (Procedures) with alternative measures further discussed in the water resources section of this EA. The Plan and Procedures are referred to as Texas Eastern's Plan and Procedures throughout the EA. We have reviewed Texas Eastern's E&SCP and believe it is acceptable for the Project. Additionally, Texas Eastern has developed a Spill Prevention, Control, and Countermeasure (SPCC) Plan to minimize spills of fuel, oil, lubricants, and other construction materials and provide measures for cleanup in the event a spill occurs, and an Unanticipated Discovery Plan for cultural resources.

During construction, Texas Eastern would clear and grade the sites for the pipeline facilities and erosion control devices (ECD) would be installed as needed to prevent erosion and offsite impacts in accordance with Texas Eastern's Plan and Procedures, and applicable state permit requirements. Following pipeline elevation, each pipeline segment would be hydrostatically tested before being placed back into service, the trenches would be backfilled and the area stabilized for the duration of the ground subsidence period. Strain gauges would be attached to the aboveground pipelines during the elevation process and access between the pipelines would be maintained for monitoring and maintenance during the mining and ground subsidence period.

Following completion of CONSOL's longwall mining activities, the pipelines would be re-installed below ground. During re-installation, the sections of Lines 10 and 15 that had been replaced before being elevated aboveground would be placed in the original pipeline alignments, tested, and placed into service. The original segments of Lines 25 and 30 would also be placed within their original alignments, tested, and placed into service and the right-of-way would be restored to pre-construction conditions. No blasting would be required for construction of the Project.

During construction and restoration, Texas Eastern would use at least one full-time environmental inspector (EI) during construction of the Project. The EI would be on site during construction activities to ensure compliance with the construction procedures contained in the Plan and Procedures. Texas Eastern would conduct environmental training sessions in advance of construction to ensure that all individuals working on the Project are familiar with the environmental mitigation measures appropriate to their jobs and the EI's authority.

8.0 LAND REQUIREMENTS

Construction of the Project facilities would temporarily impact approximately 37.7 acres of land, and of this, 15.2 acres would be permanently affected by operation of the proposed facilities. The construction work area (CWA) would include the existing pipeline right-of-way as well as a temporary construction right-of-way. Project activities would occur primarily within and adjacent to Texas Eastern's existing pipeline right-of-way. The temporary alignments for the aboveground pipeline segments would be located within the temporary construction right-of-way adjacent to and offset from each of the original belowground alignments. The CWA would also include additional temporary workspace (ATWS) at road crossing and in steeply sloped areas. Temporary access roads (TARs) would be used during construction. Texas Eastern proposes to use the existing Bristoria Wareyard in Greene County, Pennsylvania as a contractor yard for the Project. Land requirements for the Project are presented in table 2. Following re-installation of the pipelines after ground subsidence, the CWA would be restored to its original contours and allowed to return to pre-construction conditions. No new permanent easement would be required.

Table 2
Land Requirements

Facility	County, State	Temporary Workspace (acres)[a]	Permanent Easement (acres)
Pipelines			
Lines 10, 15, 25, and 30	Marshall County, WV	30.19	15.22
Temporary access roads	Marshall County, WV	1.41	0
Bristoria Wareyard	Greene County, PA	6.13	0
Totals	–	**37.73**	15.22

[a] Includes the existing permanent easement, temporary workspace outside of the existing permanent easement, and ATWS and staging areas.

Pipeline Facilities

The CWA required for the pipeline facilities is approximately 37.7 acres. Texas Eastern would utilize a construction right-of-way approximately 200 feet wide for activities on all pipelines; of which 125 feet would be existing maintained right-of-way. The remaining width

would extend 25 feet to 150 feet north and south along the existing right-of-way as depicted on the alignment sheets provided in appendix A. In addition to the construction right-of-way, Texas Eastern would require ATWS to facilitate construction at road crossings, staging areas, steep slope areas, stream crossings, foreign utility line crossings, and spoil stockpiling.

Although Texas Eastern has identified areas where extra workspace would be required, additional or alternative areas could be 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 our review and approval prior to use.

Contractor yards

Texas Eastern proposes to use the existing and previously utilized Bristoria Wareyard as a contractor yard for the Project. No permanent land use impacts are anticipated.

Access roads

Texas Eastern has proposed two TARs to facilitate construction activities. The TARs are existing roads and would revert to pre-construction or improved condition after re-installation of the pipelines.

One construction spread for the Project with approximately 75 personnel would be required during construction of the Project. Once construction and re-installation activities are complete, disturbed areas would be restored to pre-construction conditions.

B. ENVIRONMENTAL ANALYSIS

The following sections discuss the Project's potential direct and indirect impacts on environmental resources. When considering the environmental consequences of the Project, the duration and significance of any potential impacts are described below according to the following four levels: temporary, short-term, long-term, and permanent. Temporary impacts generally occur during construction, with the resources returning to pre-construction conditions almost immediately. Short-term impacts could continue for up to three years following construction. Long-term impacts would require more than three years to recover, but eventually would recover to pre-construction conditions. Permanent impacts could occur because of activities that modify resources to the extent that they may not return to pre-construction conditions during the life of the Project, such as with the construction of an aboveground facility. An impact would be considered significant if it would result in a substantial adverse change in the physical environment.

1.0 GEOLOGY

Geologic Setting

The Project is in Marshall County, West Virginia, and Greene County, Pennsylvania within the Appalachian Plateaus physiographic province. The plateau contains an abundance of minable coal. In Marshall County, the Project traverses steep ridges and valleys that are typical of the area (West Virginia Geological and Economic Survey [WVGES], 2020). The underlying bedrock is of Permian or Pennsylvania age (230 to 290 million years ago) and made up of cyclic sequences of sandstone, shale, siltstone, limestone, and coal (WVGES, 2011; Pennsylvania Department of Conservation and Natural Resources [PADCNR], 2020). Elevations within the Project area range from approximately 1,110 to 1,410 feet above mean sea level (AMSL).

Mineral Resources

The Project is within the high-volatile bituminous coal field of Appalachia and overlies five predominant coal seams: the Washington coal; the Waynesburg A coal; the Waynesburg coal; the Sewickley coal; and the Pittsburgh coal (WVGES, 2013). Elevations of these coal seams in the Project area range from, on average, 480 feet AMSL to 906 feet AMSL (estimated overburden of approximately 380 feet to 770 feet) (WVGES, 2013). The Project is proposed due to planned longwall mining of the Pittsburgh coal seam under Mine Panels 19E and 20E in Marshall County, West Virginia. The depth of this coal seam along Texas Eastern's existing right-of-way is approximately 770 feet below the ground surface. Additionally, the Bristoria Wareyard is underlain by a mined panel of a larger active coal mine (Consol Energy Bailey Mine 4L) (Pennsylvania Department of Environmental Protection [PADEP], 2020). Because no permanent facilities or ground disturbing activities (other than grading) are proposed at this location, there would be no impacts on or from subsurface coal mining at the Bristoria Wareyard. No surface mines or quarries were identified within 0.25 mile of any Project area (West Virginia Department of Environmental Protection [WVDEP], 2020a; PADEP, 2020).

Eleven oil and gas wells were identified within 0.25 mile of the Project areas, but none are within 200 feet (WVDEP, 2020b; PADEP, 2020). Project activities would involve excavations within previously disturbed areas and would not impact oil and gas resources.

Similarly, due to the shallow excavations proposed for the Project within existing rights-of-way, no impacts on coal resources are anticipated.

Geologic Hazards

Seismicity

The shaking during an earthquake can be expressed in terms of the acceleration as a percent of gravity (g), and seismic risk can be quantified by the motions experienced at the ground surface or by structures during a given earthquake expressed in terms of g. For reference, a peak ground acceleration (PGA) of 10 percent g (0.1g) is generally considered the minimum threshold for damage to older structures or structures not constructed to resist earthquakes. U.S. Geological Survey (USGS) National Seismic Hazard Probability Mapping shows that for the Project area, within a 50-year period, there is a 2 percent probability of an earthquake with an effective PGA of 4 to 6 percent g; and a 10 percent probability of an earthquake with an effective PGA of 1 to 3 percent g being exceeded (USGS, 2018). Even under much higher ground vibrations, the main risk to pipelines and aboveground facilities would be a slip fault that displaces laterally during an earthquake. Project facilities are not underlain by this type of feature (USGS, 2019). Given these conditions, we conclude that there is low potential for prolonged ground shaking, ground rupture, or soil liquefaction to occur or significantly impact the Project.

Landslide

The Project is within an area that generally is characterized as susceptible to landslides, and historic landslide mapping indicates that the Project would cross four mapped historic landslides in West Virginia at approximate MPs 724.28 through 724.37; 724.48 to 724.51; 724.64 to 724.70; and 724.75 to 724.82 (based on Line 30). Further, approximately half of the existing easement (0.38 mile) crosses slopes ranging from 15 to 30 percent; 0.1 mile crosses slopes ranging from 30 to 45 percent; and at two discrete locations (less than 0.1 mile), slopes exceed 60 percent.

On steep slopes, elevated pipe would be secured with clamps and cables connecting the pipe segments to a buried anchor in the ground, called a Deadman, to prevent the pipe segments from slipping. Texas Eastern would also employ best management practices to manage surface water and groundwater, avoid excess weight on slopes, and would restore slopes and promote long-term stability. These measures would include stockpiling spoil in level areas or grading spoil along the length of the existing rights-of-way; storing construction debris (including timber) along flatter hill tops, ridges, and less severe slopes; utilizing temporary and permanent trench plugs and slope breakers; and restoring the construction right-of-way to original contours and pre-construction condition. Restoration would include installation of additional ECD, such as jute matting and filter socks, as necessary, and subsurface drainage would also be managed by installing bleeder drains at the bottom of the trench to passively drain water away from potentially unstable areas (slopes greater than 3:1). During operation, Texas Eastern personnel monitor the entire right-of-way frequently to inspect for slips and areas of slope failure. If a slip or landslide were identified, it would continue to be monitored by Texas Eastern operations personnel, and repaired if necessary, to ensure the safe and efficient operation of the Texas Eastern system.

Flood Hazard

The southern portion of the Bristoria Wareyard would be within a Federal Emergency Management Agency (FEMA) designated 100-year floodplain. No new, impervious cover is proposed at the Bristoria Wareyard, and the use of this facility would not affect flood storage capacity. Project areas in Marshall County would not be within any FEMA-designated flood hazard zones (FEMA, 2009; 2015). Therefore, we conclude that the Project would not affect floodplain storage capacity and would not be significantly affected by flood hazards.

Blasting

The alignments for the reinstallation of the pipelines below ground would be within existing trench lines, and no blasting is anticipated. If blasting does become necessary, Texas Eastern stated it would adhere to measures within the FERC Plan, and all local, state, and federal regulations applying to controlled blasting and blast vibration limits for structures and underground or aboveground utilities. Texas Eastern would apply to the WVDEP for its blasting permits prior to any blasting.

Ground Subsidence

Texas Eastern anticipates up to five feet of ground subsidence may occur following mining activities and stated that the possible unsupported span-width of the pipeline following mining and subsidence would be consistent with the proposed linear distance between pipeline elevation supports (25 feet). Following anticipated subsidence, pipelines would be reinstalled within existing trenchlines. The Project is designed to minimize risks that could result from coal mining activities and potential ground subsidence under Texas Eastern's existing easement, and we conclude that impacts would not be significant.

Acid-Forming Minerals

Acid drainage can form when certain sulfide minerals in rocks or soils are exposed to oxidizing conditions. Acid drainage can occur under natural conditions or where sulfides in geologic materials are encountered in metal mining, construction, and other excavations. Potentially acid-producing soils and bedrock are present within the Project area. However, excavations would be shallow (less than 15 feet) in previously disturbed areas, and Texas Eastern would minimize the amount of water contact with potentially pyritic material by minimizing the length of time that ditches are open, and by managing construction area stormwater, including diversion of surface water away from spoil piles. Therefore, we conclude that potential impacts from acid-producing soils and bedrock would not be significant.

Because of the mining mitigation proposed by Texas Eastern and its use of best management practices to minimize landslide development, and formation of acid drainage, we conclude that the impacts from geologic hazards would not be significant. Other geologic hazards (such as seismicity and flood hazards) are not anticipated to be significant factors for the Project.

2.0 SOILS

Construction activities have the potential to affect soil characteristics adversely, thereby limiting the restoration potential of areas disturbed by land-clearing activities and the movement of heavy equipment. Potential soil impacts in the Project area include loss of vegetation and subsequent soil erosion, mixing of topsoil and subsoil, and soil compaction.

The Natural Resources Conservation Service (NRCS) Web Soil Survey provides descriptions of the soil series crossed by the Project (2019). Project area soils are not highly erodible by wind and are not highly compaction prone, but all Project area soils are highly erodible by water. The majority of Project areas are classified as having poor revegetation potential. Approximately 10 acres of soil within West Virginia and 5.2 acres of soil within the Bristoria Wareyard are classified as farmland of statewide importance. Approximately 17.1 acres of the Project area are classified as underlain by shallow bedrock (bedrock within 60 inches of the ground surface); however, excavation would be limited to existing pipelines therefore Texas Eastern does not anticipate encountering shallow bedrock.

Texas Eastern proposes to segregate topsoil along the entire construction work area. Texas Eastern would backfill pipeline trenches after the pipelines are elevated and would temporarily restore the rights-of-way as part of the mining mitigation procedures. Texas Eastern plans to temporarily stabilize soils by seeding and mulching to reduce potential wind and water erosion. Travel lanes would be needed along the rights-of-way for monitoring and maintenance during the period while the pipelines are elevated. ECD would be installed and maintained as needed until final restoration is completed.

Following re-installation and reconnection of the pipelines, Project areas would be restored to original contours (accounting for ground subsidence caused by mining activities) to the extent practicable, stabilized, and allowed to return to pre-construction conditions. Because there would be no installation of aboveground facilities or conversion of land use, Project impacts on farmland of statewide importance would be temporary and not significant.

