Federal Energy Regulatory Commission

Office of Energy Projects

March 2012

PetroLogistics Natural Gas Storage, LLC **Docket No. CP11-50-000**

Choctaw Hub Expansion Project

Environmental Assessment

Washington, DC 20426

FEDERAL ENERGY REGULATORY COMMISSION
WASHINGTON, D.C. 20426

OFFICE OF ENERGY PROJECTS

In Reply Refer To:
OEP/DG2E/Gas 2
PetroLogistics Natural Gas Storage, LLC
Docket No. CP11-50-000

TO THE PARTY ADDRESSED:

The staff of the Federal Energy Regulatory Commission (FERC or Commission) has prepared an environmental assessment (EA) for the Choctaw Hub Expansion Project (Project) proposed by PetroLogistics Natural Gas Storage, LLC (PetroLogistics) in the above-referenced docket. PetroLogistics requests authorization to build and operate high-deliverability, multi-cycle natural gas storage facilities in order to increase the total working capacity of the Choctaw Hub from 16 billion cubic feet (bcf) to 26.6 bcf. The proposed facilities would be adjacent to PetroLogistics' existing natural gas storage, compression and pipeline facilities within the Choctaw Salt Dome located approximately 4 miles northwest of the City of Plaquemine, Louisiana.

The EA assesses the potential environmental impacts of the construction and operation of the Project in accordance with the requirements of the National Environmental Policy Act of (NEPA). The FERC staff concludes that approval of the Project, with appropriate mitigating measures, would not constitute a major federal action significantly affecting the quality of the human environment.

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

The Project includes the following:

Within the Choctaw Salt Dome

- a change in service of one existing underground storage cavern to natural gas storage: Cavern 28, currently used for commercial brine service;
- addition of two compressor units totaling 27,000 horsepower to the existing PetroLogistics Compressor Station;
- one 0.67-mile-long, 30-inch-diameter cavern injection/withdrawal pipeline from the compressor station expansion site to the Cavern 28 wellhead (30-Inch Lateral to Cavern 28); and

- one 0.06-mile-long, 10-inch-diameter cavern injection/withdrawal pipeline extending from the 30-Inch-Lateral to Cavern 28 to the existing certificated Cavern 24 wellhead (10-Inch Lateral to Cavern 24).

Extending South From the Choctaw Salt Dome

- one 13-mile-long, 30-inch-diameter expansion header pipeline (30-Inch Expansion Header) looping PetroLogistics' existing pipelines[1];
- one 0.90-mile-long, 20-inch-diameter pipeline to the proposed Texas Eastern Transmission, LP (TETCO) Station Expansion (20-Inch TETCO Lateral);
- one 0.11-mile-long, 12-inch-diameter interconnect pipeline to CrossTex LIG Pipeline Company's (Crosstex) existing system (12-Inch CrossTex Lateral);
- one 0.04-mile-long, 12-inch diameter interconnect pipeline to Florida Gas Transmission Company, LLC (FGT) (12-Inch FGT Lateral);
- a 0.23-acre expansion of the meter station interconnect to Bridgeline Pipeline System (Bridgeline) at Station Number (SN) 381+00 (Milepost (MP) 7.21) (Bridgeline Station Expansion);
- a 0.68-acre expansion of the existing Southern Natural Gas Company (SONAT) Station at SN 684+50 (MP 12.95) (SONAT Station Expansion);
- a 0.52-acre expansion of the TETCO Station at SN 47+74 of the 20-Inch TETCO Lateral (TETCO Station Expansion);
- a 0.05-acre expansion of the TETCO-future Gulf South Pipeline Company, LP (Gulf South) Interconnect Station at SN 384+00 (MP 7.27) (TETCO-future Gulf South Interconnect Station Expansion);
- expansion of two valve sites on the existing PetroLogistics mainline to accommodate the 30-Inch Expansion Header, at SN 228+40 (MP 4.33) and SN 292+42 (MP 5.54) (Expanded Mainline Valve Sites 1 and 2);
- three side valves on the 30-Inch Expansion Header for future lateral interconnects to Gulf South's, Cypress Pipeline Company's (Cypress'), and Enterprise Products Partners' (Enterprise's) natural gas systems at SN 83+50 (MP 1.58) (Cypress Valve Set); and
- a 5.5-acre non-jurisdictional electrical substation (Sawmill Substation) along with a 200-foot-long 69-kilovolt (kv) electrical supply line to Entergy LLC's (Entergy's) powerline.

The FERC staff mailed copies of the EA to federal, state, and local government representatives and agencies; elected officials; environmental and public interest groups; Native American tribes; potentially affected landowners and other interested individuals and groups; newspapers and libraries in the project area; and parties to this proceeding. In

[1] A pipeline loop is constructed parallel to an existing pipeline to increase capacity.

addition, the EA is available for public viewing on the FERC's website (www.ferc.gov) using the eLibrary link. A limited number of copies of the EA are available for distribution and public inspection at:

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

Any person wishing to comment on the EA may do so. Your comments should focus on the potential environmental effects, reasonable alternatives, and measures to avoid or lessen environmental impacts. The more specific your comments, the more useful they will be. To ensure that the Commission has the opportunity to consider your comments prior to making its decision on this project, it is important that we receive your comments in Washington, DC on or before **April 16, 2012**.

For your convenience, there are three methods you can use to file your comments with the Commission. In all instances please reference the project docket number (CP11-50-000) with your submission. The Commission encourages electronic filing of comments and has dedicated eFiling expert staff available to assist you at (202) 502-8258 or efiling@ferc.gov.

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

(2) You can also file your comments electronically using the eFiling feature on the Commission's website (www.ferc.gov) under the link to Documents and Filings. With eFiling, you can provide comments in a variety of formats by attaching them as a file with your submission. New eFiling users must first create an account by clicking on "eRegister." You must select the type of filing you are making. If you are filing a comment on a particular project, please select "Comment on a Filing"; or

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

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

Any person seeking to become a party to the proceeding must file a motion to intervene pursuant to Rule 214 of the Commission's Rules of Practice and Procedures (18 CFR 385.214).[2] Only intervenors have the right to seek rehearing of the Commission's decision. The Commission grants affected landowners and others with environmental concerns intervenor status upon showing good cause by stating that they have a clear and direct interest in this proceeding which no other party can adequately represent. Simply filing environmental comments will not give you intervenor status, but **you do not need intervenor status to have your comments considered.**

Additional information about the project is available from the Commission's Office of External Affairs, at **(866) 208-FERC** or on the FERC website (www.ferc.gov) using the eLibrary link. Click on the eLibrary link, click on "General Search" and enter the docket number excluding the last three digits in the Docket Number field (i.e., CP11-50). Be sure you have selected an appropriate date range. For assistance, please contact FERC Online Support at FercOnlineSupport@ferc.gov or toll free at (866) 208-3676, or for TTY, contact (202) 502-8659. The eLibrary link also provides access to the texts of formal documents issued by the Commission, such as orders, notices, and rulemakings.

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

Kimberly D. Bose,
Secretary

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

PETROLOGISTICS GAS STORAGE PROJECT
ENVIRONMENTAL ASSESSMENT

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TABLES

APPENDIX A

Technical Acronyms

bcf	billion cubic feet
BCR	Bird Conservation Region
Bridgeline	Bridgeline Pipeline System
CAA	Clean Air Act
CFR	Code of Federal Regulations
CO_2	carbon dioxide
CO_{2eq}	carbon dioxide equivalents
CH_4	methane
Crosstex	CrossTex LIG Pipeline Company
dBA	decibel of the A-weighted scale
EA	environmental assessment
EI	environmental inspector
Entergy	Entergy LLC
Enterprise	Enterprise Products Partners
FGT	Florida Gas Transmission Company, LLC
GHGs	greenhouse gases
GWP	global warming potential
Gulf South	Gulf South Pipeline Company, LP
HAP	Hazardous Air Pollutant
HCA	High Consequence Area
HDD	horizontal directional drill
HDD Plan	Horizontal Directional Drilling Contingency Plan
hp	horsepower
LDNR	Louisiana Department of Natural Resources
LDWF	Louisiana Department of Wildlife and Fisheries
L_{dn}	day-night sound level
L_{eq}	equivalent sound level
LNG	liquefied natural gas
MAOP	maximum allowable operating pressure
MBTA	Migratory Bird Treaty Act
MMcf/d	million cubic feet per day
MP	milepost
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NESHAPs	National Emission Standards for Hazardous Air Pollutants
NGA	Natural Gas Act
NOI	Notice of Intent
NO_2	nitrous dioxide
NO_x	nitrogen oxides
NNSR	New Source Review
NSA	noise sensitive area

NSPS	New Source Performance Standards
O_3	ozone
OEP	Office of Energy Projects
Pb	lead
PEM1E	palustrine, seasonally flooded/saturated, emergent
PFO6E	palustrine, seasonally flooded/saturated, deciduous, forested
Plan	FERC Upland Erosion Control, Revegetation, and Maintenance Plan
PM	particulate matter
PM_{10}	particulate matter less than 10 microns
Procedures	FERC Wetland and Waterbody Construction and Mitigation Procedures
PSD	Prevention of Significant Deterioration
SHPO	Louisiana State Historic Preservation Office
SPCC Plan	Spill Prevention, Containment and Countermeasures Plan
SO_2	sulfur dioxide
SONAT	Southern Natural Gas Company
SPR	Strategic Petroleum Reserve
SN	Station Number
TETCO	Texas Eastern Transmission, LP
Title V	Title V Operating Permits
tpy	tons per year
USCOE	U.S. Army Corps of Engineers
USDOE	U.S. Department of Energy
USDOT	United States Department of Transportation
USFWS	U.S. Fish and Wildlife Service
VOC	volatile organic compound

A. PROPOSED ACTION

The staff of the Federal Energy Regulatory Commission (FERC or Commission) has prepared this environmental assessment (EA) to assess the environmental impact of constructing and operating natural gas pipeline facilities (Project or facilities) proposed by PetroLogistics Natural Gas Storage, LLC (PetroLogistics) in Iberville Parish, Louisiana. We[3] prepared this EA in compliance with the requirements of the National Environmental Policy Act of 1969 (NEPA), (Title 40 Code of Federal Regulations [CFR], Parts 1500-1508), and the Commission's implementing regulations (18 CFR 380). The assessment of environmental impacts is an important and integral part of the Commission's decision on whether to issue PetroLogistics a Certificate of Public Convenience and Necessity (Certificate).

The Project would impact lands regulated by the New Orleans District of the U.S. Army Corps of Engineers (USCOE). Pursuant to section 404 of the Clean Water Act (CWA) (33 United States Code [USC] 1344) and section 10 of the Rivers and Harbors Act (33 USC 403), the USCOE participated as a cooperating agency in the preparation of this EA. The USCOE must comply with the requirements of NEPA before issuing permits under the aforementioned statutes. In addition, when a section 404 discharge is proposed and a standard permit is required, the USCOE must consider whether the proposed section 404 discharge represents the least environmentally damaging, practicable alternative pursuant to the CWA section 404(b)(1) guidelines. The USCOE must also carry out its public interest review process before a standard permit can be issued. Although this EA addresses environmental impacts associated with the Project as they relate the USCOE's jurisdictional permitting authority, it does not serve as a public notice for any USCOE permits or take the place of the USCOE's permit review process.

1. Purpose, Need, and Proposed Facilities

As described in its December 14, 2010 application, PetroLogistics' stated purpose is to construct and operate high-deliverability, multi-cycle proposed natural gas pipeline and compression facilities in order to increase the total working capacity and daily injection/withdrawal rate of its Choctaw Hub natural gas storage facilities. According to PetroLogistics, this project would increase PetroLogistics' ability to provide firm and interruptible storage and hub services in the Gulf Coast region.

PetroLogistics owns and operates liquids storage facilities systems at its Choctaw Hub facilities using several of its own caverns at the Choctaw Salt Dome, and also owns pipelines it uses to transport such liquids to and from storage. PetroLogistics' present working gas storage capability is 16 billion cubic feet (bcf) with a current injection capability of 350 million cubic feet per day (MMcf/d) and a withdrawal capability of 450

[3] "Our", "we", and "us" refers to the environmental staff of the Commission's Office of Energy Projects.

MMcf/d. The Project would allow PetroLogistics to increase the maximum daily injection rate from 350 MMcf/d to 1,350 MMcf/d, the facility withdrawal rate to 1,600 MMcf per day, and the compression capability to a total of 47,000 hp. PetroLogistics' working natural gas storage capacity at the Choctaw Hub would increase from 16 bcf to 26.6 bcf.

PetroLogistics filed to amend its proposed facilities on January 27, 2012 in order to accommodate the U.S. Department of Energy's (USDOE's) taking by eminent domain Cavern 102 originally proposed to be converted by PetroLogistics for the Project. In its amendment, PetroLogistics states its purpose and need would not be affected by removal of Cavern 102 and requests removal of the originally proposed 0.66-mile-long 16-inch-diameter cavern injection/withdrawal pipeline that was to extend from the Cavern 28 wellhead to the Cavern 102 wellhead. This EA reflects these amendment changes. Our analysis is based on the facilities described below for which PetroLogistics seeks authority to construct and operate:

Within the Choctaw Salt Dome

- a change in service of one existing underground storage cavern to natural gas storage: Cavern 28, currently used for commercial brine service;
- addition of two compressor units totaling 27,000 horsepower (hp) to the existing PetroLogistics Compressor Station;
- one 0.67-mile-long, 30-inch-diameter cavern injection/withdrawal pipeline from the compressor station expansion site to the Cavern 28 wellhead (30-Inch Lateral to Cavern 28); and
- one 0.06-mile-long, 10-inch-diameter cavern injection/withdrawal pipeline extending from the 30-Inch-Lateral to Cavern 28 to the existing certificated Cavern 24 wellhead (10-Inch Lateral to Cavern 24).

Extending South From the Choctaw Salt Dome

- one 13-mile-long, 30-inch-diameter expansion header pipeline (30-Inch Expansion Header) looping PetroLogistics' existing pipelines;
- one 0.90-mile-long, 20-inch-diameter pipeline to the proposed Texas Eastern Transmission, LP (TETCO) Station Expansion (20-Inch TETCO Lateral);
- one 0.11-mile-long, 12-inch-diameter interconnect pipeline to CrossTex LIG Pipeline Company's (Crosstex) existing system (12-Inch CrossTex Lateral);
- one 0.04-mile-long, 12-inch diameter interconnect pipeline to Florida Gas Transmission Company, LLC (FGT) (12-Inch FGT Lateral);
- a 0.23-acre expansion of the meter station interconnect to Bridgeline Pipeline System (Bridgeline) at Station Number (SN) 381+00 (Milepost (MP) 7.21) (Bridgeline Station Expansion);
- a 0.68-acre expansion of the existing Southern Natural Gas Company (SONAT) Station at SN 684+50 (MP 12.95) (SONAT Station Expansion);

- a 0.52-acre expansion of the TETCO Station at SN 47+74 of the 20-Inch TETCO Lateral (TETCO Station Expansion);
- a 0.05-acre expansion of the TETCO-future Gulf South Pipeline Company, LP (Gulf South) Interconnect Station at SN 384+00 (MP 7.27) (TETCO-future Gulf South Interconnect Station Expansion);
- expansion of two valve sites on the existing PetroLogistics mainline to accommodate the 30-Inch Expansion Header, at SN 228+40 (MP 4.33) and SN 292+42 (MP 5.54) (Expanded Mainline Valve Sites 1 and 2);
- three side valves on the 30-Inch Expansion Header for future lateral interconnects to Gulf South's, Cypress Pipeline Company's (Cypress'), and Enterprise Products Partners' (Enterprise's) natural gas systems at SN 83+50 (MP 1.58) (Cypress Valve Set); and
- a 5.5-acre non-jurisdictional electrical substation (Sawmill Substation) along with a 200-foot-long 69-kilovolt (kv) electrical supply line to Entergy LLC's (Entergy's) powerline.

See Figures 1-10 in Appendix A for the general location of the Project area, compressor station expansion, and pipeline routes.

PetroLogistics proposes to convert the existing Cavern 28 to natural gas storage service under a separate Louisiana Department of Natural Resource (LDNR) Class II Permit. Cavern 28 is currently being operated under a Class IV Permit for brine extraction, but is also being developed to a size suitable for the Project under a Class III LDNR Permit using brine solution mining.

PetroLogistics originally proposed to construct all the proposed facilities in 2012, enabling a targeted in-service date of late 2012/early 2013. Due to the many filed project changes and subsequent amendment filing in this proceeding, Petrologistics has not identified a new proposed target date for construction and service of its facilities, if approved by the Commission.

2. Non-Jurisdictional Facilities

Under section 7 of the NGA, FERC is required to consider, as part of its decision to authorize natural gas facilities, all factors bearing on the public convenience and necessity. For PetroLogistics' proposal, the facilities that are under FERC's jurisdiction include the proposed facilities previously described in section A.1.

Occasionally, proposed projects have associated facilities that do not come under the jurisdiction of the FERC. These "non-jurisdictional" facilities may be integral to the need for the proposed project (e.g., a new or expanded power plant at the end of a pipeline that is

not under the jurisdiction of the FERC) or they may be merely associated as a minor, non-integral component of the jurisdictional facilities that would be constructed and operated as a result of the project.

In its application, PetroLogistics identified plans to install the high-voltage supply-end electrical Sawmill Substation on 5 acres of agricultural land immediately south of Highway 1148, east of the project area, and adjacent to an existing Entergy Corporation (Entergy) powerline. This action would convert cultivated agricultural lands, similar to lands on which the Project would be located, to industrial use. The location of the Sawmill Substation is shown in Figure 4 in Appendix A. A 200-foot-long 69 kv electrical supply line would also be built within the substation to connect the Sawmill Substation to Entergy's powerline. The Sawmill Substation would be built by PetroLogistics and the electrical supply line would be built by Entergy. Both facilities would be owned and operated by Entergy. No federal permits or state permits would be required for their construction; however, an Iberville Parish "Letter of No Objection" would be required to be issued for these as well as the Project facilities.

Because PetroLogistics plans on constructing these facilities while constructing its Project, and because of the overall location and operational necessity of these facilities with regard to the Project, we have included them in our environmental analysis.

3. Public Review and Comment

On January 25, 2011, we[4] issued a *Notice of Intent (NOI) to Prepare an Environmental Assessment (EA) for the Proposed Choctaw Hub Expansion Project and Request for Comments on Environmental Issues*. The NOI was sent to affected landowners; federal, state, and local government agencies; elected officials; an environmental group; a Native American tribe; other interested parties; and local libraries and newspapers. In response to the NOI, the Commission received comments from the U.S. Fish and Wildlife Service (USFWS), the Louisiana Department of Wildlife and Fisheries (LDWF), the Iberville Parish Council, the National Park Service, and one interested private citizen. The primary issues raised by the commentors were: waterbody sedimentation; erosion and loss of vegetation; waterway navigation; disposal of wetland woody vegetation; impacts on fish and wildlife; justification and mitigation for rights-of-way for below-ground facilities (pipelines); justification and mitigation for rights-of-way for aboveground facilities and access roads in forested wetlands; timing of vegetation clearing of migratory bird habitats; and preference for use of an Environmental Impact Statement (EIS) as the NEPA document instead of an EA.

We note that in preparing an EA, we are fulfilling our obligation under NEPA to consider and disclose the environmental impacts of the Project, and do not believe an EIS is required because as disclosed in section B, we have not identified any impacts on resources

[4] "We," "us," and "our" refer to the staff of the Office of Energy Projects (OEP).

that are considered significant. All remaining substantive comments submitted in response to the NOI are addressed in the subsequent sections of this EA.

4. Construction, Operation, and Maintenance

a. General Construction

PetroLogistics would design, construct, test, operate and maintain the facilities in accordance with the U.S. Department of Transportation (DOT) Minimum Federal Safety Standards in 49 CFR 192. The regulations are intended to ensure adequate protection for the public and to prevent natural gas facility accidents and failures. Part 192 specifies material selection and qualification, minimum design requirements, and protection from internal, external, and atmospheric corrosion. PetroLogistics would use conventional pipeline construction methods including clearing, grading, ditching, stringing, bending, welding, lowering in, backfilling, regrading, hydrostatic testing, cleanup and restoration. Foreign pipelines would be crossed using a 24-inch separation. PetroLogistics' installed pipelines would be hydrostatically tested in accordance with U.S. Department of Transportation (USDOT) specifications.

PetroLogistics' proposed construction techniques and mitigation measures would be carried out according to the Commission's Upland Erosion Control, Revegetation, and Maintenance Plan (Plan) for upland portions of the Project, and the Commission's Wetland and Waterbody Construction and Mitigation Procedures (Procedures) for wetland and stream crossings, available online on the Commission's internet website at www.ferc.gov/industries/gas/enviro/guidelines. Petrologistics has incorporated these measures, as well as alternative measures allowed by FERC staff discussed below, as its own. The EA will henceforth refer to these best-management practices as PetroLogistics' Plan and Procedures. PetroLogistics has committed to using a qualified environmental inspector to ensure compliance with environmental measures in its Plan and Procedures as well as with all other environmentally-related permits and authorizations, and to conduct environmental training of PetroLogistics staff and construction personnel. The environmental inspector would be on duty during construction and restoration and would have "stop work" authority in situations where compliance with the environmental protection measures, or potential harm to natural resources, is threatened.

Following construction, all construction right-of-way, which includes permanent and temporary right-of-way, additional temporary work spaces along pipeline rights-of-way, access roads, and other work spaces including the 10-Acre Contractor Yard, Off Site Contractor Laydown Area No. 2, and the Sawmill Substation, would be regraded and restored as nearly as possible to pre-construction conditions.

PetroLogistics proposes to use an alternative measure to section VI.B.2.f of our Procedures which requires that wetland woody vegetation be cut just above ground level, leaving existing root systems in place, and removing it from the wetland for disposal.

PetroLogistics would use a boom-mounted chopper or grinder for wetland clearing and leave ground or chopped materials evenly spread on the right-of-way in a manner avoiding stream clogging. The LDWF, in its comments to the NOI, noted that PetroLogistics' proposal was an acceptable method. The USCOE has also agreed that this method of disposal was preferable; therefore, we concur with use of this alternative measure.

Additionally, PetroLogistics requested an exception to avoid the placement of aboveground facilities in wetlands as required in section VI.A.6 of our Procedures. This is discussed in section B.3.b in further detail.

PetroLogistics would use its Spill Prevention, Containment and Countermeasures Plan (SPCC Plan), for handling of fuels and lubricants on site. The SPCC Plan was developed in accordance with federal and state spill regulations. The SPCC Plan addresses contingency planning, implementation of operating procedures, spill response, training, reporting, agency communications, and best management practices to prevent and control the discharge of pollutants from spill events as a result of construction activities. The SPCC Plan is available online on the Commission's internet website at http://www.ferc.gov/docs-filing/elibrary.asp under Docket No. CP11-50, accession number 20101215-0203, Appendix 3 of Resource Report 3, page 111.

PetroLogistics proposes to use two non-conventional pipeline construction techniques across certain features in the Project's right-of-way such as major waterbodies, canals, agricultural ditches and bayous, some road crossings, foreign pipelines, virtually all forested wetland habitats, space-constricted areas, and the crawfish farm crossings. The two methods would be Horizontal Directional Drill (HDD) and boring. As a result of use of the HDD and boring methods, PetroLogistics would construct about 6.3 miles, or half, of its pipeline facilities without trenching.

PetroLogistics would conduct its HDD operations according to its Horizontal Directional Drilling Contingency Plan (HDD Plan) contained within its SPCC Plan in order to monitor, contain and clean up inadvertent releases of drilling mud into waterbodies or wetlands. The HDD Plan is available online on the Commission's internet website at http://www.ferc.gov/docs-filing/elibrary.asp under Docket No. CP11-50, accession number 20110404-5201 within Petrologistics' April 4, 2011 filing titled "Initial Response to March 22, 2011 Data Request, page 9.

The Project's facilities would be located near a USDOE Strategic Petroleum Reserve (SPR); however, the facilities would not be located on property controlled or owned by the USDOE. Additionally, on September 2, 2011, FERC staff confirmed by telephone conversation that the USDOE had received a copy of the NOI and would apprise FERC if it had any comments or concerns about the Project.

b. Operation and Maintenance

PetroLogistics would operate and maintain the proposed facilities in accordance with the applicable safety standards established by the USDOT in accordance with Title 49, CFR, Part 192. The standards imposed are in accordance with Natural Gas Pipeline Safety Act of 1968, as amended. PetroLogistics would regularly inspect the installed pipelines for soil erosion, pipe exposure, and other potential hazards to pipeline safety. Once vegetative cover is restored, maintenance of the permanent right-of-way would be conducted following measures in PetroLogistics' Plan and Procedures.

5. Land Requirements

a. Choctaw Salt Dome Construction Right-of-way

The compressor station expansion would be installed adjacent to the west and south sides of the existing PetroLogistics Compressor Station, within the area directly above the Choctaw Salt Dome, entirely in forested wetlands (Figure 10 in Appendix A).

Two short pipeline segments would be installed within the area directly on top of the Choctaw Salt Dome in the immediate vicinity of the compressor station expansion (Figure 3 in Appendix A). The 30-Inch Lateral to Cavern 28 would begin at the northeast corner of the existing PetroLogistics Compressor Station and proceed along open land, access road and pipeline rights-of-way to the Cavern 28 wellhead. The 10-Inch Lateral to Cavern 24 would depart from this lateral at SN 12+00 and proceed across mostly industrial land to interconnect with the Cavern 24 wellhead. These two pipelines would require a 75-foot-wide construction right-of-way width.

b. Downstream Pipeline Construction Right-of-Way

Approximately 95 percent of the downstream pipeline right-of-way would follow existing pipeline corridors (Figures 2-8 in Appendix A). The 30-Inch Expansion Header would commence within the yard of the existing PetroLogistics Compressor Station and be installed within existing permanent right-of-way and terminate at the existing SONAT Station approximately 13 miles south of the compressor station expansion. PetroLogistics would install about 6.3 miles of the 30-Inch Expansion Header using the HDD and boring methods. See Table 1 for those locations where pipelines would be installed using non-conventional techniques.

