FEDERAL ENERGY REGULATORY COMMISSION
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FERC/EIS-0262D

Volume I of II

Southeast Market Pipelines Project
Draft Environmental Impact Statement

Docket Nos.
CP14-554-000
CP15-16-000
CP15-17-000

September 2015

Federal Energy Regulatory Commission
Office of Energy Projects
Washington, DC 20426

Southeast Market Pipelines Project
Draft Environmental Impact Statement
Volume I

Florida Southeast Connection, LLC
Transcontinental Gas Pipe Line Company, LLC
Sabal Trail Transmission, LLC

Docket Nos. CP14-554-000, CP15-16-000, and CP15-17-000
FERC/EIS-0262D

Cooperating Agency:

US Army Corps of Engineers ®

U.S. Army Corps of Engineers

September 2015

This environmental impact statement was prepared by the staff of the Federal Energy Regulatory Commission to assess the potential environmental impacts of the Southeast Market Pipelines Project (Docket Nos. CP14-554-000, CP15-16-00, and CP15-17-000), proposed for construction in Alabama, Georgia, and Florida. The cooperation and assistance of the U.S. Army Corps of Engineers was greatly appreciated.

FEDERAL ENERGY REGULATORY COMMISSION
WASHINGTON, D.C. 20426

OFFICE OF ENERGY PROJECTS

In Reply Refer To:
OEP/DG2E/Gas Branch 3
Florida Southeast Connection, LLC
Transcontinental Gas Pipe Line
Company, LLC
Sabal Trail Transmission, LLC
Docket Nos. CP14-554-000
CP15-16-000
CP15-17-000

TO THE PARTY ADDRESSED:

The staff of the Federal Energy Regulatory Commission (FERC or Commission) has prepared a draft environmental impact statement (EIS) for the Hillabee Expansion, Sabal Trail, and Florida Southeast Connection (FSC) Projects as proposed by Transcontinental Gas Pipe Line Company, LLC (Transco), Sabal Trail Transmission, LLC (Sabal Trail), and Florida Southeast Connection, LLC (FSC), respectively, in the above-referenced dockets. These are separate, but connected, natural gas transmission pipeline projects collectively referred to as the Southeast Market Pipelines (SMP) Project. The applicants request authorization to construct and operate a total of about 685.5 miles of natural gas transmission pipeline and associated facilities, six new natural gas-fired compressor stations, and modify existing compressor stations in Alabama, Georgia, and Florida. The SMP Project would provide about 1.1 billion cubic feet per day of natural gas to meet growing demands by the electric generation, distribution, and end use markets in Florida and the southeast United States.

The draft EIS assesses the potential environmental effects of the construction and operation of the SMP Project in accordance with the requirements of the National Environmental Policy Act (NEPA). The FERC staff concludes that approval of the SMP Project would have some adverse environmental impacts; however, these impacts would be reduced to less-than-significant levels with the implementation of the applicants' proposed mitigation and the additional measures recommended in the draft EIS.

The U.S. Army Corps of Engineers (USACE) participated as a cooperating agency in the preparation of the draft EIS. The USACE has jurisdiction by law or special expertise with respect to resources potentially affected by the proposals and participate in the NEPA analysis. The USACE may adopt and use the EIS as it has jurisdictional authority pursuant to section 404 of the Clean Water Act, which governs the discharge of dredged or fill material into waters of the United States; section 10 of the Rivers and Harbors Act, which regulates any work or structures that potentially affect the navigable capacity of navigable waters of the United States; and section 14 of the Rivers and Harbors Act which regulates the temporary occupation of water-related structures

constructed by the United States. Although the cooperating agency provides input to the conclusions and recommendations presented in the draft EIS, the agency will present its own conclusions and recommendations in its Record of Decision for the project. A copy of the USACE's public notice of its receipt of applications from Transco, Sabal Trail, and FSC is enclosed with our draft EIS.

The draft EIS of the SMP Project addresses the potential environmental effects of the construction and operation of the following project facilities:

The Hillabee Expansion Project would include:

- approximately 43.5 miles of new 42- and 48-inch-diameter natural gas pipeline loop[1] in Alabama;
- one new compressor station in Choctaw County, Alabama and modifications to three existing compressor stations in Dallas, Chilton, and Coosa Counties, Alabama; and
- installation of pig[2] launchers/receivers and mainline valves (MLVs).

The Sabal Trail Project would include:

- approximately 515.5 miles of new natural gas pipeline in Alabama, Georgia, and Florida, including:
    - 480.9 miles of 36-inch-diameter mainline pipeline in Alabama, Georgia, and Florida;
    - the 21.5-mile-long, 24-inch-diameter Citrus County Line in Florida; and
    - the 13.1-mile-long, 36-inch-diameter Hunters Creek Line in Florida;
- five new compressor stations in Tallapoosa County, Alabama; Dougherty County, Georgia; and Suwannee, Marion, and Osceola Counties, Florida;
- subsequent modifications to two of the new compressor stations in Dougherty County, Georgia and Suwannee County, Florida; and

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[1] A loop is a segment of pipe that is installed adjacent to an existing pipeline and connected to it at both ends. A loop generally allows more gas to move through the system.

[2] A pig is an internal tool that can be used to clean and dry a pipeline and/or to inspect it for damage or corrosion.

- installation of pig launchers/receivers, MLVs, and meter and regulating stations.

The FSC Project would include:

- approximately 126.4 miles of new 30- and 36-inch-diameter natural gas pipeline in Florida; and

- installation of pig launchers/receivers, MLVs, and meter and regulating stations.

The FERC staff mailed copies of the draft EIS to federal, state, and local government representatives and agencies; elected officials; environmental and public interest groups; Native American tribes; potentially affected landowners and other interested individuals and groups; newspapers and libraries in the project area; and parties to this proceeding. Paper copy versions of this draft EIS were mailed to those specifically requesting them; all others received a CD version. In addition, the draft EIS is available for public viewing on the FERC's website (www.ferc.gov) using the eLibrary link. A limited number of copies 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 draft EIS may do so. To ensure consideration of your comments on the proposal in the final EIS, it is important that the Commission receive your comments within 45 days of the U.S. Environmental Protection Agency's Federal Register issuance date.

For your convenience, there are four methods you can use to submit your comments to the Commission. In all instances, please reference the appropriate docket numbers (CP14-554-000 for the FSC Project; CP15-16-000 for the Hillabee Expansion Project; or CP15-17-000 for the Sabal Trail Project) with your submission. The Commission encourages electronic filing of comments and has expert staff available to assist you at (202) 502-8258 or efiling@ferc.gov. Please carefully follow these instructions so that your comments are properly recorded.

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

3) You can file a paper copy of your comments by mailing them to the following address. Be sure to reference the project docket numbers (CP14-554-000, CP15-16-000, and CP15-17-000) with your submission:

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

4) In lieu of sending written or electronic comments, the Commission invites you to attend one of the public meetings its staff will conduct in the SMP Project area to receive comments on the draft EIS. We encourage interested groups and individuals to attend and present oral comments on the draft EIS. **The meetings are scheduled as follows:**

Date and Time	Location
Monday, September 28, 2015 6:00 – 8:00 p.m. Eastern Daylight Time (EDT)	Albany Civic Center Meeting Room 100 West Oglethorpe Albany, GA 31701
Tuesday, September 29, 2015 6:00 – 8:00 p.m. EDT	Colquitt County High School (Old High School) Withers Auditorium 1800 Park Avenue Moultrie, GA 31776
Wednesday, September 30, 2015 6:00 – 8:00 p.m. EDT	Holiday Inn Valdosta Conference Center Magnolia Ballroom 1805 West Hill Ave. Valdosta, GA 31601

Date and Time	Location
Thursday, October 1, 2015 6:00 – 8:00 p.m. EDT	Columbia High School Auditorium 469 SE Fighting Tiger Drive Lake City, FL 32025
Monday, October 5, 2015 6:00 – 8:00 p.m. Central Daylight Time (CDT)	Central Alabama Community College Betty Carol Graham Technology Center – Multi Purpose Room 1675 Cherokee Road Alexander City, AL 35010
Monday, October 5, 2015 6:00 – 8:00 p.m. EDT	Indian River State College Williamson Conference Center Auditorium 2229 Northwest 9th Avenue Okeechobee, FL 34972
Tuesday, October 6, 2015 6:00 – 8:00 p.m. CDT	South Girard School Auditorium 521 Fontaine Road Phenix City, AL 36869
Tuesday, October 6, 2015 6:00 – 8:00 p.m. EDT	Dunnellon Middle School Auditorium 21005 Chestnut Street Dunnellon, FL 34431
Wednesday, October 7, 2015 6:00 – 8:00 p.m. EDT	Davenport School of the Arts Cafeteria 4751 County Road 547 (Lee Jackson Highway) Davenport, FL 33837
Thursday, October 8, 2015 6:00 – 8:00 p.m. EDT	Bell High School Auditorium 930 South Main Street Bell, FL 32619

We will begin our sign up of speakers at 5:30 p.m. The comment meetings will begin at 6:00 p.m. with a presentation by Commission staff on our environmental review process, after which speakers will be called. The meeting will end once all speakers have provided their comments or at 8:00 p.m., whichever comes first. Please note that there may be a time limit of **3 minutes** to present comments, and speakers should structure their comments accordingly. If time limits are implemented, they will be strictly enforced to ensure that as many individuals as possible are given an opportunity to comment. The meetings are recorded by a stenographer to ensure comments are accurately recorded. Transcripts will be entered into

the formal record of the Commission proceeding. It is important to note that verbal comments hold the same weight as written or electronically submitted comments.

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 Part 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.**

Questions?

Additional information about the SMP 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., CP15-554, CP15-16, and CP15-17). 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; 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 that 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.

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ACRONYMS AND ABBREVIATIONS

°F	degrees Fahrenheit
$\mu g/m^3$	micrograms per cubic meter
ACHP	Advisory Council on Historic Preservation
ADCNR	Alabama Department of Conservation and Natural Resources
ADEM	Alabama Department of Environmental Management
AHC	Alabama Historical Commission
APCO	Alabama Power Company
APE	area of potential effect
Applicants	Transcontinental Gas Pipe Line Company, LLC; Sabal Trail Transmission, LLC; and Florida Southeast Connection, LLC
AQCR	Air quality control regions
ATWS	additional temporary workspaces
BA	Biological Assessment
BACT	Best Available Control Technology
BCC	Birds of Conservation Concern
Bcf/d	billion cubic feet per day
BGEPA	Bald and Golden Eagle Protection Act
Board of Trustees	Board of Trustees of the Internal Improvement Trust Fund
CAA	Clean Air Act
CBMPP	Transco's Construction Best Management Practices Plan
CCL	Citrus County Line
CDP	Census-designated place
Certificate	Certificate of Public Convenience and Necessity
CFH	Central Florida Hub
CFR	Code of Federal Regulations
cfs	cubic feet per second
CH4	methane
CHRP	Citrus Health Response Program
CIA	compression intensive alternative
CO	carbon monoxide
CO_2	carbon dioxide
CO_{2e}	carbon dioxide equivalents
Commission	Federal Energy Regulatory Commission
CREC	Crystal River Energy Complex
CRP	Conservation Reserve Program
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
dB	decibels
dBA	decibels on the A-weighted scale
DEF	Duke Energy Florida
Dixie	Dixie Pipeline Company
DOE	U.S. Department of Energy
DOT	U.S. Department of Transportation
DRI	Development of Regional Impact
E&SCP	Sabal Trail's Erosion and Sediment Control Plan

EFH	Essential Fish Habitat
eGRID	Emissions & Generation Resource Integrated Database
EI	Environmental Inspector
EIA	U.S. Department of Energy, Energy Information Administration
EIS	environmental impact statement
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
F&W	Fish and Wildlife
F.A.C.	Florida Administrative Code
FAS	Florida aquifer system
FCMP	Florida Department of Environmental Protection Coastal Zone Management Program
FCV	flow control valve
FDACS	Florida Department of Agriculture and Consumer Services
FDEP	Florida Department of Environmental Protection
FDHR	Florida Division of Historical Resources
FDOS	Florida Department of State
FDOT	Florida Department of Transportation
FERC	Federal Energy Regulatory Commission
FERC Plan	Upland Erosion Control, Revegetation and Maintenance Plan
FERC Procedures	Wetland and Waterbody Construction and Mitigation Procedures
FFS	Florida Forest Service
FFWCC	Florida Fish and Wildlife Conservation Commission
FGS	Florida Geological Survey
FGT	Florida Gas Transmission Company, LLC
FNST	Florida National Scenic Trail
FPL	Florida Power & Light Company
FPSC	Florida Public Service Commission
FS	U.S. Forest Service
FSA	Farm Service Agency
FSC	Florida Southeast Connection, LLC
FWS	U.S. Fish and Wildlife Service
G.B.A.	G.B.A. Associated, LLC
GDNR	Georgia Department of Natural Resources
GEPD	Georgia Environmental Protection Division
GFC	Georgia Forestry Commission
GGS	Georgia Geological Survey
GHG	greenhouse gas
GHGRP	Greenhouse Gas Reporting Program
GHPD	Georgia Historic Preservation Division
GLCP	Georgia Land Conservation Program
Global Village	The Global Village at Westmont
gpd	gallons per day
gpm	gallons per minute
GRAQC	Georgia Rules for Air Quality Control
Greenway	Marjorie Harris Carr Cross Florida Greenway State Recreation and Conservation Area
GSA	Geological Survey of Alabama
Gulfstream	Gulfstream Natural Gas System, LLC

GWP	global warming potential
HAPs	hazardous air pollutants
HCA	high consequence area
HCL	Hunters Creek Lateral
HDD	horizontal directional drill
hp	horsepower
HPSA	Health Professional Shortage Areas
Hz	hertz
IPCC	Intergovernmental Panel on Climate Change
ISMP	invasive species management plan
L_{dn}	day-night sound level
L_{eq}	equivalent sound level
LIA	looping intensive alternative
LiDAR	light detecting and ranging data
LNG	liquefied natural gas
M&R	metering and regulating
MACT	Maximum Achievable Control Technology
MAOP	maximum allowable operating pressure
Martin Plant	Martin Clean Energy electric generating plant
MBTA	Migratory Bird Treaty Act
MDEQ	Mississippi Department of Environmental Quality
Memorandum	*Memorandum of Understanding on Natural Gas Transportation Facilities*
MFLs	Maximum Flows and Levels
MGAG	Municipal Gas Authority of Georgia
mgd	million gallons per day
MLBs	mid-line buoys
MLRA	Major Land Resource Area
MLVs	mainline valves
MMcfd	million cubic feet per day
MPs	mileposts
MSA	Magnuson-Stevens Fishery Conservation and Management Act
MUAs/Ps	Medically Underserved Areas or Populations
MW	megawatt
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NCED	National Conservation Easement Database
NEPA	National Environmental Policy Act
NESHAP	National Emission Standard for Hazardous Air Pollutants
NextEra	NextEra Energy, Inc.
NGA	Natural Gas Act
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NNSR	Nonattainment New Source Review
NO_2	nitrogen dioxide
NOA	Notice of Application
NOI	Notice of Intent
NO_x	nitrogen oxides

NPDES	National Pollutant Discharge Elimination System
NPS	U.S. Department of the Interior, National Park Service
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NSA	noise sensitive area
NSPS	New Source Performance Standards
NSR	New Source Review
NWR	National Wildlife Refuge
OEP	Office of Energy Projects
ORVs	outstandingly remarkable natural or cultural value
Pb	lead
PEM	palustrine emergent
PFO	palustrine forested
PM_{10}	particulate matter less than 10 microns
$PM_{2.5}$	particulate matter less than 2.5 microns
Port Dolphin	Port Dolphin LNG facility
ppb	parts per billion
ppm	parts per million
PSD	Prevention of Significant Deterioration
psig	pounds per square inch gauge
PSS	palustrine scrub-shrub
PTE	potential to emit
PWS	Public Water Supply
RCPs	residential construction plans
RFP	Request for Proposal
RHA	Rivers and Harbors Act
RIBITS	Regulatory In-lieu Fee and Bank Information Tracking System
RICE	reciprocating internal combustion engines
RMP	risk management plan
RR	Resource Report
S	Swimming and Other Whole Body Water-Contact Sports
Sabal Trail	Sabal Trail Transmission, LLC
SCADA	supervisory control and data acquisition
Secretary	Secretary of the Commission
SHPO	State Historic Preservation Office
SIP	State Implementation Plan
SMP Project	Southeast Market Pipelines Project
SONAT	Southern Natural Gas Company
SPA	Springs Protection Area
SSA	Sole Source Aquifer
SSURGO	Soil Survey Geographic
SWAPP	Source Water Assessment and Protection Program
TAPs	toxic air pollutants
TLV-TWAs	threshold limit value-time weighted averages
tpy	tons per year
Transco	Transcontinental Gas Pipe Line Company, LLC
U.S.C.	United States Code

UMAM	Universal Mitigation Assessment Methodology
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USGCRP	U.S. Global Change Research Program
USGS	U.S. Geological Survey
VOCs	volatile organic compounds
WEGs	Wind Erodibility Groups
WHPAs	Wellhead Protection Areas
WMD	Water Management District
WRAP	Wetland Rapid Assessment Procedure
WRP	Wetland Reserve Program

EXECUTIVE SUMMARY

The staff of the Federal Energy Regulatory Commission (FERC or Commission) has prepared this draft Environmental Impact Statement (EIS) to fulfill requirements of the National Environmental Policy Act of 1969 (NEPA) and the Commission's implementing regulations under Title 18 of the Code of Federal Regulations Part 380 (18 CFR 380). This EIS assesses the potential environmental impacts that could result from constructing and operating the Hillabee Expansion, Sabal Trail, and Florida Southeast Connection (FSC) Projects; three separate, but related, interstate natural gas transmission pipeline projects collectively referred to as the Southeast Market Pipelines Project (SMP Project).

The Applicants (Transcontinental Gas Pipe Line Company, LLC (Transco); Sabal Trail Transmission, LLC (Sabal Trail); and Florida Southeast Connection, LLC (FSC)) each filed applications with the FERC in the Fall of 2014 pursuant to section 7 of the Natural Gas Act (NGA) seeking Certificates of Public Convenience and Necessity (Certificates) to construct, own, operate, and maintain interstate natural gas transmission pipelines and related facilities. The FERC is the federal agency responsible for authorizing interstate natural gas transmission facilities under the NGA, and is the lead federal agency responsible for preparing this EIS. The U.S. Army Corps of Engineers (USACE) participated as a cooperating agency in the preparation of this EIS because it has jurisdiction by law or has special expertise with respect to environmental resource issues associated with the SMP Project.

PROPOSED ACTIONS

Transco's Hillabee Expansion Project would involve constructing and operating about 43.5 miles of 42-inch- and 48-inch-diameter pipeline loop[1] and associated facilities (mainline valves,[2] pig[3] launchers and receivers, and other appurtenant facilities) in eight segments; one new natural gas fired-compressor station; and modifications at three existing compressor stations. Transco's facilities would be constructed in three phases between 2016 and 2021 and would provide Sabal Trail with up to 1.1 billion cubic feet per day (Bcf/d) of natural gas service upon completion.

The Sabal Trail Project would involve constructing and operating about 515.5 miles of pipeline and associated facilities, including: 480.9 miles of 36-inch-diameter Mainline pipeline in Alabama, Georgia, and Florida; 13.1 miles of 36-inch-diameter lateral pipeline (the Hunters Creek Line) in Florida; 21.5 miles of 24-inch-diameter lateral pipeline (the Citrus County Line) in Florida; and five new natural gas-fired compressor stations. Sabal Trail would also construct and operate the Central Florida Hub[4] at the termination of the Mainline in Osceola County, Florida. Sabal Trail's facilities would be constructed in three phases between 2016 and 2021, with the second and third phases involving only additional compression facilities. The Sabal Trail Project would provide up to 1.0 Bcf/d of firm transportation service upon completion.

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[1] A loop is a segment of pipe that is usually installed adjacent to an existing pipeline and connected to it at both ends. The loop allows more gas to move through the system.

[2] A mainline valve is an aboveground facility on a pipeline with valves for controlling the flow of gas in the pipeline. The valves act as gateways that can be open and closed.

[3] A pipeline "pig" is a device used to clean or inspect the pipeline. A pig launcher/receiver is an aboveground facility where pigs are inserted or retrieved from the pipeline.

[4] A hub is a location where two or more pipeline systems interconnect and which offers administrative services that facilitate the movement and/or transfer of gas. A hub creates a market where buyers can seek the least expensive natural gas from multiple sellers. The Central Florida Hub would be the first natural gas hub in Florida.

The FSC Project would involve constructing and operating about 126.4 miles of pipeline and associated facilities, consisting of 77.1 miles of 36-inch-diameter pipeline and 49.3 miles of 30-inch-diameter pipeline in Florida. FSC's facilities would be constructed in one phase between 2016 and 2017. The FSC Project would connect with the Sabal Trail Project at the Central Florida Hub and would provide up to 600 million cubic feet per day of firm transportation service.

According to the Applicants, the SMP Project and its individual component projects were developed to meet the growing demand for natural gas by the electric generation, distribution, and end use markets in Florida and the southeast United States.

PUBLIC INVOLVEMENT

In the Fall of 2013, the SMP Project Applicants filed requests to implement the Commission's Pre-filing Process for the Hillabee Expansion, Sabal Trail, and FSC Projects. These requests outlined the respective projects and included plans for public outreach and involvement. The Pre-filing Process was established to encourage early involvement of interested stakeholders, facilitate interagency cooperation, and identify and resolve environmental issues before an application is filed. The FERC granted and established pre-filing Docket Nos. PF14-1-000 (Sabal Trail Project), PF14-2-000 (FSC Project), and PF14-6-000 (Hillabee Expansion Project).

As part of the Pre-filing Process, the Applicants hosted 31 open house meetings in the SMP Project area between November 2013 and January 2014 to inform the public about their respective projects. FERC staff attended these meetings and provided information to the public about NEPA and the FERC's environmental review process. FERC staff also conducted site visits and met with various stakeholders along the project to gather and exchange information and to assist with the project analysis.

On February 18, 2014, the FERC issued a *Notice of Intent to Prepare an Environmental Impact Statement for the Planned Southeast Market Pipelines Project, Request for Comments on Environmental Issues, and Notice of Public Scoping Meetings* (NOI). The NOI was also published in the Federal Register on February 26, 2014, and copies were sent to 5,893 parties, including federal, state, and local agencies; elected officials; environmental and public interest groups; Native American tribes; potentially affected landowners; local libraries and newspapers; and other interested stakeholders. The NOI opened a 60-day scoping period. We[5] than held 13 public scoping meetings in March 2014 to solicit and receive comments on environmental resources that could be affected by the SMP Project.

On October 15, 2014, the FERC issued a *Supplemental Notice of Intent to Prepare an Environmental Impact Statement for the Planned Southeast Market Pipelines Project and Request for Comments on Environmental Issues Related to New Alternatives Under Consideration.* This supplemental NOI described four route alternatives for the Sabal Trail Project and alternative locations for Sabal Trail's proposed Albany Compressor Station in Dougherty County, Georgia and opened a 30-day scoping period. The supplemental NOI was also published in the Federal Register and was sent to 898 parties, including federal, state, and local agencies; elected officials; environmental and public interest groups; Native American tribes; potentially affected landowners; local libraries and newspapers; and other interested stakeholders. As part of its ongoing public outreach efforts related to the new alternatives, Sabal Trail hosted and FERC staff attended public open houses held in Albany, Georgia and Jasper, Florida on October 20 and 21, 2014, respectively. The FERC also issued two project newsletters

[5] The pronouns "we," "us," and "our" refer to the environmental staff of the Federal Energy Regulatory Commission's Office of Energy Projects.

on September 9, 2014 and February 24, 2015 that provided stakeholders current information on FERC's environmental review process and instructions on how comments could be filed with the Commission.

On June 19, 2015, we issued a second *Supplemental Notice of Intent to Prepare an Environmental Impact Statement for the Proposed Southeast Market Pipelines Project and Request for Comments on Environmental Issues Related to the Newly Proposed Albany Compressor Station Location*. This supplemental NOI described a new, proposed location for the Albany Compressor Station in Dougherty County, Georgia and opened a 30-day comment period. This supplemental NOI was also published in the Federal Register and was sent to 167 parties, including federal, state, and local agencies; elected officials; Native American tribes; potentially affected landowners; and local libraries and newspapers.

We received over 1,000 written comment letters during the Pre-filing Process, formal scoping periods, and throughout preparation of the draft EIS. Over 450 comment letters concerned impacts in Dougherty County; particularly in and around the City of Albany. We received written comments from 5 federal agencies (USACE, U.S. Environmental Protection Agency (EPA), U.S. Fish and Wildlife Service (FWS), U.S. Forest Service, and National Park Service); 7 state agencies (Georgia Department of Agriculture, Georgia Department of Natural Resources, Florida Department of Agriculture and Consumer Services, Florida Department of Environmental Protection, Florida Fish and Wildlife Conservation Commission, Florida Department of Transportation, and Florida Department of State); 4 U.S. Senators; 2 U.S. Representatives; 4 Native American tribes; 24 state elected officials and local government bodies; 5 non-governmental organizations (Sierra Club, Florida Audubon Society, Clean Water Action, Our Santa Fe River, Inc., and WWALS Watershed Coalition); and approximately 641 affected landowners, individuals, groups, and companies (including about 410 form letters submitted by 300 individuals and affected landowners). In addition, we received 199 oral comments at the public scoping meetings.

As a result of the public's involvement in the pre-filing and post-application review processes, we identified several environmental issues of concern including geology (karst), groundwater quality, public health and safety, air quality and noise, socioeconomics, environmental justice, and wetlands and waterbodies. As appropriate these and other concerns expressed by the public are addressed throughout the EIS.

PROJECT IMPACTS AND MITIGATION

Constructing and operating the SMP Project would temporarily and permanently impact the environment. Some of these impacts would be adverse; however, we have determined that, with the implementation of the Applicants' proposed impact avoidance, minimization, and mitigation measures and its adherence to our recommendations, the SMP Project would not result in a significant impact on the environment. Section 5.0 of this EIS summarizes our resource-specific conclusions and identifies our recommendations to further avoid, minimize, and mitigate project-related impacts. Cumulative impacts and alternatives are addressed in sections 3.14 and 4.0, respectively.

Karst and Groundwater

Northern Florida and southwest Georgia are geologically unique due to the prevalence of karst terrain. These areas are also notable because of the underlying Floridan Aquifer which is used extensively for agriculture and drinking water supply. We received numerous comments from affected landowners and public resource managers expressing concern about how construction and operation of the Sabal Trail Project could impact (or be affected by) karst and groundwater. The majority of the comments concerned the impairment of cave systems, springs, and wells; construction methods triggering sinkhole development; and operational safety/pipeline integrity in karst areas.

The Sabal Trail Project Mainline would be located through the highly karstic south Georgia/north Florida region. The Mainline would also be located across the Floridan Aquifer. Through this area the majority of Mainline would be installed using standard overland construction techniques which would generally limit disturbance to within 6 to 8 feet of the ground surface, whereas groundwater and cave systems are generally found at greater depths. Additionally, only two springs were identified within 0.5 mile of proposed overland construction work areas. Sabal Trail would also use the horizontal directional drill (HDD) method at two locations in Georgia and three locations in Florida where karst bedrock would be encountered. Two additional springs would be within 0.5 mile of the proposed HDD locations. Constructing and operating the Sabal Trail Project in south Georgia/north Florida could induce sinkhole development, alter spring characteristics, and impact local groundwater flow and quality.

To ensure its project would not adversely impact groundwater and springs or exacerbate sinkhole development, Sabal Trail conducted an extensive analysis of geologic conditions and construction activities in this area, consulted with the applicable state agencies and local water management districts, and prepared plans to avoid, minimize, and mitigate potential project-related impacts on these resources. Sabal Trail completed geotechnical analyses of the subsurface for each of the HDD locations and the engineering reports concluded that the drills could be successfully completed. Further, Sabal Trail sited the HDDs to the extent practical to avoid major springs. Sabal Trail would also implement its Best Drilling Practices Plan, which includes measures to reduce the loss of drilling mud; plans to monitor wells and springs within 2,000 feet downgradient of a drilling mud loss; a commitment to consult with applicable agencies regarding remedial cleanup techniques should a spring be affected; and plans to mitigate impacts on wells, should they occur.