To minimize or avoid potential impacts due to soil erosion, Texas Eastern would implement its E&SCP and the FERC Plan. Texas Eastern would additionally utilize dust-control measures, as outlined in its Fugitive Dust Control Plan, including routine wetting of the construction workspace, as necessary, where soils are exposed.

Texas Eastern would conduct revegetation and restoration in accordance with the FERC Plan and Procedures and its E&SCP. Texas Eastern would seed the approximately 5.9 acres of cleared forested land with seed mixes recommended by the NRCS[3], or as requested by the landowner. For other areas, Texas Eastern would utilize the seed mix in its E&SCP in order to quickly stabilize the right-of-way and prevent erosion. Texas Eastern would facilitate wetland reestablishment by replacing segregated topsoil, using an appropriate wetland seed mix, and

[3] Based on a record of correspondence between Texas Eastern and the West Virginia NRCS, the NRCS recommended that the seed mix include 20 to 30 percent grass and 70 to 80 percent blooming forbs to create wildlife and pollinator habitat (FERC eLibrary Accession Number: 20200803-5176).

minimizing the introduction or spread of invasive plant species as a result of construction activities per the measures in its Invasive Species and Noxious Weeds Management Plan.

The Project would not disturb areas of known soil contamination (WVDEP, 2020c; U.S. Environmental Protection Agency [EPA], 2020a; EPA, 2020b; EPA, 2020c). During Project activities, soil contamination could occur from accidental spills of fuels, solvents, and lubricants. Texas Eastern would comply with its SPCC Plan, which identifies preventative measures to be used during construction to reduce the potential for a spill, as well as spill containment and cleanup procedures.

The use of the E&SCP and the temporary restoration measures while the pipelines are excavated and elevated would minimize erosion during both the mining mitigation and final restoration of the Project. Therefore, effects on soils, erosion, and sedimentation would be minor and not significant.

3.0 WATER RESOURCES

3.1 Groundwater

The Project overlies the Pennsylvanian and Permian age sedimentary aquifer. Sandstone members of this aquifer are most common and most productive, with well yields ranging from 5 to 400 gallons per minute (Trapp and Horn, 1997). The chemical quality of water in the freshwater parts of the bedrock aquifers of the Appalachian Plateaus province is somewhat variable but is generally satisfactory for municipal supplies and other purposes (Trapp and Horn, 1997). The Project does not overlie any EPA-designated sole source aquifers (EPA, 2020d). Further, the Project area in West Virginia does not overlie state-designated wellhead protection areas (West Virginia Department of Health and Human Resources, 2020).

Texas Eastern identified groundwater sources within 150 feet of Project areas, as identified in table 3. A water valve was also identified adjacent to TAR 724.8; however, this valve is reportedly connected to a municipal water supply. Texas Eastern would place metal fence posts and a safety fence around the valve to prevent damage or destruction of this feature during Project activities.

Table 3 Spring/Well Structures Identified within 150 feet of the Construction Work Area					
Water Supply Type	**Workspace**	**Approximate Milepost [a]**	**Distance (feet)**	**Direction**	**Use**
Spring	ATWS	724.9	24.9	South	N/A
Spring	TWS	724.9	13.3	South	N/A
Spring Structure [b]	TAR	724.8	7.8	South	livestock watering
Water Well	TAR	724.7	82.0	North	N/A
Undeveloped Springhead	ATWS	724.7	102.0	South	N/A

TWS = temporary workspace which includes existing rights-of-way; ATWS = additional temporary workspace; TARs = temporary access roads

[a.] Milepost along Line 30

[b.] Adjacent to an existing access road; no impacts are expected.

Texas Eastern would use sediment barriers such as silt fence(s) to prevent the movement of sediments offsite and into the identified springs. To monitor and mitigate potential impacts on water supplies, Texas Eastern would complete pre-construction and post-construction testing for both water quality and yield, with the landowner's permission, for water wells and springs within 150 feet of the Project area. Should it be determined during or after construction that there has been an impact on water supply, Texas Eastern would work with the landowner to ensure a temporary supply of water, and if determined necessary, Texas Eastern would replace the permanent water supply.

Based on Texas Eastern's experience with the existing pipelines, shallow groundwater is not anticipated to be encountered in the trenches within the Project's footprint and Texas Eastern does not propose to use groundwater as the source for any construction water needs.

The Project would not disturb areas of known groundwater contamination (WVDEP, 2020c; EPA, 2020a; EPA, 2020b; EPA, 2020c). During Project activities, groundwater contamination could occur from accidental spills of fuels, solvents, and lubricants. Texas Eastern would comply with its SPCC Plan and would restrict refueling and storage of hazardous materials within a 200-foot-radius of private wells and a 400-foot-radius of community and municipal wells.

Based on these proposed measures, as well as the anticipated depth to shallow groundwater, we conclude that the Project would not have a significant impact on availability of groundwater resources or groundwater quality.

3.2 Surface Water

The Project is in the Upper Wheeling Creek watershed (Hydrologic Unit Code [HUC] 050301060601). Five perennial streams and three ephemeral streams were identified within or adjacent to construction workspaces during Texas Eastern's surveys. These waterbodies are unnamed tributaries to Williams Run and are classified by the WVDEP as tier 2 streams. All waterbodies are classified as minor waterbodies.[4] None of these waterbodies are listed as impaired or sensitive waterbodies. Of these, three waterbodies would be crossed by the pipeline using the dry-ditch crossing method and the remaining five would be crossed via temporary equipment bridges. Following elevation of the pipelines, Texas Eastern would backfill all trenches and remove flume or dam-and-pump crossings and waterbodies would be returned to the original channels while the pipelines are aboveground. The pipeline would be elevated about two feet above waterbodies to accommodate high rainfall/storm events and no materials used to support the elevated pipeline would be placed within the waterbodies. Texas Eastern would also maintain temporary equipment bridges during construction and the monitoring period for the aboveground pipelines. These equipment bridges would be elevated a minimum of one foot above the water column. Once any longwall-mining induced subsidence has ended, Texas Eastern would re-install the pipeline segments belowground and then the stream banks and beds would be restored to preconstruction conditions as much as practicable. The Bristoria Wareyard is in the North Fork Dunkard Fork watershed (HUC 050301060501). Three streams were identified within the Bristoria Wareyard and are unnamed tributaries to a stream located south of the construction work area, North Fork Dunkard Fork. The one perennial, one intermittent, and one ephemeral stream that are located at the contractor yard would be avoided during construction and would be protected by installing sediment barriers (e.g. silt fences, straw bales, sand bags etc.) along the edge of the construction area in accordance with Texas Eastern's E&SCP to prevent the flow of sediments and spoil into waterbodies. None of the waterbodies within the Bristoria Wareyard are listed as impaired, and the Project would not affect these waterbodies. To minimize impacts on waterbodies, Texas Eastern would implement erosion and sediment controls in accordance with its E&SCP; which incorporate the FERC Procedures (except where site-specific modifications were requested). Measures include storing hazardous materials, refueling and parking equipment at least 100 feet from all water features, and regularly inspecting and maintaining erosion and sediment control measures.

Given the topography of the Project area and location of co-located foreign lines, Texas Eastern requested site-specific modifications to sections V.B.2 of the FERC Procedures for temporary workspace within 50 feet of a waterbody, which are listed in table 4. ATWS would be needed for temporary access throughout the construction process, for pipeline monitoring, to stage equipment, and to stockpile soil. Texas Eastern would install and maintain appropriate erosion and sediment controls and temporary equipment bridges to minimize impacts on waterbodies. We have reviewed these modifications and find them acceptable. Given Texas Eastern's measures we conclude that the Project would not have significant or long-term impacts on waterbodies.

[4] FERC Procedures defines a "minor waterbody" to includes all waterbodies less than or equal to 10 feet wide at the water's edge at the time of crossing.

Table 4 Requested Construction Exceptions to the Procedures				
Location	**Affected Feature(s)**	**Distance from feature (ft)/ Width of ROW (ft)**	**Requested Exception**	**Justification for Exception**
12J-ATWS-001 North of the CWA, from Line 30 Station near MP 724.2-724.3	W-12J-002	0	Procedures sections V.B.2 and VI.B.1.a; ATWS requested within 50 feet of a water feature	Additional workspace is required to complete the transition from aboveground pipe to buried pipe and to construct a safe bell-hole tie-in. Topography and site constraints restrict construction to require the exemption. Steep slopes are adjacent to the existing ROW, restricting the siting of additional workspaces. Additional space for spoil storage is needed due to the loss of workspace in the collocated foreign pipeline's ROW.
	S-12J-003	42		
	S-12J-004	0		
12JATWS-002 North of the CWA from Line 30 near MP 724.8-724.8	S-11J-003	19	Procedures section V.B.2; ATWS requested within 50 feet of a water feature	Additional workspace is required to complete the transition from aboveground pipe to buried pipe and to construct a safe bell-hole tie-in. Topography and site constraints restrict construction to require the exemption. Steep slopes are adjacent to the existing ROW, restricting the siting of additional workspaces. Additional space for spoil storage is needed due to the loss of workspace in the collocated foreign pipeline's ROW.
12J-ATWS-003 South of the CWA, from Line 30 near MP 724.2–724.9	W-12J-001	4	Procedures sections V.B.2 and VI.B.1.a; ATWS requested within 50 feet of a water feature	Additional workspace is required to complete the transition from aboveground pipe to buried pipe and to construct a safe bell-hole tie-in. Topography and site constraints restrict construction to require the exemption. Steep slopes are adjacent to the existing ROW, restricting the siting of additional workspaces. Additional space for spoil storage is needed due to the loss of workspace in the collocated foreign pipeline's ROW.
	W-12J-003	7		
	W-12J-004	0		
	S-12J-006	0		
	S-12J-007	0		
	S-12J-008	0		
	W-12J-005	0		
	S-12J-009	0		

Table 4 Requested Construction Exceptions to the Procedures				
Location	**Affected Feature(s)**	**Distance from feature (ft)/ Width of ROW (ft)**	**Requested Exception**	**Justification for Exception**
	S-11J-001	40		
MP 724.1	W-12J-001	180 (Width of wetland within ROW 130 ft)	Procedures sections VI.A.3; Use of workspace more than 75feet wide at wetland crossings	A temporary workspace greater than 75 feet wide is required for excavating and replacing four existing parallel pipelines. Construction activities, pipeline locations within steep terrain, and a required travel lane constrain workspace options to a degree requiring the exemption.
MP 724.5	W-12J-003	206 (Width of wetland within ROW 150 ft)		
MP 724.6	W-12J-005	231 (Width of wetland within ROW 206 ft)		

Hydrostatic Testing and Dust Suppression

Hydrostatic testing would be conducted in a manner that meets or exceeds 49 CFR Part 192, "Transportation of Natural and Other Gas by Pipeline," "Minimum Federal Safety Standards". During hydrostatic testing, each pipeline would be filled with water and pressurized to one and a half times the maximum pressure under which the pipeline would be operated. The water would be maintained at the prescribed pressure for a minimum of 8 hours to verify the strength and integrity of the new pipelines.

In total, about 399,840 gallons of water would be required for hydrostatic testing of the pipelines (prior to in-service while pipes are aboveground and after reburial). Additionally, approximately 80,000 gallons of water would be required as wash water to flush the pipe immediately prior to hydrostatic testing. Texas Eastern would store the hydrostatic testing water in tanks onsite and reuse the water from hydrostatic testing until testing on each pipeline is completed. The tanks that would hold water for re-use during hydrostatic testing would stay in place between both testing periods (prior to in-service while pipes are aboveground and after reburial) but would be kept empty. The hydrostatic test water would be obtained from a municipal source and discharged at a rate of 1,500 gallons per minute into a well-vegetated, upland area. No chemicals would be added to the hydrostatic test water. Further, Texas Eastern would comply with all the terms and conditions of the hydrostatic testing discharge permit from the WVDEP.

To minimize construction-related dust, Texas Eastern may apply water to construction works areas and unpaved access roads when necessary. Texas Eastern estimates the use of 30,000-40,000 gallons of municipal water per year for fugitive dust suppression during construction.

For these reasons, we conclude that hydrostatic testing and dust suppression would not significantly impact water resources.

3.3 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 wetland vegetation adapted for life in saturated soil conditions, commonly known as hydrophytic vegetation (Corps, 1987). Wetlands can be a source of substantial biodiversity and serve a variety of functions that include providing wildlife habitat, recreational opportunities, flood control, and naturally improving water quality.

One palustrine emergent/scrub-shrub (PEM/PSS) wetland and five PEM wetlands were identified within the Project area. The Project would temporarily impact less than an acre of wetlands: 0.05 acre of PSS and 0.89 acre of PEM. These impacts are unavoidable because the existing pipelines traverse the wetlands. The majority of wetland disturbance would be limited to two discrete activities: initial construction to elevate the pipelines and reburial of the pipelines following ground subsidence. Texas Eastern would conduct visual inspections of the pipelines within wetlands while they are elevated. Inspection would occur weekly prior to and following the ground subsidence period, and daily during the subsidence period. After initial pipeline elevation and reinstallation of the pipelines below ground, wetland areas would be restored using

segregated topsoil and proper seeding techniques. Wetlands would be restored, in accordance with the Procedures, as close as possible to preconstruction conditions after the reinstallation of the pipeline. Five wetlands occur within the Bristoria Wareyard, but they would all be avoided and protected by the installation of ECD (e.g. silt fence).

Due to right-of-way workspace constraints and construction requirements of excavating and monitoring four parallel existing pipelines, Texas Eastern requested certain exceptions to sections VI.A.3 and VI.B.1.a of the FERC Procedures for construction workspace of greater than 75 feet within a wetland and ATWS within 50 feet of a wetland. Table 4 describes the requested exception, location, and justification. Texas Eastern has narrowed construction workspace at these wetland crossings to the extent practicable. Further, Texas Eastern would install and maintain erosion and sediment controls, including timber matting, during construction and the monitoring period (when the pipes are aboveground) to minimize impacts. We find that Texas Eastern adequately justified the need for these exceptions.

Given Texas Eastern proposed measures, we conclude that the Project's impacts on wetlands would be temporary and minor.