Conventional installation of the 30-Inch Expansion Header would require a nominal 75-foot-wide construction right-of-way (Figures 11-19 in Appendix A shows right-of-way cross-section diagrams for this pipeline). The pipeline would be placed 10 feet off the outermost of PetroLogistics' existing pipelines being looped (twin 8-inch-diameter salt brine pipelines or the 24-inch-diameter pipeline installed as authorized in Docket No. CP07-427-00). The construction right-of-way would be split over the installed pipeline centerline so

Table 1
Locations Using HDD[(a)] /Bore Crossing Methods

Station Number or Location	Construction Method	Feature Crossed	Extent in Horizontal feet
30-Inch Expansion Header			
3+13 to 25+00	HDD[(a)]	Forested Wetlands	2, 187
28+70 to 51+74	HDD	Forested Wetlands and Foreign Lines	2,304
69+12 to 82+45	HDD	Wilson's Canal & Forested Wetlands	1,333
119+32 to 133+50	HDD	Canal & Crawfish Farm	1,418
233+74 to 245+27	HDD	Bayou Jacob & Highway 77	1,153
255+07 to 266+26;	HDD	Bayou Plaquemine & Highway 3066	1,119
282+95 to 285+35	Bore	Highway 75	240
365+22 to 366+82	Bore	Agricultural Ditch & Road	160
372+15 to 373+15	Bore	Road	100
385+22 to 406+50	HDD	Forested Wetlands	2,128
408+50 to 436+00	HDD	Canal & Forested Wetlands	2,750
437+50 to 516+00	HDD	Forested Wetlands & Crawfish Farm	7,850
529+50 to 542+83	HDD	Agricultural Ditch & Road	1,333
567+99 to 569+19	Bore	Augusta Road	120
594+50 to 637+74	HDD	Forested Wetlands	4,324
640+74 to 684+50	HDD	Canal & Forested Wetlands	4,376
12-Inch Crosstex Lateral			
0+00 to 3+25	Bore	Road	325
20-Inch TETCO Lateral			
10+50 to 11+50	Bore	Road	100
13+07 to 20+60	HDD	Foreign Pipelines	753
22+65 to 29+13	HDD	Canal	648
35+29 to 42+99	HDD	Canal & Forested Wetlands	770
30-Inch Lateral to Cavern 28			
7+16 to 8+56	Bore	Road	140
21+67 to 23+27	Bore	Canal	160
31+61 to 32+54	Bore	Canal	93
10-Inch Lateral to Cavern 24			
N/A	Bore	Road	50

(a) HDD = horizontal directional drill

that 25 feet would lie over the existing pipelines (supporting spoil piles) and the other 50 feet would extend onto the working side of the right-of-way. Following construction, a 10-foot-wide strip of permanent pipeline right-of-way would be added to the exiting operational right-of-way, and the remaining temporary right-of-way would be returned to previous use. PetroLogistics proposes to use these offsets in conventional and HDD construction across

different land use types. Table 2 lists the cross-section diagrams (Figures 11-19) by SN that apply to the various land use and construction types.

Table 2
Types of Right-of-Way Configurations by Station Number as Displayed in Applicable Figures 11-19 in Appendix A [(a)]

Type of Right-of-Way Configuration	Station Numbers	Applicable Figure No.
Conventional - Emergent Wetlands/Industrial	0+00 to 3+13	11
Conventional - Forested Wetlands	25+00 to 28+00 51+45 to 69+12	15
Conventional - Agriculture	82+45 to 119+33 133+50 to 233+74 245+27 to 255+07 266+26 to 294+40 294+40 to 344+94 344+74 to 365+55 366+55 to 369+52	16 17 19
HDD – Forested Wetlands	3+13 to 25+00 69+12 to 76+73	12 13
HDD – Agriculture	76+73 to 82+45 199+33 to 133+50 233+74 to 245+27	14
Bore – Agriculture	365+55 to 366+55 371+95 to 372+95	18

(a) Figures 11-19 in Appendix A apply only to the 30-Inch Expansion Header

PetroLogistics would require additional temporary work spaces for installing its 30-Inch Expansion Header across roads and waterbodies. In addition, two types of temporary construction right-of-way would be required in certain pipeline segments identified in Table 1 to be installed using the HDD method. These include 1) 50-foot widths in areas where drill string pullback work space (on or off existing pipeline right-of-way) is needed, and 2) 30-foot widths in areas where only the HDD tracking wire is needed. Pullback/tracking wire locations would be cleared of vegetation but would involve little or no earth disturbance, unless they are overlapped by other temporary or permanent right-of-way.

The 20-Inch TETCO Lateral begins at a location different from the existing 12-inch-diameter TETCO lateral. The proposed lateral would commence at the TETCO's existing interconnect station at SN 384+00 (MP 7.27) of the 30-Inch Expansion Header, adjacent to the CrossTex LIG Pipeline Company Plant, and proceed parallel to the 30-Inch Expansion Header northward for 0.27 miles, join the existing lateral at SN 370 (MP 7.0), and parallel it eastward to the existing TETCO Meter Station. The right-of-way widths for this lateral would be similar to those of the 30-Inch Expansion Header. The 12-Inch CrossTex Lateral would be installed at SN 384+00 (MP 7.27) using a bore. The 12-Inch FGT Lateral would be installed within the proposed 30-Inch Expansion Header construction right-of-way at SN 52+00 (MP 1.0).

All construction right-of-way and proposed aboveground facilities would be located entirely within existing PetroLogistics Lease Property. PetroLogistics' leases allow PetroLogistics to expand and operate its existing storage and transport pipeline system.

Project's pipelines would be installed outside of established utility corridors for a distance of approximately 1,600 feet. These include a short deviation of the proposed 20-Inch TETCO Lateral from SNs 20+00 to 30+00, and the short 0.11-mile-long, 12-Inch Crosstex Lateral.

PetroLogistics proposes to use a 10-acre contractor yard located off Highway 1148, immediately east of Choctaw Drive, just outside the Choctaw Mobile Home Park. Additionally, PetroLogistics would use a 2.7-acre contractor laydown area in agricultural land located 450 feet from the western edge of a separate residential community of homes located on Toni and Daniel Lanes, off Highway 1148. Both these areas would be returned to previous use following construction.

c. Acreage Amounts

PetroLogistics would require 126 acres of land for construction and would return 104 acres of temporary construction right-of-way to pre-existing conditions (see Table 3). The remaining 22 acres would be retained as new, permanent right-of-way, including 10 acres for the new pipelines, 6.5 acres for the compressor station expansion, 5.5 acres for the Sawmill Substation, and 1 acre total (listed in section A.1) for the various meter station expansions. The 104 acres of temporary construction right-of-way would consist of nominal construction right-of-way, additional temporary work spaces, the 10-acre Contractor Yard, and the 2.7-acre Off Site Contractor Laydown Area No. 2.

Table 3 Land Requirements (acres) for Construction and Operation of the Project			
Facility	**Temporary Right-of-Way**	**Permanent Right-of-Way**	**Total**
Salt Dome			
Proposed Compressor Station Expansion	1.15	6.50	7.65
30-Inch Lateral to Cavern 28	5.77	0.04	5.81
10-Inch Lateral to Cavern 24	0.43	0.01	0.44
Subtotal	**7.35**	**6.55**	**13.90**
Downstream Pipeline Header, Laterals, and Meter Station Interconnects			
30-Inch Expansion Header (which contains 12-Inch FGT Lateral, Cypress Gas Valve Set, and Expanded Mainline Valve Sites 1 & 2)	77.62	7.97	85.59
20-Inch TETCO Lateral	5.28	0.40	5.68
12-Inch CrossTex Lateral	0.11	0.55	0.66
Bridgeline Station Expansion	0.00	0.23	0.23
SONAT Station Expansion	0.48	0.20	0.68
TETCO Station Expansion	0.00	0.55	0.55
TETCO-future Gulf South Interconnect Station Expansion	0	0.05	0.05
Subtotal	**83.49**	**9.96**	**93.44**
Additional Construction Work Spaces			
Sawmill Substation	0	5.5	5.5
10-Acre Contractor Yard	10.00	0.00	10
Off Site Contractor Laydown No. 2	2.7	0.00	2.7
Subtotal	**12.70**	**5.5**	**18.20**
Totals – Temp & Perm	**104**	**22**	**126**

6. Future Plans and Abandonment

PetroLogistics may, if market conditions warrant, choose to expand the Project in the future. An expansion could include the conversion of additional caverns, the addition of compression, increased cavern pressure, addition of injection/withdrawal wells, and/or the addition/expansion of pipelines and interconnects. Prior to initiating any expansion, PetroLogistics would seek the appropriate approval(s) from the Commission as well as any other authorizations and permits from applicable state and federal agencies. We are not aware of any future planned projects or expansions at this time.

7. Permits

All necessary permits and approvals for construction activities would be obtained by PetroLogistics prior to construction. See Table 4 for a list of required permits and approvals.

Table 4
Required Permits, Consultations, and Approvals

Agency	Permit/Clearance	Status
U.S. Army Corps of Engineers New Orleans District	Individual Permit under Section 404 of Clean Water Act, and Section 10 of the Rivers and Harbors Act	Permit Application submitted 01/13/2011; supplemented on Mar. 8; Nov. 16 and Nov. 24, 2011.
U.S. Fish and Wildlife Service	Section 7 Consultation	Informal consultation completed 1/19/2011; Supplemental consultation for contractor laydown yard completed 11/02/2011.
Louisiana Department of Natural Resources	Class II Hydrocarbon Storage Permit	Permit application submitted on 01/14/2011.
Louisiana Department of Natural Resources Coastal Management Division	Coastal Zone Consistency	Not Applicable to Project.
Louisiana Department of Wildlife and Fisheries; Natural Heritage Database	State Sensitive Species and Habitats Clearance	Database consultation completed 10/15/2010. No state sensitive resources documented in or near project location.
Louisiana Department of Wildlife and Fisheries; Environmental Investigations	Permit coordinating agency	Consultation submitted 1/10/2011. Response to USCOE Public Notice 5/24/11 requesting mitigation for wetland impacts.
Louisiana Division of Archaeology	National Historic Preservation Act, Section 106 Compliance	Informal consultation completed 2/02/2011. Supplemental consultation for contractor laydown yard initiated 10/31/2011.
Louisiana Department of Environmental Quality; Water Quality Section	Joint Public Notice for 401 Water Quality Certification issued concurrently with USCOE Public Notice	Processed concurrently with USCOE authorization upon completion of notice period.
Louisiana Department of Environmental Quality; Water Permits Section	Individual Coverage under the LPDES Permit Program	USEPA exemption for filing NOI is recognized by LDEQ.
Louisiana Department of Environmental Quality; Air Permits Section	Minor Synthetic Permit to Construct and Operate Air Emission Equipment	Application to be filed upon completion of FERC review.
Louisiana Department of Environmental Quality; Water Permits Section	Individual Coverage under state General Permit for discharge of Hydrostatic Test Waters	Existing General Permit for Discharges is in place.
Louisiana State Lands Office	Waterway Crossing Easements	Agreement to be acquired subsequent to FERC certification.
Iberville Parish	Letter of No Objection (Parish Work Permit)	Request for Letter to be submitted subsequent to FERC certification.

B. ENVIRONMENTAL ANALYSIS

1. Geologic Resources and Hazards

a. Geologic Setting

The compressor station expansion, pipelines and associated aboveground facilities would lie within the Mississippi Alluvial Plain Section of the Coastal Plain physiographic province of the United States. Topography throughout the Project area is flat, with elevations ranging from less than five feet up to 20 feet above mean sea level. The surficial geology across the entire route consists of Holocene alluvium deposited primarily by the Mississippi, Red and Ouachita Rivers. Particle sizes range from sand and gravel sediments in channels to sandy or muddy deposits along levees to organic layers in intervening backwater swamps.

The Choctaw Salt Dome is among those originally flat salt plains along the Gulf of Mexico that have historically been covered with thick layers of sediment, causing the salt sheets to rise under pressure into domes. The cylinder-shaped structure is roughly 4,000 feet across in diameter at its top surface and extends to a depth of at least 8,000 feet below ground surface before gradually sloping outward to the general level of the salt plain. In the project area, the top of the Choctaw Salt Dome is found approximately 600-700 feet below ground surface.

PetroLogistics would inject and withdraw natural gas from Cavern 28. With regards to the basic structural integrity of Cavern 28 currently being brined, the minimum distance between the edge of the cavern and the edge of the salt dome would be approximately 340 feet. The cavern design provides for a salt cover thickness of approximately 2,110 feet above the top of the storage cavern. This salt cover thickness exceeds the minimum 300 feet recommended by API Recommended Practice 1114.

b. Geologic Hazards – Exploitation Activity

The viability of the proposed storage area is supported by historical reservoir operation and testing. A total of approximately 25 caverns, including 10 abandoned and 15 active caverns, have been built in the Choctaw Dome from the 1930's into the 1990's. Since 1937, Allied Chemical Corporation (formerly Solvay Process Company) has drilled over 20 brine wells on the dome, leading to the development of caverns. In 1976, the USDOE purchased 11 of Allied Chemical Corporation's leached caverns and is currently storing crude oil in nine of these caverns as part of the SPR Program. None of these caverns are expected to pose hazards to the Project, given the company's adherence to distance separation and monitoring regulations concerning construction of fossil fuel storage caverns in the salt dome.

Since the discovery of the Choctaw Salt Dome in 1926, over 300 oil and gas wells have been drilled on and around the dome and shallow holes drilled into the caprock. In the immediate vicinity of the north end of the Project, a total of 47 oil and gas wells have been constructed. This includes 19 wells located 39 to 322 feet from the 30-Inch Lateral to Cavern 28 Pipeline, 12 wells located 12 to 415 feet from the 16-Inch Lateral to Cavern 24 Pipeline, and 16 wells located either within a radius of 539 of the proposed compressor station expansion. PetroLogistics would work with the LDNR to verify that these wells have been abandoned, and that they have been properly plugged. Construction of the pipelines is not expected to impact or conflict with the integrity of these wells.

The predominant extractable mineral resources within the Project area are salt, sand, gravel, and clay. Louisiana is an important producer of non-fuel mineral resources, and salt from brine is the principle exploited resource in Iberville Parish. In the general vicinity of the Project, brine is the only exploited mineral resource. The compressor station expansion and pipelines pose no potential to disrupt adjacent solution mining processes. PetroLogistics controls the lands at and in the vicinity of the existing cavern, and the Project is configured to avoid potential conflicts with adjacent solution mining and crude oil production. PetroLogistics' Project has been reviewed and approved by LDNR's Mining Division.

Following construction of the Project, PetroLogistics would monitor drilling activities by others within the Bayou Choctaw Area through notification by the LDNR. The LDNR would notify PetroLogistics or other effected parties of any planned drilling activities in the area through information required by LDNR drilling permits. Should any drilling activity occur within the area where PetroLogistics has contractual rights, the operator would be required to comply with the Office of Conservation, Order No. 85-4 and Statewide Order No. 29-N-1. LDNR regulations would preclude encroachment on the proposed gas storage caverns by any oil and gas wells (FERC, 2008). We believe this project would have no impacts on exploitable mineral resources in the immediate vicinity of the Project.

c. Geologic Hazards – Natural

While the east flank of the dome shows no evidence of any overhanging structures, there is one slight indentation found within it. This indentation would have no structural impact on Well No. 28, as this well is no closer than approximately 755 feet from this flank's edge.

The sedimentary record at the Choctaw Salt Dome indicates that the salt dome experienced normal sedimentation and no surface expressions during its upward lifting, resulting in a more or less flat surface. During uplifting of the salt dome, radial and tangential faulting along the flanks of the overlaying sedimentary layers has occurred. All radial faulting can be traced to the dome from the flank but not into the salt mass itself. Thus, considering the development mechanism of Choctaw Salt Dome uplifting and

piercement of overlaying layers, the direction and limited extent of the fault planes away from the dome, and the geological age of the structure, the radial and tangential faults surrounding the Bayou Choctaw Salt Dome would not effect the proposed natural gas storage operations.

The salt dome caprock consists of two successive layers; the upper clay-gypsum zone which is 150 feet thick and ranges from 400 to 450 feet below ground surface, and the lower gypsum-anhydrite zone which is 100-200 feet thick, and ranges from 500 to 600 feet below ground surface. Faults and fractures in the caprock, formed by natural salt solutioning and collapse at the salt/caprock contact, result in a highly permeable and discontinuous unit with little structural strength. The subsurface cavern use and surface pipeline construction and operation proposed in the Project would not occur at levels near the caprock. No blasting is anticipated for this project. Therefore, there is no potential for hazards to the proposed facilities from caprock.

Seismic activity in Iberville Parish is historically known to be minimal, and it is unlikely that a damaging earthquake would occur during the operating life of the Project. Landslide potential in the area of the proposed pipelines would be low on account of the relatively flat topographic features with slopes less than one percent. Although regional subsidence has been documented along the Gulf Coast, this subsidence rate is very low (on the order of millimeters per year) and occurs over a large area. Therefore, it would not have a significant impact on the Project's pipeline facilities.

Hazards related to flooding would exist for the compressor station expansion, as the majority of the lands at and surrounding the site can be potentially inundated and saturated to the surface, and are within the 100-year flood plain. Portions of the land surrounding the proposed pipelines would be located within the 100-year and 500-year flood plains. The compressor station expansion site elevation is approximately 6 feet above mean sea level, which represents the upper limit of historic flood stage levels. If flooding and/or a hurricane were to occur during construction of the Project, temporary delays could result. Generally speaking however, flooding should not affect the compressor station expansion, pipeline facilities, or associated aboveground facilities during operation.

Based on the geological characteristics of the Project area, Petrologistics' proposed facilities and construction methods, previous and existing industrial activities in the Project area, and agency consultations and approvals, we believe that construction and operation of the Project would not result in significant impacts on geological resources.

2. Soils

The majority of the proposed facilities would be underlain by the Commerce, Convent and Sharkey silt loams with less than one percent clay content. These soils are somewhat poorly-drained loam soils or poorly-drained clayey soils on nearly level land with seasonably high water tables, formed from fluvial sediments deposited by the Mississippi

and Atchafalaya Rivers and tributaries. The compressor station expansion would be underlain by hydric soils. Impacts to these soils are described in section 3.c Wetlands. The pipeline facilities would be underlain by numerous soil types include soils designated as prime farmland. Impacts to prime farmland are described below.

Impacts on soils resulting from construction of the facilities include erosion, mixing of topsoil and subsoil, compaction, and rutting. These impacts would be minimized by PetroLogistics' use of its Plan and Procedures which includes measures for avoiding and mitigating impacts on soils. These measures include: using erosion control devices such as berms, hay bales and fences; separating subsoils from topsoils before grading and trenching in pastures, non-saturated wetlands, and in areas requested by the landowner; postponing work in excessively wet conditions in upland soils; and using low ground-weight equipment or soil stabilization materials such as timber mats when soils are saturated or standing water is present. Mitigation measures include: installing permanent erosion control barriers as necessary; decompacting topsoils and subsoils in agricultural areas and as requested by the landowner; and seeding disturbed areas in accordance with written recommendations for seed mixes, rates, and dates obtained from the local soil conservation authority or the request of the landowner or land management agency. Additionally, to lessen the chance and impact of fuel and lubricant spills onto soils, PetroLogistics would implement measures described in its SPCC Plan.

The Project would impact soils considered to be prime farmland for approximately a quarter of the pipeline route. All agricultural land crossed is prime farmland. Approximately 72 acres of prime farmland would be affected by the pipeline facilities, including 68 acres for the 30-Inch Expansion Header, 3.5 acres for the 20-Inch TETCO Lateral, and 0.11 acres for the Crosstex 12-Inch Lateral. Only 8.7 acres of pipeline right-of-way would contain new prime farmland under permanent easement, all of which would be returned to cultivation following construction. No proposed aboveground facilities would be located on prime farmland.

We believe that PetroLogistics' implementation of measures described in its Plan and Procedures and the SPCC Plan would minimize soil impacts during construction and successfully restore soils to pre-construction conditions.

3. Water Resources

a. Groundwater

The Coastal lowlands and Mississippi embayment aquifer systems underlie the proposed facilities. These aquifer systems underlie most of Louisiana and are comprised of numerous sub-aquifers including the Lower Mississippi River and Southeast Louisiana alluvial aquifers. In these systems, groundwater can be found near the surface and is known to persist for several thousand feet below ground surface. Groundwater withdrawn from these systems is generally fresh, ranging from soft to very hard, and is suitable for a variety

of uses including public water supply and irrigation, and other commercial and industrial uses. No specially managed, unique, sensitive, protected or contaminated groundwater resources or active withdrawal wells are known to underlie the facilities or be located within 150 feet of the facilities.

Constructing and operating the facilities would temporarily and permanently impact shallow groundwater. Specifically, constructing and operating the aboveground facilities and pipelines could temporarily and permanently alter local groundwater recharge and movement, and could impact local groundwater quality. Operating the pipeline facilities would not impact groundwater.

To minimize impacts on shallow groundwater, PetroLogistics has reduced its work space requirements, and would implement numerous measures described in its Plan and Procedures and its SPCC Plan. These measures address the storage, handling, use and location of equipment fluids, and PetroLogistics' response to an inadvertent release of equipment fluid(s).

Based on the characteristics of the groundwater underlying the facilities, the size of the aboveground facilities, PetroLogistics' construction, operation and impact minimization measures, and the temporary and permanent impacts on shallow groundwater, we believe constructing and operating the facilities would not significantly impact groundwater.

b. Surface Water

Constructing and operating the pipeline facilities would require 17 waterbody crossings. As identified in Table 5, the pipeline facilities would cross four perennial waterbodies, four intermittent waterbodies and ten artificially constructed canals. These waterbodies range in size from 10- to 240-feet-wide. With two exceptions, these waterbodies are classified as "limited aquatic life and wildlife use" or "secondary contact recreation" and "limited aquatic life and wildlife use". Bayou Plaquemine is classified as "primary contact recreation", "secondary contact recreation", and "propagation of fish and wildlife". Bayou Jacob is classified as "secondary contact recreation" and "propagation of fish and wildlife". None of these waterbodies are listed on the State of Louisiana's 2008 section 303(d) List or are specially managed or are characterized as being sensitive. Constructing and operating the compressor station expansion and other aboveground facilities would not require any waterbody crossings. Operation of the pipeline facilities would not impact waterbodies.

Installing a pipeline using conventional waterbody crossing techniques would temporarily impact fisheries, stream bank vegetation, in-stream aquatic habitat, water flow, water quality, and would increase erosion and sedimentation potentials. PetroLogistics would complete 16 of the 17 waterbody crossings using non-conventional trenching methods that would result in little impact on the crossed waterbodies. Only one intermittent canal would be crossed using conventional pipeline construction. Using a HDD to install a

pipeline would avoid impacting the stream channel and banks. However, the use of a HDD could result in a release of drilling fluid, commonly referred to as a "frac-out". A frac-out, if not properly contained, could increase sedimentation into the crossed waterbody. Increased sedimentation would temporarily impact water quality. Installing a pipeline using a conventional bore at the unnamed canal at SN 21+77 would generally result in no impacts on the crossed waterbody.

Table 5 Surface Waterbodies Crossed

Name	Location (Station Number)	Type	Width (ft) (a)	Water Quality Classification(b)(c)	Fishery Type (d)	Construction Procedure
30-Inch Lateral to Cavern 28						
Unnamed Canal	21+77	Perennial	50	B, H	-	Conventional Bore
30-Inch Expansion Header						
Wilbert's Canal	77+19	Perennial	40	B, H	WWF	HDD
Unnamed Canal	127+59	Perennial	25	H	-	HDD
Bayou Jacob	240+84	Perennial	225	B, C	WWF	HDD
Bayou Plaquemine	259+55	Perennial	240	A, B, C	WWF	HDD
Unnamed Stream	397+80	Intermittent	15	H	-	HDD
Unnamed Canal	423+94	Perennial	60	B, H	WWF	HDD
Unnamed Stream	451+71	Intermittent	10	H	-	HDD
Unnamed Canal	464+00	Perennial	30	H	-	HDD
Unnamed Canal	492+48	Perennial	20	H	-	HDD
Unnamed Canal	514+00	Perennial	20	B, H	-	HDD
Unnamed Canal	529+83	Intermittent	10	H	-	Conventional
Unnamed Canal	535+83	Intermittent	10	H	-	HDD
Unnamed Canal	595+00	Perennial	25	H	-	HDD
Bayou Tigre	681+57	Perennial	70	B, H	WWF	HDD
20-Inch TETCO Lateral						
Unnamed Canal	25+39	Perennial	55	B, H	WWF	HDD
Unnamed Canal	38+58	Perennial	15	H	-	HDD

(a) Width quoted is top high bank to high bank, not from water line at time of review.

(b) There is no water quality monitoring stations within 5 miles downstream of Project area (LDEQ, 2006).

(c) Water Quality Classifications

A = Primary Contact Recreation, B = Secondary Contact Recreation
C = Propagation of Fish and Wildlife D = Drinking Water
E = Oyster Propagation F = Agriculture
G = Outstanding Natural Resource Waters H = Limited Aquatic Life and Wildlife Use

(d) WWF = Warm Water Fishery

Withdrawing water for hydrostatic testing could temporarily impact fisheries, flow, and water quality. Hydrostatic testing impacts to fisheries are described in section 4, Vegetation, Wildlife and Fisheries.

To minimize impacts on waterbodies, PetroLogistics would implement numerous measures described in its Procedures, SPCC Plan and HDD Plan. These measures include establishing and maintaining erosion control devices, minimizing the time required to complete waterbody crossings, responding to frac-outs, screening water withdrawals, and controlling water discharges.

PetroLogistics would hydrostatically test all new pipelines prior to placing them in service in accordance with the requirements of its General Permit for the discharge of hydrostatic test waters issued by the Louisiana Department of Environmental Quality (LDEQ). This permit requires that PetroLogistics conduct the discharge of test waters in a manner that prevents erosion, streambed scour, suspension of sediments, or excessive stream flow. Water for testing the constructed pipeline would be obtained from the perennial canals or surface water lakes surrounding or crossed by the Project segments. All surface waters in Louisiana are open use for withdrawal in accordance with state regulations. No specific test water discharge locations have been selected. PetroLogistics would not use additives in test water for new facilities. Approximately 400,000 gallons are required for the pipe segments requiring an 8-hour pre-test. Approximately 2.6 million gallons would be used for the 24-hour facility test.

The Iberville County parish commented that it would like the Project to minimize impediments to navigable waterbodies. PetroLogistics' use of HDD and boring methods to cross virtually all waterbodies would accomplish this.

Based on PetroLogistics' proposed waterbody crossing methods and its use of minimization and mitigation measures, we believe constructing and operating the pipeline facilities would not significantly impact surface water.

c. Wetlands

Constructing and operating the facilities would require work in and through forested and emergent wetlands. Wetlands impacted by the facilities are identified in Table 6. In addition to our responsibilities to minimize impacts on wetlands, Project activities in wetlands are subject to the jurisdiction of the USCOE as provided for by the Clean Water Act. As described previously, the USCOE and the USFWS have expressed concerns about potential impacts on forested wetlands resulting from the construction and operation of the compressor station expansion, pipelines and other project-related facilities. We share these concerns.

