



**Resource Report 11**  
**Reliability and Safety**

**Permian Basin Expansion Project**  
**FERC Docket No. CP26-\_\_\_\_-000**

**May 2026**

<b>RESOURCE REPORT 11 - RELIABILITY AND SAFETY</b>	
<b>MINIMUM FILING REQUIREMENTS</b>	
<b>INFORMATION</b>	<b>DATA SOURCE</b>
1. Describe how the project facilities would be designed, constructed, operated, and maintained to minimize potential hazard to the public from the failure of project components as a result of accidents or natural catastrophes –18 CFR § 380.12 (m)	Section 11.2
<b>ADDITIONAL INFORMATION OFTEN MISSING AND RESULTING IN DATA REQUESTS</b>	
Identify, by milepost and in table form, all U.S. Department of Transportation class locations and areas of concern (for example, high consequence areas) as defined in 49 CFR § 192.903 for the proposed route, alternative routes, and compressor stations and explain the basis for high consequence area identification.	Section 11.2.5
Discuss the outcome of the consultations with local fire departments and emergency response agencies relative to whether additional equipment, training, and support are needed in the project area.	Section 11.4

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## Abbreviations and Acronyms

CFR	Code of Federal Regulations
CH <sub>4</sub>	methane
DOT	Department of Transportation
FERC	Federal Energy Regulatory Commission
Northern	Northern Natural Gas Company
OSHA	Occupational Safety and Health Administration
Project	Permian Basin Expansion Project

## 11.0 RELIABILITY AND SAFETY

Northern Natural Gas Company (Northern) owns and operates a natural gas transmission pipeline system and associated aboveground facilities in New Mexico and Texas. Northern is seeking a Certificate of Public Convenience and Necessity from the Federal Energy Regulatory Commission (FERC) under Section 7(c) of the Natural Gas Act, as amended, for its Permian Basin Expansion Project (Project).

The Project includes constructing approximately 15.1 miles of 24-inch-diameter and 1.1 miles of new 16-inch-diameter pipelines, a new International Organization for Standardization-rated 7,700 horsepower compressor station, one interconnect with Transwestern Pipeline Company, LLC within the existing Phillips 66 Linam Ranch Plant, one bi-directional receiver within Northern's existing launcher facility, replacing a recycle valve at Northern's Plains compressor station, and one new delivery point for the customer at the Gaines County Generating Station.

In accordance with the FERC regulations at 18 Code of Federal Regulations (CFR) 380.12(m), *Resource Report 11 – Reliability and Safety* describes the potential hazard to the public from failure of facility components resulting from accidents or natural catastrophes, how these events would affect reliability, and what procedures and design features have been used to reduce potential hazards.

### 11.1 HAZARDS

The transportation of natural gas by pipeline potentially generates some risk to the public in the event of an incident and subsequent release of gas. Historically, impacts on public safety from pipeline transportation of natural gas have historically been directly related to leaks or line breaks that are most often due to corrosion; leaks or line breaks due to external forces not associated with pipeline operations, including seismic forces and/or damage from third-party excavation near buried pipeline sections; or equipment malfunctions (Pipeline and Hazardous Materials Safety Administration, 2025).

The primary component of the natural gas transported in interstate transmission pipelines is methane (CH<sub>4</sub>), a colorless, odorless, and tasteless gas. While not chemically toxic, CH<sub>4</sub> is classified as an asphyxiant with a slight inhalation hazard. Exposure to high concentrations can result in serious injury or death due to oxygen deficiency. The specific gravity of CH<sub>4</sub> is 0.55, which is lighter than air. This means CH<sub>4</sub> tends to rise at normal atmospheric temperatures and disperses rapidly in the atmosphere. In general, unconfined mixtures of CH<sub>4</sub> in air are not flammable or explosive because of the dilution of CH<sub>4</sub> by air. However, mixtures of CH<sub>4</sub> in air are flammable at concentrations between 5 percent and 15 percent CH<sub>4</sub> by volume. CH<sub>4</sub> has an ignition temperature above 1,000 Fahrenheit.

### 11.2 SAFETY STANDARDS

Separate subparts to 49 CFR Part 192 address the design of additional pipeline components including, but not limited to, launchers and receivers, service lines, customer meters, and valves. The Project's aboveground facilities will be designed, constructed, and operated to meet or exceed applicable specifications.