4.0 VEGETATION, WILDLIFE, AND THREATENED AND ENDANGERED SPECIES

This section discusses wildlife habitats and existing vegetation resources at each of the Project sites, and the federally- and state-protected wildlife species that are known to occur or may potentially occur in the Project vicinity.

4.1 Vegetation

Vegetation types in the Project area include secondary growth forest, old field, pasture, maintained right-of-way, and agricultural areas. Construction would impact approximately 2.2 acres of agricultural land, 22.8 acres of open land (old field, pasture, or maintained right-of-way), 0.9 acre of wetland, and 5.5 acres of forest/woodland. The Bristoria Wareyard consists of old field and maintained areas (5.2 acre) with some forest/woodland (0.4 acre). Emergent vegetation covers much of the area, and shrubs and woody vegetation are limited along stream banks. All areas would be allowed to revegetate to preconstruction conditions. Impacts on herbaceous vegetation would be minor and short-term due to rapid revegetation characteristic of herbaceous species. The impact on forest/woodland would be a long-term, as it would take more than 20 years for forested vegetation to return to pre-construction conditions. Due to the abundance of surrounding forest habitat, this impact is considered minor.

During field surveys, Texas Eastern identified the following invasive plant species: Japanese and bush honeysuckles, garlic mustard, Japanese stiltgrass, multiflora rose, poison hemlock, common reed, and narrow-leaved cattail. Texas Eastern has developed an Invasive Plant Species Management Plan to help prevent and control the spread and introduction of invasive species in the Project area. Contractors would be required to ensure that all construction equipment is clean before entering the work area. The spread of invasive plants would be reduced by immediately revegetating disturbed areas and post-construction monitoring of vegetation.

Texas Eastern would revegetate all disturbed land in accordance with its E&SCP. The construction area would be monitored until revegetation is successful. Given that the Project is co-located with existing rights-of-way as much as possible and that Project workspaces would be revegetated and restored to pre-construction conditions, we conclude that the Project would not have a significant impact on vegetation.

4.2 Wildlife

The habitat within the Project area may support a variety of widespread mammals, birds, reptiles, amphibians, and invertebrates. The maintained right-of-way and the secondary forest habitat may support small species such as deer mice, meadow voles, northern-short-tailed shrew, common watersnake, northern brownsnake, northern red-bellied snake, and eastern box turtle. The habitat available for birds within the Project area primarily includes open pasture land, secondary growth forests, and old field vegetation. Red fox, black bears, and raccoons may also utilize the forested habitat.

Potential impacts on wildlife include habitat removal and construction-related ground disturbance and noise. Clearing and grading of the construction area would result in the loss of vegetative cover and may result in the mortality of less mobile fauna, such as small rodents, reptiles, and invertebrates. Most of the workspace consists of previously disturbed habitat such as maintained right-of-way. Species common to the area are typically mobile and would avoid or leave the construction area during construction. The ability of wildlife to move across the right-of-way may temporarily be hindered while the pipeline is placed above ground. However, there would be no long term or significant impacts on wildlife populations.

Fisheries

No fish were observed in waterbodies during field surveys. Perennial streams S-12J-007 and S-12J-008 could sustain a small population of small fish. The perennial stream located in Bristoria Wareyard similarly could support a small population of small fish. However, the Project would not affect this waterbody. None of the other streams in the Project area have sufficient flow to support fish populations. Table 5 lists fish species that could potentially inhabit these three perennial streams.

Table 5 Fish Species with Potential Habitat within the Project Area			
Common Name	**Scientific Name**	**Common Name**	**Scientific Name**
Central Stoneroller	*Campostoma anomalum*	Creek Chub	*Semotilus atromaculatus*
Common Carp	*Cyprinus carpio*	White Sucker	*Catostomus commersoni*
Bigeye Chub	*Hybopsis amblops*	Northern Hog Sucker	*Hypentelium nigricians*
Striped Shiner	*Luxilus chrysocephalus*	Golden Redhorse	*Moxostoma erthrurum*
River Chub	*Nocomis micropogon*	Stonecat	*Notorus flavus*
Silverjaw Minnow	*Notropis buccata*	Northern Studfish	*Fundulus catenatus*
Sand Shiner	*Notropis stramineus*	Green Sunfish	*Lepomis cyanellus*
Rosyface Shiner	*Notropis rubellus*	Longear Sunfish	*Lepomis megalotis*
Suckermouth Minnow	*Phenacobius mirabilis*	Smallmouth Bass	*Micropterus dolomieu*
Bluntnose Minnow	*Pimephales notatus*	Greenside Darter	*Etheostoma blennioides*
Eastern Blacknose Dace	*Rinichthys atratulus*	Rainbow Darter	*Etheostoma caeruleum*
Western Blacknose Dace	*Rhinichthys obtusus*	Logperch	*Percina caprodes*

Trout stocked fisheries are stocked and maintained with trout from February 15 to July 31 and are protected for maintenance and propagation of fish species and additional flora and fauna which are indigenous to a warmwater habitat. None of the waterbodies identified within the construction area are classified as trout habitat (including naturally reproducing trout streams, stocked trout streams, and special regulation areas). The streams at Bristoria Wareyard are tributaries of North Fork Dunkard Fork which is classified as a trout stocked fishery. These streams would be avoided during construction and Texas Eastern would minimize erosion into these streams by adhering to its E&SCP. To reduce the potential for accidental spills of fuel and other hazardous materials, Texas Eastern would follow its SPCC Plan. Impacts from construction-related sedimentation and turbidity would be limited to short-term, temporary disturbances. Therefore, we conclude the Project would not result in long-term or significant impacts on fisheries or fish habitat.

Migratory Birds

Migratory birds are protected under the Migratory Bird Treaty Act (16 U.S Code [U.S.C.] 703-711), and bald and golden eagles are additionally protected under the Bald and Golden Eagle Protection Act (16 U.SC. 668-668d). Executive Order 13186 (66 FR 3853) directs federal agencies to identify where unintentional take is likely to have a measurable negative effect on migratory bird populations and to avoid or minimize adverse impacts on migratory birds through enhanced collaboration with the U.S. Fish and Wildlife Service (FWS). On March 30, 2011, FWS and the Commission entered into a Memorandum of Understanding that focuses on avoiding, minimizing, or mitigating adverse impacts on migratory birds and strengthening migratory bird conservation through enhanced collaboration between the Commission and the FWS.

The FWS Birds of Conservation Concern (BCC) 2008 report identifies migratory and non-migratory bird species that are priorities for conservation actions, beyond those species already designated as federally threatened or endangered. The Project area occurs within the Appalachian Mountains Bird Conservation Region.

Important Bird Areas (IBAs) are sites designated by the National Audubon Society as the most critical regions for conserving bird population diversity and abundance within the state. The Green County Forest Block IBA is 0.6 mile south of Panel 12J and the Bristoria Wareyard is entirely within this IBA. Most of the construction work area would be in the existing right-of-way and the trees cleared would be along the edge of the right-of-way. Potential impacts on migratory birds and BCC would be minor and limited mostly to temporary impacts on food, cover, and water resources in the Project area during construction. Based on reviews of nesting habitat characteristics, only 11 BCC have the potential to nest in trees in the Project area, five species have low potential, and six BCC have moderate potential. The six species with moderate potential includes whip-poor-will, red-headed woodpecker, yellow-bellied sapsucker, black-capped chickadee, Bewick's wren, and blue-winged warbler. These species prefer woodland/forest edges, thick, brushy areas, and/or overgrown open areas. The forest/woodland habitat present is deciduous, secondary growth forest that is fragmented and considered marginal habitat for species with specialized habitat preferences including interior forest or contiguous tracts of habitat.

Birds in the area would likely avoid the Project area during construction due to the human presence and noise. Adult birds relocating to avoid construction would be an impact of limited duration that would not result in a substantial or long-term change in migration patterns through the area nor constitute a population-level impact. Further, tree clearing would occur along the existing right-of-way, reducing habitat fragmentation, and is considered edge habitat. Due to the minimal amount of tree clearing and the reduced habitat fragmentation, we conclude that the Project would not significantly impact migratory bird or BCC populations in the area.

In a letter dated March 18, 2020, Texas Eastern also requested comments from FWS regarding the Project's impacts on migratory birds. No comments have been received from FWS regarding the Project's potential impacts on migratory birds to date.

Special Status Species

Federal

In accordance with section 7 of the Endangered Species Act of 1973, FERC, as the lead agency, must consult with FWS to ensure that any action authorized, funded, or carried out by the agency does not jeopardize the continued existence of a federally listed endangered or threatened species, or result in the destruction or adverse modification of the designated critical habitat of a federally listed species. The federally threatened northern long-eared bat and the federally endangered Indiana bat may potentially occur in the Project area. The Indiana bat and northern long-eared bat may use the Project area for foraging and roosting between April 1 and November 15. For the Bristoria Wareyard, Texas Eastern reviewed the Pennsylvania Natural Diversity Inventory Online Search tool on March 2, 2020, and received a 'no further review required' result from the FWS. Therefore, use of the Bristoria Wareyard would not impact federally listed species.

Northern long-eared bats spend the winter hibernating in caves and abandoned mines. During summer, they roost underneath bark or in cavities or crevices of both live and dead trees. The species was federally listed primarily due to the threat of white-nose syndrome, but other threats include wind energy development and habitat destruction. The Project is not located within 0.25 miles of known northern long-eared bat hibernacula or a 150-foot-radius around known occupied maternity trees and would not affect any known northern long-eared bat hibernacula. Therefore, per the FWS' January 5, 2016 Programmatic Biological Opinion for the northern long-eared bat, any take of northern long-eared bats associated with the Project would be exempt under the 4(d) rule and no conservation measures are required. We submitted the online determination key on August 28, 2020, which confirmed that the FWS' January 5, 2016 Programmatic Biological Opinion satisfies our responsibilities for this Project under ESA section 7(a)(2) relative to the northern long-eared bat.

Indiana bat summer foraging habitats are generally defined as riparian, bottomland, 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. In West Virginia, the FWS considers all forested habitat containing trees greater than or equal to 5-inch-diameter at breast height to be potentially suitable as summer roosting and foraging habitat for the Indiana bat.

The FWS has determined that small projects more than 10 miles from a known priority 1 or 2 Indiana bat hibernaculum, more than 5 miles from a known priority 3 or 4 Indiana bat hibernaculum, more than 2.5 miles from any known maternity roost, or more than 5 miles from summer detection sites where no roosts were identified, that affect less than 17 acres of forested habitat, and would not affect any potential hibernacula, would have a very small chance of resulting in direct or indirect effects to the Indiana bat, and therefore these effects are considered discountable. The Project would only clear or trim up to six acres of forest, is not within any Indiana bat hibernacula or summer use buffers previously described and would not affect potential caves or mines that could be used as hibernacula. Therefore, we conclude that the Project may affect, but is not likely to adversely affect the Indiana bat. In a letter to Texas Eastern dated June 30, 2020, the FWS stated that the FWS does not anticipate that this project is likely to adversely affect the Indiana bat. It further stated that the letter only provides technical assistance and that section 7 consultation is not complete until we submit a determination of effects to the FWS, the FWS concurs with our determination, and tree clearing is limited to under 17 acres.

Because we have not yet completed consultation with the FWS for the Indiana bat, to ensure compliance with section 7 of the ESA, we recommend that:

- **Texas Eastern should <u>not begin</u> construction of the Project <u>until</u>:**

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

  b. **FERC staff completes ESA consultation with FWS; and**

c. Texas Eastern has received written notification from the Director of the Office of Energy Projects (OEP), or the Director's designee, that construction or use of mitigation may begin.

State

Texas Eastern requested an environmental review from the West Virginia Department of Natural Resources, Natural Heritage Program, on March 19, 2020. No comments have been filed to date.

On March 2, 2020, Texas Eastern reviewed the Pennsylvania Natural Diversity Inventory Online Search tool, which yielded a result of 'no further review required' from the Pennsylvania Game Commission, Pennsylvania Department of Conservation and Natural Resources, and Pennsylvania Fish and Boat Commission for the Bristoria Wareyard.

5.0 CULTURAL RESOURCES

In addition to accounting for impacts to cultural resources under NEPA, Section 106 of the National Historic Preservation Act, as amended, requires FERC to take into account the effects of its undertakings on historic properties listed, or eligible for listing on the National Register of Historic Places (NRHP),[5] and to afford the Advisory Council on Historic Preservation an opportunity to comment. Texas Eastern, as a non-federal party, is assisting FERC in meeting our obligations under Section 106 and its implementing regulations at 36 CFR 800.

Area of Potential Effects

The Project's area of potential effects (APE) as approximately 3,780 ft survey corridor, which included all areas of potential direct effects from construction, operations, and maintenance for the Project and incorporated properties adjacent to the Project area to account for possible indirect effects on historic properties. Due to the area's topography, vegetation, and development, the APE is sufficient to account for all the potential direct and indirect effects to historic properties by the Project.

Cultural Resources Investigation

Texas Eastern conducted a desktop assessment and archaeological and historic architectural properties identification surveys to study the effects that the Project would have on cultural resources. No archaeological sites were identified within the APE. On January 8, 2020, Texas Eastern submitted the results of the cultural resources assessment for review and concurrence to the West Virginia Division of Culture and History, which serves as the West Virginia State Historic Preservation Office (SHPO). In a letter dated January 31, 2020, the West Virginia SHPO concurred with Texas Eastern's findings, writing "that the proposed project will have no effect on historic properties." As part of Project staging, the Bristoria Ware Yard,

[5] In accordance with 36 CFR 800.16(l)(1), a historic property is any prehistoric or historic district, site, building, structure, object, or property of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization, included in, or eligible for inclusion in, the NRHP. This term includes artifacts, records, and remains that are related to and located within such properties.

located in Greene County, Pennsylvania, would be utilized. Usage for the Project would not extend beyond the fenced area surveyed previously (Hornum 2020). On January 6, 2020, Texas Eastern requested confirmation from the Pennsylvania Historical and Museum Commission, which serves as the Pennsylvania SHPO. In a letter dated January 22, 2020, the Pennsylvania SHPO concurred with Texas Eastern's recommendation and found that the Project would not have any adverse effects on historic properties. We agree.