Based on our review of Sabal Trail's proposed construction methods, its implementation of impact minimization measures, and our consultations with the Florida Geological Survey and other resource managers, we conclude that constructing and operating of the Sabal Trail Project would not significantly impact karst terrain, springs, or the Floridan Aquifer (groundwater). We also conclude that the potential for the Sabal Trail Project to initiate or be affected by damaging karst conditions has been adequately minimized.

The FSC Project does not occur in an area of high karst sensitivity and none of FSC's HDDs would encounter carbonate bedrock. However, because localized subsidence could occur in conjunction with FSC's HDD installations, we are recommending that FSC file an updated Karst Mitigation Plan that specifies how FSC would monitor for and mitigate any subsidence attributable to HDD activities.

Public Safety

We received numerous comments expressing concern about the SMP Project's impact on public safety. All of the proposed facilities would be designed, constructed, operated, and maintained to meet or exceed the Pipeline and Hazardous Materials Safety Administration's Minimum Federal Safety Standards in 49 CFR 192 and other applicable federal and state regulations. These regulations include specifications for material selection and qualifications; minimum design requirements; and protection of the pipeline from internal, external, and atmospheric corrosion. In addition to meeting all federal design standards, the Applicants would also regularly monitor their facilities and perform routine inspections to ensure facility integrity. These efforts would assist in the early detection of leaks and would reduce the likelihood of a pipeline incident. Additionally, based on an extensive review of publicly available information, we have found no evidence that karst hazards such as sinkhole development pose a safety or integrity risk to pipeline facilities. For these reasons, we conclude that constructing and operating the SMP Project would not significantly affect public safety.

Air Quality and Noise

Constructing the SMP Project facilities would result in intermittent and short-term increases in air pollutant emissions; however, such emissions would be temporary and localized, and are not expected to cause or contribute to a violation of applicable air quality standards. We have reviewed the Applicants' measures to control fugitive dust and minimize equipment emissions during construction and find them acceptable.

Based on the estimated emissions from operating the new and modified compressor stations, the SMP Project would result in compliance with the National Ambient Air Quality Standards (NAAQS), which are protective of human health, including children, the elderly, and sensitive populations. However, we are recommending that Transco revise its air emission analysis to include existing compressor station emissions to verify that emissions of the modified compressor stations remain in compliance with the NAAQS in the area near the compressor station sites.

Noise would be generated during construction of the pipeline and aboveground facilities. However, this noise would be highly localized and attenuate quickly as the distance from the noise source increases. Construction activities in any one area would typically last from several days to several weeks on an intermittent basis. Construction equipment would be operated on an as-needed basis during this period, and would not be expected to exceed the FERC's noise standard of 55 decibels on a A-weighted scale – day/night average at the nearest noise sensitive areas. While HDD activities may exceed FERC's standard at the nearby noise sensitive areas, the companies would implement measures to reduce HDD noise. To ensure noise is reduce appropriately, we are also recommending that during construction, FSC document and file measures that were taken to minimize HDD noise.

New and modified compressor stations would generate noise on a continuous basis once operating. We reviewed the compressor station noise analyses and conclude that, if properly implemented, the Applicants' proposed noise control measures would ensure that noise attributable to the compressor stations would be less than the FERC noise standard at nearby noise sensitive areas. To ensure that the actual noise levels produced at the aboveground facilities are not significant, we are recommending that Transco and Sabal Trail submit operational noise surveys and add noise mitigation, as necessary, until noise levels are below our acceptable thresholds.

Socioeconomics

Numerous commentors in Georgia and Florida stated the SMP Project would not benefit their communities. Whereas a specific location may not benefit from direct connection to a particular interstate natural gas transmission pipeline, interstate transmission pipelines are necessary to transport natural gas from source areas to demand centers, and the end use by various customers including electric generation facilities, industrial plants, and local distribution companies extend benefits on a regional scale. For example, states that do not produce appreciable natural gas, including Georgia and Florida, benefit substantially from the nation's interstate natural gas transmission system as indicated by U.S. Department of Energy, Energy Information Administration data which indicates that Georgia and Florida consumed 626 billion cubic feet and 1.2 trillion cubic feet of natural gas, respectively, in 2013.

We received numerous comments concerning the SMP Project's impacts on property values. The effect that a pipeline easement may have on a property value is a damage-related issue that would be negotiated between the landowner and the Applicants during the easement acquisition process, which is designed to provide fair compensation to the landowner for the company's right to use the property for pipeline construction and operation. If easement negotiations are unsuccessful and the Commission issues Certificates for the SMP Project, fair compensation for the pipeline easement would be determined

through legal proceedings and the eminent domain process. It is possible that certain prospective home-buyers may find the pipeline or an aboveground facility to be a detractor and it could influence a potential buyer to not purchase a nearby property. However, each potential purchaser has different criteria and differing values or considerations for purchasing land. With some exceptions, such as building structures within the pipeline easement or planting trees, once a pipeline is buried, it does not preclude future use. Based on literature reviews and discussions with real estate appraisers, we have not found sufficient evidence to demonstrate that the SMP Project would result in decreased property values.

We received numerous comments regarding the potential for the Sabal Trail Project to adversely impact environmental justice populations in Dougherty County, Georgia, particularly near the City of Albany, Georgia. As result of stakeholder input, Sabal Trail changed its proposed location for the Albany Compressor Station in June 2015. While operation of the Albany Compressor Station would result in long term air quality emissions in the vicinity of the station, we conclude that the compressor station would not result in a significant impact on air quality. The proposed location of the site would provide adequate visual screening from public view and would result in noise levels that are in compliance with FERC standards. Where environmental justice populations would be crossed by or are adjacent to the proposed pipeline, we determined that the project would not result in high and adverse impacts, and would not disproportionally impact these populations.

Wetlands and Waterbodies

We received comments that pipeline construction would impact waterbodies and wetlands. Constructing the SMP Project would require 699 waterbody crossings, including 258 perennial, 309 intermittent, 98 ephemeral, and 34 open water waterbodies. Waterbodies would be crossed in accordance with the Applicants' construction plans which outline common industry construction methods and are generally consistent with the FERC's Wetland and Waterbody Construction and Mitigation Procedures. Seventeen waterbodies, many of which are sensitive or contain threatened and endangered species would be crossed via HDD, including major waterbodies such as the Tallapoosa, Chattahoochee, Flint, Suwannee, Santa Fe, Withlacoochee, and Kissimmee rivers. An HDD crossing places the pipeline below the waterbody and avoids direct impacts on water quality and aquatic life.

Constructing the SMP Project would impact 940.2 acres of wetlands, including 610.2 acres of forested wetlands, 46.8 acres of shrub-scrub wetlands, and 283.2 acres of emergent wetlands. The majority of affected wetlands would be allowed to return to pre-construction conditions following construction. The Applicants would maintain 214.2 acres of previously forested wetlands in a scrub-shrub or herbaceous state While temporary impacts on herbaceous and scrub-shrub wetlands would be expected to recover fairly quickly, we recognize that impacts on forested wetlands would be long-term in the temporary work areas and permanent in the maintained pipeline easement. The Applicants are working with the USACE and the EPA to determine wetland mitigation requirements and we are recommending that they file copies of their final wetland mitigation plans and documentation of USACE approval of the plans. Based on comments, Sabal Trail adopted route variations to avoid and minimize impacts on the Green Swamp and forested wetlands adjacent to the Happy Trails neighborhood.

Based on the avoidance and minimization measures developed by the Applicants, we conclude that surface water and wetland impacts would be effectively minimized or mitigated, and would be largely temporary in duration. Construction and operation-related impacts on wetlands would be further minimized or mitigated by compliance with the conditions imposed by the USACE and state water regulatory agencies.

ALTERNATIVES EVALUATED

We evaluated the no-action alternative, and while this alternative would eliminate the environmental impacts identified in this EIS, the end-use markets would not be provided the SMP Project's 1.1 Bcf/d of natural gas transmission service. Several system alternatives were evaluated including the use of other existing natural gas transmission systems, additional compression/looping, a domestic liquefied natural gas seaborne transmission system, and trucks and/or rail. Other existing natural gas transmission systems in the SMP Project area lack the available capacity to meet the purpose of the project. Modifying these systems could result in impacts similar to those of the proposed project or would be economically impractical. Additional compression/looping would not offer a significant environmental advantage over the proposed action. The use of an alternative transportation system (e.g., liquefied natural gas ship carrier, truck, rail) would be economically impractical. We determined that the use of a system alternative was not preferable to the proposed action.

We evaluated 12 major pipeline route alternatives, including routes that would follow existing rights-of-way and cross the Gulf of Mexico. We also evaluated 20 route variations and reviewed over 300 variations considered by the Applicants. Furthermore, we evaluated numerous aboveground facility (compressor station) locations including several alternatives for the proposed Albany Compressor Station. Increasing collocation with existing rights-of-way, avoiding the State of Georgia, concern about construction through karst sensitive terrain, impacts on affected landowners and communities, environmental concerns, and future development were all reasons for evaluating alternatives and variations. In evaluating these alternatives and variations we compared a number of factors including (but not limited to) total length, acres affected, wetlands and waterbodies crossed, the number of residences within 50 feet of workspace, environmental justice populations, and high consequence areas. We also considered construction constraints, degree of nearby development, traffic impacts, and economic practicality. Based on our evaluations, we determined that the major pipeline route alternatives do not offer a significant environmental advantage when compared to the proposed route or would not be economically practical; and therefore, are not preferable to the proposed action. We also determined with one exception that the route variations evaluated do not offer significant environmental advantages when compared to the corresponding segments of the proposed pipeline route; and therefore, are not preferable to the proposed action. We are recommending one minor route variation along the Sabal Trail Project that would avoid existing construction constraints and reduce the potential to impede future development. Lastly, we determined that the alternative aboveground facility locations evaluated do not offer significant environmental advantages when compared to the proposed locations and are not preferable to the proposed action.

MAJOR CONCLUSIONS

As described previously, we conclude that constructing and operating the SMP Project would result in temporary and permanent impacts on the environment. We also conclude that with the Applicants' implementation of their respective impact avoidance, minimization, and mitigation measures as well as their adherence to our recommendations to further avoid, minimize, and mitigate these impacts, the SMP Project would not result in a significant impact on the environment. Consequently, we are recommending that our recommendations as identified in section 5.0 be attached as conditions to any authorizations issued by the Commission.

These conclusions are based on our independent review of the SMP Project; information provided by the Applicants, affected landowners, and concerned citizens; and our consultations with federal and state regulatory agencies. Although many factors were considered during our environmental review, the principal reasons for these conclusions are:

- each Applicant would minimize impacts on the natural and human environments during construction and operation of its facilities by implementing the numerous measures described in their respective construction and restoration plans;

- the majority of the proposed facilities would be collocated within or adjacent to existing rights-of-way;

- all of the proposed facilities would be constructed and operated in compliance with federal standards, requirements, and thresholds including U.S. Department of Transportation materials requirements and EPA air emissions standards;

- a high level of public participation was achieved during the pre-filing and post application review processes and helped inform our analysis;

- environmental justice populations would not be disproportionately affected by the SMP Project;

- the HDD crossing method would be utilized for most major and sensitive waterbodies, the majority of other waterbodies would be crossed using dry crossing methods, and the Applicants would be required to obtain applicable permits and provide mitigation for unavoidable impacts on waterbodies and wetlands through coordination with the USACE and state regulatory agencies;

- we would complete Endangered Species Act consultations with the FWS prior to allowing any construction to begin;

- we would complete the process of complying with section 106 of the National Historic Preservation Act and implementing the regulations at 36 CFR 800 prior to allowing any construction to begin; and

- environmental inspection and monitoring programs would ensure compliance with all construction and mitigation measures that become conditions of the FERC authorizations and other approvals.

1.0 INTRODUCTION

The Federal Energy Regulatory Commission (FERC or Commission) is responsible for deciding whether to authorize the construction of interstate natural gas transmission pipeline facilities. As part of its decision-making process, the Commission is required by the National Environmental Policy Act (NEPA) and its implementing regulations to consider the environmental impacts resulting from the construction and operation of a proposed project. The Commission's environmental staff has prepared this draft Environmental Impact Statement (EIS) to assess the potential environmental impacts that could result from the construction and operation of three separate, but related, interstate natural gas transmission pipelines and associated facilities proposed by Transcontinental Gas Pipe Line Company, LLC (Transco); Sabal Trail Transmission, LLC (Sabal Trail);[1] and Florida Southeast Connection, LLC (FSC). Transco would construct and operate the Hillabee Expansion Project; Sabal Trail would construct and operate the Sabal Trail Project; and FSC would construct and operate the FSC Project. Throughout this EIS these three companies are collectively referred to as the Applicants, and the three projects are collectively referred to as the Southeast Market Pipelines Project (SMP Project).

On September 26, 2014, FSC filed an application with the FERC in Docket No. CP14-554-000 pursuant to section 7(c) of the Natural Gas Act (NGA) and Parts 157 and 284 of the Commission's regulations. FSC is seeking a Certificate of Public Convenience and Necessity (Certificate) to construct, own, and operate a natural gas pipeline and related facilities, and a Blanket Certificate for limited future activities and services on the new facilities. The FSC Project would involve constructing and operating about 77.1 miles of 36-inch-diameter pipeline; 49.3 miles of 30-inch-diameter pipeline; and mainline valves (MLVs),[2] pig[3] launchers and receivers, meter and regulating (M&R) stations,[4] and appurtenant facilities in Florida. Construction would occur in one phase between 2016 and 2017. The FSC Project would connect with the Sabal Trail Project at the Central Florida Hub (CFH)[5] and would have an initial capacity of up to 640 million cubic feet per day (MMcfd).

On November 18, 2014, the Transco filed an application with the FERC in Docket No. CP15-16-000 pursuant to section 7(c) of the NGA and Part 157 of the Commission's regulations. Transco is seeking a Certificate to construct and operate about 43.5 miles of natural gas transmission pipeline and associated facilities in Alabama, and to abandon by lease the capacity created by the construction of these facilities. The Hillabee Expansion Project would involve construction and operation of about 43.5 miles of pipeline loop[6] in eight segments; one new natural gas fired-compressor station; modifications at three existing compressor stations; and MLVs, pig launchers and receivers, and appurtenant facilities. Transco's facilities would be constructed in three phases between 2016 and 2021 and would provide the Sabal Trial Project with up to 1.1 billion cubic feet per day (Bcf/d) of natural gas capacity upon completion.

On November 21, 2014, Sabal Trail filed an application with the FERC in Docket No. CP15-17-000 pursuant to section 7(c) of the NGA and Parts 157 and 284 of the Commission's regulations. Sabal

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1 Sabal Trail is a joint venture between affiliates of Spectra Energy Partners, LP, NextEra Energy, Inc. (NextEra), and Duke Energy Florida; FSC is a subsidiary of NextEra.

2 A mainline valve is an aboveground facility that is capable of controlling the flow of gas in a pipeline.

3 A pipeline pig is a device used to clean or inspect a pipeline. A pig launcher/receiver is an aboveground facility where pigs are inserted or retrieved from the pipeline.

4 A meter and regulating station is an aboveground facility that contains the equipment necessary to measure the volume of gas flowing in a pipeline.

5 A hub is a location where two or more pipeline systems interconnect and which offers administrative services that facilitate the movement and/or transfer of gas.

6 A loop is a segment of pipe that is installed adjacent to an existing pipeline and connected to it at both ends. A loop generally allows more gas to move through the system.

Trail is seeking a Certificate to construct, own, and operate a natural gas pipeline and related facilities, and to lease the natural gas capacity that would be created by the Hillabee Expansion Project. Sabal Trail also requests a Blanket Certificate for limited future activities and services on the new facilities. The Sabal Trail Project would involve construction and operation of about 480.9 miles of 36-inch-diameter Mainline pipeline in Alabama, Georgia, and Florida; 13.1 miles of 36-inch-diameter lateral pipeline (the Hunters Creek Line (HCL)) and 21.5 miles of 24-inch-diameter lateral pipeline (the Citrus County Line (CCL)) in Florida; five new natural gas-fired compressor stations; and MLVs, pig launchers and receivers, M&R stations, and appurtenant facilities. Sabal Trail would also construct and operate the CFH at the termination of the Mainline pipeline in Osceola County, Florida. Sabal Trail's facilities would be constructed in three phases between 2016 and 2021, with the second and third phases involving only additional compression facilities. The Sabal Trail Project would have a design capacity of up to 1.1 Bcf/d upon completion.

A detailed description of the three projects is presented in section 2.0. Figure 1-1 provides an overview map of the SMP Project.

1.1 PROJECT PURPOSE AND NEED

1.1.1 Project Purpose

As stated by the Applicants and as discussed below, the Hillabee Expansion Project, Sabal Trail Project, and FSC Project would collectively help to meet the growing demand for natural gas by the electric generation, distribution, and end use markets in Florida and the Southeast United States.

For background, the Florida Public Service Commission (FPSC) requires electric utility companies with a minimum existing electric generating capacity of 250 megawatts (MW) to conduct long range planning to ensure that future electric generation needs are met. This requirement applies to 11 investor-owned, municipal, or rural electric cooperative utilities, including Florida Power & Light Company (FPL), a subsidiary of NextEra Energy, Inc. (NextEra). After a public review and approval process, the FPSC concluded that increased gas transportation infrastructure was needed to meet FPL's future electric generating needs, and authorized FPL to issue a Request for Proposal (RFP) for the new natural gas transportation capacity. The RFP was issued in December, 2012 and invited proposals to construct and operate a new, onshore natural gas transmission pipeline that would originate near Transco's Compressor Station 85 in Choctaw County, Alabama and extend to FPL's existing Martin Clean Energy electric generating plant (Martin Plant) in Martin County, Florida. The Compressor Station 85 area was identified as the project receipt point because Transco's system interconnects with other interstate transmission systems operated by Midcontinent Express Pipeline, LLC and Gulf South Pipeline Company, LP at Compressor Station 85, providing shippers with access to multiple, diverse, onshore and offshore natural gas supply areas. The RFP also called for the creation of the CFH in Osceola County, Florida. To enhance reliability and cost competitiveness, the RFP further indicated a preference that the new pipeline system be geographically separate from existing interstate pipeline systems that currently serve Florida.

The FPSC evaluated four proposals received by FPL, including for cost effectiveness, and the Applicants were selected as the winning bidders in mid-2013. The Applicants have since entered into long-term precedent agreements with two shippers, FPL and Duke Energy Florida (DEF) for 93 percent of the SMP Project capacity upon full build-out. To meet shipper requirements, transportation service would begin in May 2017 and increase through 2021 through phased compression additions.

0 35 70 Miles

N W E S

For Environmental Review Purposes Only

Figure 1-1
Southeast Market Pipelines Project Overview

- Proposed New/Modified Compressor Station
- Proposed Hillabee Expansion Project
- Proposed Sabal Trail Project
- Proposed Florida Southeast Connection Project

Source: Z:\Clients\Q_T\Spectra\SMP\Sabal_Trail\ArcGIS\20150104\Overview_Map\SMP_Overview_All_11_Few_Labels.mxd

Date: (8/12/2015)

Some commenters expressed concern that FPL limited the range of possibilities to meet the electric generation needs of its customers through the RFP process. The Commission independently evaluates proposals brought before it from the natural gas transmission industry, and these proposals identify an applicant's preferred facilities and route to transport natural gas from a specified source area to a specified demand center or end user based on the applicant's perceived market need. The SMP Project Applicants have done so in their proposals. However, as required by NEPA, the Commission evaluates a full range of practical and feasible alternatives to applicant proposals. Section 4.0 discusses system alternatives, and route alternatives to the proposed SMP Project, including numerous alternatives identified by the public.

We[7] also received comments asserting that the ultimate purpose of the SMP Project is to export natural gas overseas as liquefied natural gas (LNG). Whereas various proposals to site LNG liquefaction and export facilities are before the Commission and the U.S. Department of Energy (DOE), the Applicants do not propose to serve any LNG export facilities and the project shippers filed comments restating that the gas for which they have contracted on the SMP Project is needed to serve their domestic electric loads.

1.1.1.1 Hillabee Expansion Project

Transco operates an interstate natural gas transmission system that begins in the Texas Gulf Coast region and extends easterly through Louisiana, Mississippi, Alabama, and Georgia, and then northerly through the mid-Atlantic states to southern New England. The Hillabee Expansion Project would transport all of the incremental capacity of the SMP Project from the receipt points at Compressor Station 85 to the proposed interconnection with the Sabal Trail Project in Tallapoosa County, Alabama. Transco and Sabal Trail have entered into a 25-year lease agreement for 100 percent of the capacity created by the Hillabee Expansion Project.

1.1.1.2 Sabal Trail Project

The Sabal Trail Project would transport the incremental capacity of the SMP Project from the interconnection with the Hillabee Expansion Project to the contracted delivery points with DEF and FSC in Florida. Sabal Trail would also create the CFH by interconnecting with the existing Florida Gas Transmission Company, LLC (FGT) system, the existing Gulfstream Natural Gas System, LLC (Gulfstream) system, and the FSC Project at the proposed Reunion Compressor Station in Osceola County. Sabal Trail states that the CFH is intended to serve as a new natural gas trading point with the potential for increased market competition to result in economic benefit to end users.

Sabal Trail has executed 25-year precedent agreements to provide 600 MMcfd to the FSC Project, and 400 MMcfd to DEF through the CCL. DEF is planning a 1,640 MW combined-cycle electric generating plant in Citrus County, Florida, with an initial in-service date in spring, 2018. Sabal Trail also continues to seek other potential shippers and end-users in the region, including the Municipal Gas Authority of Georgia (MGAG). To facilitate MGAG members' future access to gas supplies, Sabal Trail agreed to install side-tap valves on the proposed Mainline pipeline in Dougherty and Mitchell Counties, Georgia.

Sabal Trail further states that a new, onshore interstate natural gas transmission system would help to meet the growing demand for electric generation in Florida because the existing FGT and Gulfstream systems are at or near full subscription and because Florida has no significant natural gas storage or production. Sabal Trail also asserts that the project would provide customers in the Southeast United States with increased access to more diverse natural gas supplies including multiple shale gas producing regions and conventional onshore and offshore supply areas; lessen the region's vulnerability to supply disruptions

[7] The pronouns "we," "us," and "our" refer to the environmental staff of the Federal Energy Regulatory Commission's Office of Energy Projects.

that can result from severe weather in the Gulf of Mexico; improve the reliability of natural gas transmission and associated electric generation should other disruptions occur on either of the existing systems; and create additional opportunities for new gas-fired electric generation or other users to be developed in areas of Florida not currently served by FGT or Gulfstream. Sabal Trail also contends that a new interstate transmission system would provide economic benefit to end users by creating greater competition for natural gas transportation services and to affected counties and local governments through job creation and tax revenues.

1.1.1.3 FSC Project

The FSC Project would transport natural gas from the CFH to FPL's existing natural gas-fired Martin Plant in Martin County, Florida. FSC further states that the FSC Project would help meet the natural gas fuel supply needs of electric generators and other natural gas users in Florida; enhance the reliability of Florida's natural gas transmission grid; allow access to more diverse natural gas supplies; benefit affected communities through job creation and tax revenues; allow FPL to meet the U.S. Environmental Protection Agency's (EPA's) proposed goals of reducing carbon dioxide (CO_2) emission rate in Florida by approximately 40 percent by 2030 through increased use of natural gas to generate electricity; and allow future electric generation sites to be served with minimal added gas transmission infrastructure as well as the potential expansion of natural gas service to areas currently lacking infrastructure.

FSC has entered into a binding precedent agreement with FPL for 400 MMcfd of natural gas capacity beginning in May 2017, increasing to 600 MMcfd in May 2020.

1.1.2 Project Need

Section 7(b) of the NGA specifies that no natural gas company shall abandon any portion of its facilities subject to the Commission's jurisdiction without the Commission first finding that the abandonment will not negatively affect the present or future public convenience and necessity. Under section 7(c) of the NGA, the Commission determines whether interstate natural gas transportation facilities are in the public convenience and necessity and, if so, grants a Certificate 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.

We received comments questioning the need for additional natural gas in Florida. As discussed above, the FPSC concluded that additional natural gas transportation capacity is necessary to help meet FPL's future electric generation needs, and the Applicants have entered into long-term precedent agreements for 93 percent of the project capacity. Sabal Trail also references various sources that project increased natural gas demand in Florida. The Florida Reliability Reporting Council reports that natural gas-fired electric generation grew from less than 40 percent of Florida's total electric generation in 2007 to approximately 65 percent in 2012, and projects an approximately 13 percent increase in the electric generation sector from 2013 to 2022. The DOE Energy Information Administration (EIA) indicates that natural gas demand in Florida increased by 24 percent during the past 5 years and anticipates continued increases in natural gas consumption in Florida. Sabal Trail also references the EPA Clean Power Plan, which projects increases in natural gas consumption in Florida of 18.5 percent by 2025 and 55.8 percent by 2050.

We received many comments from the Dougherty County, Georgia area and in localized areas of Florida questioning the need for the SMP Project on the grounds that it would not benefit the state of Georgia or the local communities in which the proposed facilities would be located. As indicated in section 3.10 of this EIS, Dougherty County would receive some economic stimulus from construction of the pipeline. In addition, *ad valorem* property tax benefits to Dougherty County are estimated to exceed $88

million over the life of the project. Also, as previously mentioned, Sabal Trail agreed to install side-tap valves on the proposed Mainline pipeline in Dougherty County, which would facilitate a future source of natural gas to the county. States that do not produce appreciable natural gas, including Georgia and Florida, benefit substantially from the nation's interstate natural gas transmission system as indicated by EIA data, which indicates that Georgia and Florida consumed 626 billion cubic feet and 1.2 trillion cubic feet of natural gas, respectively, in 2013 (EIA, 2015).

1.2 PURPOSE AND SCOPE OF THIS EIS

Our principal purposes in preparing this EIS were to:

1. identify and assess potential impacts on the natural and human environment that would result from constructing and operating the SMP Project;

2. describe and evaluate reasonable alternatives to the SMP Project that would avoid or minimize adverse impacts on the environment;

3. identify and recommend specific mitigation measures, as necessary, to avoid or further reduce/minimize environmental impacts; and

4. encourage and facilitate involvement by the public and interested agencies in the environmental review process.

The environmental topics addressed in this EIS include geology; soils; groundwater and surface water; wetlands; vegetation; fish and wildlife; threatened, endangered, and other special-status species; land use and recreation; visual resources; socioeconomics including environmental justice; cultural resources; air quality and noise; reliability and safety; and cumulative impacts. This EIS describes the affected environment as it currently exists, addresses the environmental consequences of the SMP Project, and compares the SMP Project's potential impacts to those of the alternatives. The EIS also presents our conclusions and recommended mitigation measures.

1.2.1 Federal Energy Regulatory Commission

The Energy Policy Act of 2005 established the FERC as the lead federal agency responsible for evaluating applications to construct and operate interstate natural gas pipeline facilities. Certificates are issued under section 7(c) of the NGA and Parts 157 and 284 of the Commission's regulations if the Commission determines a project is required by the public convenience and necessity.

As the lead federal agency, we prepared this EIS to assess the environmental impacts that could result from constructing and operating the SMP Project. This document was prepared in compliance with the requirements of NEPA, CEQ regulations implementing procedural provisions of NEPA in Title 40 Code of Federal Regulations (CFR) Part 1500-1508, and the FERC's regulations implementing NEPA in 18 CFR 380. As applicable, this EIS is also intended to fulfill the cooperating federal agency's NEPA obligations (see section 1.2.2).

The Commission will consider the findings contained herein as well as non-environmental issues in its review of the Applicants' applications. Approvals will be granted only if the FERC finds that the evidence produced on technical competence, financing, rates, market demand, gas supply, environmental impact, long-term feasibility, and other issues demonstrates that the SMP Project is required by the public convenience and necessity. Environmental impact analyses and mitigation development are important factors in the overall public interest determination.

The FERC may impose conditions on any Certificate granted for the SMP Project. These conditions could include requirements and mitigation measures identified in this EIS to minimize environmental impacts associated with the SMP Project (see section 5.2). We will recommend to the Commission that these requirements and mitigation measures (indicated with bold type in the text) be included as conditions to any approving Certificate issued for the SMP Project. Further, the Applicants would be required to implement the construction procedures and mitigation measures it has proposed in its filings with the FERC, including those in appendices of this EIS, unless specifically modified by other Certificate conditions.