Table 6
Wetlands Crossed (acres)

Facility	Forested Wetlands		Emergent Wetlands	
	Temporary	Permanent	Temporary	Permanent
New Sawmill Substation	0	0	0	0
10-Inch Lateral to Cavern 24	0	0	0.43	0.01
30-Inch Lateral to Cavern 28	2.79	.04 (a)	2.98	0
Compressor Station Expansion	1.15	6.5 (b)	0	0
30-Inch Expansion Header	11.73	0	11.23	0
20-Inch TETCO Lateral	0	0	2.88	0
12-Inch CrossTex Lateral	0.11	0	0	0
Bridgeline Station Expansion	0	0	0	0.23 (b)
TETCO-future Gulf South Interconnect Station Expansion	0	0	0	0.05 (b)
TETCO Station Expansion	0	0.33 (b)	0	0.22 (b)
SONAT Station Expansion	0.14	0	0.34	0.2 (b)
10-Acre Contractor Yard	0	0	0	0
Subtotals	**15.92**	**6.87**	**17.85**	**0.71**

Totals			
	Temporary Wetland Right-of-Way		
	Forested (15.92)	**Emergent (17.85)**	**All Temporary (33.17)**
	Permanent Wetland Right-of-Way		
	Forested (6.87)	**Emergent (0.69)**	**All Permanent (7.56)**
	Total Wetland Construction Right-of-Way		
	All Forested (22.79)	**All Emergent (18.55)**	**Total Wetland Impact Area (41.34)**

(a) This permanent forested wetland impact consists of conversion to emergent wetlands.
(b) This permanent impact is loss of wetland function by conversion to industrial aboveground facility.

Proposed Compressor Station Expansion

The compressor station expansion would be located on palustrine, seasonally flooded/saturated, deciduous, forested wetlands (classified as PFO6E high-quality wetlands) that abut PetroLogistics' existing compressor station and are adjacent to existing natural gas transmission facilities and infrastructure. Constructing and operating the compressor station expansion would temporarily and permanently impact a total of 7.65 acres of forested wetlands. Specifically, these activities would temporarily impact 1.15 acres of forested wetlands and result in permanent loss to industrial use of 6.5 acres of forested wetlands.

Operating the compressor station facilities would result in the permanent loss of 6.5 acres of forested wetlands. Tree species occurring on this site, listed in section 4.a, include bald cypress and water tupelo which are indicative of high-quality forested wetlands. The forested wetlands include areas of mature hardwood species dissected by numerous relatively shallow open channels and backwaters containing various species of emergent wetland vegetation. The permanent loss of forested wetlands would result in degradation of most, if not all, of the existing wetland functions from the raised earthen fill area required for construction and operation of the aboveground facilities.

Aspects of adjacent wetlands that may be impacted by construction and operation of the altered expansion site would include water storage, water quality, wetland soils, hydrological characteristics, vegetation, wildlife and fisheries. The floodwater retention capacity of the filled wetland would be reduced, and the movement of surface and groundwater through adjacent wetlands may be altered. The permanent loss of forested wetland vegetation would also reduce the amount of available wildlife habitat, alter the quality of adjacent wildlife habitat, and may impact several wildlife species for the adjacent wetland areas.

Temporary impacts on wetlands at the expansion site include quality changes and increased erosion, sedimentation and compaction potentials on soils, as well as removal of vegetation and the associated short-term impacts to wildlife and fisheries habitat.

To minimize impacts on wetlands, PetroLogistics would implement numerous measures as described in its Procedures. These measures include clearly defining work areas, establishing and maintaining erosion control devices, preventing the mixing of soils, and promoting revegetation. PetroLogistics' placement of permanent aboveground facilities within wetlands, discussed in relation to the compressor station expansion as well as with the TETCO Station Expansion described below, would vary from section VI.A.6 of the Commission's Procedures which requires aboveground facilities to be located outside of wetlands. Based on the presence of adjacent infrastructure and the reasons described below, we believe this variance is acceptable.

At our request, in cooperation with the USCOE, and consistent with the comments of the USFWS, impacts on approximately 17 acres of forested wetlands originally proposed for

use by PetroLogistics were re-evaluated and reduced to 7.65 acres. PetroLogistics avoided these wetlands by reducing the operational land needed, and by relocating much of its temporary work space outside of wetlands. PetroLogistics has agreed to install a culvert under the south side of the proposed access road to permit some flow amongst wetlands on the south and west sides of the expansion site. On account of PetroLogistics' efforts to reduce work space and permanent aboveground facility requirements, we believe the temporary and permanent impacts on wetlands resulting from constructing and operating the compressor station expansion would be minimized to the extent practical. We also believe wetlands impacts would be further mitigated through the USCOE permitting process. Therefore, we believe that constructing and operating the compressor station expansion facilities would not significantly impact wetland resources on the Choctaw Dome.

Pipelines and Associated Facilities

The pipelines and other project-related facilities would be located through and on palustrine, seasonally flooded/saturated, emergent wetlands (classified as PEM1E wetlands) as well as some PFO6E wetlands. Constructing and operating these facilities as described in section 3.a would involve right-of-way from 17.53 acres of emergent wetlands and 14.67 acres of forested wetlands for a total of 32.2 acres of wetlands. Almost all the impacts to wetlands would be temporary, including all 17.52 acres of emergent wetlands and 14.63 acres of the forested wetlands. Given that PetroLogistics would avoid direct impacts to virtually all wetlands crossed by using its proposed HDD method, virtually all of the temporary wetland impacts consist of partial clearing (described more below) and no trenching.

Permanent impacts would be limited to 0.37 acres of forested wetlands and 0.71 acres of emergent wetlands. The 0.37 acres of forested wetlands would be converted to emergent wetlands. The 0.71 acres of emergent wetlands would be converted to industrial use for PetroLogistics' proposed aboveground facilities along the 30-Inch Header Pipeline. This includes 0.55 acres for the TETCO Station Expansion which lies within forested and emergent wetlands, all of which would be permanently converted to industrial use by an aboveground facility.

Use of conventional methods to construct the pipelines would temporarily and permanently convert and impact forested wetland vegetation, wildlife, soils and hydrological characteristics because of the need to clear and grade within wetlands.

The use of bores and HDDs would avoid and/or significantly reduce impacts on these wetlands, in which disturbance would be limited to vegetation clearing required by the drilling entry and exit work spaces. Inadvertent release of HDD mud, commonly referred to as "frac-outs", could temporarily impact wetland vegetation, soils and hydrological characteristics.

Additionally, preparation for completing HDDs through wetlands would require PetroLogistics to clear some vegetation in order to lay guide wires and to monitor the drill. PetroLogistics proposes to clear about 30 feet of work space for its tracker wire crew. We find this width excessive given the amount of impacted forested wetlands described above. To minimize the impact associated with the clearing of vegetation for the laying of tracker wires, and to further minimize impact on forested wetlands, **we recommend that:**

- **PetroLogistics limit vegetation removal above HDD paths in forested wetlands during construction and operation to the clearing of brush and saplings using hand tools only.**

To minimize wetland impacts resulting from conventional construction, PetroLogistics would implement numerous measures described in its Procedures, which include (but are not limited to) using only 75-foot-wide construction right-of-way widths, cutting vegetation off at the ground level to leave existing root systems intact, limiting the pulling of tree and shrub stumps to just over the trench and to some extent over the work space and travel area, installation of temporary silt barriers at wetland boundaries, installing trench plugs in trenches to prevent sedimentation entering wetlands from upslope areas, using timber mats or other stabilization methods in standing water or saturated soils to reduce compaction and soil horizon mixing, conserving topsoil in non-saturated conditions, and regrading wetlands to original contours and flow patterns.

PetroLogistics would restore impacted wetlands, and would monitor wetland vegetation after construction. Wetlands would be allowed to revegetate naturally unless otherwise required by applicable permits. No lime, fertilizer or mulch would be applied in wetlands.

PetroLogistics would conduct periodic vegetation maintenance during pipeline operations that may include annual mowing to maintain up to a 10-foot-wide strip, centered over the pipeline, and the periodic cutting of trees greater than 15 feet in height that are located within 15 feet of the pipeline centerline. We believe the limited amount of vegetation clearing that would occur during operations maintenance activities is reasonable for facilitating periodic pipeline corrosion surveys.

Pipeline co-location, combined with PetroLogistics' use of HDDs, would result in the avoidance and minimization of impacts on most wetlands crossed by the Project. Impacts would be further minimized by PetroLogistics implementation of measures contained within its Procedures. The USCOE permitting process would provide additional wetland impact mitigation. Therefore, we believe that constructing and operating the pipeline and associated facilities would not significantly impact wetland resources.

4. Vegetation, Wildlife and Fisheries

a. Vegetation

The compressor station expansion site would be located on lands dominated by forested wetland vegetation. The pipelines and other project-related facilities would be located through and on lands dominated by forested and emergent wetland vegetation, herbaceous grasses and cultivated sugarcane. Forested wetland vegetation includes black willow, green ash, hackberry, water oak, box elder, red maple, bald cypress and water tupelo. Emergent wetland vegetation includes cattails, smartweed, curly dock and rushes. Herbaceous grasses include a variety of commonly found species.

Constructing and operating the facilities would temporarily and permanently impact vegetation. Specifically, constructing the facilities would result in the temporary, long-term and permanent loss of vegetation. A loss of vegetation would reduce the amount of available wildlife habitat, increase forest fragmentation, and create new edge effects. A loss of vegetation could also alter local groundwater and surface water movement, increase erosion, sedimentation and compaction potentials, alter soils characteristics, and increase the potential for the spread of exotic and invasive plant species. Operating the facilities would result in the permanent loss of forested wetland vegetation and the permanent conversion of forested wetland vegetation to emergent wetland vegetation. Operating the facilities would also result in the periodic disturbance of vegetation which would result in impacts similar to those described for construction activities.

To minimize impacts on vegetation, PetroLogistics has re-evaluated its work space requirements at the compressor station expansion and along the 30-Inch Expansion Header pipeline, and has reduced it work space and relocated work space outside of wetlands. PetroLogistics would also co-locate the facilities with other existing facilities, use HDDs, and implement numerous measures described in its Plan and Procedures including clearly defining work areas, establishing and maintaining erosion control devices, preventing the mixing of soils, and promoting revegetation.

Based on the characteristics of the vegetation that would be impacted, PetroLogistics' proposed construction, restoration and operation methods including its implementation of the measures described in its Plan and Procedures, the temporary and permanent impacts on vegetation, and implementation of our above recommendation, we believe that constructing and operating the facilities would not significantly impact vegetation.

b. Wildlife

General Wildlife

The facilities would be located on and through forested and emergent wetland, grassland and agricultural habitats. These habitats support a variety of commonly found

wildlife. Observed avian species include northern bobwhite, mourning dove, wood duck, roseate spoonbill, great egret, great blue heron, cattle egret, northern cardinal, northern bobwhite, American crow, blue-jay, northern mockingbird, Carolina chickadee, and painted bunting. Migratory birds are specifically addressed in the following sub-section. Observed mammals include white-tailed deer, eastern wood rat, white-tailed deer, raccoon, gray squirrel, fox squirrel, swamp rabbit, and eastern cottontail. Observed reptiles include eastern cottonmouth, alligator, ornate box turtle, and red-eared slider. Endangered, threatened, and other species of concern are addressed in section B.5.

Constructing and operating the facilities would temporarily and permanently impact wildlife. Specifically, constructing and operating the facilities would result in the temporary and permanent loss (and conversion) of wildlife habitat. A loss or conversion of wildlife habitat would increase habitat fragmentation and edge effects, displace wildlife, and would increase wildlife stress, injury and mortality rates. Wildlife would also avoid construction and operations-related activities. Avoidance could impact wildlife behaviors and also increase wildlife stress, injury and mortality rates. Additionally, constructing the facilities could result in increased stress, injury and loss of wildlife. Operating the pipeline facilities would periodically impact wildlife habitat.

To minimize impacts on wildlife, PetroLogistics' has reduced its work space requirements and would co-locate facilities with other existing facilities. PetroLogistics would also use HDDs, clearly define work areas, and promote revegetation.

Based on the characteristics of the wildlife observed, the temporary and permanent impacts on wildlife and associated habitats, the co-location of facilities, the presence of similar habitats nearby, and PetroLogistics' proposed construction methods and impact minimization measures, we believe that constructing and operating the facilities would not significantly impact wildlife.

Migratory Birds

Migratory birds are protected by the Migratory Bird Treaty Act ([MBTA] - 16 U.S. Code 703-711). Based on our consultation with the USFWS, this analysis focuses on potential impacts on migratory song bird species and their nesting habitat.[5] Migratory song birds occur in the project area and include Swainson's warbler, prothonotary warbler, worm eating warbler, wood thrush, and Louisiana waterthrush. The forested wetlands that would be impacted by the compressor station expansion are of special concern because they

[5] This analysis is consistent with the requirements of the March 30, 2011, Memorandum of Understanding (MOU) between the Commission and the USFWS concerning the avoidance and minimization of impacts on migratory birds and the strengthening of migratory bird conservation through enhanced collaboration between the Commission and the USFWS.

provide nesting habitat for migratory song birds (see impact discussions concerning wetlands in section B.3.c of this EA, and concerning vegetation habitat in section B.4.a).

As described previously, constructing and operating the compressor station expansion would result in the permanent loss of approximately 6.5 acres of forested wetlands. The loss of these wetlands would reduce the amount of nesting habitat available for migratory song birds. A decrease in available nesting habitat could increase the amount of stress, injury and mortality experienced by these birds.

To minimize impacts on migratory song birds and their nesting habitat, PetroLogistics' has reduced the size of its compressor station expansion and co-located this facility with its existing compressor station. To further minimize impacts on migratory song birds and their nesting habitat, the USFWS recommended that tree clearing for the compressor station expansion be performed during the non-nesting season for songbirds (September 1 to March 1). Clearing trees during the non-nesting season would reduce the amount of stress, injury and mortality experienced by migratory song birds. Therefore, based on our consultations with the USFWS, and the information provided by PetroLogistics concerning its proposed tree clearing activities, **we recommend that:**

- **PetroLogistics should only clear trees for the compressor station expansion between the dates of September 1 and March 1 of any year.**

Based on the characteristics and habitat requirements of the migratory song birds known to occupy or potentially occupy the compressor station expansion site, and the amount of similar habitat adjacent to and in the vicinity of the compressor station expansion, we believe that with the implementation of our recommendation that constructing and operating the compressor station expansion would not result in population-level impacts or significant measureable negative impacts on migratory song birds.

c. Fisheries

Constructing and operating the pipeline facilities would require crossing six waterbodies designated as warm water fisheries, and 12 waterbodies classified as "limited aquatic life and wildlife use". Louisiana warm water fisheries generally include largemouth bass, black and white crappie, bowfin, freshwater drum, gars, buffalo fish, sunfishes, blue and channel catfish.

As described in sections A.3.a and B.3.b, PetroLogistics would complete 16 of 17 waterbody crossings using one of two non-conventional construction methods that would result in little or no impacts on the crossed waterbodies. All of the designated warm water fisheries (streams, bayous and canals) would be crossed using HDDs. The one waterbody that would be crossed using conventional construction is classified as "limited aquatic life and wildlife use". The use of HDDs would minimize impacts on fisheries. A frac-out could stress or injure fish and could result in an alteration of aquatic habitat; however, we believe

the measures identified in PetroLogistics' HDD Plan are sufficient to minimize any impacts resulting from an unexpected frac-out. PetroLogistics' implementation of its SPCC Plan would reduce the potential for direct spills of hazardous materials into streams within the Project area. Entrainment of juvenile and adult fish during hydrostatic test water withdrawal would be minimized through the use of a screen on the intake line or by withdrawal of waters from screened enclosures cleared of debris.

Based on the use of HDDs, the measures described in PetroLogistics' SPCC and HDD Plans, and the "limited aquatic life and wildlife use" classification of the one waterbody to be crossed using conventional construction, we believe constructing and operating the pipeline facilities and withdrawing water for hydrostatic testing would not significantly impact fisheries.

5. Threatened and Endangered Species

In a letter from the USFWS to PetroLogistics representatives dated October 27, 2010, the USFWS stated that no federally listed threatened or endangered species presently occur within the project area. Therefore, in consultation with the USFWS, we have determined that constructing and operating the facilities would result in no effect on federally listed threatened and endangered species.

In a letter to PetroLogistics representatives dated October 15, 2010, the Louisiana Natural Heritage Program indicated that no impacts to rare, threatened or endangered species or critical habitats are anticipated as a result of the Project. Based on these comments and our review, we believe that constructing and operating the proposed facilities would not significantly impact Louisiana rare, threatened and endangered species and natural communities.

6. Land Use

As described previously, constructing the facilities would impact 126 acres of land. Approximately 74 acres of agricultural land, 23 acres of forested wetlands, 19 acres of emergent wetlands and 10 acres of industrial land would be impacted (see Table 7). Following construction, PetroLogistics would return the temporarily impacted lands to pre-existing conditions. About half of the 30-Inch Expansion Header would be crossed using HDD and bore methods**.**

Operation of the facilities would require the use of 22 acres of new permanent right-of-way including 14 acres of agricultural land, 7 acres of forested wetlands (6.5 acres to industrial land, 0.5 acres converted to emergent wetlands), 0.7 acre of emergent wetlands, and 0.5 acres of industrial land. No new permanent easement would be needed where pipelines would be installed using the HDD method, as the proposed pipelines would be installed within the existing 40-foot-wide easement granted in FERC Docket No. CP07-427-000.

Regarding the location of the 10-acre contractor yard, this community contains a large number of mobile homes and recreational vehicle parking pads. The yard is an existing industrial parking and equipment storage area periodically used during construction of various facilities, mostly at the Choctaw Salt Dome. The proposed contractor yard would operate six days a week, Monday through Saturday, for 10 hours a day. Traffic in and out of the site would include employee vehicles and equipment/material deliveries. Some equipment would be staged at the site, including small cranes and forklifts. Any road closures or interference with local traffic would be cleared the appropriate local authorities and managed via designated traffic control personnel. PetroLogistics would keep the site clear of trash and debris with the help of local waste collection agencies, and regularly wet down non-paved areas to minimize dust build-up. Noise nuisances would be limited to loading/off loading activities, which would take place during normal business hours.

PetroLogistics would use, in addition to public roads for general access to the Project area, numerous existing two-track roads that parallel canals and agricultural fields to access particular portions of the Project right-of-way. Aside from the compressor station expansion's access road modification, the only other access road to be modified or added would be the extension of the current TETCO Station access road, requiring permanent conversion of 0.22 acres of emergent wetlands to industrial land use. Following construction all unimproved access roads would be restored to their pre-construction condition by grading and filling as necessary and stabilized by re-vegetation if appropriate to minimize potential erosion. During operations, PetroLogistics would use the primary paved or gravel access roads, or their permanent easement when performing ground based line patrols. All other activities would require landowner approval prior to entry.

No residences occur within 50 feet of the proposed pipeline right-of-way. One residential subdivision would be located approximately 4,100 feet northeast of the compressor station expansion. Numerous residences occur within 0.5 mile of the proposed HDD sites which may be subject to potential HDD noise impacts on a temporary basis. These residences include approximately 30 residences north of HDD pipeline sections from SNs 233+74 to 285+35, five residences east of SN 570+00, 5 residences north and south of SN 265+00, and isolated residences as SNs, 425+00, 430+00, 575+00, and 590+00. Section 8 of this EA contains discussion on potential long-term and short-term noise impacts to residences from HDD drilling operations and from operation of the compressor station expansion.

7. Cultural Resources

Section 106 of the National Historic Preservation Act, as amended, requires the Commission to take into account the effect of its undertakings on properties listed, or eligible for listing, on the National Register of Historic Places, and to afford the Advisory Council on Historic Preservation an opportunity to comment. PetroLogistics, as a non-federal party, is assisting the FERC in meeting its obligations under section 106 and its implementing regulations at 36 CFR Part 800.

Table 7
Land Uses Affected by Construction and Operation of the Project

Facility	Industrial		Agricultural		Forested Wetlands (a)		Emergent Wetlands (a)		Total	
	Temp	Perm	Temp	Perm	Temp	Perm	Temp	Perm	Temp	Perm
Proposed Compressor Station Expansion	0	0	0	0	1.15	6.5 **(b)**	0	0	1.15	6.50
30-Inch Lateral to Cavern 28	0	0	0	0	2.79	.04 **(c)**	2.98	0	5.77	0.04
10-Inch Lateral to Cavern 24	0	0	0	0	0	0	0.43	0.01	0.43	0.01
30-Inch Expansion Header (which contains 12-Inch FGT Lateral, Cypress Gas Valve Set, and Expanded Mainline Valve Sites 1 & 2)	0	0	54.66	7.97 **(d)**	11.73	0	11. 23	0	77.62	7.97
20-Inch TETCO Lateral	0	0	2.4	0.4	0	0	2.88	0	5.28	0.40
12-Inch CrossTex Lateral	0	0.55	0	0.002	0.11	0	0	0	0.11	0.55
Bridgeline Station Expansion	0	0	0	0	0	0	0	0.23	0.00	0.23
SONAT Station Expansion	0	0	0	0	0.14	0	0.34	0.2	0.48	0.20
TETCO Station Expansion	0	0	0	0	0	0.33 **(b)**	0	0.22	0.00	0.55
TETCO-future Gulf South Interconnect Station Expansion	0	0	0	0	0	0	0	0.05	0	0.05
Sawmill Substation	0	0	0	5.5 **(b)**	0	0	0	0	0.00	5.5
10-Acre Contractor Yard	10.0	0	0	0	0	0	0	0	10.00	0.00
Off Site Contractor Laydown No. 2	0	0	2.7	0	0	0	0	0	2.7	0.00
Totals – Temp & Perm	**10.0**	**0.55**	**59.76**	**13.87**	**15.92**	**6.87**	**17.86**	**0.71**	103.54	22.00
Total Construction	**10**		**74**		**23**		**19**		**126**	

(a) In the project area, all land not occupied by industrial, agricultural or residential use is wetlands.
(b) This impact is loss of agricultural use\wetland function by conversion to industrial aboveground facility
(c) This permanent forest impacts consists of conversion to emergent wetlands.
(d) This 7.97 acres of permanent agricultural easement would be returned to agricultural use following construction.

PetroLogistics contacted the Louisiana State Historic Preservation Office (SHPO) regarding the Project. On February 2, 2011, the SHPO indicated that "the proposed undertaking will have no adverse effect on historic properties." Subsequently, PetroLogistics re-contacted the SHPO regarding use of the contractor laydown area, requesting the SHPO's concurrence that use of the area would not affect historic properties. On November 28, 2011, the SHPO indicated that "no known historic properties will be affected by this undertaking." We agree with the SHPO and have determined that the project would have no adverse effect on historic properties.

PetroLogistics contacted the Chitimacha Tribe of Louisiana regarding the Project. No response was received to this initial contact. PetroLogistics also conducted follow-up telephone and email contacts with the tribe. The Chitimacha Tribe requested the consultation information that PetroLogistics sent to the SHPO, and the SHPO's response. PetroLogistics provided this material to the tribe. No further comments have been received to date. We sent our NOI and a letter to the Chitimacha Tribe. No response to our NOI or letter has been received.

PetroLogistics provided a plan to deal with the unanticipated discovery of historic properties and human remains during construction. We requested minor revisions to the plan. PetroLogistics provided a revised plan which we find acceptable.

8. Air Quality and Noise

a. Air Quality

The Project would generate air emissions through short-term construction activities and long-term operation of several components of the expanded compressor station. Emissions associated with construction activities generally include fugitive dust from soil disruption and combustion emissions from construction equipment. PetroLogistics would add two new electric-driven Dresser Rand DATUM D8R5S Centrifugal Compressors, one rated at 12,000 hp and one rated at 15,000 hp to the existing PetroLogistics Compressor Station. Electric compressors do not contribute air emissions. However the compressor station expansion would also include two glycol regeneration heaters for the dehydration systems rated at 2.9 MMbtu/hr each, four pipeline heaters rated at 13.7 MMbtu/hr each, an emergency generator rated at approximately 300 kw, two compressor lube oil tanks, and one condensate tank which would contribute to air emissions.

Air emission sources in Louisiana are regulated at the federal level by the Clean Air Act (CAA) of 1970, as amended in 1977 and 1990, and at the state level by the Louisiana Administrative Code. The federal regulations established as a result of the CAA that are potentially applicable to the expanded compressor station are as follows:

- National Ambient Air Quality Standards (NAAQS);
- Prevention of Significant Deterioration (PSD) Review / Non-attainment New Source Review (NNSR);
- New Source Performance Standards (NSPS);
- National Emission Standards for Hazardous Air Pollutants (NESHAPs); and
- Title V Operating Permits (Title V);
- General Conformity; and
- Greenhouse Gas Reporting Rule.

The CAA designates six (6) criteria pollutants for which standards (NAAQS) are promulgated to protect public health and welfare. They include nitrogen oxides ([NOx], including nitrogen dioxide [NO_2]), carbon monoxide (CO), particulate matter (PM), sulfur dioxide (SO_2), ozone (O_3), and lead (Pb). The NAAQS are codified in 40 CFR Part 50. Areas of the country in violation of NAAQS are designated as non-attainment areas and new sources to be located in or near these areas may be subject to more stringent air permitting requirements. The LDEQ has adopted the federal NAAQS. The Project would be located in Iberville Parish, Louisiana which was recently redesignated attainment for the 8-hour O_3 standard and is therefore treated as a maintenance area. Iberville Parish is designated as attainment for all other criteria pollutants and averaging times.

On December 7, 2009, the EPA defined air pollution to include six well-mixed greenhouse gases (GHGs), finding that the presence of these GHGs in at the atmosphere endangers public health and public welfare currently and in the future: carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride.

As with any fossil-fuel fired project or activity, the Project would contribute GHG emissions. The principle GHGs that would be produced by the project are CH_4, CO_2, and N_2O. No fluorinated gases would be emitted by the Project. Emissions of GHGs are typically estimated as carbon dioxide equivalents (CO_{2eq}).

GHGs are ranked by their global warming potential (GWP). The GWP is a ratio relative to CO_2 that is based on the properties of a GHG's ability to absorb solar radiation, as well as its residence time in the atmosphere. Thus, CO_2 has a GWP of 1, CH_4 has a GWP of 21, and N_2O has a GWP of 310. We received comments on the amount of GHG emissions the Project would contribute. In compliance with EPA's definition of air pollution to include GHGs, we have provided estimates of GHG emissions for construction and operation, as discussed throughout this section.

Separate procedures have been established for federal pre-construction review of certain large proposed projects in attainment areas versus non-attainment areas. Federal pre-construction review for affected sources located in non-attainment areas is commonly referred to as NNSR (Non-attainment New Source Review). Federal pre-construction

review for affected sources located in attainment areas is called PSD. The review process is intended to prevent the new source from causing existing air quality to deteriorate beyond acceptable levels.

PSD regulations (40 CFR 52.21) address construction in air quality attainment areas and define a major source as any source with a potential to emit any single listed pollutant in amounts equal to or greater than 250 tons per year (tpy) for this source category. As identified below, the potential emissions for the compressor station would not exceed the PSD or NNSR thresholds for any criteria pollutant, and therefore, would not be subject to PSD or NNSR. PetroLogistics would apply with the Air Permits Division of the LDEQ for a modification to their existing minor source air permit.