Tribal Outreach

Texas Eastern contacted the following Native American tribes regarding the proposed Project: Osage Nation, Absentee-Shawnee Tribe of Oklahoma, Catawba Indian Nation, Cayuga Nation, Cherokee Nation, Delaware Nation, Eastern Band of Cherokee Indians, Eastern Shawnee Tribe of Oklahoma, United Keetoowah Band of Cherokee Indians, St. Regis Mohawk Tribe, Oneida Nation of Wisconsin, Oneida Indian Nation, Onondaga Nation, Seneca-Cayuga Nation, Seneca Nation of Indians, Shawnee Tribe of Oklahoma, Tonawanda Seneca Nation, and the Tuscarora Nation. On April 27, 2020, Texas Eastern provided to the tribes a Project information package, a cultural resources assessment, and a draft unanticipated discoveries plan. In correspondence dated May 4, 2020, the Osage Indian Nation requested a copy of the survey report, which was provided the same day. On May 7, 2020, the Osage Indian Nation responded with a statement of that no properties eligible or potentially eligible for the National Register of Historic Places would be affected. To date, Texas Eastern and FERC have not filed any other responses from the tribes.

Unanticipated Discoveries Plan

Texas Eastern developed a Project-specific plan titled: *Unanticipated Discoveries and Emergency Procedures,* which outlines the procedure to follow, in accordance with state and federal laws, in the event that unanticipated cultural resources or human remains are discovered during construction of the Project. We find the plan to be acceptable.

Compliance with the National Historic Preservation Act

FERC has completed its compliance requirements with Section 106 of the National Historic Preservation Act for the Project.

6.0 LAND USE, RECREATION AND VISUAL RESOURCES

Land use in the Project area would consist of agricultural, forest/woodland, open land, residential, commercial/industrial land, and wetlands/waterbodies. Overall land uses for the Project are presented in table 6.

Table 6 Land Use (acres)							
	Agricultural	**Forest/ Woodland**	**Open Land**	**Residential**	**Industrial/ Commercial**	**Wetland/ Waterbody**	**Total**
Panel 12J Construction Work Area							
TWS	0.20	0.75	3.96	-	0.02	0.27/0.02	**5.22**
Existing Easement	0.49	-	13.98	-	0.08	0.61/0.06	**15.22**
ATWS	0.55	4.72	4.33	-	0.06	0.06/0.03	**9.75**
TARs	0.93	-	0.48	-	-	-	**1.41**
Bristoria Wareyard							
	-	0.44	5.20	-	-	0.40/0.09	**6.13**
Total	**2.17**	**5.91**	**27.95**	**-**	**0.16**	**1.34/0.20**	**37.73**

Pipeline Facilities

The Project involves work to Texas Eastern's existing Lines 10, 15, 25, and 30. Segments of Lines 10 and 15 would be excavated and replaced before being placed back into service for the duration of mining activities. Segments of lines 25 and 30 would be excavated and elevated before being placed back into service for the duration of mining activities. Once complete, the pipelines would be returned to their original alignment belowground. A description of the pipeline facilities is presented in table 7. These areas would revert to pre-construction conditions once activities are complete, with no operational land use changes.

Table 7 Description of Pipeline Facilities				
Pipeline Diameter and Type of Activity	**County, State**	**Milepost[a]**		**Approximate Length (feet)**
		Begin	**End**	
Pipeline Replacement[b]				
30-inch-diameter pipeline Line 10	Marshall County, WV	723.7	724.5	3,917
30-inch-diameter pipeline Line 15	Marshall County, WV	724.2	725.0	3,928
Pipeline Maintenance[c]				
36-inch-diameter pipeline Line 25	Marshall County, WV	43.4	44.1	3,916
36-inch-diameter pipeline Line 30	Marshall County, WV	724.2	724.9	3,930

[a] Mileposts are reference points and may not equal the total length due to rounding. Individual pipeline mileposts differ due to the various beginning and ending points associated with each pipeline. All work would occur on parallel pipeline segments within the same right-of-way traversing Panel 12J.

[b] Old pipe to be removed and replaced, new pipe elevated aboveground during subsidence and reinstalled belowground in the same location following subsidence.

[c] Pipe to be elevated aboveground during subsidence and reinstalled belowground in the same location following subsidence.

Contractor yards

Texas Eastern proposes to use the existing and previously certificated[6] Bristoria Wareyard as a contractor yard during construction of the Project for vehicle parking, equipment staging, and material storage. No permanent land use impacts are anticipated.

Access roads

Texas Eastern has proposed two TARs to facilitate construction activities totaling 1.4 acres. TAR 724.3 is 1,612 feet in length and an existing farm road located off Waynesburg Pike (US 250). TAR 724.8 is located off Wolf Run Road and is 829 feet in length and an existing industrial driveway leading to an existing farm road. These roads, though existing, may require improvements such as tree clearing and trimming, gravel placement, or path widening. All TARs would revert to pre-construction or improved conditions after re-installation of the pipelines.

The Project would not cross nor would be located within 0.25 mile of any National Park System Unit, which includes national parks, monuments, preserves, historic sites, historical parks, memorials, battlefields, military parks, cemeteries, recreation areas, trails, and other designations. Based on the location and nature of construction activities, we conclude the Project would have no adverse impact on recreational areas.

Residential Areas

There is one residence located within 50 feet of the construction right-of-way, located adjacent to TAR 724.8. approximately 30 feet from the existing farm road. There is one residence located within 50 feet of Bristoria Wareyard. Landowners have been notified of the Project, and Texas Eastern would notify affected landowners one week prior to the start of activity on their property. Access would remain open for residents but may be temporarily restricted due to construction and mitigation activities such as spraying water or other dust control agents to roadways. Based on the location and nature of construction activities, we conclude the Project would have no adverse impact on residences.

Visual Resources

There are no visually sensitive areas within the viewshed of construction activities. Visual impacts due to construction would be temporary, therefore we conclude that there would be no impacts on visual resources due to the Project.

Coastal Zone Management Areas

The Project is not within a coastal zone management area.

[6] CP17-468-000, CP16-501-000, CP14-545-000, and CP14-4-000.

7.0 AIR AND NOISE

7.1 Air Quality

Air quality would be affected by construction and operation of the Project. During construction, short-term emissions would be generated from the usage of equipment, land disturbance, and increased traffic from worker and delivery vehicles for all locations. No operational emissions would be associated with the Project.

Ambient air quality is protected by federal and state regulations. Under the Clean Air Act of 1970 (CAA) and its amendments, the EPA has established National Ambient Air Quality Standards (NAAQS)[7] for carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO_x) ozone, particulate matter less than 10 microns (PM_{10}), particulate matter less than 2.5 microns ($PM_{2.5}$), and sulfur dioxide (SO_2). The WVDEP have the authority to implement permit programs under the CAA for the proposed Project facilities.

These standards incorporate short-term (hourly or daily) levels and long-term (annual) levels to address acute and chronic exposures to the pollutants, as appropriate. The NAAQS include primary standards, which are designed to protect human health, including the health of sensitive subpopulations such as children and those with chronic respiratory problems. The NAAQS also include secondary standards designed to protect public welfare, including economic interests, visibility, vegetation, animal species, and other concerns not related to human health. Table 8 presents the NAAQS.

Air quality control regions (AQCRs) are areas established by the EPA and local agencies for air quality planning purposes, in which State Implementation Plans describe how the NAAQS would be achieved and maintained. The AQCRs are intra- and interstate regions such as large metropolitan areas where improvement of the air quality in one portion of the AQCR requires emission reductions throughout the AQCR. Each AQCR, or smaller portion within an AQCR (such as a county), is designated, based on compliance with the NAAQS, as attainment, unclassifiable, maintenance, or nonattainment, on a pollutant by-pollutant basis. Areas in compliance or below the NAAQS are designated as attainment, while areas not in compliance or above the NAAQS are designated as nonattainment. Areas previously designated as nonattainment that have since demonstrated compliance with the NAAQS are designated as maintenance for that pollutant. Maintenance areas may be subject to more stringent regulatory requirements to ensure continued attainment of the NAAQS. Areas that lack sufficient data to determine attainment status are designated unclassifiable and treated as attainment areas. The Project is located in the Steubenville-Weirton-Wheeling AQCR. All Project components occur within areas that are designated as attainment for all criteria pollutants.

[7] The current NAAQS are listed on EPA's website at https://www.epa.gov/criteria-air-pollutants/naaqs-table.

Table 8
National Ambient Air Quality Standards

Pollutant	Averaging Period	Standards	
		Primary	Secondary
Sulfur dioxide (SO_2)	1-hour [l,m]	75 ppb 196 µg/m³	
	3-hour [b]	--	0.5 ppm 1300 µg/m³
	Annual [a,m]	0.03 ppm 80 µg/m³	--
	24-hour [b,m]	0.14 ppm 365 µg/m³	--
PM_{10}	24-hour [d]	150 µg/m³	150 µg/m³
$PM_{2.5}$ (2012 Standard)	Annual [e]	12.0 µg/m³	15.0 µg/m³
$PM_{2.5}$ (2006 Standard)	24-hour [f]	35 µg/m³	35 µg/m³
Nitrogen Dioxide (NO_2)	Annual [a]	0.053 ppm (53 ppb) 100 µg/m³	0.053 ppm (53 ppb) 100 µg/m³
	1-hour [c]	100 ppb 188 µg/m³	--
Carbon Monoxide (CO)	8-hour [b]	9 ppm 10,000µg/m³	--
	1-hour [b]	35 ppm 40,000 µg/m³	--
Ozone (2008 Standard)	8-hour [g,h]	0.075 ppm	0.075 ppm
Ozone (2015 Standard)	8-Hour [i]	0.070 ppm	0.070 ppm
Ozone (O3)	1-hour [j,k]	0.12 ppm	0.12 ppm
Lead (Pb)	Rolling 3-month [a]	0.15 µg/m³	0.15 µg/m³

a. Not to be exceeded
b. Not to be exceeded more than once per year
c. Compliance based on 3-year average of the 98th percentile of the daily maximum 1-hour average at each monitor within an area
d. Not to be exceeded more than once per year on average over 3 years
e. Compliance based on 3-year average of weighted annual mean $PM_{2.5}$ concentrations at community-oriented monitors
f. Compliance based on 3-year average of 98th percentile of 24-hour concentrations at each population-oriented monitor within an area
g. Compliance based on 3-year average of fourth-highest daily maximum 8-hour average ozone concentrations measured at each monitor within an area
h. The 2008 8-hour ozone standard would remain in effect until one year after an area is designated for the 2015 8-hour ozone standard, which corresponds with January 16, 2019 based upon attainment designations for the 2015 ozone standard issued on January 16, 2018
i. Permit applications that have not met EPA's grandfathering criteria would have to demonstrate that the proposed project does not cause or contribute to a violation of any revised ozone standards that are in effect when the permit is issued, including the 2015 revised standards
j. Maximum 1-hour daily average not to be exceeded more than one day per calendar year on average
k. The 1-hour ozone standard has been revoked in all areas in which Project activities would occur
l. Compliance based on 3-year average of 99th percentile of the daily maximum 1-hour average at each monitor within an area
m. The 24-hour and annual average primary standards for SO_2 have been revoked
ppm = parts per million by volume; ppb = parts per billion by volume.
µg/m³ = micrograms per cubic meter.

Permitting/Regulatory Requirements

Prevention of Significant Deterioration and Nonattainment New Source Review

The Prevention of Significant Deterioration (PSD) and Nonattainment New Source Review (NNSR) air permit programs are designed to protect air quality when air pollutant emissions are increased either through the construction of new major stationary sources or major modifications to existing stationary sources. The WVDEP administer the PSD and NNSR permitting programs in their state. These programs do not apply to the Project.

Title V Permitting

Title V is an operating air permit program run by each state for each facility that is considered a "major source." Emissions associated with the Project would result from construction activities and would not result in any new sources, therefore this program does not apply to the Project.

New Source Performance Standards (NSPS)

The EPA promulgates NSPS to establish emission limits and fuel, monitoring, notification, reporting, and recordkeeping requirements for stationary source types or categories that cause or contribute significantly to air pollution. Emissions associated with the Project are from construction activities and would not result in any new sources, therefore this program does not apply to the Project.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

The 1990 CAA Amendments established a list of 189 hazardous air pollutants (HAPs), resulting in the promulgation of NESHAP. The NESHAP regulates HAP emissions from specific source types located at major or area sources of HAPs by setting emission limits, monitoring, testing, record keeping, and notification requirements. Emissions associated with the Project are from construction activities, no new sources of emissions are proposed, and therefore this program does not apply to the Project.

State and Local Regulations

There are no additional regulations that apply to the Project.

General Conformity

The EPA promulgated the General Conformity Rule to implement the conformity provision of Title I, Section 176(c)(1) of CAA. Section 176(c)(1) requires that the federal government not engage, support, or provide financial assistance for licensing or permitting, or approve any activity not conforming to, an approved CAA implementation plan.

The General Conformity Rule is codified in Title 40 CFR Part 51, Subpart W and Part 93, Subpart B, Determining Conformity of General Federal Actions to State or Federal Implementation Plans. A conformity determination must be conducted by the lead federal agency if a federal action's construction and operational activities is likely to result in generating direct

and indirect emissions that would exceed the conformity threshold (*de minimis*) levels of the pollutant(s) for which an air basin is in nonattainment or maintenance. According to the conformity regulations, emissions from sources that are subject to any NNSR or PSD permitting/licensing (major or minor) are exempt and are deemed to have conformed.

The General Conformity Rule was developed to ensure that federal actions in nonattainment and maintenance areas do not impede states' attainment of the NAAQS. The lead federal agency must conduct a conformity determination if a federal action's construction and operational activities is likely to result in generating direct and indirect emissions that would exceed the General Conformity Applicability threshold levels of the pollutant(s) for which an air basin is designated nonattainment or maintenance. Section 176(c)(1) states that a federal agency cannot approve or support any activity that does not conform to an approved State Implementation Plan. Conforming activities or actions should not, through additional air pollutant emissions:

- cause or contribute to new violations of the NAAQS in any area;
- increase the frequency or severity of any existing violation of any NAAQS; or
- delay timely attainment of any NAAQS or interim emission reductions.