Other regulatory agencies also may include terms and conditions or stipulations as part of their permits or approvals. While there would be jurisdictional differences between the FERC's and other agencies' conditions, the environmental inspection program for the SMP Project would address all environmental or construction-related conditions or other permit requirements placed on the SMP Project by all regulatory agencies.

Some commenters expressed concern that the scope of our review was limited by the FPSC RFP process. The Commission does not design and route interstate natural gas transmission facilities. Rather, the Commission independently evaluates proposals brought before it from the natural gas transmission industry, and these proposals identify an applicant's preferred facilities and route to transport natural gas from a specified source area to a specified demand center or end user based on the applicant's perceived market need. The SMP Project Applicants have done so in their proposals. However, as required by NEPA, the Commission evaluates a full range of practical and feasible alternatives to applicant proposals. Section 4.0 discusses other energy sources, system alternatives, and route alternatives to the proposed SMP Project, including numerous alternatives identified by the public.

We also received comments recommending that the potential impacts associated with natural gas development activities, including production of natural gas from shale formations, be evaluated during our review. Our authority under the NGA relates only to natural gas facilities that are involved in interstate commerce. The permitting of oil and gas production facilities is under the jurisdiction of various state and federal agencies where those facilities are located. Thus, the facilities associated with the production of natural gas are not under FERC jurisdiction and are not analyzed in this EIS.

1.2.2 U.S. Army Corps of Engineers

The SMP Project crosses areas within the Jacksonville, Savannah, and Mobile Districts of the U.S. Army Corps of Engineers (USACE), with the Jacksonville District being the lead District for the SMP Project. The USACE has jurisdictional authority pursuant to section 404 of the Clean Water Act (CWA), which governs the discharge of dredged or fill material into waters of the United States; section 10 of the Rivers and Harbors Act (RHA), which regulates any work or structures that potentially affect the navigable capacity of navigable waters of the United States; and section 14 of the RHA which regulates the temporary occupation of water-related structures constructed by the United States.

The USACE elected to be a cooperating agency in the preparation of this EIS in accordance with NEPA and CEQ regulations in 40 CFR 1501.6. A cooperating agency is another agency participating in the NEPA process that has jurisdiction by law over all or part of the project and/or one that has special expertise with respect to environmental issues. Cooperating agencies are intended to have a significant role in shaping plans and environmental analyses according to their particular jurisdiction and expertise. As a cooperating agency, the USACE would adopt the EIS per 40 CFR 1506.3 if, after an independent review of the document, it concludes that its comments and suggestions have been satisfied.

As an element of its review, the USACE must consider whether the proposed projects represent the least environmentally damaging practicable alternative pursuant to the CWA section 404(b)(1) guidelines. The term practicable means available and capable of being done after taking into consideration cost, existing technology, and logistics in light of the overall purpose of the SMP Project.

Although this document addresses environmental impacts associated with the proposed SMP Project as it relates to section 404 of the CWA and sections 10 and 14 of the RHA, it does not serve as a public notice for any of the USACE's permits.

1.2.3 Other Contributing Agencies

During the review process, we held frequent teleconferences and/or meetings with interested federal and state permitting agencies and Native American tribes to discuss the SMP Project, the FERC's environmental review process, and issues that should be addressed in the EIS. Federal agency meeting and conference call attendees periodically included the USACE; EPA; U.S. Fish and Wildlife Service (FWS); U.S. Department of Transportation (DOT); U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service (NMFS); U.S. National Park Service (NPS); and U.S. Forest Service (FS). State agency participants included the Alabama Department of Environmental Management (ADEM), Alabama Department of Conservation and Natural Resources (ADCNR), Alabama Historical Commission (AHC), Georgia Department of Natural Resources (GDNR), the office of the Georgia State Geologist, Georgia Historical Preservation Division (GHPD), Florida Department of Environmental Protection (FDEP), Florida Geological Survey (FGS), Florida Fish and Wildlife Conservation Commission (FFWCC), Florida Department of Transportation (FDOT), Florida Department of State (FDOS), and Florida Division of Historical Resources (FDHR). Various Florida Regional Planning Commissions also participated in teleconferences or meetings with us, as did representatives from Florida Water Management Districts (WMD) including the Suwannee River WMD, St. John's WMD, Southwest Florida WMD, and South Florida WMD. We also met with local government representatives including from Dougherty and Colquitt Counties, Georgia; Gilchrist and Lake Counties, Florida; and the City of Albany, Georgia.

1.3 PUBLIC REVIEW AND COMMENT

On October 4, 2013, Sabal Trail and FSC filed requests to implement the Commission's Pre-filing Process for the Sabal Trail Project and FSC Project, and on November 4, 2013, Transco requested use of the Pre-filing Process for the Hillabee Expansion Project. The FERC established the Pre-filing Process to encourage early involvement of interested stakeholders, facilitate interagency cooperation, and identify and resolve environmental issues before an application is filed with the FERC and facility locations are formally proposed. The FERC granted Sabal Trail's and FSC's requests to use the Pre-filing Process on October 16, 2013, and established pre-filing Docket Nos. PF14-1-000 and PF14-2-000 for their projects, respectively. Similarly, the FERC granted Transco's request to use the Pre-filing Process on November 8, 2013 and established pre-filing Docket No. PF14-6-000.

Prior to and during the Pre-filing Process, the Applicants contacted federal, state, and local agencies to inform them about their respective projects and discuss project-specific issues and concerns. Each applicant also developed a Public and Agency Participation Plan to facilitate stakeholder communications and make information available to the public and regulatory agencies. The Public and Agency Participation Plans established a single point of contact within each Applicant's organization for the public or agencies to call or e-mail with questions or concerns; a publicly accessible website with information about their projects (including maps) and project status; regular newsletter mailings for affected landowners and other interested parties; and a schedule for public open house meetings in the vicinity of the SMP Project.

The Applicants initiated contact with potentially affected landowners prior to entering the FERC Pre-filing Process. These initial contacts were in the form of a letter describing each Applicant's project and seeking permission to conduct environmental and cultural resource surveys on landowner property.

As part of the Pre-filing Process, the Applicants hosted 31 public open house meetings in the SMP Project area between November 2013 and January 2014. More specifically, Transco held 4 open houses in Alabama; Sabal Trail held 3 open houses in Alabama, 6 open houses in Georgia, and 12 open houses in Florida; and FSC held 6 open houses in Florida. The purpose of the public open house meetings was to inform landowners, government officials, and the general public about the SMP Project components and invite them to ask questions and express their concerns. The FERC staff participated in the meetings and provided information regarding NEPA and the FERC's environmental review process.

On February 18, 2014, the FERC issued a *Notice of Intent to Prepare an Environmental Impact Statement for the Planned Southeast Market Pipelines Project, Request for Comments on Environmental Issues, and Notice of Public Scoping Meetings* (NOI) that explained the Pre-filing Process; generally described the planned SMP Project; provided a preliminary list of issues identified by the FERC staff; requested written comments from the public; announced the time and location of 13 public scoping comment meetings; and asked other federal, state, and local agencies with jurisdiction and/or special expertise to cooperate with the FERC in the preparation of the EIS. The NOI was sent to 5,893 parties, including federal, state, and local agencies; elected officials; environmental and public interest groups; Native American tribes; potentially affected landowners; local libraries and newspapers; and other stakeholders who had indicated an interest in the SMP Project. The NOI was also published in the Federal Register on February 26, 2014.[8] Issuance of the NOI opened a 60-day formal scoping period for filing written comments on the SMP Project; however, all relevant comments we receive prior to issuance of the final EIS will be considered.

In March 2014, the FERC held 13 public scoping meetings during the formal scoping period to provide the public with the opportunity to learn more about the SMP Project and present oral comments on environmental issues that should be addressed in the EIS. The scoping meetings were held in Butler, Alexander City, and Seale, Alabama; Moultrie, Albany, and Valdosta, Georgia; and Live Oak, Bell, Dunnellon, Clermont, Kissimmee, Lake Wales, and Okeechobee, Florida. Approximately 955 people attended the public scoping meetings, including representatives from the FERC, cooperating agencies, and the Applicants. A total of 199 attendees provided oral comments at the meetings. Transcripts of each scoping meeting and all written comments filed with the FERC are part of the public record for the SMP Project and are available for viewing on the FERC Internet website (www.ferc.gov).[9]

On October 15, 2014, the FERC issued a *Supplemental Notice of Intent to Prepare an Environmental Impact Statement for the Planned Southeast Market Pipelines Project and Request for Comments on Environmental Issues Related to New Alternatives Under Consideration* that described four route alternatives for the Sabal Trail Project and alternative locations for Sabal Trail's proposed Albany Compressor Station in Dougherty County, Alabama. The supplemental NOI was sent to 898 parties, including federal, state, and local agencies; elected officials; environmental and public interest groups; Native American tribes; potentially affected landowners; local libraries and newspapers; and other

[8] 79 Fed. Reg. 10,793 (2014).

[9] Public meeting transcripts and comment letters are available for viewing on the FERC Internet website (http://www.ferc.gov). Using the "eLibrary" link, select "General Search" from the eLibrary menu and enter the docket number excluding the last three digits in the "Docket No." field (i.e., PF14-1 or CP15-17 for the Sabal Trail Project; PF14-2 or CP15-16 for the Florida Southeast Connection Project; or PF14-6 or CP14-554 for the Hillabee Expansion Project). Select an appropriate date range.

stakeholders who had indicated an interest in the area if the potential alternatives. The supplemental NOI was also published in the Federal Register on October 22, 2014.[10] Issuance of the supplemental NOI opened a 30-day formal comment period for filing written comments on the alternatives under consideration. In conjunction with the potential alternatives, the FERC staff attended public open houses held by Sabal Trail in Albany, Georgia and Jasper, Florida on October 20 and 21, 2014, respectively.

On June 19, 2015, we issued a second *Supplemental Notice of Intent to Prepare an Environmental Impact Statement for the Proposed Southeast Market Pipelines Project and Request for Comments on Environmental Issues Related to the Newly Proposed Albany Compressor Station Location* which described a new, proposed location for the Albany Compressor Station in Dougherty County, Georgia. This supplemental NOI was sent to 167 parties, including federal, state, and local agencies; elected officials; Native American tribes; potentially affected landowners; and local libraries and newspapers. The supplemental NOI was also published in the Federal Register on June 26, 2015.[11] Issuance of the supplemental NOI opened a 30-day formal comment period for filing written comments on the newly proposed compressor station location.

In addition to our formal notices, on September 9, 2014 and February 24, 2015, we issued project newsletters to provide stakeholders current information on FERC's environmental review process and instructions on how comments could be filed with the Commission.

To assist in our review, we visited certain areas that could be affected by the SMP Project and met with various groups and landowners. We also inspected the remainder of the SMP Project area via automobile and helicopter in conjunction with open houses, public scoping meetings, and other meetings.

On October 10, 2014, the FERC issued a *Notice of Application* (NOA) announcing that FSC had filed its application with the FERC on September 26, 2014. The NOA noted that, because the environmental review of the FSC Project must also include the Sabal Trail Project and Hillabee Expansion Project, the Commission could not begin preparation of the EIS until after Sabal Trail and Transco filed their applications. As noted in section 1.0, Transco and Sabal Trail filed their applications with the FERC on November 18 and 21, 2014, respectively, and the FERC issued NOAs announcing each application on December 3, 2014.

We received approximately 1,100 written comment letters and form letters during the Pre-filing Process, formal scoping period, and throughout preparation of the EIS. Written comments were received from 5 federal agencies (USACE, EPA, FWS, USFS, and NPS); 7 state agencies (Georgia Department of Agriculture, GDNR, Florida Department of Agriculture and Consumer Services, FDEP, FFWCC, FDOT, and FDOS); 4 U.S. Senators (Senator Saxby Chambliss (Georgia), former Senator Bob Graham (Florida), Senator Marco Rubio (Florida), and Senator Bill Nelson (Florida)); 2 U.S. Congressmen (Representative Scott Austin (Georgia) and Representative Sanford Bishop (Florida)); 4 Native American tribes; 24 state elected officials and local government bodies; 5 non-governmental organizations (Sierra Club, Florida Audubon Society, Clean Water Action, Our Santa Fe River, Inc.; and WWALS Watershed Coalition); and approximately 641 affected landowners, individuals, groups, and companies (including approximately 410 form letters submitted by 300 individuals and landowners).

Approximately 51 percent of the comment letters and form letters we received were from affected landowners, local citizens, the City of Albany, Dougherty County, and others generally contending that the SMP Project would not benefit communities in Georgia and, in particular, expressing environmental and safety concerns regarding the proposed location of the Albany Compressor Station near Albany. The

[10] 79 Fed. Reg. 63,115 (2014).

[11] 80 Fed. Reg. 36,798 (2015).

environmental and safety impacts of the Albany Compressor Station are disclosed in section 3.0, and section 4.4.2.1 includes our analysis of alternative sites for the Albany Compressor Station. As indicated in our June 19, 2015 NOI and as discussed in section 4.4.2.1, Sabal Trail moved its proposed location for the Albany Compressor Station to address many of the concerns raised by commentors.

We also received numerous comments expressing concern that construction and operation of the Sabal Trail Project could adversely impact groundwater, springs, and wells in karst-sensitive areas of southwest Georgia and northern Florida, and that the project could trigger and/or be damaged by sinkhole development. Section 3.1.2.3 discusses potential geologic impacts in karst sensitive areas, and section 3.3.1.7 discusses potential impacts on groundwater resources in karst sensitive areas.

A limited number of landowners asserted that Sabal Trail acted inappropriately in obtaining permission to conduct environmental surveys or in explaining the regulatory approval and easement acquisition process. The FERC does not become directly involved in negotiations between applicants and affected landowners; therefore, these issues are outside the scope of this EIS. However, our regulations require that stakeholders be kept informed of project developments and we encourage applicants to engage in fair and open communication with all affected parties. Further, the Commission maintains a Landowner Helpline[12] where landowners can report such claims.

Other comments we received raised concerns on a wide range of topics, including the purpose and need for the SMP Project; the use of eminent domain; route alternatives; and potential adverse impacts on environmental justice communities, forested areas, wetlands, property values, air quality, and public safety. This EIS addresses all substantive environmental comments submitted to the FERC or made at the scoping meetings and interagency coordination meetings. Table 1.3-1 summarizes the environmental issues and concerns identified by the commenters during the scoping process and identifies the EIS section where each issue is addressed.

This draft EIS was filed with the EPA and mailed to federal, state, and local government agencies; elected officials; Native American tribes; affected landowners; local libraries and newspapers; intervenors in the FERC's proceeding; and other interested parties (i.e., miscellaneous individuals who provided scoping comments or asked to be on the mailing list). The distribution list of the draft EIS is provided in appendix A. A formal notice indicating that the draft EIS is available for review and comment will be published in the Federal Register. The public has 45 days after the date of publication of the EPA's formal notice to comment on the draft EIS both in the form of written comments and at public meetings held along the pipeline routes. All comments received on the draft EIS related to environmental issues will be addressed in the final EIS.

[12] http://www.ferc.gov/enforcement/staff-guid/enforce-hot.asp.

TABLE 1.3-1

Environmental Issues and Concerns Raised During Public Scoping for the Southeast Market Pipelines Project

Issue/Concern	EIS Section Addressing Issue
GENERAL	
Purpose and need for the SMP Project	1.1
Evaluate impacts associated with SMP Project natural gas source areas	1.1.2
SMP Project will not benefit Georgia	1.1.4
Natural gas from the SMP Project will be exported	1.1.4
Lack of availability of project information to the public	1.3
Analyze related projects	1.4
Required permits and approvals	1.5
Design and location of the pipeline, project schedule, land requirements, construction techniques	2.0
GEOLOGY	
Impacts of nearby blasting activities on the pipeline	3.1.2.2
Impacts from blasting, including the potential for blasting to result in sinkhole development	3.1.2.2, 3.1.2.3
Importance and environmental sensitivity of karst terrain in Georgia and Florida	3.1.2.3
Need to thoroughly characterize karst terrain	3.1.2.3
Feasibility of construction in karst terrain	3.1.2.3
Potential for overland trench construction to initiate sinkhole development	3.1.2.3
Potential for HDD activities/vibration to initiate sinkhole development	3.1.2.3
Potential for HDD activity to damage cave systems	3.1.2.3
Karst mitigation measures	3.1.2.3
Potential for sinkholes to develop and damage pipeline or compressor stations	3.1.2.3
SOILS	
Impacts from herbicides	3.2.2
Potential for soil disturbance to result in additional sunlight exposure, loss of moisture, and subsequent wind erosion	3.2.2
Impacts from soil compaction	3.2.2
Impacts on agricultural activities and prime farmland	3.2.2.1
Impacts on topsoil and methods to prevent topsoil/subsoil mixing	3.2.2.1
Erosion impacts on soils	3.2.2.2
Potential for the pipeline to shift in sandy or saturated soils	3.2.2.3
Impacts associated with pre-existing contaminated soils	3.2.2.7
Potential for soil contamination to occur during construction	3.2.2.7
WATER RESOURCES	
Impacts from blasting on drinking water supplies	3.3.1
Potential changes in groundwater flow from alterations to natural ground contours	3.3.1
Potential impacts on the Albany, Georgia municipal well field	3.3.1.4, 3.3.1.7
Impacts of overland pipeline construction on groundwater flow in karst terrain	3.3.1.5, 3.3.1.7
Impacts of HDD construction on groundwater flow in karst terrain	3.3.1.5, 3.3.1.7
Potential for use and management of hydrostatic test water and stormwater management to initiate sinkhole development	3.3.1.5, 3.3.1.7
Potential for chemical spills and HDD drilling mud to impact groundwater quality, water wells, and springs	3.3.1.5, 3.3.1.7
Potential for groundwater flow along the trench, including reducing aquifer recharge	3.3.1.7
Impacts on groundwater from contaminants in discharged hydrostatic test water	3.3.1.7
Impacts on groundwater from pipeline releases	3.3.1.7
Impacts on groundwater from spills during operation of the aboveground facilities	3.3.1.7
Impacts on waterbodies during construction, including from HDD activities and potential drilling mud releases	3.3.2

TABLE 1.3-1 (cont'd)

Environmental Issues and Concerns Raised During Public Scoping for the Southeast Market Pipelines Project

Issue/Concern	EIS Section Addressing Issue
Impacts on aquatic habitat	3.3.2.2, 3.3.2.4, 3.3.2.5
Impacts on waterbodies from trenching through acid-producing rock	3.3.2.4
Impacts of herbicides on waterbodies	3.3.2.4
WETLANDS, VEGETATION, WILDLIFE, AND FISHERIES	
Impacts on riparian habitat	3.4.2
Impacts on high-quality/sensitive wetlands, including forested and limesink wetlands	3.4.3.2
Avoid/reduce impacts on wetlands, including restoration of surface flow patterns	3.4.2, 3.4.3
Potential for invasion or spread of undesirable vegetation and noxious weeds during and after construction	3.4.2, 3.5.4
Need for compensatory wetland mitigation	3.4.2.1
Impacts on forest land, including live oaks	3.5
Impacts on vegetation during operational maintenance, including use of herbicides	3.5
Impacts on wildlife and their habitat	3.6
Air quality, noise, and light impacts on wildlife	3.6
Impacts on bird sanctuaries	3.6
Protection of wildlife from open trenches during construction	3.6.3
Potential for wildlife to be displaced by the project	3.6.3
Potential for habitat fragmentation	3.6.3, 3.6.4
Impacts on migratory bird species	3.6.4
Impacts on aquatic species from potential pipeline leaks	3.7.2
Impacts on fish species	3.7.2
Impacts of HDD drilling mud release on aquatic species and habitat	3.7.2.1
THREATENED AND ENDANGERED SPECIES	
Potential for impacts on federally listed or proposed threatened or endangered species or their critical habitat, including (but not limited to): the gopher tortoise, alligator snapping turtle, bald eagle, Florida grasshopper sparrow, Florida scrub jay, southeast fox squirrel, manatee, and black indigo snake	3.8
LAND USE, RECREATION, AND VISUAL RESOURCES	
Impacts on agricultural activities	3.9
Impacts on canals/ditches that provide flow of water away from residences	3.9
Impacts of multiple pipeline easements on a property	3.9
Potential for unauthorized right-of-way access during operation	3.9
Infringement on private property rights	3.9.1.3, 3.9.2.3, 3.9.3.3, 3.9.1.4, 3.9.2.4, 3.9.3.4
Legality of eminent domain and adequacy of easement payments	3.9.1.3, 3.9.2.3, 3.9.3.3
Compensation to landowners	3.9.1.3, 3.9.2.3, 3.9.3.3
Impacts on residences, including septic systems and wells	3.9.1.4, 3.9.2.4, 3.9.3.4
Impacts on potential future developments	3.9.1.4, 3.9.2.4, 3.9.3.4
Limitation of right-of-way on land use	3.9.1.4, 3.9.2.4, 3.9.3.4
Impacts on ranching facilities	3.9.2.5, 3.9.3.5
Impacts on existing conservation easements	3.9.1.5, 3.9.2.5, 3.9.3.5
Impacts on recreation and tourism, including parklands	3.9.1.5, 3.9.2.5, 3.9.3.5

TABLE 1.3-1 (cont'd)

Environmental Issues and Concerns Raised During Public Scoping for the Southeast Market Pipelines Project

Issue/Concern	EIS Section Addressing Issue
Visual impacts of the pipeline right-of-way and aboveground facilities	3.9.1.8, 3.9.2.8, 3.9.3.8
Responsibility for right-of-way maintenance	3.9.1.9, 3.9.2.9, 3.9.3.9
SOCIOECONOMICS	
Construction personnel should be local hires	3.10.1.1, 3.10.2.1, 3.10.3.1
Ability of local law enforcement and emergency response services during construction and operation; identify time for emergency response to arrive at the pipeline location	3.10.1.3, 3.10.2.3, 3.10.3.3
Impacts on nearby schools, churches, and medical facilities	3.10.1.3, 3.10.2.3, 3.10.3.3
Potential economic impacts on local agricultural/rancher and tourism activities	3.10.1.4, 3.10.2.4, 3.10.3.4
Impacts on local roads and utilities	3.10.1.5, 3.10.2.5, 3.10.3.5
Impacts from traffic during construction	3.10.1.5, 3.10.2.5, 3.10.3.5
Impacts on property values/resale ability and property insurance coverage/rates	3.10.1.6, 3.10.2.6, 3.10.3.6
Landowners will be required to pay property taxes for land that is no longer usable	3.10.1.6, 3.10.2.6, 3.10.3.6
Construction materials should be sourced regionally or locally	3.10.1.7, 3.10.2.7, 3.10.3.7
Economic benefits will be short term	3.10.1.7, 3.10.2.7, 3.10.3.7
Potential employment and tax revenue benefits to local communities	3.10.1.7, 3.10.2.7, 3.10.3.7
Impacts on environmental justice communities, including near the Albany Compressor Station	3.10.4
CULTURAL RESOURCES	
Effects to known and undiscovered cultural resources	3.11
Impacts on historic cemeteries	3.11.2
Impacts on historic structures and plantations	3.11
Impacts on Native American traditional lands and burials in the project area	3.11.4
Need for consultations with Native American groups	3.11.4
Family burials and/or cremated remains are located on property	3.11.4
AIR QUALITY AND NOISE	
Effects of the project on air quality during construction and operation	3.12.1
Potential for nuisance fugitive dust generated during construction and operation	3.12.1.3
Potential air quality impacts from pipeline leaks	3.12.1.3
Noise impacts during construction, including HDDs	3.12.2.2
Noise impacts from compressor station operation	3.12.2.2
RELIABILITY AND SAFETY	
Safety impacts in populated areas and near residences; pipeline should be placed in rural areas	3.13
Describe pipeline monitoring procedures in the event of a leak	3.13.1
Impacts of multiple pipelines placed together; including age of existing pipelines	3.13.1
Ability of leak detection when the natural gas in the system will not be odorized	3.13.1
Potential hazards to natural gas pipelines from fires	3.13.1
Potential safety impacts from multiple crossings of existing utilities	3.13.1
Potential for agricultural activities (e.g., use of deep tillage tools) to strike the pipeline; need for increased pipe depth	3.13.1
Impacts associated with prescribed burns	3.13.1
Safety of compressor station operation	3.13.1

TABLE 1.3-1 (cont'd)

Environmental Issues and Concerns Raised During Public Scoping for the Southeast Market Pipelines Project

Issue/Concern	EIS Section Addressing Issue
Previous safety record of the Applicants	3.13.2
Potential for third-party damage to the pipeline	3.13.3
Potential impacts from terrorism	3.13.4
CUMULATIVE IMPACTS	
Potential for project to encourage industrial development along the new right-of-way	3.14
Potential for project to encourage natural gas development (e.g., fracking) in Florida	3.14
Impacts of multiple pipeline easements on a property	3.14.3
Potential for the cleared pipeline right-of-way to contribute to resource fragmentation	3.14.3
Potential for increased greenhouse gas emissions to contribute to global warming	3.14.3
Potential for forest clearing to result in increased atmospheric carbon dioxide levels	3.14.3
ALTERNATIVES	
Consider renewable energy and energy conservation alternatives	4.0
No Action Alternative	4.1
Consider system alternatives using existing natural gas transmission pipelines	4.2.1
Consider system alternative that provides gas from LNG import terminals (e.g., Port Dolphin)	4.2.3
Route the proposed pipelines along existing energy, utility, railroad, or road corridor	4.3
Route alternatives to avoid sensitive features (e.g., Green Swamp, wetlands, major river crossings, karst terrain)	4.3
Consider routes to avoid the State of Georgia	4.3
Use of alternative construction methods, including HDD, to cross private properties	4.3
Route alternatives to avoid existing and planned developments	4.3
Consider route through the Gulf of Mexico	4.3.1.3
Compressor station alternatives to avoid community and environmental justice impacts	4.4

1.4 NONJURISDICTIONAL FACILITIES

Under section 7 of the NGA, the FERC is required to consider, as part of its decision to authorize interstate natural gas facilities, 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 "nonjurisdictional" facilities may be integral to the project objective (e.g., a new or expanded power plant that is not under the jurisdiction of the FERC at the end of a pipeline) or they may be merely associated as minor, non-integral components of the jurisdictional facilities that would be constructed and operated with the proposed facilities (e.g., a meter station constructed by a customer of the pipeline to measure gas off-take).

The nonjurisdictional facilities associated with SMP Project include a planned DEF 1,640 MW combined-cycle electric generating plant at the terminus of Sabal Trail's CCL in Citrus County, Florida, and electric power lines to the proposed compressor stations and other aboveground facilities. We discuss these facilities in our cumulative impacts analysis in section 3.14.

1.5 PERMITS, APPROVALS, AND REGULATORY REQUIREMENTS

The FERC and other federal agencies that must make a decision on the SMP Project are required to comply with federal statutes including the CWA, RHA, Endangered Species Act (ESA), Magnuson-Stevens Fishery Conservation and Management Act (MSA), Coastal Zone Management Act (CZMA), Migratory Bird Treaty Act (MBTA), Bald and Golden Eagle Protection Act (BGEPA), National Historic Preservation Act (NHPA), and the Clean Air Act (CAA). Each of these statutes has been taken into account in the preparation of this EIS. Furthermore, the Applicants must satisfy all federal statutory requirements for the SMP Project to proceed, such as acquiring permits under the CWA, RHA, and CAA.

The USACE has responsibility for determining compliance with the regulatory requirements of section 404 of the CWA, which regulates the discharge of dredged or fill material into waters of the United States, including wetlands. Transco, Sabal Trail, and FSC have submitted separate section 404 applications to the USACE requesting Individual Permits for the facilities that affect wetlands and waterbodies under USACE jurisdiction. As noted in section 1.2.2, the USACE also has permitting responsibilities under sections 10 and 14 the RHA, which regulate navigable waters of the United States and the temporary occupation of water-related structures constructed by the United States. All of the Applicants have applied for permits under section 10 of the RHA; only the FSC Project would affect one structure under section 14 of the RHA.

The EPA also independently reviews section 404 CWA wetland applications and has veto power for wetland permits issued by the USACE. The EPA has also delegated water quality certification under section 401 CWA and National Pollutant Discharge Elimination System (NPDES) permitting under section 402 CWA to agencies in states crossed by the SMP Project. All of the Applicants have indicated that they have or would obtain these permits from the appropriate agency in each affected state.

