Federal Energy Regulatory Commission

**Office of Energy Projects**

**August 2017**

**Southern Natural Gas Company, LLC** **Docket No. CP17-46-000**

# Fairburn Expansion Project Environmental Assessment

Cooperating Agencies:

US Army Corps of Engineers

Washington, DC 20426

FEDERAL ENERGY REGULATORY COMMISSION

WASHINGTON, D.C. 20426

OFFICE OF ENERGY PROJECTS

In Reply Refer To:
OEP/DG2E/Gas 2
Southern Natural Gas Company, LLC
Fairburn Expansion Project
Docket No. CP17-46-000

TO THE PARTY ADDRESSED:

The staff of the Federal Energy Regulatory Commission (FERC or Commission) has prepared an environmental assessment (EA) for the Fairburn Expansion Project, proposed by Southern Natural Gas Company, LLC (Southern) in the above-referenced docket. Southern requests authorization to acquire, upgrade, construct, and operate certain natural gas pipeline and compression facilities in Clayton, Cobb, Fayetteville, Fulton, and Monroe Counties, Georgia. The project would provide approximately 343 million cubic feet per day of new firm transportation capacity to delivery points in Southern's Zone 2 and Zone 3 systems.

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

The U.S. Army Corps of Engineers and the U.S. Environmental Protection Agency 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 proposed Fairburn Expansion Project includes the following facilities in Georgia:

- one new 4.9-mile-long 30-inch-diameter Fairburn Lateral pipeline, extending from the Transcontinental Gas Pipe Line Company interconnect in Fayette County to a new proposed 18,000-horsepower electric Fairburn Compressor Station with pig[1] receiver in Fulton County;
- one 1.6-mile-long 30-inch-diameter South Main 2nd Loop[2] Line Extension pipeline along with pig receiver from mileposts 373.6 to 375.2 on Southern's existing South Main Line System in Monroe County;

[1] A "pig" is a tool that the pipeline company inserts into and pushes through the pipeline for cleaning the pipeline, conducting internal inspections, or other purposes.

[2] A pipeline loop is a segment of pipe constructed parallel to an existing pipeline to increase capacity.

- acquisition of the 19.7-mile-long 30-inch-diameter McDonough Lateral pipeline that extends from Southern's existing SNG-to-McDonough Meter Station in Fulton County to the proposed Plant McDonough Meter Station in Cobb County;
- a new Plant McDonough Meter Station in Cobb County; a SNG-to-McDonough Meter Station modification in Fulton County; and a new UPS Meter Station in Fulton County, all located on the McDonough Lateral;
- one new Transco-to-SNG Meter Station with pig launcher in Fayette County; and
- modification of the Jonesboro Meter Station in Clayton County.

The FERC staff mailed copies of the EA to federal, state, and local government representatives and agencies; elected officials; environmental and public interest groups; Native American tribes; potentially affected landowners and other interested individuals and groups; and newspapers and libraries in the project area. In 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 **September 18, 2017**.

For your convenience, there are three methods you can use to file your comments to the Commission. In all instances, please reference the project docket number (CP17-46-000) with your submission. The Commission encourages electronic filing of comments and has expert staff available to assist you at (202) 502-8258 or FercOnlineSupport@ferc.gov.

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

(2) You can 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).[3] 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., CP17-46). 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/docs-filing/esubscription.asp.

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

## TABLE OF CONTENTS



## LIST OF APPENDICES

## LIST OF FIGURES



## LIST OF TABLES

## TECHNICAL ACRONYMS AND ABBREVIATIONS

| | |
|---|---|
| AQCR | Air quality control regions |
| ATWS | additional temporary workspaces |
| BCC | Birds of Conservation Concern |
| BGEPA | Bald and Golden Eagle Protection Act |
| Certificate | Certificate of Public Convenience and Necessity |
| CEQ | Council on Environmental Quality |
| CFR | Code of Federal Regulations |
| $CH_4$ | methane |
| CO | carbon monoxide |
| $CO_{2eq}$ | carbon dioxide equivalents |
| $CO_2$ | carbon dioxide |
| Commission | Federal Energy Regulatory Commission |
| EA | Environmental Assessment |
| EI | Environmental Inspector |
| ESA | Endangered Species Act |
| FERC | Federal Energy Regulatory Commission |
| GDNR | Georgia Department of Natural Resources |
| GEPD | Georgia Environmental Protection Department |
| GHG | greenhouse gas |
| GTC | Georgia Transmission Corporation |
| GWP | global warming potential |
| hp | horsepower |
| HUC | USGS Hydrologic Code |
| MBTA | Migratory Bird Treaty Act |
| MP | milepost |
| NAAQS | National Ambient Air Quality Standards |
| NEPA | National Environmental Policy Act of 1969 |
| NGA | Natural Gas Act |
| NHPA | National Historic Preservation Act |
| $N_2O$ | nitrous oxide |
| $NO_2$ | nitrogen dioxide |
| $NO_x$ | nitrogen oxides |
| NOI | Notice of Intent to Prepare an Environmental Assessment for the Proposed Fairburn Expansion Project and Request for Comments on Environmental Issues |
| NRCS | Natural Resources Conservation Service |
| NRHP | National Register of Historic Places |
| NSA | noise sensitive area |
| NSHAP | National Emission Standards for Hazardous Air Pollutants |
| $O_3$ | Ozone |
| OEP | Office of Energy Projects |
| PEM | palustrine emergent |

| | |
|---|---|
| PFO | palustrine forested |
| Plan | FERC *Upland Erosion Control, Revegetation, and Maintenance Plan* |
| $PM_{2.5}$ | particulate matter less than 2.5 microns in diameter |
| $PM_{10}$ | particulate matter less than 10 microns in diameter |
| Procedures | FERC *Wetland and Waterbody Construction and Mitigation Procedures* |
| Project | Fairburn Expansion Project |
| PSD | Prevention of Significant Deterioration |
| PSS | palustrine scrub-shrub |
| RICE | reciprocating internal combustion engine |
| SCADA | Supervisory Control and Data Acquisition |
| Secretary | Secretary of the Commission |
| SHPO | State Historic Preservation Officer |
| SIP | State Implementation Plan |
| Southern | Southern Natural Gas Company, LLC |
| $SO_2$ | sulfur dioxide |
| SPCC | Spill Prevention Control and Countermeasure |
| tpy | tons per year |
| Transco | Transcontinental Gas Pipe Line Company |
| UPS | United Parcel Service |
| USACE | US Army Corps of Engineers |
| USDOT | US Department of Transportation |
| USEPA | US Environmental Protection Agency |
| USFWS | US Fish and Wildlife Service |
| USGS | US Geological Survey |
| VOC | volatile organic compounds |

## 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 and compression facilities as proposed by Southern Natural Gas Company, LLC (Southern) in Clayton, Cobb, Fayette, Fulton, and Monroe Counties, Georgia. The proposed project is known as the Fairburn Expansion Project (Project). We[1] 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 FERC is the lead federal agency for the preparation of this EA. The US Army Corps of Engineers (USACE) and the US Environmental Protection Agency (USEPA) participated as a cooperating agency in the preparation of the EA. The assessment of environmental impacts is an important and integral part of the Commission's decision on whether to issue Southern a Certificate of Public Convenience and Necessity (Certificate). The principal purposes in preparing this EA are to:

- identify and assess potential impacts on the natural and human environment that could result from implementation of the proposed action;
- identify and recommend reasonable alternatives and specific mitigation measures, as necessary, to avoid or minimize Project-related environmental impacts; and
- facilitate public involvement in the environmental review process.

### 1. Purpose and Need, and Proposed Facilities

As described in its February 3, 2017 application, Southern's stated purpose is to add approximately 343 million cubic feet per day of new firm transportation capacity to delivery points in Southern's Zone 2 and Zone 3 systems from a new interconnection with an existing Transcontinental Gas Pipe Line Company (Transco) pipeline in Fayette County, Georgia.

Under section 7(c) of the Natural Gas Act (NGA), the Commission determines whether interstate natural gas transportation facilities are in the public convenience and necessity and, if so, grants a Certificate to construct and operate them. The Commission bases its decisions on technical competence, financing, rates, market demand, gas supply, environmental impact, long-term feasibility, and other issues concerning a proposed project.

Specifically, Southern seeks authority to construct and operate the following facilities in Georgia:

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

- one new 4.9-mile-long 30-inch-diameter Fairburn Lateral pipeline, extending from the Transcontinental Gas Pipe Line Company interconnect in Fayette County to a new proposed 18,000-horsepower electric Fairburn Compressor Station with pig[2] receiver in Fulton County;
- one 1.6-mile-long 30-inch-diameter South Main 2nd Loop[3] Line Extension pipeline along with pig receiver from mileposts 373.6 to 375.2 on Southern's existing South Main Line System in Monroe County;
- a new Plant McDonough Meter Station in Cobb County; a SNG-to-McDonough Meter Station modification in Fulton County; and a new UPS Meter Station in Fulton County, all located on the McDonough Lateral;
- one new Transco-to-SNG Meter Station with pig launcher in Fayette County; and
- modification of the Jonesboro Meter Station in Clayton County

In addition, Southern would perform the following activity in Georgia:

- acquisition of the 19.7-mile-long 30-inch-diameter McDonough Lateral pipeline that extends from Southern's existing SNG-to-McDonough Meter Station in Fulton County to the proposed Plant McDonough Meter Station in Cobb County;

We have not included discussion of this acquisition in our environmental analysis given Southern plans no construction or modification activities on this existing lateral pipeline.

Southern plans to begin construction of the Project in early 2018 for an anticipated in-service date of October 2018. Figure 1, and figures 2 through 13 in appendix A, show more detailed location information on U.S. Geological Survey (USGS) topographic maps.

## 2. Non-jurisdictional Facilities

As part of its decision to authorize natural gas facilities, FERC considers all factors bearing on the public convenience and necessity. 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.

[2] A "pig" is a tool that the pipeline company inserts into and pushes through the pipeline for cleaning the pipeline, conducting internal inspections, or other purposes.

[3] A pipeline loop is a segment of pipe constructed parallel to an existing pipeline to increase capacity.

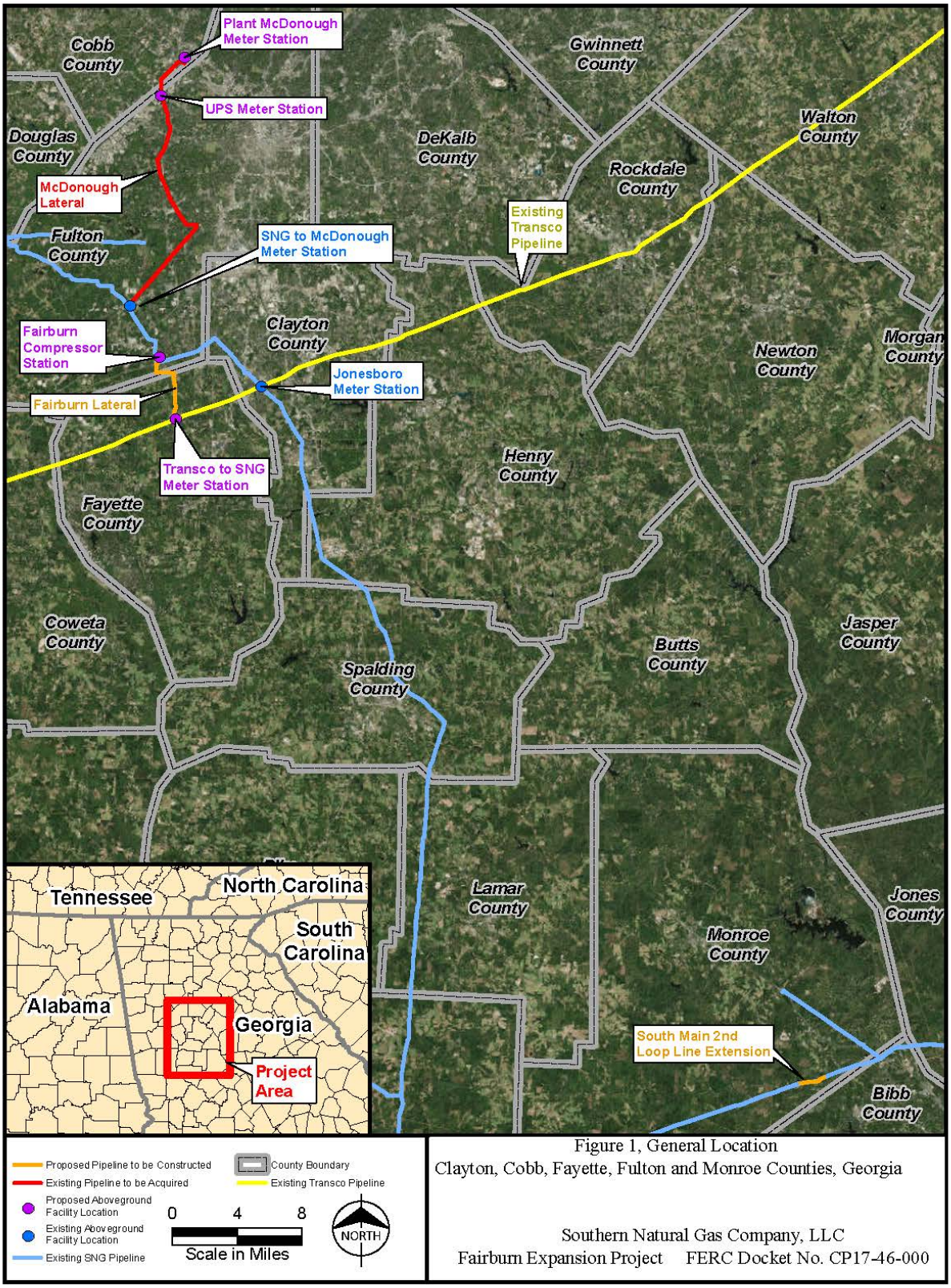


Figure 1, General Location
Clayton, Cobb, Fayette, Fulton and Monroe Counties, Georgia

Southern Natural Gas Company, LLC
Fairburn Expansion Project FERC Docket No. CP17-46-000

The Fairburn Compressor Station would require electric power supply. Southern would contract with Georgia Power to permit, construct, own, and operate the required power lines and new substation to originate from Georgia Power's existing powerlines immediately adjacent to the west side of the compressor station site. The new substation would be located within the property boundaries of the Fairburn Compressor Station.

Southern estimates that the Transco-to-SNG Meter Station would require electric power from Coweta-Fayette Electric Membership Corporation (Coweta-Fayette EMC), and that Georgia Power would provide electric power to the Plant McDonough and UPS Meter Stations. These electric power hookups would consist of a 25 kilo-volt-ampere 240/120-volt single phase, 60-hertz service. The powerline hookups would use short sections of feeder lines from existing adjacent powerline rights-of-way through mowed powerline right-of-way (20 feet long for the Transco-to-SNG Meter Station), cleared industrial land (150 feet long for the Plant McDonough Meter Station), and mowed powerline right-of-way (200 feet long for the UPS Meter Station). No additional right-of-way or work areas are needed for installation of any of the powerline hookup feeder lines. Southern indicated that no federal permits would be required for installation of these feeder lines. Because Georgia Power would construct these facilities while Southern constructs its Project, and because of the overall location and operational necessity of these facilities with regard to the Project, we have considered them in our cumulative impact analyses.

## 3. Public Review and Comment

On March 20, 2017 the Commission issued a *Notice of Intent to Prepare an Environmental Assessment for the Proposed Fairburn Expansion Project and Request for Comments on Environmental Issues* (NOI). The NOI was sent to affected landowners; federal, state, and local government agencies; elected officials; environmental and public interest groups; Native American tribes; other interested parties; and local libraries and newspapers. In response to the NOI, the Commission received comments from the U.S. Environmental Protection Agency (USEPA) and five landowners. The primary issues raised by the commenters concerned impacts on residential areas, visual impacts, and operational safety in association with electric powerline collocation.

## 4. Land Requirements

Virtually all the Project's pipelines would be collocated along existing natural gas pipeline utilities operated by Southern and Colonial Pipeline Company and electric powerline facilities operated by Georgia Transmission Corporation (GTC). Table 1 lists the Project collocation with other utilities by MP locations. Southern would collocate its Loop along the north side of its existing 16-inch-diameter South Main Line and 20-inch-diameter South Main Loop Line corridor from MPs 0.0 to 0.5, continuing on the south side until the end point at MP 1.56. The Fairburn Lateral would switch sides numerous times with the 200-foot-wide GTC electric powerline/Colonial Pipeline Company corridor.

| Table 1 - Collocation with Existing Corridors for the Fairburn Expansion Project | | | | | |
|---|---|---|---|---|---|
| Milepost | | County | Length (miles) | Orientation of Project Pipeline | Road/Utility Description |
| Begin | End | | | | |
| **Fairburn Lateral Construction Right-of-Way (ROW)** | | | | | |
| 0.0 | 0.0 | Fayette | 0.0 | Overlaps Existing Perm ROW | Georgia Transmission Company |
| 0.0 | 0.1 | Fayette | 0.1 | Coincide-crossover | Georgia Transmission Company |
| 0.1 | 0.5 | Fayette | 0.4 | Overlaps Existing Perm ROW | Georgia Transmission Company |
| 0.5 | 0.6 | Fayette | 0.1 | Coincide-crossover | Georgia Transmission Company |
| 0.6 | 1.9 | Fayette | 1.3 | Overlaps Existing Perm ROW | Georgia Transmission Company |
| 1.9 | 2.2 | Fayette | 0.3 | Overlaps Existing Perm ROW | Georgia Transmission Company |
| | | | | Overlaps Existing Perm ROW | Colonial Pipeline |
| 2.2 | 2.3 | Fayette | 0.1 | Coincide-crossover | Georgia Transmission Company |
| | | | | Outside of Existing Perm ROW | Colonial Pipeline |
| 2.3 | 2.6 | Fayette | 0.3 | Outside of Existing Perm ROW | Georgia Transmission Company |
| | | | | Overlaps Existing Perm ROW | Colonial Pipeline |
| 2.6 | 2.7 | Fayette | 0.1 | Outside of Existing Perm ROW | Georgia Transmission Company |
| | | | | Outside of Existing Perm ROW | Colonial Pipeline |
| 2.7 | 2.9 | Fayette | 0.2 | Outside of Existing Perm ROW | Georgia Transmission Company |
| | | | | Overlaps Existing Perm ROW | Colonial Pipeline |
| 2.9 | 3.2 | Fayette | 0.3 | Outside of Existing Perm ROW | Georgia Transmission Company |
| | | | | Outside of Existing Perm ROW | Colonial Pipeline |
| 3.2 | 4.4 | Fayette/ Fulton | 1.2 | Overlaps Existing Perm ROW | Georgia Transmission Company |
| | | | | Outside of Existing Perm ROW | Colonial Pipeline |
| 4.4 | 4.5 | Fulton | 0.1 | Outside of Existing Perm ROW | Georgia Transmission Company |
| | | | | Outside of Existing Perm ROW | Colonial Pipeline |
| 4.5 | 4.6 | Fulton | 0.1 | Coincide-crossover | Georgia Transmission Company |
| | | | | Outside of Existing Perm ROW | Colonial Pipeline |
| 4.6 | 4.7 | Fulton | 0.1 | Outside of Existing Perm ROW | Georgia Transmission Company |
| | | | | Outside of Existing Perm ROW | Colonial Pipeline |
| 4.7 | 4.8 | Fulton | 0.1 | Coincide-crossover | Georgia Transmission Company |
| | | | | Coincide-crossover | Georgia Power |
| | | | | Outside of Existing Perm ROW | Colonial Pipeline |
| 4.8 | 4.9 | Fulton | 0.1 | Overlaps Existing Perm ROW | Proposed Fairburn CS |
| | | | | Outside of Existing Perm ROW | Colonial Pipeline |
| **Total** | | | **4.9** | -- | -- |
| **South Main 2nd Loop Line Extension Construction Right-of-Way** | | | | | |
| 0.0 | 0.8 | Monroe | 0.8 | Overlaps Existing Perm ROW | South Main Line System |
| 0.8 | 1.1 | Monroe | 0.3 | Overlaps Existing Perm ROW | South Main Line System / Country Place Road |
| 1.1 | 1.6 | Monroe | 0.5 | Overlaps Existing Perm ROW | South Main Line System |
| **Total** | | | **1.6** | | |

Construction of the proposed facilities would require disturbance of about 170 acres of land. This total would include 111 acres of temporary right-of-way that would be restored to original use, and 59 acres of new permanent right-of-way required for operation and maintenance of the pipelines, compressor station, meter station facilities, and the two new access roads. The total 170 acres of construction right-of-way would be comprised of 65 acres for the Fairburn Lateral pipeline, 21 acres for the Loop pipeline, 28 acres for the aboveground facilities, 39 acres for the contractor yards, and 12 acres for access roads.

Table 2 below discusses in more detail the breakdown of the temporary and permanent acreages per Project facility across various land use types.

Southern plans to use a typical construction width of 100 feet in uplands. In wetland areas, the typical width would be reduced to 75 feet. Along the Loop, Southern would place its pipeline 5 feet within the existing 60-foot-wide Southern pipeline permanent right-of-way for an offset of 25 feet from the nearest pipeline (see figures 14 through 20, appendix A, for typical cross section diagrams for the Loop). Southern would use the entire existing right-of-way width as its working side of its construction workspace. Following construction, Southern would retain a 25-foot-wide new permanent right-of-way.

Along the Fairburn Lateral, Southern would place its pipeline 65 feet outside GTC's existing right-of-way for an offset of at least 65 feet from any powerline and 90 feet from any powerline tower footing (see figures 21 through 26, appendix A, for typical cross section diagrams for the collocation with GTC's powerlines). In certain places (total of 3.2 miles), Southern's construction right-of-way (working side) would overlap GTC's right-of-way in the amount of 25 to 50 feet. Southern generally would retain 50 feet of new permanent right-of-way adjacent to and not overlapping GTC's rights-of-way. Between MPs 2.1 to 2.2 near Oak Bridge Lane, Southern would use a 40-foot-wide permanent width to lessen impacts on tree cover near residences.

Where collocated with the 30-foot-wide Colonial Pipeline Company rights-of-way, Southern would place its pipeline at least 15-25 feet from the edge of the Colonial Pipeline Company rights-of-way and use 10-15 feet of Colonial Pipeline Company's rights-of-way for spoil storage only (see figures 27 through 28, appendix A, for typical cross section diagrams for the collocation with Colonial Pipeline Company). Following construction, Southern would retain 50 feet of new permanent right-of-way adjacent to Colonial Pipeline rights-of-way.

The Project's aboveground facilities would require a total of 32.1 acres of which 13.2 would be temporary construction workspace and 18.9 acres would be new permanent rights-of-way. Southern would own in fee the permanent rights-of-way required for the Fairburn Compressor Station and the Transco-to-SNG Meter Station.

In certain locations along its proposed pipelines, Southern proposes to use 10- to 70-foot-wide additional temporary work spaces (ATWS) ranging in lengths from 125 to 1,908

| Table 2 - Project Land Requirements (acres) [a] | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Facility** | **Fairburn Lateral** | | **South Main 2nd Loop Line Extension** | | **Fairburn Compressor Station** | | **Transco to SNG Meter Station** | | **Plant McDonough Meter Station** | | **UPS Meter Station** | |
| | **Temp. Impact [b]** | **Perm. Impact [c]** | **Temp. Impact [b]** | **Perm. Impact [c]** | **Temp. Impact** | **Perm. Impact** | **Temp. Impact** | **Perm. Impact** | **Temp. Impact** | **Perm. Impact** | **Temp. Impact** | **Perm. Impact** |
| **Facility Subtotal** | 33.82 | 31.06 | 16.05 | 5.18 | 13.22 | 14.69 | 0.00 | 1.08 | 0.00 | 0.71 | 0.00 | 1.38 |
| **Facility Totals** | 64.9 | | 21.2 | | 27.9 | | 1.1 | | 0.7 | | 1.4 | |
| **Facility** | **SNG to McDonough Meter Station** | | **Jonesboro Meter Station** | | **Access Roads** | | **Fairburn Lateral Yard No. 1** | | **Loop Yard No. 1** | | **Loop Yard No. 2** | |
| | **Temp. Impact [b]** | **Perm. Impact [c]** | **Temp. Impact [b]** | **Perm. Impact [c]** | **Temp. Impact** | **Perm. Impact** | **Temp. Impact** | **Perm. Impact** | **Temp. Impact** | **Perm. Impact** | **Temp. Impact** | **Perm. Impact** |
| **Facility Subtotal** | 0.00 | 0.68 | 0.00 | 0.35 | 8.56 | 3.72 | 15.87 | 0.00 | 1.35 | 0.00 | 22.22 | 0.00 |
| **Facility Totals** | 0.7 | | 0.4 | | 12.3 | | 15.9 | | 1.4 | | 22.2 | |
| **Project Totals** | Temporary (111) + Permanent (59) = 170 | | | | | | | | | | | |

[a] Temporary impacts are not inclusive of permanent impacts.

[b] Includes temporary construction right-of-way (ROW) and additional temporary workspace (ATWS) areas.

[c] Includes permanent ROW only.

feet (see table 3). Most of the ATWS would affect upland forest and are required to safely construct and operate equipment at crossings of roads and bore sites, as well as provide necessary space for truck turnarounds, spoil storage, hydrostatic testing, equipment passage and staging. Although Southern has identified areas where extra workspace would be required, additional or alternative areas could be identified in the future due to changes in site-specific construction requirements. Southern would be required to file information on each of those areas for our review and approval prior to use.

Southern would use three contractor yards for construction and contractor management offices, equipment and vehicle staging, and storage of pipe and other materials. Contractor Yard No. 1, located along the Fairburn Lateral pipeline at MP 2.6, consists of 17.2 acres of cleared open land along the east side of West Bridge Road. Contractor Yard No. 2, located along the Loop at MP 0.0, consists of 1.4 acres of open pasture. Contractor Yard No. 3, located near the Loop along the east side of Hardage Road near Industrial Park Road, consists of 22.2 acres of open land with scrub shrub vegetation.

A total of 13 25-foot-wide access roads ranging from 238-3,100 feet in length would be required for construction of the Loop (2 roads) and Fairburn Lateral (11 roads) pipelines (see table 4). These consist of existing private dirt roads which Southern would maintain with blading and graveling during construction. Following construction, Southern would return the Fairburn Lateral access roads to landowner maintenance, while Southern would convert the two Loop access roads into permanent access roads. In addition, Southern would construct two new permanent access roads (AR-01, 520 feet through residential forested land; AR-02, 700 feet through mowed powerline right-of-way) for construction and operation at the Transco-to-SNG Meter Station. Southern would build an approximately 50-foot-long permanent access driveway into the proposed Fairburn Compressor Station from Old Jonesboro Road. Southern would use an existing 3,000-foot-long paved access road for construction and operations at its proposed Plant McDonough Meter Station, and would improve and use for construction and operations an existing 1,190-foot-long access road for the proposed UPS Meter Station.

Cathodic protection would be installed at one of two potential locations along the Fairburn Lateral pipeline. Southern proposes to install a cathodic protection system at MP 1.2 or 2.3 of the Fairburn Lateral using a 20-foot-wide construction work area (940-foot-long or 684-foot-long, respectively), and would retain a 10-foot-wide right-of-way easement for operations.

| Table 3 – Additional Temporary Extra Workspace (ATWS) for the Fairburn Expansion Project | | | | | |
|---|---|---|---|---|---|
| **Facility** | **County** | **Milepost** | **Temporary Disturbance (acres)** | **Dimensions (feet)** | **ATWS Justification** |
| **Fairburn Lateral** | | | | | |
| ATWS 1 | Fayette | 0 | 1.63 | 383' x 397 IRREGULAR | Staging and fabrication area |
| ATWS 2 | Fayette | 0 | 0.1 | 206 x 25 | Spoil |
| ATWS 3 | Fayette | 0.1 | 0.08 | 125 x 25 | Road crossing |
| ATWS 4 | Fayette | 0.1 | 0.09 | 150 x 25 | Road crossing |
| ATWS 5 | Fayette | 0.2 | 0.16 | 250 x 25 | Spoil |
| ATWS 6 | Fayette | 0.4 | 0.16 | 282 x 25 | Spoil |
| ATWS 6.1 | Fayette | 0.5 | 0.14 | 276 x 25 | Spoil |
| ATWS 8 | Fayette | 0.7 | 0.24 | 200 x 50 | Road crossing and topsoil segregation |
| ATWS 9 | Fayette | 0.7 | 0.17 | 150 x 50 | Road crossing |
| ATWS 10 | Fayette | 0.8 | 0.15 | 250 x 25 | Spoil |
| ATWS 11 | Fayette | 0.9 | 0.16 | 250 x 25 | Spoil |
| ATWS 12 | Fayette | 1.1 | 0.15 | 250 x 25 | Spoil |
| ATWS 13 | Fayette | 1.2 | 0.13 | 214 x 25 | Spoil |
| ATWS 14 | Fayette | 1.2 | 0.22 | 940 x 10 | Anode bank temp workspace |
| ATWS 15 | Fayette | 1.4 | 0.15 | 250 x 25 | Spoil |
| ATWS 16 | Fayette | 1.5 | 0.15 | 250 x 25 | Spoil |
| ATWS 17 | Fayette | 1.9 | 0.27 | 234 x 50 IRREGULAR | Road crossing |
| ATWS 18 | Fayette | 1.9 | 0.14 | 123 x 25 | Road crossing and topsoil segregation |
| ATWS 19 | Fayette | 2.3 | 0.07 | 111 x 50 IRREGULAR | Road crossing |
| ATWS 20 | Fayette | 2.4 | 0.15 | 225 x 25 | Topsoil segregation |
| ATWS 21 | Fayette | 2.5 | 0.1 | 163 x 25 | Spoil |
| ATWS 22 | Fayette | 2.5 | 0.17 | 150 x 50 | Road crossing and topsoil segregation |
| ATWS 23 | Fayette | 2.5 | 0.26 | 233 x 50 | Road crossing |
| ATWS 23.1 | Fayette | 2.5 | 0.26 | 135 x 70 | Road crossing |
| ATWS 24 | Fayette | 2.5 | 0.14 | 583 x 10 | Anode bank temp workspace |
| ATWS 25 | Fayette | 2.6 | 0.36 | 649 x 25 | Point of inflection, and Spoil |
| ATWS 26 | Fayette | 3 | 0.15 | 250 x 25 | Spoil |
| ATWS 27 | Fulton | 3.3 | 0.24 | 474 x 25 | Spoil |
| ATWS 28 | Fulton | 3.4 | 0.13 | 200 x 25 | Spoil |

| Table 3 – Additional Temporary Extra Workspace for the Fairburn Expansion Project | | | | | |
|---|---|---|---|---|---|
| **Facility** | **County** | **Milepost** | **Temporary Disturbance (acres)** | **Dimensions (feet)** | **ATWS Justification** |
| **Fairburn Lateral continued** | | | | | |
| ATWS 29 | Fulton | 3.7 | 1.1 | 1908 x 25 | Side slope, PI, and spoil |
| ATWS 30 | Fulton | 4 | 0.06 | 76 x 40 IRREGULAR SHAPE | Spoil |
| ATWS 31 | Fulton | 4.1 | 0.11 | 175 x 25 | Spoil |
| ATWS 32 | Fulton | 4.2 | 0.49 | 893 x 25 | Spoil |
| ATWS 33 | Fulton | 4.6 | 0.13 | 200 x 25 | PI and Spoil |
| ATWS 34 | Fulton | 4.8 | 0.12 | 200 x 25 | Spoil |
| **Fairburn Lateral Subtotal** | | | 8.21 | | |
| **South Main 2nd Loop Line Extension** | | | | | |
| ATWS 1 | Monroe | 0 | 0.5 | 210 x 139 IRREGULAR SHAPE | Fabrication |
| ATWS 2 | Monroe | 0.2 | 0.8 | 1600 x VARIES (~20) | Spoil |
| ATWS 3 | Monroe | 0.5 | 0.14 | 250 x 25 | PI spoil |
| ATWS 4 | Monroe | 0.5 | 0.14 | 250 x 25 | PI spoil |
| ATWS 5 | Monroe | 0.7 | 0.19 | 150 x 50 | Road crossing |
| ATWS 6 | Monroe | 0.8 | 0.55 | 951 x 25 | Topsoil segregation |
| ATWS 7 | Monroe | 0.9 | 0.5 | 860 x VARIES (~22) | Spoil |
| ATWS 8 | Monroe | 1 | 0.72 | 490 x 75 IRREGULAR SHAPE | Road crossing and spoil |
| ATWS 9 | Monroe | 1 | 0.12 | 90 x 50 | Road crossing |
| ATWS 10 | Monroe | 1.1 | 0.17 | 150 x 50 | Road crossing |
| ATWS 11 | Monroe | 1.3 | 0.08 | 125 x 25 | Wetland crossing |
| ATWS 12 | Monroe | 1.3 | 0.08 | 125 x 25 | Wetland crossing |
| ATWS 13 | Monroe | 1.4 | 0.08 | 125 x 25 | Wetland crossing |
| ATWS 14 | Monroe | 1.5 | 0.57 | 486 x 160 IRREGULAR SHAPE | Fabrication, staging, and spoil |
| **South Main 2nd Loop Line Extension Subtotal** | | | 4.64 | | |
| **Total** | | | 12.85 | | |

| Table 4 - Access Roads for the Fairburn Expansion Project | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| ID No. | Milepost | Public/ Private/ New | Current Conditions | | | Proposed Improvements or Modifications | Temporary or Permanent Use | Temp. Impacts (acres) | Perm. Impacts (acres) |
| | | | Surface Type | Average Width (feet) | Length (feet) | | | | |
| **Fairburn Lateral** | | | | | | | | | |
| AR-03 | 0.5 | Private | Gravel / Dirt | 25 | 900 | Blade and gravel as needed. | Temporary | 0.5 | 0.0 |
| AR-04 | 0.8 | Private | Gravel / Dirt | 25 | 350 | Blade and gravel as needed. | Temporary | 0.2 | 0.0 |
| AR-05 | 0.8 | Private | Gravel / Dirt | 25 | 945 | Blade and gravel as needed. | Temporary | 0.5 | 0.0 |
| AR-06 | 1.6 | Private | Gravel / Dirt | 25 | 1,655 | Blade and gravel as needed. | Temporary | 1.0 | 0.0 |
| AR-07 | 2.5 | Private | Gravel / Dirt | 25 | 1,840 | Blade and gravel as needed. | Temporary | 1.0 | 0.0 |
| AR-08 | 3.3 | Private | Gravel / Dirt | 25 | 700 | Blade and gravel as needed. | Temporary | 0.4 | 0.0 |
| AR-09 | 3.7 | Private | Gravel / Dirt | 25 | 1,620 | Blade and gravel as needed. | Temporary | 0.9 | 0.0 |
| AR-10 | 3.9 | Private | Gravel / Dirt | 25 | 1,060 | Blade and gravel as needed. | Temporary | 0.6 | 0.0 |
| AR-11 | 4.2 | Private | Gravel / Dirt | 25 | 3,120 | Blade and gravel as needed. | Temporary | 1.8 | 0.0 |
| AR-12 | 4.8 | Private | Gravel / Dirt | 25 | 1,050 | Blade and gravel as needed. | Temporary | 0.6 | 0.0 |
| AR-13 | 4.9 | Private | Gravel / Dirt | 25 | 2,100 | Blade and gravel as needed. | Temporary | 1.0 | 0.0 |
| **Fairburn Lateral Subtotal** | | | | | | | | 8.6 | 0.0 |
| **South Main 2nd Loop Line Extension** | | | | | | | | | |
| AR-01 | 0.0 | Private | Gravel / Dirt | 25 | 258 | Blade and gravel as needed. | Permanent | 0.0 | 1.2 |
| AR-02 | 1.6 | Private | Gravel / Dirt | 25 | 2,135 | Blade and gravel as needed. | Permanent | 0.0 | 0.1 |
| **South Main 2nd Loop Line Extension Subtotal** | | | | | | | | 0.0 | 1.3 |

| Table 4 - Access Roads for the Fairburn Expansion Project | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **ID No.** | **Milepost [a]** | **Public/ Private/ New** | **Current Conditions** | | | **Proposed Improvements or Modifications** | **Temporary or Permanent Use** | **Temp. Impacts (acres) [c]** | **Perm. Impacts (acres) [d]** |
| | | | **Surface Type** | **Average Width (feet) [b]** | **Length (feet)** | | | | |
| **Fairburn Compressor Station**<br>A new driveway extending from Old Jonesboro Road will be constructed to access the facility. Impacts are included in the Permanent impact acres | | | | | | | | | |
| **Transco to SNG Meter Station** | | | | | | | | | |
| AR-01 | -- | (New Road) | Existing | -- | 700- | -- | Permanent | 0.0 | 0.3 |
| AR-02 | -- | (New Road) | New | 16 | 520 | -- | Permanent | 0.0 | 0.5 |
| **Plant McDonough Meter Station** | | | | | | | | | |
| AR-01 | -- | Existing Plant Atkinson | Paved | 25 | 3000 | None | Permanent | 0.0 | 1.7 |
| **UPS Meter Station** | | | | | | | | | |
| AR-01 | -- | Existing Unnamed Road | Gravel / Dirt | 25 | 1190 | Blade and gravel as needed. | Permanent | 0.0 | 0.7 |
| **SNG to McDonough Meter Station**<br>No new access roads or upgrades to existing roads will be required for the facility modifications. | | | | | | | | | |
| **Jonesboro Meter Station**<br>No new access roads or upgrades to existing roads will be required for the facility modifications. | | | | | | | | | |
| | | | | | | | **Project Total** | 8.56 | 4.7 |

## 5. Construction, Operation, and Maintenance

### a. General Construction

Southern would design, construct, and test the facilities in accordance with the US Department of Transportation (USDOT) Minimum Federal Safety Standards in Title 49 Code of Federal Regulations (CFR) Part 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.