The General Conformity Rule entails both an applicability analysis and a subsequent conformity determination, if deemed necessary. A General Conformity Determination must be completed when the total direct and indirect emissions of a project would equal or exceed the specified pollutant thresholds on a calendar year basis for each nonattainment or maintenance area.

As noted earlier, the Project facilities would be constructed and operated within counties in attainment for all criteria pollutants, therefore, a General Conformity Determination would not be required.

Greenhouse Gases

Greenhouse gases (GHGs) occur in the atmosphere both naturally and as a result of human activities, such as the burning of fossil fuels. GHGs are gases that absorb infrared radiation in the atmosphere, and an increase in emissions of these gasses has been determined by the EPA to endanger public health and welfare by contributing to global climate change. The most common GHGs emitted during fossil fuel combustion and natural gas transportation are carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). Emissions of GHGs are typically expressed in terms of CO_2 equivalents (CO_2e), where the potential of each gas to increase heating in the atmosphere is expressed as a multiple of the heating potential of CO_2 over a specific timeframe, or its global warming potential (GWP)[8]. The 100-year GWP of CO_2 is 1, CH_4 is 25, and N_2O is 298. During construction and operation of the Project, these GHGs would be emitted from non-electrical construction and operational equipment, as well as from fugitive CH_4 leaks from the pipeline and aboveground facilities.

On November 8, 2010, the EPA signed a rule that finalizes reporting requirements for the petroleum and natural gas industry under 40 CFR 98. Subpart W of 40 CFR 98 requires petroleum

[8] These GWPs are based on a 100-year time period. We have selected their use over other published GWPs for other timeframes because these are the GWPs the EPA has established for reporting of GHG emissions and air permitting requirements. This allows for a consistent comparison with these regulatory requirements.

and natural gas facilities that emit 25,000 metric tons or more of CO_2e per year to report annual emissions of specified GHGs from various processes within the facility. Construction emissions are not covered under the GHG Reporting Rule, but those related to the Project are expected to be well below the 25,000 metric tons reporting threshold. Operational emissions from the proposed facilities are likewise not expected to exceed this threshold and be reported to the EPA. The EPA has expanded its regulations to include the emission of GHGs from major stationary sources under the PSD program. The EPA's current rules require that a stationary source that is major for a non-GHG-regulated New Source Review pollutant must also obtain a PSD permit prior to beginning construction of a new or modified major source with mass-based GHG emissions equal to or greater than 100,000 tons per year (tpy) and significant net emission increases in units of CO_2e equal to or greater than 75,000 tpy. There are no NAAQS or other significance thresholds for GHGs.

Construction Emissions

Construction of the Project would result in short-term increases in emissions of some pollutants from the use of fossil fuel-fired equipment and the generation of fugitive dust due to earthmoving activities. Some temporary indirect emissions, attributable to construction workers commuting to and from work sites during construction and from on-road and off-road construction vehicle traffic, could also occur. Large earth-moving equipment and other mobile equipment are sources of combustion-related emissions, including criteria pollutants (i.e., NO_x, CO, VOC, SO_2, and PM_{10}).

Texas Eastern would mitigate exhaust emissions from construction equipment by requiring contractors to meet all air quality regulations and emission standards associated with each piece of equipment, and limit idling of diesel and gasoline powered on-road vehicles and non-road construction equipment operating at, or visiting, the construction site. Texas Eastern filed a Fugitive Dust Control Plan on August 17, 2020, which we have reviewed and find acceptable. Fugitive dust emissions during construction would be mitigated by measures such as spraying water, calcium chloride or other dust control agents on unpaved areas subject to frequent vehicle traffic, clearing roadways of debris, onsite travel restrictions, and maintaining appropriate low vehicle speeds.

Construction of the Project is estimated to occur between May and August 2021, prior to the start of the winter heating season. Once the longwall mining activities are completed, reinstallation would begin, and the pipeline segments would be returned belowground by November 2022. These emissions present the combined emissions for each facility, construction equipment combustion, on-road vehicle travel, off-road vehicle travel, and earthmoving fugitives. Construction related emission estimates were based on a typical construction equipment list, hours of operation, and vehicle miles traveled by the construction equipment and supporting vehicles for each area of the Project. These emission-generating activities would include earthmoving, construction equipment exhaust, on-road vehicle traffic, and off-road vehicle traffic. Texas Eastern conservatively utilized emission factors from EPA's NONROAD2008a and MOVES2014 emission modeling software.

Construction of the Project would cause a temporary reduction in local ambient air quality due to fugitive dust and emissions generated by construction equipment. This temporary impact would occur only in the immediate vicinity of the construction activity. Once the construction activity in an area is completed, the fugitive dust and emissions would subside and revert to pre-construction conditions. Estimates of construction air emissions are shown in table 9.

Table 9 Estimated Construction Emissions (tpy)								
Bailey East Mine Panel 12J Excavation, Elevation, and Replacement (Calendar Year 2021)								
	Criteria and HAP Pollutants (tons)							
	NOx	**SO_2**	**CO**	**PM_{10}**	**$PM_{2.5}$**	**VOC**	**CO_2e**	**Total HAPs**
Worker Commute Exhaust	0.099	0.001	1.38	0.023	<0.01	0.024	141	0.002
Delivery Truck Exhaust	0.101	0.0002	0.059	0.008	<0.01	<0.01	20.2	0.001
Construction Equipment Exhaust	1.63	0.005	1.16	0.087	0.084	0.127	726	0.037
Fugitive Dust from Travel on Unpaved Roads	--	-	--	2.09	0.208	-	-	--
Fugitive Dust from Travel on Paved Roads	--	-	--	0.29	0.071	-	-	--
Fugitive Emissions from Construction Activities	--	-	--	3.80	0.77	-	-	0.060
Temporary Emissions from Construction Activities	--	-	--	--	--	17.8	2,192	0.548
Operational Activities	--	-	--	--	--	-	0.611	--
Total	**1.83**	**0.006**	**2.59**	**6.30**	**1.13**	**17.9**	**3,080**	**0.648**
Bailey East Mine Panel 12J Reinstallation and Restoration (Calendar Year 2022)								
	Criteria and HAP Pollutants (tons)							
	NOx	**SO_2**	**CO**	**PM_{10}**	**$PM_{2.5}$**	**VOC**	**CO_2e**	**Total HAPs**
Worker Commute Exhaust	0.082	0.001	1.26	0.023	0.005	0.019	135	0.001
Delivery Truck Exhaust	0.090	0.0002	0.054	0.008	0.005	0.006	19.8	0.001
Construction Equipment Exhaust	1.42	0.005	1.08	0.074	0.071	0.115	726	0.037
Fugitive Dust from Travel on Unpaved Roads	--	-	--	2.07	0.21	-	-	--
Fugitive Dust from Travel on Paved Roads	--	-	--	0.286	0.070	-	-	--
Fugitive Emissions from Construction Activities	--	-	--	3.80	0.77	-	-	0.030
Temporary Emissions from Construction Activities	--	-	--	--	--	17.8	2,192	0.548
Operational Activities	--	-	--	--	--	-	0.83	--
Total	**1.59**	**0.006**	**2.39**	**6.26**	**1.13**	**17.9**	**3,074**	**0.618**

Given the temporary and intermittent nature of construction, we find that emissions from construction-related activities for the Project would not be expected to cause or significantly contribute to a violation of any applicable ambient air quality standard, or significantly affect local or regional air quality.

Operational Emissions

Minor amounts of emissions would be released due to fugitives, but as those are minimal, and there are no new permanent sources of operational emissions proposed as part of the Project, we conclude that operational emissions would not have a significant impact on air quality in the area.

7.2 Noise

Construction and operation of the Project would affect the local noise environment in the Project area. The ambient sound level of a region, which is defined by the total noise generated within the specific environment, is usually comprised of sounds emanating from both natural and artificial sources. At any location, both the magnitude and frequency of environmental noise may vary considerably over the course of the day and throughout the week, in part due to changing weather conditions and the impacts of seasonal vegetative cover.

The EPA published its Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety. Two measurements used by some federal agencies to relate the time-varying quality of environmental noise to its known effects on people are the equivalent sound level (L_{eq}) and the day-night sound level (L_{dn}). The L_{eq} is an A-weighted sound level containing the same sound energy as the instantaneous sound levels measured over a specific time period. Noise levels are perceived differently, depending on length of exposure and time of day. The L_{dn} takes into account the duration and time the noise is encountered. Specifically, in the calculation of the L_{dn}, late night to early morning (10:00 PM to 7:00 AM) noise exposures are penalized +10 decibels (dB), to account for people's greater sensitivity to sound during the nighttime hours. The A-weighted scale (dBA) is used because human hearing is less sensitive to low and high frequencies than mid-range frequencies. For an essentially steady sound source that operates continuously over a 24-hour period and controls the environmental sound level, the L_{dn} is approximately 6.4 dB above the measured L_{eq}.

The EPA has indicated that an L_{dn} of 55 dBA protects the public from indoor and outdoor activity interference. We have adopted this criterion and use it to evaluate the potential noise impacts from the proposed Project at noise sensitive areas (NSAs), such as residences, schools, or hospitals. Also, in general, a person's threshold of perception for a perceivable change in loudness on the A-weighted sound level is about 3 dBA, whereas a 5 dBA change is clearly noticeable, and a 10 dBA change is perceived as either twice or half as loud.

There are no applicable county, or local noise regulations associated with the Project.

Construction Noise

Construction of the facilities would involve operation of general construction equipment and noise would be generated during the installation of the Project components. The construction activities would cause a temporary increase in the ambient noise in the immediate vicinity of the

construction site; however, because of the temporary nature of the construction activities, there would be no significant noise impact from construction. Construction noise would be highly variable because the types of equipment in use at a construction site changes with the construction phase and the types of activities. Noise from construction activities may be noticeable at nearby NSAs, but construction equipment would be operated on an as-needed basis during the short-term construction period. Texas Eastern would conduct construction activities between 7:00 AM and 9:00 PM, except when required for activities such as hydrostatic testing, operation of pumps at waterbody crossings, or tie-in activities that require continuous work. FERC staff considers daytime hours to be 7:00 AM to 7:00 PM. If nighttime construction is required, advanced notice would be provided to the residents informing them of the planned activities and duration as well as a 24-hour hotline telephone number to residents and abutters that would allow Texas Eastern to work with landowners to resolve concerns.

Measures to mitigate construction noise would include compliance with federal regulations limiting noise from trucks, proper maintenance of equipment, and ensuring that sound muffling devices provided by the manufacturer are kept in good working condition. Temporary relocation or compensation would be available, if necessary, to minimize noise impacts on NSA residents. Additionally, Texas Eastern would work with its construction contractors to employ less impactful types of equipment back-up alarms for large construction equipment.

Construction of the Project would be short-term and mostly limited to daytime hours, therefore, we conclude that construction noise would not have a significant impact on the surrounding environment.

Operation

There are no sources of operational noise associated with the Project.

Based on the duration of construction and lack of operational noise, we conclude that the Project would not result in significant noise impacts on residents and the surrounding communities.

8.0 RELIABILITY AND SAFETY

The transportation of natural gas by pipeline involves some risk to the public in the event of an accident and subsequent release of gas. The greatest hazard is a fire or explosion following a major pipeline rupture. Methane, the primary component of natural gas, is colorless, odorless, and tasteless. It is not toxic, but is classified as a simple asphyxiate, possessing a slight inhalation hazard. If breathed in high concentration, oxygen deficiency can result in serious injury or death.

The pipelines associated with the project must be designed, constructed, operated, and maintained in accordance with the DOT Minimum Federal Safety Standards in 49 CFR Part 192. The regulations are intended to ensure adequate protection for the public and to prevent natural gas facility accidents and failures.

The DOT pipeline standards are published in Parts 190-199 of Title 49 of the CFR. For example, Part 192 of 49 CFR specifically addresses natural gas pipeline safety issues, prescribes the minimum standards for operating and maintaining pipeline facilities, and incorporates compressor station design, including emergency shutdowns and safety equipment. Part 192 also

requires a pipeline operator to establish a written emergency plan that includes procedures to minimize the hazards in a natural gas pipeline emergency.

The operator must also establish a continuing education program to enable customers, the public, government officials, and those engaged in excavation activities to recognize a gas pipeline emergency and report it to appropriate public officials.

Facilities associated with the Project must be designed, constructed, operated, and maintained in accordance with DOT standards, including the provisions for written emergency plans and emergency shutdowns. Texas Eastern would provide the appropriate training to local emergency service personnel before the facilities are placed in service.

The Project is developed to decrease the risk of damage from subsidence. The pipeline would be monitored for damage when placed on the surface and would be tested to ensure compliance with DOT pipeline standards. We conclude that the Project would not represent an increase in risk to the nearby public.

Polychlorinated Biphenyls

When any existing station piping, or pipeline is cut, the contractor would follow the EPA issued Polychlorinated Biphenyls (PCB) rules and regulations contained in 40 CFR Part 761. Lines 10, 15, 25, and 30 are PCB-regulated as PCB's have historically been detected at concentrations greater than 50 parts per million in pipeline liquids. The removed pipe would be sampled, and, if present, free flowing liquids would be removed and sampled in accordance with 40 CFR Part 761.

9.0 CUMULATIVE IMPACTS

In accordance with NEPA and with FERC policy, we identified other actions in the vicinity of the proposed Project facilities and evaluated the potential for a cumulative impact on the environment. As defined by the CEQ, a cumulative effect is the impact on the environment that results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of the agency or party undertaking such other actions. Cumulative impacts can result from individually minor, but collectively significant actions, taking place over time. The CEQ guidance states that an adequate cumulative effects analysis may be conducted by focusing on the current aggregate effects of past actions without delving into the historical details of individual past actions.