Section 7 of the ESA states that any project authorized, funded, or conducted by any federal agency (e.g., the FERC) should not "…jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species which is determined…to be critical…." The FERC, as the lead federal agency for the SMP Project, is required to consult with the FWS to determine whether any federally listed or proposed endangered or threatened species or their designated critical habitats would be affected by the SMP Project. Section 3.8 contains our current analysis of federally listed and proposed endangered and threatened species and their designated critical habitats.

The MSA established a management system for marine fishery resources in the United States and specifically directed the NMFS and other bodies to identify essential fish habitat (EFH), which is defined as those waters and substrates necessary to fish for spawning, breeding, feeding, or growth to maturity. As discussed in section 3.7, the SMP Project would not affect any EFH or habitat areas of particular concern.

The CZMA is administered by NOAA and provides for the management of the nation's coastal resources. The CZMA requires that federal actions with reasonably foreseeable effects on coastal use and resources be reviewed for consistency with coastal management programs developed by each state. The SMP Project would not be located in designated coastal zones in Alabama or Georgia, whereas the entire state of Florida is designated as coastal zone for the purpose of CZMA consistency. This EIS discusses compliance with the CZMA in section 3.9.

The MBTA implements various treaties and conventions between the United States, Mexico, Canada, Japan, and Russia for the protection of migratory birds. Birds protected under the MBTA include all common songbirds, waterfowl, shorebirds, hawks, owls, eagles, ravens, crows, native doves and pigeons, swifts, martins, swallows, and others, including their body parts (feathers, plumes, etc.), nests, and eggs. The act makes it unlawful to pursue, hunt, take, capture, or kill; attempt to take, capture, or kill; possess, offer to or sell, barter, purchase, deliver, or cause to be shipped, exported, imported, transported, carried, or received any migratory bird, part, nest, egg, or product, manufactured or not, without a permit.

Executive Order 13186 directs federal agencies to identify where unintentional take is likely to have a measurable negative effect on migratory bird populations and to avoid or minimize adverse impacts on migratory birds through enhanced collaboration with the FWS. The executive order states that emphasis should be placed on species of concern, priority habitats, and key risk factors, and that particular focus should be given to addressing population-level impacts. On March 30, 2011, the FERC and FWS entered into a Memorandum of Understanding regarding implementation of Executive Order 13186. The memorandum focuses on avoiding or minimizing adverse impacts on migratory birds and strengthening migratory bird conservation through enhanced collaboration between the two agencies. This voluntary Memorandum of Understanding does not waive legal requirements under the MBTA or any other statutes and does not authorize the take of migratory birds. This EIS discusses compliance with the MBTA in section 3.6.

The BGEPA prohibits taking without a permit, or taking with wanton disregard for the consequences of an activity, any bald or golden eagle or their body parts, nests, chicks, or eggs, which includes collection, molestation, disturbance, or killing. The BGEPA protections include provisions not included in the MBTA, such as the protection of unoccupied nests and a prohibition on disturbing eagles. The BGEPA includes limited exceptions to its prohibitions through a permitting process, including exceptions to take golden eagle nests that interfere with resource development or recovery operations. This EIS discusses compliance with the BGEPA in section 3.6.

Section 106 of the NHPA, as amended, requires the FERC to take into account the effects of its undertakings on properties listed on or eligible for listing on the National Register of Historic Places (NRHP), including prehistoric or historic sites, districts, buildings, structures, objects, or properties of traditional religious or cultural importance. The FERC must also afford the Advisory Council on Historic Preservation (ACHP) an opportunity to comment on the effects of its undertakings. In accordance with the ACHP procedures, the FERC, as the lead agency, is required to consult with cooperating agencies and the appropriate State Historic Preservation Officers (SHPOs) regarding the NRHP eligibility of cultural resources and the potential effects of the proposed undertaking to those NRHP-listed or -eligible cultural resources. The FERC has requested that the Applicants, as non-federal parties, assist in meeting the FERC's obligations under section 106 by preparing the necessary information and analyses as required by the ACHP regulations in 36 CFR 800. This EIS discusses the status of this review in section 3.11.

Ambient air quality is protected by federal regulations under the CAA. These regulations include compliance under the New Source Performance Standards (NSPS) and requirements for the Prevention of Significant Deterioration (PSD). The EPA has delegated the federal permitting process for the CAA to each state where SMP Project facilities are proposed. Although applications are reviewed by both the state and the EPA, the state would determine the need for an NSPS or a PSD permit. Air quality and applicable regulations are discussed in section 3.12.

A list of major environmental permits, approvals, and consultations for the SMP Project is provided in table 1.5-1. The Applicants would be responsible for obtaining all permits and approvals required to construct and operate the SMP Project, regardless of whether or not they appear in this table. The FERC encourages cooperation between applicants and state and local authorities; however, state and local agencies, through the application of state and local laws, may not prohibit or unreasonably delay the construction or operation of facilities approved by the FERC. Any state or local permits issued with respect to jurisdictional facilities must be consistent with the conditions of any authorization issued by the FERC.[13]

[13] For example, see Schneidewind v. ANR Pipeline Co., 485 U.S. 293 (1988); National Fuel Gas Supply v. Public Service Commission, 894 F.2d 571 (2n Cir. 1990); and Iroquois Gas Transmission System, L.P., et al., 52 FERC 61,091 (1990) and 59 FERC 61,094 (1992).

TABLE 1.5-1

Major Environmental Permit, Licenses, Approvals, and Consultations Required for the Southeast Market Pipelines Project

		Hillabee Expansion Project		Sabal Trail Project		Florida Southeast Connection Project	
Agency	Permit/Approval/Clearance	Submittal Date *(Anticipated)*	Receipt Date *(Anticipated)*	Submittal Date *(Anticipated)*	Receipt Date *(Anticipated)*	Submittal Date *(Anticipated)*	Receipt Date *(Anticipated)*
FEDERAL							
Federal Energy Regulatory Commission	Certificate under section 7(c) of the Natural Gas Act	11/2014	*11/2015*	11/2014	*11/2015*	9/2014	*1/2016*
U.S. Environmental Protection Agency, Region 4	Oversight of federal and state delegated permits	Ongoing review associated with state permit activities					
U.S. Army Corps of Engineers (USACE)							
Mobile District	Permits under section 404 of the Clean Water Act (CWA) and section 10 of the Rivers and Harbors Act (RHA)	11/2014	*Q1 2016*	12/2014	*11/2015*	NA	NA
	Easement across USACE-owned property and permission to cross flow easement lands	NA	NA	June 2015	*February 2016*	NA	NA
Savannah District	Permits under section 404 CWA and section 10 RHA	NA	NA	12/2014	*11/2015*	NA	NA
Jacksonville District	Permits under section 404 CWA and sections 10 and 14 RHA	NA	NA	12/2014 (section 404 CWA, section 10 RHA)	*11/2015*	3/2014 (section 404 CWA, sections 10 and 14 RHA)	*10/2015*
	Authorization under section 408 (C23 Canal)	NA	NA	NA	NA	*5/2015*	*10/2015*
U.S. Fish and Wildlife Service							
Alabama Field Office	Consultation under section 7 of the Endangered Species Act (ESA) and coordination under the Migratory Bird Treaty Act (MBTA)	10/2013	*Ongoing consultation*	9/2013	*12/2015*	NA	NA
Georgia Field Office	Consultation under section 7 ESA and coordination under the MBTA	NA	NA	9/2013	*12/2015*	NA	NA
Florida Field Office	Consultation under section 7 ESA and coordination under the MBTA	NA	NA	9/2013	*12/2015*	7/2013	*8/2015*

TABLE 1.5-1 (cont'd)

Major Environmental Permit, Licenses, Approvals, and Consultations Required for the Southeast Market Pipelines Project

		Hillabee Expansion Project		Sabal Trail Project		Florida Southeast Connection Project	
Agency	Permit/Approval/Clearance	Submittal Date *(Anticipated)*	Receipt Date *(Anticipated)*	Submittal Date *(Anticipated)*	Receipt Date *(Anticipated)*	Submittal Date *(Anticipated)*	Receipt Date *(Anticipated)*
National Oceanic and Atmospheric Administration, National Marine Fisheries Service							
	Consultation under section 7 ESA	NA	NA	1/2014	1/2014	NA	NA
	Consultation under the Marine Mammal Protection Act						
	Essential Fish Habitat Consultation	NA	NA	1/2014	2/2014	NA	NA
Advisory Council on Historic Properties	Consultation under section 106 of the National Historic Preservation Act (NHPA)	See below					
STATE							
Alabama							
Alabama Department of Conservation and Natural Resources							
Wildlife and Freshwater Fisheries Division	State Listed Species Consultation	5/2014	*Ongoing consultation*	11/2014	*9/2015*	NA	NA
State Lands Division	Submerged and Upland Pipeline Right-of-Way	10/2013	4/2014 (no state lands affected)	*5/2015*	*6/2016*	NA	NA
Alabama Department of Economic and Community Affairs, Office of Water Resources	Notification of Water Withdrawal for Hydrostatic Testing	NA	NA	*3/2016*	*5/2016*	NA	NA
Alabama Department of Environmental Management							
Water Division	Water Quality Certification under section 401 CWA	11/2014	*Q1 2016*	12/2014	*9/2015*	NA	NA
	Permit under section 402 CWA (National Pollutant Discharge Elimination System (NPDES)) for Discharge of Hydrostatic Test Water	*Q4 2015*	*Q1 2016*	*3/2016*	*5/2016*	NA	NA
	Permit under section 402 CWA (NPDES) for Water Discharge from Construction Activities	*Q4 2015*	*Q1 2016*			NA	NA
Air Division	Permit under Clean Air Act (CAA) State Minor Source Construction and Operating Permit/Title V Major	Compressor Stations 95 and 105 (modifications): 6/2014	4/2015	11/2014	*7/2015*	NA	NA

TABLE 1.5-1 (cont'd)

Major Environmental Permit, Licenses, Approvals, and Consultations Required for the Southeast Market Pipelines Project

		Hillabee Expansion Project		Sabal Trail Project		Florida Southeast Connection Project	
Agency	Permit/Approval/Clearance	Submittal Date *(Anticipated)*	Receipt Date *(Anticipated)*	Submittal Date *(Anticipated)*	Receipt Date *(Anticipated)*	Submittal Date *(Anticipated)*	Receipt Date *(Anticipated)*
		Compressor Station 84: 6/2014	*5/2015*	NA	NA	NA	NA
		Compressor Stations 95 and 105 (emergency generators): *Q3 2015*	*Ongoing consultation*	NA	NA	NA	NA
Alabama Historical Commission	Consultation under section 106 NHPA	10/2014	*11/2015*	11/2014	*11/2015*	NA	NA
Georgia							
Georgia Department of Natural Resources							
Wildlife Resources Division	State Listed Species Consultation	NA	NA	11/2014	*9/2015*	NA	NA
Natural Heritage Program							
Environmental Protection Division, Watershed Protection Branch	Water Quality Certification under section 401 CWA	NA	NA	12/2014	*11/2015*	NA	NA
	Stream Buffer Variance						
	Permit under section 402 CWA (NPDES) for Discharge of Hydrostatic Test Water	NA	NA	*3/2016*	*5/2016*	NA	NA
	Permit under section 402 CWA (NPDES) for Water Discharge from Construction Activities						
	Water Withdrawal Authorization						
Environmental Protection Division, Air Protection Branch	Permit under CAA State Minor Source Construction and Operation (Albany Compressor Station)	NA	NA	12/2014	*8/2015*	NA	NA
Historic Preservation Division	Consultation under section 106 NHPA	NA	NA	11/2014	*11/2015*	NA	NA
Georgia State Properties Commission, Georgia Department of Natural Resources Real Estate Office	State Water Crossing Licenses and Easements	NA	NA	*5/2015*	*7/2016 or 8/2016*	NA	NA

TABLE 1.5-1 (cont'd)

Major Environmental Permit, Licenses, Approvals, and Consultations Required for the Southeast Market Pipelines Project

		Hillabee Expansion Project		Sabal Trail Project		Florida Southeast Connection Project	
Agency	Permit/Approval/Clearance	Submittal Date *(Anticipated)*	Receipt Date *(Anticipated)*	Submittal Date *(Anticipated)*	Receipt Date *(Anticipated)*	Submittal Date *(Anticipated)*	Receipt Date *(Anticipated)*
Florida							
Florida Department of Environmental Regulation (FDEP)	Environmental Resource Permit	NA	NA	7/2014	*8/2015*	3/2014	*Q4 2015*
	Consistency Determination under Coastal Zone Management Act						
	Water Quality Certification under section 401 CWA						
	Permit under section 402 CWA (NPDES) for Water Discharge from Construction Activities	NA	NA	*3/2016*	*5/2016*		
	Trench dewatering and hydrostatic test dewatering permit (if into surface waters)						
FDEP, Air Resource Management Program	State Minor Source Construction Permit under CAA	NA	NA	11/2014	*1/2015*	NA	NA
	Operating Permit under CAA (Reunion Compressor Station)	NA	NA	*12/2017*	*6/2018*	NA	NA
	Operating Permit under CAA (Dunnellon Compressor Station)	NA	NA	*12/2020*	*6/2021*	NA	NA
	Operating Permit under CAA (Hildreth Compressor Station)	NA	NA	*12/2021*	*6/2022*	NA	NA
Florida Trustees of the Internal Improvement Trust Fund	Sovereign and Submerged Lands Easements	NA	NA	11/2014	*11/2015*	3/2014	*5/2015*
	Easement over State-owned Uplands	NA	NA	NA	NA	3/2014	9/2014
Florida Department of State, Division of Historic Resources	Consultation under section 106 NHPA	NA	NA	11/2014	*11/2015*	3/2014	*11/2015*
Florida Fish and Wildlife Conservation Commission	State Listed Species Consultation	NA	NA	11/2014	*9/2015*	*3/2016*	*5/2016*
	Threatened and Endangered Species Relocation/Handling permit	NA	NA	*6/2015*	*9/2015*		
Suwannee River Water Management District	Consumptive Water Use Permit	NA	NA	*3/2016*	*5/2016*	NA	NA
	Trench Dewatering Permit						
	Canal/Lands Crossing Permit						

TABLE 1.5-1 (cont'd)

Major Environmental Permit, Licenses, Approvals, and Consultations Required for the Southeast Market Pipelines Project

		Hillabee Expansion Project		Sabal Trail Project		Florida Southeast Connection Project	
Agency	Permit/Approval/Clearance	Submittal Date *(Anticipated)*	Receipt Date *(Anticipated)*	Submittal Date *(Anticipated)*	Receipt Date *(Anticipated)*	Submittal Date *(Anticipated)*	Receipt Date *(Anticipated)*
St. Johns River Water Management District	Consumptive Water Use Permit Trench Dewatering Permit Canal/Lands Crossing Permit	NA	NA	*3/2016*	*5/2016*	*12/2015*	*4/2016*
Southwest Florida Water Management District	Consumptive Water Use Permit Trench Dewatering Permit Canal/Lands Crossing Permit	NA	NA	*3/2016*	*5/2016*	*12/2015*	*4/2016*
South Florida Water Management District	Consumptive Water Use Permit Trench Dewatering Permit Canal/Lands Crossing Permit	NA	NA	*3/2016*	*5/2016*	*12/2015*	*4/2016*

NA = Not applicable.

2.0 DESCRIPTION OF THE PROPOSED ACTION

2.1 PROPOSED FACILITIES

The SMP Project would involve the construction and operation of underground natural gas transmission pipeline and associated aboveground facilities in Alabama, Georgia, and Florida. The Hillabee Expansion Project, Sabal Trail Project, and FSC Project are shown on figures 2.1.1-1, 2.1.2-1, and 2.1.3-1, respectively, and are depicted on U.S. Geological Survey (USGS) topographic base maps in appendix B. Each Applicant also provided aerial photographic base maps, referred to as alignment sheets, depicting the pipeline facilities and associated construction and operation rights-of-way. The alignment sheets can be accessed on our website at www.ferc.gov.[1]

The SMP Project consists of about 685.4 miles of natural gas transmission pipeline (and associated facilities), 6 new natural gas-fired compressor stations, and modifications to 3 existing compressor stations (see table 2.1-1). Sabal Trail would construct 75 percent of the pipeline facilities and 5 of the 6 new compressor stations; FSC would construct 18 percent of the pipeline facilities; and Transco would construct 7 percent of the pipeline facilities and 1 of the 6 new compressor stations.

TABLE 2.1-1

Southeast Market Pipelines Project Facilities

Facility/Project	Alabama	Georgia	Florida	Total
Pipeline (mi.)				
Hillabee Expansion Project [a]	43.5	0	0	43.5
Sabal Trail Project	86.5	161.7	267.3	515.5
Florida Southeast Connection Project [b]	0	0	126.4	126.4
Pipeline Subtotal	130.0	161.7	393.7	685.4
New Compressor Stations (no.)				
Hillabee Expansion Project [a]	1	0	0	1
Sabal Trail Project	1	1	3	5
Florida Southeast Connection Project [b]	0	0	0	0
New Compressor Station Subtotal	2	1	3	6
Compressor Station Modifications (no.)				
Hillabee Expansion Project [a]	5	0	0	5
Sabal Trail Project	0	1	1	2
Florida Southeast Connection Project [b]	0	0	0	0
Compressor Station Modification Subtotal	5	1	1	7

[a] The Hillabee Expansion Project would be located only in Alabama.
[b] The Florida Southeast Connection Project would be located only in Florida.

The SMP Project would be constructed in three phases (see table 2.1-2). Phase 1 would include construction of 97 percent of the pipeline facilities, 4 of the 6 new compressor stations, and modifications at 2 existing compressor stations. The new and modified compressor stations associated with Phase 1 generate 66 percent of the total SMP Project compression. Phase 2 would include construction of 1 percent

[1] Transco's alignment sheets can be found under Accession No. 20141118-5156; under the Files, select the PDF files titled "18_Vol_II_Mapping_Supp_Nov_2014_1_of_2.PDF" and "19_Vol_II_Mapping_Supp_Nov_2014_2_of_2.PDF." Sabal Trail's alignment sheets can be found under Accession Nos. 20150220-5131 (under the Files, select the PDF files titles beginning with "RR1_APP-1A_VOL-II-B_AlignSheets") and 20150327-5289 (under the Files, select the PDF file "Sabal_Trail_ MAR 27 Supplement - Public - FILED.PDF"). FSC's alignment sheets can be found under Accession No. 20140926-5191 (under the Files, select the PDF files titled "Appendix 1A-2-1.PDF" and "Appendix 1A-2-2.PDF") and Accession No. 20141003-5188 (under the Files, select the PDF file titled "FSC Appendix 1A-1.PDF").

of the pipeline facilities, 2 of the 6 new compressor stations, and modifications at 2 existing compressor stations. The new and modified compressor stations associated with Phase 2 generate 20 percent of the total SMP Project compression. Phase 3 would include construction of 2 percent of the pipeline facilities and modifications at 2 existing compressor stations, which would generate 14 percent of the total SMP Project compression.

TABLE 2.1-2

Southeast Market Pipelines Project Facilities by Construction Phase

Construction Phase (Years)/State	Pipeline Length (miles)	New Compressor Stations (number)	Modified Compressor Stations (number)	Compression (horsepower)
Phase 1 (2016-2017)				
Alabama	106.6	2	2	139,500
Georgia	161.7	0	0	0
Florida	393.8	2	0	56,900
Phase 1 Subtotal	662.1	4	2	196,400
Phase 2 (2019-2020)				
Alabama	10.6	0	2	20,000
Georgia	0	1	0	20,500
Florida	0	1	0	20,500
Phase 2 Subtotal	10.6	2	2	61,000
Phase 3 (2020-2021)				
Alabama	12.8	0	0	0
Georgia	0	0	1	20,500
Florida	0	0	1	20,500
Phase 3 Subtotal	12.8	0	2	41,000
Alabama Subtotal	130.0	2	4	159,500
Georgia Subtotal	161.7	1	1	41,000
Florida Subtotal	393.8	3	1	97,900
Southeast Market Pipelines Project Total	685.4	6	6	298,400

On a state-by-state basis, 19 percent of the pipeline facilities and 53 percent of the compression associated with the SMP Project would occur in Alabama; 24 percent of the pipeline facilities and 14 percent of the compression would occur in Georgia; and 57 percent of the pipeline facilities and 33 percent of the compression would occur in Florida. All of the pipeline construction in Georgia and Florida would occur during Phase 1, whereas pipeline loop construction would occur during all three phases in Alabama.

The pipeline facilities would be constructed of steel and installed underground for their entire length using the methods described in sections 2.3.1 and 2.3.2. The basic functions of the various aboveground facilities are summarized in the following bullets, and additional details regarding each Applicants' individual facilities are provided below in sections 2.1.1, 2.1.2, and 2.1.3, respectively.

- Compressor stations utilize engines to maintain pressure within the pipeline in order to deliver the contracted volumes of natural gas to specific points at specific pressures. Compressors are housed in buildings that are designed to attenuate noise and allow for operation and maintenance activities. Compressor stations also typically include administrative, maintenance, storage, and communications buildings, and can include metering and pig launcher/receiver facilities discussed below. Most stations consist of a developed, fenced area within a larger parcel of land that remains undeveloped. The location of the compressor station and amount of compression needed are determined primarily by hydraulic modeling. Transco and Sabal Trail would construct new compressor stations and modify existing compressor stations by either adding compression

and/or implementing other equipment changes to improve system efficiency and reliability. The general construction and operation procedures for the compressor stations are discussed in sections 2.3.3 and 2.6, respectively. Regulatory requirements and impacts on air quality and noise associated with the new and modified compressor stations are discussed in section 3.12.

- M&R stations measure the volume of gas removed from or added to a pipeline system. Most M&R stations consist of a small graveled area with small building(s) that enclose the measurement equipment. Sabal Trail and FSC would construct and operate M&R stations within some compressor station boundaries, at customer delivery points, and at interconnections with other interstate transmission systems. Transco would not construct any M&R stations, but would install appurtenant facilities within Sabal Trail's Transco Hillabee M&R station at the interconnection of the Hillabee Expansion Project and the Sabal Trail Project.

- MLVs consist of a small system of aboveground and underground piping and valves that control the flow of gas within the pipeline and can also be used to vacate, or blow-off, the gas within a pipeline segment, if necessary. MLVs would be installed within the operational rights-of-way of the pipeline facilities; however, as indicated in table 2.1.1-3, four of Sabal Trail's MLVs would include blow-off valves approximately 150 feet from the pipeline right-of-way due to proximity of the pipeline to overhead electric transmission lines. MLVs can be located at interconnections within a transmission system (i.e., between a mainline pipeline and a loop) and at locations based on the DOT Class designation of the pipeline; in general, the distance between MLVs is reduced in areas of higher human population (see section 3.13.1).

- Launchers and receivers are facilities where internal pipeline cleaning and inspection tools, referred to as "pigs," could be inserted or retrieved from the pipeline. Pig launchers/ receivers consist of an aboveground group of piping within the pipeline right-of-way or other aboveground facility boundaries.

- Cathodic protection systems help prevent corrosion of underground facilities. These systems typically include a small, aboveground transformer-rectifier unit and an associated anode groundbed located on the surface or underground. Cathodic protection facilities are typically located within the pipeline right-of-way, although Sabal Trail identified 11 locations where groundbeds would extend off of the pipeline right-of-way for a short distance due to local geologic conditions. Transco and FSC have not designed the cathodic protection systems for the Hillabee Expansion Project or FSC Project yet, but expect the facilities to require minimal ground disturbance.

During scoping, we received comments about the potential for the Applicants to construct facilities other than those proposed in their applications and supplemental materials. However, each Applicant stated that they have no plans to expand or abandon the proposed facilities. Market forces (e.g., natural gas supply and demand) are the main factors that would determine the need for expansion or abandonment of the proposed facilities. If future expansion or abandonment were necessary, the Applicants would be required to seek appropriate regulatory approvals at that time, including any authorizations that might be required from the FERC or other agencies. If the pipeline is abandoned, the pipe may be left in place or may be removed and the area reclaimed in accordance with provisions and requirements of the FERC Certificate authorizing abandonment and any other land-managing agency requirements.

2.1.1 Hillabee Expansion Project

The Hillabee Expansion Project would be located entirely in Alabama and consist of pipeline loops and aboveground facilities within or generally adjacent to Transco's existing natural gas transmission system (see figure 2.1.1-1). The Hillabee Expansion Project would be constructed in three phases to meet the phased natural gas delivery requirements of the SMP Project. Phase 1 would deliver up to 818 MMcfd commencing in May 2017; Phase 2 would provide an additional 207 MMcfd commencing in 2020; and Phase 3 would provide an additional 107 MMcfd beginning in 2021. All deliveries would be to the Sabal Trail Project.

2.1.1.1 Pipeline Facilities

Transco proposes to construct and operate about 43.5 miles of pipeline in eight loop segments adjacent to an existing natural gas transmission pipeline corridor at a typical offset of 25 feet from the nearest pipeline (see table 2.1.1-1). The locations and lengths of the proposed loops are relative to the existing mileposts (MPs) of Transco's system. All of the loops would have a maximum allowable operating pressure (MAOP)[2] of 800 pounds per square inch gauge (psig). The land requirements for the pipeline facilities are summarized in section 2.2.1.1.

TABLE 2.1.1-1

Hillabee Expansion Project Pipeline Facilities

Loop	County	Milepost Range	Mainline Designation [a]	Length (miles) [b]	Pipe Diameter (inches)	Collocation (percent) [c]	Phase
Rock Springs	Choctaw	784.7-791.4	F	6.7	42	85	2
Butler	Choctaw	791.4-796.7	F	5.3	42	92	3
Billingsley	Autauga, Chilton	886.0-890.6	E	4.7	48	87	1
Autauga	Autauga, Chilton	890.7-898.2	F	7.5	42	92	3
Verbena	Chilton	905.7-909.7	E	3.9	42	88	2
Proctor Creek	Coosa	911.1-916.5	E	5.3	42	96	1
Hissop	Coosa	924.3-926.9	E	2.6	42	100	1
Alexander City	Tallapoosa	941.8-949.4	E	7.5	42	97	1

[a] Mainline designations E and F represent the fifth and sixth pipelines within the right-of-way, respectively.
[b] The distance between the beginning and ending mileposts may not reflect the actual length of each loop.
[c] Collocation refers to the degree to which the new right-of-way would abut or share an existing right-of-way.

[2] The MAOP is the highest pressure at which a pipeline may be operated under PHMSA regulations (49 CFR Part 192). The MAOP is based on a pipeline's strength and design characteristics and is lower than the maximum pressure for which the pipeline is engineered.