Southern would use conventional pipeline construction methods along its proposed pipeline including clearing, grading, ditching, stringing, bending, welding, lowering in, backfilling, regrading, hydrostatic testing, cleanup and restoration. Southern at this time does not anticipate using horizontal directional drill procedures. The minimum depth of burial of the pipeline would be three feet below ground surface using a trench depth of six feet. Where feasible, Southern would establish at least two feet of separation between the pipeline and any existing utility lines it encounters along the proposed pipeline. All crossings of paved roads would use boring, while Southern would use boring or open cut methods to cross unpaved roads (see table 14, road crossings). Southern would hydrostatically test the pipeline in accordance with USDOT specifications prior to being placed into service.

Southern's 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. The Commission's Plan and Procedures are available online on the Commission's internet website at https://www.ferc.gov/industries/gas/enviro/guidelines.asp. Southern has incorporated these measures into its *SNG Plan* and *SNG Procedures*. The *SNG Plan and Procedures* also contain Southern's requested alternative measures to, and clarifications for, our Plan and Procedures, listed in table 5. We evaluated these and find they are acceptable. Southern would use its *Spill Prevention Control and Countermeasure* (SPCC) for handling of fuels and lubricants on site.

Southern anticipates blasting would be necessary in some parts of the Fairburn Lateral pipeline construction, for which it would follow measures contained in its Blasting Plan, Appendix B. Southern would conduct its blasting in strict observance of all required permit rules for supervision, licensing, site preparation, storage and handling of explosives, enforcement of safety measures, and notification. Blasting would be conducted during daylight hours and would not begin until nearby residences, ranchers, businesses, and/or other occupants have

**Table 5 - Proposed Alternative Measures to, or Clarifications on, the FERC *Upland Erosion Control, Revegetation, and Maintenance Plan* and the FERC *Wetland and Waterbody Construction and Mitigation Procedures***

| Section | Original Text | Proposed Text Accepted / Acknowledgements by FERC |
|---|---|---|
| (Proc) V.B.1.b | Unless expressly permitted or further restricted by the appropriate federal or state agency in writing on a site-specific basis, instream work, except that required to install or remove equipment bridges, must occur during the following time windows:<br>a. coldwater fisheries - June 1 through September 30; and<br>b. coolwater and warmwater fisheries - June 1 through November 30. | Southern would address Project stream crossings during its pre-construction consultations with federal and state regulatory agencies. Based on its consultations with the Georgia Department of Natural Resources (see EA section B.3.b), which determined that the GDNR has no timing restrictions for stream crossings, Southern would use its discretion to use the most appropriate crossing method at the time of crossing based on site-specific conditions and construction schedule. In all events, Southern would attempt to minimize in-stream impacts by expediting the crossing time and adhering to best management practices for waterbody crossings. Given that no in-stream concerns have been identified by the GDNR, we concur with this approach. |
| (Proc) V.B.3.h | Sections V.B.6 to 9 and VI.B | Southern would identify, consult and approve with the appropriate state or federal agencies, the waterbody crossing method from Section V.B.6-9 or Section VI.B of the SNG Procedures based on site-specific conditions at the time of construction. Southern intends to cross waterbodies having perceptible flow at the time of crossing using open-cut methods pending regulatory approval. In all instances, Southern would cross a waterbody in accordance with all federal, state and local permit requirements including specific measures listed within this plan for the selected method. Given that no in-stream concerns have been identified by the GDNR, we concur with this approach. |

been notified. Southern would use its best efforts to notify property owners within 1,000 feet of any blasting area two hours before the planned blast time. The notification efforts would include leaving notices or voicemail at those residences that do not answer the door or phone. The Blasting Plan also contains Project-specific mitigation measures designed to minimize impacts from noise and vibration. Sections B.1, B.2a and B.2.b discuss the likely extent of blasting and its potential impacts on resources. We have reviewed the Blasting Plan and find it acceptable.

Southern would manage traffic during construction of its Project to minimize impacts on the traveling public, local residents, and its workers by using safety measures and traffic control measures required by federal, state, and local regulatory agencies.

Southern has committed to using a qualified environmental inspector (EI) on each of its proposed pipelines and a third at the proposed compressor station during construction. The EIs would ensure compliance with environmental measures in the SNG Plan and SNG Procedures as well as with all other permits and authorizations, and would conduct environmental training of Southern's staff and construction personnel. The EI 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, Southern would regrade and restore, as nearly as possible to pre-construction conditions, all construction right-of-way along the Project, which includes permanent and temporary right-of-way, access roads, and the contractor yards.

### b. Operation and Maintenance

Southern would operate and maintain the proposed facilities in accordance with the applicable safety standards established by the USDOT in accordance with 49 CFR 192. The standards imposed are in accordance with Natural Gas Pipeline Safety Act of 1968, as amended. Southern would regularly inspect the installed pipeline 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 the SNG Plan and SNG Procedures.

## 6. Permits

Applicable permits and approvals for construction activities would be obtained by Southern prior to construction (see table 6).

| Table 6 - Environmental Permits, Approvals, and Consultations | | |
|---|---|---|
| **Permit/Approval** | **Administering Agency** | **Status** |
| **Federal** | | |
| Certificate of Public Convenience and Necessity | Federal Energy Regulatory Commission | Application submitted February 3, 2017. Pending. |
| Clean Water Act (CWA), Section 404 | U.S. Army Corps of Engineers (USACE), Savannah District | Consultation initiated with USACE on September 19, 2016. Received Pre-Construction Notification for authorization to construct under NWP 12 on February 28, 2017. Final permit pending. |
| Endangered Species Act | U.S. Fish and Wildlife Service (USFWS) – West Georgia Sub-office | Consultation initiated on September 19, 2016. Received determination from USFWS on March 14, 2017 with no concerns. Consultation completed. |
| Magnuson-Stevens Act | National Marine Fisheries Service | Consultation initiated on December 14, 2016. Received response from the NMFS on May 5, 2017 stating that Project would not affect essential fish habitat. Consultation completed. |
| **State** | | |
| CWA Section 401 Water Quality Certification | Georgia Department of Natural Resources (GDNR), Environmental Protection Division (GEPD) | Consultation initiated on September 19, 2016. GEPD on March 6, 2017 issued a conditional Water Quality Certification of all of the NWPs, pursuant to Section 401 of the CWA. Conclusion of permitting pending completion of the USACE permit. |
| National Pollutant Discharge Elimination System (NPDES) Permit for Storm water Discharges from Industrial Activities – GAR 100001 | GDNR, GEPD | To be determined if required. |
| National Pollutant Discharge Elimination System (NPDES) Permit for Storm water Discharges Associated With Construction Activity – GAR - 100002 | GDNR, GEPD | Sedimentation, and Pollution Control Plan to be filed prior to construction. |
| Stream Buffer Variance | Georgia Department of Natural Resources (GDNR), GEPD | Variance request submitted to GEPD on April 27, 2017. Approval pending. |
| Georgia - Threatened and Endangered Species Consultation | GDNR, Non-Game Conservation Section | Consultation for federal- and state-protected species in Project area initiated September 19, 2016 and December 14, 2016. GDNR responded on May 16, 2017 with no comments and stated are satisfied with the survey results reported. Consultation completed |
| Air Quality Permit | GEPD | The emission sources associated with the Project are minimal and exempt from consideration. Construction nor operating air permits are required from the Georgia GEPD. |
| Archaeological and Historic Consultation | GDNR, Historic Preservation Division, State Historic Preservation Officer (SHPO) | Consultation initiated on November 23, 2016. Draft report submitted for review on February 28, 2017. Received comments on March 31, 2017. Submitted amended report on April 20, 2017. Received comments/request for clarification on May 18, 2017. Response sent May 22, 2017. Consultation pending. |

## B. ENVIRONMENTAL ANALYSIS

This analysis describes the condition of the existing natural and human environment and the potential impacts on it resulting from installation and operation of the proposed facilities. In general, the modifications at the existing aboveground facilities would occur with established fence lines or immediately to the existing facility. For purposes of impacts in the analysis below, we did not include the McDonough Lateral acquisition since it would not require construction or modification of facilities.

### 1. Geology and Soils

The Project is entirely located within the Piedmont Geologic Province, which consists of a series of parallel to sub-parallel ridges, rolling hills, and intervening narrow to wide valleys, with moderate relief. Bedrock is dominated by harder gneisses and schists which are relatively highly resistant to weathering and often occupy shallow depths to surface (Golley, 2016). Depths to bedrock of less than 60 inches occurs along the Fairburn Lateral pipeline but not along the Loop pipeline (US Department of Agriculture/Natural Resource Conservation Service (USDA/NRCS, 2016). Table 7 lists locations of shallow bedrock along the Fairburn Lateral pipeline. Should Southern's use of hydraulic hammering and mechanical ripping be insufficient to loosen bedrock encountered, it would use blasting to complete the trench depth in accordance with provisions in its Blasting Plan as mentioned in section A.4. We believe Southern's use of blasting would have minimal impact on local geologic conditions.

Given the evidence of low frequency low-level seismic intensity exhibited in the Project area, earthquake hazards to the Project would be low (Peterson et al. 2008; USGS 2016a). The Project occurs in an area of low potential for liquefaction hazard given the low seismicity and abundance of competent bedrock which does not support unconsolidated saturated soils. The Project facility sites lie in an area rated as having a low incidence of landslides, with the exception of the Plant McDonough Meter Station site.

The Plant McDonough Meter Station itself does not contain any slopes greater than 30 percent and thus is not susceptible to any landslide activity. The low historic frequency of landslides (USDA/NRCS, 2016), lack of steep slopes along the pipeline route, and minimization of risk by Southern's implementation of erosion control and trench dewatering measures contained within its Plan would minimize landslide potential along the proposed pipeline. Subsidence issues would be absent given that the Project is not located in an area considered to be highly susceptible to subsidence and no underground mining is known to occur in the area (Weary and Doctor, 2014; USDOE, 2016). The Project does not occur in a known karst area (Burns, 2017). Mining resource extraction activities, including quarrying or dredge mining, are not present within 0.5 miles of the Project facilities (Georgia Department of Natural Resources-GDNR, 2016a). There are no coal mining operations and no natural gas or crude oil reserves or production in Georgia (USDOE, 2016). We conclude

| Table 7 - Areas of Shallow Bedrock Crossed by the Fairburn Lateral Pipeline | | | | | |
|---|---|---|---|---|---|
| **County** | **Begin MP** | **End MP** | **Distance Crossed (feet)** | **Soil Mapping Unit** | **Estimated Depth to Bedrock (inches)** |
| Fayette | 2.3 | 2.4 | 1,361 | Ashlar sandy loam, 2 to 10 percent slopes | 30 |
| Fayette | 2.6 | 2.7 | | Ashlar sandy loam, 2 to 10 percent slopes | 30 |
| Fayette | 2.7 | 2.9 | | Ashlar sandy loam, 2 to 10 percent slopes | 30 |
| Fayette | 2.9 | 2.9 | 757 | Ashlar sandy loam, very rocky, 10 to 25 percent slopes | 30 |
| Fayette | 3.0 | 3.1 | | Ashlar sandy loam, very rocky, 10 to 25 percent slopes | 30 |
| Fulton | 3.6 | 3.7 | 3,410 | Ashlar-Rion complex, 6 to 25 percent slopes, stony | 24 |
| Fulton | 3.7 | 4.1 | | Ashlar-Rion complex, 6 to 25 percent slopes, stony | 24 |
| Fulton | 4.1 | 4.3 | | Ashlar-Rion complex, 6 to 25 percent slopes, stony | 24 |
| **Total** | | | 5,528 | | |
| No shallow bedrock along the South Main 2nd Loop Line Extension is anticipated based on USDA/NRCS data. | | | | | |

that the Project would have no significant impacts on local geological conditions and would have low potential effects on geologic hazards.

Soils crossed by the Project are mainly moderately to poorly-drained sandy loams which have formed from loam, sand, and clayey marine and fluvial deposits. These soils typically are deep except in areas where bedrock protrusions occur. There are no known contamination sites that would be disturbed in Project areas during construction.

Construction right-of-way for the Fairburn Lateral and Loop pipelines would include 29.6 and 17.2 acres of prime farmland soils, respectively. The construction right-of-way for the Fairburn Lateral and Loop pipelines would include approximately 3.8 and 0.4 acres, respectively, of hydric soils that are frequently saturated or flooded and are susceptible to compaction and rapid decomposition during spoil storage and backfill construction activities. See table 8 for a list of prime farmland soil and hydric soil acreages (USDA, 2016a; NRCS, 2016). Southern would require 13.2 acres of temporary construction workspace in prime farmland for its proposed aboveground facilities, which would be returned to previous use following construction. Above-ground facilities would require an additional 30.7 acres of permanent land from prime farmland that would be permanently converted to industrial use.

The primary potential impacts of construction on soils are soil erosion, mixing of topsoil and subsoil, compaction, and rutting in excessively wet soils. Southern's use of measures contained in the SNG Plan and SNG Procedures would reduce and minimize the impacts from construction activities. These would include, but are not limited to: 1)

controlling erosion by use of temporary erosion control devices such as trench plugs, slope breakers, hay bales and silt fences; 2) segregating and protecting topsoil from subsoils during trenching; 3) postponing work in excessively wet conditions in upland soils; 4) using low ground-weight equipment or soil stabilization materials such as timber mats when soils are saturated or standing water is present; 5) completing final grading, topsoil replacement and installation of permanent erosion control structures within 20 days after backfilling the trench; and 6) inspecting the right-of-way and maintaining erosion and sediment controls as necessary until final stabilization is achieved.

**Table 8 - Prime Farmland Soils and Hydric Soils Within the Project (acres)**

| | Prime Farmland Soils | | | | Hydric Soils | | |
|---|---|---|---|---|---|---|---|
| **Facility** | **Temp[a] ROW** | **Perm ROW** | **Total ROW** | | **Temp ROW** | **Perm ROW** | **Total ROW** |
| **Fairburn Lateral Pipeline** | 13.7 | 15.9 | 29.6 | | 2.2 | 1.6 | 3.8 |
| **South Main 2nd Loop Line Extension (Loop)** | 12.0 | 5.2 | 17.2 | | 0.4 | 0.03 | 0.43 |
| **Fairburn Compressor Station** | 13.2 | 14.7 | 27.9 | | 0.0 | 0.0 | 0.0 |
| **Transco to SNG Meter Station** | 0.0 | 1.0 | 1.0 | | 0.0 | 0.0 | 0.0 |
| **Plant McDonough Meter Station** | 0.0 | 0.7 | 0.7 | | 0.0 | 0.0 | 0.0 |
| **UPS Meter Station** | 0.0 | 14.2 | 14.2 | | 0.0 | 0.0 | 0.0 |
| **Project Totals** | 38.9 | 51.7 | 90.6 | | 2.6 | 1.6 | 4.2 |

[a] Temporary Right-of-way (ROW) is not inclusive of permanent ROW.

Following construction, Southern would employ restoration mitigation measures including: 1) installing permanent erosion control barriers as necessary; 2) restoring pre-construction contours; 3) removing excess rocks from soils, and 4) revegetating the right-of-way as soon as possible following final grading. Southern would conduct follow-up inspections of all disturbed areas, at a minimum after the first and second growing seasons, to determine the success of revegetation. We have determined that, with implementation of the SNG Plan and SNG Procedures, Southern would adequately minimize soil impacts during construction and restoration.

## 2. Groundwater, Surface Water, and Wetlands

### a. Groundwater

The Project facilities are located within the Piedmont and Blue Ridge Aquifer System. The Piedmont and Blue Ridge Aquifer consists of indurated metamorphic and igneous rocks that underlie the rolling hills of the Piedmont and Blue Ridge physiographic province.

According to the USEPA-designated Sole-Source Aquifer maps for Region 4, there are no USEPA-designated sole-source aquifers in the vicinity of the Project facilities (USEPA, 2016a). A review of the USGS National Water Information System identified no wellhead protection areas within 500 feet of the Project facilities (USGS, 2016b). Under natural (pre-pumping) conditions, most groundwater flow from the regolith layer is within 200 feet below land surface (USGS, 2004). The quality of water from the Piedmont and Blue Ridge Aquifer System generally is suitable for drinking and other uses (Miller, 1990). The majority of municipal water in this region is derived from surface water (GWC, 2007).

Water wells within the Project area are primarily used for residential uses. Known public and private supply wells and springs within 150 feet of the construction work areas for the Project facilities are listed in table 9, groundwater wells, which includes 16 wells that have been identified in the field by landowners, land agents, or civil surveyors associated with the Project, and through review of publicly available data. Southern would verify the existence of public and private water supply wells and springs within 150 feet of the construction work areas. Southern proposes to plug and abandon one inactive well within 1,000 feet of the Fairburn Compressor Station site. No active springs were identified during field surveys for the Project facilities.

Southern also indicated that it is currently evaluating the possibility of acquiring hydrostatic test water from existing groundwater wells in the event that surface water withdrawal from private ponds, or other identified municipal sources, is not feasible. The total estimated quantity for Project hydrostatic test water is 1,300,000 gallons; however, this quantity may be obtained from multiple sources. Southern would apply for the associated permits and would comply with applicable regulations for groundwater withdrawal. Hydrostatic test water is further discussed in section B.2.b.

Ground disturbance activities such as clearing, grading, and trenching along the pipeline, or excavations at the compressor station site and meter station sites, could result in some adverse impact on potential infiltration and water quality for groundwater supplies in the Project area. These impacts could include increased turbidity, groundwater fluctuations, short-term disruptions of recharge, localized flow along the pipeline trench, contamination from a spill or leak of hazardous substances, and decreased water yield. Dewatering of open trenches could temporarily lower local groundwater levels. Equipment fuel and lubricant spills could introduce contamination into potable groundwater and surface water supplies during construction. Southern also indicated that blasting may be necessary where shallow bedrock is encountered along the Fairburn Lateral route.

The trench would be excavated to a depth necessary to obtain the minimum cover required in Title 49 CFR Part 192 and meet or exceed USDOT requirements. The trench depth would be deeper at certain locations, such as at road and utility crossings. Groundwater is generally confined to the regolith layer in the Piedmont and Blue Ridge Aquifer System, which is deeper than the excavations proposed for the Project. Therefore, it is unlikely that groundwater would infiltrate excavations during construction. Southern would dewater the trench as needed in accordance with the dewatering measures identified in the SNG

| Table 9 - Groundwater Wells Within 150 Feet of the Fairburn Expansion Project Work Areas | | | | | | |
|---|---|---|---|---|---|---|
| **Nearest Milepost** | **Tract** | **Distance from Work Area (Feet)** | **Direction from Construction** | **Work Area Ownership** | **Use** | **Status** |
| **Fairburn Lateral** | | | | | | |
| 2.0 | 1.048 | 51 | East | Private | Residential | Active |
| **Fairburn Compressor Station** | | | | | | |
| N/A | N/A | 1,000 | East | Private | Residential | Inactive-Southern proposes to plug and abandon |
| **South Main 2nd Loop Line Extension** | | | | | | |
| 0.0 | 1.001 | Pending completion of civil surveys | | Private | Residential | Active |
| 0.0 | 1.002 | Pending completion of civil surveys | | Private | Residential | Active |
| 0.1 | 1.003 | Pending completion of civil surveys | | Private | Residential | Active |
| 0.2 | 1.004 | Pending completion of civil surveys | | Private | Residential | Active |
| 0.2 | 1.005 | Pending completion of civil surveys | | Private | Residential | Active |
| 0.5 | 1.106 | 42 | North | Private | Residential | Active |
| 0.6 | 1.107 | Pending completion of civil surveys | | Private | Residential | Active |
| 0.8 | 1.014 | 118 | North | Private | Residential | Active |
| 0.8 | 1.014 | 143 | North | Private | Residential | Active |
| 1.0 | 1.110 | Pending completion of civil surveys | | Private | Residential | Active |
| 1.0 | 1.017 | 273 | North | Private | Residential | Active |
| 1.1 | 1.018 | 53 | North | Private | Residential | Active |
| 1.1 | 1.019 | Pending completion of civil surveys | | Private | Residential | Active |
| 1.1 | 1.020 | Pending completion of civil surveys | | Private | Residential | Active |

Procedures. Should blasting become necessary along the Fairburn Lateral, Southern would conduct all blasting operations in accordance with applicable permits and its Blasting Plan, including conducting pre-and post-construction well testing. Spills of hazardous materials, such as fuel and lubricants, would be minimized by implementation of the measures included in the SPCC Plan, including:

- prohibiting refueling activities and storage of hazardous liquids within at least a

200-foot radius of potable water wells;
- training personnel on the proper handling of fuels and other hazardous materials, and appropriate spill cleanup and notification procedures;
- ensuring all equipment is in good operating condition; and
- inspecting equipment for leaks regularly

If water wells and water lines are damaged as a result of construction (including blasting activities), Southern would attempt to temporarily repair the damage the same day. Temporary repairs may include replacing the damaged water supply system component, providing adequate temporary accommodations, or providing a temporary water supply to affected landowners while the water supply is repaired or replaced in the event that no other potable water source is readily available. Southern would permanently repair damage to existing private or unmarked waterlines in coordination with the individual landowner. For active water wells identified within 150 feet of the Project work area, Southern would conduct pre- and post-construction evaluations of the individual well water quality and quantity. A qualified independent contractor would perform the pre- and post-construction testing. Project operations are not anticipated to result in impacts on groundwater resources because intrusive maintenance activities involving pipe excavation and repair would be similar to the types of impacts associated with construction and the proposed mitigation measures would be similar to those described for construction activities. Applicable permits and approvals would also be obtained at that time.

Based on Southern's use of mitigation measures in the SNG Plan, SNG Procedures and its Blasting Plan, and on its commitments discussed above, we conclude that the Project is not likely to adversely affect groundwater resources.

**b. Surface Water**

Waterbodies are any natural or artificial stream, river, or drainage with perceptible water flow at the time of crossing. The Commission classifies waterbodies into three categories based on the width of the water level at the time of crossing. Minor waterbodies are those that are less than or equal to 10 feet wide, intermediate are those greater than 10 feet but less than 100 feet wide, and major waterbodies are those that are 100 feet or greater in width.

The Project facilities are located in the Upper Flint, Upper Ocmulgee, and Middle Chattahoochee-Lake Harding watersheds. Southern's proposed right-of-way crosses ten waterbodies (two intermediate and eight minor). Eight are classified as perennial, one as intermittent, and one as ephemeral (see table 10, waterbodies). No waterbodies are located within the Project workspaces for aboveground facilities.

Southern proposes to cross waterbodies that have perceivable flow at the time of crossing by a wet open-cut method pending regulatory approval. Waterbodies not approved or permitted for wet open-cut crossings would be crossed by dry-ditch methods, which include the flume method or the dam and pump method. These three crossing methods are

described further below. Upland construction techniques would be used to cross waterbodies when there is no perceivable flow at the time of crossing.

Wet Open-Cut Crossing: The wet open-cut construction method consists of digging an open trench through the non-diverted flow of a waterbody, laying a pre-fabricated section of pipe, and backfilling the trench. To minimize the duration of impacts, activities within the waterbody to be crossed would be completed as expeditiously as possible, within 24 hours for minor streams or 48 hours for intermediate streams, per the SNG Procedures sections V.B. 7 and 8. Southern would stabilize the waterbody channel and banks following backfilling.

**Table 10 - Waterbodies Impacted by the Fairburn Expansion Project**

| Waterbody ID | Waterbody Name | Milepost | Flow Regime | FERC Classification | Crossing Method |
|---|---|---|---|---|---|
| **Fairburn Lateral** | | | | | |
| SFA1A005 | Unnamed Tributary to Morning Creek | 1.1 | Perennial | Minor | Waterbody not crossed by Project centerline [a] |
| SFA1A008 | Unnamed Tributary to Morning Creek | 1.4 | Perennial | Minor | Wet Open-Cut |
| SFA1A016 | Unnamed Stream | 3.0 | Intermittent | Minor | Wet Open-Cut |
| SFU1A002 | Unnamed Tributary to Morning Creek | 3.5 | Perennial | Minor | Wet Open-Cut |
| SFU1A003 | Unnamed Tributary to Morning Creek | 3.6 | Perennial | Minor | Wet Open-Cut |
| SFU1A004 | Unnamed Tributary to Morning Creek | 4.1 | Perennial | Minor | Wet Open-Cut |
| SFU1A005 | Unnamed Tributary to Morning Creek | 4.0 | Perennial | Minor | Waterbody not crossed by Project centerline [a] |
| SFU1A006 | Unnamed Tributary to Morning Creek | 4.3 | Perennial | Intermediate | Wet Open-Cut |
| SFU1A008 | Unnamed Tributary to Morning Creek | 4.5 | Ephemeral | Minor | Waterbody not crossed by Project centerline [a] |
| **South Main 2nd Loop Line Extension** | | | | | |
| SMO1A001 | Rocky Creek | 0.2 | Perennial | Intermediate | Wet Open-Cut |

[a] Waterbody not crossed by Project centerline, but are within construction workspaces.

Note: No waterbodies are crossed by the Fairburn Compressor Station, Transco to SNG Meter Station, Plant McDonough Meter Station, UPS Meter Station, access roads, or ancillary areas.

Dam and Pump Crossing Method: The dam and pump method for waterbody crossings involves installation of temporary dams upstream and downstream of the proposed waterbody crossing location. The temporary dams would typically be constructed using

sandbags and plastic sheeting. Following dam installation, appropriately sized pumps would be used to dewater the upstream impoundment and transport the waterbody flow around the construction work area and trench to the downstream side of the construction work area. Intake screens would be installed at the pump inlets to prevent entrainment of aquatic life, and energy dissipating devices would be installed at the pump discharge point to minimize erosion and waterbody scour. Trench excavation and pipeline installation would then commence through the dewatered portion of the waterbody channel. Following completion of pipeline installation, backfill of the trench and restoration of waterbody banks, the temporary dams would be removed, and flow through the construction work area would be restored. This method is appropriate for those waterbody crossings where pumps can adequately transfer the waterbody flow volume around the work area and there are no concerns about the temporary passage of sensitive species.

Flume Crossing Method: The flume crossing method consists of temporarily directing the flow of water through one or more flume pipes over the area to be excavated. This method allows excavation of the pipe trench across the waterbody completely underneath the flume pipes without disruption of water flow in the waterbody. Stream flow would be diverted through the flumes by constructing two bulkheads, using sandbags or plastic dams, to direct the flow through the flume pipes. Following completion of pipeline installation, backfill of the trench and restoration of waterbody banks, Southern would remove the bulkheads and flume pipes. This crossing method generally minimizes the duration of downstream turbidity by allowing excavation of the pipeline trench under relatively dry conditions.

No known public watershed or potable water supply areas are crossed by Project facilities and no waterbodies are crossed within 3 miles upstream of a potable water intake source (USGS, 2016c). According to the USEPA's NEPAssist data base, no sensitive surface waters are located in the vicinity of the Project facilities (USEPA, 2016b). Based on a review of the Georgia 2014 305(b)/303(d) list of impaired waters and a search of the USEPA's My WATERS Mapper, none of the waterbodies crossed are identified as impaired.

Southern noted areas along the Fairburn Lateral where blasting may be required. Southern does not anticipate that blasting would be required in waterbodies or wetlands. However, if blasting is determined to be necessary in waterbodies or wetlands, Southern would coordinate with the appropriate agencies to determine applicable monitoring and mitigation efforts and would implement measures in the SNG Procedures and its Blasting Plan to avoid or minimize impacts on surface waters and wetlands.

Pipeline construction activities, particularly clearing of the right-of-way, waterbody crossings, hydrostatic test withdrawal and discharges, and spills or leaks of hazardous liquids have the potential to impact waterbody conditions and quality. Waterbody crossings would result in temporary increases in turbidity and downstream sedimentation. Surface runoff and erosion from cleared rights-of-way could also increase turbidity and sedimentation. Other potential impacts include spills or leaks of hazardous materials from nearby refueling stations or equipment failures that could potentially contaminate waterbodies downstream of

the release point.

In accordance with the SNG Procedures, Southern would complete crossings of minor and intermediate waterbodies as expeditiously as possible (in 24 to 48 hours) to minimize the duration of impacts. All areas disturbed, including streambeds and banks, would return to pre-construction conditions after restoration activities. Prior to construction, Southern would obtain all federal and state authorizations, including Sections 404 and 401 of the Clean Water Act from the USACE and the Georgia Environmental Protection Division (GEPD). Southern would implement measures in its SPCC, which includes measures to prevent, contain, and clean up any inadvertent releases of fuels or hazardous materials during construction. Southern would locate ATWS a minimum of 50 feet from the edges of wetlands and waterbodies.

Southern would hydrostatically test the new pipelines in accordance with the USDOT pipeline safety regulations prior to commencing any service. A hydrostatic test involves filling the pipeline facilities with water and pressurizing them above its maximum allowable operating pressure. After each test, the hydrostatic test water would be transported to an approved disposal facility or discharged into well-vegetated uplands. Southern plans to obtain about 1,000,000 gallons of water from municipal sources for testing the Fairburn Lateral pipeline and all aboveground facilities (meter stations and compressor station). Should municipal water not be available for Southern's use in testing the Fairburn Lateral pipeline, it would use water obtained from local wells in consultation with landowners. Hydrostatic testwater for the Loop pipeline would be obtained from private ponds near the Project area, requiring about 300,000 gallons of water.

Southern would be responsible for obtaining all applicable state permits required for withdrawal and discharge of hydrostatic test water. Water to be sourced from private ponds for the Loop pipeline would be conducted in accordance with landowner agreements. Intakes would be screened to prevent the entrainment of fish. Given that Southern would conduct hydrostatic testing in accordance with the SNG Plan and SNG Procedures and applicable permit conditions, we conclude that impacts related to hydrostatic test water withdrawal and discharge would be temporary and minor in nature.

Given Southern's proposed waterbody crossing methods and adherence to the SNG Plan and SNG Procedures, SPCC Plan, and conditions of all applicable permits, we conclude that the Project's impacts on surface water quality would be adequately minimized.

### c. Wetlands

Wetlands are areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support a prevalence of wetland vegetation adapted for life in saturated soil conditions. Wetlands can be a source of substantial biodiversity and serve a variety of functions that include providing wildlife habitat, recreational opportunities, flood control, and naturally improving water quality.

Southern conducted wetland delineation surveys in October and December 2016, in accordance with the USACE Wetland Delineation Manual (Environmental Laboratory, 1987) and the Regional Supplement to the USACE Wetland Delineation Manual: Eastern Mountains and Piedmont Region (USACE, 2012). The wetlands that were identified were classified according to the US Fish and Wildlife Service (USFWS) classification system (Cowardin et al. 1979). The Project would cross palustrine forested (PFO) wetlands, palustrine scrub-shrub (PSS) wetlands, and palustrine emergent (PEM) wetlands. While environmental field surveys have been completed for Loop pipeline, some parcels along the Fairburn Lateral pipeline have not been surveyed because landowners have not granted permission for access to perform the surveys. However, Southern reviewed soil survey maps, USGS topographic maps, and National Wetlands Inventory maps to evaluate resources where survey permission has not been granted.

Construction of the Project would temporarily impact about 4.9 acres of wetlands, of which about 3.0 acres would be within the permanent right-of-way. Within the permanent right-of-way, about 1.6 acres of PFO wetlands would be permanently converted and maintained as PSS or PEM wetlands (see table 11 and table 2). No wetlands are present within the proposed workspaces for aboveground facilities, new access roads, or contractor yards/staging areas. Environmental surveys of Contractor Yard No. 2 for the Loop pipeline have not been completed; however, there are no wetlands or waterbodies located on the site based on a desktop review.

Southern would install the pipeline using standard pipeline construction procedures in wetlands with firm soils or without standing water. Southern would segregate one foot of non-saturated topsoil over the trench to preserve the existing seedbank and encourage the growth of native plant species during restoration. Conversely, if soils were saturated at the time of construction, Southern would use timber mats to support construction equipment to avoid rutting and subsurface mixing of soils. An existing access road (AR-13) currently crosses wetland CSWFU1A001. Southern would comply with measures contained in the SNG Procedures, section VI.B.1.d., which state that the only access roads, other than the construction right-of-way, that can be used in wetlands are those existing roads that can be used with no modifications or improvements, other than routine repair, and no impact on the wetland. Additionally, Southern would use erosion control devices (e.g. silt fence) in accordance with the SNG Procedures to minimize sediment transport into the wetland from the road.

The primary impacts of construction in wetlands would be the alteration of wetland type and impacts on water quality within wetlands because of sediment loading or inadvertent spills of hazardous materials. Construction in wetlands would convert PFO wetland types to PEM or PSS due to routine vegetation maintenance to facilitate periodic pipeline maintenance surveys; however, these wetlands would still provide important ecological functions including flood control and providing wildlife habitat. The Project would result in no net loss of wetlands.

Southern would minimize impacts on wetlands by incorporating the measures outlined in the SNG Procedures. Specific measures include installing sediment controls to prevent runoff from upland areas reaching wetlands and leaving root systems intact to hasten revegetation. Southern would limit the right-of-way width to 75 feet in wetlands to minimize the overall disturbance of construction and wetland boundaries and buffers would be clearly marked. PEM and PSS wetlands would be allowed to revert to preconstruction conditions. Southern would work with the USACE regarding compensatory mitigation to offset the Project's wetland impacts as part of its permitting pursuant to Section 404 of the Clean Water Act. As previously mentioned, Southern would site all ATWS a minimum of 50 feet from wetlands and waterbodies.

**Table 11 - Summary of Wetlands Impacts by Project Facility**

| Cowardin Classification [a] | Temporary Construction ROW and ATWS (acres) [b] | Permanent ROW (acre) | Total Wetland Impacts (acres) | Vegetation Maintenance in Permanent ROW (acres) [c] |
|---|---|---|---|---|
| **Fairburn Lateral** | | | | |
| PFO | 0.63 | 2.61 | 3.24 | 1.55 |
| PSS | 0.00 | 0.00 | 0.00 | 0.00 |
| PEM | 0.96 | 0.24 | 1.20 | 0.00 |
| **South Main 2nd Loop Line Extension** | | | | |
| PFO | 0.04 | 0.04 | 0.08 | 0.04 |
| PSS | 0.04 | 0.09 | 0.13 | 0.00 |
| PEM | 0.22 | 0.00 | 0.22 | 0.00 |
| Total | 1.89 | 2.98 | 4.87 | 1.59 |

[a] PFO = palustrine forested; PSS = palustrine scrub shrub; PEM = palustrine emergent

[b] ROW = right-of-way; ATWS = additional temporary work area

[c] Vegetation maintenance along the permanent right-of-way in wetlands would be restricted to a 10-foot-wide corridor centered on the Project pipeline centerlines to be maintained in a herbaceous state. In addition, trees within 15 feet of the Project pipeline with roots that could compromise the integrity of the pipeline coating may be selectively cut and removed from the permanent right-of-way. Acres represent the area of forested wetlands within a 30-foot-wide corridor that would be permanently converted from PFO to PEM or PSS. No wetlands would be impacted by the Fairburn Compressor Station, Transco to SNG Meter Station, Plant McDonough Meter Station, UPS Meter Station, Access Roads, or Ancillary Areas.