In this analysis, we consider the impacts of past projects within defined geographic scopes as part of the affected environment (environmental baseline) which were described and evaluated in the preceding environmental analysis. However, present effects of past actions that are relevant and useful are also considered. Our cumulative effects analysis focuses on potential impacts from the proposed project on resource areas or issues where the incremental contribution could result in cumulative impacts when added to the potential impacts of other actions. To avoid unnecessary discussions of insignificant impacts and projects and to adequately address and accomplish the purposes of this analysis, an action must first meet the following three criteria to be included in the cumulative analysis:

- affects a resource also potentially affected by the Project;
- causes this impact within all, or part of, the Project area defined by the resource-specific geographic scope; and
- causes this impact within all, or part of, the time span of the Project's estimated impacts.

As described in section B of this EA, constructing and operating the Project would temporarily affect the environment. However, we conclude that most of the Project-related impacts would be contained within or adjacent to the temporary construction workspaces, existing pipeline and roadway corridors, or utility easements and would not contribute to adverse cumulative impacts. For example, erosion control measures included in FERC's Plan would keep disturbed soils within the work areas and would therefore not contribute to cumulative impacts on soil or geological resources. Land use and visual impacts are negligible as impacts would primarily occur within existing pipeline corridors and once the longwall mining activities are completed, the land would revert to pre-construction conditions. Air quality would not be affected by operation of the Project; once construction activities have finished, there would be no new sources of operational emissions from the Project. Additionally, we determined that there would be no significant noise impacts during construction or operation of the Project due to the length of the construction timeline and localized nature of the activities. Once completed, there would not be a source of operational noise levels. Furthermore, no cultural resources were identified. Because the Project would have no or only minimal, localized, and/or temporary impacts impact on these resources, cumulative impacts have not been assessed further for soils, cultural resources, land use, visual impacts, operational air quality, and operational and construction noise for the Project.

Resources that could be affected outside the immediate Project area and are subject to our cumulative impacts review include geology, groundwater, surface water, wildlife, wetlands, vegetation, and construction air quality. However, for some resources, the contribution to regional cumulative impacts is lessened by the expected recovery of ecosystem function. Non-forested vegetation communities and wildlife habitats would be cleared, but restoration would proceed immediately following construction.

Based on the impacts of the Project as identified and described in this EA and consistent with CEQ guidance, we have determined that the resource-specific geographic scopes described below are appropriate to assess cumulative impacts:

- impacts on geology were assessed within construction workspaces for the Project;
- impacts on groundwater, surface water, wildlife, vegetation, and wetlands were assessed within the HUC 12 watershed; and
- impacts on air quality, including fugitive dust, would be largely limited to areas immediately around active construction. We searched for other projects and actions that overlap in time and are located within 0.25 mile of construction activities.

The actions considered in our cumulative impact analysis may vary from the Project in nature, magnitude, and duration. These actions are included based on the likelihood of their impacts coinciding with the Project, meaning the other actions have current or ongoing impacts or are "reasonably foreseeable." The actions we considered are those that could affect similar

resources during the same timeframe as the Project. Multiple projects were identified as possible contributors to cumulative impacts in the area, these and are listed in table 10. These projects include CONSOL's longwall mining activities, the adjacent Marshall County Mine Panel and mining projects, and Texas Eastern's Bailey East Mine Panel 11J construction. The anticipated cumulative impacts of the Project and these other actions are discussed below.

Table 10

Projects Considered in Cumulative Impacts Analysis

Project/County	Distance/Direction	Description	Anticipated Impacts	Current Status
Panel 11J CONSOL Energy/ Marshall County	- / Located directly beneath and adjacent to Project	Longwall coal mining	Limited surface impact	Expected to begin 2021
Texas Eastern Bailey East Mine Panel 11J Project	-/ crosses Project	0.5 miles of pipeline elevation and replacement	Limited surface impact	Construction 2020-2021
Texas Eastern Marshall County Mine Panel 19E and 20E Project/ Marshall County	0.05 mile/ W	Longwall coal mining subsidence mitigation	Linear footprint	Expected construction 2020-2022
Mine Panel 20E Marshall County Coal	0.3 mile/ W	Longwall coal mining	Linear footprint	Expected to be mined in 2021
Mine Panel 12J CONSOL Energy Inc	-/ crosses Project	Longwall coal mining	Linear footprint	Expected to be mined in 2022
Dominion Energy pipeline crossing	-/ crosses Project	Existing pipeline	Linear footprint	Unknown

Geology and Groundwater

The longwall mining activities would affect geology by the removal of coal followed by the collapse of the bedrock above the coal seam after mining which could temporarily affect

groundwater. The Project would have minimal impact on geology due to mitigation of the surface settling performed by Texas Eastern. It is possible that construction associated from the Project in combination with construction associated with the other projects identified could result in temporary cumulative impacts within the aquifers if construction activities occur concurrently or within several days of one another. If temporary impacts occur, it would likely be limited to short-term turbidity visible in groundwater or reduced infiltration. We also anticipate that Texas Eastern's SPCC Plan would prevent or minimize the opportunity for and necessitate immediate control and clean-up of spills of fuels, lubricants, or other hazardous material, and would therefore minimize the opportunity for cumulative impacts that could result if other projects were to also result in spills. For these reasons, we conclude that any cumulative impact on geology or groundwater from the Project would be negligible.

Surface Water and Wetlands

The Project's temporary impacts on surface waters as a result of in-stream work could increase sedimentation and turbidity downstream, but the impacts would be minor and minimized by adherence to Texas Eastern's E&SCP, and the Procedures. The geographic scope for cumulative impacts on waterbodies and wetlands is defined as the HUC 12 subwatershed. Other projects identified within the HUC 12 subwatershed include Mine Panels 11J, 19E, 20E, and 12J, Texas Eastern's 19E and 20E Project and Bailey East Mine Panel 11J Project, and a Dominion Energy pipeline crossing. These projects would be required to implement some erosion control measures or best management practices to reduce runoff into waterbodies. Texas Eastern's Mine Panel 19E and 20E Project and the Bailey East Mine Panel 11J Project are FERC-jurisdictional projects that would implement the Procedures. Any impacts on water quality would be minor and temporary. Mitigation measures to reduce runoff and sedimentation would also help to reduce the effects on fisheries. Due to the size, duration and mitigation of effects, we conclude that the Project would not have a significant cumulative impact on waterbodies.

The Project would only temporarily impact 0.9 acre of PEM and PSS wetlands. The Bailey East Mine Panel 11J Project would only temporarily impact 0.2 acre of PEM and PSS wetland. The Texas Eastern Marshall County Mine Panel 19E and 20E Project temporarily impacts 0.6 acres of PEM and PSS wetland. The CONSOL Panel 11J and 12J Longwall Mining Project has limited surface disturbance so it is not anticipated to have a significant impact on wetlands. The wetlands temporarily impacted by the Project and the Texas Eastern Marshall County Mine Panel 19E and 20E and Bailey East Mine Panel 11J Projects would be revegetated and restored to preconstruction conditions. All three projects would use Texas Eastern's E&SCP and the Plan and Procedures to minimize impacts on wetlands. Therefore, we conclude that the Project would not have significant cumulative impacts on wetlands.

Vegetation and Wildlife

The geographic scope for cumulative impacts on vegetation and wildlife is defined as the HUC 12 subwatershed. The Project would result in clearing of approximately 34.8 acres of vegetation, of that 5.9 acres is classified as forest/woodland. Since all areas would be able to revegetate to preconstruction conditions, the only long-term impact would be from forest clearing which would take decades to naturally restore to preconstruction densities. However, the forest clearing would be adjacent to existing rights-of-way which avoids forest fragmentation. As previously mentioned, the CONSOL Panel 11J and 12J Longwall Mining Projects, the Texas

Eastern Panel 11J Project, and the Dominion Energy pipeline are within the same HUC 12 as the Project. Texas Eastern's Marshall County Mine Panel 19E and 20E Project borders the HUC 12. The Panel 11J and 12J Longwall Mining Projects would have limited surface impacts as they would occur directly beneath and adjacent to the Project. Texas Eastern's Marshall County Mine Panel 19E and 20E Project would disturb approximately 51.7 acres of vegetation but would allow all areas to revegetate to preconstruction conditions in accordance with the FERC Plan. It would impact about 2.5 acres of forest that would be a long-term impact. The Texas Eastern Panel 11J Project would impact a total of 32 acres that would be restored to preconstruction conditions, with about 4.9 acres of this being forest clearing. We were not able to obtain information on forest clearing for the Dominion Energy pipeline. Together, the available information, the projects would impact a total of 13.3 acres of forest, which is a minor proportion of the surrounding forest habitat. Therefore, we conclude that the Project would not have significant cumulative impacts on vegetation.

The Project would result in the loss of vegetative habitat and may result in the mortality of less mobile fauna, such as small rodents, reptiles, and invertebrates. Most species in the Project area would relocate to adjacent habitat. The projects identified within the geographic scope are expected to have limited habitat destruction and would only cause minor impacts on wildlife. The duration of impacts on forested species would be longer than non-forested species due to the long-term impacts of forest clearing. The Project would clear trees along the right-of-way which would not result in increased habitat fragmentation. Only a small portion of available forested habitat would experience long-term impacts. Therefore, significant cumulative impacts are not expected on wildlife.

Air Quality

The Panel 12J CONSOL Energy longwall mining activities, the Bailey East Mine Panel 11J project and the Marshall County Mine Panel 19E and 20E projects were identified within the vicinity of the Project with the potential contribute to cumulative impacts to air quality during construction. Construction of these projects would involve the use of heavy equipment that would generate emissions of air pollutants and fugitive dust. Fugitive dust emissions would settle quickly, and dust suppression measures would be implemented at the Project site as necessary to ensure the Project-related effects from fugitive dust are intermittent and temporary and would occur within or very near the construction area. The potential cumulative impacts from the Project and recently completed, current, and reasonably foreseeable projects in the vicinity would be temporary and minor. Primary factors associated with the Project that would minimize the contribution to cumulative impacts are that the proposed construction activities have short timelines or are outside the cumulative impact area. In the case of CONSOL Energy's longwall mining activities, construction would not start until the excavation and elevation of the Project pipelines is complete.

Due to the timing of construction, minimization of fugitive dust as a result of the dust suppression measures, and the highly localized nature of construction emissions, there would be no significant cumulative impacts on air quality during construction.

Conclusion

The cumulative impacts review as part of the NEPA process evaluates the incremental effects of a proposed project and multiple similar projects in the same region at the same time, or in a similar timeframe, to determine whether the additive effect of those projects would result in significant impacts to the regional environment. As discussed previously, the Project and other projects in the area would have or have had minimal cumulative impacts as the identified projects are expected to occur in areas currently being utilized for industrial use. As a result, no significant cumulative impacts are anticipated when combining the Project with other identified projects.

Additionally, we identified planned activities in the Project area that met the criteria for inclusion in the cumulative impact analysis. Implementation of best management practices and proposed mitigation plans would minimize environmental impacts and when the impacts of the Project are added to the impacts from the other identified projects, the cumulative impacts would be minimal. We conclude that impacts would be temporary in nature and no significant cumulative impacts would be incurred from the Project.

C. ALTERNATIVES

In accordance with NEPA and Commission policy, we considered and evaluated alternatives to the proposed action, including the no-action alternative and routing alternatives. These alternatives were evaluated using a specific set of criteria. The evaluation criteria applied to each alternative include a determination whether the alternative:

- meets the objective of the proposed project;
- is technically and economically feasible and practical; and
- offers a significant environmental advantage over the proposed project.

Through environmental comparison and application of our professional judgment, each alternative is considered to a point where it becomes clear if the alternative could or could not meet the three evaluation criteria. To ensure a consistent environmental comparison and to normalize the comparison factors, we generally use desktop sources of information (e.g., publicly available data, geographic information system data, aerial imagery) and assume the same general workspace requirements. Where appropriate, we also use site-specific information (e.g., field surveys or detailed designs). Our environmental analysis and this evaluation consider quantitative data (e.g., acreage) and uses common comparative factors such as total length, amount of collocation, and land requirements.

The alternatives were reviewed against the evaluation criteria in the sequence presented above. The first consideration for including an alternative in our analysis is whether or not it could satisfy the stated purpose of the project. An alternative that cannot achieve the purpose for the project cannot be considered as an acceptable replacement for the project. Many alternatives are technically and economically feasible. Technically practical alternatives, with exceptions, would generally require the use of common construction methods. An alternative that would require the use of a new, unique or experimental construction method may not be technically practical because the required technology is not available or is unproven. Economically practical alternatives would result in an action that generally maintains the price competitive nature of the proposed action. Generally, we do not consider the cost of an alternative as a critical factor unless the added cost to design, permit, and construct the alternative would render the project economically impractical.

Alternatives that would not meet the Project's objective or were not feasible were not brought forward to the next level of review (i.e., the third evaluation criterion). Determining if an alternative provides a significant environmental advantage requires a comparison of the impacts on each resource as well as an analysis of impacts on resources that are not common to the alternatives being considered. The determination must then balance the overall impacts and all other relevant considerations. In comparing the impact between resources, we also considered the degree of impact anticipated on each resource. Ultimately, an alternative that results in equal or minor advantages in terms of environmental impact would not compel us to shift the impacts from the current set of landowners to a new set of landowners.

One of the goals of an alternatives analysis is to identify alternatives that avoid significant impacts. In section B, we evaluated each environmental resource potentially affected by the Project and concluded that constructing and operating the Project would not significantly impact these resources. Consistent with our conclusions, the value gained by further reducing the (not

significant) impacts of the Project when considered against the cost of relocating the facilities to a new set of landowners was also factored into our evaluation.

No Action Alternative

The no-action alternative would consist of not constructing the Project and continuing with the facilities as-is. However, public safety and operational integrity could be affected if mining were to occur under the pipelines without the proposed mitigation. Mining could be curtailed if the pipeline mitigation is not implemented, and the coal underneath the pipelines may not be mined. As a result, this alternative would disrupt the coal mining operations. The no-action alternative is not a viable alternative as the objectives of the Project are not met and mining could not safely occur under the pipelines. Therefore, we do not recommend the no-action alternative.