During construction, the applicable requirements of Occupational Safety and Health Administration (OSHA) will be followed. All applicable requirements for construction set forth under 49 CFR Part 192 and OSHA regulations at 29 CFR Parts 1910 and 1926 will be emphasized by Northern to all employees and contractors as part of general practice. Additional safety standards requiring training during construction are further outlined below.

### **11.2.1 Traffic Control**

Northern’s construction contractor will provide traffic warning signs along roads adjacent to construction activities, as required by local and/or state road encroachment permits. Northern will follow the Traffic Control Plan provided in Appendix 11A when entering or exiting public roadways. Access will also be maintained for emergency vehicles. Further, Northern will coordinate with local authorities before construction begins so both Northern and representatives of the local authorities have appropriate contact information.

Northern will use the horizontal directional drill method to cross major roads and a railroad, which will eliminate impacts from construction activities. Northern will use the open-cut method to cross private roads and driveways, which are minimal maintenance gravel and dirt roads primarily used to access the local agricultural fields and rangeland. Northern will coordinate with the local permitting agency and landowners to provide advance notice regarding the date of the open-cut crossings and have steel plates available on the day of the crossings to minimize impacts on local residents and access for emergency vehicles.

### **11.2.2 Affected Resources**

Construction activities in residential areas will be temporary and limited to the time required to safely install the pipeline. Northern will install safety fence along the workspace, as needed, and where there is potential for public access. The Project is not located in proximity to any schools, churches, nursing homes, or childcare organizations that may warrant additional safety precautions. There are no residences located within 25 feet of the Project workspace. Resource Report 8, Section 8.3.2 provides a list of structures situated within 50 feet of the construction workspaces.

### **11.2.3 Public Access**

Access to the construction workspaces that are easily accessible to the public, such as road crossings, will be restricted by the installation of temporary safety fences around open excavations.

### **11.2.4 Area Classifications**

Department of Transportation (DOT) regulations in 49 CFR 192.5 define area classifications based on population density near the pipeline. Areas of higher population face more stringent requirements. A “class location unit” is defined as an area that extends 220 yards (660 feet) on either side of the centerline of any continuous one-mile length of pipeline. The four area classifications are defined as follows.

- Class 1: Location with 10 or fewer buildings intended for human occupancy.

- Class 2: Location with more than 10 but fewer than 46 buildings intended for human occupancy.
- Class 3: Location with 46 or more buildings intended for human occupancy or where the pipeline lies within 100 yards of either a building, or small, well-defined outside area (e.g., playground, recreational area, outdoor theater, or place of public assembly) that is occupied by 20 or more people at least 5 days a week for 10 weeks in any 12-month period.
- Class 4: Location ends 220 yards from the nearest building with four or more stories above ground or when a cluster of buildings intended for human occupancy requires a Class 2 or 3 location, the class location ends 220 yards from the nearest building in the cluster.

Class locations representing more populated areas require higher safety factors in pipeline design, testing, and operation. Northern has determined that the Project meets the Class 1 description above; however, the Project will be built to the Class 3 standards.

### **11.2.5 High Consequence Areas**

Pipeline operators are required to develop and follow a written Integrity Management Program that contain all the DOT elements described in 49 CFR Part 192.911 and address the risks on each transmission pipeline segment. Specifically, the integrity management program applies to all high consequence areas. Northern has reviewed the DOT elements and determined the Project has no high consequence areas.

### **11.2.6 Welding**

Northern's policy is that only company-approved and certified welders are permitted to work on Northern pipeline facilities. All welding activities will be carried out under the supervision of a Northern welding inspector and follow Northern's welding procedures. Additionally, all qualified welders will meet the standards of the American Society of Mechanical Engineers' Boiler and Pressure Vessel Code Section IX, American Petroleum Institute 1104 and 49 CFR Part 192. All contract welders also will be required to comply with applicable OSHA rules specified under 29 CFR Parts 1910 and 1926.

## **11.3 VALVE ISOLATION SAFETY**

Rupture mitigation valves along Northern's system provide a safe means to shut off gas flow both remotely and manually.

## **11.4 PUBLIC EDUCATION PROGRAM**

Northern will identify the target audiences (e.g., general public, libraries, affected landowners, local public officials, emergency responders, local emergency planning committees, media, One Call centers) that should receive correspondence and provide information, as appropriate, to facilitate adequate reporting to Northern or the appropriate emergency response organization.