On May 13, 2010, the EPA issued the PSD GHG Tailoring Rule. This rule intends to account for facilities that represent an estimated 70 percent of GHG emissions from stationary sources while shielding smaller sources such as apartment buildings and schools. Beginning on July 1, 2011, a new industrial facility that has the potential to emit at least 100,000 tpy of CO_{2eq} would also be subject to GHG permitting requirements under PSD. For existing PSD major sources, the threshold for a modification would be 75,000 tpy CO_{2eq}. The existing compressor station is not an existing PSD major source and the combined emissions from the existing and expansion of the compressor station would be below the PSD GHG Tailoring Rule thresholds. Therefore, GHG permitting under PSD is not required.

A Title V major source, as defined in 40 CFR, Part 70.2, is any source or group of stationary sources (all new and existing sources included) that are located within a contiguous area and under common control that emits or has the potential to emit criteria pollutants or hazardous air pollutants (HAPs) above the established thresholds. A facility is considered a minor source under Title V if it has the potential to emit less than 100 tpy for each criteria pollutant, less than 10 tpy for each individual HAP, and less than 25 tpy for all HAPs combined. Also on May 13, 2010, the EPA issued the Title V Tailoring Rule. Beginning on July 1, 2011, facilities that emit at least 100,000 tpy CO_{2eq} would be subject to Title V permitting requirements. The emissions associated with the expanded PetroLogistics Compressor Station would be below the Title V major source and Title V Tailoring Rule thresholds and therefore would not be subject to Title V permitting requirements.

NSPS are established in 40 CFR Part 60 for specific emission sources. Based on the proposed emission levels and the types of sources to be located at the compressor station, the facility would not be subject to the various NSPS regulations.

NESHAPs Part 61 and Part 63 regulate the emissions of HAPs from existing and new sources. The expanded compressor station is not expected to operate any processes that are regulated by Part 61. Part 63 establishes standards for major sources of HAPs. As

identified below, the expanded compressor station would emit HAPs below the major source thresholds and, therefore, the expanded compressor station would not be subject to NESHAP.

The EPA promulgated the General Conformity Rule on November 30, 1993 in Volume 58 of the FR Page 63214 (58 FR 63214) to implement the conformity provision of Title I, section 176(c)(1) of the CAA. Section 176(c)(1) requires that the Federal government not engage, support, or provide financial assistance for licensing or permitting, or approving 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 levels (de minims) of the pollutant(s) for which an air basin is in non-attainment or maintenance. According to the conformity regulations, emissions from sources that are subject to major or minor NNSR or PSD permitting/licensing are exempt and are deemed to have conformed.

Section 176(c)(1) of the CAA (Title 40 CFR 51.853), states that a federal agency cannot approve or support any activity that does not conform to an approved state implementation plan (SIP). 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.

As noted earlier, the Project would be located in Iberville Parish, Louisiana, which is currently designated as an 8-hour O_3 maintenance area. Therefore, emissions associated with the Project are compared to the General Conformity Applicability threshold values. For an 8-hour O_3 maintenance area the General Conformity Applicability threshold values are 100 tpy of NOx or volatile organic compounds (VOCs). The emissions for construction and operation of the project (as shown below) would be below the General Conformity Applicability threshold values. These estimates take into account all emissions associated with the project, including those for non-jurisdictional facilities (if those facilities are built for association with the Project). As identified earlier, the Project would include some non-jurisdictional facilities (the Sawmill Substation and associated 200-foot-long 69-kilovolt electrical supply line).

On September 22, 2009, the EPA issued the final Mandatory Reporting of Greenhouse Gases Rule. This rule requires reporting of GHG emissions from suppliers of fossil fuels and facilities that emit greater than or equal to 25,000 metric tpy of GHG (reported as CO_{2eq}). On November 8, 2010, the EPA signed a rule that finalizes GHG

reporting requirements for the petroleum and natural gas industry under Subpart W of 40 CFR Part 98. The rule does not apply to construction emissions.

GHG emissions from the Project are identified below and are projected to be below the 25,000 tpy CO_{2eq} threshold. However, should the combined emission from the Project and the existing equipment at the compressor station exceed the threshold, PetroLogistics Choctaw Compressor Station would potentially be subject to the GHG Mandatory Reporting Rule. The rule does not require emission control devices and is strictly a reporting requirement based on actual emissions. PetroLogistics would monitor emissions in accordance with the reporting rule and, if actual emissions exceed the 25,000 tpy CO_{2eq} reporting threshold, PetroLogistics would be required to report its GHG emissions to the EPA.

Construction emissions for the Project are provided in Table 8 below. Construction of the Project could 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. Proper maintenance of construction equipment and watering the construction work areas when dust becomes a problem would minimize any nuisance for nearby residences. Once the construction activity in an area is completed, the fugitive dust and emissions would subside.

Table 8
Proposed Construction Emissions in Tons

	NOx	CO	VOC	PM10	PM2.5	SOx	CO_{2eq}
2011 On Site Exhaust	32.28	15.93	4.69	1.76	1.62	0.04	3,801.73
2011 Off Site Exhaust	1.72	3.31	0.32	0.13	0.11	0.01	586.97
2011 Total Emissions	33.99	19.23	5.01	1.89	1.73	0.04	4,388.70
2012 On Site Exhaust	9.60	5.74	1.88	0.62	0.58	0.01	955.66
2012 Off Site Exhaust	0.64	1.55	0.12	0.05	0.04	0.00	270.09
2012 Total Emissions	10.24	7.29	1.99	0.67	0.62	0.01	1,225.74
Project Total Emissions	44.24	26.52	7.00	2.57	2.35	0.05	5,614.45

Proposed operating emissions for the new equipment at the PetroLogistics Choctaw Compressor Station would be 12.6 tpy of NOx, 10.58 tpy of CO, 0.08 tpy of SO_2, 0.64 tpy of VOCs and 0.2 tpy of PM. This would result it total facility emissions of approximately 13.26 tpy of NOx, 11.11 tpy of CO, 0.84 tpy of SO_2, and 0.68 tpy of VOCs. The expansion Project would also result in approximately 15,154.2 tpy of CO_{2eq} emissions.

Based on the above analysis, construction and operation of the Project would not have a significant impact on air quality in the project area.

b. Noise

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

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. Late night and early morning (10:00 pm to 7:00 am) noise exposures are penalized +10 decibels, to account for people's greater sensitivity to sound during the nighttime hours.

In 1974, the EPA published its *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety.* This document provides information for state and local governments to use in developing their own ambient noise standards. The EPA has indicated that an L_{dn} of 55 decibels on the A-weighted scale (dBA) protects the public from indoor and outdoor activity interference. We have adopted this criterion and use it to evaluate the potential noise impact from operation of the compressor facilities.

Construction of the project is expected to be typical of other pipeline projects in terms of schedule, equipment used, and types of activities. Construction would increase sound levels in the vicinity and the sound levels would vary during the construction period. Noise associated with construction at the compressor station would be concentrated in the vicinity of the station. Construction equipment would be operated on an as-needed basis during those periods.

Nighttime noise levels would normally be unaffected by construction activities because most pipeline construction would take place only during daylight hours. The possible exceptions would be at the HDD sites (e.g., at the crossings of waterbodies and highways). At HDD locations, drilling equipment may operate on a 24-hour-per-day and 7-day-per-week basis.

PetroLogistics has provided an HDD noise analysis indicating that of the 15 HDDs proposed, only two have noise sensitive areas (NSAs) within 0.5 mile of the entry or exit sites. The first HDD is for the 30-Inch Header Pipeline for the crossings of Bayou Jacob and Highway 77 from SNs 233+74 to 245+27. At this location, PetroLogistics estimates

HDD completion to take approximately 7 to 9 working days. The nearest NSAs include a residence located 1,742 feet south of the HDD entry location and a residence located 2,290 feet northeast of the entry site. Projected levels would be 56.7 dBA Ldn at the first NSA and 54.4 dBA Ldn at the second NSA. Although HDD activities typically operate 24 hours per day, this noise level would be about the same as our noise requirement for full time operations of compressor station facilities, and would only last for about one week, and therefore, would not be considered significant.

The second HDD location of potential concern is for the 30-Inch Header Pipeline at the crossings of Bayou Plaquemine and Highway 3066 from SNs 255+07 to Station 266+26. PetroLogistics identified three NSAs from the entry site of the HDD: NSA 1 is a residence located 520 feet southwest; NSA 2 is a residence located 580 feet northeast; and NSA 3 is a residence located 732 feet north. For this HDD, projected noise levels due to HDD activities could be up to 67.2 dBA Ldn at NSA 1, 66.3 dBA Ldn at NSA 2, and 64.3 dBA Ldn at NSA 3. Should HDD activities only occur during daylight hours, this would be consistent with other typical construction equipment. However, since HDD activities typically operate 24 hours per day, this would be considered significant for nighttime operations and would be significantly higher than our requirement for full time operations of compressor station facilities at all three NSAs.

To minimize impacts, PetroLogistics committed to implementing temporary sound attenuation controls (a sound barrier or noise wall) as a mitigation measure to reduce noise levels from HDD activities. The resulting noise levels of HDD activities for the crossing of Bayou Plaquemine and Highway 3066 at Station 266+26 with the mitigation measures implemented would be approximately 51.2 dBA Ldn at NSA 1, 50.3 dBA Ldn at NSA 2, and 48.3 dBA Ldn at NSA 3. As shown, the mitigated noise impacts would be below the FERC criterion of 55 dBA L_{dn} at all NSAs. Therefore, with the proposed mitigation to reduce noise levels, noise impacts from construction activities would not be significant.

The nearest NSA to the existing compressor station is located approximately 4,100 feet northeast of the compressor station site. PetroLogistics provided a noise analysis for the proposed new equipment at the compressor station, including the existing equipment at the compressor station operating as well. Existing noise levels were estimated based on measurements taken after placing the existing compressor station in service and were modeled to be approximately 51.0 dBA Ldn at the nearest NSA. PetroLogistics estimated noise impacts from the expanded compressor station (existing equipment and new equipment) to be approximately 52.0 dBA Ldn at the nearest NSA. The projected noise increase at the NSA would be about 1 dBA. In general, an increase of 3 decibels is the threshold of noticeable difference for humans. Based on this, the expansion at the compressor station would not be significantly noticeable at the NSA and would also be

below the 55 dBA L_{dn} FERC requirement. However, to ensure that the change in noise attributable from operation of the compressor station is not significant, **we recommend that:**

- **PetroLogistics should file noise surveys with the Secretary no later than 60 days after placing the new equipment at the PetroLogistics Choctaw Compressor Station in service. If the noise attributable to the operation of the entire station at full load exceeds an Ldn of 55 dBA at any nearby NSAs, PetroLogistics should install additional noise controls to meet that level within 1 year of the in-service date. PetroLogistics should confirm compliance with the Ldn of 55 dBA requirement by filing a second noise survey with the Secretary no later than 60 days after it installs the additional noise controls.**

If the recommended compressor station surveys verify that noise levels have been adequately controlled, we believe that project-related noise impacts at the nearest NSAs would not be significant.

9. Reliability and Safety

The transportation of natural gas by pipeline involves some incremental risk to the public due to the potential for accidental release of natural 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.

Methane has an auto-ignition temperature of 1,000 degrees Fahrenheit and is flammable at concentrations between 5.0 percent and 15.0 percent in air. An unconfined mixture of methane and air is not explosive, however it may ignite if there is an ignition source. A flammable concentration within an enclosed space in the presence of an ignition source can explode. It is buoyant at atmospheric temperatures and disperses rapidly in air.

a. Safety Standards

The USDOT is mandated to provide pipeline safety under Title 49, U.S.C. Chapter 601. The USDOT's Pipeline and Hazardous Materials Safety Administration (PHMSA) administers the national regulatory program to ensure the safe transportation of natural gas and other hazardous materials by pipeline. It develops safety regulations and other approaches to risk management that ensure safety in the design, construction, testing, operation, maintenance, and emergency response of pipeline facilities. Many of the regulations are written as performance standards which set the level of safety to be attained and allow the pipeline operator to use various technologies to achieve safety. PHMSA

ensures that people and the environment are protected from the risk of pipeline incidents. This work is shared with state agency partners and others at the federal, state, and local level.

The USDOT provides for a state agency to assume all aspects of the safety program for intrastate facilities by adopting and enforcing the federal standards. A state may also act as USDOT's agent to inspect interstate facilities within its boundaries; however, the USDOT is responsible for enforcement actions. For the Project, Louisiana does not have delegated authority to inspect interstate pipeline facilities.

The USDOT pipeline standards are published in Parts 190-199 of Title 49 of the CFR. Part 192 specifically addresses natural gas pipeline safety issues.

Under a Memorandum of Understanding on Natural Gas Transportation Facilities dated January 15, 1993, between the USDOT and the FERC, the USDOT has the exclusive authority to promulgate federal safety standards used in the transportation of natural gas. Section 157.14(a)(9)(vi) of the FERC's regulations require that an applicant certify that it will design, install, inspect, test, construct, operate, replace, and maintain the facility for which a Certificate is requested in accordance with federal safety standards and plans for maintenance and inspection. Alternatively, an applicant must certify that it has been granted a waiver of the requirements of the safety standards by the USDOT in accordance with section 3(e) of the Natural Gas Pipeline Safety Act. The FERC accepts this certification and does not impose additional safety standards. If the Commission becomes aware of an existing or potential safety problem, there is a provision in this memorandum to promptly alert USDOT. This memorandum also provides for referring complaints and inquiries made by state and local governments and the general public involving safety matters related to pipelines under the Commission's jurisdiction.

The FERC also participates as a member of the USDOT's Technical Pipeline Safety Standards Committee which determines if proposed safety regulations are reasonable, feasible, and practicable.

The pipeline and aboveground facilities associated with the Project must be designed, constructed, operated, and maintained in accordance with the USDOT Minimum Federal Safety Standards in 49 CFR 192. The regulations are intended to ensure adequate protection for the public and to prevent natural gas facility accidents and failures. The USDOT specifies material selection and qualification; minimum design requirements; and protection from internal, external, and atmospheric corrosion.

The USDOT also defines area classifications, based on population density in the vicinity of the pipeline, and specifies more rigorous safety requirements for populated areas. The class location unit is an area that extends 220 yards on either side of the centerline of any continuous 1-mile length of pipeline. The four area classifications are defined below:

Class 1	Location with 10 or fewer buildings intended for human occupancy.
Class 2	Location with more than 10 but less 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 any building, or small well-defined outside area occupied by 20 or more people on at least 5 days a week for 10 weeks in any 12-month period.
Class 4	Location where buildings with four or more stories aboveground are prevalent.

Class locations representing more populated areas require higher safety factors in pipeline design, testing, and operation. For instance, pipelines constructed on land in Class 1 locations must be installed with a minimum depth of cover of 30 inches in normal soil and 18 inches in consolidated rock. Class 2, 3, and 4 locations, as well as drainage ditches of public roads and railroad crossings, require a minimum cover of 36 inches in normal soil and 24 inches in consolidated rock.

Class locations also specify the maximum distance to a sectionalizing block valve (e.g., 10.0 miles in Class 1, 7.5 miles in Class 2, 4.0 miles in Class 3, and 2.5 miles in Class 4). Pipe wall thickness and pipeline design pressures; hydrostatic test pressures; maximum allowable operating pressure (MAOP); inspection and testing of welds; and frequency of pipeline patrols and leak surveys must also conform to higher standards in more populated areas. Preliminary class locations for the Project have been developed based on the relationship of the pipeline centerline to other nearby structures and manmade features. The Project would be located entirely within Class 1 areas.

If a subsequent increase in population density adjacent to the right-of-way results in a change in class location for the pipeline, PetroLogistics would reduce the MAOP or replace the segment with pipe of sufficient grade and wall thickness, if required to comply with the USDOT requirements for the new class location.

The Pipeline Safety Improvement Act of 2002 required operators to develop and follow a written integrity management program that contained all the elements described in 49 CFR 192.911 and addressed the risks on each transmission pipeline segment. Specifically, the law establishes an integrity management program which applies to all high consequence areas (HCA).

The USDOT has published rules that define HCAs where a gas pipeline accident could do considerable harm to people and their property and requires an integrity management program to minimize the potential for an accident. This definition satisfies, in part, the Congressional mandate for USDOT to prescribe standards that establish criteria for identifying each gas pipeline facility in a high-density population area.

The HCAs may be defined in one of two ways. In the first method an HCA includes:

- current class 3 and 4 locations,
- any area in Class 1 or 2 where the potential impact radius[6] is greater than 660 feet and there are 20 or more buildings intended for human occupancy within the potential impact circle[7], or
- any area in Class 1 or 2 where the potential impact circle includes an identified site.

An identified site is an outside area or open structure that is occupied by 20 or more persons on at least 50 days in any 12-month period; a building that is occupied by 20 or more persons on at least 5 days a week for any 10 weeks in any 12-month period; or a facility that is occupied by persons who are confined, are of impaired mobility, or would be difficult to evacuate.

In the second method, an HCA includes any area within a potential impact circle which contains:

- 20 or more buildings intended for human occupancy, or
- an identified site.

Once a pipeline operator has determined the HCAs along its pipeline, it must apply the elements of its integrity management program to those segments of the pipeline within HCAs. The USDOT regulations specify the requirements for the integrity management plan at section 192.911. The HCAs have been determined based on the relationship of the pipeline centerline to other nearby structures and identified sites. PetroLogistics has not identified any HCAs along the proposed pipeline route. The pipeline integrity management rule for HCAs requires inspection of the pipeline HCAs every 7 years.

The USDOT prescribes the minimum standards for operating and maintaining pipeline facilities, including the requirement to establish a written plan governing these activities. Each pipeline operator is required to establish an emergency plan that includes procedures to minimize the hazards of a natural gas pipeline emergency. Key elements of the plan include procedures for:

- receiving, identifying, and classifying emergency events, gas leakage, fires, explosions, and natural disasters;
- establishing and maintaining communications with local fire, police, and public officials, and coordinating emergency response;

[6] The potential impact radius is calculated as the product of 0.69 and the square root of the MAOP of the pipeline in psig multiplied by the square of the pipeline diameter in inches.
[7] The potential impact circle is a circle of radius equal to the potential impact radius.

- emergency system shutdown and safe restoration of service;
- making personnel, equipment, tools, and materials available at the scene of an emergency; and
- protecting people first and then property, and making them safe from actual or potential hazards.

The USDOT requires that each operator establish and maintain liaison with appropriate fire, police, and public officials to learn the resources and responsibilities of each organization that may respond to a natural gas pipeline emergency, and to coordinate mutual assistance. 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. PetroLogistics would provide the appropriate training to local emergency service personnel before the pipeline is placed in service.

b. Pipeline Accident Data

The USDOT requires all operators of natural gas transmission pipelines to notify the USDOT of any significant incident and to submit a report within 20 days. Significant incidents are defined as any leaks that:

- caused a death or personal injury requiring hospitalization; or
- involve property damage of more than $50,000 (1984 dollars)[8].

During the 20 year period from 1991 through 2010, a total of 1,138 significant incidents were reported on the more than 300,000 total miles of natural gas transmission pipelines nationwide.

Additional insight into the nature of service incidents may be found by examining the primary factors that caused the failures. Table 9 provides a distribution of the causal factors as well as the number of each incident by cause.

The dominant causes of pipeline incidents are corrosion and pipeline material, weld or equipment failure constituting 43.6 percent of all significant incidents. The pipelines included in the data set in Table 9 vary widely in terms of age, diameter, and level of corrosion control. Each variable influences the incident frequency that may be expected for a specific segment of pipeline.

The frequency of significant incidents is strongly dependent on pipeline age. Older pipelines have a higher frequency of corrosion incidents, since corrosion is a time-dependent process.

[8] $50,000 in 1984 dollars is approximately $108,000 as of January 2011 (CPI, Bureau of Labor Statistics, ftp://ftp.bls.gov/pub/special.requests/cpi/cpiai.txt, February 17, 2011)

Table 9
Natural Gas Transmission Pipeline Significant Incidents by Cause -- 1991-2010 [a]

Cause	No. of Incidents	Percentage [e]
Corrosion	260	22.8
Excavation [b]	209	18.4
Pipeline material, weld or equipment failure	237	20.8
Natural force damage	134	11.8
Outside force [c]	57	5.0
Incorrect operation	21	1.8
All other causes [d]	220	19.3
TOTAL	1138	-

[a] All data gathered from PHMSA Significant incident files, March 1, 2011. http://primis.phmsa.dot.gov/comm/reports/safety
[b] Includes third party damage
[c] Fire, explosion, vehicle damage, previous damage, intentional damage
[d] Miscellaneous causes or unknown causes
[e] Due to rounding, column does not total 100%

The use of both an external protective coating and a cathodic protection system[9], required on all pipelines installed after July 1971, significantly reduces the corrosion rate compared to unprotected or partially protected pipe.

Outside forces are the cause in 35.2 percent of significant pipeline incidents. These result from the encroachment of mechanical equipment such as bulldozers and backhoes; earth movements due to soil settlement, washouts, or geologic hazards; weather effects such as winds, storms, and thermal strains; and willful damage. Table 10 provides a breakdown of outside force incidents by cause.

Older pipelines have a higher frequency of outside forces incidents partly because their location may be less well known and less well marked than newer lines. In addition, the older pipelines contain a disproportionate number of smaller-diameter pipelines; which have a greater rate of outside forces incidents. Small diameter pipelines are more easily crushed or broken by mechanical equipment or earth movement.

[9] Cathodic protection is a technique to reduce corrosion (rust) of the natural gas pipeline through the use of an induced current or a sacrificial anode (like zinc) that corrodes at faster rate to reduce corrosion.

Since 1982, operators have been required to participate in "One Call" public utility programs in populated areas to minimize unauthorized excavation activities in the vicinity of pipelines. The "One Call" program is a service used by public utilities and some private sector companies (e.g., oil pipelines and cable television) to provide preconstruction information to contractors or other maintenance workers on the underground location of pipes, cables, and culverts.

Table 10
Outside Forces Incidents by Cause [(a)] -- (1991-2010)

Cause	No. of Incidents	Percent of all Incidents [(b)]
Third party excavation damage	178	15.6
Operator excavation damage	25	2.2
Unspecified excavation damage/previous damage	6	0.5
Heavy rain/floods	66	5.8
Earth movement	36	3.2
Lightning/temperature/high winds	17	1.5
Unspecified natural force	15	1.3
Vehicle (not engaged with excavation)	41	3.6
Fire/explosion	8	0.7
Previous mechanical damage	5	0.4
Intentional damage	1	0.1
Unspecified/other outside force	2	0.2
TOTAL	**400**	-

(a) Excavation, Outside Force, and Natural Force from Table 2-1
(b) Due to rounding error, column does not equal 35.2%

c. Impact on Public Safety

The service incidents data summarized in Table 10 include pipeline failures of all magnitudes with widely varying consequences.

Table 11 presents the average annual injuries and fatalities that occurred on natural gas transmission lines between 2006 and 2010. The data has been separated into employees and nonemployees to better identify a fatality rate experienced by the general public. Fatalities among the public averaged 2 per year over the 20 year period from 1991-2010.

Table 11
Injuries and Fatalities - Natural Gas Transmission Pipelines

Year	Injuries		Fatalities	
	Employees	Public	Employees	Public
2006	2	1	2	1
2007	6	1	1	1
2008	3	2	0	0
2009	4	7	0	0
2010 [(a)]	10	51	2	8

[(a)] All of the public injuries and fatalities in 2010 were due to the Pacific Gas and Electric pipeline rupture and fire in San Bruno, CA on September 9, 2010.

The majority of fatalities from pipelines are due to local distribution pipelines not regulated by FERC. These are natural gas pipelines that distribute natural gas to homes and businesses after transportation through interstate natural gas transmission pipelines. In general, these distribution lines are smaller diameter pipes and/or plastic pipes which are more susceptible to damage. Local distribution systems do not have large rights-of-way and pipeline markers common to the FERC regulated natural gas transmission pipelines.

The nationwide totals of accidental fatalities from various anthropogenic and natural hazards are listed in Table 12 in order to provide a relative measure of the industry-wide safety of natural gas transmission pipelines. Direct comparisons between accident categories should be made cautiously, however, because individual exposures to hazards are not uniform among all categories. Furthermore, the fatality rate is much lower than the fatalities from natural hazards such as lightning, tornados, or floods.

The available data show that natural gas transmission pipelines continue to be a safe, reliable means of energy transportation. From 1991 to 2010, there were an average of 57 significant incidents and 2 fatalities per year. The number of significant incidents over the more than 300,000 miles of natural gas transmission lines indicates the risk is low for an incident at any given location. The operation of the Project would represent a slight increase in risk to the nearby public.

Table 12 Nationwide Accidental Deaths [a]	
Type of Accident	**Annual No. of Deaths**
All accidents	117,809
Motor Vehicle	45,343
Poisoning	23,618
Falls	19,656
Injury at work	5,113
Drowning	3,582
Fire, smoke inhalation, burns	3,197
Floods [b]	93
Lightning [b]	57
Tornado [b]	57
Natural gas distribution lines [c]	15
Natural gas transmission pipelines [c]	2

[a] All data, unless otherwise noted, reflects 2005 statistics from U.S. Census Bureau, Statistical Abstract of the United States: 2010 (129th Edition) Washington, DC, 2009; http://www.census.gov/statab.

[b] NOAA National Weather Service, Office of Climate, Water and Weather Services, 30 year average (1980-2009) http://www.weather.gov/om/hazstats.shtml

[c] PHMSA significant incident files, March 1, 2011. http://primis.phmsa.dot.gov/comm/reports/safety/, 20 year average.

10. Cumulative Impacts

Cumulative impacts may result when environmental impacts associated with the Project are added to impacts associated with other projects in the past, present, or reasonably foreseeable future. For purposes of this cumulative analysis, only projects in Iberville Parish were considered in this analysis. We attempted to identify known past, present or reasonably foreseeable future projects obtainable from publicly available resources, including state records and parish-specific information, and briefly describe them in Table 13. Combined together, the construction and operation of these projects has generally resulted in: the clearing of vegetation (including forested wetlands); surface water impacts; impacts on wildlife and habitats; land use reclassification types; and the creation and expansion of utility transmission rights-of-way.

Because PetroLogistics would convert an existing storage cavern currently operated by PL Olefin for natural gas use, this activity itself would not contribute to a cumulative

impact and is not discussed further. The compressor station expansion, interconnect pipelines and associated aboveground facilities would be constructed adjacent to and in the immediate vicinity of existing natural gas transmission and other mineral resource extraction/transmission infrastructure.

The fenced boundaries of the existing compressor station would be extended to accommodate the construction and operation of the expansion. PetroLogistics' compressor station expansion and interconnect pipelines would be located within 0.5 mile of numerous storage cavern well pads, associated pipelines, access and public roads, electrical transmission lines. Additionally, PetroLogistics' Project facilities would be located within one mile of a highly developed industrial site (Choctaw Dome) supporting natural gas and other mineral resource storage and transmission activities. These facilities are identified and briefly described in Table 13.