Routing Alternatives

A potential routing alternative would be a pipeline loop to route around the subsidence area. However, a pipeline loop would necessitate the development of permanent, new, greenfield corridor up to 400 feet wide to accommodate all of the existing pipeline facilities. The pipeline loop required to meet the need of the Project would directly affect wooded habitat, residential properties, and agricultural lands and would require continued operation of the loop on a new pipeline easement. These impacts would be significantly greater than the temporary disturbances associated with Project activities, therefore, we do not recommend this loop alternative.

Locations of the proposed facilities were chosen to produce minimum environmental impacts. The modifications are limited to modifications to the existing pipeline facilities, to be constructed within or directly adjacent to the existing easement. Alternatives identified would not fulfill the purpose and need of the project and would result in greater environmental impacts than anticipated by the Project. In summary, we have determined that Texas Eastern's proposed Project, as modified by our recommended mitigation measures, is the preferred alternative that can meet the Project objectives.

D. CONCLUSIONS AND RECOMMENDATIONS

Based on the analysis in this EA, we have determined that if Texas Eastern constructs and operates the proposed facilities in accordance with its application and supplements, approval of this proposal would not constitute a major federal action significantly affecting the quality of the human environment. We recommend that the Commission's Order contain a finding of no significant impact and include the mitigation measures listed below as conditions to any Certificate the Commission may issue.

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 of the Commission (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, or the Director's designee, **before using that modification.**

2. The Director of OEP, or the Director's designee, has delegated authority to address any requests for approvals or authorizations necessary to carry out the conditions of the Order, and take whatever steps are necessary to ensure the protection of environmental resources during construction and operation of the Project. This authority shall allow:

    a. the modification of conditions of the Order;

    b. stop-work authority; and

    c. the imposition of any additional measures deemed necessary to ensure continued compliance with the intent of the conditions of the Order as well as the avoidance or mitigation of unforeseen adverse environmental impact resulting from Project construction and operation.

3. **Prior to any construction**, 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 locations shall be as shown in the EA, as supplemented by filed Project figures. **As soon as they are available, and before the start of construction**, Texas Eastern shall file with the Secretary any revised detailed survey alignment maps/figures at a scale not smaller than 1:6,000 with station positions for all facilities 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 Project figures.

Texas Eastern's exercise of eminent domain authority granted under the NGA section 7(h) in any condemnation proceedings related to the Order must be consistent with these authorized facilities and locations. Texas Eastern's right of eminent domain granted under the NGA section 7(h) does not authorize it to increase the size of its natural gas pipeline facilities to accommodate future needs or to acquire a right-of-way for a pipeline to transport a commodity other than natural gas.

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 all route realignments or facility relocations, and staging areas, pipe storage yards, new 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/figures/aerial photographs. Each area must be approved in writing by the Director of OEP, or the Director's designee, **before construction in or near that area**.

   This requirement does not apply to extra workspace allowed by the Commission's *Upland Erosion Control, Revegetation, and Maintenance 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 route 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 acceptance of the Certificate and before construction begins**, Texas Eastern shall file an Implementation Plan with the Secretary for review and written approval by the Director of OEP, or the Director's designee. Texas Eastern must file revisions to their plan as schedules change. The plan shall identify:

a. how Texas Eastern will implement the construction 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 construction 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:

i. the completion of all required surveys and reports;

ii. the environmental compliance training of onsite personnel;

iii. the start of construction; and

iv. the start and completion of restoration.

7. Texas Eastern shall employ at least one EI for the Project. 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. 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

e. 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 **bi-weekly basis during active construction and monthly during the elevation period until all construction and restoration activities are complete**. On request, these status reports will 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 construction status of the Project, work planned for the following reporting period and any scheduled 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;

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. Texas Eastern must receive written authorization from the Director of OEP, or the Director's designee, **before commencing construction of any Project facilities**. To obtain such authorization, Texas Eastern must 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 completing the mining mitigation and final hydrotest**, Texas Eastern shall file an affirmative statement with the Secretary, certified by a senior company official:

a. that the facilities have been constructed 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. Texas Eastern shall **not begin** construction of the Project **until**:

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

b. FERC staff completes ESA consultation with FWS; and

c. Texas Eastern has received written notification from the Director of OEP, or the Director's designee, that construction or use of mitigation may begin.

E. REFERENCES

Federal Emergency Management Agency. 2009; 2015. National Flood Hazard Layer. https://hazards-fema.maps.arcgis.com/apps/webappviewer/index.html?id=8b0adb51996444d4879338b5529aa9cd. Accessed August 2020.

National Park Service. 2020a. Find a Park. https://www.nps.gov/findapark/index.htm%20.%20 Accessed March 2020.

National Park Service. 2020b. National Historic Landmarks. https://www.nps.gov/subjects/nationalhistoriclandmarks/list-of-nhls-by-state.htm . Accessed March 2020.

National Wild and Scenic Rivers System. 2020. National Wild and Scenic Rivers West Virginia. https://www.rivers.gov/west-virginia.php . Accessed March 2020.

National Wilderness Preservation System. 2020. "Wilderness Areas of the United States." https://umontana.maps.arcgis.com/apps/webappviewer/index.html?id=a415bca07f0a4bee9f0e894b0db5c3b6 . Accessed March 2020.

Pennsylvania Department of Conservation and Natural Resources (PADCNR). 2007. Pennsylvania Scenic Rivers Program. http://www.docs.dcnr.pa.gov/cs/groups/public/documents/document/DCNR_20033444.pdf . Accessed March 2020.

PADCNR. 2020a. Find a Park by Region: West. https://www.dcnr.pa.gov/StateParks/FindAParkByRegion/Pages/default.aspx#west . Accessed March 2020.

PADCNR. 2020b. Find a Forest. https://www.dcnr.pa.gov/StateForests/FindAForest/Pages/default.aspx. Accessed March 2020.

U.S. Army Corps of Engineers. 1987. Corps of Engineers Wetlands Delineation Manual. TR Y-87-1. Vicksburg, MS: Environmental Laboratory, U.S. Army Corps of Engineers Waterways Experiment Station.

U.S. Geological Survey (USGS). Majorsville, W.Va. [map]. 2016a. 1:24,000. 7.5 Minute Series. Reston, Va: United States Department of the Interior, USGS.

USGS. New Freeport. PA [map]. 2016b. 1:24,000. 7.5 Minute Series. Reston, Va: United States Department of the Interior, USGS.

USGS. 2018. Seismic-Hazards Maps for the Conterminous United States. https://pubs.er.usgs.gov/publication/sim3325. Accessed August 2020.

USGS. 2019. Quaternary Fault and Fold Database of the United States. https://earthquake.usgs.gov/hazards/qfaults/map/#qfaults. Accessed August 2020.

West Virginia Department of Environmental Protection (WVDEP). 2020a. Data Download Mining Permit Boundary. https://tagis.dep.wv.gov/site/GISData. Accessed February 2020.

WVDEP. 2020b. Oil and Gas Map Search. https://tagis.dep.wv.gov/oog/. Accessed August 2020.

WVDEP. 2020c. WVDEP GIS Viewer. https://tagis.dep.wv.gov/wvdep_gis_viewer/. Accessed August 2020.

West Virginia Department of Health and Human Resources. 2020. West Virginia Source Water Protection Map Viewer. https://oehsportal.wvdhhr.org/wvswap/index.html. Accessed August 2020.

West Virginia Geological and Economic Survey (WVGES). 2011. Geologic Map of West Virginia. http://www.wvgs.wvnet.edu/www/maps/Geologic_Map_of_West_Virgini-Map25A.pdf. Accessed August 2020.

WVGES. 2020. Physiographic Provinces of West Virginia. http://www.wvgs.wvnet.edu/www/maps/pprovinces.htm. Accessed August 2020.

WVGES. 2013. Coal Bed Mapping Project, Interactive Coal Maps. http://www.wvgs.wvnet.edu/www/coal/cbmp/coalimsframe.html. Accessed August 2020.

West Virginia Geological & Economic Survey, Well Header Search. Accessed March 2020. http://www.wvgs.wvnet.edu/pipe2/OGDataHelp.aspx .Chambers, D. Groundwater Quality in West Virginia, 1993-2008. U.S. Geological Survey; 2008.

F. LIST OF PREPARERS

McDaniel, Nina – Project Manager: Air Quality and Noise, Safety and Reliability, Alternatives, Land Use, Cumulative Impacts
M.S., Engineering Management, 2012, University of New Orleans
B.S., Civil Engineering, 2010, University of New Orleans

Crumpton, Christine – Surface Water, Wetlands, Vegetation, Wildlife
M.S., Environmental Management, 2013, Samford University
B.S., Biology, 2012, Stillman College

Jensen, Andrea – Geologic Resources, Soils, and Groundwater Resources
B.S., Environmental Geology, 2012, College of William and Mary

Wazaney, Brad – Cultural Resources
Ph.D., Anthropology, 2006, Washington State University
M.A., American Studies, 2001, University of Wyoming
B.A., History, 1996, Old Dominion University