Given Southern's proposed construction procedures and mitigation measures associated with the SNG Procedures and SPCC Plan, as well as its USACE permitting requirements, we conclude that the Project would not result in significant impacts on wetlands.

## 3. Vegetation, Fisheries, and Wildlife

### a. Vegetation

In general, vegetation within the Project area is characterized by existing right-of-way/industrial (47 acres), hardwood/pine forest (58 acres), residential development/pastures (13 acres), and cleared/disturbed (47 acres).

Areas identified as right-of-way include the existing transmission line corridors, existing roads, and industrial areas with impervious surfaces accounting for greater than 40 percent of total cover. In general, the vegetation is maintained in an early successional state as a result of maintenance activities. The hardwood/pine forest vegetation type is comprised of a canopy age ranging from 15 to 40 years old. In general, fewer pines occur along the riparian corridors and forested wetlands in the Project areas. Some pure pine forests exist along the Project pipeline routes which are predominantly comprised of loblolly pine trees in the 10- to 20-year age range. The residential development vegetation type consists predominantly of single-family homes with maintained yards. Several pasture areas are included in this vegetation type because the maintenance associated with the pastures is similar to that of the maintained residential areas. Cleared/disturbed areas consist of previously clear-cut areas or areas that were previously pasture and are in early successional stages. Table 12, vegetation types, lists common vegetation found in each vegetation cover type in the Project area.

**Table 12 - Vegetation Types in the Project Area**

| Land Use | Species Composition |
|---|---|
| **Right-of-way/Industrial** | Tall fescue grass, bahiagrass, ragweed, woodoats, oldfield aster, broomsedge, rosette grass, blackberry, dog fennel, Japanese honeysuckle, late goldenrod, and loblolly pine, red maple, and sweetgum saplings. The Industrial component includes Sweetgum, red maple, various young oak trees, loblolly pine, sawtooth blackberry, greenbrier, Japanese honeysuckle, and broomsedge. |
| **Hardwood/Pine forest** | Red maple, sweet gum, white oak, southern red oak, water oak, sycamore, green ash, sweet bay, river birch, pignut hickory, loblolly pine, flowering dogwood, possumhaw, musclewood, winterberry, highbush blueberry, Chinese privet, winged elm, slender woodoats, greenbrier, and climbing hydrangea. The pure pine forest component includes Sweetgum and red maple species are interspersed. Other vegetation in this vegetation type includes blackberry, bracken fern, and wiregrass. |
| **Residential Development/Pasture** | Tall fescue grass, Bermuda grass, various ornamental shrubs, and scattered mature loblolly pines, red maples, white oaks, water oaks, southern red oaks, pignut hickories, flowering dogwoods, and greenbrier. |
| **Cleared/Disturbed** | Sweetgum, red maple, various young oak trees, loblolly pine, sawtooth blackberry, greenbrier, Japanese honeysuckle, and broomsedge. |

No vegetation types of special concern would be affected by the Project. The primary impact on vegetation from the Project facilities would be the new permanent conversion of about 35 acres of forested land to open land, comprised of maintained right-of-way and permanent access roads (table 2). In addition, about 23 acres of forested land would be cleared for temporary construction workspaces. This would be considered a long-term impact as it would take more than 20 years for forested vegetation to return to pre-construction conditions.

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

Removal of existing vegetation and disturbance of soils during construction of the Project could create conditions conducive to the establishment of noxious weeds and invasive species. The Georgia Exotic Pest Plant Council oversees management of invasive plant species that pose threats to natural areas in Georgia. Southern has developed a Noxious and Invasive Weed Control Plan [1] to minimize the introduction and spread of noxious weeds and invasive species. Specific measures include:

- providing information and training regarding noxious weed management as part of pre-construction environmental training and identifying areas of concern;
- treating known weed populations with appropriate methods to limit dispersal;
- limiting the transport of soil and debris capable of transporting weed seed, roots or other propagules within the Project area by requiring Southern and construction contractors to arrive at the work site clean and weed-free;
- using compressed air or other means to remove soil and propagules from machinery and vehicles following work at identified sites to further limit dispersal to other sections of the right-of-way;
- using certified weed-free straw bales for sediment and erosion controls, mulch, and restoration seed mixes; and
- monitoring and treating potential noxious weed infestations after restoration.

[1] The Noxious and Invasive Weed Control Plan is available on FERC's elibrary records keeping system, in the filing titled "RR_Vol_II_Public_Part D Appendix II.F to II.N", February 3, 2017 page 169, via accession number 20170203-5065.[1]
https://www.ecfr.gov/cgi-bin/textidx?SID=1f6b1b02a95d8f59728c395fb9f829e6&mc=true&node=se40.3.52_121&rgn=div8

We find these measures to be acceptable.

After construction, Southern would revegetate the right-of-way and all ATWS according to the SNG Plan and SNG Procedures. Given that Southern would use existing rights-of-way as much as possible and that all staging/contractor yards and ATWS would be revegetated, we conclude that the Project would not have a significant impact on vegetation.

**b. Fisheries**

All waterbodies that would be crossed by the Fairburn Lateral are in the Upper Flint watershed and are warm water and freshwater. The waterbody proposed to be crossed by the Loop pipeline is in the Upper Ocmulgee watershed and is warm water and freshwater. No waterbodies are crossed by the Fairburn Compressor Station, Transco to SNG Meter Station, Plant McDonough Meter Station, UPS Meter Station, access roads, or ancillary areas. No waterbodies crossed by Project facilities were identified as fisheries of special concern, including essential fish habitat or coldwater fisheries. No trout waters or commercial fisheries would be crossed by Project facilities. No commercial fisheries are crossed by Project facilities.

Pipeline construction activities have the potential to increase siltation and turbidity in waterbodies, either from in-waterbody activities or construction activities on the adjacent right-of-way. These conditions may cause fish to temporarily avoid an area. Increased turbidity would affect the waterbody near the construction site and would be anticipated to result in short-term disturbances. Accidental releases of gasoline, hydraulic fluid, and other potential contaminants have the potential to directly impact water quality and directly or indirectly impact fisheries resources. Fisheries could also be impacted by the withdrawal of surface water for hydrostatic testing.

As previously discussed, Southern proposes to cross waterbodies that have perceivable flow at the time of crossing by an open-cut method, pending regulatory approval. There would be no effect on fisheries for the intermittent or ephemeral waterbodies crossed by the Project pipelines as these waterbodies are unlikely to support fisheries. Potential impacts on perennial waterbodies would be minimized by using the appropriate crossing method determined by conditions at the time of crossing and the environmental sensitivity of the specific waterbody.

Southern has requested a modification to the FERC in-stream work timing windows to allow in-stream work at any time during the construction period. As described in the FERC Procedures, section V.B.1.b, in-stream work must be conducted June 1-November 30, unless expressly permitted or further restricted by the appropriate federal or state agency in writing on a site-specific basis. However, there are no timing restrictions imposed by the state of Georgia for crossing waterbodies. On February 28, 2017, Southern requested comments on its environmental surveys from the USFWS and the GDNR, Wildlife Resources Division, specifically requesting comment on its plan to do in-stream work at any time during construction. On May 16, 2017, GDNR's response stated that it has no issues

with the proposed crossing methods and has no further comments. Therefore, we find this modification to be acceptable.

Southern would continue to consult with applicable federal and state regulatory agencies regarding in-stream work, and would limit waterbody impacts by minimizing the crossing duration and adhering to measures in the SNG Procedures. Specific measures include storing trench spoil at least 50 feet from the waterbody edge and the use of erosion control devices to keep disturbed soils from entering waterbodies. Southern would obtain all necessary permits required for hydrostatic test water discharge and withdrawal and intakes would be screened to prevent the entrainment of fish. In addition, Southern would implement measures in its SPCC plan to prevent or respond to accidental releases of hazardous materials. For these reasons, we conclude that impacts on fisheries would be temporary and minor.

### c. Wildlife

The vegetation types crossed by the Project support a variety of mammals, birds, reptiles, amphibians, and invertebrates. Common wildlife in the area include white-tailed deer, eastern cottontail, American beaver, chipmunk, box turtle, and common garter snake. Resident and migratory birds include wild turkey, bobwhite quail, mourning dove, crows, and Canada geese. No wildlife resources of special concern and no sensitive and significant wildlife habitats were identified within the Project area.

Potential impacts on wildlife include habitat removal, construction-related ground disturbance, and noise. Some individuals could be inadvertently injured or killed by construction equipment. However, more mobile species such as birds and mammals would likely relocate to other nearby suitable habitat and avoid the Project area once construction activities commence. The temporary disturbance of local habitat is not expected to have population-level effects on wildlife because the amount of habitat crossed represents only a small portion of the habitat available to wildlife throughout the Project area, and much of the disturbed habitat would return to preconstruction condition after construction. Long-term impacts from habitat alteration would be further minimized by the implementation of the SNG Plan and SNG Procedures, which would ensure revegetation of areas temporarily disturbed by construction. Further, most of the Project is collocated with or adjacent to existing right-of-way corridors, minimizing the amount of clearing. Given the abundance of similar habitat adjacent to the Project area and Southern's commitment to revegetate the right-of-way, we conclude that the Project would not have a significant impact on wildlife or wildlife habitat in the Project area.

Migratory Birds

Migratory birds are species that nest in the U.S. and Canada during the summer and then migrate to and from the tropical regions of Mexico, Central and South America, and the Caribbean for the non-breeding season. Migratory birds are protected under the Migratory Bird Treaty Act ([MBTA] – 16 U.S. Code 703-711), and Bald and Golden Eagles are

additionally protected under the Bald and Golden Eagle Protection Act ([BGEPA] – 16 U.S Code 668-668d). The MBTA, as amended, prohibits the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests. Executive Order 13186 was enacted in 2001 to, among other things, ensure that environmental analyses of federal actions evaluate the impacts of actions on migratory birds. Executive Order 13186 directs federal agencies to identify where unintentional take is likely to have a measurable negative effect on migratory bird populations and avoid, minimize, or mitigate adverse impacts on migratory birds through enhanced collaboration with the FWS, and emphasizes species of concern, priority habitats, and key risk factors, with particular focus given to population-level impacts.

On March 30, 2011, the USFWS and FERC entered into a Memorandum of Understanding Between the Federal Energy Regulatory Commission and the U.S. Department of the Interior United States Fish and Wildlife Service Regarding Implementation of Executive Order 13186, "Responsibilities of Federal Agencies to Protect Migratory Birds" that focuses on migratory birds and strengthening migratory bird conservation through enhanced collaboration between the two agencies. This voluntary memorandum does not waive legal requirements under the MBTA, BGEPA, the Endangered Species Act (ESA), or any other statutes, and does not authorize the take of migratory birds.

A variety of migratory bird species, including songbirds, raptors, and waterfowl utilize habitat located in the Project area. The USFWS established Birds of Conservation Concern (BCC) lists for various regions in the country in response to the 1988 amendment to the Fish and Wildlife Conservation Act, which mandated the USFWS to identify migratory nongame birds that, without additional conservation actions, were likely to become candidates for listing under the ESA (USFWS 2008). Last updated in 2008, the BCC lists are divided by regions. The Project crosses Bird Conservation Regions 28 and 29 (Appalachian and Piedmont).

Southern submitted environmental survey information to the USFWS on February 28, 2017 and received a response from the USFWS on March 14, 2017, confirming that the primary nesting season in Georgia occurs between April 1 and August 31. Southern plans to complete tree clearing outside the nesting season in order to minimize impacts on bird species protected under the MBTA. The Project would be collocated with existing rights-of way to the greatest extent practicable, thus reducing the fragmentation of forest tracts within the Project area and minimizing the amount of tree clearing necessary. In the event that clearing becomes necessary during the nesting season, Southern would develop a Migratory Bird Conservation Plan in consultation with the USFWS to avoid impacts on migratory birds.

Implementation of the construction and restoration measures in the SNG Plan would reduce the extent and duration of impacts on migratory bird habitat by restoring all areas not needed for operation to pre-construction conditions. Such measures include collocating the proposed pipeline with existing right-of-way, environmental training for all on-site workers and environmental inspectors, and avoidance and minimization techniques, such as clearing outside of the nesting season prior to construction. During operation of the Project,

vegetative maintenance clearing would occur outside of the nesting season in accordance with the SNG Plan. For these reasons, we conclude the Project would have minimal effects on migratory bird habitat and not result in a population-level effect on migratory birds.

### 4. Special Status Species

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

Southern, acting as a non-federal representative for FERC, in accordance with Section 7(a)(2) of the ESA initiated informal consultation with the USFWS to identify federally listed threatened and endangered species that may occur in the Project area. Southern reviewed the USFWS Information, Planning, and Conservation System and requested known federal and state species records within the Project area from the USFWS and the GDNR. The USFWS indicated that two federally protected plant species, the federally endangered fringed campion and the federally endangered relict trillium, may be present in the vicinity of the Loop pipeline. Suitable habitat for the relict trillium and fringed campion were not identified during the environmental field surveys for the Project.

On February 28, 2017, Southern provided survey results to the USFWS and GDNR. On March 14, 2017, the USFWS responded in an email correspondence stating that it has no concerns related to impacts on federally listed species from the Project. Therefore, no further consultation is required. We agree that the Project would not affect these species. On May 16, 2017, the GDNR responded by saying it is comfortable with the steam crossing methods proposed, are satisfied with the results in the survey report, and has no further comments.

### 5. Land Use

The general Project area is southwest and outside Atlanta, Georgia in a mostly rural setting bisected by several industrial corridors concentrated along major highways and isolated large residential subdivisions surrounded by forest. The Project's proposed pipeline, compressor station, and meter station sites are located in mostly forested residential settings interspersed with open/abandoned land parcels, isolated, and numerous existing utility rights-of-way. Agriculture is restricted to small amounts of hay and legumes production and small gardening operations within the residential/pastures land use category.

The land use definitions chosen for this analysis reflect a large degree of existing utility corridors present in the area of the Project; listed below they are:

- Rights-of-Way/Industrial - Existing linear rights-of-way, including roadways, electric transmission lines, and major and minor linear utilities, including FERC

non-jurisdictional electric hookup facilities; industrial areas with impervious surfaces accounting for greater than 40 percent of total cover.

- Hardwood / Pine Forest - areas dominated by trees generally greater than 15 feet tall, and greater than 20 percent of total vegetation cover; pure pine forest inclusions - areas predominantly comprised of loblolly pine trees in the 10- to 20-year age range.

- Residential / Pastures - single-family homes with maintained yards. Areas of grasses, legumes, or grass-legume mixtures planted for livestock grazing or the production of seed or hay crops, typically on a perennial cycle.

- Cleared / Disturbed - areas of previously clear-cut areas or areas that were previously pasture and are in early successional stages; often abandoned.

- Wetlands and Waterbodies - wetland and waterbody areas identified during environmental field surveys for the Project.

Table 13 lists the acreages of land use types used in the Project.

Along the Fairburn Lateral Pipeline, the Project would use 23 acres of rights-of-way, 25 acres of forest, 6 acres of residential/pastures land, 7 acres of cleared/disturbed land and 4 acres of wetlands. The Loop would require 7 acres of rights-of-way, 7 acres of forest, 6 acres of residential/pasture land, and 0.4 acres of wetlands. The Fairburn Compressor Station would use 3 acres of existing above and below ground utility rights-of-way and 25 acres of forest. At the meter station sites, construction workspace would occur within the existing previously-disturbed fenced-in compressor station compounds except for small amounts of equipment storage space needed outside fenced-in areas at the Riceboro and Brookman Compressor Station sites.

Residential/pasture land within Southern's proposed new permanent right-of-way along its pipelines would be returned to previous use following construction, and not be affected by Southern's maintenance of its permanent right-of-way. Southern would maintain its new pipeline permanent right-of-way through the remaining land use categories in an herbaceous state. Southern has committed to removing any large rocks aboveground along its proposed pipelines during restoration unless specifically requested by a landowner.

New Hope Circle, LLC currently operates an organic farm raising animals which they claim may be negatively impacted from construction and operational maintenance of the proposed Fairburn Lateral Expansion right-of-way by the use of herbicides and potentially introducing invasive species. Southern, in its June 12, 2017 reply to our information request, stated it would consult with New Hope Circle, LLC concerning revegetation of disturbed areas and installation of game fencing on the west of the Southern right-of-way to provide an

additional barrier between the landowner's farm animals and Southern's construction activities. Southern has committed to not using herbicides, and would rely on mowing to maintain its right-of-way, but would consult with the landowner prior to using herbicides if it decides they must be used during operations. We find these measures acceptable.

| Table 13 - Project Land Requirements by Land Use Type (acres) [a, b] | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Facility** | **Rights-of-Way/Industrial** | | **Hardwood / Pine Forest** | | **Residential / Pastures** | | **Cleared / Disturbed** | | **Wetlands** | | **Totals** | | |
| | **Temp [c]** | **Perm** | **Temp** | **Perm** | **Temp** | **Perm** | **Temp** | **Perm** | **Temp** | **Perm** | **Temp** | **Perm** | **Total** |
| **Pipelines** | | | | | | | | | | | | | |
| **Fairburn Lateral Pipeline** | 18.25 | 4.86 | 8.26 | 16.34 | 2.61 | 2.90 | 3.11 | 4.11 | 1.59 | 2.85 | 33.82 | 31.06 | 64.88 |
| **South Main 2nd Loop Line Extension** | 6.66 | 0.48 | 4.64 | 2.41 | 4.33 | 2.07 | 0.12 | 0.09 | 0.30 | 0.13 | 16.05 | 5.18 | 21.23 |
| **sub-totals** | 24.91 | 5.34 | 12.9 | 18.75 | 6.94 | 4.97 | 3.23 | 4.2 | 1.89 | 2.98 | 49.87 | 36.24 | 86.11 |
| **Aboveground Facilities** | | | | | | | | | | | | | |
| **Fairburn Compressor Station** | 2.78 | 0.56 | 10.44 | 14.07 | 0.00 | 0.00 | 0.00 | 0.06 | 0.00 | 0.00 | 13.22 | 14.69 | 27.91 |
| **Transco to SNG-, Plant McDonough-, UPS Meter-, SNG to McDonough-, and Jonesboro Meter Stations [d]** | 0.00 | 2.34 | 0.00 | 1.15 | 0.00 | 0.00 | 0.00 | 0.54 | 0.00 | 0.00 | 0.0 | 2.46 | 2.46 |
| **sub-totals** | 2.78 | 1.33 | 10.44 | 15.22 | 0.0 | 0.0 | 0.0 | 0.6 | 0.0 | 0.0 | 13.22 | 17.15 | 30.37 |
| **Access Roads and Contractor Yards** | | | | | | | | | | | | | |
| **Access Roads** | 8.56 | 1.92 | 0.00 | 0.88 | 0.00 | 0.92 | 0.00 | 0.00 | 0.00 | 0.00 | 8.56 | 3.72 | 12.28 |
| **Contractor Yards** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 39.44 | 0.00 | 0.00 | 0.00 | 39.44 | 0.0 | 39.44 |
| **Sub-totals** | 8.56 | 1.92 | 0.0 | 0.88 | 0.0 | 0.92 | 39.44 | 0.0 | 0.0 | 0.0 | 48.0 | 3.72 | 51.72 |
| | | | | | | | | | | | | | |
| **Project Totals** | **36.25** | **8.59** | **23.34** | **34.85** | **6.94** | **5.89** | **42.67** | **4.8** | **1.89** | **2.98** | **111.09** | **57.11** | **168.2** |

[a] The Hardwood/Pine Forest category includes 3.0 acres of pure pine components.

[b] The Rights-of-Way/Industrial category includes 1.4 acres of area covered with 40% or more by impervious surfaces.

[c] Includes Temporary Construction right-of-way and additional temporary workspace areas. Temporary impacts are not inclusive of permanent impacts.

[d] The Plant McDonough Meter Station construction and operations footprint would be entirely within the existing Georgia Power Plant.

Southern's Project would not disturb State, federal, county or local government managed lands, national trails, state scenic byways, nature preserves, conservation easements, parks, golf courses, designated recreational areas, schools, or hospitals; or privately operated sugar maple stands, orchards, nurseries, or specialty crops, or designated US Coastal Zone Management Areas (USGS, 2016d; Fulton County Parks and Recreation, 2016; Fayette County Parks and Recreation, 2016; GDNR, 2016b; GDNR, 2016c; GDNR, 2016d; National Wild and Scenic Rivers System, 2016; National Park Service, 2010; Federal Highway Administration, 2016; Georgia Department of Transportation, 2016; National Conservation Easement Database, 2016).

Residential Land

The Fairburn Lateral construction right-of-way would pass within 50 feet of three residences, including 30 feet within one residence along the Fairburn Lateral at MP 2.3. The Loop's construction right-of-way would encroach within 30 and 32 feet of two residences near its kickoff at MP 0.1. Southern has an agreement with a landowner to demolish an additional residence on the southern edge of the Fairburn Compressor Station site prior to Project construction.

Southern has taken considerable efforts to consult with landowners along its proposed pipeline routes who have conveyed their concerns about impacts on their lands from the proposed Project. Southern factored into its routing a number of factors including landowner communications, engineering design factors, and environmental and cultural surveys. This process resulted in Southern incorporating six routing variations and/or realignments into its proposed pipeline routes to avoid residences, streams, wetlands and notable historical sites.

Temporary construction impacts on residential areas could include inconvenience caused by noise, dust, and vibration generated by construction equipment, personnel, and trenching of roads or driveways; disturbance to lawns; removal of trees, landscaped shrubs, or other vegetative screening between residences and/or adjacent rights-of-way; potential damage to existing septic systems, wells or other utilities; and removal of aboveground structures such as decks, fences, sheds, or trailers from the right-of-way. Construction work hours would last from 7:00 am to 6:00 pm 6 days per week.

Southern has committed to using the following specific measures for the five above-mentioned residences: 1) using a compressed construction schedule; 2) avoiding removal of mature trees and landscaping within the construction work area unless necessary for safe operation of construction equipment, or as specified in landowner agreements; 3) fencing the construction workspace for a distance of 100 feet to either side of a residence; 4) installing lighted barricades around excavations that are within 50 feet of residences which must remain open after working hours; 5) maintaining access to these residences during construction; 6) use watering or application of suitable chemicals on access roads and material stockpiles to reduce fugitive dust when necessary; 7) restoring all lawn areas and landscaping immediately following clean up operations, or as specified in landowner agreements; 8) restoring construction workspace within 10 days after backfilling the trench; and 9) repairing water

wells damaged by construction, discussed in section B.2.a Southern would also enforce standard policy regarding prohibitiing residents from installing permanent structures, such as swimming pools, sheds and decks, from the permanent right-of-way.

Nine residential and business development projects are being constructed or are planned for construction in the immediate vicinity of the Fairburn Lateral pipeline, and one facility, the United Parcel Service (UPS) Regional Packing Sorting Hub, is planned for construction at the site of the Project's proposed UPS Meter Station. Table 20 lists the location and status of these projects, as well as locations of three already-completed projects. Southern is in direct contact with the UPS, Morning Falls Subdivision and Oakleaf Manor Subdivision to coordinate construction activities related to landscaping, retention ponds, erosion control, and traffic control, given these projects are within Project work limits and are either proposed or under construction. Four projects under construction that are close by to the Project's work limits include River Park Phase II, King's Crest Subdivision, Autumn Bluffs Subdivision and Bell Tower Lane Subdivisions, with which Southern would coordinate traffic management plans when constructing the Project.

Mr. Humber expressed concern that the angle of the Fairburn Lateral pipeline's proposed encroachment on his planned 37-parcel residential development would prevent one of these parcels from receiving county approval for residential development. Southern is actively engaged with Mr. Humber in efforts to negotiate route or right-of-way modifications to alleviate Mr. Humber's concern. At this current time, however, this development has not been zoned for construction and has no construction authority or environmental permits. If construction of the development renews during Project construction, Southern has committed to collaborate with Mr. Humber to develop a construction coordination plan.

We conclude that construction impacts on residences and existing and planned developments along the proposed pipelines would be short term and adequately minimized given Southern's commitment to following these mentioned residential mitigation measures.

Several residential and land use issues discussed above are reliant upon successful communications between Southern and landowners within and adjacent to the Project construction rights-of-way. Our experience has shown that construction issues are more easily resolved if lines of communication are open between the landowners and the pipeline company, and the company establishes a procedure for receiving and addressing landowner complaints; therefore, **we recommend that:**

> **Southern should develop and implement an environmental complaint resolution procedure. The procedure should provide landowners with clear and simple directions for identifying and resolving their environmental mitigation problems/concerns during construction of the Project and restoration of the Project's right-of-way. Prior to construction, Southern should mail the complaint procedure to each landowner whose property will be crossed by the Project.**

**a. In its letter to affected landowners, Southern should:**

**i. provide a local contact that the landowners should call first with their concerns; the letter would indicate how soon a landowner should expect a response;**

**ii. instruct the landowners that if they are not satisfied with the response, they should call Southern's Hotline; the letter should indicate how soon to expect a response; and**

**iii. instruct the landowners that if they are still not satisfied with the response from Southern's Hotline, they should contact the Commission's Landowner Helpline at 877-337-2237 or at LandownerHelp@ferc.gov.**

**b. In addition, Southern should include in its biweekly status report a copy of a table that contains the following information for each problem/concern:**

**i. the identity of the caller and date of the call;**

**ii. the location by milepost and identification number from the authorized alignment sheet(s) of the affected property;**

**iii. a description of the problem/concern; and**

**iv. an explanation of how and when the problem was resolved, will be resolved, or why it has not been resolved.**

Visual Resources

Long term visual impacts from Southern's proposed aboveground facilities would be most evident at its Fairburn Compressor Station. This site is located adjacent to an existing 34-acre electric power substation. Approximately half of the Fairburn Compressor Station construction site consists of Southern's newly-owned in fee forested property surrounding the north, east and south sides of the permanent compressor station that would not be cleared during construction or operations. The width of this forested border would be from 50 to 125 feet. Southern plans to use slatted fence and earth tone colors at its proposed station. Homes along Oakleaf Pass Manor and the Atlanta City Church in the immediate vicinity of the station would be effectively shielded from visual impacts.

During pipeline operations along the Fairburn Lateral pipeline, some reduction of tree cover along the GTC powerline corridor would result in additional visibility of powerlines and support structures for nearby residences. However, most residences are located adjacent to segments of the Fairburn Lateral pipeline which contains construction right-of-way that is forested and which would be permitted to regrow to full forested state following construction. However, a number of land owners commented about long-term or permanent impacts on tree cover in backyards, resulting in visual impacts from the Georgia Power power lines exposed by the routing of the Fairburn Lateral pipeline and the associated permanent right-of-way

between MPs 2.1 to 2.2 along Oak Bridge Lane. We have determined that it is infeasible to completely avoid tree clearing in this area due to the need to maintain setback distances near power line support towers and the existing Colonial Pipeline (see section C.5 for a discussion of alternatives). However, in response to the concerns, Southern has agreed to a 40-foot-wide permanent right-of-way in this area (rather than 50 feet), resulting in an overall reduced footprint of cleared trees, thereby resulting in less visual impact.

We believe that, if Southern constructs its proposed facilities and restores its right-of-way in accordance with the measures contained within the SNG Plan, SNG Procedures, SPCC Plan, and dust control methods; while using the above-listed residential construction measures and implementation of our recommended environmental complaint resolution procedures, impacts on residential and other land uses during construction and operation of the Project would be short-term and minor.

### 6. Socioeconomics

Construction of the Project will temporarily increase the population in the area of the Project by approximately 225 and 455 workers, and add two permanent full time workers to become part of the permanent staff operating the proposed Fairburn Compressor Station. This temporary influx of workers would not have a perceptible increase in the overall local population once construction is completed. An estimated 80% of the temporary workforce is likely to reside in the Project area while the remainder would commute from surrounding areas.

Sufficient temporary housing exists within the counties in which the Project is located to support approximately 50,000 available units for rent. No housing shortage for workers or the existing local population is expected from the Project's estimated workforce.

Southern estimates that approximately $13 million would be distributed in construction payroll for workers on the Project overall. The Project workforce, local and non-local combined, would spend as much as 20 to 30 percent of their payroll on goods and services, in addition to money spent on temporary housing. Southern estimated that it would spend a total of $31 million for purchase of materials for construction, of which an approximate $3 million would be purchased locally (approximately $3 million). These expenditures and resultant sales tax revenues would represent a substantial if only a short-term economic benefit to local businesses and governments.

No lands used for cultivated crops would be taken out of production during Project construction or operations, while a limited amount of pasture land used for grazing and hay production would be interrupted during construction. In general, Southern would compensate for economic losses through negotiated payments to landowners. Landowners expressed concern over their property values decreasing as a result of having a pipeline or easement on their land. A pipeline easement does not impact free and full transferability of the property title. The impact that a project may have on the value of any land parcel depends on many

factors, including the size of the parcel, the parcel's current value and land use, and the value of other nearby properties. Once the temporary inconveniences associated with construction and restoration of the property end, landowners would continue to own and use their properties as desired as long as that use is not inconsistent with the rights that the landowner granted to Southern. Landowners should be able to resume most pre-project uses of their land.

The effects of Project construction on local medical, law enforcement and municipal services available to the existing local population would be minor and not burdensome, given the lack of concentration of housing and infrastructure required by the temporary Project worker force.

Traffic impacts on local roads to be bored or open-cut by Project construction activities, including by workers and construction equipment, would occur on a temporary basis during construction and restoration of the right-of-way. At its open-cut crossing of public roads, Southern would implement appropriate safety procedures to protect workers and the public. Traffic warning signs and other traffic control devices would be used as required by federal, state, and local regulatory agencies (see table 14 for a list of road crossing). To minimize traffic delays at open-cut road crossings of unpaved roads, Southern would establish detours before and during construction. If no reasonable detours are feasible, it would leave at least one traffic lane of the road open, except for brief periods when road closure would be required to construct the Project. As an additional measure to alleviate work force transportation to and from concentrated work zone sites during morning and evening rush hours, Southern would require construction workers to leave their personal vehicles at the contractor yards and share rides to the Project sites.

### 7. Cultural Resources

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

Southern conducted a cultural resources survey for the Project and provided a Phase I report to the FERC and the Georgia State Historic Preservation Office (SHPO). The survey included a 300-foot-wide corridor for the pipelines (150 feet on either side of the 300-foot-wide corridor previously surveyed for the Fairburn Lateral pipeline and Loop pipeline, temporary work spaces, the compressor station, the meter stations (with the exception of the UPS Meter Station), contractor yards, and access roads. Approximately 341 acres were

| Table 14 - Road Crossings for the Fairburn Expansion Project | | | | |
|---|---|---|---|---|
| **Road Name** | **Milepost** | **Existing Use** | **Surface Type** | **Crossing Method** |
| **Fairburn Lateral** | | | | |
| Omin Road | 0.1 | Public | Gravel | Open Cut or Uncased Bore |
| New Hope Road | 0.7 | Public | Paved/Asphalt | Uncased Bore |
| Kite Lake Road | 1.9 | Public | Paved/Asphalt | Uncased Bore |
| Westbridge Road | 2.4 | Public | Paved/Asphalt | Uncased Bore |
| Wagon Wheel Trail | 2.5 | Public | Paved/Asphalt | Uncased Bore |
| **South Main 2nd Loop Line Extension** | | | | |
| Franklin Road | 0.7 | Public | Paved/Asphalt | Uncased Bore |
| Country Place | 1.0 | Public | Paved/Asphalt | Uncased Bore |
| Whittle Road | 1.1 | Public | Paved/Asphalt | Uncased Bore |

visually inspected and further examined with 551 shovel test units. The survey also included an assessment of standing structures 40 years of age or older.

As a result of the survey, two archaeological sites (a complex of eight dilapidated structures [9FU722], and a sparse prehistoric and historic artifact scatter [9FY251]), one isolated artifact, one historic cemetery (the West-Jackson Cemetery), and circa 1959 ranch house were identified. The two sites, one isolated artifact, and ranch house were recommended as not eligible for the NRHP. The NRHP eligibility of the cemetery was not assessed. Southern indicated it would avoid the cemetery, and maintain a wooded buffer between it and the right-of-way. In letters dated October 19, 2016 and March 31, 2017, the SHPO requested additional information and revisions to the report. Southern provided a revised report to the FERC and SHPO. On May 18 and June 2, 2017, the SHPO requested additional information regarding historic resources. Southern has not yet addressed the SHPO's comments. In addition, survey is still outstanding on some areas of the Fairburn Lateral pipeline, the UPS Meter Station, an access road, two contractor yards for the Loop pipeline, and cathodic protection areas. **Therefore, we recommend that:**

**Southern should <u>not begin construction</u> of facilities and/or use of staging, storage, or temporary work areas and new or to-be-improved access roads <u>until</u>:**

**a. Southern addresses the Georgia SHPO's comments on the revised Phase I report, and files the response/information and the SHPO's comments on the response/information with the Secretary;**

**b. Southern files with the Secretary an addendum survey report for the outstanding survey areas, and the SHPO's comments on the addendum; and**

**c. the FERC staff reviews and the Director of OEP approves the response/information and addendum survey report, and notifies Southern in writing that construction may proceed.**

**All materials filed with the Commission <u>containing location, character, and ownership information</u> about cultural resources must have the cover and any relevant pages therein clearly labeled in bold lettering: "<u>CUI//PRIV – DO NOT RELEASE</u>."**

Southern contacted the following Native American tribes, providing a Project description and mapping, and also conducted follow-up letters, phone calls, and/or emails: Cherokee Nation of Oklahoma; Muscogee (Creek) Nation; Eastern Band of Cherokee Indians; and Poarch Band of Creek Indians. Southern also provided the Cherokee Nation of Oklahoma, Muscogee (Creek) Nation, and Poarch Band of Creek Indians with the survey report. In a letter dated June 5, 2017, the Cherokee Nation of Oklahoma indicated the Project would not impact Cherokee cultural resources, and requested to be notified if items of cultural significance were discovered. In letters dated January 5 and April 3, 2017, the Eastern Band of Cherokee Indians indicated that no cultural resources important to the Cherokee people should be adversely impacted by the Project, and requested to be notified of inadvertent discoveries. On January 10, 2017, the Muscogee (Creek) Nation requested Project coordinates, which Southern provided. On May 10, 2017, the Muscogee (Creek) Nation indicated that the Project would have no adverse effects on any known historic/cultural properties. No other responses have been received to date. We sent our NOI and follow-up letters to these same tribes. In a letter dated April 10, 2017, the Eastern Band of Cherokee Indians indicated that no cultural resources important to the Cherokee people should be adversely impacted by the Project, and requested to be notified of inadvertent discoveries. No other responses to our NOI or letters have been received.

Southern provided a plan to address the unanticipated discovery of historic properties and human remains during construction. We reviewed the plan and found it acceptable.

## 8. <u>Air Quality and Noise</u>

### a. Air Quality

Federal and state air quality standards are designed to protect human health. The USEPA has developed National Ambient Air Quality Standards (NAAQS) for criteria air pollutants such as nitrogen oxides ($NO_x$) and carbon monoxide (CO), the primary pollutants emitted by natural gas-fired compressor facilities. Other relevant criteria air pollutants include ozone ($O_3$), sulfur dioxide ($SO_2$), and inhalable particulate matter ($PM_{2.5}$ and $PM_{10}$). $PM_{2.5}$ includes particles with an aerodynamic diameter less than or equal to 2.5 microns, and $PM_{10}$ includes particles with an aerodynamic diameter less than or equal to 10 microns. The

NAAQS were set at levels the USEPA believes are necessary to protect human health and welfare, including vulnerable populations such as children and the elderly. States and municipalities can adopt standards more stringent than the NAAQS. However, the GDNR has adopted the NAAQS as promulgated by the USEPA.