Table 13
Known Past, Present or Reasonably Foreseeable Future Projects [(a)]

Facility	Description
PetroLogistics	Natural gas storage, compression and transmission, hydrocarbon storage, brine production
Dow	Brine transmission
Olin	Hydrocarbon transmission
U.S. Department of Energy Strategic Petroleum Reserve	Petroleum storage caverns, injection/withdrawal wells, transmission pipeline
Entergy	Electrical transmission lines
PL Olefin	Brine production and transmission
Allied Chemical	Storage caverns, injection/withdrawal wells, transmission pipeline
Wilbert	Hydrocarbon storage and transmission
ExxonMobil	Hydrocarbon storage and transmission
Iberville Parish	Paved Roads
Residences	Privately owned residences and related infrastructure

(a) No past or reasonably foreseeable future projects were identified; all projects identified in this table are present projects.

The interconnect pipelines and associated aboveground facilities would be co-located with PetroLogistics' existing natural gas transmission infrastructure and other mineral resource transmission facilities and pipelines. The interconnect pipelines would be located within an existing utility corridor containing one to four other pipelines. These facilities are also identified and briefly described in Table 13.

For the purposes of our analysis, we identified forested wetlands and air and noise impacts as resources for consideration. As described previously, the compressor station expansion would permanently impact 6.5 acres of forested wetlands. Based on the co-location of this facility with the existing compressor station, the industrial character of the area, the mitigated amount of forested wetland acres that would be removed, the presence of forested wetlands adjacent to the compressor station expansion and within Iberville Parish, and PetroLogistics' implementation measures described in this EA, we believe the impacts on forested wetlands resulting from constructing and operating the compressor station expansion, when added to the impacts on forested wetlands of other projects, would not have a significant cumulative impact on forested wetlands in Iberville Parish. Additionally, based on the design and size of the compressor station expansion, including its use of electrically-driven compressors, and its minor impacts on other environmental resources including air quality and noise, we believe the impacts resulting from its construction and operation when added to the impacts of other projects would not have a significant cumulative effect on air quality and noise in the Project area.

Constructing and operating the interconnect pipelines and associated aboveground facilities would require the use of land in the vicinity of existing industrial and transmission facilities and the expansion of an existing utility corridor. Constructing the interconnect pipelines and expanding the existing utility corridor would result in a minor cumulative impact on surface waters, wetlands, vegetation, wildlife and land use. Additionally, operating the facilities would decrease available vegetation and wildlife habitat, increase the amount of vegetation and wildlife habitat periodically disturbed, and further restrict land use. However, because PetroLogistics would locate these facilities within the vicinity of and adjacent to numerous existing industrial facilities and infrastructure, and has reduced the footprint of its Project to the extent practicable, we believe the resulting impacts when added to the impacts of other projects would result in minor cumulative impacts in the Project area.

C. ALTERNATIVES

In accordance with NEPA and Commission policy, we identified and evaluated alternatives to the Project to determine whether they would be reasonable and environmentally preferable to the proposed action. These alternatives included the no-action alternative, and compressor station expansion site alternatives. The evaluation criteria for selecting potentially reasonable and environmentally preferable alternatives include: technically and economically feasible and practical; significantly environmentally advantageous over the Project or parts of it; and ability to meet the project objectives. The

analysis of alternatives was based on information provided by PetroLogistics, aerial photographs, U.S. Geologic Survey topographic maps, and other publicly available information.

1. No-Action Or Alternative

Under the no-action alternative, PetroLogistics would not construct the proposed Project and all impacts directly associated with the construction and operation of the Project would be avoided. However, under the no-action alternative, the enhanced storage service of eleven (11) bcf working storage capacity to the interstate gas market that the project is intended to provide for customers would not be occur. The need of customers may be met by other gas storage facilities or by construction of aboveground liquefied natural gas (LNG) storage tanks. The construction and operation of other storage facilities or aboveground tanks would likely have similar if not greater environmental impacts than the Project. For the above reasons we believe that the No-Action alternatives are not viable alternatives to perform the same function as the proposed action.

2. System Alternatives/Storage Cavern Alternatives

System alternatives are alternatives to the proposed action that would make use of other existing, modified or proposed storage and/or pipeline systems to meet stated objectives of the proposed action. System alternatives for the Project must not only involve the transportation of equivalent amounts of incremental natural gas, but also must allow for similar system flexibility and deliverability by increasing injection and withdrawal options and storage capability.

Cavern 28 is an existing cavern currently used in commercial brine service. The use of this cavern would not require the development of well pads, drilling and settings of wells, or solution mining to create the stated capacities; therefore, an alternative storage location is not applicable. No other nearby existing cavern is available for consideration as alternatives due to their existing use and customer commitments.

3. Alternative Pipeline Routes

The interconnect pipelines would be located in the vicinity of existing industrial and transmission facilities and/or collocated with existing pipelines. Based on their locations and the impacts resulting from the construction and operation of these facilities, no alternative routes were identified or considered further in this analysis. The expansion header pipeline would be collocated with a previously approved interstate natural gas transmission pipeline, within a utility corridor containing one to four other transmission pipelines. Based on the location of the expansion header pipeline, its placement within an established corridor, and the impacts resulting from the construction and operation of this facility, we did not identify any alternative routes. In addition, no comments concerning an alternative route(s) were received during the public scoping period; therefore, no alternative expansion header pipeline routes were considered in this analysis.

4. Compressor Station Alternatives

Compressor Station Expansion Site

We evaluated alternative sites to compare impacts to the compressor station expansion site which included the installation of interconnecting facilities to the existing PetroLogistics Compressor Station. Our initial evaluation focused on location, engineering feasibility and forested wetland impacts. If the use of an alternative site was feasible, we compared the potential environmental impacts at the site alternative to the proposed site expansion. We evaluated two sites (Alternative Site 1 and Alternative Site 2).

Factors evaluated for the alternative sites include proximity to the existing PetroLogistics Compressor Station site and storage transportation corridor, water supply, power sources, land use and availability, environmental sensitivities, engineering constraints, proximity to NSAs, and economics.

Environmental impacts, avoidance or minimization of impacts on sensitive habitats (including wetlands and waterbodies) threatened and endangered species, archaeological resources, and residential areas residents were considered in designing the Project facilities in meeting the project objectives. Environmental impact avoidance or minimization tends to benefit by reducing the acreage impacts, which also facilitates a lower project cost during construction, development and operation.

The existing 2.0-acre PetroLogistics Compressor Station site was selected and approved by the Commission in part by the fact that PetroLogistics was able to locate it on top of an existing 0.4-acre well pad site within a large area already being leased to PetroLogistics. In addition, that site was located in close proximity to Cavern 28, reducing the amount of needed high-pressure gas pipelines needed in the Project. PetroLogistics evaluated this site for its proposed expansion on its existing PetroLogistics Compressor

Station site. PetroLogistics originally proposed to clear 17 acres of forested wetlands for its proposed expansion. We asked PetroLogistics to redesign the compressor station expansion to reduce forested wetland impacts. PetroLogistics reevaluated its design based on land availability, environmental impacts, engineering feasibility, economic factors, and geological and hydrological constraints, and was able to reduce the wetland impacts to 7.65 acres, resulting in 9.35 acres less forested wetland clearing.

Appendix A, Figure 9 contains the location of the compressor station expansion and Alternative Sites 1 and 2 discussed in this section. See Table 14 for a comparative analysis of environmental factors for the expansion site and Alternative Sites 1 and 2.

Compressor Station Alternative Site 1

Alternative Site 1 is located in an agricultural field. However, to provide similar operational functionality on PetroLogistics' system, additional facilities would be necessary. The additional facilities include: 1) four interconnecting pipelines that would affect about 9.2 acres of forested wetlands and 2.9 acres of emergent wetlands; 2) a FGT service lateral extension which would affect about 2.0 acres of forested wetlands; 3) a reroute of the 30-Inch Expansion Header; 4) a 5.5-acre Sawmill Substation; 5) expansion of the control building; and 6), a 0.58-acre pig trap area on the east side of the existing PetroLogistics Compressor Station. This alternative would require less wetland fill, but it would affect additional wetland impacts (forested and emergent wetlands) due to the construction of additional facilities. There are numerous NSAs to the north and northeast and east starting at 950 feet. The total required compression horsepower would have to be raised by 3,000. This site would increase the cost of construction and operation to about $20 million more than the proposed expansion site. Alternative Site 1 is no longer available and has been permitted for future brine ponds from another non-FERC project. Because this site would result in additional environmental impacts, and the site is not available for use, we dismissed Alternative Site 1.

Compressor Station Alternative Site 2

Alternative Site 2 would also be located in agricultural land. However, to provide similar operational functionality on PetroLogistics' system, additional facilities would be necessary. The additional facilities would include: 1) two interconnecting pipelines (36- and 20-inch-diameter), each 1.5 miles in length and affecting about 4.25 acres of forested wetlands; 2) a 5.5-acre Sawmill Substation; 3) expansion of the control building; 4) a new 0.76-mile-long access road; and 5), a 0.46-acre pig trap area on the east side of the existing PetroLogistics Compressor Station. It would permanently convert about 8.4 acres of agricultural land to industrial land. There are numerous NSAs to the north starting at 4,500 feet. Use of this site would reduce impacts on forested wetlands and total wetland acres and increase impacts on agricultural land by converting it to industrial use. This alternative would require less permanent fill than the compressor station expansion site. As a result of additional facilities it would impact more land than the expansion site. The total required

Table 14
Comparative Analysis of Environmental Factors for the Compressor Station Site and Alternative Sites 1 and 2

	Proposed Site	Alternate Site 1	Alternate Site 2
Total CS [(a)] acres (ac)	7.65	10.4	9.47
Additional Facilities needed	None	- 5.5-acre Sawmill Substation - 30 Inch Header Reroute - FGT 12 Inch Extension - Four Interconnect Pipelines - Expansion of control building	- 5.5-acre Sawmill Substation - 36 and 20 inch Interconnect pipelines - 30 inch Header pipeline - 0.76 Mile Access Road - Expansion of control building
Agricultural land (ac)	73.60	77.35	86.14
Total wetland impacts (ac)	41.34	52.09	37.94
Total Forested impacts [(b)]	22.79	26.31	19.39
Land use	Forested wetland	Agricultural land [(c)]	Agricultural land
NSA	Numerous to the NE starting at 4,000 feet	Numerous to the N, NE. & E starting at 950 feet	Numerous to the N starting at 4,500 feet
Cost of construction	Base Project cost	Base plus 20 million	Base plus 15 million

(a) CS = compressor station, ac = acres, N = north, E = east, NE = north east

(b) Forested wetland acres – this is a subset of total wetland impacts.

(c) PetroLogistics stated in its data response of November 1, 2011 that Alternate site 1 has just been permitted for use as brine ponds from another non-FERC project, hence no longer available.

compression horsepower would have to be raised by 3,000. Alternate Site 2 would increase the cost of construction and operation to about $15 million more than the expansion site. In considering the potential for operational and system engineering constraints, the need for additional facilities that would likely result in additional environmental impacts when compared to the expansion site, the proximity of each site to potential NSAs, and the higher cost of construction and operation, we do not recommend Alternative Site 2.

Conclusion on Compressor Station Alternative Sites

PetroLogistics has made considerable effort to maximize the operability of the expansion site by leveraging the capabilities of the existing PetroLogistics Compressor Station. PetroLogistics has minimized wetland impacts, and plans to mitigate loss of

wetlands. PetroLogistics is currently working with USCOE to develop a mitigation plan for wetland losses.

In addition, separating out one compressor station into two separate and smaller compressor stations would require an operator to be stationed at each compressor station in order to provide proper operational control and monitoring of the site and thereby increase the operational complexity of the system. Furthermore, the Alternative Site 2 is not available for purchase or lease. Because PetroLogistics has made an acceptable attempt to reduce the overall footprint of the expansion at the expansion site, and would mitigate for the loss of wetlands, we believe that the compressor station expansion site is the most practicable alternative environmentally and economically.

D. STAFF'S CONCLUSIONS AND RECOMMENDATIONS

We conclude that approval of this Project would not constitute a major federal action significantly affecting the quality of the human environment. This finding is based on our environmental analysis as described above; information provided in Perryville's application and supplemental filings, and its implementation of our recommended mitigation measures. We recommend that the Commission order include the mitigation measures listed below as conditions to any certificate the Commission may issue.

1. PetroLogistics shall follow the construction procedures and mitigation measures described in its application and supplemental filings (including responses to staff data requests) and as identified in the EA unless modified by the Order. PetroLogistics 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 **before using that modification**.

2. The Director of OEP has delegated authority to take whatever steps are necessary to ensure the protection of life, health, property and the environment during construction and operation of the Project. This authority shall allow:

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

3. **Prior to any construction**, PetroLogistics shall file an affirmative statement with the Secretary, certified by a senior company official, that all company personnel, environmental inspectors (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 alignment sheets or plot plans. **As soon as they are available, and before the start of construction**, PetroLogistics shall file with the Secretary any revised detailed survey alignment maps/sheets at a scale not smaller than 1:6,000 with station

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

5. PetroLogistics 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, and documentation of landowner approval, whether any cultural resources or federally listed threatened or endangered species would be affected, and whether any other environmentally sensitive areas are within or abutting the area. All areas shall be clearly identified on the maps/sheets/aerial photographs. Each area must be approved in writing by the Director of OEP **before construction in or near that area**.

   This requirement does not apply to extra work space allowed by PetroLogistics' 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,** PetroLogistics shall file an Implementation Plan with the Secretary for review and written approval by the Director of OEP. PetroLogistics must file revisions to the plan as schedules change. The plan shall identify:

a. how PetroLogistics 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 PetroLogistics 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 per spread, 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 environmental compliance training and instructions PetroLogistics will give to all personnel involved with construction and restoration;
f. the company personnel (if known) and specific portion of PetroLogistics 's organization having responsibility for compliance;
g. the procedures (including use of contract penalties) PetroLogistics will follow if noncompliance occurs; and
h. for each discrete facility, a Gantt or PERT chart (or similar project scheduling diagram), and dates for:

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

7. **Beginning with the filing of its Implementation Plan**, PetroLogistics shall file updated status reports with the Secretary **on a monthly basis 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 PetroLogistics' efforts to obtain the necessary federal authorizations;
    b. the construction status of the project, work planned for the following reporting period, and any schedule changes for stream crossings or work in other environmentally sensitive areas;
    c. a listing of all problems encountered and each instance of noncompliance observed by the EI(s) during the reporting period (both for the conditions imposed by the Commission and any environmental conditions/permit requirements imposed by other federal, state, or local agencies);
    d. a description of the corrective actions implemented in response to all instances of noncompliance, and their cost;
    e. the effectiveness of all corrective actions implemented;

f. a description of any landowner/resident complaints which may relate to compliance with the requirements of the Order, and the measures taken to satisfy their concerns; and
g. copies of any correspondence received by PetroLogistics from other federal, state, or local permitting agencies concerning instances of noncompliance, and PetroLogistics' response.

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

9. PetroLogistics must receive written authorization from the Director of OEP **before placing the project into service**. Such authorization will only be granted following a determination that rehabilitation and restoration of the right-of-way and other areas affected by the project are proceeding satisfactorily.

10. **Within 30 days of placing the authorized facilities in service**, PetroLogistics 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 certificate conditions PetroLogistics 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. PetroLogistics shall limit vegetation removal above HDD paths in forested wetlands during construction and operation to the clearing of brush and saplings using hand tools only.

12. PetroLogistics shall only clear trees for the compressor station expansion between the dates of September 1 and March 1 of any year.

13. PetroLogistics shall file noise surveys with the Secretary **no later than 60 days** after placing the new equipment at the PetroLogistics Choctaw Compressor Station in service. If the noise attributable to the operation of the entire station at full load exceeds an Ldn of 55 dBA at any nearby NSAs, PetroLogistics shall install additional noise controls to meet that level **within 1 year** of the in-service date. PetroLogistics shall confirm compliance with the Ldn of 55 dBA requirement by filing a second noise survey with the Secretary **no later than 60 days** after it installs the additional noise controls.

E. LIST OF PREPARERS

Boros, Laurie – Cultural Resources
B.A., Anthropology/Archaeology, 1980, Queens College, C.U.N.Y.

Kochhar, Medha – Water Resources, Alternatives
Ph.D., Plant Ecology, 1974, North Carolina State University
M.S., Botany, 1968, B.I.T.S., Pilani, India
B.S., Biology and Chemistry, 1966, University of Delhi, India

Peconom, John, Deputy Project Manager – Water Resources, Vegetation, Wildlife, Fisheries, Threatened and Endangered Species
B.S. Environmental Biology & Management, 2000, University of California at Davis

Polit, Juan, Project Manager – Proposed Action, Geology, Soils, Land Use, Cumulative Impacts
M.S., Forest Ecology, 1992, University of Illinois
B.S., Forest Science, 1989, University of Illinois

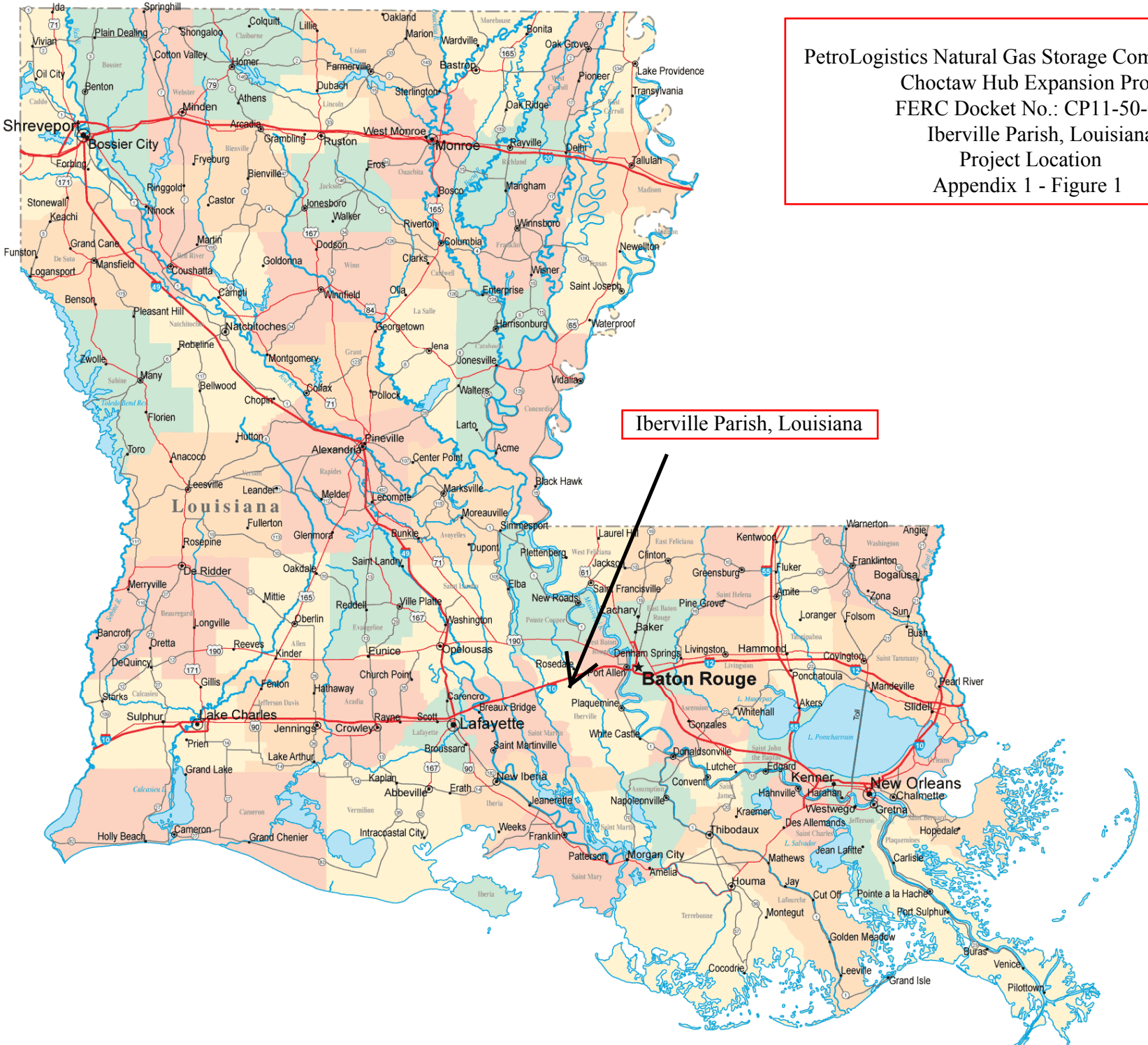
Suter, Magdalene – Air Quality and Noise; Reliability and Safety
B.S. Environmental Systems Engineering, 2004, The Pennsylvania State University

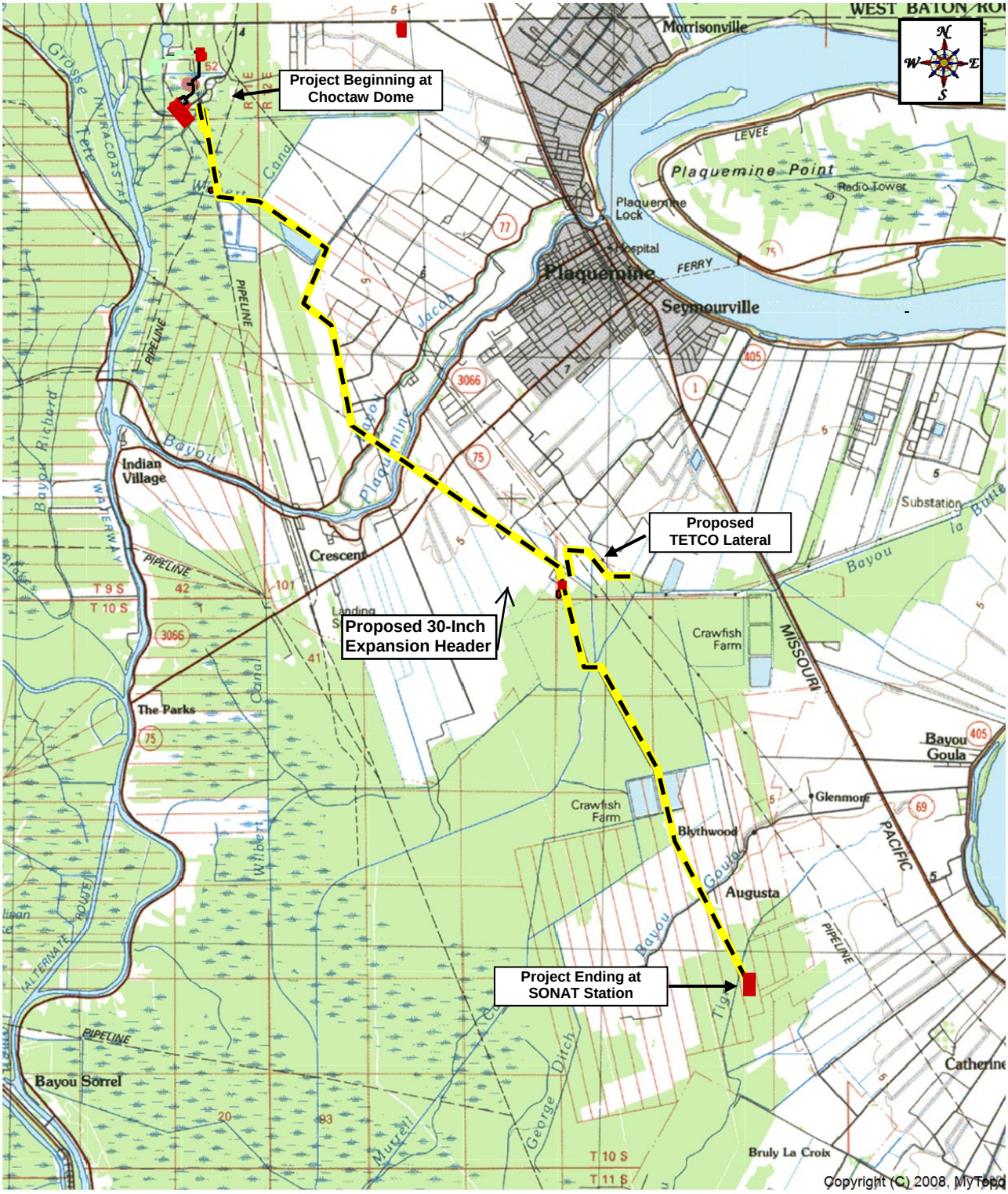
Appendix A

Figures 1-8

Project Area Location

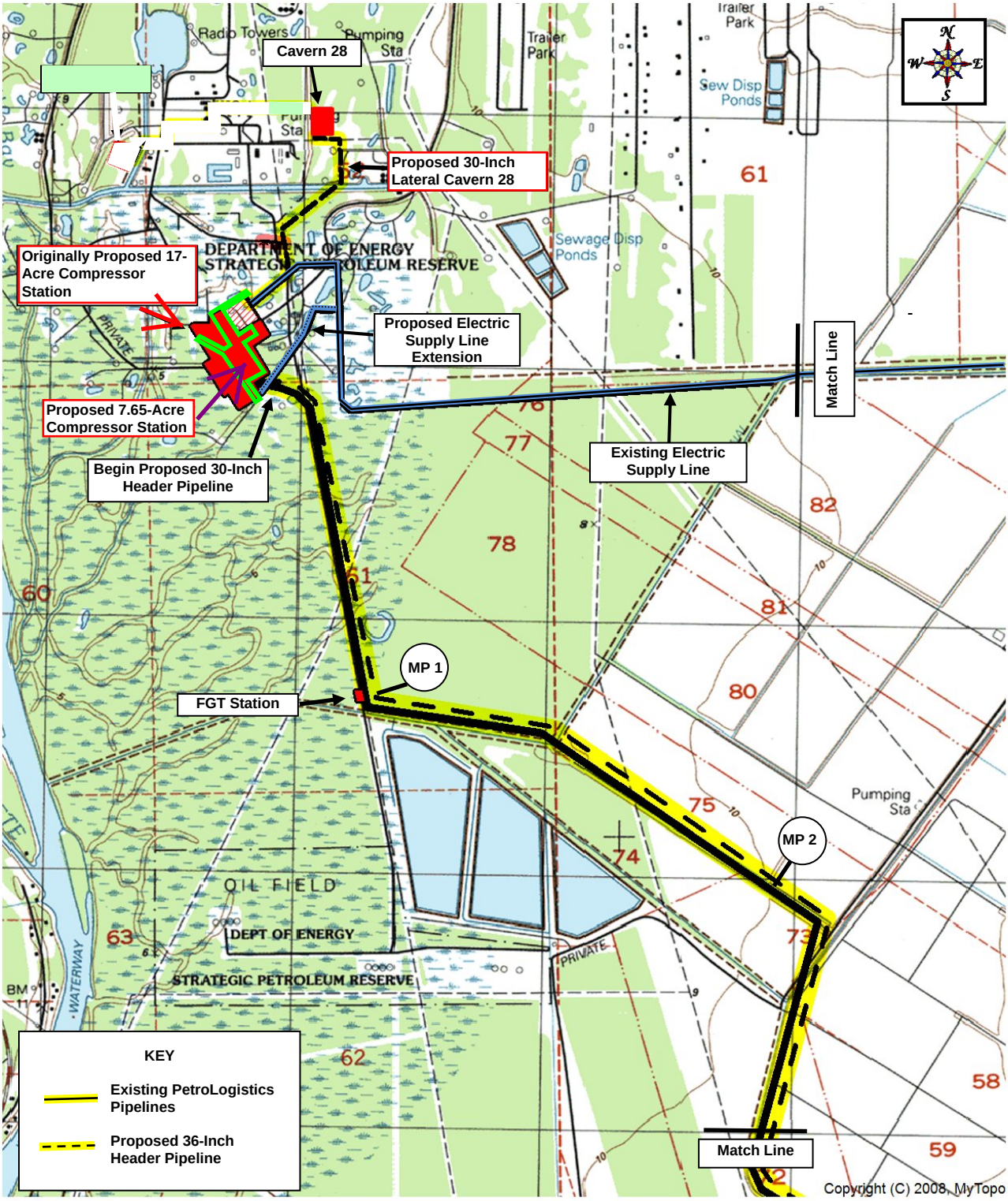
PetroLogistics Natural Gas Storage Company, LLC
Choctaw Hub Expansion Project
FERC Docket No.: CP11-50-000
Iberville Parish, Louisiana
Project Location
Appendix 1 - Figure 1