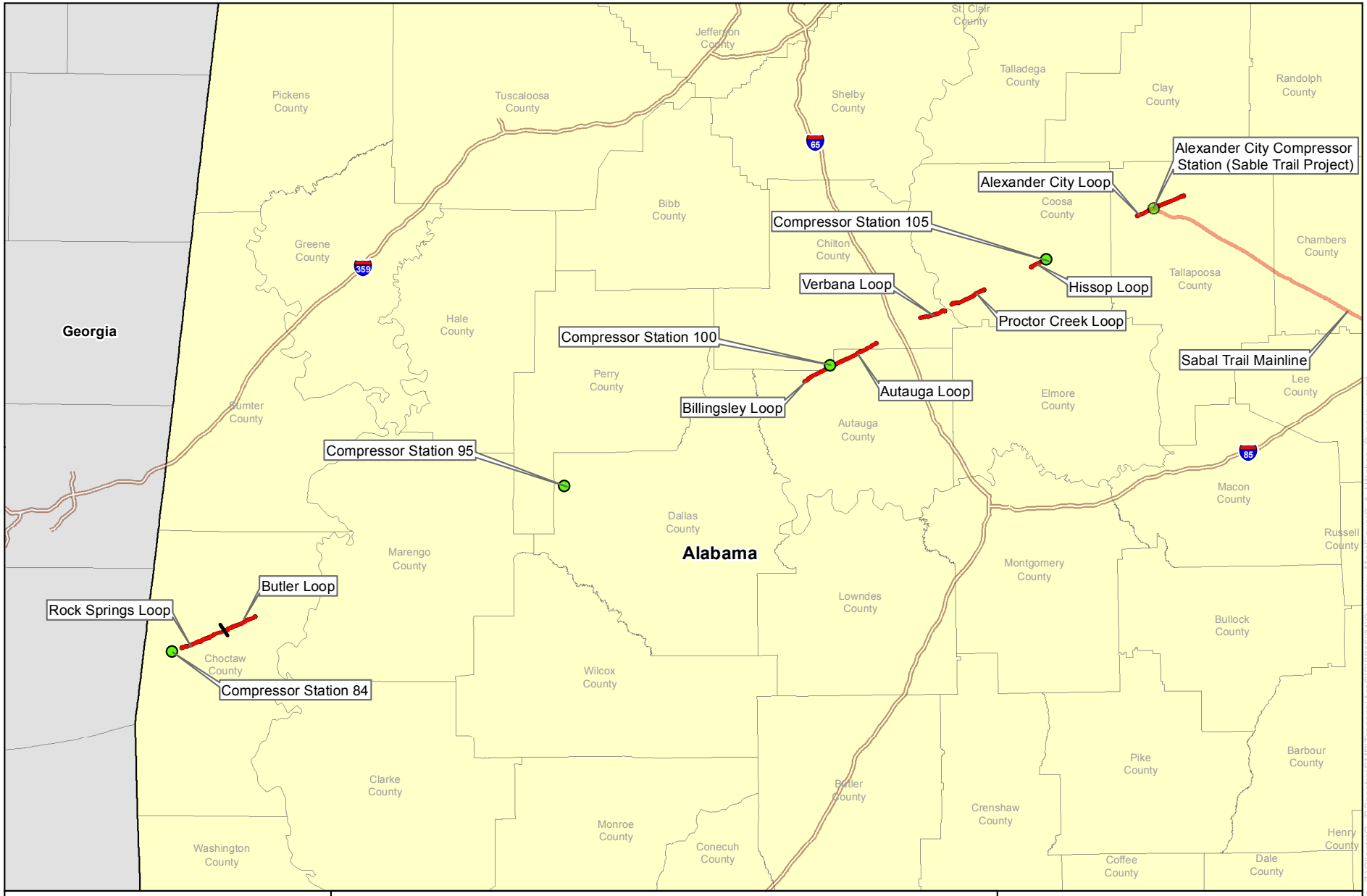

Figure 2.1.1-1
Hillabee Expansion Project Overview

2.1.1.2 Aboveground Facilities

The Hillabee Expansion Project would include the construction of one new compressor station, increased compression and other modifications at three existing compressor stations, and other aboveground facilities. All of the aboveground facilities would be located within or generally adjacent to Transco's right-of-way or within Transco property boundaries.

Compressor Stations

Table 2.1.1-2 summarizes the new and modified compressor stations proposed by Transco. Construction of the facilities would provide a total of 88,500 horsepower (hp) of compression during Phase 1 and 2 of the project; no additional compression would be installed during Phase 3. The land requirements for each compressor station are summarized in section 2.2.1.2.

TABLE 2.1.1-2

Hillabee Expansion Project Compressor Stations

Compressor Station	County	Milepost	Phase	Scope of Work
Compressor Station 84	Choctaw	782.8	1	Construct new compressor station with two, 16,000 horsepower (hp) Solar Mars 100 gas turbine driven compressor units.
Compressor Station 95	Dallas	851.4	1	Add one new 16,000 hp Solar Mars 100 unit; cool and re-wheel two existing Solar Mars 100 units.
			2	Add one new 16,000 hp Solar Mars 100 unit; re-wheel three existing Solar Mars 100 units.
Compressor Station 100	Chilton	890.6	2	Uprate existing electric motor driven compressor unit by 4,000 hp.
			3	Re-wheel existing 15,000 hp Solar Mars 100 unit.
Compressor Station 105	Coosa	926.9	1	Add one new 20,500 hp Titan 130 gas driven compressor unit to existing facility.

Compressor Station 84

Compressor Station 84 would be constructed during Phase 1 of the project and would include two 16,000 hp Solar Mars 100 natural gas-fired turbine driven compressor units located in an acoustically attenuating building. The facility would be located adjacent to Transco's existing pipeline right-of-way and would include an office/shop/warehouse building; a communications building and tower; a building to house air compressors; and an engineered storage tank area. As discussed in section 1.4, local utility electric service would be extended to the facility. The facility would be located on approximately 14 acres within a 179-acre parcel that Transco would acquire, the majority of which has been previously disturbed.

Compressor Station 95

Transco would modify existing Compressor Station 95 during Phase 1 and Phase 2 of the project. Each phase would involve installing one 16,000 hp Solar Mars 100 compressor unit, for a total compression increase of 32,000 hp at the facility. Existing compressors would also be modified by cooling and re-wheeling of the units. The existing compressor building would be expanded to accommodate the new compressor units. Compressor Station 95 is situated on a 148-acre parcel owned by Transco.

Compressor Station 100

Transco would modify existing Compressor Station 100 during Phase 2 and Phase 3 of the project. During Phase 2, an existing unit would be modified to increase compression by 4,000 hp, and the Phase 3 modification would involve re-wheeling an existing gas turbine compressor unit. These activities would

occur within existing buildings, resulting in no ground disturbance. Compressor Station 100 is situated on a 167-acre parcel owned by Transco.

Compressor Station 105

Transco would modify existing Compressor Station 105 during Phase 1 of the project by installing a new 20,500 hp Titan 130 natural gas-driven turbine compressor unit within an acoustically attenuating building. Compressor Station 105 is situated on a 60-acre parcel owned by Transco.

Other Aboveground Facilities

Table 2.1.1-3 summarizes the other aboveground facilities associated with the Hillabee Expansion Project including new and removed/relocated MLVs and pig launchers/receivers. All of the proposed MLVs would be located within Transco's rights-of-way, and none would include remote blow-down facilities. Transco would also install minor facilities at the Transco Hillabee M&R Station to be constructed by Sabal Trail within Sabal Trail's Alexander City Compressor Station. These and other minor, appurtenant facilities such as valves and piping may be installed within the proposed right-of-way or Transco facility boundaries but are not included in table 2.1.1-3 or discussed in the remainder or this EIS.

2.1.2 Sabal Trail Project

The Sabal Trail Project would be located in Alabama, Georgia, and Florida and consist of pipeline facilities and aboveground facilities including compressor stations, M&R stations, MLVs, and pig launchers/receivers (see figure 2.1.2-1). Sabal Trail would also create the CFH by interconnecting the Sabal Trail Project, FSC Project, and existing FGT and Gulfstream systems at the termination of the Sabal Trail Project. The Sabal Trail Project would be constructed in three phases to meet the phased natural gas delivery requirements of the SMP Project. Phase 1 would include construction of all of the pipeline facilities and three compressor stations, and would create up to 830 MMcfd of capacity for proposed in-service in May, 2017. Phase 2 would include construction of two compressor stations and would provide an additional 169 MMcfd commencing in 2020. Phase 3 would involve installing additional compression at two of the compressor stations to provide an additional 76 MMcfd beginning in 2021. As noted in section 1.1.2.1, Sabal Trail has long term precedent agreements for 93 percent of the total capacity of the project.

2.1.2.1 Pipeline Facilities

As summarized in table 2.1.2-1, Sabal Trail proposes to construct and operate about 515.5 miles of interstate natural gas transmission pipeline consisting of 480.9 miles of mainline pipeline in Alabama, Georgia, and Florida (Mainline); a 21.5-mile-long pipeline lateral in Florida (the CCL); and a 13.1-mile-long pipeline lateral in Florida (the HCL). The land requirements for the pipeline facilities are summarized in section 2.2.2.1.

TABLE 2.1.1-3

Hillabee Expansion Project Other Aboveground Facilities

Loop/Facility	County	Milepost	Scope of Work	Phase
Rock Springs Loop				
Pig Launcher/Mainline Valve (MLV)	Choctaw	784.7	Install new MLV, pig launcher, blow-off valve, crossover valves, and other piping.	2
Pig Receiver/MLV	Choctaw	791.4	Install new MLV, crossover valves, pig receiver, blow-off valve and other piping.	2
Butler Loop				
Pig Launcher/MLV Removal	Choctaw	791.4	Remove pig receiver and MLV. Isolate crossover valve piping.	3
Pig Receiver/MLV	Choctaw	796.7	Install relocated pig receiver and MLV (from Rock Springs Loop), crossover valves, blow-off valve, and other piping.	3
Billingsley Loop				
Pig Receiver/MLV Removal	Chilton	866.2	Remove pig receiver and MLV. Isolate crossover valve piping.	1
Pig Receiver/MLV	Chilton	890.6	Install relocated pig receiver and MLV (from the beginning of this loop), new suction side gate valve, blow-off valve, and other associated station piping up to the existing station discharge valve.	1
Autauga Loop				
Pig Launcher/MLV	Chilton	890.7	Install new pig launcher, MLV, station discharge valve, blow-off valve, and other associated station piping and valves.	3
Pig Receiver/MLV	Chilton	898.2	Install new MLV, pig receiver, crossover valves, blow-off valve, and other necessary piping.	3
Verbena Loop				
Pig Receiver Removal	Chilton	905.7	Remove pig receiver and associated piping.	2
Pig Receiver/MLV	Chilton	909.7	Install relocated pig receiver (from the end of this loop), new MLV, crossover valves, blow-off valve, and other necessary piping.	2
Proctor Creek Loop				
Pig Launcher/MLV	Coosa	911.1	Install relocated pig launcher (from the end of this loop), new MLV, crossover valves, blow-off valve, and other necessary piping.	1
Pig Launcher/MLV Removal	Coosa	916.5	Remove pig receiver and MLV. Isolate crossover valve piping.	1
Hissop Loop				
Pig Receiver Removal	Coosa	924.3	Remove pig receiver and associated piping.	1
Tie-in to Compressor Station 105 [a]	Coosa	926.9	Install suction side gate valve, blow-off valve and other necessary piping, and remove pig launcher and associated piping.	1
Alexander City Loop				
Pig Receiver/MLV Removal	Tallapoosa	941.8	Remove pig receiver, MLV, crossover valves, and associated piping.	1
Pig Receiver/MLV	Tallapoosa	949.4	Install relocated pig receiver and MLV (from the beginning of this loop), new crossover valves, blow-off valve, and other necessary piping.	1

[a] All aboveground facilities installed for the tie-in of the proposed Hissop Loop to Compressor Station 105 would be located entirely within the existing compressor station footprint.

0 25 50 Miles

N W E S

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Figure 2.1.2-1
Sabal Trail Project Overview

Proposed New/Modified Compressor Station
Proposed Sabal Trail Project

TABLE 2.1.2-1

Sabal Trail Project Pipeline Facilities

State/Facility	County	Milepost Range	Length (miles)[a]	Pipe Diameter (inches)
Alabama				
Mainline	Tallapoosa	0.0-20.5	20.5	36
	Chambers	20.5-40.1	19.7	36
	Lee	40.1-60.8R [b]	20.7	36
	Russell	60.8R-86.4 [b]	25.6	36
Alabama Mainline Subtotal			86.5	
Georgia				
Mainline	Stewart	86.4-110.2	23.9	36
	Webster	110.2-120.5	10.2	36
	Terrell	120.5-141.1	20.6	36
	Lee	141.1-141.8	0.7	36
	Terrell	141.8-146.7	4.9	36
	Dougherty	146.7-169.8	23.1	36
	Mitchell	169.8-182.6	12.8	36
	Colquitt	182.6-208.6	26.0	36
	Brooks	208.6-231.3	22.8	36
	Lowndes	231.3-247.8	16.8	36
Georgia Mainline Subtotal			161.7	
Florida				
Mainline	Hamilton	247.8-267.4R [b]	19.6	36
	Suwannee	267.4R-308.3 [b]	43.0	36
	Gilchrist	308.3-337.5	29.1	36
	Alachua	337.5-341.2	3.7	36
	Levy	341.2-369.8	28.7	36
	Marion	369.8-399.5	32.6	36
	Sumter	399.5-430.1	30.6	36
	Lake	430.1-430.2	0.1	36
	Sumter	430.2-435.8R [b]	5.6	36
	Lake	435.8R-457.6 [b]	22.4	36
	Polk	457.6-465.8	8.2	36
	Osceola	465.8-474.4	9.1	36
Florida Mainline Subtotal			232.7	
Citrus County Line	Marion	0.0-1.3	1.3	24
	Citrus	1.3-21.5	20.2	24
Citrus County Line Subtotal			21.5	
Hunters Creek Line	Osceola	0.0-13.1	13.0	36
	Orange	13.1-13.1	0.1	36
Hunters Creek Line Subtotal			13.1	
Florida Pipeline Facilities Subtotal			267.3	
Total			515.5	

[a] Actual linear length. Values may differ slightly from information provided by Sabal Trail due to rounding.

[b] R indicates milepost location within a re-route that was incorporated into the proposed route after Sabal Trail filed its application on November 18, 2014. Sabal Trail utilized actual linear length in mileposting the re-routes; therefore the actual linear length of the Mainline pipeline, 480.9 miles, exceeds the original milepost length of 474.4 miles.

Sabal Trail Mainline

Sabal Trail's 36-inch-diameter Mainline would originate at the interconnection between the Sabal Trail Project and the Hillabee Expansion Project in Tallapoosa County, Alabama and terminate at the proposed Reunion Compressor Station in Osceola County, Florida. The Mainline route crosses four counties in southeastern Alabama; nine counties in southwestern Georgia; and 11 counties in northern and central Florida. The proposed MAOP of the Mainline is 1,456 psig.

Citrus County Line

The 24-inch-diameter CCL would originate at the Dunnellon Compressor Station at MP 392.7R in Marion County, Florida, and extend 21.5 miles west to a proposed DEF 1,640 MW combined-cycle electric generating plant in Citrus County, Florida (see section 1.4). The proposed MAOP of the CCL is 1,456 psig.

Hunters Creek Line

The 36-inch-diameter HCL would originate at the Reunion Compressor Station at MP 474.4 in Osceola County, Florida, and extend 13.1 miles easterly to interconnect with FGT's existing interstate natural gas transmission system in Orange County, Florida. The HCL would provide bi-directional flow between the FGT system and interconnections at the Reunion Compressor Station. The proposed MAOP of the HCL is 1,456 psig.

2.1.2.2 Aboveground Facilities

The Sabal Trail Project would include the construction of five new compressor stations, subsequent increased compression at two of the compressor stations, and other aboveground facilities. All of the aboveground facilities would be located within or generally adjacent to Sabal Trail's right-of-way or within Sabal Trail property boundaries.

Compressor Stations

Table 2.1.2-2 summarizes the new and modified compressor stations proposed by Sabal Trail.[3] Construction of the facilities would provide a total of 127,900 hp of compression during Phase 1, 41,000 hp of compression during Phase 2, and 41,000 hp of compression during Phase 3. Of the total compression on a state-by-state basis, 71,000 hp (34 percent) would occur in Alabama, 41,000 hp (20 percent) would occur in Georgia, and 97,900 hp (46 percent) would occur in Florida. All of the compressor units would be fueled by natural gas obtained from the Sabal Trail Mainline. The land requirements for each compressor station are summarized in section 2.2.2.2.

[3] Sabal Trail's compressor station plot plans can be found under Accession No. 20141121-5110; under the Files, select the PDF file titled "RR1_Sabal_Trail_APP-1A_PLOT-PLANS_11-21-14_FINAL.PDF."

TABLE 2.1.2-2

Sabal Trail Project Compressor Stations

State/Compressor Station	County	Milepost	Phase	Scope of Work
Alabama				
Alexander City	Tallapoosa	0.0	1	Construct compressor station with two Solar Titan 130 gas turbines and one Solar Titan 250 gas turbine driven compressor units; total 71,000 horsepower (hp).
Georgia				
Albany	Dougherty	154.7	2	Construct compressor station with one 20,500 hp Solar Titan 130 gas turbine driven compressor unit.
			3	Add one new 20,500 hp Titan 130 gas driven compressor unit.
Florida				
Hildreth	Suwannee	296.3	1	Construct compressor station with one 20,500 hp Solar Titan 130 gas turbine driven compressor unit
			3	Add one new 20,500 hp Titan 130 gas driven compressor unit.
Dunnellon	Marion	392.7R	2	Construct compressor station with one 20,500 hp Solar Titan 130 gas turbine driven compressor unit.
Reunion	Osceola	474.4	1	Construct compressor station with one 20,500 hp Solar Titan 130 gas turbine and one 15,900 hp Solar Mars 100 gas turbine driven compressor unit.

Alexander City Compressor Station

The Alexander City Compressor Station would be constructed during Phase 1 and would consist of two 20,500 hp Solar Titan 130 turbine driven compressor units and one 30,000 hp Solar Titan 250 turbine-driven compressor unit installed in an acoustically insulated building. Electric power to the station would be provided via connection to existing electrical service in the adjacent Transco pipeline right-of-way. The facility would be located on 29.7 acres within a 149.1-acre parcel that Sabal Trail would acquire adjacent to an existing natural gas-fired combined cycle electric generating plant operated by Exelon Generation Corporation, approximately 5 miles from Alexander City, Alabama.

Albany Compressor Station

The Albany Compressor Station would be constructed during Phase 2 and would include one 20,500 hp Solar Titan 130 turbine driven compressor unit installed in an acoustically insulated building. An additional 20,500 hp turbine drive compressor unit would be installed at the station during Phase 3 of the Sabal Trail Project.

In its November 2014 application, Sabal Trail proposed to locate the Albany Compressor Station along Newton Road just southwest of the City of Albany (the Newton Road Site). The Commission received numerous comments from affected landowners, local citizens, the City of Albany, Dougherty County, and others expressing environmental and safety concerns regarding the Newton Road Site. Upon further evaluation, Sabal Trail now proposes to locate the Albany Compressor Station within a 34-acre fenced area on a 98-acre parcel along West Oakridge Drive (the West Oakridge Drive Site). The West Oakridge Drive Site is located to the west of Albany, approximately 3 miles northwest from the Newton Road Site. The environmental and safety impacts associated with the West Oakridge Drive Site are disclosed in section 3.0, and section 4.4.2.1 includes our analysis of alternative locations for the Albany Compressor Station.

Hildreth Compressor Station

The Hildreth Compressor Station would be constructed during Phase 1 and would include one 20,500 hp Solar Titan 130 turbine driven compressor unit installed in an acoustically insulated building. An additional 20,500 hp turbine drive compressor unit would be installed at the station during Phase 3 of the Sabal Trail Project. Electric power to the station would be provided via connection to existing electrical service adjacent to the site. The facility would be located on 27.9 acres within a 44.7-acre parcel to be obtained by Sabal Trail.

Dunnellon Compressor Station

The Dunnellon Compressor Station would be constructed during Phase 1 and would include one 20,500 hp Solar Titan 130 turbine driven compressor unit installed in an acoustically insulated building. Electric power to the station would be provided via connection to existing electrical service adjacent to the site. The facility would be located on 37.3 acres within a 63.4-acre parcel to be obtained by Sabal Trail.

Reunion Compressor Station

The Reunion Compressor Station would be constructed during Phase 1 and would include one 20,500 hp Solar Titan 130 turbine driven compressor unit and one 15,900 hp Solar Mars 100 turbine driven unit installed in an acoustically insulated building. Electric power to the station would be provided via connection to existing electrical service adjacent to the site. The facility would be located on 17.8 acres within a 47.3-acre parcel to be obtained by Sabal Trail.

Other Aboveground Facilities

Table 2.1.2-3 summarizes the other aboveground facilities associated with the Sabal Trail Project including M&R stations, MLVs, and pig launchers/receivers. Additional information regarding the six M&R stations proposed by Sabal Trail is provided below. Sabal Trail would also install two side-tap valves on the Mainline pipeline in Dougherty and Mitchell Counties, Georgia. All of the other aboveground facilities would be located within Sabal Trail's rights-of-way or other Sabal Trail facility boundaries. Other minor, appurtenant facilities may be installed but are not included in table 2.1.2-3.

Transco Hillabee M&R Station

The Transco Hillabee M&R Station would be located at the interconnection between the Sabal Trail Project and Hillabee Expansion Project within the Alexander City Compressor Station site in Tallapoosa County, Alabama. The permanent access road associated with the Alexander City Compressor Station would also provide access to the M&R station.

The M&R facility would be a two dual 16-inch-diameter ultrasonic metering and two dual 16-inch-diameter monitor regulating station. The receipt station would have a maximum flow capacity of 851 MMcfd in 2017, increasing to 1,096 MMcfd in 2021.

TABLE 2.1.2-3

Sabal Trail Project Other Aboveground Facilities

State/Facility	County	Milepost	Scope of Work
Alabama			
Mainline Valve (MLV)-1; Transco Hillabee Meter and Regulating (M&R) Station; pig launcher	Tallapoosa	0.0	Install M&R station, MLV, and pig launcher within the Alexander City Compressor Station site.
MLV-2	Tallapoosa	19.3	Install MLV with remote blowdown due to adjacent powerline.
MLV-3	Chambers	29.8	Install MLV.
MLV-4	Lee	48.8	Install MLV.
MLV-5	Russell	66.7R	Install MLV.
MLV-6	Russell	75.4	Install MLV.
Georgia			
MLV-7	Stewart	90.6	Install MLV.
MLV-8	Stewart	104.2	Install MLV.
MLV-9	Terrell	122.8	Install MLV.
MLV-10	Terrell	140.3	Install MLV.
MLV-11; pig launcher/receiver	Dougherty	154.7R	Install MLV and pig launcher/receiver within the Albany Compressor Station site.
Tap Valve TV-MGAG-001	Dougherty	165.4	Install side-tap valve.
MLV-12	Mitchell	173.5	Install MLV.
Tap Valve TV-MGAG-002	Mitchell	176.3	Install side-tap valve.
MLV-13	Colquitt	185.3R	Install MLV.
MLV-14	Colquitt	198.1	Install MLV.
MLV-15	Brooks	211.7	Install MLV.
MLV-16	Brooks	224.6	Install MLV.
MLV-17	Lowndes	240.2	Install MLV.
Florida			
Mainline			
MLV-18	Hamilton	259.1	Install MLV with remote blowdown due to adjacent powerline.
MLV-19	Suwannee	270.0R	Install MLV.
MLV-20	Suwannee	280.9	Install MLV.
MLV-21; pig launcher/receiver	Suwannee	296.3	Install MLV and pig launcher/receiver within the Hildreth Compressor Station site.
FGT Suwanee M&R Station	Suwannee	299.7	Install M&R station.
MLV-22	Suwannee	306.9	Install MLV.
MLV-23	Gilchrist	320.4	Install MLV with remote blowdown due to adjacent powerline.
MLV-24	Alachua	340.1	Install MLV with remote blowdown due to adjacent powerline.
MLV-25	Levy	359.4	Install MLV.
MLV-26	Marion	374.9R	Install MLV.
MLV-27	Marion	392.7R	Install MLV within the Dunnellon Compressor Station site.
MLV-28	Sumter	409.8	Install MLV.
MLV-29	Sumter	422.9	Install MLV.
MLV-30	Lake	437.3R	Install MLV.
MLV-31	Lake	451.7	Install MLV.
MLV-32	Osceola	466.7R	Install MLV.
MLV-33; pig receiver; FSC M&R Station; Gulfstream M&R Station	Osceola	474.4	Install MLV, pig receiver, and two M&R stations within the Reunion Compressor Station site.

TABLE 2.1.2-3 (cont'd)

Sabal Trail Project Other Aboveground Facilities

State/Facility	County	Milepost	Scope of Work
Citrus County Line			
MLV-CCL-1; pig launcher	Marion	0.0	Install MLV and pig launcher within the Dunnellon Compressor Station site.
MLV-CCL-2	Citrus	7.3	Install MLV.
MLV-CCL-3; pig receiver; DEF Citrus County M&R Station	Citrus	21.5	Install MLV, pig receiver, and M&R station at termination of the Citrus County Line.
Hunters Creek Line			
MLV-HCL-1; pig launcher	Osceola	0.0	Install MLV and pig launcher within the Reunion Compressor Station site.
MLV-HCL-2	Osceola	7.1	Install MLV.
MLV-HCL-3; pig receiver; FGT Hunters Creek M&R Station	Orange	13.1	Install MLV, pig receiver, and M&R station at interconnection with FGT system.

FGT Suwanee M&R Station

The FGT Suwannee M&R Station would be located at the interconnection between the Sabal Trail Mainline pipeline and the FGT Suwannee Lateral at approximate MP 299.7 of the Mainline facility in Suwannee County, Florida. Sabal Trail would construct a permanent, graveled roadway to provide access to the station from 232nd Street to the south of the site.

The M&R facility would be a triple 16-inch-diameter and single 8-inch-diameter ultrasonic metering, triple 16-inch-diameter and single 8-inch-diameter monitor regulating, and quad 30-inch-diameter bi-directional skid station. The bi-directional station would have a maximum delivery flow capacity of 873 MMcfd in 2017 increasing to 1.231 MMcfd in 2021, and a maximum receipt flow capacity of 1,015 MMcfd starting in 2017 increasing to 1,369 MMcfd in 2021.

FSC M&R Station

The FSC M&R Station would be located at the interconnection between the Sabal Trail Project and FSC Project within the Reunion Compressor Station site in Osceola County, Florida. The permanent access road associated with the Reunion Compressor Station would also provide access to the M&R station.

The M&R facility would be a dual 12-inch-diameter ultrasonic metering and dual 12-inch-diameter monitor regulating station. The delivery station would have a maximum flow capacity of 590 MMcfd in 2017, increasing to 802 MMcfd in 2021.

Gulfstream M&R Station

The Gulfstream M&R Station would also be located within the Reunion Compressor Station site, at the interconnection between the Sabal Trail Project and existing Gulfstream system. The permanent access road associated with the Reunion Compressor Station would also provide access to the station site.

The M&R facility would be a dual 16-inch-diameter ultrasonic metering, dual 16-inch-diameter monitor regulating, and quad 24-inch-diameter skid station. The bi-directional station would have a maximum delivery flow capacity of 118 MMcfd starting in 2017 and a maximum receipt flow capacity of 600 MMcfd starting in 2017.

FGT Hunters Creek M&R Station

The FGT Hunters Creek M&R Station would be located at the interconnection between the HCL (MP 13.1) and the FGT pipeline in Orange County, Florida. Sabal Trail would construct a permanent graveled roadway to provide access to the M&R station from South Orange Blossom Trail Highway to the east of the site.

The M&R Station would be a dual 12-inch-diameter and single 8-inch-diameter ultrasonic metering, dual 12-inch-diameter and single 8-inch-diameter regulating, and quad 24-inch-diameter skid station. The bi-directional station would have a maximum delivery flow capacity of 590 MMcfd in 2017 increasing to 802 MMcfd in 2021, and a maximum receipt flow capacity of 600 MMcfd starting in 2017.

DEF Citrus County M&R Station

The DEF Citrus County M&R Station would be located at the terminus of the CCL (MP 21.5) at the location of a proposed DEF combined cycle electric generating facility (see sections 1.4 and 3.14).

Sabal Trail would construct a permanent graveled roadway to provide access to the M&R station from an access road off West Power Line Street to the south of the site.

The M&R station would be a dual 12-inch-diameter ultrasonic metering, single 3-inch-diameter rotary metering, and dual 12-inch-diameter and single 3-inch-diameter regulating station. The delivery station would have a maximum flow capacity of 425 MMcfd in 2017, increasing to 566 MMcfd in 2021.

2.1.3 Florida Southeast Connection Project

The FSC Project would be located in Florida and consist of pipeline facilities and aboveground facilities including one M&R station, MLVs, and pig launchers/receivers (see figure 2.1.3-1). The FSC Project would be constructed in one phase to provide 400 MMcfd of natural gas to FPL's existing Martin Plant beginning in May 2017, increasing to 600 MMcfd in May, 2020.

2.1.3.1 Pipeline Facilities

FSC would install about 126.4 miles of natural gas transmission pipeline, consisting of 36-inch-diameter pipeline between MPs 0.0 and 77.1, and 30-inch-diameter pipeline between MPs 77.1 to 126.4 (see table 2.1.3-1). FSC's pipeline would originate at the interconnection between the FSC Project and the Sabal Trail Project within Sabal Trail's Reunion Compressor Station and extend generally south and southeast across six counties. The pipeline would be operated with a MAOP of 1,440 psig. The land requirements for the pipeline facilities are summarized in section 2.2.3.1.