Air Quality Control Regions (AQCRs) are areas for which implementation plans describe how ambient air quality standards will be achieved and maintained. AQCRs are defined by the USEPA and state agencies in accordance with the Clean Air Act of 1970. If measured ambient air pollutant concentrations for a subject area remain below the NAAQS criteria, the area is considered to be in attainment with the NAAQS.

Greenhouse gases (GHG) occur in the atmosphere both naturally and as a result of human activities, such as the burning of fossil fuels. The primary GHGs produced by fossil fuel combustion are $CO_2$, methane ($CH_4$), and nitrogen oxide ($N_2O$). During construction and operation of the Project, these GHGs would be emitted from any fossil-fuel fired combustion engines. Methane is the primary component of natural gas and is released by blowdown events under certain routine operations or emergency conditions. In addition, methane emissions could occur due to leaks from pipeline and system components such as equipment packing, seals, valves, flanges, pneumatic devices, and connectors at pipeline facilities, compressor stations, and meter and pressure regulation stations. Emissions of GHGs are typically expressed in terms of carbon dioxide equivalent emissions ($CO_{2eq}$), where the potential of each gas to increase heating in the atmosphere is expressed as a multiple of the heating potential of $CO_2$, or its global warming potential.

Overview of the Sources of Air Emissions from the Proposed Project

Air emissions from operation of the construction equipment and fugitive dust would be expected during the construction of the various pipeline segments and aboveground facilities proposed for this Project. Operational emissions would be limited to fugitive emissions and emissions from the proposed emergency generator, heater, and storage tanks at the proposed electric drive Fairburn Compressor Station in Fulton County.

The proposed McDonough Lateral acquisition of an approximately 19.7-mile-long existing pipeline and appurtenant facilities would not include any construction or modifications to the existing pipeline facilities and hence no new emissions. However, Southern proposes several new meter stations along the existing McDonough Lateral including the Plant McDonough Meter Station in Cobb County; the UPS Meter Station in Fulton County; and the SNG-to-McDonough Meter Station also in Fulton County. In addition to the meter stations along the McDonough Lateral, Southern proposes the new Transco-to-SNG Meter Station in Fayette County, as well as minor modifications to the existing Jonesboro Meter Station in Clayton County. Construction emissions and fugitive dust emissions associated with the new meter stations are discussed below.

Existing Environment

Table 15 shows attainment status for the counties in which Project utilities are located.

| Table 15 - Air Quality Attainment Status of Project Facilities | | |
|---|---|---|
| **County** | **Project Component(s)** | **County Attainment Status** |
| Fayette County | Fairburn Lateral<br>Transco-to-SNG Meter Station | Moderate non-attainment area for $O_3$ and attainment for all other NAAQS. |
| Fulton County | Fairburn Lateral, McDonough Lateral, Fairburn Compressor Station, UPS Meter Station, and SNG-to -McDonough Meter Station | Moderate non-attainment area for $O_3$ and attainment for all other NAAQS. |
| Monroe County | South Main 2nd Loop Line Extension | Attainment for all NAAQS |
| Cobb County | McDonough Lateral<br>Plant McDonough Meter Station | Moderate non-attainment area for $O_3$ and attainment for all other NAAQS |
| Clayton County | Jonesboro Meter Station | Moderate non-attainment area for $O_3$ and attainment for all other NAAQS |

Federal and State Air Quality Requirements

The Clean Air Act, 42 U.S.C. 7401 et seq., as amended in 1977 and 1990, and 40 CFR Parts 50 through 99 are the basic federal statutes and regulations governing air pollution in the United States. We have reviewed the following federal requirements to determine their applicability to the proposed Project.

The potential air emissions from the proposed sources are minimal and considered exempt from permitting under Georgia Administrative Code Rule 391-3-1-.03(6). As such, neither construction nor operating air permits are required from the Georgia Department of Natural Resources, Environmental Protection Division.

**Title V Operating Permit Program**

The Title V Major Source Operating Permit Program (40 CFR Part 70) is administered by the state or local jurisdiction where the source is located, and the permits are often referred to as Title 70 permits. A major source has actual or potential emissions at or above the major source threshold for any air pollutant. The major source threshold for any air pollutant is 100 tons/year. Major source thresholds for hazardous air pollutants (HAP) are 10 tons/year for a single HAP or 25 tons/year for any combination of HAP. As shown in Table 18, the project would not exceed the major source thresholds and therefore a Title V Operating Permit is not required.

**Greenhouse Gas Reporting Rule**

Petroleum and natural gas facilities with GHG emissions equal or greater than 25,000 metric tons of $CO_2e$ are required to report GHGs from various processes within the facility per

40 CFR Part 98, Subpart W. The facilities in this project would not exceed this threshold and would not be subject to this rule.

**Prevention of Significant Deterioration**

Prevention of Significant Deterioration (PSD) regulations impose stringent limits (known as PSD Increments) on the amount that a stationary source may degrade the existing air quality levels. The emission threshold for "major stationary sources" varies under PSD according to the type of facility. As defined by 40 CFR Part 52.21 (b)(1)(i), the proposed facility would be considered a new major stationary source under PSD if it emits or has the potential to emit 250 tons per year (tpy).[1] However, the potential emissions of all criteria pollutants from the proposed equipment for the Project would not exceed 250 tpy; therefore, the Project is not considered a "major source" for PSD permitting purposes. [2]

**National Emissions Standards for Hazardous Air Pollutants**

Part 63 of 40 CFR establishes Hazardous Air Pollutants (HAPs) emission standards for natural gas transmission and storage facilities (Subpart HHH), and industrial, commercial, and institutional boilers and process heaters (Subpart DDDDD).

These subparts establish requirements only for major sources of HAPs. Emissions of HAPs from the proposed Project would not exceed the associated major source thresholds under 40 CFR 63 (10 tpy of an individual HAP and 25 tpy for the remaining HAPs), and therefore the Project would be considered a minor (or "area source") of HAPs. Existing and proposed National Emissions Standards for Hazardous Air Pollutants standards were reviewed to determine area source applicability to the Project facilities or to confirm non-applicability as appropriate. The results of this review are summarized below by regulatory citation.

---

[1] https://www.ecfr.gov/cgi-bin/textidx?SID=1f6b1b02a95d8f59728c395fb9f829e6&mc=true&node=se40.3.52_121&rgn=div8

[2] The proposed Project would not exceed the PSD permitting thresholds and would not be considered a major source. Although not relevant to the PSD applicability determination, we also note that none of the Project facilities are located within 100 kilometers of any Federal Class I areas, which are areas afforded the most protection under the PSD program and minimal air quality deterioration is allowed in these regions. Within the framework of the PSD program, land use goals were assigned based on a three-tiered classification system. Congress identified mandatory Class I regions throughout the U.S. based on national and regional value due to natural, scenic, recreational, and/or historic worth. The remainder of the areas were designated as Class II areas that allow moderate air quality deterioration. All of the project facilities would be in Class II areas. The Class III designation is reserved for highly industrialized areas that are likely to experience a significant amount of development. There are no Class III areas within Georgia.

Southern may encounter asbestos-containing material at existing facilities and need to engage in demolition and/or renovation activities involving asbestos-containing materials as part of the Project. Therefore, the Project could be potentially subject to Subpart M, Standards for Demolition and Renovation (40 CFR 61.145).

HAP standards for Reciprocating Internal Combustion Engines (RICE), under 40 CFR Part 63, Subpart ZZZZ, include new and reconstructed stationary RICE located at area sources. This standard is applicable to the Fairburn Compressor Station, an area source of HAP emissions, because the facility will operate one emergency RICE.

**New Source Performance Standards**

New Source Performance Standards (NSPS), codified at 40 CFR 60, establish emission limits and associated requirements for monitoring, reporting, and record keeping for specific emission source categories. NSPS apply to new, modified, or reconstructed sources.

NSPS Subpart JJJJ, titled "Standards of Performance for Stationary Spark Ignition Internal Combustion Engines," applies to stationary spark ignition internal combustion engines in emergency use if construction of the engine commences after June 12, 2006, and the engine is manufactured on or after January 1, 2009. The emergency generator engine for the Fairburn Compressor Station would be an approximately 335-hp four-stroke lean-burn engine constructed after June 12, 2006, and therefore Subpart JJJJ is applicable.

**Conformity of General Federal Actions**

The General Conformity Rule was promulgated by the USEPA to ensure that federal actions do not contribute to new air quality violations. It applies to federal actions occurring in air quality regions designated as non-attainment for NAAQS or as attainment areas that are subject to maintenance plans (maintenance areas). General Conformity covers most aspects of federally approved actions not covered by the Transportation Conformity Program. A General Conformity analysis consists of two parts. The first part is an analysis of emissions from construction and operation compared to *de minimis* thresholds defined in the rule. The second part is only applicable if the *de minimis* thresholds are surpassed, and it results in a General Conformity determination.

All of the Project sites, with the exception of the Loop pipeline, are located in moderate non-attainment areas for $O_3$ and were thus included in the General Conformity analysis. As shown in table 16 below, the electric-driven compressors at the Fairburn Compressor Station would result in potential emissions significantly below the General

| Table 16 - General Conformity Applicability | | | | | |
|---|---|---|---|---|---|
| **Pollutant** | **Activity** | **Area Type** | **De Minimis Levels (tpy)** | **Project Emissions (tpy)** | **De Minimis** |
| **Ozone (NOx)** | Fairburn Lateral Pipeline Construction | Moderate non-attainment area outside an $O_3$ transport region | 100 | 9.98 | Yes |
| | South Main 2nd Loop Line Extension Construction | | | 4.99 | |
| | Fairburn Compressor Station Construction | | | 5.61 | |
| | Transco to SNG Meter Station Construction | | | 4.23 | |
| | Plant McDonough Meter Station Construction | | | 4.23 | |
| | UPS Meter Station Construction | | | 4.23 | |
| | SNG to McDonough Meter Station Construction | | | 4.23 | |
| | Jonesboro Meter Station Construction | | | 0.42 | |
| | Fairburn Expansion Project Operation | | | 1.10 | |
| **Total NOx Emissions** | | | | 39.02 | |
| **Ozone (VOC)** | Fairburn Lateral Pipeline Construction | Moderate non-attainment area outside an $O_3$ transport region | 100 | 1.11 | Yes |
| | South Main 2nd Loop Line Extension Construction | | | 0.55 | |
| | Fairburn Compressor Station Construction | | | 0.68 | |
| | Transco to SNG Meter Station Construction | | | 0.49 | |
| | Plant McDonough Meter Station Construction | | | 0.49 | |
| | UPS Meter Station Construction | | | 0.49 | |
| | SNG to McDonough Meter Station Construction | | | 0.49 | |
| | Jonesboro Meter Station Construction | | | 0.05 | |
| | Fairburn Expansion Project Operation | | | 19.32 | |
| **Total VOC Emissions** | | | | 23.67 | |

Conformity *de minimis* levels of 100 tpy each for $NO_x$ and VOC, which are the two regulated precursor emissions for $O_3$[3]. Therefore, a general conformity determination is not required.

[3] Because $O_3$ is not emitted directly from emission sources, but is created near ground level by a chemical reaction between NOx and VOCs in the presence of sunlight, NOx and

Fugitive dust and other emissions due to construction activities generally do not pose a significant increase in regional pollutant levels; however, local pollutant levels could increase.

Fugitive dust mitigation techniques would be applied on an as-needed basis as determined by the construction site supervisor. Strategies to be employed during construction would include:

- the use of water for control of dust during construction activities, grading roads, or clearing land;
- the application of water, or suitable chemicals on dirt roads, materials stockpiles, and other surfaces which may create significant airborne dust;
- paving/grading of roadways and maintaining the roads in a clean condition;
- removal of spilled or tracked dirt or other materials from paved streets, and of dried sediments resulting from soil erosion; and
- reducing the speed of vehicular traffic to a point below that at which significant dust emissions are created.

Criteria pollutant emissions during operation of the construction equipment would occur from combustion of gasoline and diesel fuels, primarily $NO_2$, CO, VOCs, $PM_{10}$, $PM_{2.5}$, small amounts of $SO_2$, and small amounts of HAPs (such as formaldehyde, benzene, toluene, and xylene). Construction emissions for the proposed Project are shown in table 17. These construction emissions would occur over the duration of construction activity and would be emitted at different times and locations along the length of the Project. As stated, impacts from construction equipment would be temporary and should not result in a significant impact on air quality.

Environmental Impacts

**Construction Emissions and Impacts**

During construction, a temporary reduction in ambient air quality may result from emissions and fugitive dust generated by construction equipment. The quantity of fugitive dust emissions would depend on the moisture content and texture of the disturbed soils.

**Operation Emissions and Impacts**

Table 18 shows the expected emissions from operation of the Project components that would result in emissions. As shown in the table, the emissions are minimal due to the use of an electric-power compressor at the Fairburn Compressor Station, and would be well below the threshold for PSD.

VOC emissions are used to determine $O_3$ emissions.

| Table 17 - Fairburn Expansion Project Construction Emissions Summary | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Station/Segment** | **ROG (tpy)** | **CO (tpy)** | **NOx (tpy)** | **$SO_2$ (tpy)** | **$PM_{10}$ (tpy)** | **$PM_{2.5}$ (tpy)** | **$CO_2e$ (tpy)** | **HAP (tpy)** |
| **Fairburn Compressor Station** | 0.68 | 3.67 | 5.61 | 0.01 | 26.89 | 3.26 | 630.65 | 0.31 |
| **Transco to SNG Meter Station** | 0.49 | 2.19 | 4.23 | 0.00 | 7.07 | 0.97 | 409.52 | 0.01 |
| **Plant McDonough Meter Station** | 0.49 | 2.19 | 4.23 | 0.00 | 7.07 | 0.97 | 409.52 | 0.01 |
| **UPS Meter Station** | 0.49 | 2.19 | 4.23 | 0.00 | 7.07 | 0.97 | 409.52 | 0.01 |
| **SNG to McDonough Meter Station** | 0.49 | 2.19 | 4.23 | 0.00 | 7.07 | 0.97 | 409.52 | 0.01 |
| **Jonesboro Meter Station** | 0.05 | 0.33 | 0.42 | 0.00 | 1.66 | 0.21 | 44.74 | 0.01 |
| **Totals** | 2.69 | 12.76 | 22.95 | 0.01 | 56.83 | 7.35 | 2,313.47 | 0.36 |

| Table 18 - Fairburn Expansion Project Operations Emissions Summary | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Station/Segment** | **NOx (tpy)** | **CO (tpy)** | **VOC (tpy)** | **PM (tpy)** | **$SO_2$ (tpy)** | **HAP (tpy)** | **$CO_2e$ (tpy)** |
| **Fairburn Compressor Station** | 1.10 | 1.01 | 5.55 | 0.08 | 0.01 | 0.51 | 1,143.74 |
| **Transco to SNG Meter Station** | -- | -- | 4.59 | -- | -- | -- | -- |
| **Plant McDonough Meter Station** | -- | -- | 4.59 | -- | -- | -- | -- |
| **UPS Meter Station** | -- | -- | 4.59 | -- | -- | -- | -- |
| **Totals** | 1.10 | 1.01 | 19.32 | 0.08 | 0.01 | 0.51 | 1,143.74 |
| **PSD/NNSR Major Source Threshold** | 250 | 250 | 250 | 250 | 250 | 25 | -- |
| **Major Source/Project** | No | No | No | No | No | No | -- |

With respect to downstream GHG emissions, we assumed all of the gas to be transported is eventually combusted. While not part of the Project, we estimated the GHG emissions from the end-use combustion[4] of the transported natural gas. This would result in the emission of about 6.9 million metric tpy of $CO_{2eq}$ per year. We note that this annual $CO_{2eq}$ estimate represents an upper bound for the amount of end-use combustion that could result from the gas transported by this project. Some of the gas may displace fuels (i.e., fuel oil and coal) which could result in lower total $CO_{2eq}$ emissions. As such, it is likely that this amount of downstream GHG emissions are likely to be lower than the above estimate. As we cannot determine the Project's incremental physical impacts on the environment caused by GHG emissions, we cannot determine whether the projects' GHG emissions would be significant.

[4] This estimate assumes the maximum capacity is transported 365 days per year, which is rarely the case because many projects are designed for peak use.

Through implementation of the above work practices, the short duration of construction activities, and a review the estimated emissions from construction and operation of the proposed Project, we determine that there would not be a regionally significant impact on air quality.

**b. Noise Impacts**

Noise quality can be affected both during construction and operation of natural gas facilities. The magnitude and frequency of environmental noise may vary considerably over the course of the day, throughout the week, and across seasons, in part due to changing weather conditions and the effects of seasonal vegetative cover. Two measures to relate the time-varying quality of environmental noise to its known effect on people are the 24-hour equivalent sound level ($L_{eq}$) and day-night sound level ($L_{dn}$).

The $L_{eq}$ is the level of steady sound with the same total (equivalent) energy as the time-varying sound of interest, averaged over a 24-hour period. The $L_{dn}$ is the $L_{eq}$ plus 10 decibels on the A-weighted scale (dBA) added to account for people's greater sensitivity to nighttime sound levels (between the hours of 10 p.m. and 7 a.m.). The A-weighted scale is used because human hearing is less sensitive to low and high frequencies than mid-range frequencies. The human ear's threshold of perception for noise change is considered to be 3 dBA; 6 dBA is clearly noticeable to the human ear, and 10 dBA is perceived as a doubling of noise.

In 1974, the USEPA 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. USEPA has determined that an $L_{dn}$ of 55 dBA protects the public from indoor and outdoor activity noise interference. The Commission's regulations require that a new compressor station not exceed this level at noise sensitive areas (NSA). An $L_{dn}$ of 55 dBA is equivalent to a continuous noise level of 48.6 dBA. For comparison, normal speech at a distance of three feet averages 60 – 70 dBA $L_{eq}$.

There are no state or county noise ordinances applicable to the compressor stations or other Project facilities.

Construction Noise

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

Monday through Saturday.

Construction activities associated with the Project would result in short-term, temporary increases in ambient noise levels. With construction generally limited to daytime hours, we believe that adjacent landowners would not be significantly affected by construction-related noise from the pipeline or compressor station.

Operational Noise

An ambient noise survey and an acoustical analysis was performed by Southern to quantify the sound level contribution at nearby NSAs, such as schools and residences which would result during operation of the Compressor Station and Meter Stations. Predicted noise levels due to the compressor station operation were estimated at the nearest NSAs based upon the proposed equipment, noise mitigation measures, and the baseline sound level measurements. The results of this analysis are summarized in table 19.

Blowdowns (venting of natural gas) can happen during starting and stopping of a compressor at the Fairburn Compressor Station, maintenance activities or for emergency purposes. Maintenance and startup/shutdown blowdowns can happen periodically on a daily, weekly or monthly basis. The noise of a unit blowdown would be approximately 53 dBA at the nearest NSA, located approximately 1,100 feet from the blowdown silencers, which would be less than 55 dBA. Because the blow down event would be infrequent, last for a short duration (e.g., 1- to 5-minute period), and would not exceed 55 dBA, they would not result in significant noise disturbance.

As shown in table 19, none of the NSAs would experience a significant increase in noise. Our analysis predicts that the noise attributable to the Fairburn Compressor Station and the proposed meter stations would be lower than our limit of 55 dBA $L_{dn}$ at all NSAs. The noise increases at all NSAs would be less than 3 dB except NSA 1 (at the Transco to SNG Meter Station) and therefore would not be perceptible. To confirm that noise from the proposed Fairburn Compressor Station does not contribute to significant operational impacts at the nearest NSAs, **we recommend that:**

> **Southern should file a noise survey with the Secretary no later than 60 days after placing the Fairburn Compressor Station in service. If a full load condition noise survey is not possible, Southern should provide an interim survey at the maximum possible horsepower load and provide the full load survey within 6 months. If the noise attributable to the operation of all of the equipment at the Fairburn Compressor Station under interim or full horsepower load conditions exceeds an $L_{dn}$ of 55 dBA at any nearby NSA, Southern should file a report on what changes are needed and should install the additional noise controls to meet the level within 1 year of the in-service date. Southern should confirm compliance with this requirement by filing a second noise survey with the Secretary no later than 60 days after it installs the additional noise controls.**

With implementation of the measures proposed by Southern and our recommendation, impacts related to noise during construction would be minor and temporary to short term. During operation, noise would constitute a minor impact but would not be significant.

## 9. Reliability and Safety

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

The 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 Part 192. The regulations are intended to ensure adequate protection for the public and to prevent natural gas facility accidents and failures.

The USDOT pipeline standards are published in Parts 190-199 of Title 49 of the CFR. For example, Part 192 of 49 CFR specifically addresses natural gas pipeline safety issues, prescribes the minimum standards for operating and maintaining pipeline facilities, and incorporates compressor station design, including emergency shutdowns and safety equipment (sections 192.163-192.173). Part 192 also requires a pipeline operator to establish a written emergency plan that includes procedures to minimize the hazards in a natural gas pipeline emergency.

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

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.

Some commenters stated they had concerns over the safety implications posed by the proximity of the proposed Fairburn Lateral pipeline to residences. A commenter expressed the added concern over the potential for pipeline rupture resulting from arching electrical current from overhead electric powerlines occupying the right-of-way that the Fairburn Lateral proposes to be collocated with. The issue of accelerated rates of pipeline corrosion caused by the presence of overhead powerlines was also raised.

| Table 19 - Summary of the Nearest NSAs and Sound Levels at the Project Aboveground Facilities | | | | | | |
|---|---|---|---|---|---|---|
| **Project Facility** | **Nearest NSA(s)** | **Distance and Direction from Project Facility** | **Measured Ambient Ldn (dBA) [a]** | **Calculated / Estimated Facility Ldn (dBA)** | **Total Ldn (dBA)** | **Increase from Ambient (dB)** |
| **Fairburn Compressor Station** | NSA No. 1 (Residences) | 1,000 feet (NE) | 54.7 | 48.3 | 55.6 | +0.9 |
| | NSA No. 2 (Residences) | 1,050 feet (S) | 50.8 | 45.3 | 51.9 | +1.1 |
| | NSA No. 3 (Residences) | 1,850 feet (N) | 57.3 | 46.0 | 57.6 | +0.3 |
| | NSA No. 4 (Residence) | 2,300 feet (WNW) | 55.0 | 42.9 | 55.3 | +0.3 |
| **Transco to SNG Meter Station** | NSA No. 1 (Residences) | 400 feet (S) | 51.9 | 52.2 | 55.1 | +3.2 |
| **Plant McDonough Meter Station** | NSA No. 1 (Residences) | 1,100 feet (NW) | 67.5 | 43.2 | 67.5 | +0.0 |
| **UPS Meter Station** | NSA No. 1 (School) | 2,100 (ENE) | 61.4 | 37.4 | 61.4 | +0.0 |
| **SNG to McDonough Meter Station** | NSA No. 1 (Residence) | 2,050 feet (WSW) | 67.5 | 34.7 | 67.5 | +0.0 |
| **Jonesboro Meter Station** | The modifications at the facility are not anticipated to result in noise impacts, therefore, ambient sound surveys were not conducted. | | | | | |
| [a] dBA = A-weighted scale; Ldn = day-night sound level | | | | | | |

Southern's pipeline system complies with minimum requirements for the protection of metallic pipelines from external, internal, and atmospheric corrosion, in accordance with 49 CFR §192.451. The Project pipelines and the underground piping for the meter stations and Fairburn Compressor Station would be coated with a fusion bond epoxy coating system to significantly limit external corrosion. A cathodic protection system would also be installed adjacent to the Fairburn Lateral and Loop pipelines in order to prevent corrosion of pipeline by providing direct current flow to the pipeline. This offsets the natural soil, groundwater, or salt water corrosion potential that can degrade the integrity of the pipe. Southern would apply an epoxy paint system to coat all aboveground piping in order to reduce atmospheric corrosion.

In addition to safety design elements required under 49 CFR 192 regulations, Southern would apply its Integrity Management Plan for its pipeline system during its operation of the proposed Project. The Integrity Management Plan directs Southern to identify, prioritize, assess, evaluate, repair and validate the integrity of gas transmission pipelines. Southern would use aboveground pipeline markers to indicate the presence of the proposed pipeline, and would transport natural gas marked with odorizers to make it readily detectible should there be a leak. Southern performs periodic leak detection surveys in accordance with USDOT regulations. These patrols are carried out to identify surface conditions on and adjacent to the pipeline right-of-way that may indicate erosion, exposed pipeline, leaks, or other factors that may affect the safety or operation of the pipeline Additionally, regular patrols of Southern's pipeline system are performed to monitor and control encroachment by third parties. Any unusual situation or condition is reported and investigated immediately. The Fairburn Lateral pipeline design incorporates pig launchers and receivers (at the origin and terminus) to accommodate the passage of internal inspection tools. Periodic inspections of the pipeline using these inspection tools are part of Southern's maintenance activities to detect damage or corrosion in the pipeline.

Southern's Project would represent a minimum increase in risk to the public and we are confident that with the options available in the detailed design of Southern's facilities, that they would be constructed and operated safely.

## 10. Cumulative Impacts

In accordance with NEPA, we identified other actions located in the vicinity of the proposed Project facilities and evaluated the potential for a cumulative impact on the environment. As defined by the Council on Environmental Quality (CEQ), a cumulative effect is the impact on the environment that results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions. Actions that are far removed geographically from the proposed Project are generally not evaluated because their potential to contribute to a cumulative impact diminishes with increasing distance. The geographic scope for our analysis of cumulative impacts varies depending on the resources affected and the magnitude of impact, as described further below.

In this analysis, we consider the impacts of past projects within the same general area as the Project as part of the affected environment (environmental baseline) which was described and evaluated in the preceding environmental analysis. Such past projects include the installation of the Colonial Pipeline and Georgia Power utility corridors and other natural gas aboveground facilities overlapping or immediately adjacent to the Project's proposed construction footprint. However, we considered present effects of such past actions that are relevant and useful. Even though certain activities may not occur at the same time, their impacts may be of such duration that overlaying the incremental effects of each could result in a greater cumulative impact.

The criteria listed below define the Project's geographic scope, which is used in this cumulative impacts analysis to describe the general area(s) for which the Project could contribute to cumulative impacts. For the most part, the geographic scope is limited to the area directly affected by the Project and, depending on the resources, in the adjacent areas. Based on the Project impacts identified and described in this EA and consistent with CEQ and USEPA guidance (Council on Environmental Quality 1997; USEPA 1999; USGS 2013), we have determined that the following resource-specific geographic scopes are appropriate to assess cumulative impacts:

- impacts on geology and soils - given that Project construction and restoration measures, including erosion control devices, are designed to confine impacts on geologic and soil resources to the project workspaces, we assessed impacts within a geographic scope defined by the Project construction footprint;
- impacts on groundwater, surface water, wetlands and fisheries - impacts were assessed within a geographic scope defined by the USGS Hydrologic Code (HUC 12) watershed in which the Project was located;
- impacts on vegetation and wildlife - given the relatively steep local topography in the Project area, and the dominant pine forest habitat, it was assumed that impacts resulting from residential and Project construction activities on forest habitat were highly localized, and thus impacts were assessed within a geographic scope defined by a 0.5 mile radius of the Project;
- impacts on land use - impacts were assessed within a geographic scope defined by a 1.0 mile radius of the Project;
- impacts on cultural resources - impacts were assessed within a geographic scope defined by the area of potential effects studied for the Project;
- impacts on visual resources - impacts were assessed within a geographic scope defined by a 0.25 mile radius of the Project's pipelines and a 0.5 mile radius of the Fairburn Compressor Station;
- impacts on air quality and noise sensitive resources from Project construction - impacts were assessed within a geographic scope defined by a 0.25 mile radius of the Project footprint;

- impacts on air quality from Project operations - impacts were assessed within a geographic scope defined by a 1.0 kilometer radius of the Project's aboveground facilities, given that the Fairburn Compressor Station would use electric powered compressor units, and the meter stations would involve only piping emissions;
- impacts on noise sensitive resources from Project operations - impacts were assessed within a geographic scope defined by a 1.0 mile radius of the Project's aboveground facilities; and
- socioeconomic impacts - socioeconomic impacts were assessed within a geographic scope defined by the counties wherein the various parts of the Project were located.

We identified and evaluated past, present, and reasonably foreseeable future projects related to residential, commercial and transportation development within the various resource-specific geographic scopes (table 20) for potential cumulative impacts in conjunction with the Project. These nearby projects were predominantly residential subdivision developments. Cumulative effects would be limited primarily to the combined impacts of the nearby recently completed, concurrent, or imminent projects. For this analysis, most of the identified nearby projects were assumed to contribute to cumulative impacts in some degree on all of the various resources given 1) their close proximity to the Project's footprint located within the geographic scopes identified for the various resources above, and 2) sharing the approximate same overall timetable of construction activities as for the Project, slated to begin construction in early 2018.

**Other FERC Jurisdictional Projects**

We are aware of other FERC jurisdictional projects within the state of Georgia; however, we conclude that these projects lie outside of the geographic scope for potential cumulative impacts, primarily due to distance. The Dalton Expansion Project has been construction and is currently in operations. The closest segment to the Project is the Dalton Lateral located approximately 18 miles west of the Project in Coweta County, Georgia. The proposed Elba Liquefaction Project and its associated proposed EEC Pipeline is currently undergoing construction are under review with the Commission. The project has components in Hart, Jefferson and Chatham Counties, the closest of which is located approximately 100 miles east of the Project area.

**Project Related FERC Non-jurisdictional Facilities**

As noted in section A.2, non-jurisdictional electric service would be provided to the proposed aboveground facilities. Delivering electrical service to these facilities would not require new right-of-way or any work areas outside existing powerline rights-of-way or electrical substations. Although specific resource impacts are not available at this time, the nature of these impacts would be similar to those of electrical powerline infrastructure in the area. Due to the limited length of the non-jurisdictional electric powerline hookup feeder

| Table 20 - Cumulative Impacts - Recently Completed, Current, and Planned Major Projects in the Project Area | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Project Name** | **County** | **Description / Comment / Area of Impact [a]** | **Nearest Milepost** | **Distance (miles) and Direction** | **Estimated Development Timeframe** | **Permits/Environmental Review [b]** | **Status** |
| **River Park** | Fayette | A 75-acre new subdivision. Homes are situated on 1+ acre lots with greenspace buffer surrounding the community. | 0.0 Fairburn Lateral | 0.25 mile west | Completed homes offered for sale | Land Disturbing Activity/NPDES Local Building Permits | Complete |
| **River Park Phase II** | Fayette | Approximately 60-acre site cleared for new home development. | 0.0 Fairburn Lateral | 0.75 mile west | 1 to 2 years | Land Disturbing Activity/NPDES Local Building Permits | Under construction |
| **Graves Auto Salvage** | Fayette | Approximately 51-acre site clearcut for junkyard expansion | 0.0 Fairburn Lateral | 1.0 mile west | Completed | Unknown | Complete |
| **Foxhall Farms** | Fayette | A 1990s subdivision west of Highway. Homes are situated on 1+ acre lots with greenspace buffer surrounding the community. Subdivision estimated at 75 acres. | 0.0 Fairburn Lateral | 0.3 mile west | 1990s | Land Disturbing Activity/NPDES Local Building Permits | Complete |
| **92 LLC (Humbard)** | Fayette | A planned residential subdivision in preliminary planning stage for 37 units, not zoned. | 0.3 Fairburn Lateral | 0.0 mile west | 1-5 years | Unpermitted | Proposed |
| **Morning Falls Subdivision** | Fayette | Approximately 90-acre area subdivided with new road construction north of Wagon Wheel Trail. | 3.0 Fairburn Lateral | 0 mile west | 1 to 2 years | Land Disturbing Activity/NPDES Local Building Permits | Proposed |
| **King's Crest Subdivision** | Fulton | Construction of new residences on 0.25- acre lots adjacent to Old Jonesboro Road. Estimated area of impact is 50 acres. | 3.2 Fairburn Lateral | 0.2 mile north | Completed homes offered for sale | Land Disturbing Activity/NPDES Local Building Permits | Under construction |
| **Autumn Bluffs Subdivision** | Fulton | Construction of new residences on 0.25- acre lots adjacent to Old Jonesboro Road. Estimated area of impact is 66 acres. | 3.5 Fairburn Lateral | 0.2 mile north | Completed homes offered for sale | Land Disturbing Activity/NPDES Local Building Permits | Under construction |

| Project Name | County | Description / Comment / Area of Impact [a] | Nearest Milepost | Distance (miles) and Direction | Estimated Development Timeframe | Permits/Environmental Review [b] | Status |
|---|---|---|---|---|---|---|---|
| **Oakleaf Manor Subdivision** | Fulton | Construction of new residences on 0.25- acre lots adjacent to Old Jonesboro Road. Estimated area of impact is 50 acres. | 3.8 Fairburn Lateral | 0.2 mile north | Completed homes offered for sale | Land Disturbing Activity/NPDES Local Building Permits | Under construction |
| **Bell Tower Lane Subdivision** | Fulton | Construction of new residences in new subdivision adjacent to Peters Road. Estimated area of impact is 53 acres. | 4.5 Fairburn Lateral | 0.4 mile west | Completed homes offered for sale | Land Disturbing Activity/NPDES Local Building Permits | Under construction |
| **Christian City** | Fulton | The Christian City campus is an Atlanta retirement community as well as refuge for children without families of their own. First constructed phase estimated at 16 acres. | 4.9 Fairburn Lateral | 0.38 mile W | New phases under development | Land Disturbing Activity/NPDES Local Building Permits | Initial Phases Complete |
| **Dollar General** | Fulton | Recently constructed 2-acre commercial site on north side of Jonesboro Road/State Highway 138. | 4.9 Fairburn Lateral | 0.2 mile NE | 2016 | Land Disturbing Activity/NPDES Local Building Permits | Complete |
| **UPS Regional Package Sorting Hub** | Fulton | Planned 1.2 million square foot facility within a 341-acre industrial site. | UPS Meter Station | 0.1 mile W | Completion projected by the end of 2018 | Land Disturbing Activity/NPDES Local Building Permits USACE Individual Permit, includes NHPA S106 approval | Under construction |
| **AGL-North Fayetteville PRIM** | Fayette | 16,000 feet of 6" Steel Pipe installed in a 3' trench disturbing 48,000 square feet running perpendicular to the proposed Fairburn Lateral | 0.7 Fairburn Lateral | 0 miles east and west | June 2017 to October 2017 | Land Disturbing Activity/NPDES | Under construction |

**a** The projects identified are in the vicinity of the Fairburn Lateral, Fairburn Compressor Station, Transco to SNG Meter Station, and UPS Meter Station. No projects were identified in the vicinity of the South Main 2nd Loop Line Extension or Plant McDonough Meter Station.

**b** These permits are assumed to be required based on typical geographic conditions and type of construction proposed.

lines, and considering that the local electric service providers would obtain required permits, we have determined that the impacts of the electric powerline hookups, when added to the impacts of the Project facilities, would not result in significant cumulative impact on any affected resource.

**Geology and Soils**

Construction related impacts on soils and geologic resources resulting from the Project and adjacent projects within the aforementioned geographic scope would be localized and temporary. None of the areas of disturbance at the nearby projects would overlap those of the Project's construction limits. However, given the downslope position of the Fairburn Lateral relative to the surrounding higher elevation subdivision developments, potential downslope sedimentation and supply of erosional runoff drainage could traverse onto Project right-of-way areas. Project related impacts would be lessened by Southern's implementation of protective construction and restoration measures which could serve to control sedimentation and eccessive water stemming from the Project and nearby project activities. Separate protective measures would be employed at some level in nearby projects according to states and local agencies' requirements for regulating storm water and using erosion control / best management practices for these moderate- to large-sized construction projects. Therefore, we conclude that, in consideration with other nearby projects, the Project is not expected to significantly contribute to cumulative impacts on geology and soils.

**Groundwater, Surface Water and Wetlands**

The Project is located within the Middle Chattahoochee-Lake Harding, Upper Flint and Upper Ocmulgee HUC 12 watersheds, established as the region of influence for this analysis. A total of 1.6 acres of palustrine forested wetlands would be converted to scrub/shrub and/or emergent wetlands on a permanent basis within the Fairburn Lateral pipeline. The greatest overall impact on waterbodies and wetlands would be the introduction of sediment loading and alteration of channel bottoms and wetland soils stemming from construction and operational activities.