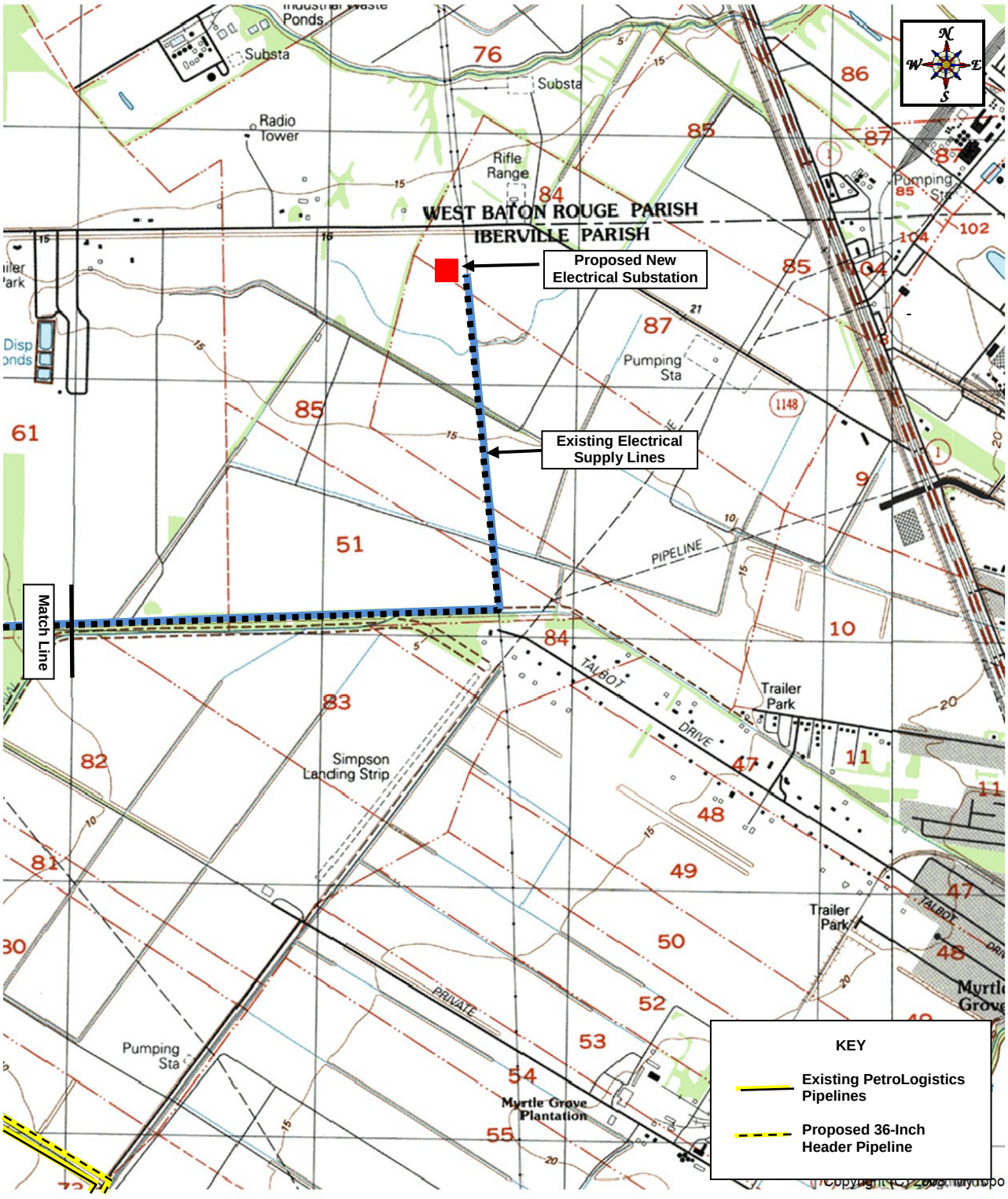
PetroLogistics Natural Gas Storage Company, LLC
Choctaw Hub Expansion Project
Docket No. CP11-50-000

Scale 1 inch = 1.69 miles Project Location/Pipeline Route Appendix 1 - Figure 2



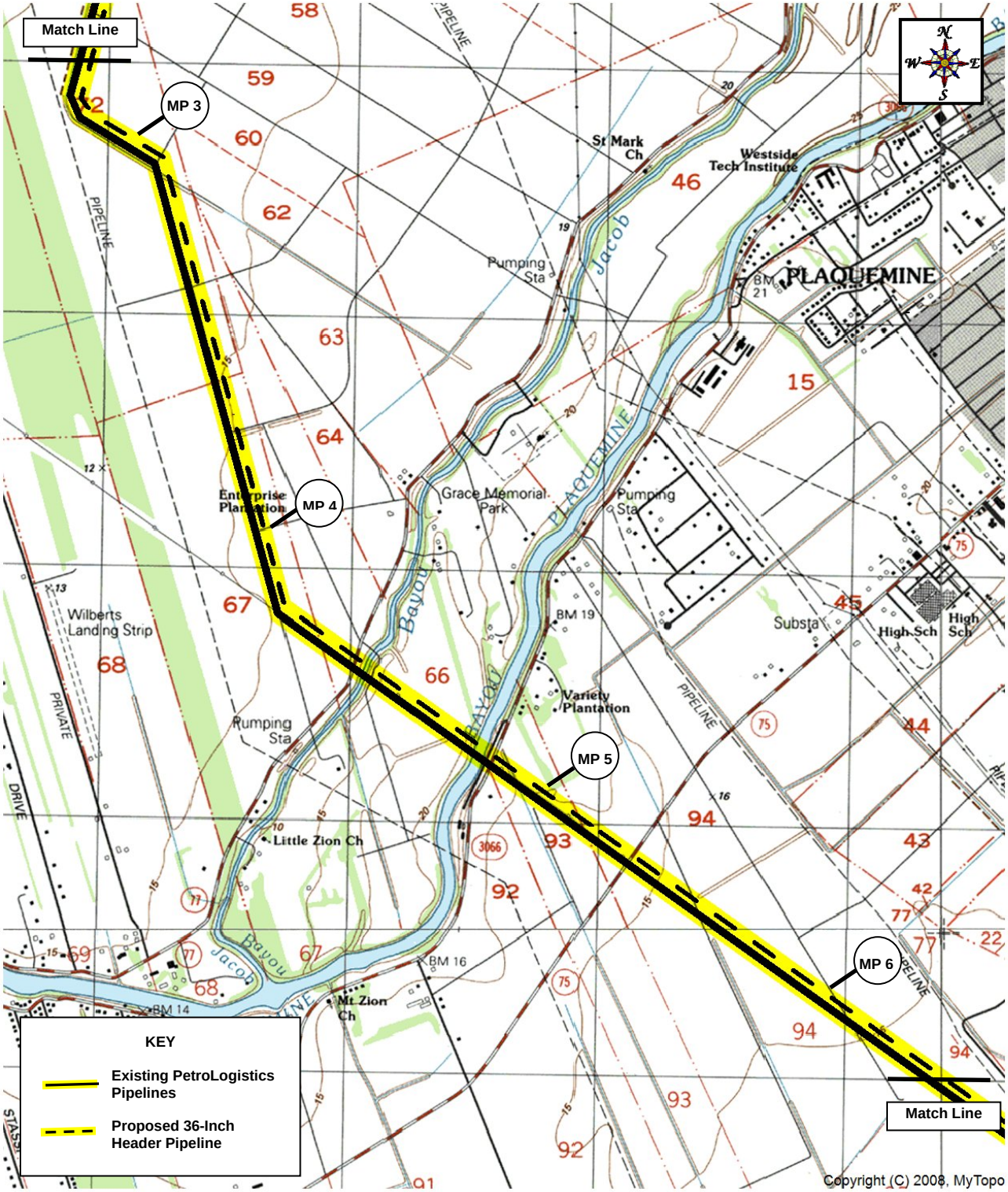
PetroLogistics Natural Gas Storage Company, LLC
Choctaw Hub Expansion Project
Docket No. CP11-50-000

Scale 1 inch = 0.35 miles Project Location/Pipeline Route Appendix 1 - Figure 3



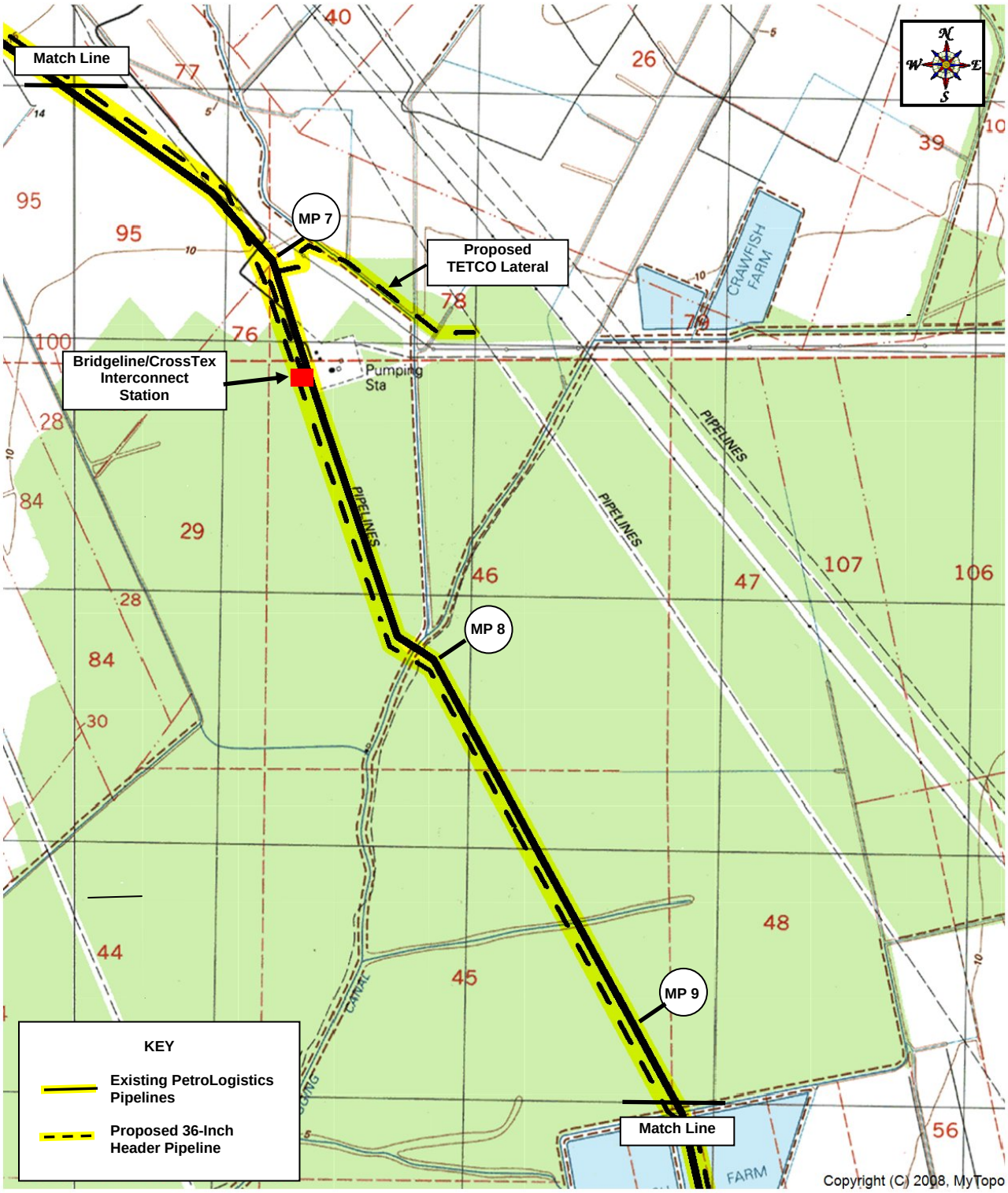
PetroLogistics Natural Gas Storage Company, LLC
Choctaw Hub Expansion Project
Docket No. CP11-50-000

Scale 1 inch = 0.35 miles Project Location/Pipeline Route Appendix 1 - Figure 4



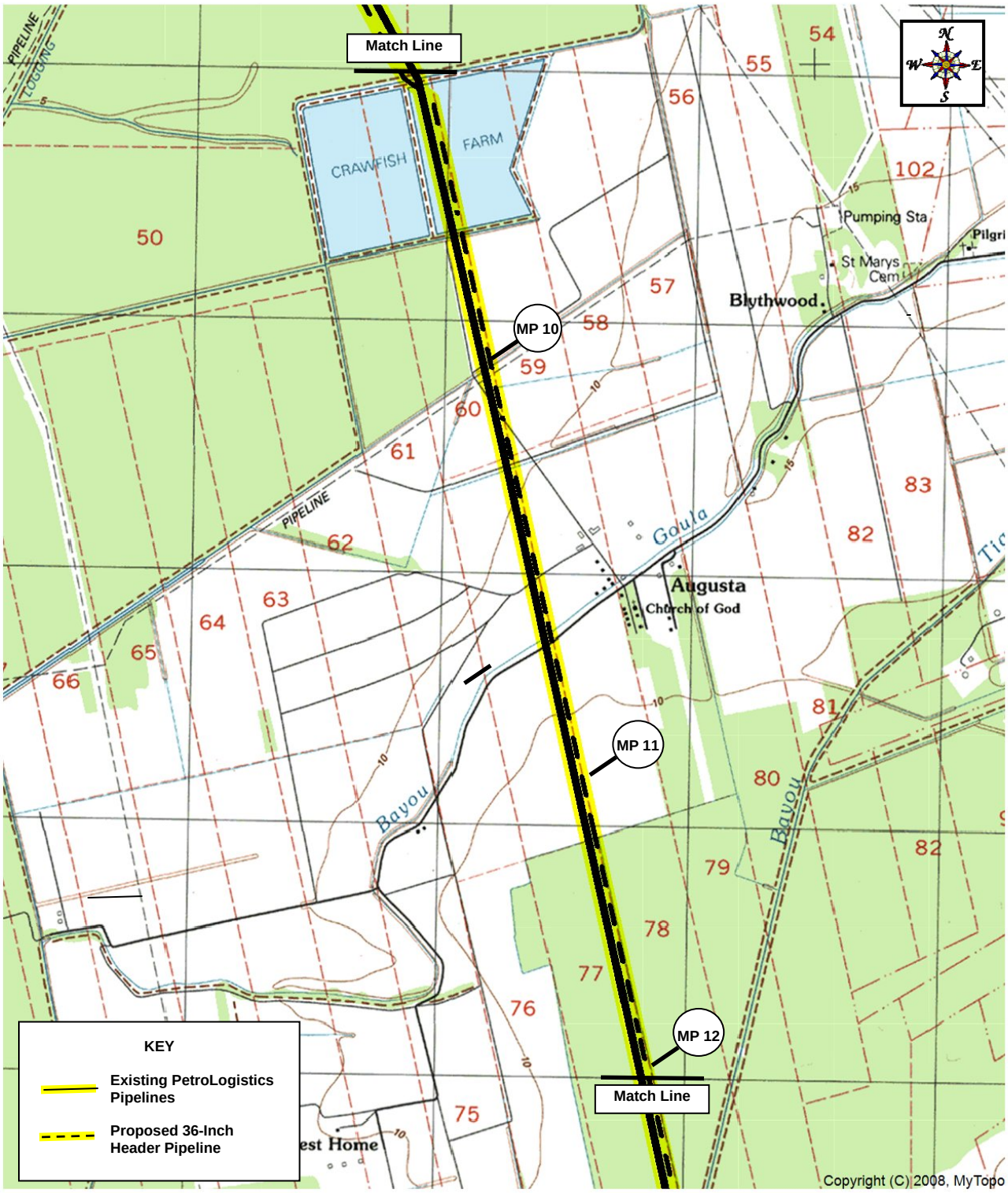
PetroLogistics Natural Gas Storage Company, LLC
Choctaw Hub Expansion Project
Docket No. CP11-50-000

Scale 1 inch = 0.35 miles Project Location/Pipeline Route Appendix 1 - Figure 5

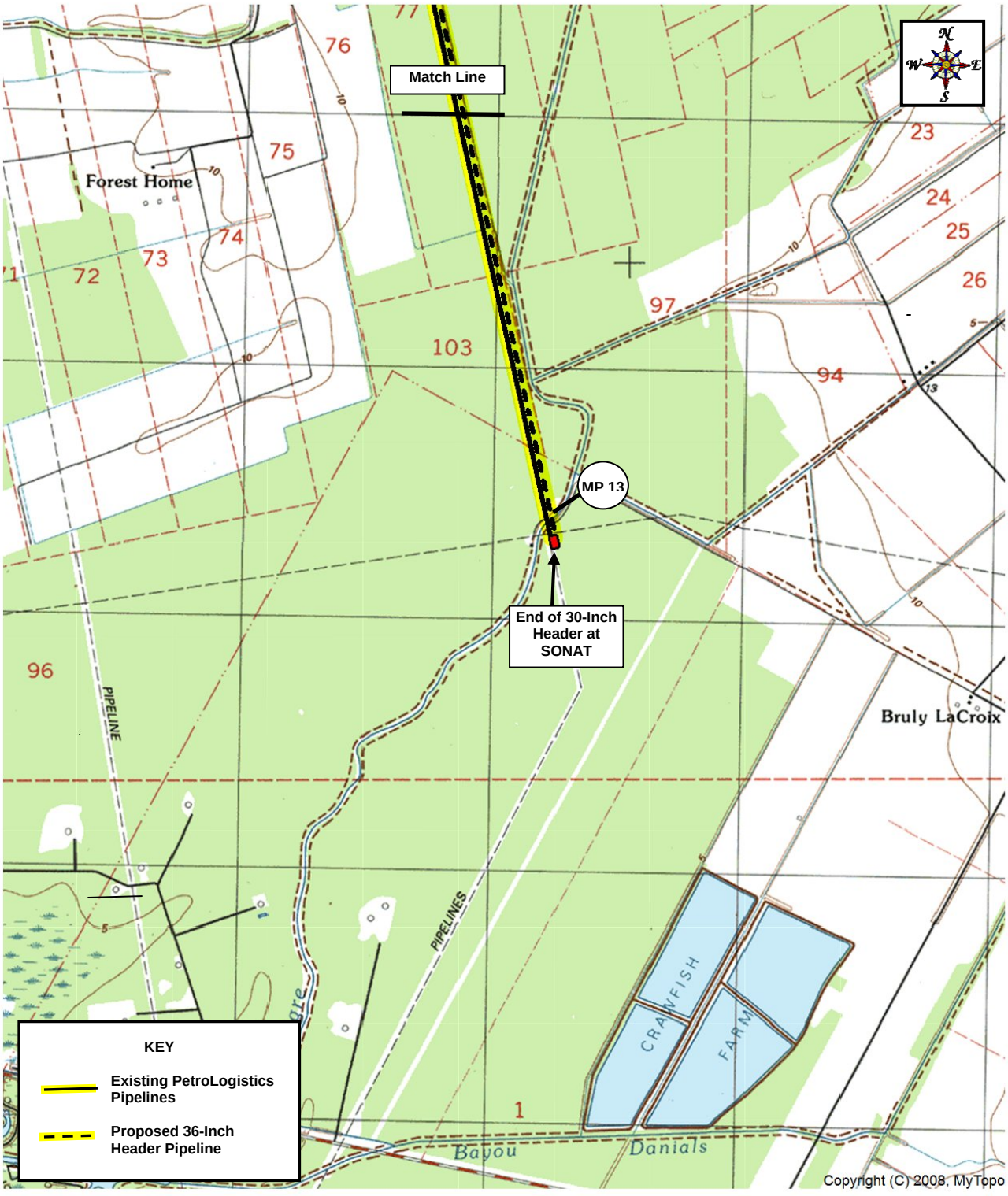


PetroLogistics Natural Gas Storage Company, LLC
Choctaw Hub Expansion Project
Docket No. CP11-50-000

Scale 1 inch = 0.35 miles Project Location/Pipeline Route Appendix 1 - Figure 6



PetroLogistics Natural Gas Storage Company, LLC
Choctaw Hub Expansion Project
Docket No. CP11-50-000
Scale 1 inch = 0.35 miles Project Location/Pipeline Route Appendix 1 - Figure 7



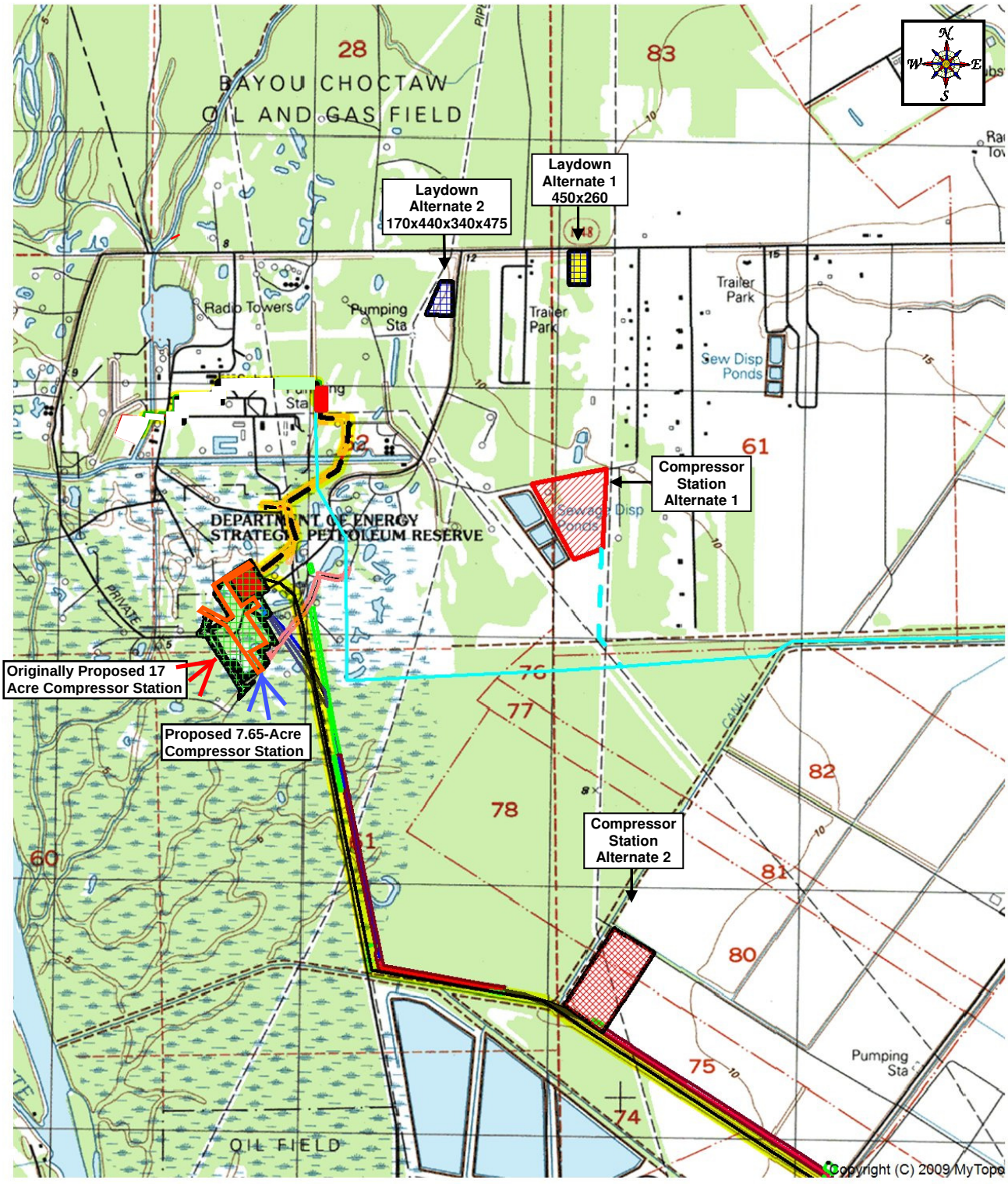
PetroLogistics Natural Gas Storage Company, LLC
Choctaw Hub Expansion Project
Docket No. CP11-50-000

Scale 1 inch = 0.35 miles Project Location/Pipeline Route Appendix 1 - Figure 8

Appendix A

Figure 9

Location of Compressor Station Expansion, Alternative Compressor Station Sites, and Alternative Laydown Area Sites