## 11.5 SECURITY AND TERRORISM

Safety and security concerns have changed the way pipeline operators and regulators must consider terrorism, both in approving new projects and in operating existing facilities. The Office of Homeland Security is tasked with the mission of coordinating the efforts of all executive departments and agencies to prevent, prepare for, protect against, respond to, and recover from terrorist attacks within the United States. FERC, in cooperation with other federal agencies, industry trade groups, and interstate natural gas companies, is working to improve pipeline security practices, strengthen communications within the industry, and extend public outreach in an ongoing effort to secure pipeline infrastructure.

The likelihood of future acts of terrorism or sabotage occurring on the Project is unpredictable given the disparate motives and abilities of terrorist groups. The continuing need to construct facilities to support the future natural gas pipeline infrastructure is not diminished from the threat of any such acts. Northern is committed to cooperating with FERC, along with other federal, state, and local agencies to protect its energy facilities, employees, and the neighboring public.

## 11.6 REFERENCES

Pipeline and Hazardous Materials Safety Administration. 2025. Pipeline Incident 20 Year Trends. Available online: <https://www.phmsa.dot.gov/data-and-statistics/pipeline/pipeline-incident-20-year-trends>. Accessed February 2026.

APPENDIX 11A  
Traffic Control Plan



**Traffic Control Plan**

**Permian Basin Expansion Project**

**May 2026**

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## Abbreviations and Acronyms

CFR	Code of Federal Regulations
DOT	Department of Transportation
FERC	Federal Energy Regulatory Commission
HDD	horizontal directional drill
Northern	Northern Natural Gas Company
OSHA	Occupational Safety and Health Administration
Project	Permian Basin Expansion Project
ROW	right of way

## 1.0 INTRODUCTION

Northern Natural Gas Company (Northern) owns and operates a natural gas transmission pipeline system and associated aboveground facilities in New Mexico and Texas. Northern is seeking a Certificate of Public Convenience and Necessity from the Federal Energy Regulatory Commission (FERC) under Section 7(c) of the Natural Gas Act, as amended, for its Permian Basin Expansion Project (Project).

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## 2.0 PURPOSE

Northern is planning to construct a pipeline and aboveground facilities in New Mexico and Texas. Construction is scheduled to begin August 2027<sup>1</sup> for an in-service date no later than May 2028. Areas disturbed during construction will be restored, weather permitting, by July 2028. Temporary erosion control measures will remain in place until restoration is successful.

This Traffic Control Plan details the process Northern will enact to minimize impacts on traffic, emergency services, and landowner access while maintaining the safety for the public and Northern contractors and employees. During construction and restoration of the Project, Northern will comply with all requirements of the New Mexico and Texas Departments of Transportation, as well as county and municipal requirements.

## 3.0 RAILROAD AND ROAD CROSSING METHODS

The Project will require crossing one railroad and three public roads (see Table 3.0-1) via the horizontal directional drill (HDD) crossing method, which will avoid interruptions. If the HDD method is unsuccessful, Northern will use the auger-bore crossing method. HDD drawings are provided in Resource Report 1, Figure 1-4. Northern will also use the open cut method to cross 23<sup>2</sup> private roads used for agricultural and industrial purposes. The HDD and open cut construction methods are discussed in Resource Report 1, Section 1.5.

In addition, Northern will require its contractor to use signage, flagging, construction entrances, and barricades where necessary. All these activities will comply with New Mexico or Texas Department of Transportation (DOT) requirements. Vehicles will not be allowed to park along the public roads but will be required to use the designated parking areas at each crossing. Northern will post reduced speed limit signage where appropriate.

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<sup>1</sup> Based on contractor availability, FERC approval, and in accordance with any applicable permits, construction of the Project could begin earlier.

<sup>2</sup> Two private roads are crossed twice.

<b>HDD Drawing Number</b>	<b>Primary Feature Crossed</b>	<b>Begin Milepost</b>	<b>End Milepost</b>	<b>Length (feet)</b>	<b>Secondary Crossing Method</b>
P4-1	US Highway 62	0.6	0.8	1,233	Auger Bore
P4-2	State Highway 8	1.5	1.5	316	Auger Bore
P4-3	Texas and New Mexico Railway	9.6	9.8	1,314	Auger Bore
P4-4	State Highway 18	10.5	10.8	1,365	Auger Bore

Prior to construction activities, existing roads/drives that will be used to access the Project’s workspaces may require modifications for heavy equipment. To gain access to the construction workspaces, temporary road approaches, also referred to as construction entrances, will be installed through the road rights of way (ROW) and within the Project workspaces, starting at the edge of each road’s driving surface. Road approaches will be a minimum width of 20 feet with approximately 6 inches of 3-inch-diameter or greater aggregate. The rock will be underlain by a geotextile fabric. The road approaches will be a minimum of 50 feet in length. Subject to local jurisdictional review, temporary road approaches to access construction workspaces adjacent to public roads will be installed as listed in Table 3.0-2.