Numerous nearby residential construction projects identified in table 20 are currently under construction. In particular, the Bell Tower Lane subdivision at MP 4.5 could potentially contribute to wetland impacts; but presently, a runoff impoundment pond and intervening riparian vegetation buffer function to sufficiently protect Project right-of-way and wetland No. WFU1A005 from sedimentation. Other subdivisions listed in table 20, such as the Morning Falls subdivision at MP 3.0, are not contributing to waterbody/wetland impacts given that their construction activity is currently stalled or postponed and stabilized with sediment retention structures and runoff impoundment ponds. Mitigation measures committed to by Southern and by permit holders for state or local agency-regulated developers of the nearby projects would contribute to 1) reducing erosion and sedimentation during construction by using erosion control devices and controlling high-velocity water flows during trench dewatering and hydrostatic test water releases; 2) restoration of wetland

soils, streambank channel and bank configurations; and 3) stabilization of waterbodies and wetlands through revegetation. Groundwater impacts from the Project and nearby projects is expected to be minor to non-existent given the short duration and relatively shallow depth of soils disturbed by these activities. Wetland compensation stipulations in the USACE permit would help reduce the long-term cumulative wetland impact contributed to by the Project's construction activities. We conclude that construction and operation of the Project, in consideration with other projects, would not contribute to significant cumulative impacts on groundwater, surface water or wetland resources.

**Vegetation, Wildlife, and Fisheries**

Clearing and grading of pipeline rights-of-way, contractor yards, and temporary access roads for the proposed Project and other nearby projects would result in direct and secondary impacts on vegetation and wildlife habitat ranging from temporary to permanent. Relatively short-term impacts would occur where forested areas are cleared for temporary right-of-way and ATWSs permitted to return to pre-construction conditions. Permanent impacts on vegetation and wildlife habitat would occur where forested lands are cleared for establishment and maintenance of new residential lots, permanent utility rights-of-way, new-footprint aboveground facilities such as the Fairburn Compressor Station, and permanent roads required by subdivisions, the Loop, and some Project meter stations. In general, impacts on open land types of vegetation and wildlife habitat would be less than to those currently in forested status. The primary impact to wetland habitat and fisheries would be in the form of sedimentation resulting from Project or nearby residential construction activities.

The linear nature of the proposed citing of pipelines, which would use limited additional temporary and permanent right-of-way given the extensive collocation, and the presence of abundant surrounding forested habitat, would allow adequate escape and refuge corridors for mobile wildlife species. We expect Southern's adherence to erosion and sedimentation mitigation measures, along with hydrostatic test water withdrawal and release measures contained within the SNG Plan and Procedures, in combination with implementation of other protective permitting conditions by nearby residential construction projects, would adequately protect contributions from the Project's activities from having a detrimental impact on fisheries habitat. Given Southern's proposed mitigation and the primarily short-term and minor nature of disturbances, the overall impact of construction and restoration activities of the Project in combination with other projects would not result in the Project's significant contribution to cumulative impacts on vegetation, wildlife, and fisheries.

**Land Use**

Most cumulative land uses impacts resulting from the combined construction and operational activities of the Project and nearby projects would have a potentially greater contribution coming from the nearby projects, given that most of these are residential subdivisions requiring forest clearing and aboveground land use requirements that are restrictive and permanent. However, in taking into account the Project's use of an existing

200-foot-wide powerline corridor that has been cleared of forest on a permanent basis, cumulative impacts along the Project's Fairburn Lateral pipeline are expected to be result in a direct cumulative loss of additional forested habitat. This loss is greatest along an area with abutting residences from MPs 2.1 to 2.2 along the Fairburn Lateral pipeline, and area Southern has agreed to reduce tree clearing within its permanent right-of-way down to a width of 40 feet. As mentioned in section B.5 Land Use, Southern is in consultations with the developer of the Oakleaf Manor Subdivision currently under construction along the east edge of the Fairburn Lateral pipeline's footprint at from MPs 4.65 to 4.70 in order to minimize impacts on these future residences.

Along the Project pipelines, most existing land uses would be expected to continue, following construction disturbance. Fisheries joined to waterbodies and wetlands disturbed by the Project and other projects are likely to undergo only temporary and minor construction related impacts. Given Southern's proposed mitigation and the primarily short-term and minor nature of disturbances, the overall impact of construction and restoration activities of the Project, in combination with other projects, would not result in the Project's significant contribution to cumulative impacts on land use.

**Visual Impacts**

Most visual impacts would occur from the Project's permanent removal of forested vegetation, along the proposed Fairburn Lateral and Loop pipelines, which currently provides line-of-sight protection to electric powerlines alongside residential properties. Southern has committed to a sight reduction in the width of permanent forest cover loss within its proposed pipeline right-of-way along part of the Fairburn Lateral pipeline. The majority of aboveground facilities would consist of modifications largely within the confines of existing aboveground facilities. The proposed site of the Fairburn Compressor Station is adjacent to an existing large electric powerline substation which sits at a crossroads of at least two major natural gas pipeline and electric utility corridors.

The direct and more local visual impacts resulting from forest clearing along the Fairburn Lateral pipeline would be greater in magnitude than those smaller visual impacts observable from the nearby projects' residential construction. In contrast, the Project's aboveground facility construction activities would contribute to visual impacts on a smaller scale compared to visual impacts stemming solely from nearby industrial activities, such as from the UPS Regional Packing Sorting hub facility located adjacent to Southern's proposed UPS Meter Station. Visual impacts amongst the aboveground facilities tend to reflect a minor impact on the existing general character of the powerline corridor and existing presence of significant aboveground facilities in the Project area. Southern committed to using low-impact fencing and colorized paint schemes at its Fairburn Compressor Station site. Given that most of Southern's proposed aboveground facilities would be confined to within existing fenced-in aboveground facilities, we conclude that cumulative visual impacts from the combination of the Project's and existing nearby facilities would be adequately minimized to the extent practicable.

**Cultural**

At present, Southern has not identified any impacts on potentially eligible or eligible NRHP sites. However, the full extent of Project impacts on potentially eligible or eligible NRHP sites are still unknown, given that surveys and reviews by the SHPO are incomplete concerning some areas of the Fairburn Lateral (including cathodic protection areas), the UPS Meter Station, an access road, and two contractor yards for the Loop. Southern has routed and sited the Project's facilities to avoid impacts on cultural resources, including one cemetery and one burial site, identified in proximity to the Project. Given that any impacts on cultural resources are likely to be minor to non-existent, and isolated with respect to cultural resources potentially affected by nearby projects, we do not anticipate substantial cumulative impacts on cultural resources.

**Socioeconomics**

The Project and nearby projects combined would not cause a significant increase in local population or housing demand in the counties crossed, would not have a disproportionate or adverse human health, socioeconomic, or other environmental effect on minority or low-income communities, and would likely have a beneficial effect on the local economy through sales and property tax generation and the consumption of goods and services. Others projects in these geographic scope would also likely add some impact on socioeconomic resources, but only temporarily during construction. Given the minor and short-term nature of any construction or operations related activity, we do not expect that the Project would add any substantial cumulative negative impact on socioeconomics in the Project area.

**Air and Noise**

Southern's compressor station and the meter station sites would result in small and temporary increases in construction related noise, fugitive dust and localized traffic. Vehicular exhaust emissions and dust generation would extend within and immediately surrounding aboveground facility sites under construction. The Project and other projects in the Project areas would all involve the use of heavy equipment that would generate emissions of air contaminants, fugitive dust, and noise. The majority of these impacts would be minimized because the construction activities would be temporary and occur in disparate areas.

With the exception of GHG emissions, air impacts would be localized and confined primarily to the air shed in which the Project occurs. The combined effect of multiple construction projects occurring in the same air shed and timeframe could temporarily add to the ongoing air quality effects of existing activities. However, the contribution of the Project, with the exception of the Fairburn Compressor Station, to the cumulative effect of all foreseeable projects would be temporary or insignificant. Furthermore, the use of an electric-powered compressor would entail relatively minor pollutant emissions as discussed

above. Potential cumulative operational air emissions impact from the Fairburn Compressor Station were evaluated using a one-kilometer radius. There are no reasonably foreseeable air emission sources in the air shed of the Fairburn Compressor Station identified using the GDNR air inventory database (GDNR, 2016e). Therefore, there would not be any significant cumulative air quality impacts from the Project.

The Project could contribute to cumulative noise impacts. However, the impact of noise is highly localized and attenuates quickly as the distance from the noise source increases; therefore, cumulative impacts are unlikely unless one or more of the local projects is constructed at the same time in the same location. There are number of subdivisions and stores that would be constructed within one-mile of the Project. While these projects would involve noise-generating construction activities, they would not generate significant noise following construction.

In conclusion, cumulative impacts on resources disturbed by the Project are possible, but the impacts are expected to be minimal, localized, and temporary. In addition, implementation of best-management practices such as the SNG Plan and Procedures, engineering controls at the Fairburn Compressor Station, resource protection provisions required by other agencies, and the mitigations proposed by Southern would minimize environmental resource impacts. Thus, we believe that construction of the Project, when its impacts are added to the impacts from other identified nearby projects, would not result in significant cumulative impacts.

## C. ALTERNATIVES

In accordance with the NEPA and Commission policy, we identified and evaluated a range of alternatives to the proposed Project to determine whether they would be reasonable and environmentally preferable to the proposed action. These alternatives included the no-action alternative, system alternatives, alternative pipeline routes, and alternative aboveground facility sites. The criteria used to evaluate potential alternatives included whether they:

- offer a significant environmental advantage over the proposed Project;
- are technically and/or economically feasible and practical; and
- meet Southern's Project purpose to add approximately 343 million cubic feet per day of new firm transportation capacity to delivery points in Southern's Zone 2 and Zone 3 systems.

### 1. No-Action Alternative

Under the no-action alternative, the proposed Project would not be constructed and all the impacts directly associated with the construction of the proposed Project would be avoided. However, under the no-action alternative, the stated purpose and need for the Project would not be met. The purpose of the Project is to bring over 343 million cubic feet

per day of new gas supply to Southern's system to serve new and existing shippers, including local distribution companies, power generators and industrial customers. Therefore, the no-action alternative is not considered a viable option because it does not meet the Project objectives.

Other natural gas companies could construct projects in substitute for the natural gas supplies offered by Southern. Such alternative projects could require the construction of additional and/or new pipeline facilities in the same or other locations to transport the gas volumes proposed by the Project. These projects would result in their own set of specific environmental impacts that could be equal to or greater than those described for the current proposal, and may not meet the Project's objectives within the proposed timeframe.

### 2. System Alternatives

System alternatives to the proposed action would make use of other existing, modified or proposed storage and/or pipeline systems to meet the stated objectives of the proposed Project (i.e., delivery to Southern's Zone 2 and Zone 3 systems). Implementation of a system alternative would make it unnecessary to construct the proposed Project, although some modifications, expansions, or additions to existing or proposed pipeline systems may be required to meet the objectives of the proposed Project.

We evaluated two system alternatives to the proposed Project, the Riverdale and Griffin Loop System Alternative, and the Ocmulgee-Atlanta Line Extension System Alternative (see figures 29 and 30, appendix A, for system alternatives maps). The Riverdale and Griffin Loop System Alternative makes use of the existing Southern interconnect with Transco at its Jonesboro Meter Station to deliver natural gas in a manner meeting the Project's stated objective. Increased pressure requirements would necessitate a new compressor station close to the Jonesboro Meter Station in an area dominated by residential subdivisions with few industrial sites suitable to site a compressor station. Southern could only locate a suitable site adjacent to the existing Atlanta Gas & Light Riverdale Liquid Natural Gas Plant. In addition, we identified that two loops would be required, including 1.6-mile-long looping pipeline in a heavily congested residential area, and a 4.6-mile-long loop parallel to an existing pipeline corridor which already contains four operating pipelines and is surrounded by adjacent residences. The workspace needed for these loops would amount to 15 acres of land more than that proposed for the proposed Project.

Given the operational and safety-related complexities inherent in siting the compressor station adjacent to the LNG plant, potential modifications to the LNG plant itself, and construction of necessary loops in congested residential neighborhoods, we dismissed this alternative from further analysis.

The Ocmulgee-Atlanta Line Extension System Alternative would make use of the proposed Fairburn Lateral pipeline and replace the Loop pipeline with a 2.3-mile-long extension of the

existing 14-inch-diameter Ocmulgee-Atlanta Line from the SNG Bass Junction location toward the west. This configuration would use an additional estimated eight acres of construction right-of-way, and would pass through a heavily congested residential and commercial development area likely requiring some variation off the Ocmulgee-Atlanta Line. This alternative would impact a greater number of residences than the proposed Project's Loop pipeline, and would not make maximal use of existing pipeline and aboveground facility sites. Thus we have dismissed this alternative from further analysis.

We did not identify any other pipelines or system alternatives in the Project area that would be able to provide the additional gas supplies without incurring similar or greater amounts of environmental impacts.

### 3. Major Pipeline Route Alternatives

No major route alternatives for the Fairburn Lateral were considered because none would change the origin or delivery points of natural gas from those of the Project's proposed pipelines. Regarding the Loop pipeline, we dismissed evaluation of an alternative route as we could not identify one that would yield fewer overall environmental impacts than along the proposed corridor using Southern's existing South Main 2nd Loop Line corridor. Regarding the Fairburn Lateral pipeline route, a straight line path serving the same gas delivery purpose as the Proposed Fairburn Lateral route could result in shortening the proposed 4.9-mile-long route down to 3.7 miles through congested residential subdivisions. We dismissed this route given the infeasibility of construction within the limited workspace available. No additional evaluation of major pipeline route alternative was attempted given the proposed route's efficient use of an existing utility corridor shared by electric powerline and natural gas facilities and rights-of-way.

### 4. Pipeline Route Variations

As stated in section B.5, Southern incorporated five route variations into its proposed Fairburn Lateral and Loop pipeline routes to minimize residential, stream, wetland and historic site impacts identified prior to Project application. Southern's proposal to place the Fairburn Lateral and Loop pipelines adjacent to an existing utility corridors would result in the most direct route to its existing customers and would minimize use of new permanent right-of-way. Residences, wetlands, streams and forests in the area would thus be avoided to the extent that the Project would use right-of-way where such land uses are already undergoing impacts. Any route variations that do not maximize these placement criteria would involve impacts on all or parts of previously undisturbed areas to a greater extent than would the proposed looping. We therefore did not identify any route variations that would be preferred to the proposed route.

### 5. Pipeline Route Realignments

A number of comments by residences focused on long-term or permanent impacts on tree cover in backyards and associated exposure to visual impacts from the GTC powerlines posed by the routing of the Fairburn Lateral pipeline and associated permanent right-of-way between MPs 2.1 to 2.2 along Oak Bridge Lane. We reviewed potential routing or workspace alternatives to minimize visual impacts from tree clearing adjacent to the existing GTC power line corridor. In response to our information request to Southern, Southern confirmed it is infeasible to realign the route to avoid these trees on account of safety issues related to nearby power line support towers and the existing Colonial Pipeline. However, Southern did commit to reexamining the amount of construction right-of-way width it would need in this area, and has determined that it is feasible to reduce the proposed permanent right-of-way width to 40 feet, resulting in a smaller amount of tree clearing required adjacent to these residences. We found that this minimizes additional visual impacts to the greatest extent possible. No other route realignments have been identified.

### 5. Alternative Aboveground Facility Sites

We did not identify any environmental concerns with these proposed above ground facility sites given their collocation with other similar facilities. We did not identify any environmentally preferable sites for the proposed Fairburn Compressor Station site, and have no objections to Southern's proposed use of it. No alternative locations were found to be environmentally preferable to those in this proposal.

Therefore, we conclude that Southern's proposed Project, as modified by our recommended mitigation measures, is the preferred alternative that can meet the Project objectives.

## 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 Southern's application and supplemental filings, and its implementation of our recommended mitigation measures. We recommend that the Commission order contain a finding of no significant impact and include the mitigation measures listed below as conditions to any certificate the Commission may issue.

1. Southern 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. Southern must:

    a. request any modification to these procedures, measures, or conditions in a filing with the Secretary;

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

2. The Director of OEP has delegated authority to take whatever steps are necessary to ensure the protection of all environmental resources during 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**, Southern shall file an affirmative statement with the Secretary, certified by a senior company official, that all company personnel, EIs, and contractor personnel will be informed of the EI's authority and have been or will be trained on the implementation of the environmental mitigation measures appropriate to their jobs **before** becoming involved with construction and restoration activities.

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

   Southern's 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. Southern's 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. Southern 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 the Commission's *Upland Erosion Control, Revegetation, and Maintenance Plan* and/or minor field realignments per landowner needs and requirements which do not affect other landowners or sensitive environmental areas such as wetlands.

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

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

6. **At least 60 days before construction begins,** Southern shall file an Implementation Plan with the Secretary for review and written approval by the Director of OEP. Southern must file revisions to the plan as schedules change. The plan shall identify:

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

i. the completion of all required surveys and reports;
ii. the environmental compliance training of onsite personnel;
iii. the start of construction; and
iv. the start and completion of restoration.

7. Southern shall employ at least one EI per construction spread. The EI(s) shall be:

a. responsible for monitoring and ensuring compliance with all mitigation measures required by the Order and other grants, permits, certificates, or other authorizing documents;
b. responsible for evaluating the construction contractor's implementation of the environmental mitigation measures required in the contract (see condition 6 above) and any other authorizing document;
c. empowered to order correction of acts that violate the environmental conditions of the Order, and any other authorizing document;
d. a full-time position, separate from all other activity inspectors;
e. responsible for documenting compliance with the environmental conditions of the Order, as well as any environmental conditions/permit requirements imposed by other federal, state, or local agencies; and
f. responsible for maintaining status reports.

8. **Beginning with the filing of its Implementation Plan**, Southern shall file updated status reports with the Secretary **on a biweekly 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 Southern's 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 Southern from other federal, state, or local permitting agencies concerning instances of noncompliance, and Southern response.

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

10. Southern 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.

11. **Within 30 days of placing the authorized facilities in service**, Southern 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 Southern 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.

12. Southern shall develop and implement an environmental complaint resolution procedure. The procedure shall provide landowners with clear and simple directions for identifying and resolving their environmental mitigation problems/concerns during construction of the Project and restoration of the Project's right-of-way. **Prior to construction**, Southern shall mail the complaint procedure to each landowner whose property will be crossed by the Project.

    a. In its letter to affected landowners, Southern shall:

        i. provide a local contact that the landowners should call first with their concerns; the letter would indicate how soon a landowner should expect a response;
        ii. instruct the landowners that if they are not satisfied with the response, they should call Southern's Hotline; the letter should indicate how soon to expect a response; and
        iii. instruct the landowners that if they are still not satisfied with the response from Southern's Hotline, they should contact the Commission's Commission's Landowner Helpline at 877-337-2237 or at LandownerHelp@ferc.gov.

    b. In addition, Southern shall include in its biweekly status report a copy of a table that contains the following information for each problem/concern:

i. the identity of the caller and date of the call;
ii. the location by milepost and identification number from the authorized alignment sheet(s) of the affected property;
iii. a description of the problem/concern; and
iv. an explanation of how and when the problem was resolved, will be resolved, or why it has not been resolved.

13. Southern shall **not begin construction** of facilities and/or use of staging, storage, or temporary work areas and new or to-be-improved access roads **until**:

a. Southern addresses the Georgia SHPO's comments on the revised Phase I report, and files the response/information and the SHPO's comments on the response/information with the Secretary;
b. Southern files with the Secretary an addendum survey report for the outstanding survey areas, and the SHPO's comments on the addendum; and
c. the FERC staff reviews and the Director of OEP approves the response/information and addendum survey report, and notifies Southern in writing that construction may proceed.

All materials filed with the Commission containing **location, character, and ownership information** about cultural resources must have the cover and any relevant pages therein clearly labeled in bold lettering: **"CUI//PRIV – DO NOT RELEASE."**

14. Southern shall file a noise survey with the Secretary **no later than 60 days** after placing the Fairburn Compressor Station in service. If a full load condition noise survey is not possible, Southern shall provide an interim survey at the maximum possible horsepower load and provide the full load survey **within 6 months**. If the noise attributable to the operation of all of the equipment at the Fairburn Compressor Station under interim or full horsepower load conditions exceeds an Ldn of 55 dBA at any nearby NSA, Southern shall file a report on what changes are needed and shall install the additional noise controls to meet the level **within 1 year** of the in-service date. Southern shall confirm compliance with this requirement by filing a second noise survey with the Secretary **no later than 60 days** after it installs the additional noise controls.

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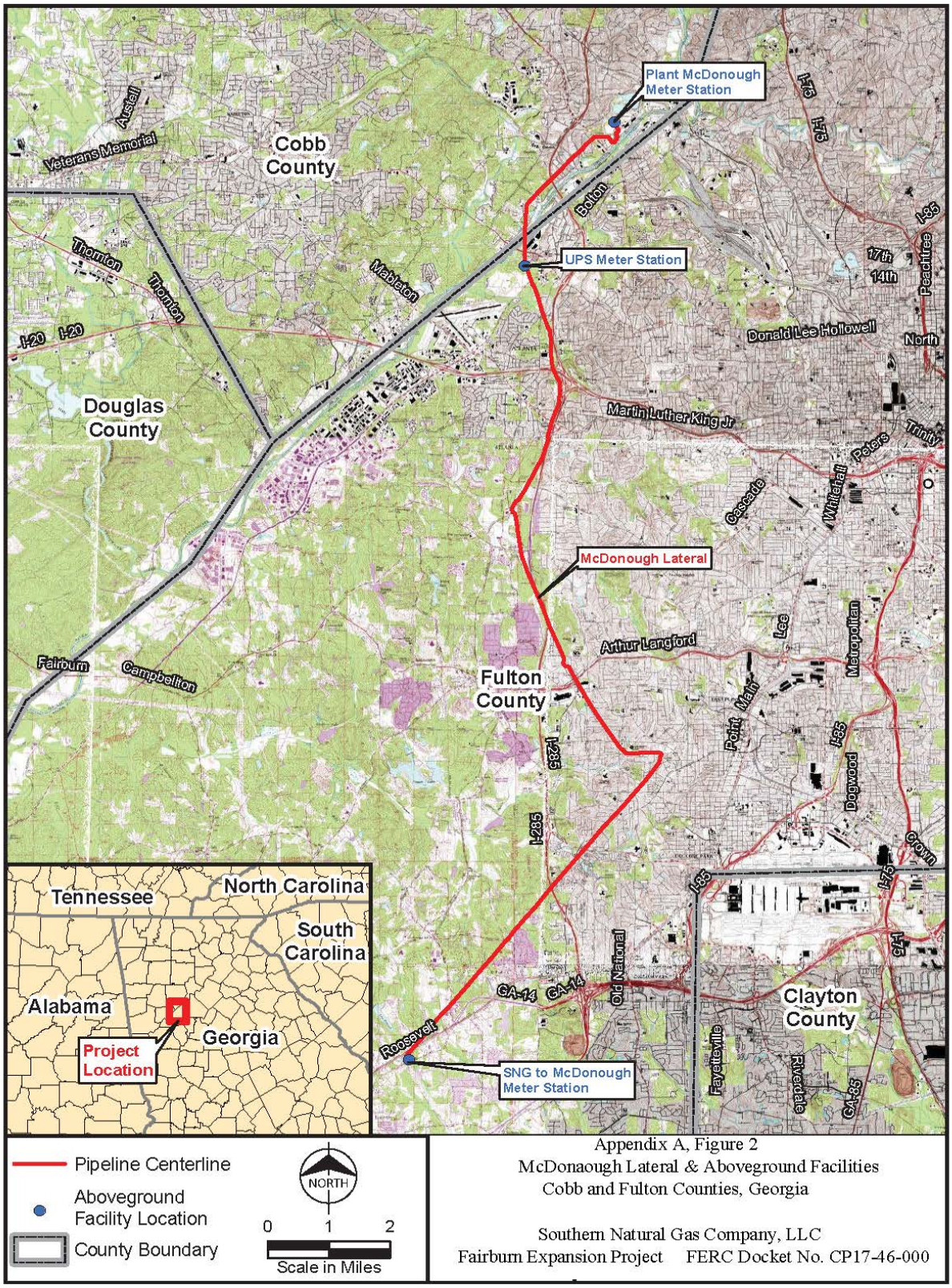
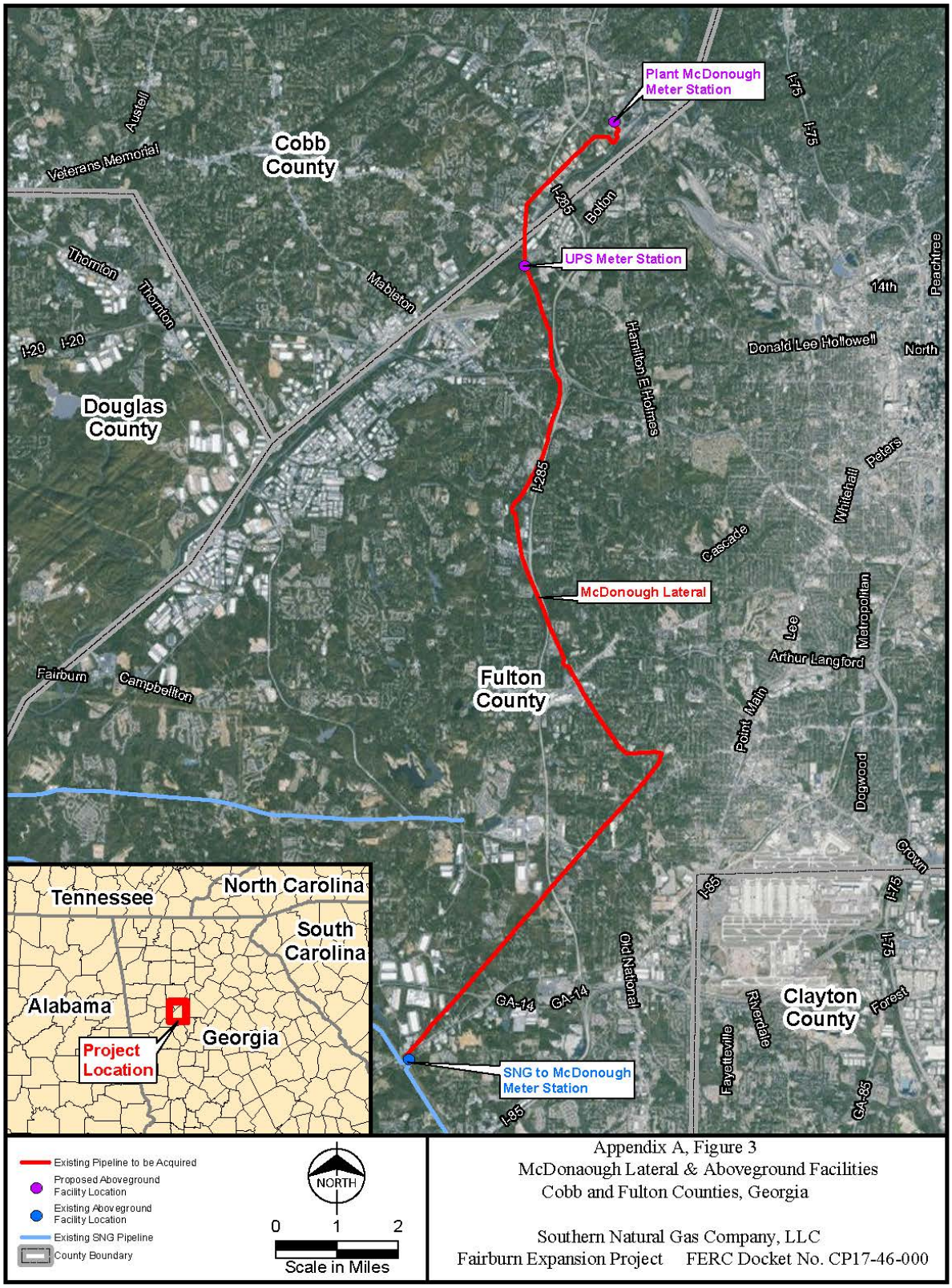
# Appendix A

## Figures 2-30



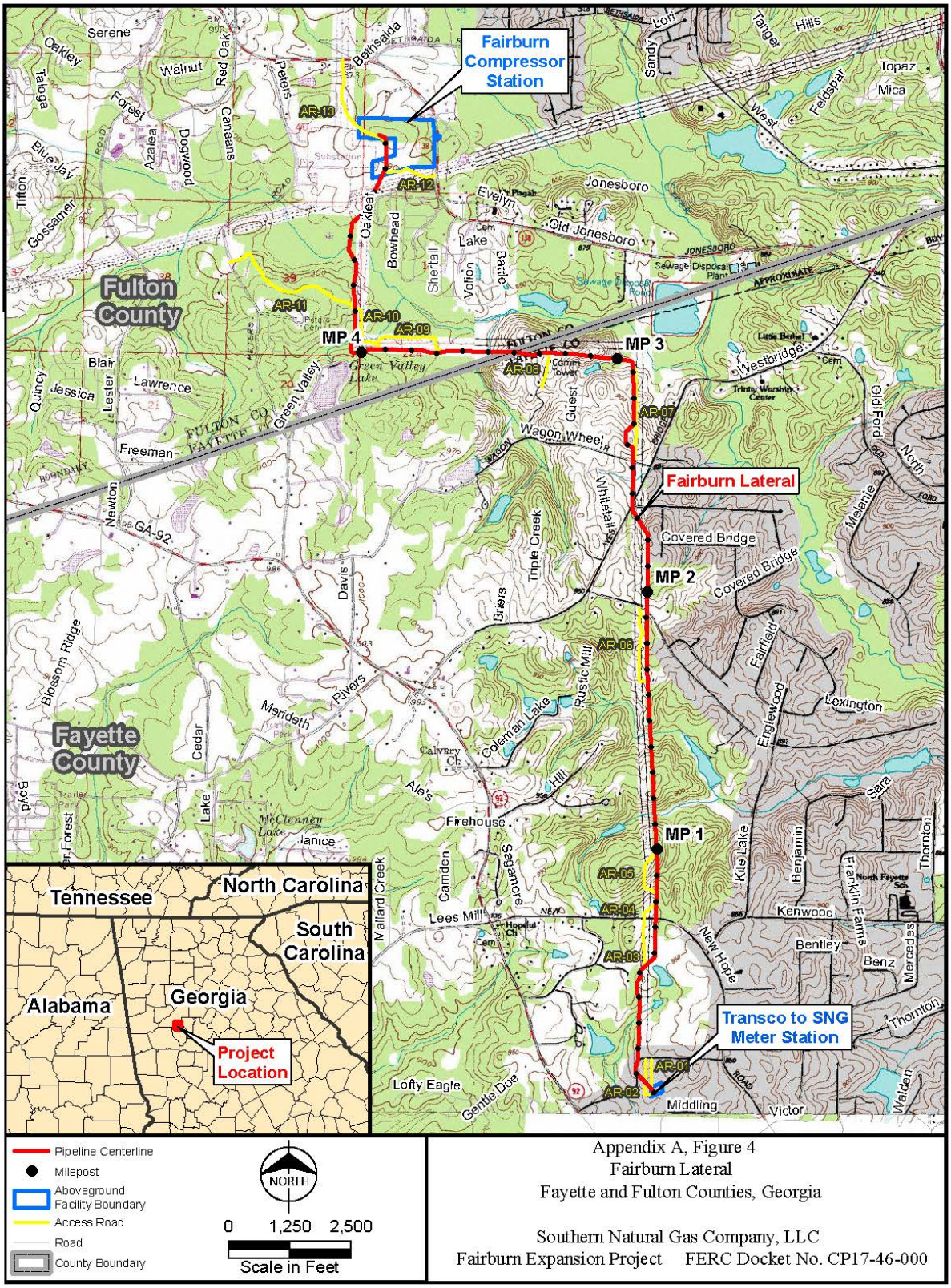

Appendix A, Figure 2
McDonaough Lateral & Aboveground Facilities
Cobb and Fulton Counties, Georgia

Southern Natural Gas Company, LLC
Fairburn Expansion Project FERC Docket No. CP17-46-000



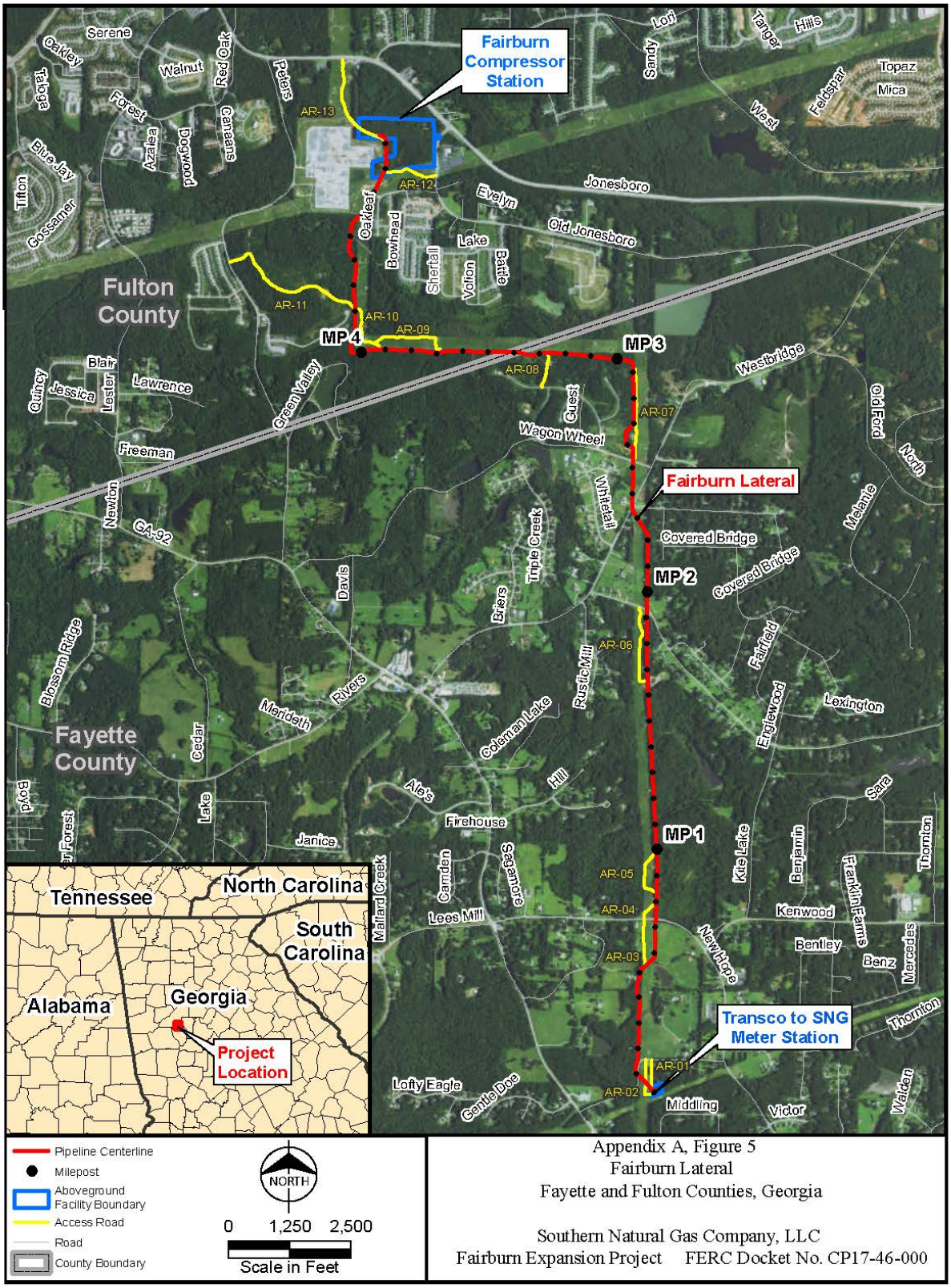

Appendix A, Figure 3
McDonaough Lateral & Aboveground Facilities
Cobb and Fulton Counties, Georgia

Southern Natural Gas Company, LLC
Fairburn Expansion Project FERC Docket No. CP17-46-000