PetroLogistics Natural Gas Storage Company, LLC

Choctaw Hub Expansion Project — Docket No. CP11-50-000

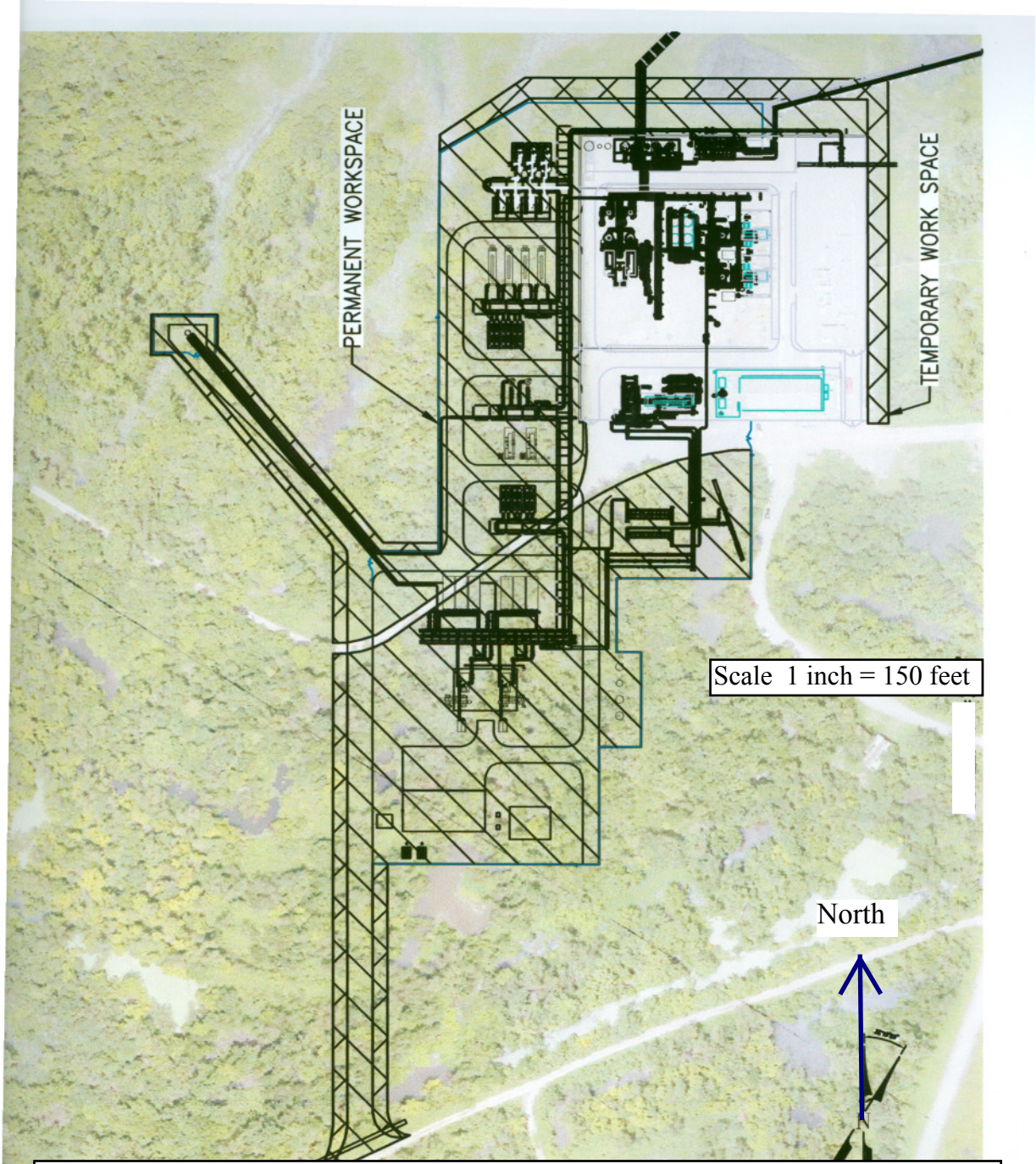
Location of Compressor Station Expansion, Alternative Compressor Station, and Alternative Laydown Area Sites

Scale 1 inch = 0.27 miles — Appendix 1 - Figure 9

Appendix A

Figure 10

Layout Diagram of Compressor Station Expansion



PetroLogistics Natural Gas Storage Company, LLC

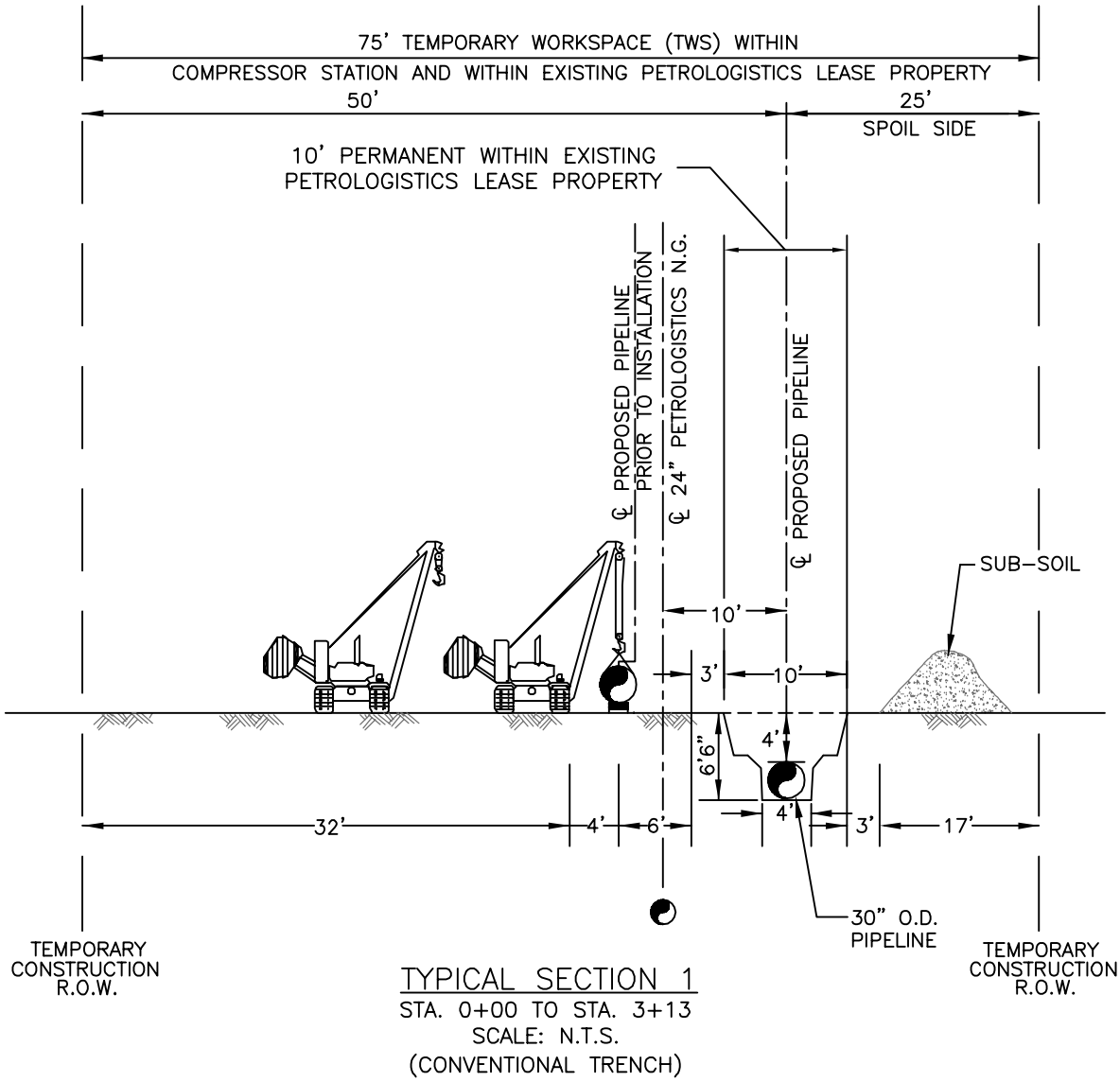
Choctaw Hub Expansion Project — Docket No. CP11-50-000

Layout Diagram of Compressor Station Expansion — Appendix 1 - Figure 10

Appendix A

Figures 11-19

Typical Pipeline Construction Cross-Section Diagrams for the 30-Inch Expansion Header



TYPICAL SECTION 1
STA. 0+00 TO STA. 3+13
SCALE: N.T.S.
(CONVENTIONAL TRENCH)

NOTES:

1. CONSTRUCTION LIMITS WILL TYPICALLY BE 75' WIDE. SPOIL SIDE WILL BE APPROXIMATELY 25' WIDE FROM PIPELINE CENTERLINE FOR SPOIL SIDE AND 50 FEET FROM PIPELINE CENTERLINE FOR THE WORKING SIDE. EXTRA TEMPORARY WORKSPACE MAY BE NECESSARY FOR PIPELINE SPECIAL CIRCUMSTANCES, AS REQUIRED.

2. THE USE OF CONSTRUCTION EQUIPMENT OVER ADJACENT PIPELINES WILL ONLY OCCUR AFTER RECEIVING WRITTEN APPROVAL FROM EACH PIPELINE OWNER OF PETROLOGISTICS PROTECTION PLAN USING MATS DESIGNED SPECIFICALLY FOR THE EQUIPMENT REQUIRED TO INSTALL THE PROPOSED PIPELINE.

3. THIS DRAWING WAS PREPARED FOR USE BY PETROLOGISTICS OLEFINS, LLC. IN CONJUNCTION WITH THE CHOCTAW PHASE I EXPANSION PROJECT. USE FOR ANY OTHER PURPOSE, OR USE BY ANY OTHER PARTY, SHALL BE AT USER'S SOLE RISK WITHOUT ANY LIABILITY TO UNIVERSALPEGASUS, INC. AND/OR PETROLOGISTICS.

4. ANY REVISIONS MADE TO THIS DRAWING CANNOT BE MADE WITHOUT THE WRITTEN AUTHORIZATION OF UNIVERSALPEGASUS, INC. OR PETROLOGISTICS.

5. THIS DRAWING WAS PREPARED SOLELY FOR ACQUISITION OF REGULATORY PERMITS AND DOES NOT REPRESENT ENGINEERING OR CONSTRUCTION DRAWINGS.

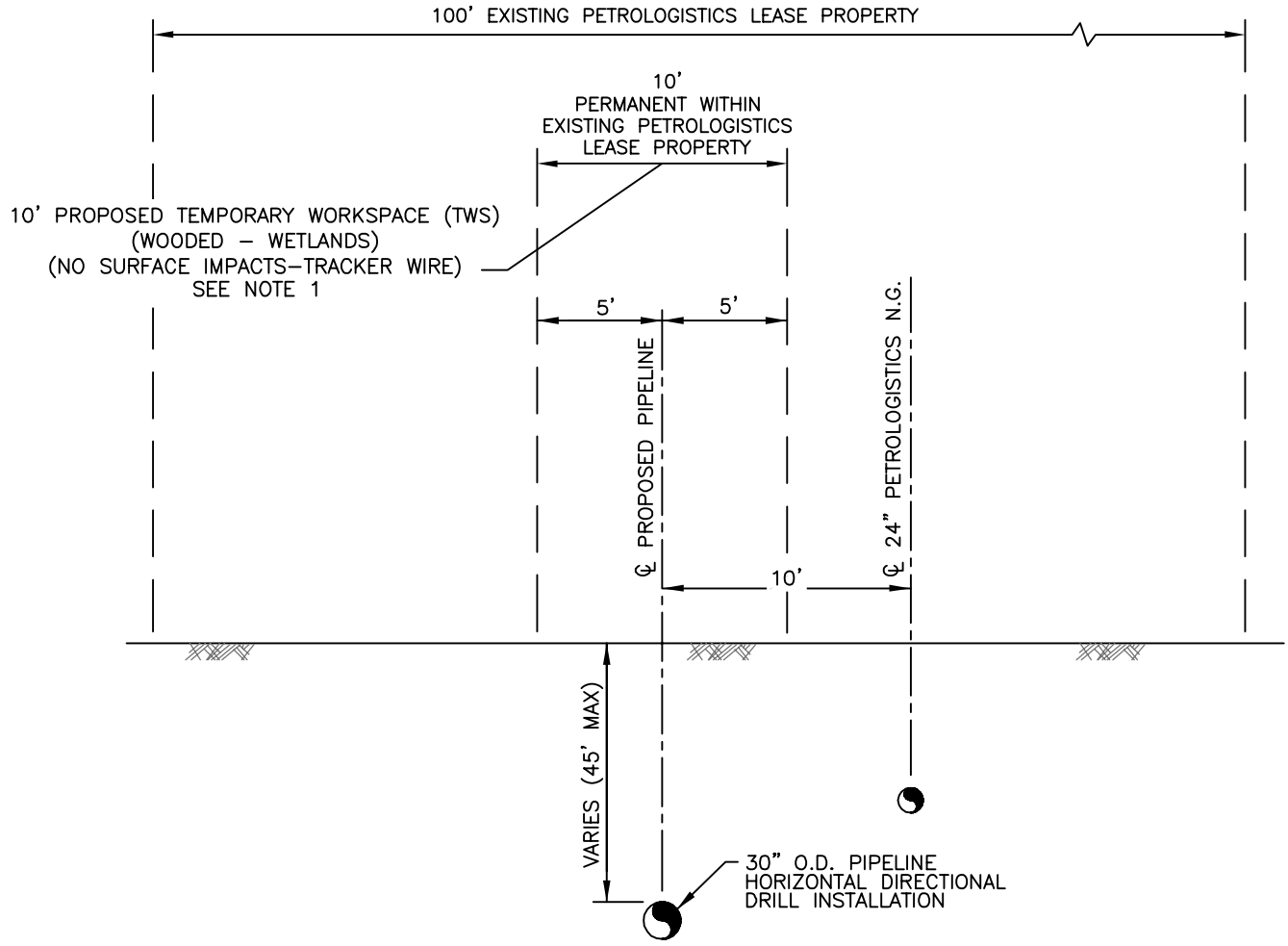
PetroLogistics Natural Gas Storage Company, LLC
Choctaw Hub Expansion Project
Docket No. CP11-050-000

Typical Pipeline Construction Cross-Section Diagrams

CONSTRUCTION DETAIL

30" LOW PRESSURE HEADER PIPELINE R.O.W. CONFIGURATION

Appendix 1 - Figure 11



TYPICAL SECTION 2

STA. 3+13 TO STA. 25+00

SCALE: N.T.S.

NOTES:

1. CONSTRUCTION LIMITS WILL TYPICALLY BE 10' WIDE. PETROLOGISTICS AGREES TO LIMIT VEGETATION CLEARING IN FORESTED WETLANDS TO THE CLEARING OF BRUSH AND SAPLINGS USING HAND TOOLS TO FACILITATE THE USE OF HDD TRACKING SYSTEMS AND INSTALLATION OF PIPELINE MARKERS.

2. THE OFFSET FROM OUTERMOST EXISTING PIPELINE WILL BE 10' FOR MOST LOCATIONS BUT MAY BE INCREASED OR DECREASED DEPENDING ON THE SITE SPECIFIC CONSTRUCTION REQUIREMENTS.

3. THE USE OF CONSTRUCTION EQUIPMENT OVER ADJACENT PIPELINES WILL ONLY OCCUR AFTER RECEIVING WRITTEN APPROVAL FROM EACH PIPELINE OWNER OF PETROLOGISTICS PROTECTION PLAN USING MATS DESIGNED SPECIFICALLY FOR THE EQUIPMENT REQUIRED TO INSTALL THE PROPOSED PIPELINE.

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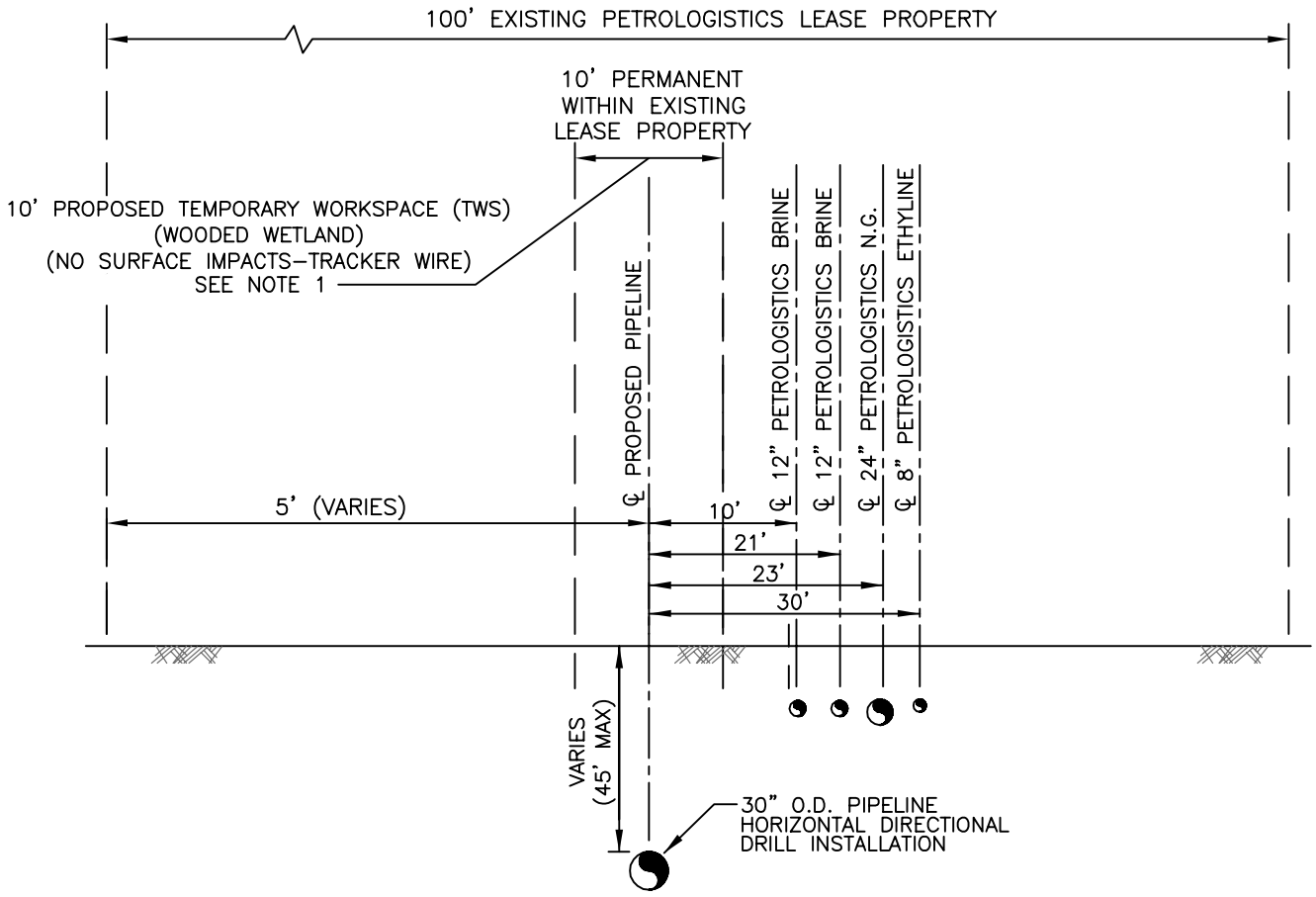
PetroLogistics Natural Gas Storage Company, LLC
Choctaw Hub Expansion Project
Docket No. CP11-50-000

Typical Pipeline Construction Cross-Section Diagrams
for the 30-Inch Expansion Header

CONSTRUCTION DETAIL

**30" LOW PRESSURE HEADER
CROSS SECTION TYPICAL
PIPELINE EASEMENTS AND
TEMPORARY WORKSPACES
(HORIZONTAL DIRECTIONAL DRILL)**

Appendix 1 - Figure 12



TYPICAL SECTION 3–A

STA. 69+12 TO STA. 76+73

SCALE: N.T.S.

NOTES:

1. CONSTRUCTION LIMITS WILL TYPICALLY BE 10' WIDE, PETROLOGISTICS AGREES TO LIMIT VEGETATION CLEARING IN FORESTED WETLANDS TO THE CLEARING OF BRUSH AND SAPLINGS USING HAND TOOLS TO FACILITATE THE USE OF HDD TRACKING SYSTEMS AND INSTALLATION OF PIPELINE MARKERS.

2. THE OFFSET FROM OUTERMOST EXISTING PIPELINE WILL BE 10' FOR MOST LOCATIONS BUT MAY BE INCREASED OR DECREASED DEPENDING ON THE SITE SPECIFIC CONSTRUCTION REQUIREMENTS.

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5. MATS TO BE USED IN WOODED WETLANDS.

6. ANY REVISIONS MADE TO THIS DRAWING CANNOT BE MADE WITHOUT THE WRITTEN AUTHORIZATION OF UNIVERSALPEGASUS, INC. OR PETROLOGISTICS.

7. THIS DRAWING WAS PREPARED SOLELY FOR ACQUISITION OF REGULATORY PERMITS AND DOES NOT REPRESENT ENGINEERING OR CONSTRUCTION DRAWINGS.

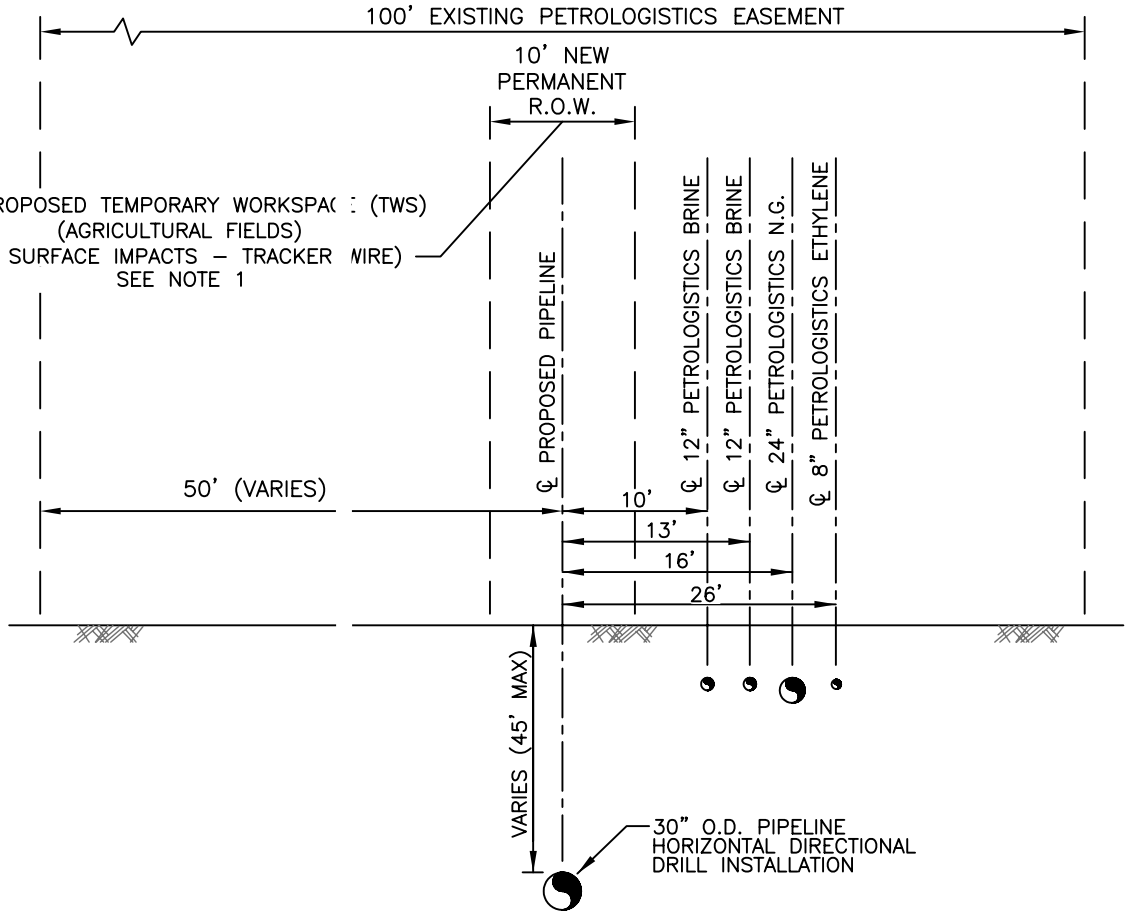
PetroLogistics Natural Gas Storage Company, LLC
Choctaw Hub Expansion Project
Docket No. CP11-50-000

Typical Pipeline Construction Cross-Section Diagrams for the 30-Inch Expansion Header

CONSTRUCTION DETAIL

30" LOW PRESSURE HEADER CROSS SECTION TYPICAL PIPELINE EASEMENTS AND TEMPORARY WORKSPACES (HORIZONTAL DIRECTIONAL DRILL)

Appendix 1 - Figure 13



TYPICAL SECTION 3–B

STA. 76+73 TO STA. 82+45/STA. 119+33 TO STA. 133+50/
STA. 233+74 TO STA. 245+27

SCALE: N.T.S.

NOTES:

1. CONSTRUCTION LIMITS WILL TYPICALLY BE 10' WIDE. PETROLOGISTICS AGREES TO LIMIT VEGETATION CLEARING IN FORESTED WETLANDS TO THE CLEARING OF BRUSH AND SAPLINGS USING HAND TOOLS TO FACILITATE THE USE OF HDD TRACKING SYSTEMS AND INSTALLATION OF PIPELINE MARKERS.

2. THE OFFSET FROM OUTERMOST EXISTING PIPELINE WILL BE 10' FOR MOST LOCATIONS BUT MAY BE INCREASED OR DECREASED DEPENDING ON THE SITE SPECIFIC CONSTRUCTION REQUIREMENTS.

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6. THIS DRAWING WAS PREPARED SOLELY FOR ACQUISITION OF REGULATORY PERMITS AND DOES NOT REPRESENT ENGINEERING OR CONSTRUCTION DRAWINGS

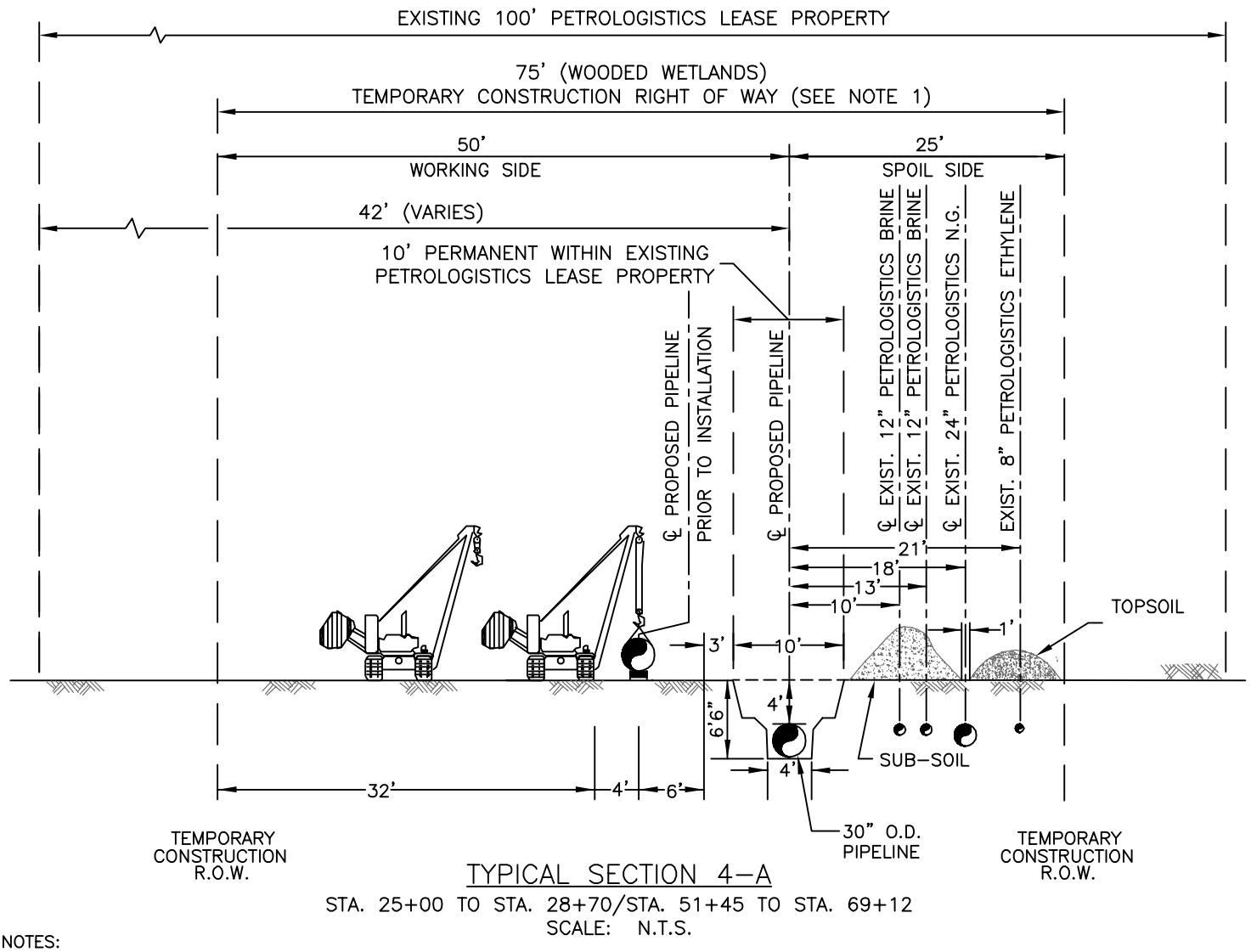
PetroLogistics Natural Gas Storage Company, LLC
Choctaw Hub Expansion Project
Docket No. CP11-50-000

Typical Pipeline Construction Cross-Section Diagrams
for the 30-Inch Expansion Header

CONSTRUCTION DETAIL

**30" LOW PRESSURE HEADER
CROSS SECTION TYPICAL
PIPELINE EASEMENTS AND
TEMPORARY WORKSPACES
(HORIZONTAL DIRECTIONAL DRILL)**

Appendix 1 - Figure 14



TYPICAL SECTION 4-A

STA. 25+00 TO STA. 28+70/STA. 51+45 TO STA. 69+12

SCALE: N.T.S.