Construction of the Project will result in minor, short-term impacts on the transportation system in the Project area. Potential temporary effects associated with roadways include delivery materials and equipment to the site. Flaggers will be utilized to stop traffic, as necessary, during these short delays. Northern will coordinate with local officials to avoid traffic interruptions and ensure the safety of pedestrians, motorists and emergency vehicles in the Project area.

<b>Project Components</b>	<b>Public Road Name</b>	<b>Number of Road Approaches<sup>1</sup></b>
<b>Pipeline Facilities</b>		
<b>Segment 1</b>		
ETWS09	New Mexico State Highway 8	1
ETWS10	New Mexico State Highway 8	1
ETWS11	New Mexico State Highway 8	1
SA02	New Mexico State Highway 8	2
SA07	South Eunice Highway/New Mexico State Highway 18	2
<b>Aboveground Facilities</b>		
<b>Plains Recycle Valve</b>		
ETWS62	County Road 355	2

<sup>1</sup> Northern assumed two road approaches for each SA and one road approach for each TWS/ETWS. Northern did not include the location of the road approaches on the alignment sheets; the road approaches will be field-determined based on-site conditions at the time of construction and approved by an EI.

#### 4.0 SAFETY STANDARDS

Northern will contact the NM811 and Texas 811 One-Call centers in advance of any excavation to locate marked underground pipelines. Northern participates in all state One-Call systems, including the NM811 and Texas 811 systems, and makes all requisite locate requests.

If any utilities are inadvertently disrupted during construction, Northern will ensure that they are restored as quickly as possible. Construction work in the roadway will be scheduled to avoid commuter traffic and disruption to school bus schedules to the greatest extent practicable and to minimize landowner inconvenience if the road leads to a residence. In addition, steel plates will be maintained on-site to cover the open trench quickly should emergency vehicles need to travel through the work area. Any excess materials kept on-site during the open cut road crossing will be certified as free of noxious weeds and soil pests in accordance with FERC's *Upland Erosion Control, Revegetation, and Maintenance Plan* (<https://www.ferc.gov/sites/default/files/2020-04/upland-erosion-control-revegetation-maintenance-plan.pdf>).

During construction, the applicable requirements of Occupational Safety and Health Administration (OSHA) will be followed. All applicable requirements for construction set forth under 49 Code of Federal Regulations (CFR) Part 192 and OSHA regulations at 29 CFR Parts 1910 and 1926 will be emphasized by Northern to all employees and contractors as part of general practice.

#### **4.1 ROADWAY USE DURING CONSTRUCTION**

Project-related construction traffic will typically occur during the early morning hours and evening hours when construction workers commute to and from the construction work areas. Construction workers will move across multiple spreads when schedules are staggered such that no single area will experience significant traffic impacts. Access roads utilized during construction are pre-approved by FERC, landowners, and the appropriate permitting agencies. Northern is responsible for ensuring the construction employees utilize only pre-approved access roads. Overall, since construction moves sequentially along the pipeline route, traffic flow impacts that do arise will be temporary on any given section of roadway. Accordingly, Northern does not anticipate significant traffic impacts during construction.

To maintain safe conditions, Northern will require its construction contractors to ensure enforcement of local weight restrictions and limitations by its vehicles. Specifically, Northern will require its contractors to obtain road and highway permits, as well as bonding, as required, for the use of public roads to transport construction equipment and materials, especially for any overweight or oversized equipment. Damage to public and private roadways due to construction and/or construction traffic will be repaired by Northern's contractors immediately upon detection, where feasible, or immediately following construction at a given location.

#### **4.2 POST-CONSTRUCTION**

Northern is responsible for any roads that are open cut during construction of the Project. Northern will obtain all applicable local permits for utilization of roadways. Northern will continue communicating with the appropriate agencies and individuals at the local level regarding road uses.

#### **5.0 ROAD CONDITION ASSESSMENT**

Northern will conduct a windshield survey along the construction ROW in spring 2028 for the respective construction areas. The survey will identify areas at public road crossings and the open-cut private roads that may need repair. Northern will coordinate with its contractors and the roadway permitting agencies to complete these repairs.