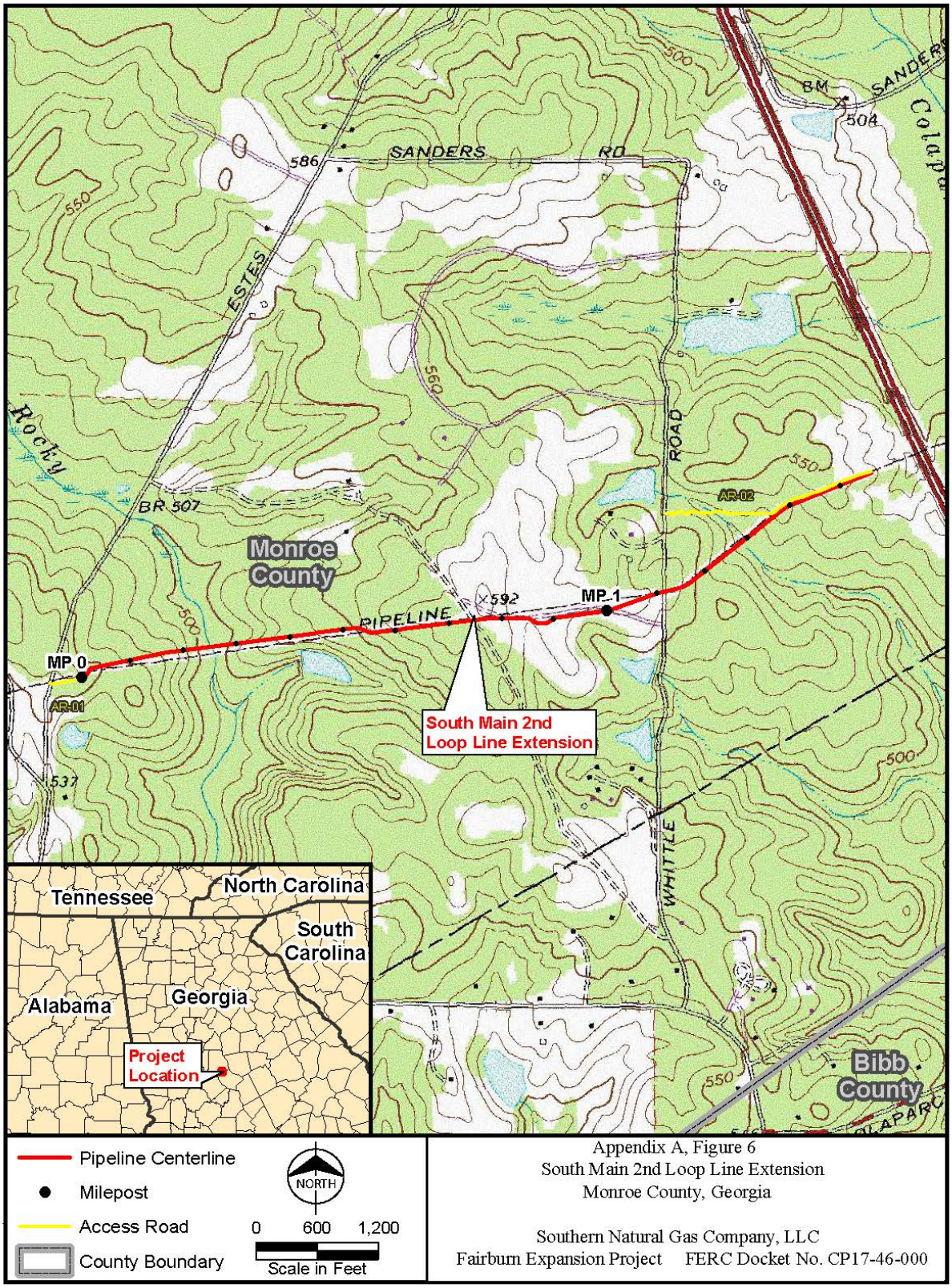

Appendix A, Figure 4
Fairburn Lateral
Fayette and Fulton Counties, Georgia

Southern Natural Gas Company, LLC
Fairburn Expansion Project FERC Docket No. CP17-46-000




Appendix A, Figure 5
Fairburn Lateral
Fayette and Fulton Counties, Georgia

Southern Natural Gas Company, LLC
Fairburn Expansion Project FERC Docket No. CP17-46-000

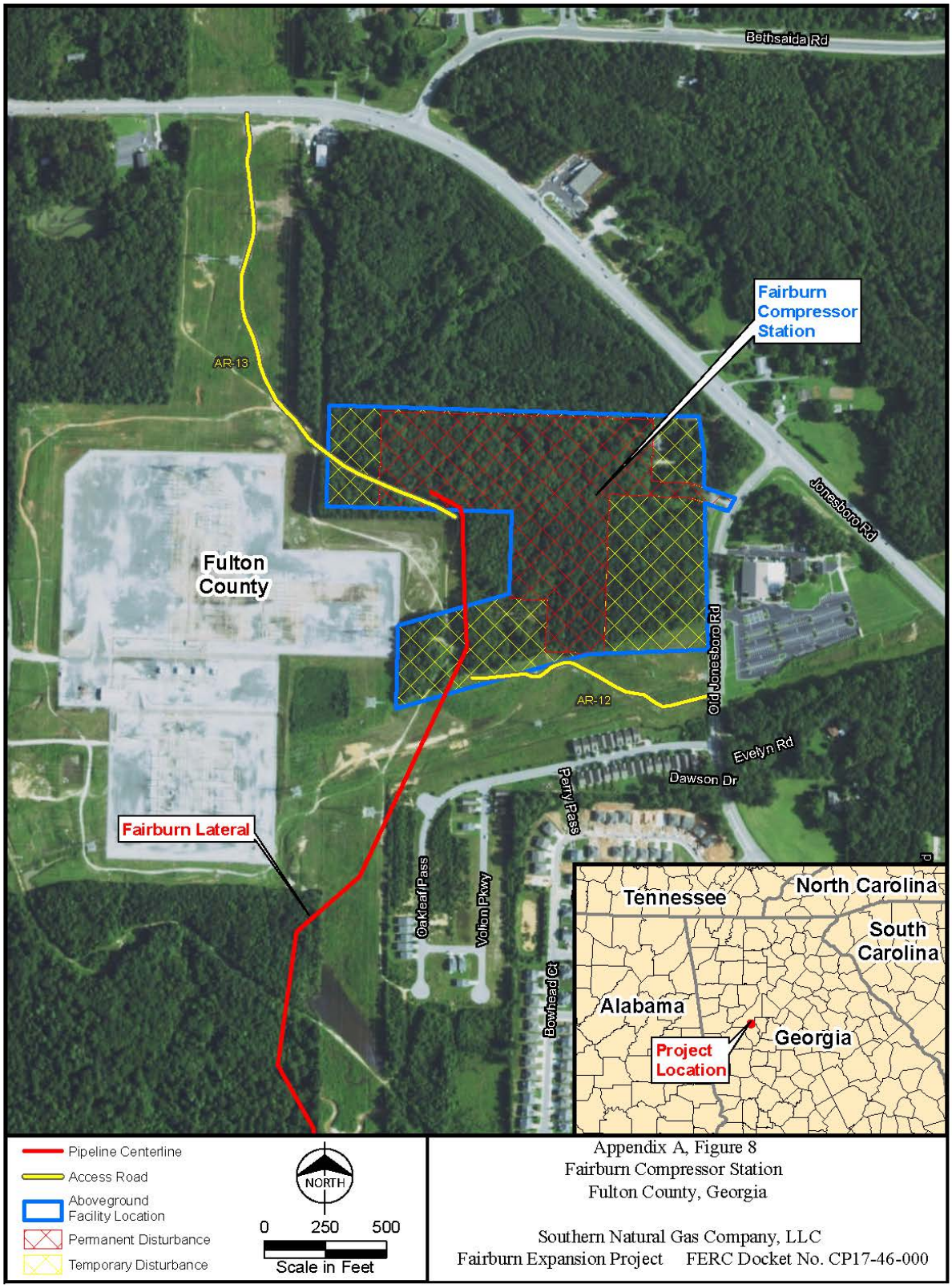



Appendix A, Figure 6
South Main 2nd Loop Line Extension
Monroe County, Georgia

Southern Natural Gas Company, LLC
Fairburn Expansion Project FERC Docket No. CP17-46-000

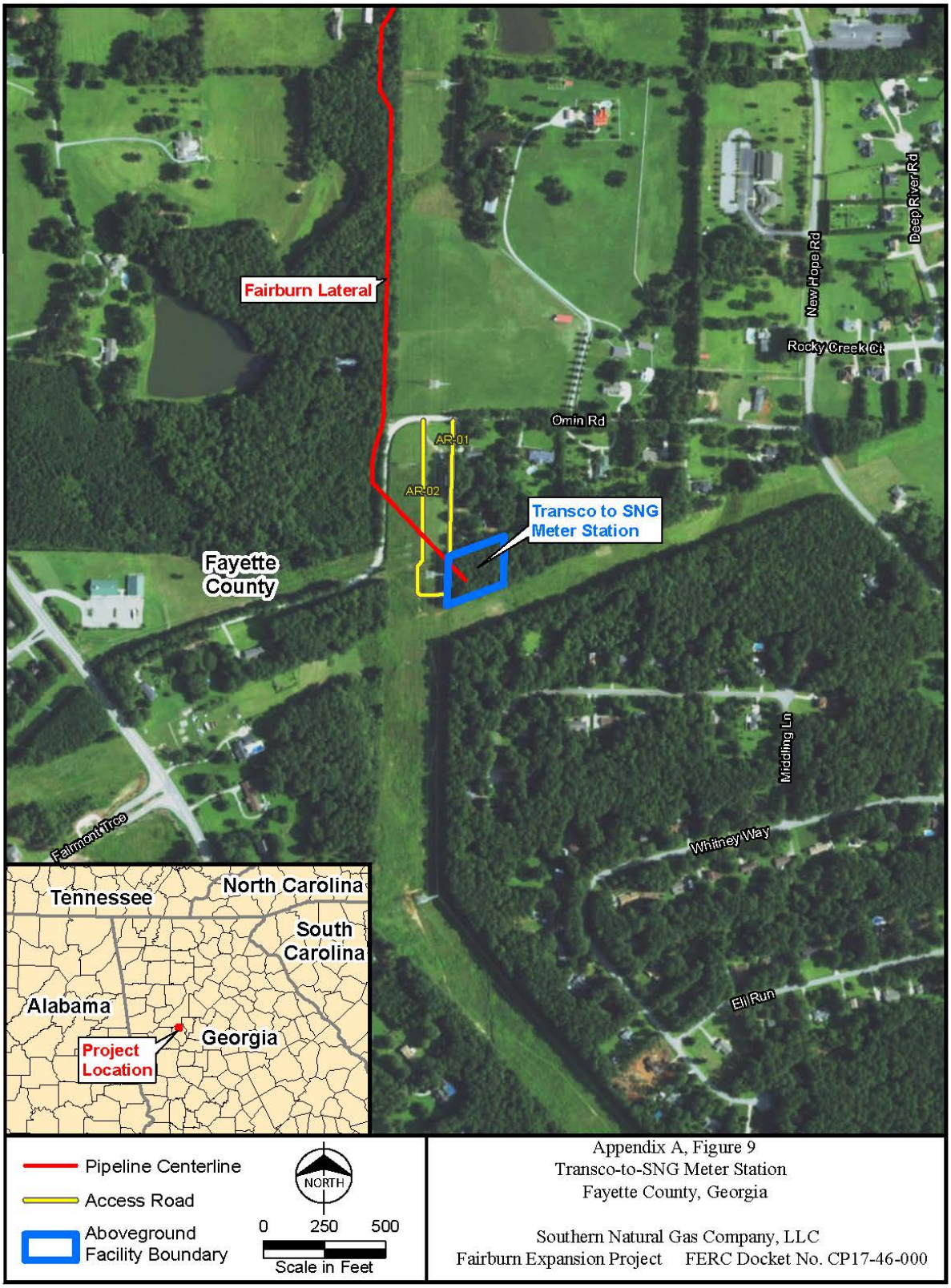

Appendix A, Figure 7
South Main 2nd Loop Line Extension
Monroe County, Georgia

Southern Natural Gas Company, LLC
Fairburn Expansion Project FERC Docket No. CP17-46-000



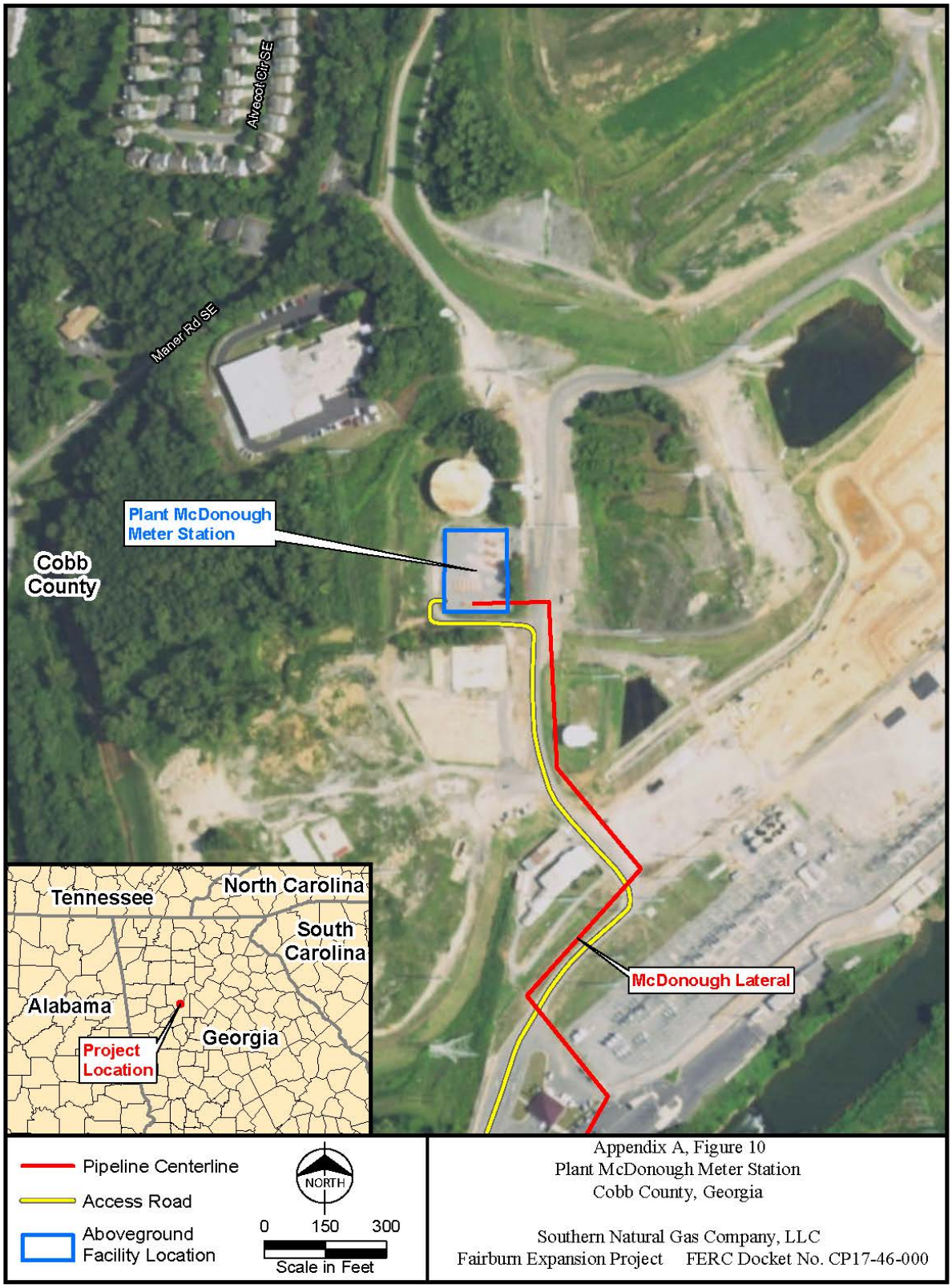

Appendix A, Figure 8
Fairburn Compressor Station
Fulton County, Georgia

Southern Natural Gas Company, LLC
Fairburn Expansion Project FERC Docket No. CP17-46-000



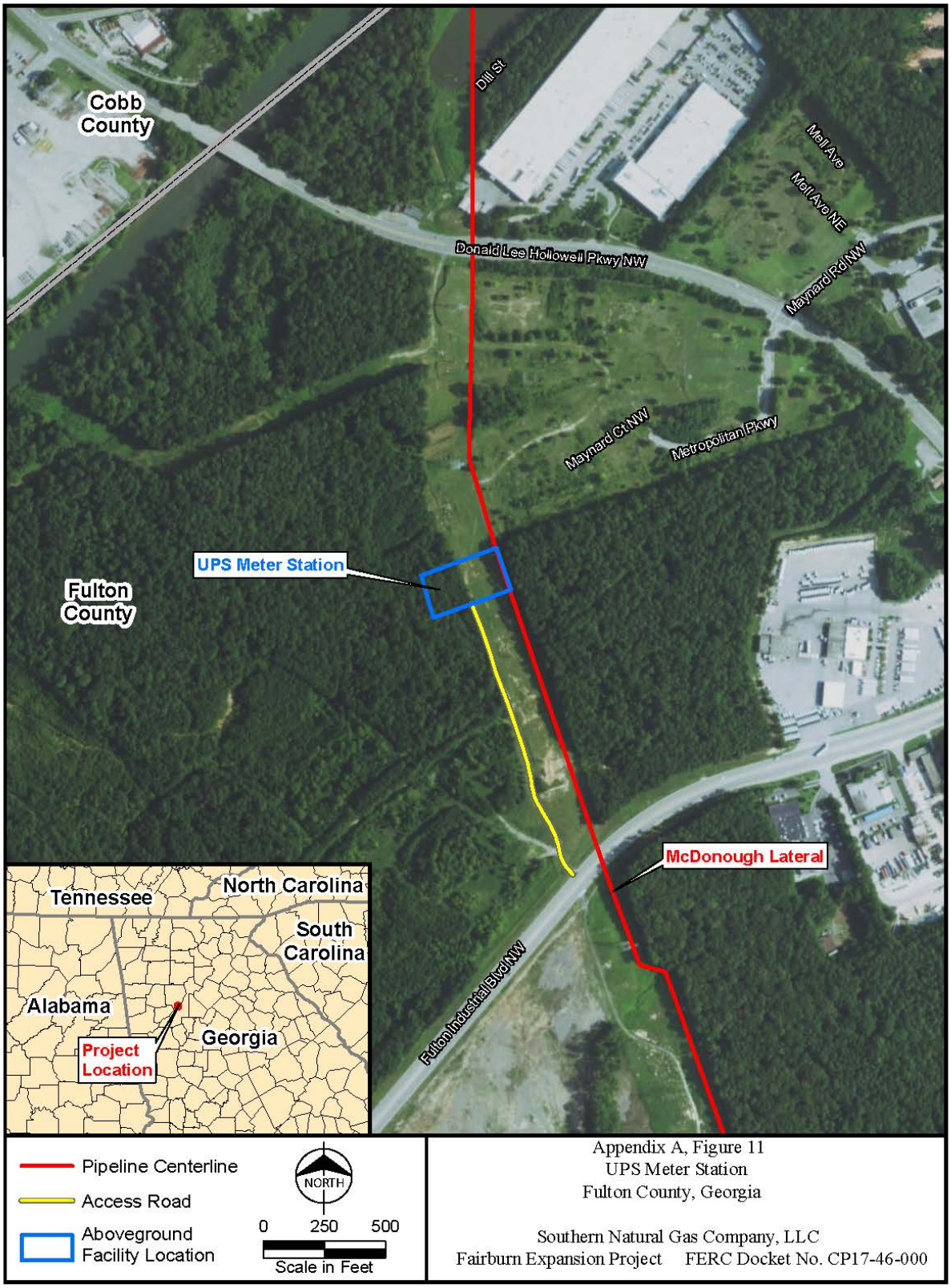

Appendix A, Figure 9
Transco-to-SNG Meter Station
Fayette County, Georgia

Southern Natural Gas Company, LLC
Fairburn Expansion Project FERC Docket No. CP17-46-000



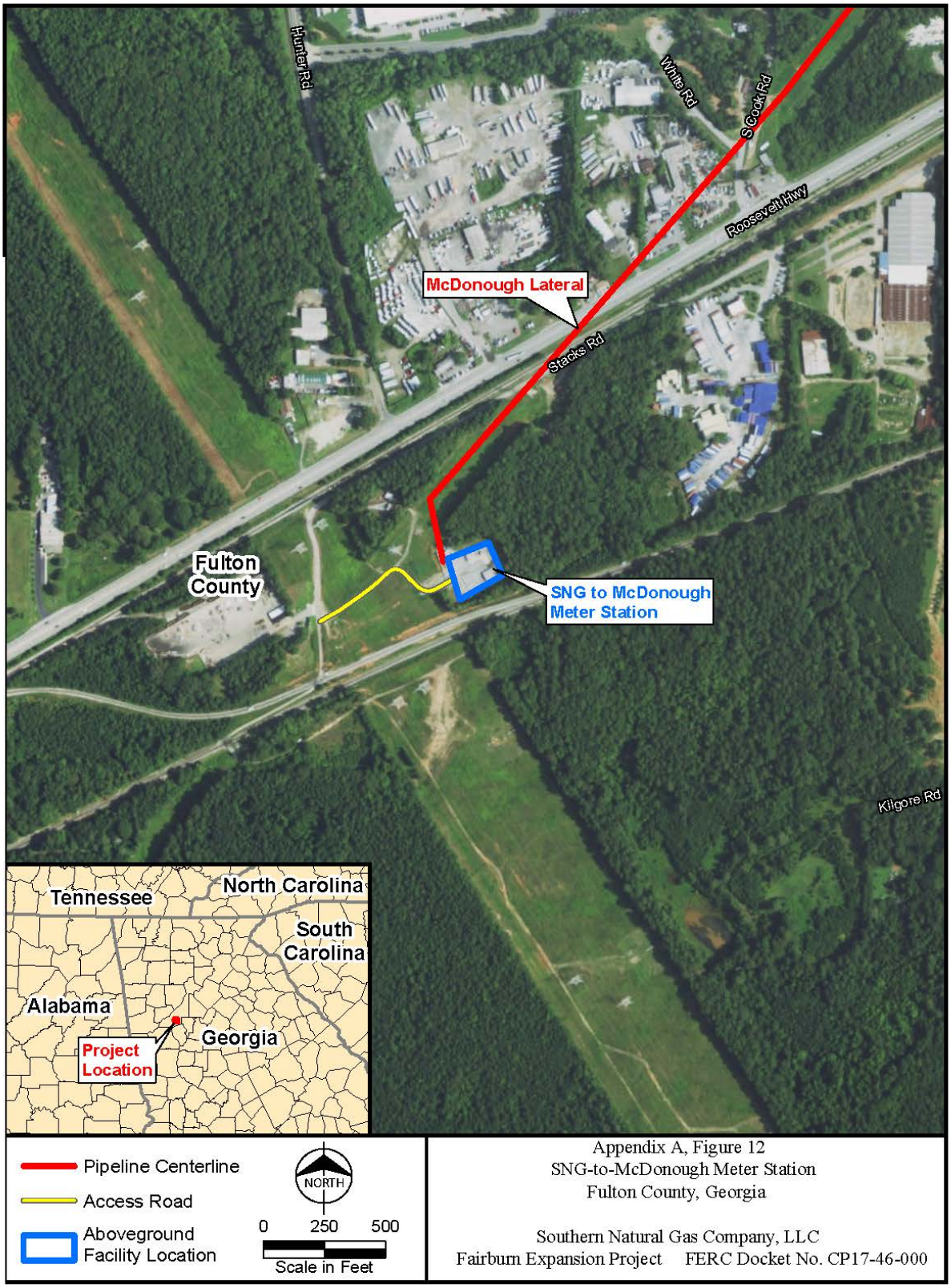

Appendix A, Figure 10
Plant McDonough Meter Station
Cobb County, Georgia

Southern Natural Gas Company, LLC
Fairburn Expansion Project FERC Docket No. CP17-46-000




Appendix A, Figure 11
UPS Meter Station
Fulton County, Georgia

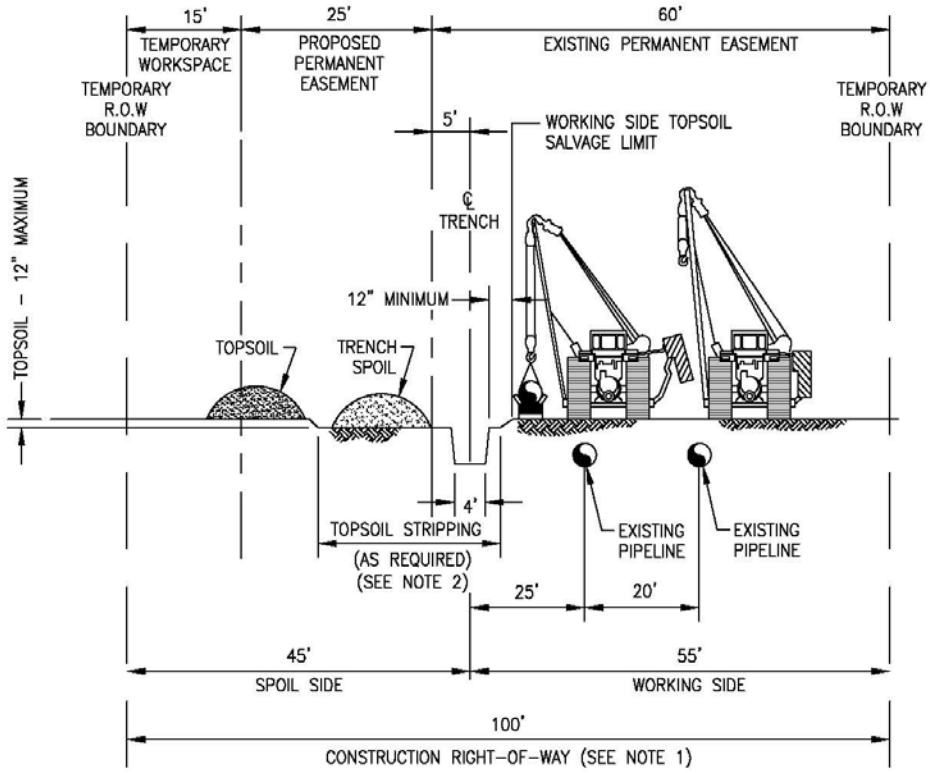
Southern Natural Gas Company, LLC
Fairburn Expansion Project FERC Docket No. CP17-46-000




Appendix A, Figure 12
SNG-to-McDonough Meter Station
Fulton County, Georgia

Southern Natural Gas Company, LLC
Fairburn Expansion Project FERC Docket No. CP17-46-000


Robin Ct
Cardinal Ln
Birch Walk Dr
Pheasant Ln
Birch Chase
S Oak Ct
Birch Walk Blvd
Rhodes Way
Birch Cir
Birch Walk Ct
Clayton County
Jonesboro Meter Station
Sandpiper Ln
Mountain Pass
Cliffside Ct
Glenwoods Dr
Canyon Forge Dr
Palisades Pointe
Willows Way
Taylor Rd
Tennessee
North Carolina
South Carolina
Alabama
Georgia
Project Location
Access Road
Aboveground Facility Location
NORTH
0 150 300
Scale in Feet
Appendix A, Figure 13
Jonesboro Meter Station
Clayton County, Georgia
Southern Natural Gas Company, LLC
Fairburn Expansion Project FERC Docket No. CP17-46-000




| BEGIN STA. | END STA. |
|---|---|
| 1+30 | 7+79 |
| 23+88 | 27+85 |

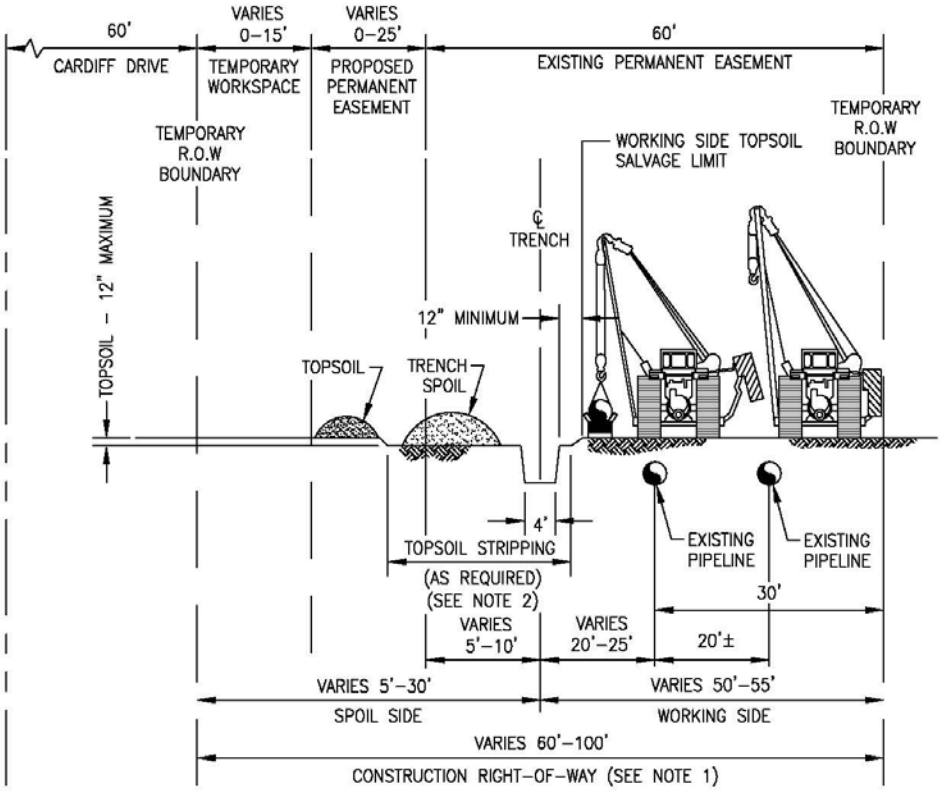
TYPICAL CONSTRUCTION RIGHT-OF-WAY
STANDARD WORK CORRIDOR

NOTES:

1. CONSTRUCTION RIGHT-OF-WAY WILL TYPICALLY BE 100 FEET WIDE CONSISTING OF 85 FEET OF PERMANENT EASEMENT AND 15 FEET OF TEMPORARY WORKSPACE. ADDITIONAL TEMPORARY WORK SPACE WILL BE NECESSARY AT MAJOR ROAD, RAIL AND RIVER CROSSINGS AND OTHER SPECIAL CIRCUMSTANCES, AS REQUIRED.
2. THIS DRAWING REFLECTS "TRENCH AND SPOIL SIDE" TOPSOIL STRIPPING PROCEDURE. SALVAGE TOPSOIL OVER TRENCH AND UNDER THE SPOIL PILE AT LOCATIONS IDENTIFIED ON THE CONSTRUCTION ALIGNMENT SHEETS, OR AS DIRECTED BY THE COMPANY"S REPRESENTATIVE. MINIMUM WIDTH OF TOPSOIL STRIPPING ON THE WORKING SIDE OF TRENCH IS 12 INCHES.
3. STOCKPILE TOPSOIL IN ANY CONFIGURATION APPROVED BY THE COMPANY'S INSPECTOR. KEEP TOPSOIL CLEAN OF ALL CONSTRUCTION DEBRIS.
4. LEAVE GAPS IN TOPSOIL AND SPOIL PILES AT OBVIOUS DRAINAGES. DO NOT PUSH TOPSOIL INTO CREEKS OR WETLANDS. DO NOT USE TOPSOIL FOR PADDING. AVIOD SCALPING VEGETATED GROUND SURFACE WHEN BACKFILLING TOPSOIL PILE.
5. TEMPORARILY SUSPEND TOPSOIL HANDLING OPERATIONS DURING INORDINATELY WINDY CONDITIONS UNTIL MITIGATIVE MEASURES TO MINIMIZE WIND EROSION CAN BE IMPLEMENTED.

Appendix A, Figure 14
Typical Construction Right-of-Way
South Main 2nd Main Line Extension

Southern Natural Gas Company, LLC
Fairburn Expansion Project FERC Docket No. CP17-46-000




| BEGIN STA. | END STA. |
|---|---|
| 7+79 | 23+88 |

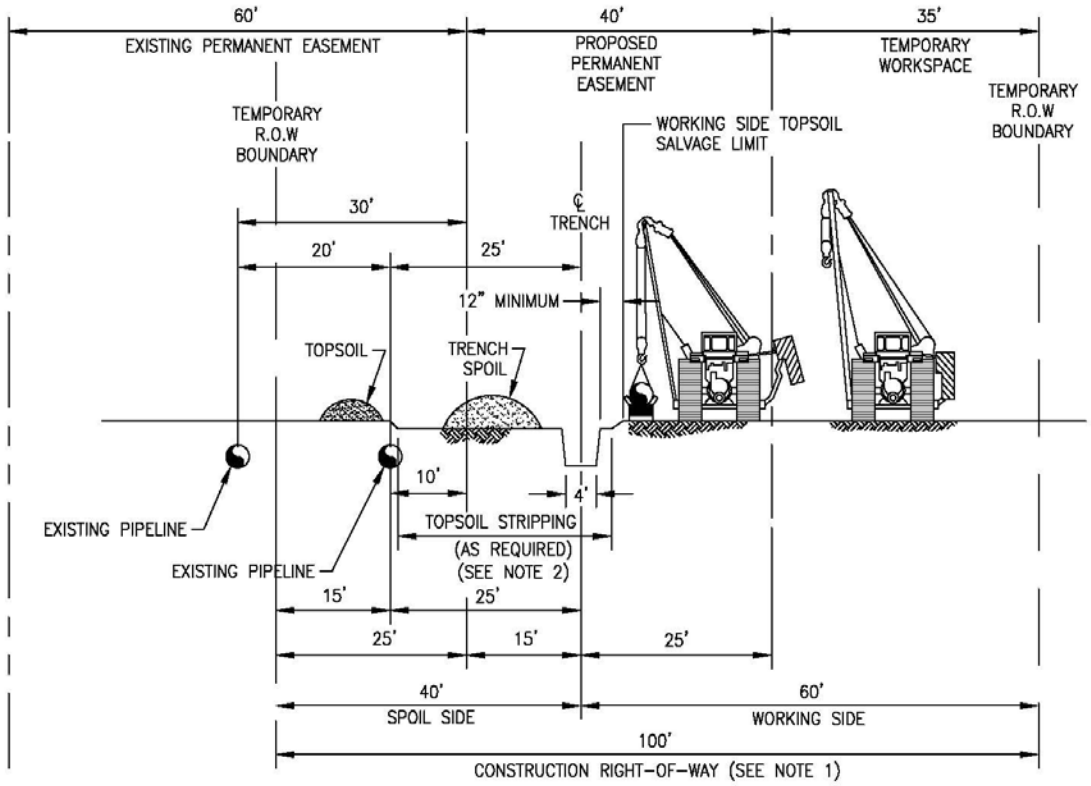
TYPICAL CONSTRUCTION RIGHT–OF–WAY
PARALLELING CARDIFF DRIVE

NOTES:

1. CONSTRUCTION RIGHT–OF–WAY WILL VARY FROM 75 FEET WIDE TO 100 FEET WIDE CONSISTING OF VARYING WIDTH OF PERMANENT EASEMENT. ADDITIONAL TEMPORARY WORK SPACE WILL BE NECESSARY AT MAJOR ROAD, RAIL AND RIVER CROSSINGS AND OTHER SPECIAL CIRCUMSTANCES, AS REQUIRED.
2. THIS DRAWING REFLECTS "TRENCH AND SPOIL SIDE" TOPSOIL STRIPPING PROCEDURE. SALVAGE TOPSOIL OVER TRENCH AND UNDER THE SPOIL PILE AT LOCATIONS IDENTIFIED ON THE CONSTRUCTION ALIGNMENT SHEETS, OR AS DIRECTED BY THE COMPANY"S REPRESENTATIVE. MINIMUM WIDTH OF TOPSOIL STRIPPING ON THE WORKING SIDE OF TRENCH IS 12 INCHES.
3. STOCKPILE TOPSOIL IN ANY CONFIGURATION APPROVED BY THE COMPANY'S INSPECTOR. KEEP TOPSOIL CLEAN OF ALL CONSTRUCTION DEBRIS.
4. LEAVE GAPS IN TOPSOIL AND SPOIL PILES AT OBVIOUS DRAINAGES. DO NOT PUSH TOPSOIL INTO CREEKS OR WETLANDS. DO NOT USE TOPSOIL FOR PADDING. AVIOD SCALPING VEGETATED GROUND SURFACE WHEN BACKFILLING TOPSOIL PILE.
5. TEMPORARILY SUSPEND TOPSOIL HANDLING OPERATIONS DURING INORDINATELY WINDY CONDITIONS UNTIL MITIGATIVE MEASURES TO MINIMIZE WIND EROSION CAN BE IMPLEMENTED.