TABLE 2.1.3-1

Pipeline Facilities Associated with the Florida Southeast Connection Project

County	Milepost Range	Length (miles)	Pipe Diameter (inches)
Osceola	0.0-5.2	5.2	36
Polk	5.2-52.9	47.7	36
Osceola	52.9-77.1	24.2	36
Okeechobee	77.1-102.1	25.0	30
St. Lucie	102.1-114.8	12.7	30
Martin	114.8-126.4	11.6	30
Total		126.4	

2.1.3.2 Aboveground Facilities

The FSC Project would include the construction of one M&R station and the installation of MLVs along the pipeline route. All of the aboveground facilities would be located within or generally adjacent to FSC's right-of-way or within other aboveground facility boundaries. Other minor, appurtenant facilities may be installed but are not included in table 2.1.3-2. The land requirements for the aboveground facilities are summarized in section 2.2.3.2, and general construction and operation procedures for the facilities are discussed in sections 2.3.3 and 2.6, respectively. Additional information regarding the M&R station is provided below.

0 5 10 Miles

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Figure 2.1.3-1
Florida Southeast Connection Project Overview

Proposed Pipeline
Proposed New/Modified Compressor Station

TABLE 2.1.3-2 **Florida Southeast Connection Project Aboveground Facilities**			
Facility	County	Milepost	Scope of Work
MLV, pig launcher	Osceola	0.0	Install MLV at interconnection with the Sabal Trail Project within Sabal Trail's Reunion Compressor Station.
MLV1	Polk	4.3	Install MLV.
MLV2	Polk	14.8	Install MLV.
MLV3	Polk	27.2	Install MLV.
MLV4	Polk	34.0	Install MLV.
MLV5	Polk	44.0	Install MLV.
MLV6	Osceola	53.7	Install MLV.
MLV7	Osceola	70.3	Install MLV.
Pig launcher/receiver	Okeechobee	77.1	Install pig launcher/receiver where the pipe diameter changes from 36 to 30 inches.
MLV8	Okeechobee	87.2	Install MLV.
MLV9	Okeechobee	94.6	Install MLV.
MLV10	St. Lucie	110.0	Install MLV.
MLV11	Martin	118.7	Install MLV.
MLV, pig receiver, Martin Meter Station	Martin	126.4	Install MLV, pig receiver, and M&R station within the Martin Clean Energy Center property.

Martin M&R Station

The Martin M&R Station would be located at the terminus of the FSC Project on the grounds of FPL's existing Martin Plant. The station would include a filter/separator to remove small amounts of entrained liquids and debris from the gas stream, prefabricated skid-mounted metering runs, prefabricated skid-mounted pressure regulators, a gas chromatograph to measure the gas composition, and building enclosures. Additional process piping, electrical power, and pressure monitoring devices would also be installed. Existing roads at the Martin Plant would be used for permanent access to the station.

2.2 LAND REQUIREMENTS

Constructing the SMP Project would require the temporary use of about 11,436.2 acres of land. This land would be used for general pipeline construction, additional temporary workspaces (ATWS), aboveground facilities, pipe/contractor yards and staging areas, and new and improved access roads. In constructing the pipeline facilities, ATWS would be required in areas such as the following:

- adjacent to crossings of roadways, railroads, waterbodies, wetlands, or other utilities;
- construction constraints that require special construction techniques, such as horizontal directional drill (HDD) entry and exit locations;
- HDD pullbacks;
- areas requiring extra trench depth;
- certain pipe bends;
- areas for spoil storage;
- areas for temporary storage of segregated topsoil;
- locations with soil stability concerns;

- truck turnarounds;
- equipment passing lanes;
- hydrostatic test water withdrawal and discharge locations; and
- staging and fabrication areas.

The Applicants would use existing public and private roads to gain access to their respective project areas. Many of the existing roads are presently in a condition that can accommodate construction traffic without modification or improvement. Some roads, however, are dirt or gravel roads that are not currently suitable for construction traffic. Where necessary, the Applicants would improve unsuitable dirt and gravel roads through widening and/or grading. Widening would involve increasing the width of the road bed by up to 25 feet. Grading would be confined to the existing road bed or to the footprint of the newly widened road. After construction and at roads used temporarily for construction, the Applicants would remove access road improvements and restore improved roads to their preconstruction condition unless the landowner or land-managing agency requests that the improvements be left in place

The majority of the permanent right-of-way would be allowed to revert to former use; however, certain activities, such as the construction of aboveground structures or the planting and cultivating of trees, would be prohibited within the permanent right-of-way. Operating the SMP Project would require the permanent use of about 4,143.3 acres for pipeline maintenance, aboveground facilities, and permanent access roads (see table 2.2-1).

TABLE 2.2-1

Land Requirements of the Southeast Market Pipelines Project

	Total (acres)	
Project/Component	Construction	Operation
Hillabee Project Pipeline		
Pipeline Right-of-Way	560.3	264.4
Additional Temporary Workspace	176.7	0.0
Aboveground Facilities	110.3	26.6
Access Roads	62.1	5.8
Pipe/Contractor Yards	90.4	0.0
Hillabee Expansion Project Subtotal	999.8	296.8
Sabal Trail Project		
Pipeline Right-of-Way	5,976.1	2,824.5
Additional Temporary Workspace	1,621.7	0.0
Aboveground Facilities	224.3	166.1
Access Roads	337.8	105.2
Pipe/Contractor Yards	388.8	0.0
Sabal Trail Project Subtotal	8,548.8	3,095.8
Florida Southeast Connection Project		
Pipeline Right-of-Way	1,385.5	743.6
Additional Temporary Workspace	167.6	0.0
Aboveground Facilities	1.7	1.7
Access Roads	128.5	5.3
Pipe/Contractor Yards	204.3	0.0
Florida Southeast Connection Project Subtotal	1,887.6	750.7
Southeast Market Pipelines Project Total	11,436.2	4,143.3

Note: The totals shown in this table may not equal the sum of addends due to rounding.

The Commission encourages the use, enlargement, or extension of existing rights-of-way over developing a new right-of-way in order to reduce potential impacts on sensitive resources. In general, the collocation of new pipeline along existing rights-of-way or other linear corridors that have been previously cleared or used (such as pipelines, power lines, roads, or railroads) may be environmentally preferable to the development of new rights-of-way. Construction-related impacts and cumulative impacts can normally be reduced by use of previously cleared or disturbed rights-of-way; however, in congested or environmentally sensitive areas, it may be advantageous to deviate from an existing right-of-way. Additionally, collocation may be infeasible in some areas due to a lack of or unsuitably oriented existing corridors, engineering and design considerations, or constructability or permitting issues.

The Applicants attempted to collocate their facilities with other rights-of-way. Of the 685.4 miles of pipeline for the SMP Project, about 448.9 miles (66 percent) would be collocated with other existing rights-of-way. Additional information on the location of the proposed pipeline in relation to existing rights-of-way is presented in section 3.9.1.1.

2.2.1 Hillabee Expansion Project

2.2.1.1 Pipeline Right-of-Way

Transco would generally use a 110- to 120-foot-wide temporary right-of-way to construct the proposed pipeline loops (see appendix C). This right-of-way would be reduced as necessary through sensitive areas such as wetlands, waterbodies, and residential lands. Constructing the Hillabee Expansion Project pipeline loops would require the temporary use of about 560.3 acres of land.

Transco proposes a pipeline route that is generally parallel to and overlaps its existing pipeline right-of-way for approximately 38.9 miles (89 percent) of the total pipeline loop lengths. The remaining 4.6 miles (11 percent) of the pipeline route would deviate from this right-of-way. Where collocated, Transco's construction workspace would generally overlap with the existing easement by 30 to 60 feet. Of the area affected by pipeline construction, approximately 307.4 acres would overlap with existing easements. Additional information on the locations of the proposed pipeline in relation to existing rights-of-way is presented in section 3.9 of the EIS.

Following construction, Transco would retain a 50-foot-wide permanent right-of-way to operate the pipeline. Transco's permanent right-of-way would generally overlap with the existing collocated facility's easement by 25 to 50 feet. The permanent right-of-way would require about 264.4 acres of land. Of this area, about 155.5 acres would be within previously disturbed, maintained, operational easements.

Most ATWSs would add 25 feet onto the construction right-of-way, effectively creating a 135- to 145-foot-wide work area at the ATWS location. In total, ATWSs would temporarily require about 176.7 acres of land. Table 2.2.1-1 in appendix D lists each ATWS proposed on the Hillabee Expansion Project.

2.2.1.2 Aboveground Facilities

Constructing and operating the aboveground facilities would require the temporary and permanent use of about 110.3 acres of land and 26.6 acres of land, respectively. Table 2.2.1-2 lists the land required for each aboveground facility.

TABLE 2.2.1-2

Aboveground Facility Land Requirements for the Hillabee Expansion Project

Facility [a, b]	Milepost	Construction Area (acres)	Operation Area (acres)
Compressor Station 84	782.8	79.5	14.0
Rock Springs Launcher and Mainline Block Valve	784.7	0.0 [c]	0.2
Rock Springs Receiver and Mainline Block Valve	791.4	0.0 [c]	0.4
Butler Receiver and Mainline Block Valve	796.7	0.0 [c]	0.3
Compressor Station 95	851.4	18.3	0.8
Compressor Station 100[c]	890.6	0.0 [c]	0.0
Billingsley Receiver and Mainline Block Valve	890.6	0.0 [c]	5.0
Autauga Launcher and Mainline Block Valve	890.7	0.0 [c]	3.2
Autauga Receiver and Mainline Block Valve	898.2	0.0 [c]	0.4
Verbena Receiver and Mainline Block Valve	909.7	0.0 [c]	0.4
Proctor Creek Launcher and Mainline Block Valve	911.1	0.0 [c]	0.4
Compressor Station 105	926.9	12.5	0.9
Hissop Tie-in to Compressor Station 105 [d]	926.9	0.0 [c]	0.0
Sabal Trail Hillabee Meter Station [e]	944.3	0.0 [c]	0.2
Alexander City Receiver and Mainline Block Valve	949.4	0.0 [c]	0.5
Total		110.3	26.6

[a] Aboveground facilities would be located entirely within the permanent, maintained right-of-way for the pipeline loops.
[b] Does not include removed facilities, which would be allowed to revert to pre-construction conditions.
[c] Construction would occur within the construction workspace for the pipeline.
[d] Proposed upgrades would not result in new land impacts.
[e] Transco would install aboveground appurtenances within the footprint of the Sabal Trail Hillabee M&R Station, which is associated with the Sabal Trail Project.

Note: The totals shown in this table may not equal the sum of addends due to rounding.

2.2.1.3 Pipe/Contractor Yards and Staging Areas

Transco would use nine pipe/contractor yards and staging areas in Alabama and one contractor yard and staging area in Mississippi to house contractor management offices and to stage and store vehicles, equipment, pipe, and other materials (see table 2.2.1-3). The yards would temporarily occupy about 90.4 acres.

2.2.1.4 Access Roads

Transco has identified 58 existing roads that would need to be improved or modified. Additionally, Transco would build and permanently maintain five new roads for operations and permanently maintain six existing roads for operations. Of the proposed access roads, 59 are associated with yard and pipeline right-of-way access and 10 are associated with aboveground facility access. Access road use would temporarily impact about 62.1 acres of land and permanently impact about 5.8 acres. Table 2.2.1-4 in appendix D identifies each road improvement proposed for the Hillabee Expansion Project.

TABLE 2.2.1-3

Pipe/Contractor Yards and Staging Areas for the Hillabee Expansion Project

State/County - Yard Name	Construction Area (acres)	Operation Area (acres)
Alabama Yards		
Choctaw County - Butler #3	5.0	0.0
Choctaw County - Butler #4	10.3	0.0
Chilton County - Billingsley #1	17.3[a]	0.0
Chilton County - Verbena #1	11.2	0.0
Chilton County - Verbena #2	6.9	0.0
Chilton County - Clanton #1	4.8[a]	0.0
Chilton County - Clanton #2	9.2[a]	0.0
Chilton County - Clanton #3	8.3	0.0
Coosa County - Kellyton #1	9.2[a]	0.0
Mississippi Yard		
Lauderdale County - Meridian #1	8.2	0.0
Total	90.4	0.0

[a] Construction area impacts do not include the acreages of wetlands located within the yards. Transco would avoid impacts on wetlands areas during use of the yards.

Note: The totals shown in this table may not equal the sum of addends due to rounding.

2.2.2 Sabal Trail Project

2.2.2.1 Pipeline Right-of-Way

Sabal Trail would generally use a 100-foot-wide temporary right-of-way to construct the proposed Mainline route and HCL, and a 90-foot-wide temporary right-of-way to construct the CCL (see appendix C). This right-of-way would be reduced as necessary through sensitive areas such as wetlands, waterbodies, and residential lands. Constructing the Sabal Trail Project would require the temporary use of about 5,976.1 acres of land.

Sabal Trail proposes pipeline routes that are collocated with existing rights-of-way or previously disturbed corridors for approximately 308.1 miles (60 percent) of the total pipeline lengths. The remaining approximately 207.5 miles (40 percent) of the pipeline route would deviate from these rights-of-way and corridors. Of the area affected by pipeline construction, approximately 487.3 acres (8 percent) would overlap with existing easements.

Following construction, Sabal Trail would retain a 50-foot-wide permanent right-of-way to operate the pipeline facilities. The permanent right-of-way would require about 2,824.5 acres of land. Of this area, about 94.7 acres would be within previously disturbed, maintained, operational easements.

In addition to the construction right-of-way, ATWS would be required in areas such as those identified in section 2.2. Most ATWSs would add 25 feet onto the construction right-of-way, effectively creating a 115- to 125-foot-wide work area at the ATWS location. In total, ATWSs would temporarily require about 1,621.7 acres of land. Table 2.2.1-1 in appendix D lists each ATWS proposed on the Sabal Trail Project.

2.2.2.2 Aboveground Facilities

Constructing and operating the aboveground facilities would require the temporary and permanent use of about 224.3 acres and 161.1 acres, respectively. Table 2.2.2-1 lists the land required for each aboveground facility.

TABLE 2.2.2-1

Sabal Trail Project Aboveground Facility Land Requirements

State/Facility	Milepost	Construction Area (acres)	Operation Area (acres)
Alabama			
Alexander City Compressor Station	0.0	66.8	29.7
Transco Hillabee Meter Station	0.0	1.3	1.3
Additional Aboveground Facilities (MLVs, etc.) [a]	See table 2.1.1-3	0.5	0.5
Georgia			
Albany Compressor Station	154.7	33.4	26.3
Additional Aboveground Facilities (MLVs, etc.) [a]	See table 2.1.1-3	1.0	1.0
Florida			
Hildreth Compressor Station	296.3	34.6	27.9
Dunnellon Compressor Station	392.7R	37.3	37.3
Reunion Compressor Station	474.4	18.4	17.7
FGT Suwannee Meter Station	299.7	10.4	7.4
FSC Meter Station	474.4	1.5	1.5
Gulfstream Meter Station	474.4	1.4	1.4
FGT Hunters Creek Meter Station	13.1	6.4	3.6
Duke Energy Citrus Meter Station	21.5	9.8	4.1
Additional Aboveground Facilities (MLVs, etc.) [a]	See table 2.1.1-3	1.4	1.4
Total		224.3	161.1

[a] Includes MLVs, pig receivers, pig launchers, and tap valves that would be located entirely within the permanent, maintained right-of-way for the pipeline or are associated with the construction and operation of another proposed aboveground facility site.

Note: The totals shown in this table may not equal the sum of addends due to rounding.

2.2.2.3 Pipe/Contractor Yards and Staging Areas

Sabal Trail would use two contractor yards in Alabama, five pipe/contractor yards in Georgia, and seven pipe/contractor yards in Florida to house contractor management offices and to stage and store vehicles, equipment, pipe, and other materials (see table 2.2.2-2). The yards would temporarily occupy about 388.8 acres.

2.2.2.4 Access Roads

Sabal Trail has identified 158 existing roads that would need to be improved or modified. Additionally, Sabal Trail would build and permanently maintain 36 new roads for operations; permanently maintain 49 existing roads for operations; and build 21 new roads for temporary use during construction. Of the proposed access roads, 251 are associated with pipe/contractor yards and pipeline right-of-way access and 8 are associated with aboveground facility access. Access road use would temporarily impact about 337.7 acres of land and permanently impact about 105.2 acres. Table 2.2.1-4 in appendix D identifies each road improvement proposed for the Sabal Trail Project.

TABLE 2.2.2-2

Pipe/Contractor Yards and Staging Areas for the Sabal Trail Project

State/County - Yard Name	Construction Area (acres)	Operation Area (acres)
Alabama		
Chambers County, Yard 1-1	22.9	0.0
Lee County, Yard 1-2	24.7	0.0
Georgia		
Lee County, Yard 2-1	21.3	0.0
Dougherty County, Yard 2-2	24.1	0.0
Dougherty County, Yard 2-3	77.0	0.0
Lowndes County, Yard 3-2	25.0	0.0
Lowndes, Yard 3-3	23.9	0.0
Florida		
Suwannee County, Yard 4-1	24.8	0.0
Marion County, Yard 5-5	38.3	0.0
Marion County, Yard 5-6	29.7	0.0
Marion County, Yard 5-7	18.1	0.0
Lake County, Yard 6-1	12.2	0.0
Osceola County, Yard 6-3	17.7	0.0
Sumter County Yard 6-5	29.1	0.0
Total	388.8	0.0

Note: The totals shown in this table may not equal the sum of addends due to rounding.

2.2.3 Florida Southeast Connection Project

2.2.3.1 Pipeline Right-of-Way

FSC would generally use a 100-foot-wide temporary right-of-way to construct the majority of the proposed route in upland non-agricultural areas and a 125-foot-wide construction right-of-way in agricultural areas (see appendix C). This right-of-way would be reduced as necessary through sensitive areas such as wetlands, waterbodies, and residential lands. Constructing the FSC Project would require the temporary use of about 1,385.5 acres of land.

FSC proposes a pipeline route that is collocated with existing roads and utilities for approximately 101.9 miles (81 percent) of the total pipeline length. The remaining 24.5 miles (19 percent) of the pipeline route would deviate from these rights-of-way or corridors.

Following construction, FSC would retain a 50-foot-wide permanent right-of-way to operate the pipeline. The permanent right-of-way would require about 743.6 acres of land.

In addition to the construction right-of-way, ATWS would be required in areas such as those identified in section 2.2. Most ATWSs would add 25 feet onto the construction right-of-way, effectively creating a 125- to 155-foot-wide work area at the ATWS location. In total, ATWSs would temporarily require about 167.6 acres of land. Table 2.2.1-1 in appendix D lists each ATWS proposed on the FSC Project.

2.2.3.2 Aboveground Facilities

Constructing and operating the aboveground facilities would require the temporary and permanent use of about 1.7 acres of land each, respectively. Table 2.2.3-1 lists the land required for each aboveground facility site.

TABLE 2.2.3-1

Aboveground Facility Land Requirements for the Florida Southeast Connection Project

Facility	Milepost	Construction Area (acres)	Operation Area (acres)
M&R Station			
Martin M&R Station	126.4	0.9	0.9
Other Aboveground Facilities (MLVs, pig launchers/receivers) [a]			
MLV/Launcher and Receiver Sites	See table 2.1.3-2	0.3	0.3
MLVs #1-11	See table 2.1.3-2	0.5	0.5
Total		1.7	1.7

[a] Includes MLVs, pig receivers, and pig launchers that would be located entirely within the permanent, maintained right-of-way for the pipeline or are associated with the construction and operation of another proposed aboveground facility site.

Note: The totals shown in this table may not equal the sum of addends due to rounding.

2.2.3.3 Pipe/Contractor Yards and Staging Areas

FSC would use six contractor yards and one staging area to house contractor management offices and to stage and store vehicles, equipment, pipe, and other materials. The yards would temporarily occupy about 204.2 acres (see table 2.2.3-2).

TABLE 2.2.3-2

Pipe/Contractor Yards and Staging Areas for the Florida Southeast Connection Project

Yard Name	Construction Area (acres)	Operation Area (acres)
Contractor Yards		
Polk Contractor Yard	12.8	0.0
Lake Wales Contractor Yard	7.5	0.0
Osceola Contractor Yard	92.5	0.0
Okeechobee Pipe Storage Yard	21.5	0.0
Martin Contractor Yard	41.3	0.0
Martin Pipe Storage Yard	24.4	0.0
Staging Areas		
Yeehaw Junction Staging Area	4.3	0.0
Total	204.2	0.0

Note: The totals shown in this table may not equal the sum of addends due to rounding.

2.2.3.4 Access Roads

FSC has identified 254 existing roads that would need to be improved or modified. Additionally, FSC would permanently maintain 14 existing roads for operations and build 1 new road for temporary use during construction. Of the proposed access roads, 256 are associated with yard and pipeline right-of-way access and 13 are associated with aboveground facility access. Access road use would temporarily impact about 125.8 acres of land and permanently impact about 5.3 acres. Table 2.2.1-4 in appendix D identifies each road improvement proposed on the FSC Project.

2.3 CONSTRUCTION PROCEDURES

The Applicants would design, construct, operate, and maintain their respective pipelines and facilities in accordance with U.S. Department of Transportation (DOT) regulations under 49 CFR 192 (Transportation of Natural and Other Gas by Pipeline: Minimum Federal Safety Standards) and other applicable federal and state regulations. DOT regulations specify pipeline material selection; minimum design requirements; protection from internal, external, and atmospheric corrosion; and qualification procedures for welders and operations personnel, in addition to other design standards. The Applicants would also comply with the siting and maintenance requirements under 18 CFR 380.15 (Siting and Maintenance Requirements) and other applicable federal and state regulations, including the requirements of the U.S. Department of Labor, Occupational Safety and Health Administration. These safety regulations are intended to ensure adequate protection of the public, pipeline workers, contractors, and employees, and to prevent natural gas pipeline accidents and failures.

In their respective applications, the Applicants provided plans describing how they would construct and maintain their respective projects. These plans also include measures to avoid and minimize potential impacts on the environment. The environmental avoidance and impact minimization measures identified in the Applicants' plans are based on our *Upland Erosion Control, Revegetation and Maintenance Plan* (FERC Plan) and *Wetland and Waterbody Construction and Mitigation Procedures* (FERC Procedures) available on the FERC Internet website at http://www.ferc.gov/industries/gas/enviro/guidelines.asp. As noted in section 2.2, Transco's baseline environmental construction, restoration, and mitigation plans are contained in its *Construction Best Management Practices Plan* (CBMPP); Sabal Trail's baseline environmental plans are contained in its *Erosion and Sediment Control Plan* (E&SCP); and FSC's baseline environmental plans are contained in its Plan and Procedures. These plans are collectively referred to in this EIS as the Applicants' construction plans and generally include measures that:

- minimize workspace and the duration of construction in uplands and wetlands;
- minimize the impacts of construction on soils and vegetation;
- minimize erosion in uplands and sedimentation in wetlands and waterbodies;
- minimize impacts on terrestrial and aquatic species;
- maintain and control the flow of water in waterbodies;
- enhance restoration of affected lands; and
- minimize impacts on residential areas.

The Applicants' construction plans each include certain proposed modifications to the FERC Plan and Procedures. These modifications are identified in each construction plan and described in table 2.3-1 in appendix D.

In addition to the Applicants' baseline plans, the Applicants prepared several other plans or developed and described other measures identified in table 2.3-2 that would be implemented to further reduce potential environmental impacts. The baseline plans and additional plans and procedures are collectively referred to in this EIS as the Applicants' construction and restoration plans.

TABLE 2.3-2

Construction and Restoration Plans for the Southeast Market Pipelines Project

General Plan Name	Transco	Sabal Trail	Florida Southeast Connection
Upland Erosion Control, Revegetation, and Maintenance Plan	Transco's *Upland Erosion Control, Revegetation, and Maintenance Plan* (Resource Report (RR) 7, appendix 7.B; Accession No. 20141118-5156) Draft *Construction Best Management Practices Plan* (CBMPP) (Accession No. 20150410-5147)	*Erosion and Sediment Control Plan* (E&SCP): (Accession No. 20150515-5216)	FSC *Upland Erosion Control, Revegetation, and Maintenance Plan* (RR1, appendix 1F; Accession No. 20140926-5191)
Wetland and Waterbody Construction and Mitigation Procedures	Transco's *Wetland and Waterbody Construction and Mitigation Procedures* (RR2, appendix 2.A; Accession No. 20141118-5156)	Included with E&SCP	FSC *Wetland and Waterbody Construction and Mitigation Procedures* (RR1, appendix 1G; Accession No. 20140926-5191)
HDD Construction and Contingency Plans	NA	*Best Drilling Practices Plan for the Sabal Trail Project* (EIS appendix E)	*HDD Contingency Plan* (EIS appendix E)
Karst Plan	NA	*Karst Mitigation Plan* (EIS appendix F)	*Karst Plan* (EIS appendix F)
Residential Construction Plans	EIS appendix G	EIS appendix G	EIS appendix G
Karst Characterization Studies	NA	*Characterization of Karst Sensitive Areas Relative to the Proposed Route of the Sabal Trail Natural Gas Transmission Pipeline in Georgia* and *Characterization of Karst Sensitive Areas Relative to the Proposed Route of the Sabal Trail Natural Gas Transmission Pipeline in Florida* (EIS appendix H)	NA
Spill Plans	*Construction Spill Plan for Oil and Hazardous Materials* (EIS appendix I)	*Spill Prevention, Control and Countermeasure Plan* (EIS appendix I)	*Spill Prevention and Control Plan* (EIS appendix I)
Blasting Plan	*Blasting Plan* (RR6, appendix 6.A; Accession No. 20141118-5156)	*Blasting Plan* (RR6, appendix 6A; Accession No. 20141121-5111)	RR6 discussion (Accession No. 20140926-5191)
Paleontological Resource Plan	*Unanticipated Paleontological Resources Discovery Plan* (RR6, appendix 6.B; Accession No. 20141118-5156)	RR6 discussion (Accession No. 20141121-5111)	*Paleontological Resource Plan* (RR6, appendix 6C; Accession No. 20140926-5191)
Groundwater Monitoring and Mitigation Plan	*Groundwater Monitoring and Mitigation Plan* (RR2, appendix 2.D; Accession No. 20141118-5156)	RR2 discussion (Accession No. 20141121-5179)	RR2 discussion (Accession No. 20140926-5191)
Hazardous Materials Discovery Plan	*Unanticipated Discovery of Contamination Plan* (RR7, appendix 7.C; Accession No. 20141118-5156)	RR1 discussion (Accession No. 20141121-5110)	*Unexpected Contamination Response Plan* (Accession No. 20150310-5132)
Invasive Species Management Plan	*Noxious and Invasive Weed Control Plan* (RR3, appendix 3.A; Accession No. 20141118-5156)	*Noxious Weed Management Plan* (RR3, appendix 3A; Accession No. 20141121-5128)	*Invasive Species Management Plan for the FSC Project* (RR1, appendix 1E; Accession No. 20140926-5191)

TABLE 2.3-2 (cont'd)

Construction and Restoration Plans for the Southeast Market Pipelines Project

General Plan Name	Transco	Sabal Trail	Florida Southeast Connection
Residential Access/Traffic Mitigation Plan	RR8 discussion (Accession No. 20141118-5156)	RR8 discussion (Accession No. 20141121-5111)	*Residential Access and Traffic Mitigation Plan* (RR8, appendix 8C; Accession No. 20140926-5191)
Landowner Complaint Resolution Procedure	*Landowner Complaint Resolution Procedure* (RR1, appendix 1.E; Accession No. 20141118-5156)	RR1 discussion (Accession No. 20141121-5110)	RR1 discussion (Accession No. 20140926-5191)
Fire Suppression Plan	*Burning and Fire Suppression Plan* (Accession No. 20150410-5147)	RR1 discussion (Accession No. 20141121-5110)	RR1 discussion (Accession No. 20140926-5191)
Unanticipated Discovery Plan	*Protocols for Inadvertent Discovery of Cultural Resources, Burials and/or Human Remains Hillabee Expansion Project* (RR4, appendix 4.A; Accession No. 20141118-5156)	*Procedures Guiding the Discovery of Unanticipated Cultural Resources and Human Remains* (RR4, appendix 4C; Accession No. 20141121-5110)	*Procedures Guiding the Discovery of Unanticipated Cultural Resources and Human Remains* (RR4, appendix 4C; Accession No. 20140926-5191)
Dust Control Plans/Procedures	*Fugitive Dust Control Plan* (Accession No. 20150410-5147)	*Fugitive Dust Plan*; Accession No. 20150327-5260	RR9 discussion Accession No. 20140926-5191
HDD Noise Complaint Resolution Plan	NA	RR9 discussion (Accession No. 20141121-5111)	*HDD Noise Complaint Resolution Plan* (RR9, appendix 9B; Accession No. 20140926-5191)

2.3.1 General Pipeline Construction Procedures

Constructing the SMP Project pipelines and associated facilities would generally be completed using sequential pipeline construction techniques, which include survey and staking; clearing and grading; trenching; pipe stringing, bending, and welding; lowering-in and backfilling; hydrostatic testing; commissioning; and cleanup and restoration (figure 2.3.1-1). These construction techniques would generally proceed in an assembly line fashion and construction crews would move down the construction right-of-way as work progresses. Construction at any single point along the pipelines, from surveying and staking to cleanup and restoration, could last from about 6 to 12 weeks.