NOTES:

1. CONSTRUCTION LIMITS WILL TYPICALLY BE 75' WIDE. SPOIL SIDE WILL BE APPROXIMATELY 25' WIDE FROM PIPELINE CENTERLINE FOR SPOIL SIDE AND 50 FEET FROM PIPELINE CENTERLINE FOR THE WORKING SIDE. EXTRA TEMPORARY WORKSPACE MAY BE NECESSARY FOR PIPELINE SPECIAL CIRCUMSTANCES, AS REQUIRED.

2 THE OFFSET FROM OUTERMOST EXISTING PIPELINE WILL BE 10' FOR MOST LOCATIONS BUT MAY BE INCREASED OR DECREASED DEPENDING ON THE SITE SPECIFIC CONSTRUCTION REQUIREMENTS.

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5. MATS TO BE USED IN WOODED WETLANDS.

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7. THIS DRAWING WAS PREPARED SOLELY FOR ACQUISITION OF REGULATORY PERMITS AND DOES NOT REPRESENT ENGINEERING OR CONSTRUCTION DRAWINGS.

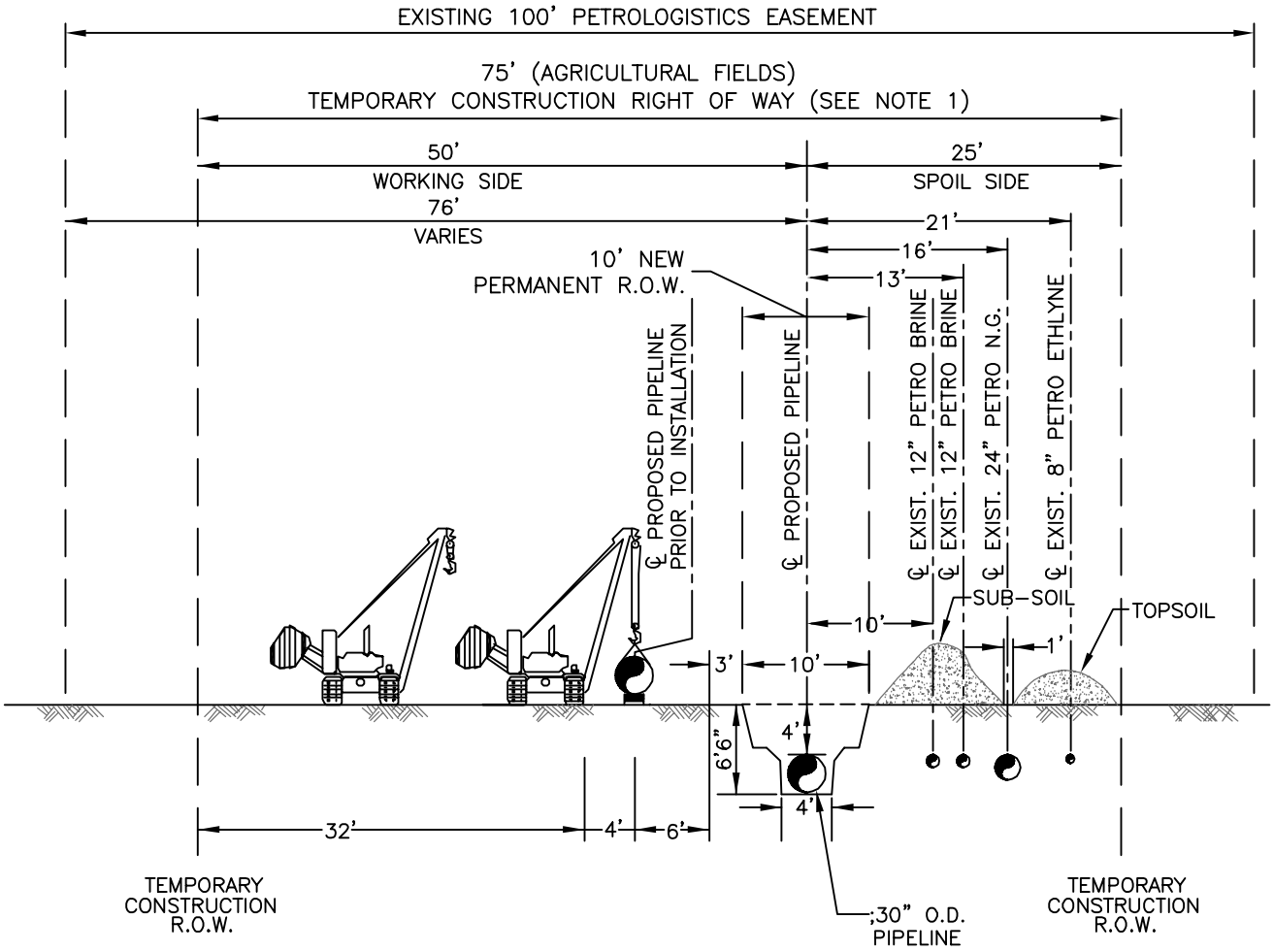
PetroLogistics Natural Gas Storage Company, LLC
Choctaw Hub Expansion Project
Docket No. CP11-50-000

Typical Pipeline Construction Cross-Section Diagrams
for the 30-Inch Expansion Header

CONSTRUCTION DETAIL

30" LOW PRESSURE HEADER PIPELINE R.O.W. CONFIGURATION 10' OFFSET FROM OUTBOARD 12" BRINE LINE

Appendix 1 - Figure 15



TYPICAL SECTION 4–B

STA. 82+45 TO STA. 119+33/STA. 133+50 TO STA. 233+74/
STA. 245+27 TO STA. 255+07/STA. 266+26 TO STA. 294+40
SCALE: N.T.S.

NOTES:

1. CONSTRUCTION LIMITS WILL TYPICALLY BE 75' WIDE. SPOIL SIDE WILL BE APPROXIMATELY 25' WIDE FROM PIPELINE CENTERLINE FOR SPOIL SIDE AND 50 FEET FROM PIPELINE CENTERLINE FOR THE WORKING SIDE. EXTRA TEMPORARY WORKSPACE MAY BE NECESSARY FOR PIPELINE SPECIAL CIRCUMSTANCES, AS REQUIRED.

2 THE OFFSET FROM OUTERMOST EXISTING PIPELINE WILL BE 10' FOR MOST LOCATIONS BUT MAY BE INCREASED OR DECREASED DEPENDING ON THE SITE SPECIFIC CONSTRUCTION REQUIREMENTS.

3. THE USE OF CONSTRUCTION EQUIPMENT OVER ADJACENT PIPELINES WILL ONLY OCCUR AFTER RECEIVING WRITTEN APPROVAL FROM EACH PIPELINE OWNER OF PETROLOGISTICS PROTECTION PLAN USING MATS DESIGNED SPECIFICALLY FOR THE EQUIPMENT REQUIRED TO INSTALL THE PROPOSED PIPELINE.

4. THIS DRAWING WAS PREPARED FOR USE BY PETROLOGISTICS OLEFINS, LLC IN CONJUNCTION WITH THE CHOCTAW PHASE I EXPANSION PROJECT. USE FOR ANY OTHER PURPOSE, OR USE BY ANY OTHER PARTY, SHALL BE AT USER'S SOLE RISK WITHOUT ANY LIABILITY TO UNIVERSALPEGASUS, INC. AND/OR PETROLOGISTICS.

5. ANY REVISIONS MADE TO THIS DRAWING CANNOT BE MADE WITHOUT THE WRITTEN AUTHORIZATION OF UNIVERSALPEGASUS, INC. OR PETROLOGISTICS.

6. THIS DRAWING WAS PREPARED SOLELY FOR ACQUISITION OF REGULATORY PERMITS AND DOES NOT REPRESENT ENGINEERING OR CONSTRUCTION DRAWINGS.

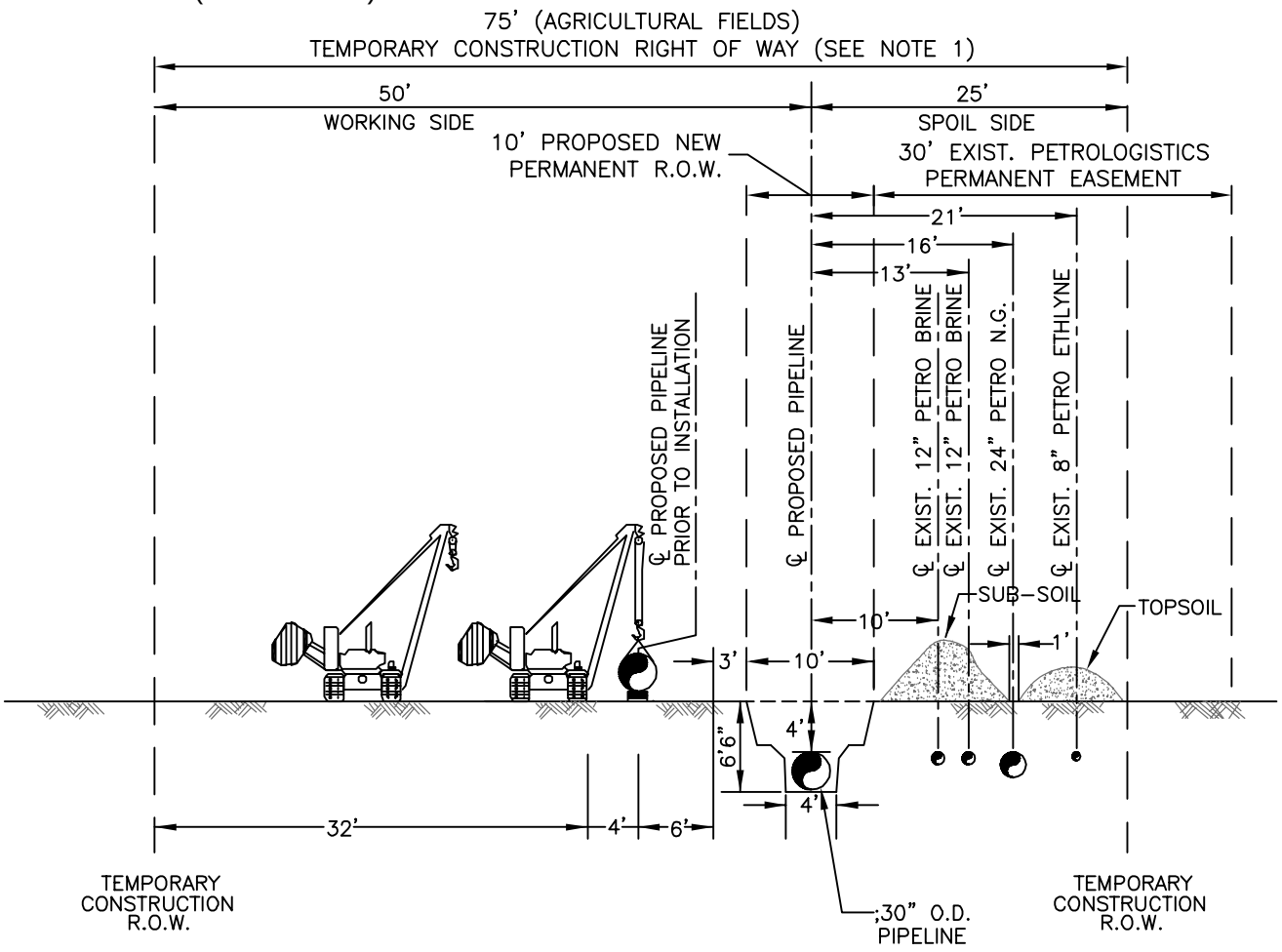
PetroLogistics Natural Gas Storage Company, LLC
Choctaw Hub Expansion Project
Docket No. CP11-50-000

Typical Pipeline Construction Cross-Section Diagrams
for the 30-Inch Expansion Header

CONSTRUCTION DETAIL

**30" LOW PRESSURE HEADER
PIPELINE R.O.W. CONFIGURATION
10' OFFSET FROM OUTBOARD
12" BRINE LINE**

Appendix 1 - Figure 16



TYPICAL SECTION 4–C
STA. 294+40 TO STA. 344+94
SCALE: N.T.S.

NOTES:

1. CONSTRUCTION LIMITS WILL TYPICALLY BE 75' WIDE. SPOIL SIDE WILL BE APPROXIMATELY 25' WIDE FROM PIPELINE CENTERLINE FOR SPOIL SIDE AND 50 FEET FROM PIPELINE CENTERLINE FOR THE WORKING SIDE. EXTRA TEMPORARY WORKSPACE MAY BE NECESSARY FOR PIPELINE SPECIAL CIRCUMSTANCES, AS REQUIRED.

2 THE OFFSET FROM OUTERMOST EXISTING PIPELINE WILL BE 10' FOR MOST LOCATIONS BUT MAY BE INCREASED OR DECREASED DEPENDING ON THE SITE SPECIFIC CONSTRUCTION REQUIREMENTS.

3. THE USE OF CONSTRUCTION EQUIPMENT OVER ADJACENT PIPELINES WILL ONLY OCCUR AFTER RECEIVING WRITTEN APPROVAL FROM EACH PIPELINE OWNER OF PETROLOGISTICS PROTECTION PLAN USING MATS DESIGNED SPECIFICALLY FOR THE EQUIPMENT REQUIRED TO INSTALL THE PROPOSED PIPELINE.

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PetroLogistics Natural Gas Storage Company, LLC
Choctaw Hub Expansion Project
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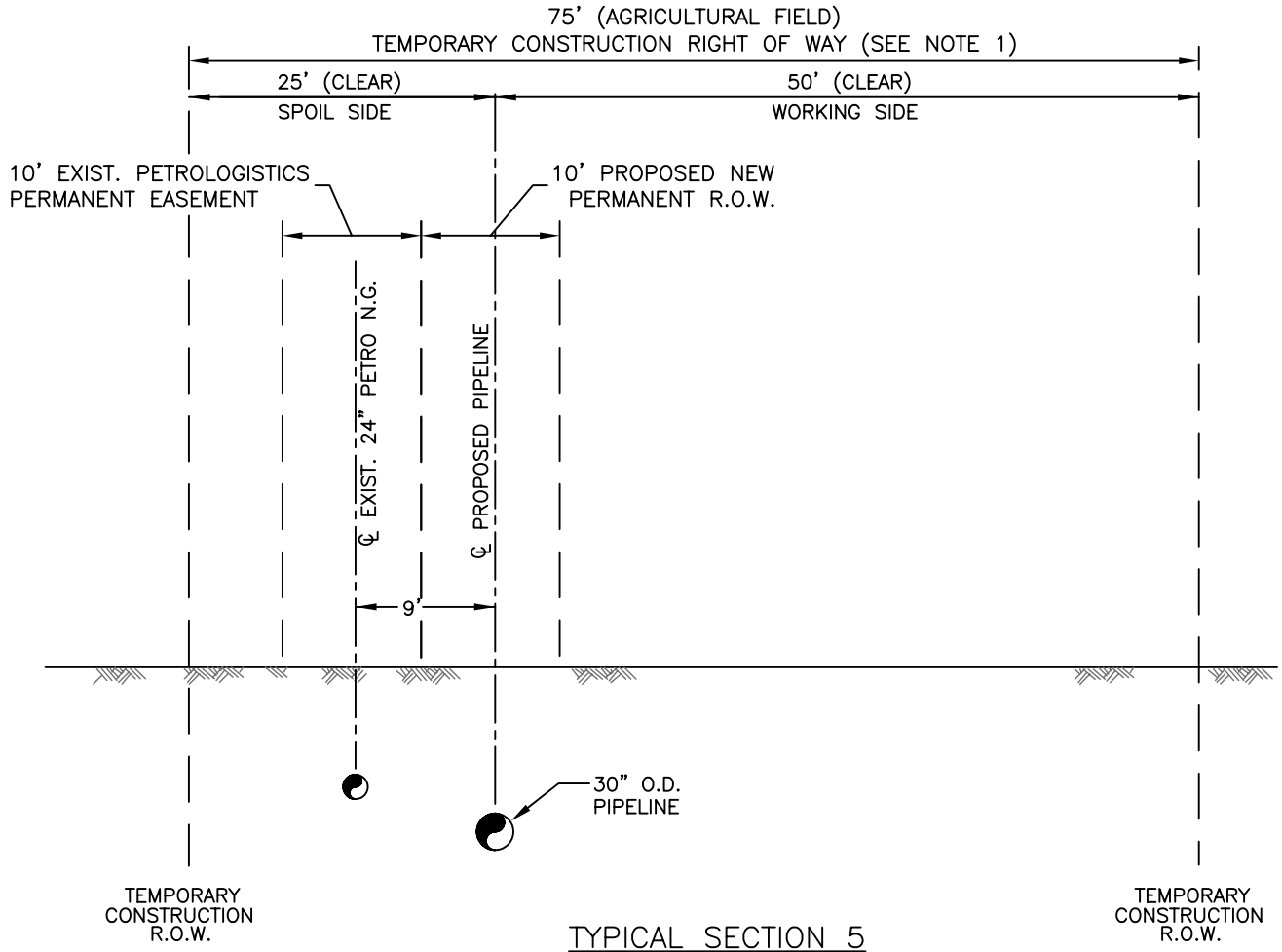
Typical Pipeline Construction Cross-Section Diagrams
for the 30-Inch Expansion Header

CONSTRUCTION DETAIL

30" LOW PRESSURE HEADER PIPELINE R.O.W. CONFIGURATION 10' OFFSET FROM OUTBOARD 12" BRINE LINE

Appendix 1 - Figure 17



TYPICAL SECTION 5

STA. 365+55 TO STA. 366+55/STA. 371+95 TO STA. 372+95
SCALE: N.T.S.
(CONVENTIONAL BORE)

NOTES:

1. CONSTRUCTION LIMITS WILL TYPICALLY BE 75' WIDE.

2. THE OFFSET FROM OUTERMOST EXISTING PIPELINE WILL BE 10' FOR MOST LOCATIONS BUT MAY BE INCREASED OR DECREASED DEPENDING ON THE SITE SPECIFIC CONSTRUCTION REQUIREMENTS.

3. THE USE OF CONSTRUCTION EQUIPMENT OVER ADJACENT PIPELINES WILL ONLY OCCUR AFTER RECEIVING WRITTEN APPROVAL FROM EACH PIPELINE OWNER OF PETROLOGISTICS PROTECTION PLAN USING MATS DESIGNED SPECIFICALLY FOR THE EQUIPMENT REQUIRED TO INSTALL THE PROPOSED PIPELINE.

4. THIS DRAWING WAS PREPARED FOR USE BY PETROLOGISTICS OLEFINS, TLC IN CONJUNCTION WITH THE CHOCTAW PHASE I EXPANSION PROJECT. USE FOR ANY OTHER PURPOSE, OR USE BY ANY OTHER PARTY, SHALL BE AT USER'S SOLE RISK WITHOUT ANY LIABILITY TO UNIVERSALPEGASUS, INC. AND/OR PETROLOGISTICS.

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6. THIS DRAWING WAS PREPARED SOLELY FOR ACQUISITION OF REGULATORY PERMITS AND DOES NOT REPRESENT ENGINEERING OR CONSTRUCTION DRAWINGS.

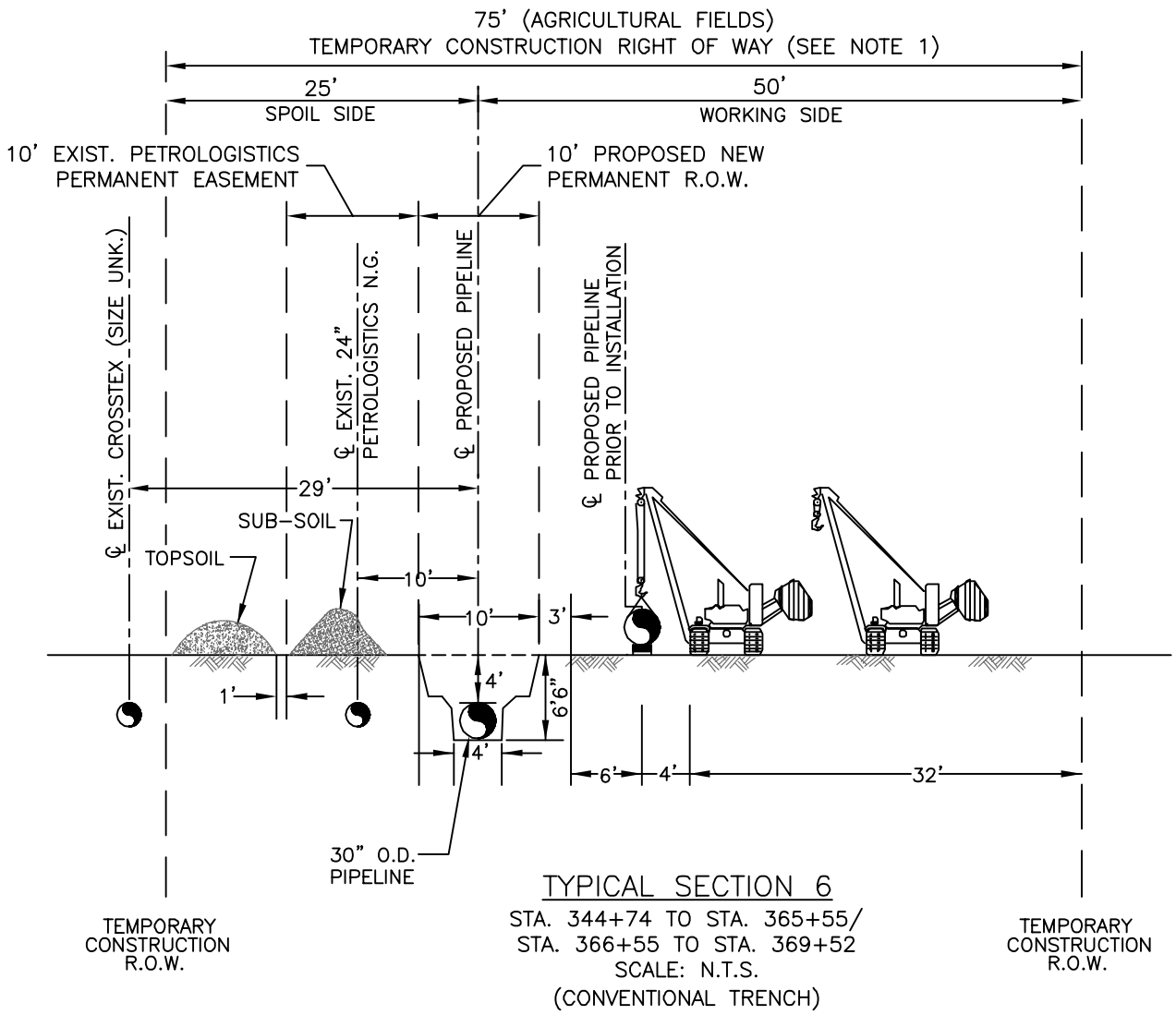
PetroLogistics Natural Gas Storage Company, LLC
Choctaw Hub Expansion Project
Docket No. CP11-50-000

Typical Pipeline Construction Cross-Section Diagrams
for the 30-Inch Expansion Header

CONSTRUCTION DETAIL

30" LOW PRESSURE HEADER PIPELINE R.O.W. CONFIGURATION

Appendix 1 - Figure 18



TYPICAL SECTION 6

STA. 344+74 TO STA. 365+55/
STA. 366+55 TO STA. 369+52
SCALE: N.T.S.
(CONVENTIONAL TRENCH)

NOTES:

1. CONSTRUCTION LIMITS WILL TYPICALLY BE 75' WIDE. SPOIL SIDE WILL BE APPROXIMATELY 25' WIDE FROM PIPELINE CENTERLINE FOR SPOIL SIDE AND 50 FEET FROM PIPELINE CENTERLINE FOR THE WORKING SIDE. EXTRA TEMPORARY WORKSPACE MAY BE NECESSARY AT ROAD AND/OR WATER CROSSINGS AND OTHER SPECIAL CIRCUMSTANCES, AS REQUIRED. CERTAIN SITUATIONS MAY REQUIRE A NARROWER WIDTH.

2. THE OFFSET FROM OUTERMOST EXISTING PIPELINE WILL BE 10' FOR MOST LOCATIONS BUT MAY BE INCREASED OR DECREASED DEPENDING ON THE SITE SPECIFIC CONSTRUCTION REQUIREMENTS.

3. THE USE OF CONSTRUCTION EQUIPMENT OVER ADJACENT PIPELINES WILL ONLY OCCUR AFTER RECEIVING WRITTEN APPROVAL FROM EACH PIPELINE OWNER OF PETROLOGISTICS PROTECTION PLAN USING MATS DESIGNED SPECIFICALLY FOR THE EQUIPMENT REQUIRED TO INSTALL THE PROPOSED PIPELINE.

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for the 30-Inch Expansion Header

CONSTRUCTION DETAIL

30" LOW PRESSURE HEADER PIPELINE R.O.W. CONFIGURATION 10' OFFSET FROM OUTBOARD 24" PETROLOGISTICS LINE

Appendix 1 - Figure 19

Document Content(s)