Appendix A, Figure 15
Typical Construction Right-of-Way
South Main 2nd Main Line Extension

Southern Natural Gas Company, LLC
Fairburn Expansion Project FERC Docket No. CP17-46-000




| BEGIN STA. | END STA. |
|---|---|
| 29+25 | 39+36 |

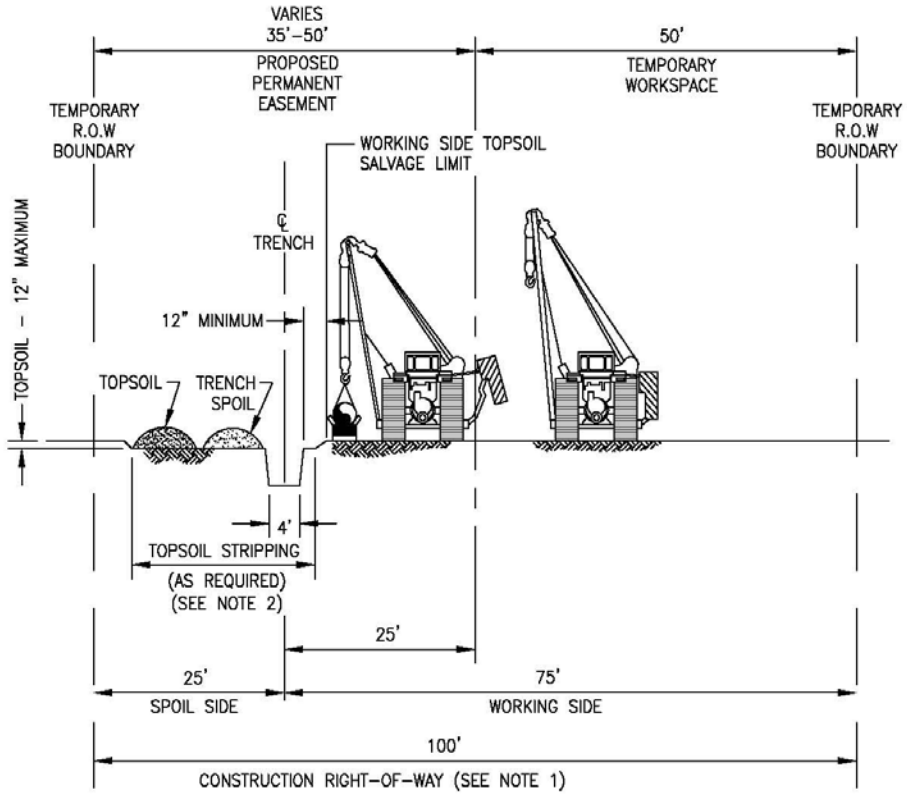
TYPICAL CONSTRUCTION RIGHT-OF-WAY
STANDARD WORK CORRIDOR

NOTES:

1. CONSTRUCTION RIGHT-OF-WAY WILL TYPICALLY BE 100 FEET WIDE CONSISTING OF 65 FEET OF PERMANENT EASEMENT AND 35 FEET OF TEMPORARY WORKSPACE. ADDITIONAL TEMPORARY WORK SPACE WILL BE NECESSARY AT MAJOR ROAD, RAIL AND RIVER CROSSINGS AND OTHER SPECIAL CIRCUMSTANCES, AS REQUIRED.
2. THIS DRAWING REFLECTS "TRENCH AND SPOIL SIDE" TOPSOIL STRIPPING PROCEDURE. SALVAGE TOPSOIL OVER TRENCH AND UNDER THE SPOIL PILE AT LOCATIONS IDENTIFIED ON THE CONSTRUCTION ALIGNMENT SHEETS, OR AS DIRECTED BY THE COMPANY"S REPRESENTATIVE. MINIMUM WIDTH OF TOPSOIL STRIPPING ON THE WORKING SIDE OF TRENCH IS 12 INCHES.
3. STOCKPILE TOPSOIL IN ANY CONFIGURATION APPROVED BY THE COMPANY'S INSPECTOR. KEEP TOPSOIL CLEAN OF ALL CONSTRUCTION DEBRIS.
4. LEAVE GAPS IN TOPSOIL AND SPOIL PILES AT OBVIOUS DRAINAGES. DO NOT PUSH TOPSOIL INTO CREEKS OR WETLANDS. DO NOT USE TOPSOIL FOR PADDING. AVIOD SCALPING VEGETATED GROUND SURFACE WHEN BACKFILLING TOPSOIL PILE.
5. TEMPORARILY SUSPEND TOPSOIL HANDLING OPERATIONS DURING INORDINATELY WINDY CONDITIONS UNTIL MITIGATIVE MEASURES TO MINIMIZE WIND EROSION CAN BE IMPLEMENTED.

Appendix A, Figure 16
Typical Construction Right-of-Way
South Main 2nd Main Line Extension

Southern Natural Gas Company, LLC
Fairburn Expansion Project FERC Docket No. CP17-46-000




| BEGIN STA. | END STS. |
|---|---|
| 40+62 | 58+02 |

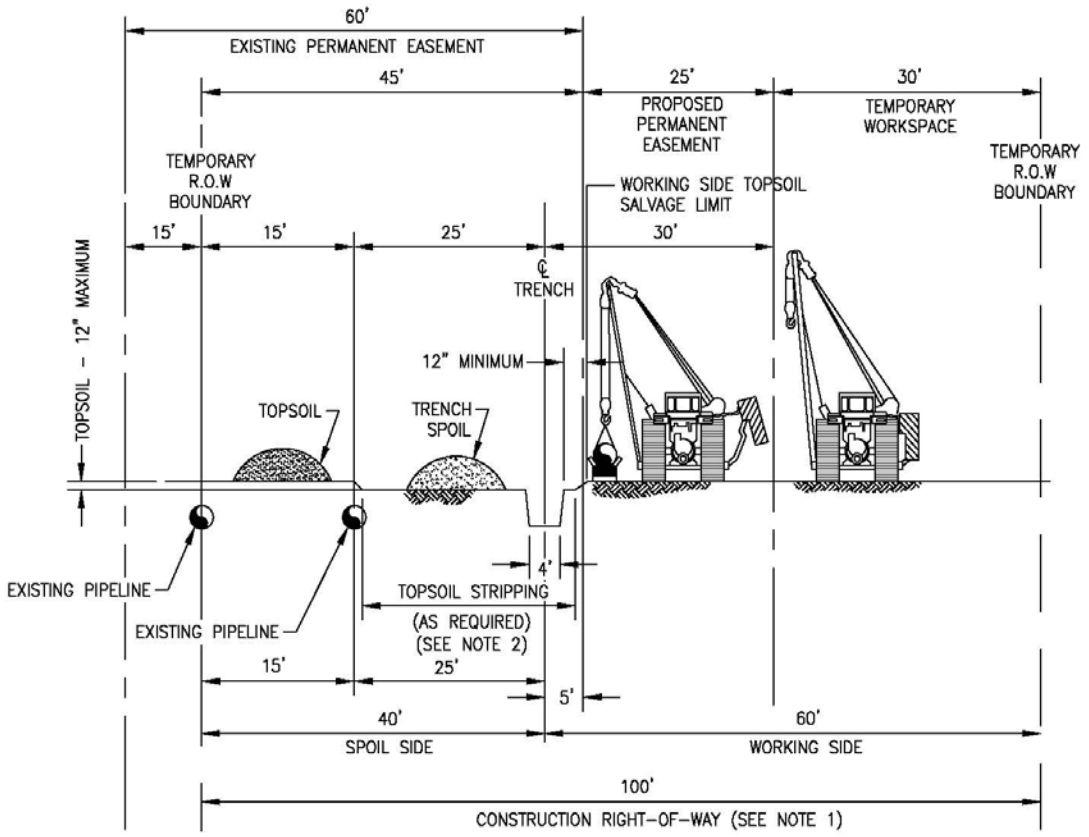
TYPICAL CONSTRUCTION RIGHT–OF–WAY
PARALLELING COUNTRY PLACE ROAD

NOTES:

1. CONSTRUCTION RIGHT–OF–WAY WILL TYPICALLY BE 100 FEET WIDE CONSISTING OF 50 FEET OF PERMANENT EASEMENT AND 50 FEET OF TEMPORARY WORKSPACE. ADDITIONAL TEMPORARY WORK SPACE WILL BE NECESSARY AT MAJOR ROAD, RAIL AND RIVER CROSSINGS AND OTHER SPECIAL CIRCUMSTANCES, AS REQUIRED.
2. THIS DRAWING REFLECTS "TRENCH AND SPOIL SIDE" TOPSOIL STRIPPING PROCEDURE. SALVAGE TOPSOIL OVER TRENCH AND UNDER THE SPOIL PILE AT LOCATIONS IDENTIFIED ON THE CONSTRUCTION ALIGNMENT SHEETS, OR AS DIRECTED BY THE COMPANY"S REPRESENTATIVE. MINIMUM WIDTH OF TOPSOIL STRIPPING ON THE WORKING SIDE OF TRENCH IS 12 INCHES.
3. STOCKPILE TOPSOIL IN ANY CONFIGURATION APPROVED BY THE COMPANY'S INSPECTOR. KEEP TOPSOIL CLEAN OF ALL CONSTRUCTION DEBRIS.
4. LEAVE GAPS IN TOPSOIL AND SPOIL PILES AT OBVIOUS DRAINAGES. DO NOT PUSH TOPSOIL INTO CREEKS OR WETLANDS. DO NOT USE TOPSOIL FOR PADDING. AVIOD SCALPING VEGETATED GROUND SURFACE WHEN BACKFILLING TOPSOIL PILE.
5. TEMPORARILY SUSPEND TOPSOIL HANDLING OPERATIONS DURING INORDINATELY WINDY CONDITIONS UNTIL MITIGATIVE MEASURES TO MINIMIZE WIND EROSION CAN BE IMPLEMENTED.

Appendix A, Figure 17
Typical Construction Right-of-Way
South Main 2nd Main Line Extension

Southern Natural Gas Company, LLC
Fairburn Expansion Project FERC Docket No. CP17-46-000




| BEGIN STA. | END STA. |
|---|---|
| 59+17 | 61+10 |

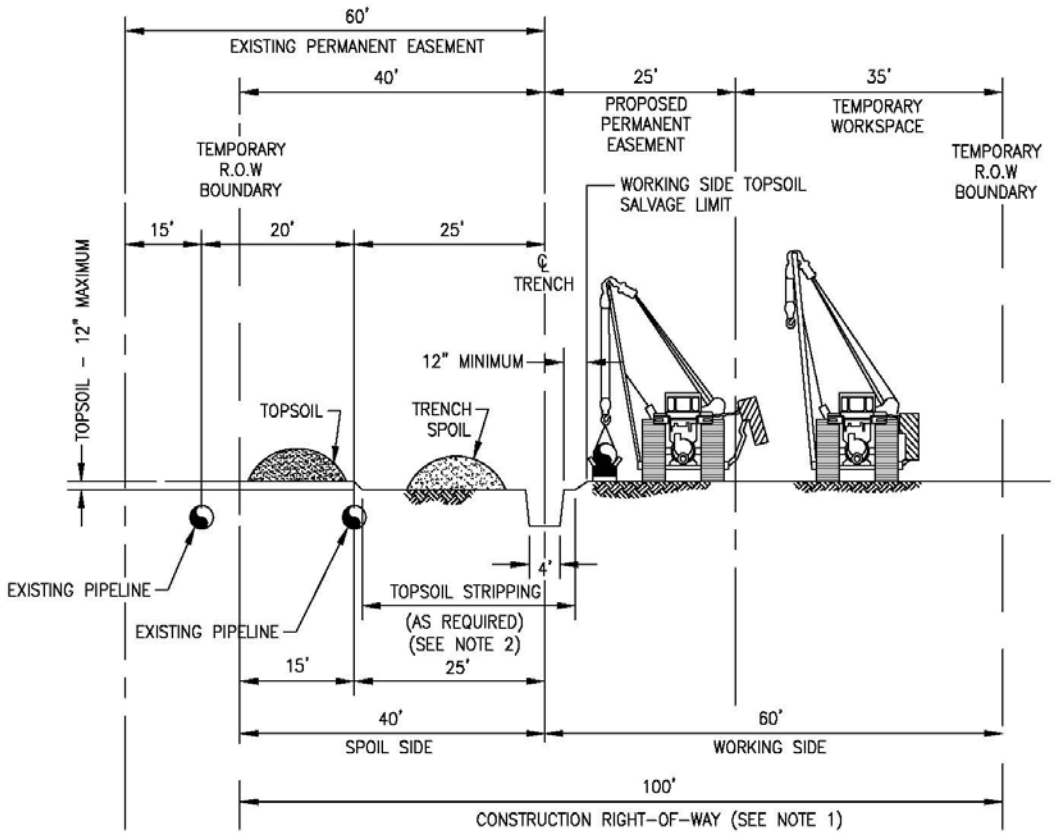
TYPICAL CONSTRUCTION RIGHT-OF-WAY
STANDARD WORK CORRIDOR

NOTES:

1. CONSTRUCTION RIGHT-OF-WAY WILL TYPICALLY BE 100 FEET WIDE CONSISTING OF 70 FEET OF PERMANENT EASEMENT AND 30 FEET OF TEMPORARY WORKSPACE. ADDITIONAL TEMPORARY WORK SPACE WILL BE NECESSARY AT MAJOR ROAD, RAIL AND RIVER CROSSINGS AND OTHER SPECIAL CIRCUMSTANCES, AS REQUIRED.
2. THIS DRAWING REFLECTS "TRENCH AND SPOIL SIDE" TOPSOIL STRIPPING PROCEDURE. SALVAGE TOPSOIL OVER TRENCH AND UNDER THE SPOIL PILE AT LOCATIONS IDENTIFIED ON THE CONSTRUCTION ALIGNMENT SHEETS, OR AS DIRECTED BY THE COMPANY"S REPRESENTATIVE. MINIMUM WIDTH OF TOPSOIL STRIPPING ON THE WORKING SIDE OF TRENCH IS 12 INCHES.
3. STOCKPILE TOPSOIL IN ANY CONFIGURATION APPROVED BY THE COMPANY'S INSPECTOR. KEEP TOPSOIL CLEAN OF ALL CONSTRUCTION DEBRIS.
4. LEAVE GAPS IN TOPSOIL AND SPOIL PILES AT OBVIOUS DRAINAGES. DO NOT PUSH TOPSOIL INTO CREEKS OR WETLANDS. DO NOT USE TOPSOIL FOR PADDING. AVIOD SCALPING VEGETATED GROUND SURFACE WHEN BACKFILLING TOPSOIL PILE.
5. TEMPORARILY SUSPEND TOPSOIL HANDLING OPERATIONS DURING INORDINATELY WINDY CONDITIONS UNTIL MITIGATIVE MEASURES TO MINIMIZE WIND EROSION CAN BE IMPLEMENTED.

Appendix A, Figure 18
Typical Construction Right-of-Way
South Main 2nd Main Line Extension

Southern Natural Gas Company, LLC
Fairburn Expansion Project FERC Docket No. CP17-46-000




| BEGIN STA. | END STA. |
|---|---|
| 61+10 | 68+15 |
| 71+59 | 82+50 |

TYPICAL CONSTRUCTION RIGHT-OF-WAY
STANDARD WORK CORRIDOR

NOTES:

1. CONSTRUCTION RIGHT-OF-WAY WILL TYPICALLY BE 100 FEET WIDE CONSISTING OF 65 FEET OF PERMANENT EASEMENT AND 35 FEET OF TEMPORARY WORKSPACE. ADDITIONAL TEMPORARY WORK SPACE WILL BE NECESSARY AT MAJOR ROAD, RAIL AND RIVER CROSSINGS AND OTHER SPECIAL CIRCUMSTANCES, AS REQUIRED.
2. THIS DRAWING REFLECTS "TRENCH AND SPOIL SIDE" TOPSOIL STRIPPING PROCEDURE. SALVAGE TOPSOIL OVER TRENCH AND UNDER THE SPOIL PILE AT LOCATIONS IDENTIFIED ON THE CONSTRUCTION ALIGNMENT SHEETS, OR AS DIRECTED BY THE COMPANY"S REPRESENTATIVE. MINIMUM WIDTH OF TOPSOIL STRIPPING ON THE WORKING SIDE OF TRENCH IS 12 INCHES.
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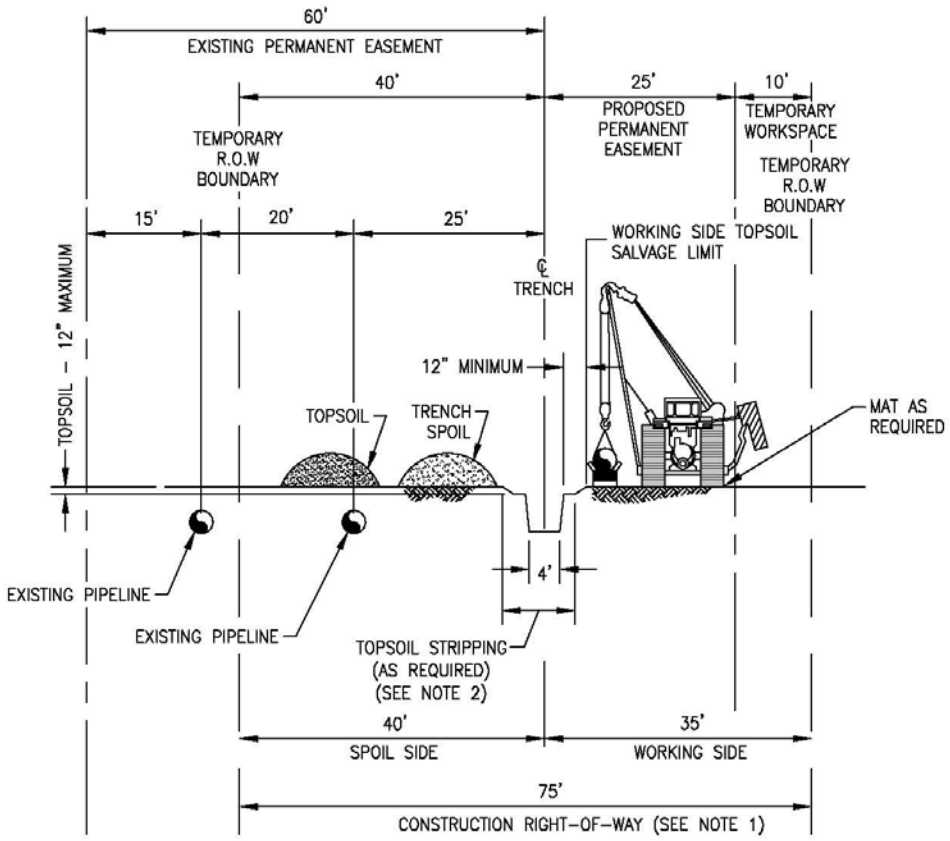
5. TEMPORARILY SUSPEND TOPSOIL HANDLING OPERATIONS DURING INORDINATELY WINDY CONDITIONS UNTIL MITIGATIVE MEASURES TO MINIMIZE WIND EROSION CAN BE IMPLEMENTED.

Appendix A, Figure 19
Typical Construction Right-of-Way
South Main 2nd Main Line Extension

Southern Natural Gas Company, LLC
Fairburn Expansion Project FERC Docket No. CP17-46-000




| BEGIN STA. | END STA. |
|---|---|
| 68+15 | 71+59 |

TYPICAL CONSTRUCTION RIGHT-OF-WAY
WETLAND CROSSING

NOTES:

1. CONSTRUCTION RIGHT-OF-WAY WILL TYPICALLY BE 75 FEET WIDE CONSISTING OF 65 FEET OF PERMANENT EASEMENT AND 10 FEET OF TEMPORARY WORKSPACE. ADDITIONAL TEMPORARY WORK SPACE WILL BE NECESSARY AT MAJOR ROAD, RAIL AND RIVER CROSSINGS AND OTHER SPECIAL CIRCUMSTANCES, AS REQUIRED.
2. THIS DRAWING REFLECTS "TRENCH AND SPOIL SIDE" TOPSOIL STRIPPING PROCEDURE. SALVAGE TOPSOIL OVER TRENCH AND UNDER THE SPOIL PILE AT LOCATIONS IDENTIFIED ON THE CONSTRUCTION ALIGNMENT SHEETS, OR AS DIRECTED BY THE COMPANY"S REPRESENTATIVE. MINIMUM WIDTH OF TOPSOIL STRIPPING ON THE WORKING SIDE OF TRENCH IS 12 INCHES.
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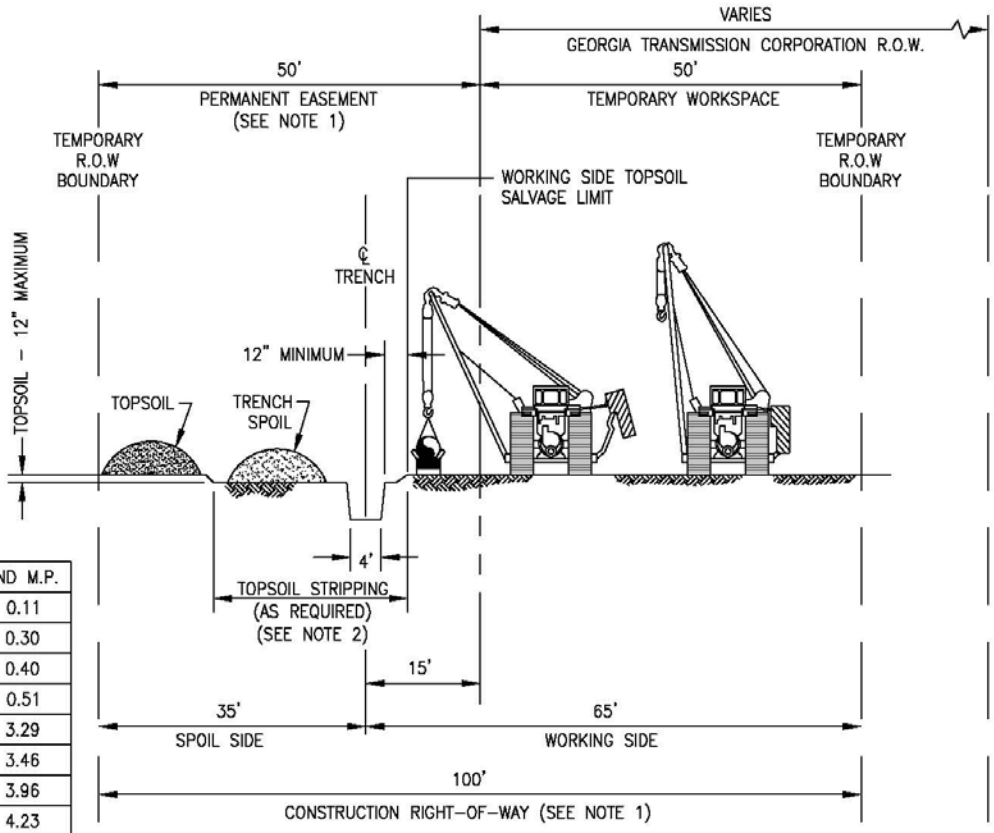
5. TEMPORARILY SUSPEND TOPSOIL HANDLING OPERATIONS DURING INORDINATELY WINDY CONDITIONS UNTIL MITIGATIVE MEASURES TO MINIMIZE WIND EROSION CAN BE IMPLEMENTED.

Appendix A, Figure 20
Typical Construction Right-of-Way
South Main 2nd Main Line Extension

Southern Natural Gas Company, LLC
Fairburn Expansion Project FERC Docket No. CP17-46-000




| BEGIN M.P. | END M.P. |
|---|---|
| 0.00 | 0.11 |
| 0.16 | 0.30 |
| 0.34 | 0.40 |
| 0.48 | 0.51 |
| 3.19 | 3.29 |
| 3.39 | 3.46 |
| 3.76 | 3.96 |
| 4.12 | 4.23 |
| 4.34 | 4.39 |

TYPICAL CONSTRUCTION RIGHT-OF-WAY
PARALLELING GEORGIA TRANSMISSION CORPORATION

NOTES:

1. CONSTRUCTION RIGHT-OF-WAY WILL TYPICALLY BE 100 FEET WIDE CONSISTING OF 50 FEET OF PERMANENT EASEMENT AND 50 FEET OF TEMPORARY WORKSPACE. EXTRA TEMPORARY WORK SPACE WILL BE NECESSARY AT MAJOR ROAD, RAIL AND RIVER CROSSINGS AND OTHER SPECIAL CIRCUMSTANCES, AS REQUIRED. CERTAIN SITUATIONS MAY REQUIRE A NARROWER WIDTH.
2. THIS DRAWING REFLECTS "TRENCH AND SPOIL SIDE" TOPSOIL STRIPPING PROCEDURE. SALVAGE TOPSOIL OVER TRENCH AND UNDER THE SPOIL PILE AT LOCATIONS IDENTIFIED ON THE CONSTRUCTION ALIGNMENT SHEETS, OR AS DIRECTED BY THE COMPANY"S REPRESENTATIVE. MINIMUM WIDTH OF TOPSOIL STRIPPING ON THE WORKING SIDE OF TRENCH IS 12 INCHES.
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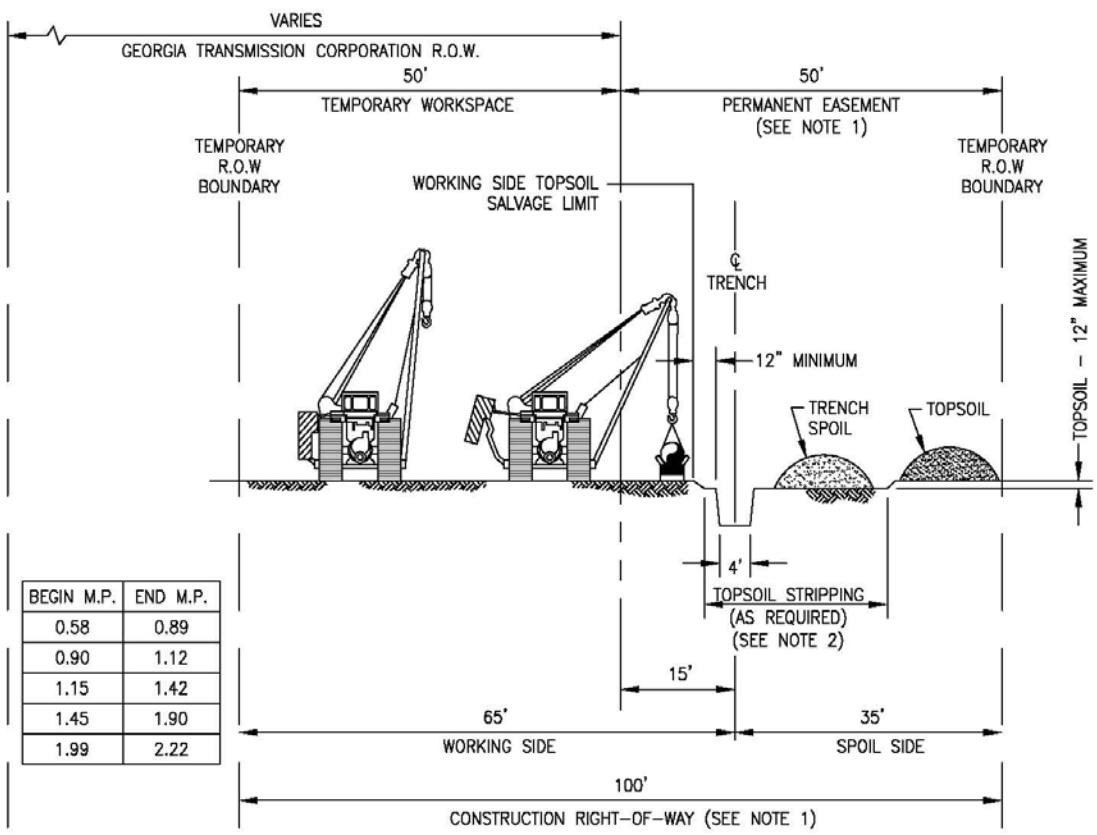
5. TEMPORARILY SUSPEND TOPSOIL HANDLING OPERATIONS DURING INORDINATELY WINDY CONDITIONS UNTIL MITIGATIVE MEASURES TO MINIMIZE WIND EROSION CAN BE IMPLEMENTED.

Appendix A, Figure 21
Typical Construction Right-of-Way
Fairburn Lateral, Collocation with GTC Powerlines

Southern Natural Gas Company, LLC
Fairburn Expansion Project FERC Docket No. CP17-46-000




| BEGIN M.P. | END M.P. |
|---|---|
| 0.58 | 0.89 |
| 0.90 | 1.12 |
| 1.15 | 1.42 |
| 1.45 | 1.90 |
| 1.99 | 2.22 |

TYPICAL CONSTRUCTION RIGHT-OF-WAY
PARALLELING GEORGIA TRANSMISSION CORPORATION

NOTES:

1. CONSTRUCTION RIGHT-OF-WAY WILL TYPICALLY BE 100 FEET WIDE CONSISTING OF 50 FEET OF PERMANENT EASEMENT AND 50 FEET OF TEMPORARY WORKSPACE. EXTRA TEMPORARY WORK SPACE WILL BE NECESSARY AT MAJOR ROAD, RAIL AND RIVER CROSSINGS AND OTHER SPECIAL CIRCUMSTANCES, AS REQUIRED. CERTAIN SITUATIONS MAY REQUIRE A NARROWER WIDTH.
2. THIS DRAWING REFLECTS "TRENCH AND SPOIL SIDE" TOPSOIL STRIPPING PROCEDURE. SALVAGE TOPSOIL OVER TRENCH AND UNDER THE SPOIL PILE AT LOCATIONS IDENTIFIED ON THE CONSTRUCTION ALIGNMENT SHEETS, OR AS DIRECTED BY THE COMPANY"S REPRESENTATIVE. MINIMUM WIDTH OF TOPSOIL STRIPPING ON THE WORKING SIDE OF TRENCH IS 12 INCHES.
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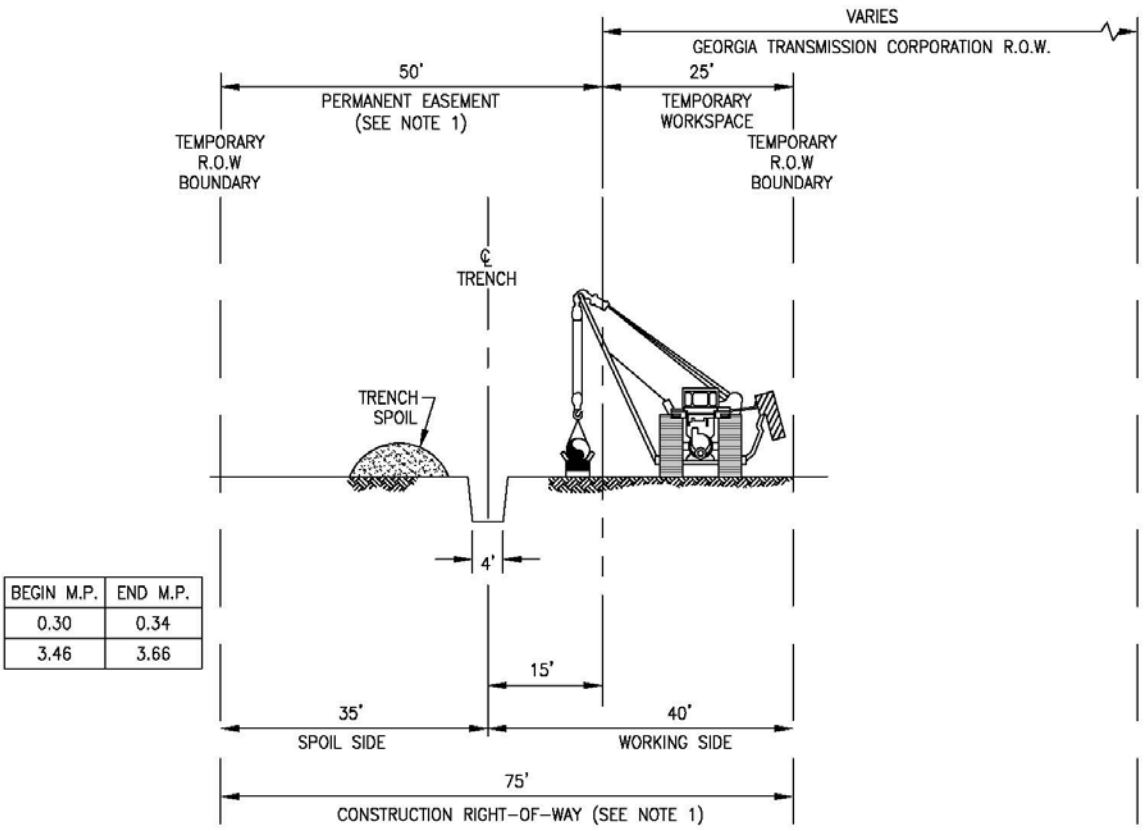
5. TEMPORARILY SUSPEND TOPSOIL HANDLING OPERATIONS DURING INORDINATELY WINDY CONDITIONS UNTIL MITIGATIVE MEASURES TO MINIMIZE WIND EROSION CAN BE IMPLEMENTED.

Appendix A, Figure 22
Typical Construction Right-of-Way
Fairburn Lateral, Collocation with GTC Powerlines

Southern Natural Gas Company, LLC
Fairburn Expansion Project FERC Docket No. CP17-46-000




| BEGIN M.P. | END M.P. |
|---|---|
| 0.30 | 0.34 |
| 3.46 | 3.66 |

TYPICAL CONSTRUCTION RIGHT-OF-WAY
WETLAND CROSSING – PARALLELING GEORGIA
TRANSMISSION CORPORATION

NOTES:

1. CONSTRUCTION RIGHT-OF-WAY WILL TYPICALLY BE 75 FEET WIDE CONSISTING OF 50 FEET OF PERMANENT EASEMENT AND 25 FEET OF TEMPORARY WORKSPACE. EXTRA TEMPORARY WORK SPACE WILL BE NECESSARY AT MAJOR ROAD, RAIL AND RIVER CROSSINGS AND OTHER SPECIAL CIRCUMSTANCES, AS REQUIRED. CERTAIN SITUATIONS MAY REQUIRE A NARROWER WIDTH.
2. STOCKPILE TOPSOIL IN ANY CONFIGURATION APPROVED BY THE COMPANY'S INSPECTOR. KEEP TOPSOIL CLEAN OF ALL CONSTRUCTION DEBRIS.
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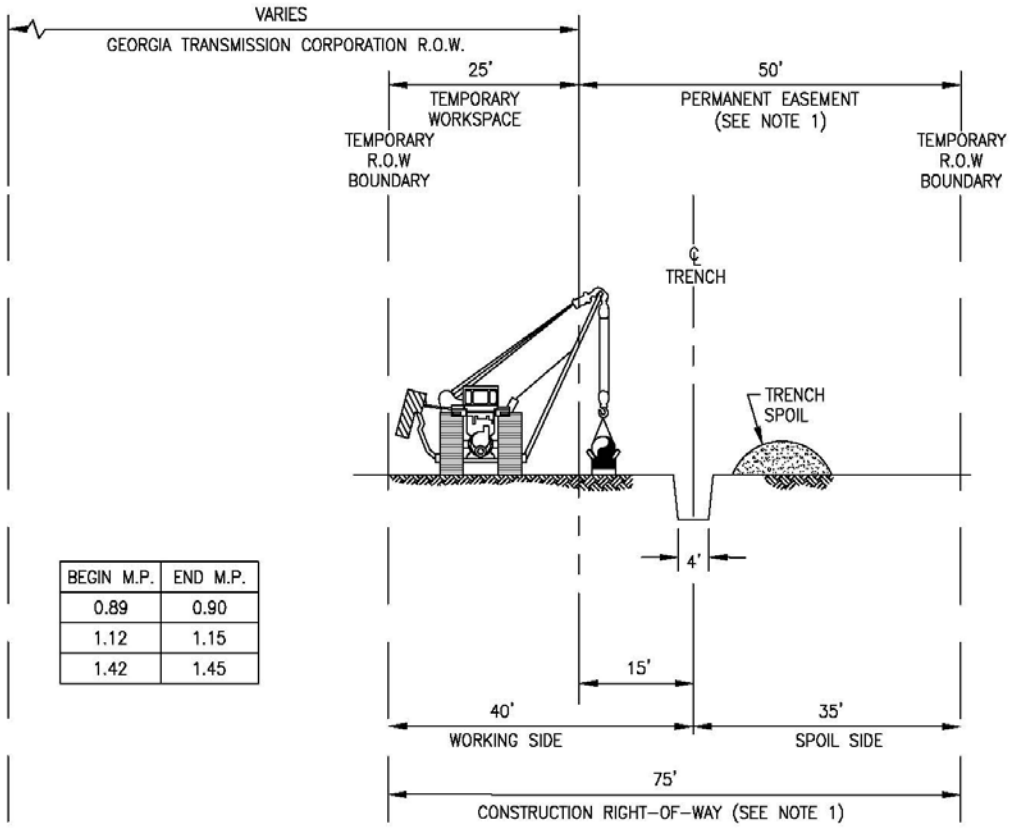
4. TEMPORARILY SUSPEND TOPSOIL HANDLING OPERATIONS DURING INORDINATELY WINDY CONDITIONS UNTIL MITIGATIVE MEASURES TO MINIMIZE WIND EROSION CAN BE IMPLEMENTED.