2.3.1.1 Survey and Staking

The first step of construction involves survey crews staking the limits of the construction right-of-way, the centerline of the proposed trench, ATWS, and other approved work areas. The Applicants would mark approved access roads using temporary signs or flagging, and the limits of approved disturbance on any access roads requiring widening. The Applicants would mark other environmentally sensitive areas (e.g., waterbodies, cultural resources, sensitive species) where appropriate. The Applicants would contact the One-Call system for each state to locate, identify, and flag existing underground utilities to prevent accidental damage during pipeline construction.

2.3.1.2 Clearing and Grading

Clearing and grading would remove trees, shrubs, brush, roots, and large rocks from the construction work area and would level the right-of-way surface to allow operation of construction equipment. Vegetation would generally be cut or scraped flush with the surface of the ground, leaving rootstock in place where possible. Brush and other materials cleared from the construction corridor would be open burned, chipped/mulched within the construction right-of-way, or hauled offsite to an appropriate disposal location. Any open burning would be conducted in accordance with applicable state and local regulations and project plans. In the event of an uncontrolled fire, the construction personnel would notify the appropriate fire control authority, and the contractor would initiate and implement fire control activities until relieved by professional fire suppression crews.

Grading would be conducted where necessary to provide a reasonably level work surface. More extensive grading would be required in uneven terrain and where the right-of-way traverses steep slopes and side slopes. The Applicants have indicated that they would separate topsoil from subsoil in residential and agricultural areas. The Applicants would segregate at least the top 12 inches of topsoil where 12 or more inches of topsoil is present. In soils with less than 12 inches of topsoil, the Applicants would segregate the entire topsoil layer. During backfilling, subsoil would be returned to the trench first. Topsoil would follow such that spoil would be returned to its original horizon.

Temporary erosion controls would be installed along the construction right-of-way immediately after initial disturbance of the soil and would be maintained throughout construction. Temporary erosion control measures would remain in place until permanent erosion controls are installed or restoration is completed. Each Applicant has committed to employing Environmental Inspectors (EIs) during construction to help determine the need for erosion controls and ensure that they are properly installed and maintained. Additional discussion of EI responsibilities is provided in section 2.5.1.

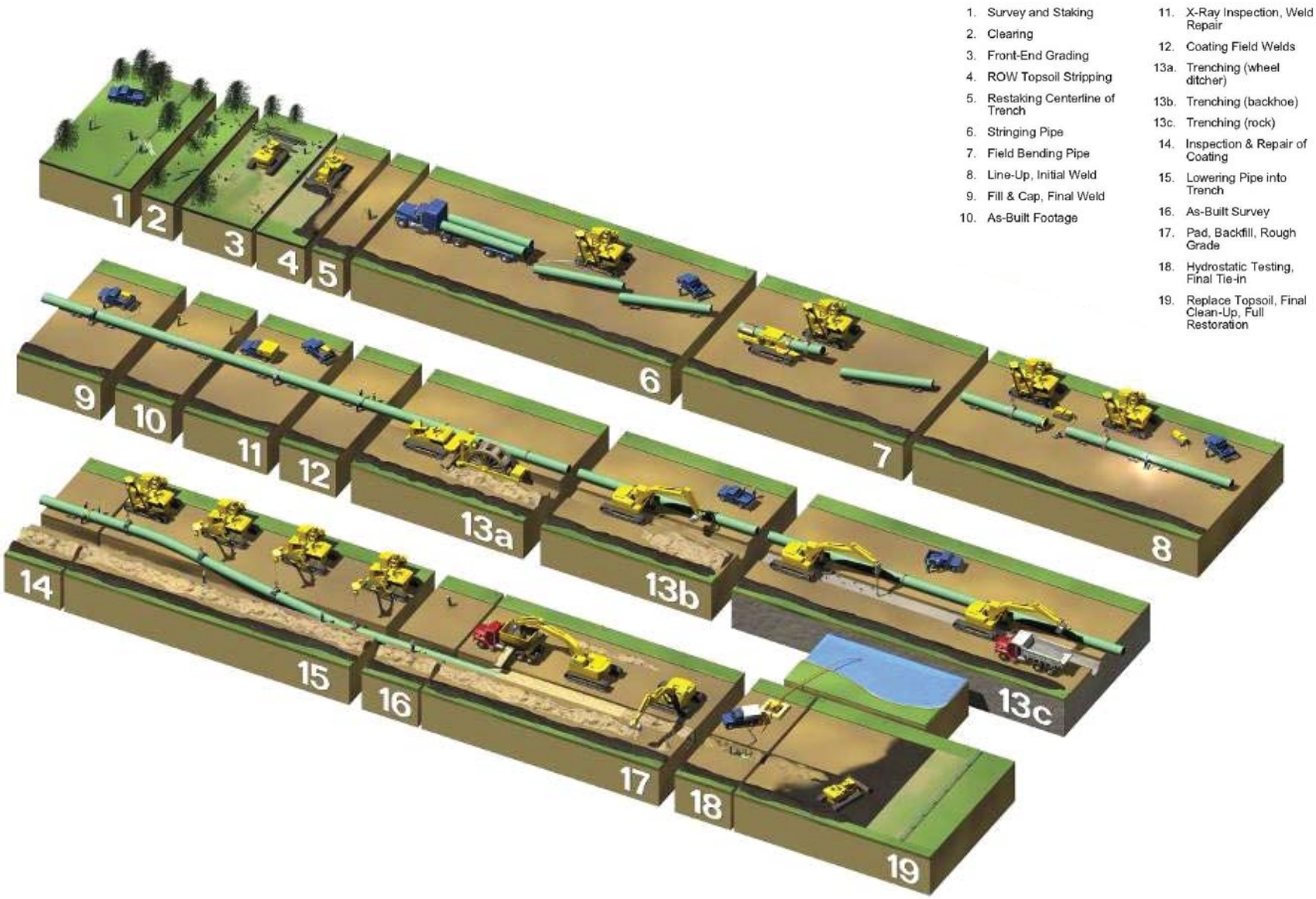


Figure 2.3.1-1
Southeast Market Pipelines Project
Construction Sequence Overview

2.3.1.3 Trenching

Soil and bedrock would be removed to create a trench into which the pipeline would be placed. A rotary trenching machine, track-mounted excavator, or similar equipment would be used to dig the pipeline trench. When rock is encountered, tractor-mounted mechanical rippers or rock trenchers would be used to fracture the rock prior to excavation. Excavated materials would be stockpiled along the right-of-way on the side of the trench away from the construction traffic.

The trench would be excavated to a depth that would provide sufficient cover over the pipeline in accordance with DOT standards in 49 CFR 192.327. Typically, the trench would range from 6 to 8 feet deep, depending on the substrate and resource being crossed. Excavations could be deeper in certain locations, such as at road and stream crossings. Less cover would be provided in rocky areas and additional cover would be provided at road and waterbody crossings. Additional cover (above DOT standards) could also be negotiated at a landowner's request to accommodate land use practices. Additional depth of cover generally requires a wider construction right-of-way in order to store the additional spoil.

Blasting would be required in areas where mechanical equipment cannot break up or loosen the bedrock. Sabal Trail and Transco have stated that blasting for rock removal may be required during construction, primarily in Alabama and Georgia. Transco and Sabal Trail would each implement a project-specific *Blast Plan* in accordance with industry accepted standards, applicable regulations, and permit requirements. Each Applicant would adhere to strict safety precautions during blasting and would exercise care to prevent damage to nearby structures, utilities, wells, springs, and other important resources. Blasting would only be conducted during daylight hours and would not begin until landowners and tenants have been provided sufficient advanced notice to protect property or livestock. Blasting mats or padding would be used where necessary to prevent fly rock from scattering. All blasting activities would be performed in compliance with federal, state, and local codes, ordinances, and permits; manufacturers' prescribed safety procedures; and industry practices. FSC does not anticipate that blasting would be required for installation of the FSC Project; however, it stated it would conduct any potential blasting activities in accordance with the measures described above. Impacts of blasting on various resources and details about the measures to mitigate the impacts of blasting on these resources are discussed in sections 3.1.3.2, 3.3.1.7, 3.3.2.5, and 3.5.2.3.

2.3.1.4 Pipe Stringing, Bending, Welding, and Coating

After trenching, sections of pipe typically between 40 and 80 feet long (also referred to as "joints") would be transported to the right-of-way by truck and strung beside the trench in a continuous line. The pipe would be delivered to the job site with a protective coating of fusion-bonded epoxy or other approved coating that would inhibit corrosion by preventing moisture from coming into direct contact with the steel.

Individual sections of pipe would be bent to conform to the contours of the ground after the joints of pipe sections are strung alongside the trench. Workers would use a track-mounted, hydraulic pipe-bending machine to bend the pipe. Where multiple or complex bends are required, bending would be conducted at the pipe fabrication factory, and the pipe would be shipped to the SMP Project area pre-bent.

After the pipe joints are bent, they would be aligned, welded together into a long segment, and placed on temporary supports at the edge of the trench. The Applicants would use welders who are qualified according to applicable standards in 49 CFR 192 Subpart E, American Petroleum Standard 1104, and other requirements.

Once the welds are made, a coating crew would coat the area around the weld before the pipeline is lowered into the trench. Prior to application, the coating crew would thoroughly clean the bare pipe with

a power wire brush or sandblast machine to remove dirt, mill scale, and debris. The crew would then apply the coating and allow the coating to dry. The pipeline would be inspected electronically (also referred to as "jeeped" because of the sound of the alarm on the testing equipment) for faults or voids in the coating and would be visually inspected for scratches, and other defects. The Applicants would repair damage to the coating before the pipeline is lowered into the trench.

2.3.1.5 Lowering-In and Backfilling

The trench would be inspected to be sure it is free of rocks and other debris that could damage the pipe or protective coating before the pipe would be lowered into the trench. Trench dewatering may be necessary to inspect the bottom of the trench in areas where water has accumulated. Trench water discharges would be directed to well-vegetated areas and away from waterbodies and dry washes to minimize the potential for runoff and sedimentation. The pipeline would then be lowered into the trench by a series of side-boom tractors (tracked vehicles with hoists on one side and counterweights on the other), which would carefully lift the pipeline and place it on the bottom of the trench.

Trench breakers (stacked sand bags or polyurethane foam) would then be installed in the trench on slopes at specified intervals to prevent subsurface water movement along the pipeline. The trench would then be backfilled using the excavated material. At locations where topsoil had been separated from subsoil during the clearing process, subsoil would be returned to the trench first, followed by topsoil. A crown of soil about the width of the trench and up to 1 foot high may be left over the trench to compensate for settling. Appropriately spaced breaks may be left in the crown to prevent interference with stormwater runoff.

In rocky areas or where the trench contains bedrock, padding material such as sand, approved foam, or other protective materials would be placed in the bottom of the trench to protect the pipeline. Topsoil would not be used for padding. Once the pipe is sufficiently covered with suitable material, the excavated rocky soil would be used for backfill within the original rocky soil horizon.

2.3.1.6 Hydrostatic Testing

The Applicants would hydrostatically test the pipeline after backfilling to ensure the system is capable of withstanding the operating pressure for which it was designed. Hydrostatic testing involves filling the pipeline with water to a designated test pressure and maintaining that pressure for about 8 hours. Actual test pressures and durations would be consistent with the requirements of 49 CFR 192. Any leaks would be repaired and the section of pipe retested until the required specifications were met.

Water for hydrostatic testing would be obtained from surface waterbodies and municipal water sources. Hydrostatic test water would contact only new pipe and no chemicals would be added to the water. Section 3.3.3 provides more information on hydrostatic testing.

2.3.1.7 Commissioning

Test manifolds would be removed and final pipeline tie-ins would be completed after hydrostatic testing. The pipeline then would be cleaned and dried using mechanical tools (pigs) that are moved through the pipeline with pressurized dry air. Pigs also would be used to internally inspect the pipeline to detect whether any abnormalities or damage exists. Any problems or concerns would be addressed as appropriate. Pipeline commissioning would then commence. Commissioning involves verifying that equipment has been properly installed and is working, verifying that controls and communications systems are functioning, and confirming that the pipeline is ready for service. In the final step, the pipeline would be prepared for service by purging the pipeline of air and loading it with natural gas. The Applicants would not be

authorized to place the pipeline facilities into service until it has received written permission from the Director of the FERC's Office of Energy Projects (OEP).

2.3.1.8 Cleanup and Restoration

Within 20 days of backfilling the trench (10 days in residential areas) all work areas would be graded and restored to preconstruction contours and natural drainage patterns as closely as possible. If seasonal or other weather conditions prevent compliance with these timeframes, temporary erosion controls would be maintained until conditions allow completion of final cleanup. Topsoil and subsoil would be tested for compaction at regular intervals in agricultural areas disturbed by construction activities, and severely compacted agricultural areas would be plowed. Cut and scraped vegetation in the storage area would be spread back across the right-of-way. Some large shrubs and trees cut during clearing may be spread back across the right-of-way to impede vehicular traffic and other unauthorized access, or hauled away for disposal in accordance with applicable laws. Surplus construction material and debris would be removed from the right-of-way unless that landowner or land-managing agency approves otherwise. Excess rock/stone would be removed from at least the top 12 inches of soils in agricultural and residential areas and, at the landowner's request, in other areas. The Applicants would remove excess rock/stone such that the size, density, and distribution of rock on the construction right-of-way would be similar to adjacent non-right-of-way areas. Landowners are also at liberty to negotiate certain specific construction requirements and restoration measures directly with the Applicants.

The Applicants would conduct restoration activities in accordance with landowner agreements, permit requirements, and written recommendations on seeding mixes, rates, and dates obtained from the local conservation authority or other duly authorized agency and in accordance with the Applicants construction and restoration plans. The right-of-way would be seeded within 6 working days following final grading, weather and soil conditions permitting. Alternative seed mixes specifically requested by the landowner or required by agencies may be used. Any soil disturbance that occurs outside the permanent seeding season or any bare soil left unstabilized by vegetation would be mulched in accordance with the Applicants construction and restoration plans. Additional discussion of restoration activities is provided in sections 3.2, 3.5, and 3.9.

Markers showing the location of the pipeline would be installed at fence and road crossings in order to identify the owner of the pipeline and convey emergency information in accordance with applicable governmental regulations, including DOT safety requirements. Special markers providing information and guidance for aerial patrol pilots would also be installed.

Any property damaged during construction, such as fences and gates, would be restored to its original or better condition in accordance with individual landowner agreements. Access road improvements would be removed after construction and affected roads would be restored to their preconstruction condition unless the landowner or land-managing agency requests that the improvements be left in place.

2.3.1.9 Post-Construction Monitoring

The Applicants would conduct follow-up inspections and monitor disturbed areas at a minimum after the first and second growing seasons, including until revegetation thresholds are met and temporary erosion control devices are removed. The Applicants would submit quarterly monitoring reports for at least 2 years following construction. Restoration is deemed complete when the density and cover of non-nuisance vegetation are similar in density and cover to adjacent, undisturbed areas. We would also monitor for issues such as vegetation cover, invasive species, soil settling, soil compaction, excessively rocky soils, and drainage problems.

We would continue oversight of the SMP Project area after construction by reviewing the Applicants' monitoring reports and conducting compliance inspections. We would require the Applicants to continue revegetation efforts until we determines that restoration is successful.

We recognize that during and after construction, issues or complaints may develop that were not addressed during the environmental proceedings at the Commission, and it is important that landowners have an avenue to contact the Applicants' representatives. Should the SMP Project be approved, we are interested in ensuring that landowner issues and complaints received during and after construction are resolved in a timely and efficient manner. Resolution of landowner issues and complaints are discussed further in section 3.9.

2.3.2 Special Pipeline Construction Procedures

Special construction techniques are required when a pipeline is installed across waterbodies, wetlands, roads, foreign utilities, steep slopes, residences, agricultural lands, and other sensitive environmental resources. In general, ATWS adjacent to the construction right-of-way would be used at most of these areas for staging construction, stockpiling spoil, storing materials, maneuvering equipment, and fabricating pipe. In addition to the procedures described below, as appropriate, these procedures are further discussed in section 3.0.

2.3.2.1 Waterbody Crossings

Waterbody crossings would be completed in accordance with the measures described in the Applicants construction plans as summarized below and in accordance with federal, state, and local permits. The waterbodies that would be crossed and the Applicants' proposed crossing methods for each are listed in table 3.3.2-1 in appendix D.

ATWS necessary for waterbody crossings would be located a minimum of 50 feet from the waterbody edge, except where adjacent upland consists of actively cultivated or rotated cropland or other disturbed land. The 50-foot setback would be maintained unless site-specific approval for a reduced setback is granted by the FERC and other jurisdictional agencies (see section 3.3.2.6).

To prevent sedimentation caused by equipment traffic crossing through waterbodies, the Applicants would install temporary equipment bridges. Bridges may include clean rock fill over culverts, equipment pads, wooden mats, free-spanning bridges, and other types of spans. Equipment bridges would be maintained throughout construction. Each bridge would be designed to accommodate normal to high streamflow (storm events) and would be maintained to prevent soil from entering the waterbody and to prevent restriction of flow during the period of time the bridge is in use.

Sediment barriers would be installed immediately after initial disturbance of the waterbody or adjacent upland. Sediment barriers would be properly maintained throughout construction and reinstalled as necessary until replaced by permanent erosion controls or restoration of adjacent upland areas is complete and revegetation has stabilized the disturbed areas.

For waterbodies without flow at the time of construction, the Applicants would utilize the general construction methods described in section 2.3.1. After backfilling, the streambanks would be re-established to approximate preconstruction contours and stabilized, and erosion and sediment control measures would be installed across the construction right-of-way to reduce streambank and upland erosion and sediment transport into the waterbody.

Flume Construction Method

The flume method involves diverting the flow of water across the construction work area through one or more flume pipes placed in the waterbody. The first step in the flume crossing method would involve placing a sufficient number of adequately sized flume pipes in the waterbody to accommodate the highest anticipated flow during construction. After placing the pipe in the waterbody, sand bags or equivalent dam diversion structures would be placed in the waterbody upstream and downstream of the trench area. These devices would serve to dam the stream and divert the water flow through the flume pipes, thereby isolating the water flow from the construction area between the dams. Flume pipes would be left in place during pipeline installation until final cleanup of the streambed is complete.

Dam and Pump Construction Method

The dam and pump method is similar to the flume crossing method except that pumps and hoses would be used instead of flumes to move water across the construction work area. The technique involves damming of the waterbody with sandbags and/or clean gravel with a plastic liner upstream and downstream of the trench area. Pumps would be set up at the upstream dam with the discharge line routed through the construction area to discharge water immediately downstream of the downstream dam. An energy dissipation device would be used to prevent scouring of the streambed at the discharge location. Water flow would be maintained through all but a short reach of the waterbody at the actual crossing. The pipeline would be installed and backfilled. After backfilling, the dams would be removed and the banks restored and stabilized.

Wet Open-cut Construction Method

The wet open-cut construction method involves trench excavation, pipeline installation, and backfilling in a waterbody without controlling or diverting streamflow (i.e., the stream would flow through the work area throughout the construction period). With the wet open-cut method, the trench would be excavated across the stream using trackhoes or draglines working within the waterbody, on equipment bridges, and/or from the streambanks. Once trench excavation across the entire waterbody is complete, a prefabricated section of pipe would be promptly lowered into the trench. The trench would then be backfilled with the previously excavated material, and the pipe section tied-in to the pipeline. Following pipe installation and backfilling, the streambanks would be re-established to approximate preconstruction contours and stabilized. Erosion and sediment control measures would be installed across the right-of-way to reduce streambank and upland erosion and sediment transport into the waterbody.

Conventional Bore Method

The conventional bore method involves excavating large bell holes on each side of a waterbody that are deep enough for the bore equipment to auger a hole horizontally from one bell hole to the other a minimum of 5 feet below the bed of a waterbody. Once the bore hole has been created, the pipeline would be pushed or pulled through the hole. Due to the depth of the bell holes and proximity to water resources, this method may require use of sheet pile to maintain the integrity of the bell holes, and use of well point dewatering systems to avoid flooding of the bell holes.

HDD Construction Method

An HDD involves drilling a hole under the waterbody (or other sensitive feature) and installing a pre-fabricated pipe segment through the hole. Sabal Trail proposes to use the HDD method at 17 locations, and FSC proposed to use the HDD method at 9 locations (see table 2.3.2-1).

TABLE 2.3.2-1

Southeast Market Pipelines Project Horizontal Direction Drill Crossings

Project/State/Facility	Feature Crossed	Pipeline Diameter (inches)	Entry Milepost	Exit Milepost	Length (miles)
Hillabee Expansion Project	None				
Sabal Trail Project					
Alabama					
Mainline	Hillabee Creek	36	1.2	1.8	0.5
	State Highway 22	36	2.6	2.2	0.5
	Tallapoosa River	36	7.7	7.0	0.7
	Uchee Creek	36	70.9	70.6	0.4
	Chattahoochee River	36	86.5	86.2	0.4
Alabama Subtotal					2.4
Georgia					
Mainline	Hannahatchee Creek	36	91.5	91.2	0.3
	Flint River	36	163.3	162.6	0.7
	Ochlockonee River	36	199.4	199.1	0.3
	State Highway 38 and Withlacoochee River	36	231.9	231.2	0.7
Georgia Subtotal					2.1
Florida					
Mainline	Suwannee River	36	267.4R	266.7R	0.7
	Santa Fe River	36	308.6	308.2	0.5
	US Highway 27	36	464.5	464.9	0.4
	Toll Road 429	36	469.7	470.5	0.8
	Interstate 4	36	471.7	471.1	0.5
Citrus County Line	Withlacoochee River	24	1.5	1.1	0.4
Hunters Creek Line	Shingle Creek	36	9.6	8.9	0.6
	Deerfield	36	12.5	12.8	0.4
Florida Subtotal					4.4
Sabal Trail Project Subtotal					9.0
Florida Southeast Expansion Project					
	Johnson Avenue	36	12.1	11.8	0.3
	Weohyakapka Creek	36	38.5	38.8	0.3
	Lake Kissimmee	36	53.7	52.6	1.0
	Blanket Bay Slough	36	58.3	58.5	0.3
	Boggy Branch/Indian Hammock Trail	30	84.6	84.4	0.2
	Forested Wetland	30	98.9	98.6	0.3
	Forested Wetland	30	105.7	105.5	0.2
	C-23 Canal	30	114.9	114.4	0.4
	SW Warfield Boulevard (SR 710)	30	124.3	123.6	0.7
Florida Southeast Connection Project Subtotal					3.7
Southeast Market Pipelines Project Total					12.7

The first step in an HDD is to drill a small diameter pilot hole from one side of the crossing to the other using a drill rig. As the pilot hole progresses, segments of drill pipe are inserted into the hole to extend the length of the drill. The drill bit is steered and monitored throughout the process until the desired pilot hole had been completed. The pilot hole is then enlarged using several passes of successively larger reaming tools. Once reamed to a sufficient size, a pre-fabricated segment of pipe is attached to the drill string on the exit side of the hole and pulled back through the drill hole toward the drill rig. Depending on the substrate, drilling and pull back can last anywhere from a few days to a few weeks.

The HDD method utilizes a slurry referred to as drilling mud, which is composed of 95 percent water and bentonite, a naturally occurring clay mineral that can absorb up to 10 times its weight in water. Bentonite-based drilling mud is a non-toxic, non-hazardous material that is also used to construct potable water wells throughout the United States. The drilling mud is pumped under pressure through the inside of the drill pipe, and flows back (returns) to the drill entry point along the outside of the drill pipe. The purpose of the drilling mud is to lubricate the drill bit and convey the drill cuttings back to the drill entry point where the mud is reconditioned and re-used in a closed, circulating process. It also forms a cake on the rock surface of the borehole, which helps to keep the drill hole open and maintain circulation of the drilling mud system. Because the drilling mud is pressurized, it can be lost, resulting in an inadvertent release or "frac-out," if the drill path encounters fractures or fissures that offer a path of least resistance, or near the drill entry and exit points where the drill path has the least amount of ground cover.

The potential for a frac-out is typically greatest during drilling of the initial pilot hole, and decreases once the pilot hole has been completed. The volume of mud lost would be dependent on a number of factors, including the size of the fault, the permeability of the geologic material, the viscosity of the drilling mud, and the pressure of the drilling system. A drop in drilling pressure would indicate that a frac-out may be occurring and if the mud moves laterally, the frac-out may not be evident from the ground surface. For a release to be evident there must be a fault or pathway extending vertically to the surface. Pits or containment structures could be constructed to contain drilling mud released to the surface of the ground, and a pump may be required to transfer the drilling mud from the pit or the structure to a containment vessel. A release underground would be more difficult to contain and would be addressed by thickening the drilling mud, stopping drilling all together, or continuing to drill past the fault or blockage to re-establish the bore hole as the path of least resistance. In the event of lost drilling mud, Sabal Trail may introduce additives into the drilling mud to stop or reduce the amount of drilling mud loss. These additives could include walnut shells, paper, other biodegradable solids, or approved polymers that would increase the viscosity and gel strength of the drilling mud. FSC would not use any additives.

We received numerous comments expressing concern that Sabal Trail's use of the HDD method in karst sensitive areas could impact groundwater, surface water, and springs; or could cause karst features, such as sinkholes, to develop. Sections 3.1 and 3.2 describe the geologic, hydrogeologic, geotechnical, and geophysical studies that Sabal Trail conducted to characterize the geology and hydrology at HDD locations in karst sensitive areas; the potential impacts that could be associated with HDD activities in these areas; and the measures that Sabal Trail would implement to reduce and mitigate potential impacts. Both Sabal Trail and FSC prepared site-specific plans for each HDD crossing and contingency plans that describe the drilling techniques and other measures that would be implemented to minimize and address potential issues associated with HDD crossings, including the potential for an inadvertent loss of drilling mud (see appendix E). Further discussion of potential HDD impacts on groundwater, surface waters, and springs is provided in section 3.3.

2.3.2.2 Wetland Crossings

Wetland crossings would be completed in accordance with federal and state permits and follow the measures described in the Applicants' construction plans. The wetlands that would be crossed are listed in table 3.4.1-2 in appendix D and are discussed further in section 3.4.

The Applicants would typically use a 75-foot-wide construction right-of-way through wetlands unless site-specific approval for an increased right-of-way width is granted by the FERC and other jurisdictional agencies (see section 3.4.2.1). ATWS may be required on both sides of wetlands to stage construction equipment, fabricate the pipeline, and store materials. ATWS for wetland crossings would be located in upland areas a minimum of 50 feet from the wetland edge unless site-specific approval for a reduced setback is granted by the FERC and other jurisdictional agencies (see section 3.4.2.2).

Clearing of vegetation in wetlands would be limited to trees and shrubs, which would be cut flush with the surface of the ground and removed from the wetland. Stump removal, grading, topsoil segregation, and excavation would be limited to the area immediately over the trenchline. A limited amount of stump removal and grading may be conducted in other areas to ensure a safe working environment.

During clearing, sediment barriers, such as silt fence and staked straw bales, would be installed and maintained adjacent to wetlands and within temporary extra workspaces as necessary to minimize the potential for sediment runoff. Sediment barriers would be installed across the full width of the construction right-of-way at the base of slopes adjacent to wetland boundaries. Silt fence or straw bales installed across the working side of the right-of-way would be removed during the day when vehicle traffic is present and would be replaced each night. Sediment barriers would also be installed within wetlands along the edge of the right-of-way, where necessary, to minimize the potential for sediment to run off the construction right-of-way and into wetland areas outside the construction work area. If trench dewatering is necessary in wetlands, the trench water would be discharged in stable, vegetated, upland areas and/or filtered through a filter bag or siltation barrier. No heavily silt-laden water would be allowed to flow into a wetland.