Appendix A
Project Maps

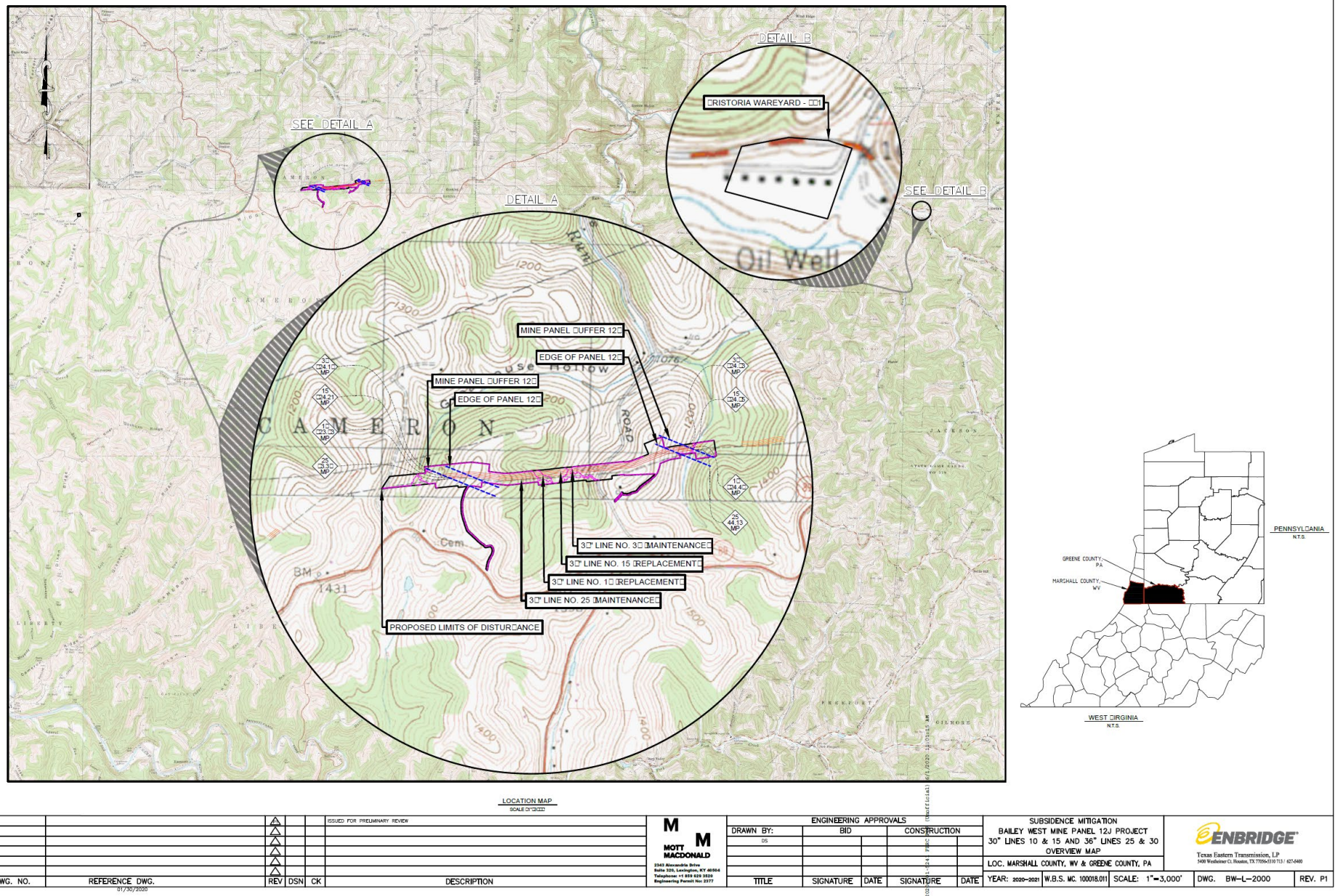

Figure 2
Vicinity Map

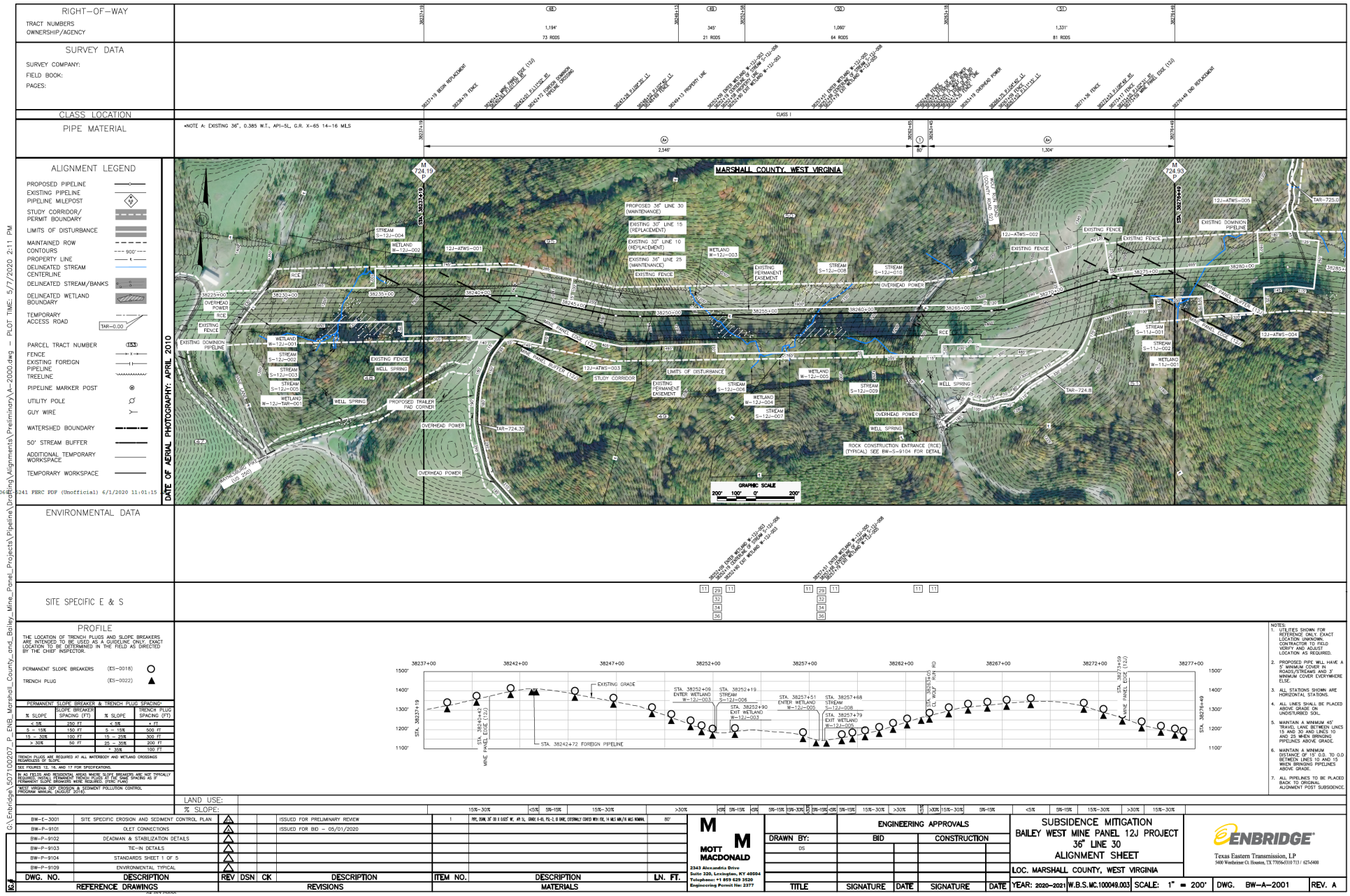

Figure 3
Alignment

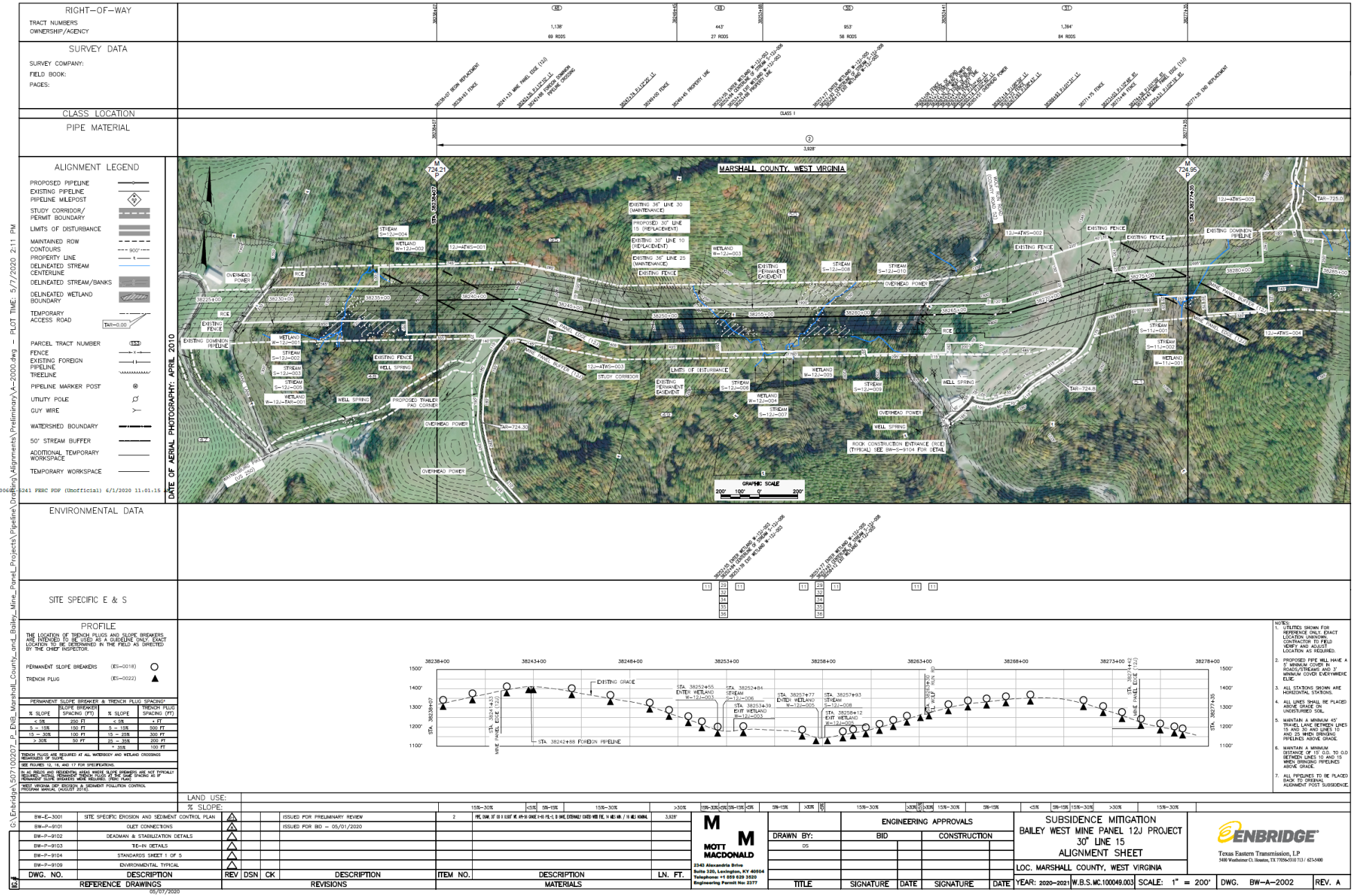

Figure 4
Alignment

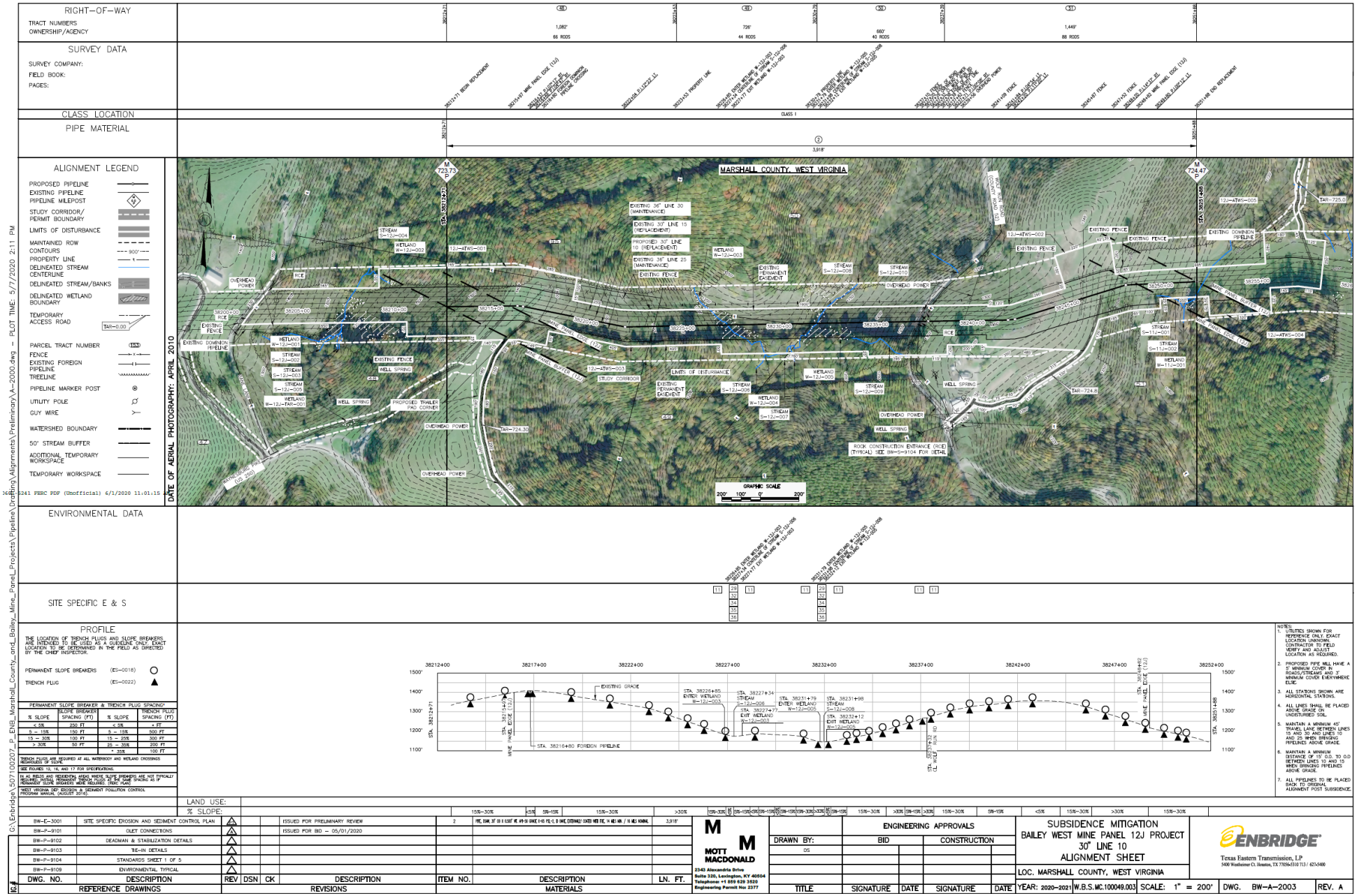

Figure 5
Alignment

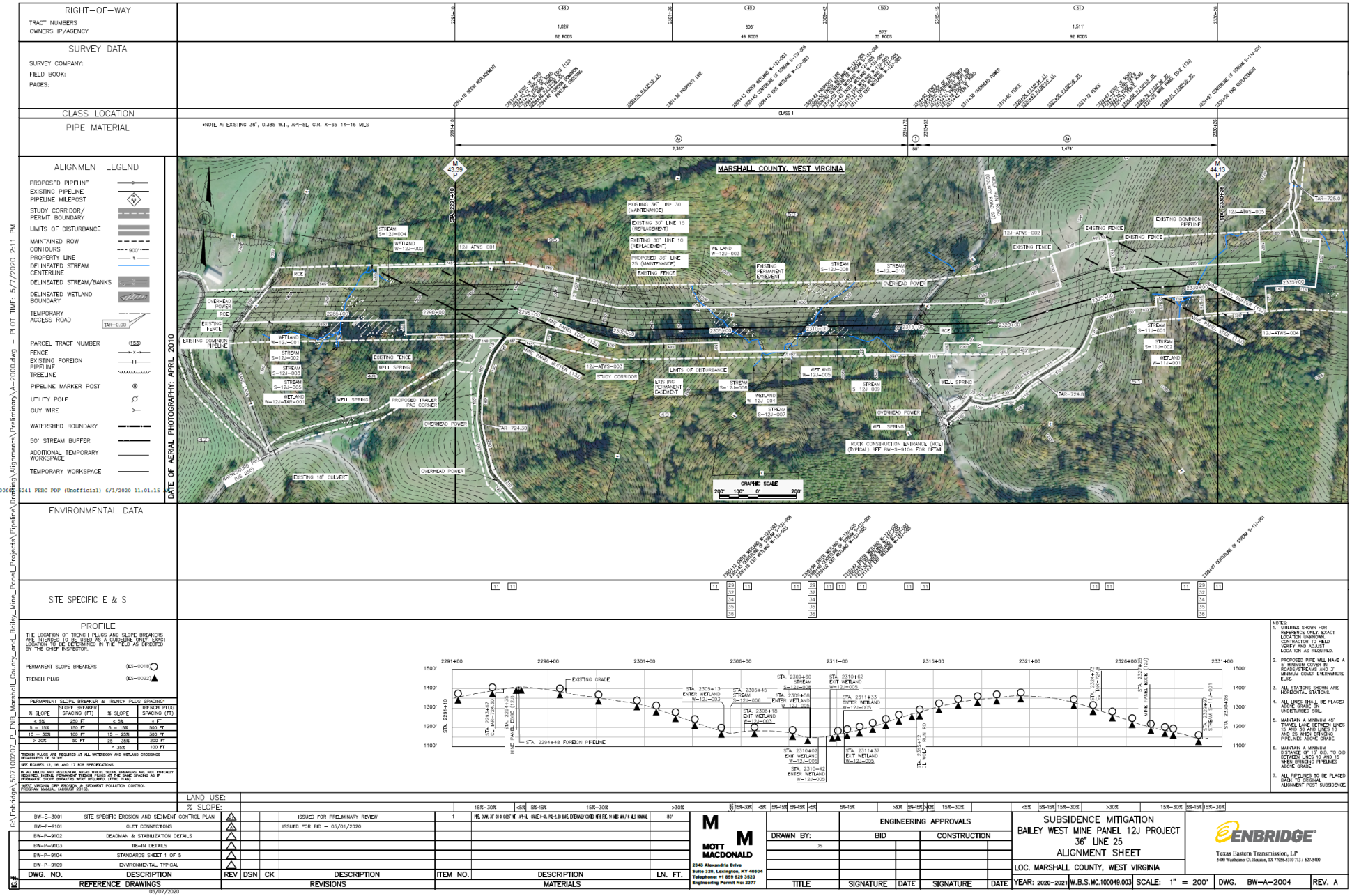

Figure 6
Alignment