Appendix A, Figure 23
Typical Construction Right-of-Way
Fairburn Lateral, Collocation with GTC Powerlines

Southern Natural Gas Company, LLC
Fairburn Expansion Project FERC Docket No. CP17-46-000




| BEGIN M.P. | END M.P. |
|---|---|
| 0.89 | 0.90 |
| 1.12 | 1.15 |
| 1.42 | 1.45 |

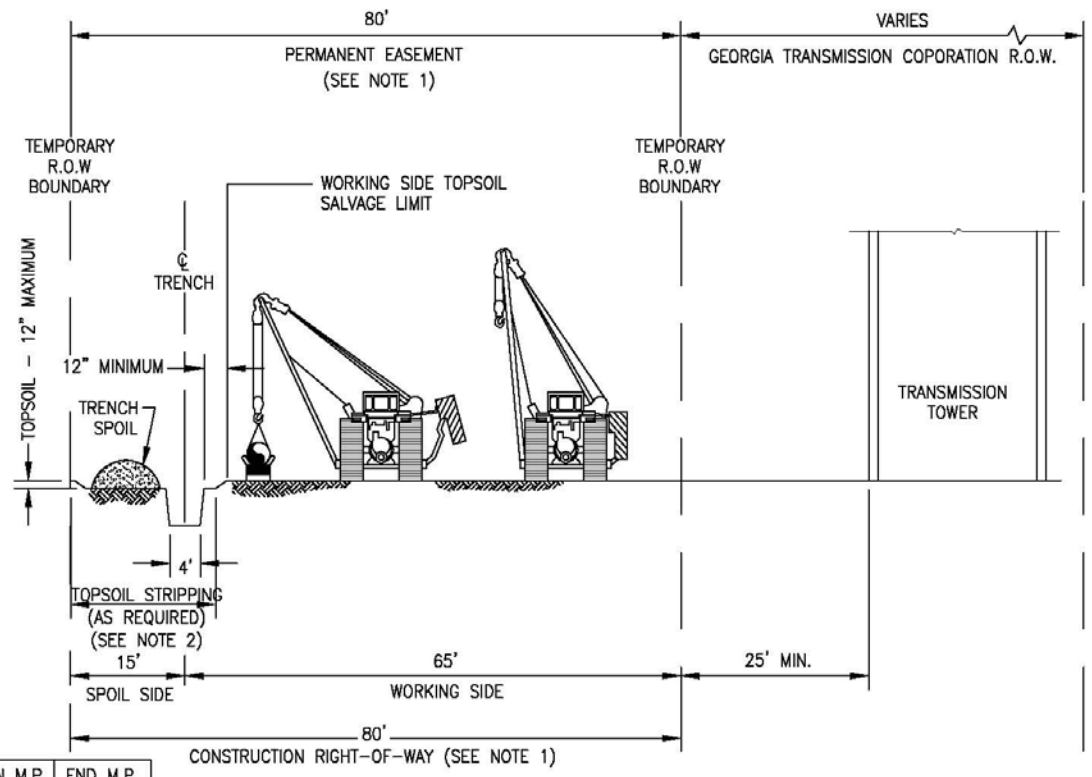
TYPICAL CONSTRUCTION RIGHT-OF-WAY
WETLAND CROSSING – PARALLELING GEORGIA TRANSMISSION CORPORATION

NOTES:

1. CONSTRUCTION RIGHT-OF-WAY WILL TYPICALLY BE 75 FEET WIDE CONSISTING OF 50 FEET OF PERMANENT EASEMENT AND 25 FEET OF TEMPORARY WORKSPACE. EXTRA TEMPORARY WORK SPACE WILL BE NECESSARY AT MAJOR ROAD, RAIL AND RIVER CROSSINGS AND OTHER SPECIAL CIRCUMSTANCES, AS REQUIRED. CERTAIN SITUATIONS MAY REQUIRE A NARROWER WIDTH.
2. STOCKPILE TOPSOIL IN ANY CONFIGURATION APPROVED BY THE COMPANY'S INSPECTOR. KEEP TOPSOIL CLEAN OF ALL CONSTRUCTION DEBRIS.
3. LEAVE GAPS IN TOPSOIL AND SPOIL PILES AT OBVIOUS DRAINAGES. DO NOT PUSH TOPSOIL INTO CREEKS OR WETLANDS. DO NOT USE TOPSOIL FOR PADDING. AVIOD SCALPING VEGETATED GROUND SURFACE WHEN BACKFILLING TOPSOIL PILE.
4. TEMPORARILY SUSPEND TOPSOIL HANDLING OPERATIONS DURING INORDINATELY WINDY CONDITIONS UNTIL MITIGATIVE MEASURES TO MINIMIZE WIND EROSION CAN BE IMPLEMENTED.

Appendix A, Figure 24
Typical Construction Right-of-Way
Fairburn Lateral, Collocation with GTC Powerlines

Southern Natural Gas Company, LLC
Fairburn Expansion Project FERC Docket No. CP17-46-000




| BEGIN M.P. | END M.P. |
|---|---|
| 0.40 | 0.48 |
| 3.29 | 3.39 |
| 3.66 | 3.76 |
| 4.23 | 4.34 |

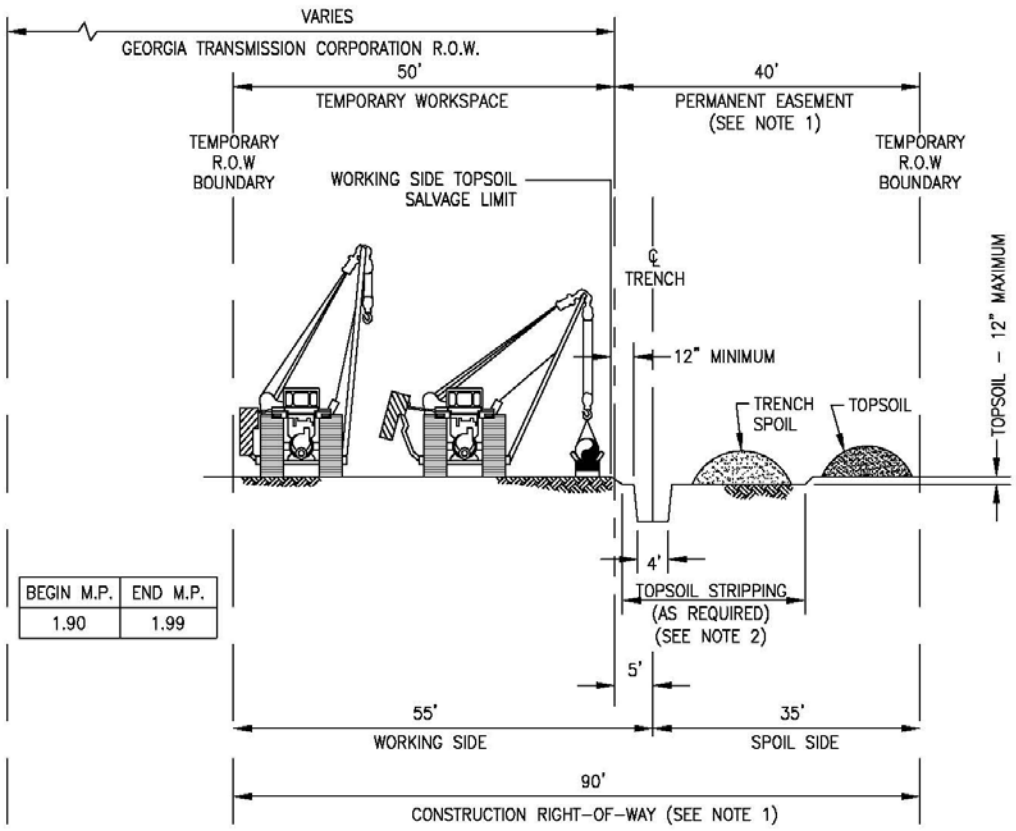
TYPICAL CONSTRUCTION RIGHT-OF-WAY
TOWER PULLOUT

NOTES:

1. CONSTRUCTION RIGHT-OF-WAY WILL TYPICALLY BE 80 FEET WIDE CONSISTING OF 80 FEET OF PERMANENT EASEMENT. EXTRA TEMPORARY WORK SPACE WILL BE NECESSARY AT MAJOR ROAD, RAIL AND RIVER CROSSINGS AND OTHER SPECIAL CIRCUMSTANCES, AS REQUIRED. CERTAIN SITUATIONS MAY REQUIRE A NARROWER WIDTH.
2. THIS DRAWING REFLECTS "TRENCH AND SPOIL SIDE" TOPSOIL STRIPPING PROCEDURE. SALVAGE TOPSOIL OVER TRENCH AND UNDER THE SPOIL PILE AT LOCATIONS IDENTIFIED ON THE CONSTRUCTION ALIGNMENT SHEETS, OR AS DIRECTED BY THE COMPANY"S REPRESENTATIVE. MINIMUM WIDTH OF TOPSOIL STRIPPING ON THE WORKING SIDE OF TRENCH IS 12 INCHES.
3. STOCKPILE TOPSOIL IN ANY CONFIGURATION APPROVED BY THE COMPANY'S INSPECTOR. KEEP TOPSOIL CLEAN OF ALL CONSTRUCTION DEBRIS.
4. LEAVE GAPS IN TOPSOIL AND SPOIL PILES AT OBVIOUS DRAINAGES. DO NOT PUSH TOPSOIL INTO CREEKS OR WETLANDS. DO NOT USE TOPSOIL FOR PADDING. AVIOD SCALPING VEGETATED GROUND SURFACE WHEN BACKFILLING TOPSOIL PILE.
5. TEMPORARILY SUSPEND TOPSOIL HANDLING OPERATIONS DURING INORDINATELY WINDY CONDITIONS UNTIL MITIGATIVE MEASURES TO MINIMIZE WIND EROSION CAN BE IMPLEMENTED.

Appendix A, Figure 25
Typical Construction Right-of-Way
Fairburn Lateral, Collocation with GTC Powerlines

Southern Natural Gas Company, LLC
Fairburn Expansion Project FERC Docket No. CP17-46-000




| BEGIN M.P. | END M.P. |
|---|---|
| 1.90 | 1.99 |

TYPICAL CONSTRUCTION RIGHT-OF-WAY

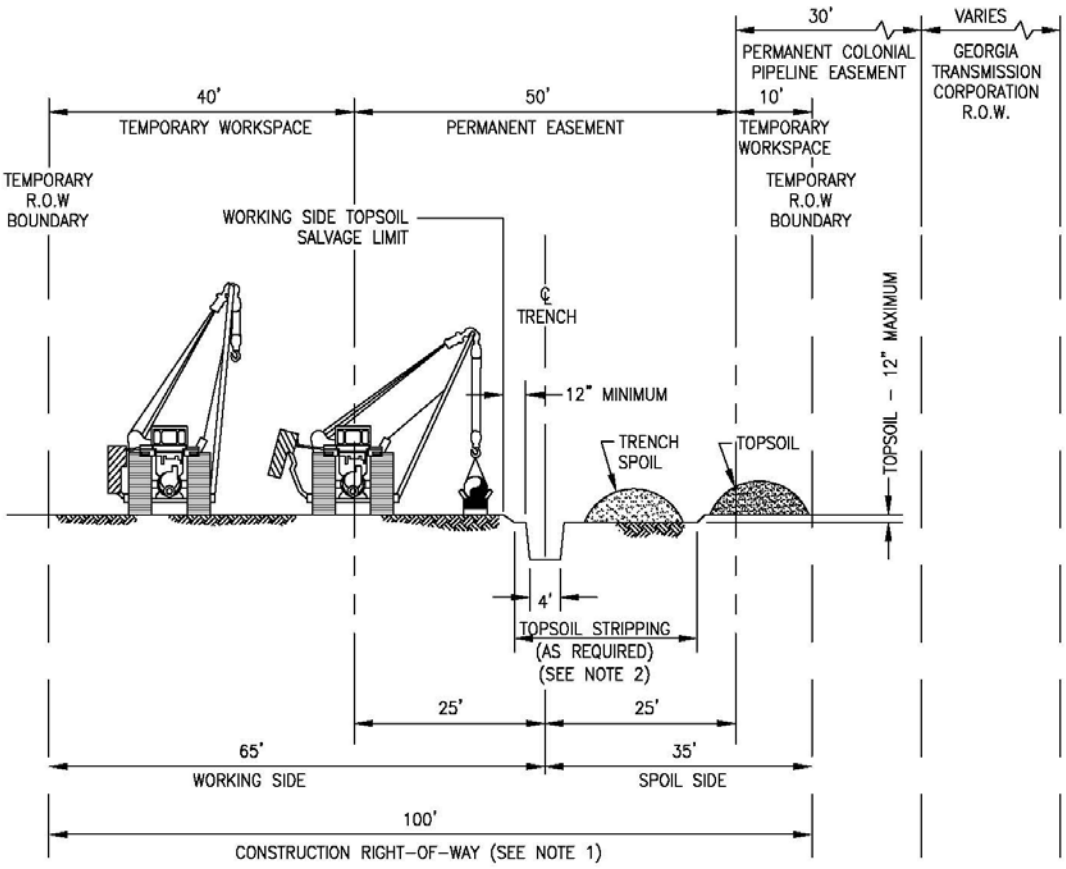
40' RIGHT OF WAY CONSTRICTED AREA

NOTES:

1. CONSTRUCTION RIGHT-OF-WAY WILL TYPICALLY BE 90 FEET WIDE CONSISTING OF 40 FEET OF PERMANENT EASEMENT AND 50 FEET OF TEMPORARY WORKSPACE. EXTRA TEMPORARY WORK SPACE WILL BE NECESSARY AT MAJOR ROAD, RAIL AND RIVER CROSSINGS AND OTHER SPECIAL CIRCUMSTANCES, AS REQUIRED. CERTAIN SITUATIONS MAY REQUIRE A NARROWER WIDTH.
2. THIS DRAWING REFLECTS "TRENCH AND SPOIL SIDE" TOPSOIL STRIPPING PROCEDURE. SALVAGE TOPSOIL OVER TRENCH AND UNDER THE SPOIL PILE AT LOCATIONS IDENTIFIED ON THE CONSTRUCTION ALIGNMENT SHEETS, OR AS DIRECTED BY THE COMPANY"S REPRESENTATIVE. MINIMUM WIDTH OF TOPSOIL STRIPPING ON THE WORKING SIDE OF TRENCH IS 12 INCHES.
3. STOCKPILE TOPSOIL IN ANY CONFIGURATION APPROVED BY THE COMPANY'S INSPECTOR. KEEP TOPSOIL CLEAN OF ALL CONSTRUCTION DEBRIS.
4. LEAVE GAPS IN TOPSOIL AND SPOIL PILES AT OBVIOUS DRAINAGES. DO NOT PUSH TOPSOIL INTO CREEKS OR WETLANDS. DO NOT USE TOPSOIL FOR PADDING. AVIOD SCALPING VEGETATED GROUND SURFACE WHEN BACKFILLING TOPSOIL PILE.
5. TEMPORARILY SUSPEND TOPSOIL HANDLING OPERATIONS DURING INORDINATELY WINDY CONDITIONS UNTIL MITIGATIVE MEASURES TO MINIMIZE WIND EROSION CAN BE IMPLEMENTED.

Appendix A, Figure 26
Typical Construction Right-of-Way
Fairburn Lateral, Collocation with GTC Powerlines

Southern Natural Gas Company, LLC
Fairburn Expansion Project FERC Docket No. CP17-46-000




| BEGIN M.P. | END M.P. |
|---|---|
| 2.33 | 2.58 |

TYPICAL CONSTRUCTION RIGHT-OF-WAY

PARALLELING 30' COLONIAL PIPELINE EASEMENT

NOTES:

1. CONSTRUCTION RIGHT-OF-WAY WILL TYPICALLY BE 100 FEET WIDE CONSISTING OF 50 FEET OF PERMANENT EASEMENT AND 50 FEET OF TEMPORARY WORKSPACE. EXTRA TEMPORARY WORK SPACE WILL BE NECESSARY AT MAJOR ROAD, RAIL AND RIVER CROSSINGS AND OTHER SPECIAL CIRCUMSTANCES, AS REQUIRED. CERTAIN SITUATIONS MAY REQUIRE A NARROWER WIDTH.
2. THIS DRAWING REFLECTS "TRENCH AND SPOIL SIDE" TOPSOIL STRIPPING PROCEDURE. SALVAGE TOPSOIL OVER TRENCH AND UNDER THE SPOIL PILE AT LOCATIONS IDENTIFIED ON THE CONSTRUCTION ALIGNMENT SHEETS, OR AS DIRECTED BY THE COMPANY"S REPRESENTATIVE. MINIMUM WIDTH OF TOPSOIL STRIPPING ON THE WORKING SIDE OF TRENCH IS 12 INCHES.
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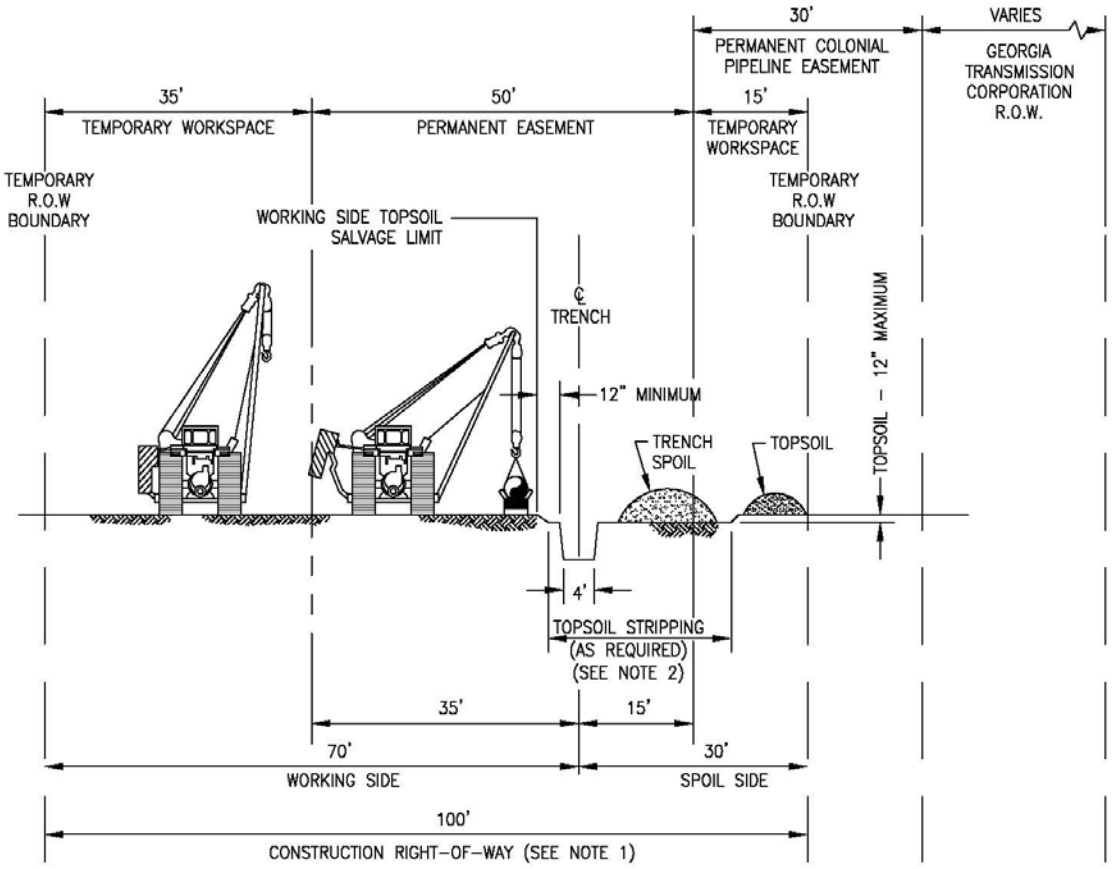
5. TEMPORARILY SUSPEND TOPSOIL HANDLING OPERATIONS DURING INORDINATELY WINDY CONDITIONS UNTIL MITIGATIVE MEASURES TO MINIMIZE WIND EROSION CAN BE IMPLEMENTED.

Appendix A, Figure 27
Typical Construction Right-of-Way
Fairburn Lateral, Collocation with Colonial Pipeline

Southern Natural Gas Company, LLC
Fairburn Expansion Project FERC Docket No. CP17-46-000




| BEGIN M.P. | END M.P. |
|---|---|
| 2.70 | 2.92 |

TYPICAL CONSTRUCTION RIGHT-OF-WAY
PARALLELING 30' COLONIAL PIPELINE EASEMENT

NOTES:

1. CONSTRUCTION RIGHT-OF-WAY WILL TYPICALLY BE 100 FEET WIDE CONSISTING OF 50 FEET OF PERMANENT EASEMENT AND 50 FEET OF TEMPORARY WORKSPACE. EXTRA TEMPORARY WORK SPACE WILL BE NECESSARY AT MAJOR ROAD, RAIL AND RIVER CROSSINGS AND OTHER SPECIAL CIRCUMSTANCES, AS REQUIRED. CERTAIN SITUATIONS MAY REQUIRE A NARROWER WIDTH.
2. THIS DRAWING REFLECTS "TRENCH AND SPOIL SIDE" TOPSOIL STRIPPING PROCEDURE. SALVAGE TOPSOIL OVER TRENCH AND UNDER THE SPOIL PILE AT LOCATIONS IDENTIFIED ON THE CONSTRUCTION ALIGNMENT SHEETS, OR AS DIRECTED BY THE COMPANY"S REPRESENTATIVE. MINIMUM WIDTH OF TOPSOIL STRIPPING ON THE WORKING SIDE OF TRENCH IS 12 INCHES.
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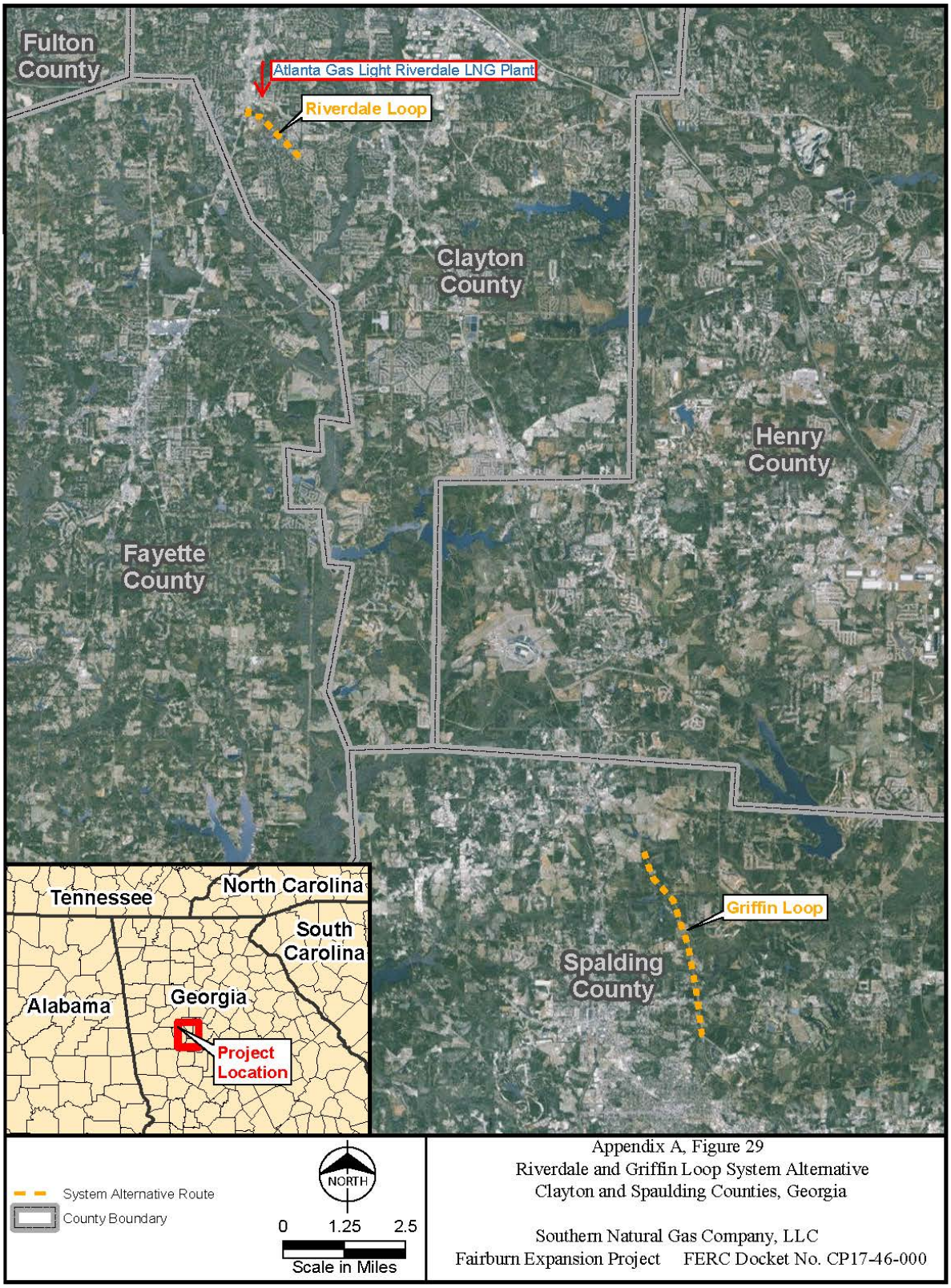
5. TEMPORARILY SUSPEND TOPSOIL HANDLING OPERATIONS DURING INORDINATELY WINDY CONDITIONS UNTIL MITIGATIVE MEASURES TO MINIMIZE WIND EROSION CAN BE IMPLEMENTED.

Appendix A, Figure 28
Typical Construction Right-of-Way
Fairburn Lateral, Collocation with Colonial Pipeline

Southern Natural Gas Company, LLC
Fairburn Expansion Project FERC Docket No. CP17-46-000




Appendix A, Figure 29
Riverdale and Griffin Loop System Alternative
Clayton and Spaulding Counties, Georgia

Southern Natural Gas Company, LLC
Fairburn Expansion Project FERC Docket No. CP17-46-000


Appendix A, Figure 30
Okmulgee-Atlantic Line Extension System Alternative
Clayton and Spaulding Counties, Georgia

Southern Natural Gas Company, LLC
Fairburn Expansion Project FERC Docket No. CP17-46-000

**Appendix B**

# BLASTING PLAN

## *Contents*



## *Abbreviations and Acronyms*

| | |
|---|---|
| ATF | U.S. Bureau of Alcohol, Tobacco, and Firearms |
| FERC | Federal Energy Regulatory Commission |
| OSHA | Occupational Safety and Health Administration |
| PPV | peak particle velocity |
| Project | Fairburn Expansion Project |
| SNG | Southern Natural Gas Company, L.L.C. |
| USDOT | U.S. Department of Transportation |

# 1. GENERAL

The purpose of this Blasting Plan is to provide guidelines for the safe use and storage of blasting materials for the Fairburn Expansion Project ("Project"). This Blasting Plan does not relieve the construction contractor of the responsibility for developing Site-specific Blasting Plans, which will be prepared by the construction contractor and submitted to Southern Natural Gas Company ("SNG") for review prior to any blasting. SNG approval or adherence to this Blasting Plan does not limit, reduce, or release the construction contractor or agent(s) from any liability to SNG or any other affected party for any damages or other harmful effects resulting from the blasting activities. Blasting-related operations including obtaining, transporting, storing, handling, loading, detonating, and disposing of blasting material, drilling, and ground-motion monitoring will comply with applicable federal, state, and local regulations, permit conditions, and the construction contract.

The general approach to blasting for the Project is summarized as follows.

1. Blasting for grade or ditch excavation will be used only after all other reasonable means of excavation have been used and are unsuccessful in achieving the required results.
2. All blasting will be performed with the SNG construction contractor representative present and with SNG construction contractor approval on each blast.
3. The blasting contractor will be required to be licensed in accordance with all local, state, and federal agencies. Copies of all current licenses will be provided to SNG (or the construction contractor) for review and approval prior to commencing any blasting activities.
4. The blasting contractor will also furnish previous work history as evidence of competency in handling explosives and performing the blasting in a safe manner.
5. A 72 hour notice to all nearby property owners will be given by SNG prior to blasting.

# 2. PERMITS AND SAFETY REGULATIONS

The blasting contractor will acquire and comply with all permits required for use of explosives and will enforce all safety rules in their use. Such permits will include transportation and storage of explosives. All guidelines will be followed from the state (Georgia) Code of Regulations, Alcohol, Tobacco, and Firearms ("ATF")-Explosives Law and Regulations, Occupational Safety and Health Administration ("OSHA") blasting safety regulations, Department of Transportation ("USDOT") Carriage by Public Highway regulations, and the Federal Energy Regulatory Commission ("FERC") Right-of-Way maintenance and Facility Construction regulations. The following summarizes these regulations:

1. Only qualified individuals will handle explosives and they must always be under the direct supervision of a blaster with a license, from the state where blasting occurs (Georgia).

2. No flame or spark-producing device will be allowed anywhere near the explosives during handling, use, or transport.

3. No person will be allowed to work in the area while under the influence of alcohol, narcotics, or dangerous drugs.
4. Explosives will be accounted for at all times and never abandoned.
5. Fires will not be fought if explosives are near.
6. Separate Class I and Class II magazines will be used for the transportation of explosives and detonators from magazine storage area to blast site.
7. Warning signs, with lettering at a minimum of four inches in height, will be set before all entrances to the blast area. Flaggers will stand on all roads within 1,000 feet of the blast area; all workers not involved in the blast must maintain a 1,000-foot distance from the blast; and workers involved in the blast must maintain a 650-foot distance during the blast. An audible blasting signal (air horn or siren) will be used with clear warning intervals. No unauthorized personnel will be allowed within 1,000 feet during loading or blasting.
8. The prevention of accidental, electrical current discharge will be instituted, and all blasting will be suspended and all personnel evacuated if there is any chance for an electrical storm.
9. All jurisdictional authorities will be allowed on site for inspection and a review of explosive records.

## 3. UTILITY CONCERNS AND NOTIFICATION

Control will be exercised by the blasting contractor to prevent damage to underground structures, such as cables, conduits and pipelines. The Georgia One Call system will be utilized to notify each utility company, with utilities located within the vicinity of the subject site, of the future blasting. After the One Call system notifies each company, the utility lines and their respective exclusion zones will be marked so that no blasting occurs within the sensitivity range of each utility. Blasting located along adjacent utility line rights-of-way will be conducted in a manner that will not cause damage to the utility company property and facilities. The blast area will be backfilled or covered with blasting mats to protect existing facilities, structures, highways or railroads from thrown rock fragments.

Before each blast, a seismograph machine will be placed next to each utility. Both the seismograph and sensor will be protected from flyrock.

## 4. ENVIRONMENTAL CONCERNS

Control will be exercised by the blasting contractor to prevent damage to underground structures such as springs, water wells and other water courses. The blast area will be backfilled or covered by blasting mats to protect significant natural features from thrown rock fragments. Precautions will

be taken to prevent damage to livestock and other property.

If blasting is required in wetlands or across waterbodies the blasting contractor will follow the SNG Procedures. Best Management Practices (i.e., top soil segregation, blasting mats) will be used to prevent shot-rock from mixing with top soil. The blasting contractor will follow the SNG Spill Prevention, Control, and Countermeasures Plan to prevent spills in or within 100 feet of a wetland or waterbody.

Any state regulations dictating the testing of nearby wells before and after blasting will be observed. Before each blast, a seismograph machine will be placed next to each well within 150 feet of blasting to measure peak particle velocity ("PPV"). Both the seismograph and sensor will be protected from flyrock PPV will be recorded after each blast in an effort to monitor effects on the wells. PPV will also be measured at aboveground structures within 150 feet of the blasting. If the measured PPV at an existing pipeline or other structure exceeds the PPV limit, the Contractor will stop blasting immediately and notify SNG. Additionally, the Blasting Plan will be modified to reduce the PPV prior to further blasting. SNG will inspect aboveground facilities within 150 feet before and after all blasting.

Water flow performance and water quality will be tested before blasting for any water wells or potable springs located within 150 feet of blasting. Any damage done to a water well will result in compensation to the well owner or a new well will be provided. Inspections for aboveground structures within 150 feet will be conducted before and after blasting. If damage occurs to an aboveground structure, the owner will be compensated.

For fire prevention, care will be taken to ensure that vegetation is removed within a 20-foot radius of the blasting operation. In drought conditions, a two-man fire watch team will be utilized to monitor fire hazards one full hour after blasting.

## 5. BLASTING PLAN AND OPERATIONS

1. The blasting contractor will furnish a detailed Blasting Plan to SNG and will obtain approval from SNG in writing prior to loading any explosive charges.
2. The Blasting Plan will include the following information:
    1. Explosive type;
    2. Delay types and intervals;
    3. Initiating methods;
    4. Delay pattern;
    5. Maximum shot hole depth and diameter;
    6. Maximum charge per hole;
    7. Maximum charge per delay;
    8. Distance to nearest aboveground structure; and

9. Distance to nearest below ground structure including buried pipelines.

3. Any proposed blast will be monitored to ensure that the PPV will not exceed the maximum velocity of two inches/second for any aboveground structures including water wells.

4. Approval of the Blasting Plan by SNG is for safety purposes only. The blasting contractor will be responsible for the accuracy or adequacy of the plan for obtaining adequate rock breakage.
5. Control will be exercised by the blasting contractor to prevent damage to underground structures, such as cables, conduits and pipelines, or to springs, water wells and other water courses.
6. Blasting mats will be used on all shots to prevent the scattering of loose rock onto adjacent property and to prevent damage to nearby structures and telephone or power lines. Dirt cover over the blast area may be used in lieu of mats if approved by an SNG Representative.
7. Blasting will not be conducted until occupants of nearby buildings, stores, residences, places of business, places of public gathering and farmers have been notified by the Contractor sufficiently in advance to protect personnel, property, and livestock.
8. All blasting operations will be conducted during daylight hours.
9. All blasting activity occurring within 100 feet of SNG facilities will require review and approval of the blasting plan by the SNG Pipeline Services Department.

## 6. DISPOSAL

The blasting contractor will be responsible for the disposal of all rock excavated in the blasting operation and in accordance with the SNG Spill Prevention, Control, and Countermeasures Plan, which includes a Waste Management Plan and Container Management Plan.

Document Content(s)