Construction equipment working in wetlands would be limited to that essential for right-of-way clearing, excavating the trench, fabricating and installing the pipeline, backfilling the trench, and restoring the right-of-way. The method of pipeline construction used in wetlands would depend largely on the stability of the soils at the time of construction. In areas of saturated soils or standing water, low-ground-weight construction equipment and/or timber riprap, prefabricated equipment mats, or terra mats would be used to reduce rutting and the mixing of topsoil and subsoil. In unsaturated wetlands, the top 12 inches of topsoil from the trenchline would be stripped and stored separately from the subsoil. Topsoil segregation generally would not be possible in saturated soils.

Where wetland soils are saturated and/or inundated, the pipeline may be installed using the push-pull technique. The push-pull technique would involve stringing and welding the pipeline outside of the wetland and excavating the trench through the wetland using a backhoe supported by equipment mats. The water that seeps into the trench would be used as the vehicle to "float" the pipeline into place together with a winch and flotation devices that would be attached to the pipe. After the pipeline is floated into place, the floats would be removed and the pipeline would sink into place. Pipe installed in saturated wetlands is typically coated with concrete or equipped with set-on weights to provide negative buoyancy. After the pipeline sinks to the bottom of the trench, a trackhoe working on equipment mats would backfill the trench and complete cleanup.

Prior to backfilling, trench breakers would be installed where necessary to prevent the subsurface drainage of water from wetlands. Where topsoil has been segregated from subsoil, the subsoil would be backfilled first followed by the topsoil. Equipment mats, terra mats, and timber riprap would be removed from wetlands following backfilling.

Where wetlands are located at the base of slopes, permanent interceptor dikes and trench plugs would be installed in upland areas adjacent to the wetland boundary. Temporary sediment barriers would be installed where necessary until revegetation of adjacent upland areas is successful. Once revegetation is successful, sediment barriers would be removed from the right-of-way and disposed of properly.

2.3.2.3 Karst Sensitive Areas

The Sabal Trail Project and FSC Project would cross areas of karst geology in Georgia and Florida. As discussed in sections 3.1.2.3 and 3.3.1, respectively, each company developed plans that detail the project-specific construction and restoration methods that would be implemented to address karst features encountered during trenching (see appendix F) and during use of the HDD method (see appendix E).

2.3.2.4 Steep Slopes

Segments of the Hillabee Expansion Project and Sabal Trail Project pipeline facilities would cross areas with steep slopes primarily in eastern Alabama and southwestern Georgia. In these areas, Transco and Sabal Trail would install and maintain specific temporary and permanent controls to minimize erosion and sedimentation, which can increase due to clearing, grading, and trenching on steep slopes. During construction, temporary slope and trench breakers consisting of compacted earth, sandbags, or other materials would be coordinated to reduce runoff velocity and divert water off of the construction right-of-way. Temporary trench plugs consisting of compacted earth or similar low-permeability material would be installed at the entry and exit points of wetlands and waterbodies to minimize channeling along the ditch and maintain subsurface hydrology patterns. Additional types of temporary erosion control such as super silt fence, erosion control matting, and hydro-mulching may be used. Upon installation of the pipeline, permanent trench breakers and plugs consisting of sandbags, gravel, foam, cement, or cement-filled sacks would be installed over and around the pipeline and permanent slope breakers generally consisting of compacted earth and rock would be installed across the right-of-way during grade restoration. Surface contours and topsoil would be returned to pre-construction conditions and revegetation of the right-of-way would commence. Sabal Trail and Transco would monitor the right-of-way during operation and take measures as necessary to ensure the effectiveness of erosion control and revegetation.

Sabal Trail may also implement the two-tone construction method in areas of steep side slopes. During grading, the upslope side of the right-of-way would be cut and the material placed on the downslope side to create a safe, level work area. This method could require additional ATWS to accommodate the downslope spoil. After installation of the pipeline, the spoil would be returned to the upslope cut and the overall grade restored. Any springs or seeps found in the upslope cut would be carried downslope through PVC pipe and/or gravel French drains during restoration.

2.3.2.5 Agricultural Areas

Agricultural areas crossed by the SMP Project are identified in section 3.9. The Applicants would conserve topsoil in all actively cultivated and rotated croplands, pastures, and hayfields. The Applicants propose to segregate a maximum of 12 inches of topsoil in those areas and in other areas at the specific request of the landowner or land management agency. Where topsoil is less than 12 inches deep, the actual depth of the topsoil layer would be removed and segregated. The topsoil would be stored in separate

windrows on the construction right-of-way. The depth of the trench would vary with the stability of the soil, but in all cases it would be sufficiently deep to allow for at least 3 feet of cover over the pipe.

In areas where irrigation or drainage systems would be crossed, the Applicants would identify crossing location during civil survey. Irrigation and drainage systems would be permanently repaired during backfill and cleanup.

As discussed in section 3.5.7, the FSC Project would impact approximately 221.2 acres of citrus crop. We received comments about the potential for the FSC Project to spread insect parasites, pathogens, or diseases between citrus groves. During construction, FSC would implement the measures described in section 3.5.7 to limit the potential spread of citrus diseases.

2.3.2.6 Road and Railroad Crossings

Construction across roads would be conducted in accordance with the requirements of road and railroad crossing permits obtained by the Applicants and applicable laws and regulations. Generally, paved roads and unpaved roads where traffic cannot be detoured, and railroads, would be crossed by boring beneath the road or railroad without disturbing the road or rail bed, or disrupting traffic. Boring would involve excavating a pit on each side of the road or railroad, placing the boring equipment in the pit, and then boring a hole under the road or railroad that is at least equal to the diameter of the pipe. Once the hole is bored, a pre-fabricated section of pipe would be pushed through the borehole. At particularly long crossings, pipe sections may be welded onto the pipe string just before being pushed through. Borings would be conducted 24 hours per day, 7 days per week until completed. Each bore crossing typically would require between 2 and 10 days to complete from start to finish. In addition to the conventional bore method, Sabal Trail has identified cased crossing and hammer technique for road crossings. The cased crossing would be similar to a bored crossing; however, a section of steel casing pipe that is several inches in diameter greater than the pipeline width would be bored into place. The pipeline would then be pulled through the casing pipe. With the hammer technique, a casing pipe is driven under the roadway with a horizontal air operated reciprocating hammer. The material inside the casing pipe is then removed and the pipeline is pulled through the casing. Following installation, the casing pipe may be left in place or removed.

Most gravel and dirt roads would be crossed by the open-cut method, which would require temporary closure of the road and the establishment of detours. Roads would be closed only where allowed by permit or landowner/land-managing agency consent. Most open-cut road crossings require only 1 or 2 days to complete, although resurfacing could require several weeks to allow for soil settlement and compaction.

The Applicants would construct all road and railroad crossings in accordance with DOT safety standards, and would coordinate traffic control measures with the appropriate state and local agencies. Where heavy equipment is known to use a road crossed by the pipeline, special safety measures, such as thicker-walled pipe or additional cover over the pipe, would be required.

2.3.2.7 Foreign Utilities

The pipelines would be constructed across or parallel to numerous utility lines. Prior to construction, the Applicants' construction contractors would call the One-Call systems in each state, so that buried utilities could be identified and flagged before ground-disturbing activities. Where the pipeline is installed near a buried utility, the Applicants would install the pipeline with at least 12 inches of clearance from any other underground structure not associated with the pipeline as required by 49 CFR 192.325. Table 2.3.2-2 in appendix D lists the foreign utilities that would be crossed by the SMP Project.

2.3.2.8 Residential Construction

Construction through or near residential areas would be done in a manner to ensure that all construction activities minimize adverse impacts on residences and that cleanup is prompt and thorough. Access to homes would be maintained, except for the brief periods essential for laying the new pipeline.

The Applicants would implement measures to minimize construction-related impacts on all residences and other structures located within 50 feet of the construction right-of-way, including: 1) install safety fence at the edge of the construction right-of-way for a distance of 100 feet on either side of the residence or business establishment; 2) fence the boundary of the construction work area to ensure that construction equipment and materials, including the spoil pile, remain within the construction work area; 3) attempt to leave mature trees and landscaping intact within the construction work area unless the trees and landscaping interfere with the installation techniques or present unsafe working conditions; 4) ensure piping is welded and installed as quickly as reasonably possible to minimize the amount of time a neighborhood is affected by construction; 5) backfill the trench as soon as possible after the pipe is laid or temporarily place steel plates over the trench; and 6) complete final cleanup, grading, and installation of permanent erosion control devices within 10 days after backfilling the trench, weather permitting. Private property such as fences, gates, driveways, and roads disturbed by pipeline construction would be restored to original or better condition upon completion of construction activities.

In addition, the Applicants have provided site-specific Residential Construction Plans (RCPs) to inform affected landowners of proposed measures to minimize disruption and to maintain access to the residences located within 50 feet of the construction work area. These plans are described in section 3.9 and included in appendix G.

2.3.3 Aboveground Facility Construction

Construction activities at the proposed compressor station sites would include access road construction; site clearing; grading; installing concrete foundations; erecting metal buildings; and installing compressors, metering facilities, and appurtenances. Initial work at the compressor stations would focus on preparing foundations for the buildings and equipment. Building foundations and pipe trenches would be excavated with standard construction earthmoving equipment. The Applicants do not anticipate that blasting would be required at the sites. Following foundation work, station equipment and buildings would be brought to the site and installed, using any necessary trailers or cranes for delivery and installation. Following installation of the buildings and primary facilities, associated equipment, piping, and electrical systems would be installed. Necessary equipment testing and start-up activities would occur on a concurrent basis.

Construction of the other proposed aboveground facilities, including the M&R stations, MLVs, and pig launchers/receivers, would involve site clearing and grading as needed to establish appropriate contours for the facilities. Following installation of the equipment, the sites would be graveled, as necessary, and fenced. The valves would be installed at intervals specified by the DOT or as needed for customer deliveries.

2.4 CONSTRUCTION SCHEDULE AND WORKFORCE

The Applicants would seek approval to begin construction as soon as possible after receiving all necessary federal authorizations and have proposed an in-service date of May 2017 for the majority of the proposed facilities. In addition, certain facilities proposed by Transco and Sabal Trail would be constructed in subsequent phases and placed in-service in May 2020 and May 2021. Section 2.1 describes the construction schedules for each of the projects in detail.

Section 3.10 details the estimated construction workforce for each phase of the SMP Project. The total construction workforce of 5,807 workers would occur during Phase 1 for all three projects and in all three states affected by the SMP Project. The total construction workforce would vary on any given day depending on the phase of construction. As the pipeline spread moves along, construction at any single point would last approximately 6 to 12 weeks. However, the duration of construction may be longer at aboveground facility sites and at hydrostatic test tie-in locations. Construction crews would typically work 10 hours per day, 6 days per week. Work would be conducted during daylight hours, except where the pipe would be installed using the HDD and bore methods, which require around-the-clock operations and typically last a few days to a few weeks.

2.5 ENVIRONMENTAL INSPECTION, COMPLIANCE MONITORING, AND POST-APPROVAL VARIANCES

2.5.1 Environmental Inspection

Each of the Applicants would employ EIs that would be trained in, and responsible to ensure that construction of the SMP Project complies with, the construction procedures and mitigation measures identified in the Applicants' applications, the FERC Certificates, other environmental permits and approvals, and environmental requirements in landowner easement agreements. EIs would have peer status with all other activity inspectors, and have the authority to stop activities that violate the environmental conditions of the FERC Certificate, other permits, or landowner requirements, and to order the appropriate corrective action. The EIs would also be responsible for maintaining status reports and training records. The EIs would also be responsible for advising the chief construction inspector when conditions (such as wet weather) make it advisable to restrict construction activities.

Transco would employ at least one EI during construction, who would report directly to a Chief Inspector. Sabal Trail would employ one lead EI and at least three EIs on each of their proposed six construction spreads. FSC would employ at least one EI along each of the proposed one or two construction spreads.

2.5.2 Compliance Monitoring

The FERC would receive regular status reports filed by the Applicants and conduct periodic field inspections during construction and restoration and would have the authority to stop any activity that violates an environmental condition of the FERC Certificate. Other federal, state, and local agencies also may monitor the SMP Project to the extent determined necessary by the agency.

2.6 OPERATION AND MAINTENANCE

The SMP Project pipeline and aboveground facilities would be operated and maintained in accordance with DOT regulations in 49 CFR 192, the Commission's guidance at 18 CFR 380.15, and the Applicants construction and restoration plans.

2.6.1 Pipeline Surveys and Inspections

As required by 49 CFR 192.615, the Applicants would establish an operation and maintenance plan and an emergency plan for each project that includes procedures to minimize the hazards in a natural gas pipeline emergency. As a part of pipeline operations and maintenance, the Applicants would conduct regular patrols of the pipeline right-of-way. The patrol program would include monthly aerial and periodic ground patrols of the pipeline facilities to survey surface conditions on and adjacent to the pipeline right-of-way for evidence of leaks, unauthorized excavation activities, erosion and wash-out areas, areas of sparse

vegetation, damage to permanent erosion control devices, exposed pipe, missing markers and signs, new residential developments, and other conditions that might affect the safety or operation of the pipeline. The cathodic protection system would also be inspected periodically to ensure that it is functioning properly. In addition, pigs are regularly sent through the pipeline to check for corrosion and irregularities in the pipe in accordance with DOT requirements. All MLVs would be installed with equipment such that they may be remotely operated from a control center. The Applicants would be required to keep detailed records of all inspections and supplements the corrosion protection system as necessary to meet the requirements of 49 CFR 192.

The Applicants would also maintain a liaison with the appropriate fire, police, and public officials as part of each Applicants' emergency operating procedures. Communications with these parties would include the potential hazards associated with the Applicants' facilities located in their service area and prevention measures undertaken; the types of emergencies that may occur on or near the new pipeline facilities; the purpose of pipeline markers and the information contained on them; pipeline location information; recognition of and response to pipeline emergencies; and procedures to contact the Applicants for more information.

In addition, the Applicants would install a supervisory control and data acquisition system, commonly referred to as SCADA, on each pipeline system, which would continuously monitor gas pressure, temperature, and volume at specific locations along the pipeline. These system would be continuously monitored from each Applicants' gas control center: Transco's and Sabal Trail's systems would be monitored from their respective Gas Control Centers located in Houston, Texas; FSC's system would be monitored from its Pipeline Control Center in Juno Beach, Florida. The systems would provide continuous information to the control center operators and has threshold and alarm values set such that warnings are provided to the operators if critical parameters are exceeded.

2.6.2 Right-of-Way Maintenance

In addition to the survey, inspection, and repair activities described above, operation of the pipeline would include maintenance of the right-of-way. The right-of-way would be allowed to revegetate after restoration; however, larger shrubs and brush may be periodically removed near the pipeline. The frequency of the vegetation maintenance would depend upon the vegetation growth rate. The Applicants have indicated that they would not need to maintain vegetation (i.e., mow) within the 50-foot-wide permanent right-of-way in most land uses types. However, in accordance with the Applicants' construction and restoration plans, routine vegetation maintenance clearing of the permanent right-of-way is allowed but would not be done more frequently than every 3 years. To facilitate periodic corrosion and leak surveys, a corridor not exceeding 10 feet in width centered on the pipeline may be maintained annually in an herbaceous state. In no case would routine vegetation maintenance clearing occur between April 15 and August 1 of any year. Vegetation maintenance would not normally be required in grazing areas. Vegetation management is discussed further in section 3.5.

Pipeline facilities would be clearly marked at line-of-sight intervals and at crossings of roads, railroads, and other key points. The markers would clearly indicate the presence of the pipeline and provide a telephone number and address where a company representative may be reached in the event of an emergency or prior to any excavation in the area of the pipeline by a third party. Each Applicant participates in the national and state One-Call systems in Alabama, Georgia, and Florida.

3.0 ENVIRONMENTAL ANALYSIS

This analysis describes the existing natural and human environment and the potential impacts on it resulting from construction and operation of the SMP Project. In the following discussion, we address geology, soils, groundwater, surface water, wetlands, vegetation, fisheries, wildlife, special status species, land use, cultural resources, air quality, and noise, as well as reliability and safety. This analysis also addresses alternatives to the proposed SMP Project and cumulative impacts that may result when the SMP Project's impacts are added to the impacts of past, present, and reasonable foreseeable future projects.

Generally, our analysis identifies and describes the existing conditions of the environmental resources potentially affected by the SMP Project and, as necessary, further describes resources unique to the SMP Project components. As described in greater detail below, our independent assessment of potential impacts on these resources including the Applicants' efforts to avoid, minimize, and mitigate these impacts are then described. As appropriate, we recommend measures that, if implemented, would further avoid, minimize, and mitigate potential impacts on the environment. Our recommendations appear in this analysis as boldface, bulleted, and indented text. These recommendations are also presented in section 5.0. Our resource-specific analysis concludes with a determination of significance. We consider an impact to be significant when it results in a substantial adverse change to the environment.

This analysis typically describes temporary, short-term, long-term, and permanent impacts. A temporary impact generally occurs during construction with the resource returning to preconstruction condition immediately after restoration or within a few months. A short-term impact could continue for up to 3 years following construction. Long-term impacts would last more than 3 years, but the affected resource would eventually recover to pre-construction conditions. A permanent impact would result from an activity that modifies a resource to the extent that it would not return to preconstruction conditions. As appropriate, our analysis also addresses direct and indirect effects and primary and secondary impacts.

The conclusions in this EIS are based on the Applicants' compliance with all applicable laws and regulations, the construction and operation of the proposed facilities as described in the Applicants' applications and summarized herein, and the implementation of our recommendations.

3.1 GEOLOGY

3.1.1 Regional Geology and Physiography

The SMP Project would be located within two physiographic provinces: the Piedmont Province in east-central Alabama; and the Coastal Plain Province in southern Alabama, Georgia, and Florida. More specifically, Transco's Verbana, Proctor Creek, Hissop, and Alexander City Loops, and Sabal Trail's Mainline pipeline from approximate MPs 0 to 55 would be located in the Piedmont Province, and the remainder of the SMP Project would be located in the Coastal Plain Province. As discussed in section 3.1.2.3, the SMP Project would also traverse some of the more ecologically unique karst terrain within the United States in south-central Georgia and northwest Florida. Aboveground facilities would be constructed within the same geologic setting as the adjacent pipeline facilities and, therefore, are not considered separately in the remainder of section 3.1 except where noted.

The two provinces have uniquely contrasting characteristics (topography, physiography, and geology) that are separated by the Fall Line, a geologic escarpment where the igneous and metamorphic bedrock of the Piedmont Province meets with the south-southeastwardly deposited wedge of sediments of the Coastal Plain Province in the eastern United States. In general, the Piedmont Province in east-central Alabama has higher elevations and greater relief hills and mountains; western Alabama and southwest

Georgia have lower elevation and moderate to high relief hills; and Florida has significantly lower and subdued rolling hills to flat plains. Neilson (2013) notes that there is a visible change in slope along the Fall Line with the Piedmont Province being 150 to 200 feet higher than the Coastal Plain Province.

The geologic structure of the Piedmont Province is described by the USGS (1990) and Neilson (2013) as having developed along northeast to southwest trending belts of deformed Precambrian to Paleozoic age (around 1.0 billion to about 300 million years in age) metamorphic rocks that have been intruded by younger, small to large bodies of igneous diabase. The most common rock types are slate, phyllite, marble, quartzite, greenstone, schist, amphibolites, and gneiss. The Piedmont Province is generally a plateau that slopes from elevations above 1,000 feet in the north to 500 feet in the south. The northern district of the Piedmont Province is generally more rugged while the southern district becomes flatter, and rivers have cut valleys up to 200 feet deep in to the plateau.

The Coastal Plain Province developed during the middle Mesozoic through the Cenozoic Era (from about 140 million years ago to the present) time period and is described by the USGS (1990), Neilson (2013), and Frazier (2007) as consisting of poorly consolidated chalk, sandstone, limestone and claystone bedrock, and unconsolidated gravels, sands, silts and clays. The oldest deposits are near the Fall Line and are covered by increasingly younger layers to the south and east.

During all of Late Cretaceous and early Palaeogene Periods (from about 140 million years ago to 60 million years ago), portions of Florida, southern Georgia, and Alabama were a marine platform mostly covered by shallow seas with small, scattered, low islands. The sediments that accumulated in those shallow waters are comprised of the skeletons of billions of microscopic, single-cell organisms called foraminifera. When they solidified, they formed carbonate rocks including limestone and dolomite.

Subsequent sea level fluctuations resulted in the deposition of alternating marine and non-marine deposits in the Coastal Plain Province. The Pleistocene Epoch (2.6 million to 10,000 years ago), also known as the Ice Age, was characterized by extreme climate and sea level change. During warm periods, sea levels rose as much as 100 feet higher than today and allowed re-accumulation of limestone. During glacial periods seas dropped as much as 300 feet. Sea level reached its current elevation within the last several thousand years.

3.1.2 Local Geology

3.1.2.1 Surficial Geology

Various geologic deposits are located within trench depth along the SMP Project pipeline routes, including unconsolidated material, metamorphic and igneous bedrock units, and sedimentary bedrock units (see table 3.1.2-1 in appendix D). The occurrence of karst geology is an important consideration for the Sabal Trail Project and, to a substantially less degree the FSC Project, and is discussed separately in section 3.1.2.3.

In general, Transco's proposed Rock Springs, Butler, Billingsley, and Autauga Loops would cross poorly consolidated sedimentary rocks of the Coastal Plain Province, and the Verbana, Proctor Creek, Hissop, and Alexander City Loops would cross metamorphic and igneous rocks of the Piedmont Province. The loops and associated aboveground facilities would be located in or on unconsolidated deposits where bedrock is not present at the surface or within trench depth.

Sabal Trail's Mainline would cross metamorphic and igneous rocks of the Piedmont Province between approximate MPs 0 and 55 in Alabama; the remainder of the Sabal Trail Project facilities would be underlain by sedimentary rocks and limestone of the Coastal Plain Province. The facilities would be

located in or on unconsolidated deposits where bedrock is not present at the surface or within trench depth.

The FSC Project is underlain by 30 to 200 feet of unconsolidated deposits; therefore, installation of the FSC Project, including all of FSC's proposed HDDs, would not encounter bedrock.

Construction and operation of the SMP Project would not materially alter the geologic conditions in the project area. Effects from construction could include disturbance of the natural topography along the pipeline rights-of-way or adjacent aboveground facilities due to trenching, blasting, and grading activities. Following construction, the Applicants would restore all areas as close as practicable to their preconstruction contours.

3.1.2.2 Blasting

Blasting would be required to excavate the pipeline trench in areas where bedrock could not be removed by other mechanical means (e.g., rock trenchers, rock saws, jack hammers).

Hard bedrock occurs near the surface along about 10.1 miles (23 percent) of the 43.5-mile-long pipeline loops in Alabama although, based on previous construction in these areas, Transco expects that blasting would not actually be necessary in the majority of these areas. Transco identified 1.6 miles of hard bedrock outcrops in the Piedmont Province along the Proctor Creek, Hissop, and Alexander City Loops where blasting would likely be required.

Sabal Trail estimates that blasting may be required along about 13.9 miles (16 percent) of the Mainline route in Alabama and along about 12.7 miles (8 percent) of the Mainline route in Georgia. Sabal Trail does not expect blasting to be required south of Mainline MP 100.

FSC does not anticipate the need to conduct blasting for construction of the FSC Project but, if necessary, blasting would be conducted in accordance with site-specific plans and state and local regulations.

Transco and Sabal Trail provided Blasting Plans that describe how blasting would be conducted to ensure safety and protect nearby facilities including existing pipelines, residences, and water wells (table 2.3-2 indicates where the Blasting Plans can be found). The main elements of these plans include the following:

- blasting would be conducted by licensed contractors in accordance with applicable state and local regulations;
- appropriate charge type, weight, and blast medium configuration would be used;
- blast mats or other methods would be used to prevent fly rock, if necessary;
- nearby residents would be notified in advance of blasting operations;
- pre- and post-blast monitoring of nearby structures, water wells, and springs within 150 feet of the workspace would be conducted upon landowner request; and
- compensation for blasting related damages including the replacement of water supplies, if necessary.

After pipeline installation including appropriate padding, blast rock would be returned to the trench to the top of the original bedrock elevation. Large rock not suitable for use as backfill would be windrowed along the edge of the right-of-way in upland areas (with landowner permission), or hauled off to an approved facility.

Our review of the Applicants' Blasting Plans concludes that they are acceptable. By conducting blasting in accordance with project-specific Blasting Plans and applicable state and local regulations, impacts on geologic resources and nearby residences and facilities would be avoided or adequately minimized. Impacts associated with blasting at waterbody crossings are discussed in section 3.3.2.5.

3.1.2.3 Karst Geology

The land mass that today constitutes the Florida peninsula and parts of southern Georgia is part of a large predominantly buried carbonate platform. Where this platform is not exposed at land surface it is wholly or partially capped with a mantle of insoluble quarts sands and clays. In west-central Florida, the minimal thickness and in many places the absence of the overlying mantle material influences the chemical composition of waters circulating through the carbonate rock, subjecting these rocks to extensive chemical dissolution along preferential zones of weakness in the bedrock such as joints and fractures, and at locations at or near seawater/freshwater mixing zones. The resulting features and landscape are generally referred to as karst. The wide fluctuations in sea level over time resulted in multiple horizons of concentrated karst features within the carbonate platform, and an integrated subsurface drainage network of solution opening and cave systems with a thickness on the order of 300 feet. These features, along with the sub-tropical, humid rainfall conditions in the region, result in a verdant ecosystem that is unique in the United States and a drainage system that manifests as large capacity springs, sinking streams, and submerged cave systems, particularly within the west-central part of the Florida peninsula.

We received numerous comments from affected landowners, the FGS, the Georgia Geological Survey (GGS), Florida WMDs, local government units, and other stakeholders expressing concerns related to construction and operation of the Sabal Trail Project in karst sensitive areas of Georgia and Florida. The majority of these issues concerned the impairment of cave systems, springs, and wells; construction methods triggering sinkhole development; and operational safety in karst areas. The potential for the SMP Project to impact caves, wells, and springs relate primarily to groundwater resources and are discussed in section 3.3.1. The potential for the SMP Project to trigger sinkhole development, and the safety of operating the proposed facilities in karst sensitive areas, are discussed in sections below.

The frequency and type of karst features present in the project area is primarily related to the presence, thickness, and permeability of geologic units overlying the carbonate bedrock. Fracture systems within the bedrock, which can be indicated by linear traces on the land surface, can also concentrate karst features by providing pathways for increased water movement and dissolution. Of the various karst features, sinkholes are of particular concern because they can cause property damage or injure persons in the affected area, and can provide an avenue for surface-based pollutants to quickly enter groundwater and surface water resources. Sinkholes can also contribute to flooding if their natural drainage capacity becomes impeded.

Several general types of sinkholes occur in the SMP Project and FSC Project areas (Tihansky, 1999). Solution sinkholes form as precipitation and surface water flows through and expands small fractures in the bedrock. Cover-subsidence sinkholes occur as granular material settles into voids in the underlying bedrock in a process referred to as raveling; as dissolution and raveling continue a depression forms at the land surface. This process is slower in areas where the overlying unconsolidated material is

thick or contains more clay. Cover-collapse sinkholes occur where generally clay-rich unconsolidated materials or bedrock that previously bridged an underlying cavern suddenly collapse into the cavern. Sinkholes can also develop in conjunction with increased water input to the ground surface (e.g., heavy precipitation, flooding, and impoundments); fluctuations in the water table elevation due to well withdrawals; erosion; excavation; and static/dynamic loading (Gutierrez, et al., 2014; Gordon, 2011; Hyatt and Jacobs, 1996).

Hillabee Expansion Project

The nearest area of karst geology to the Hillabee Expansion Project is approximately 14 miles north of the Verbena and Proctor Creek Loops (USGS, 2008). The Geological Survey of Alabama (GSA) indicates that the project facilities are in a region of low sinkhole density, and no sinkholes were mapped in close proximity to the project (Ebersole and Tavis, 2010).

Sabal Trail Project

Sabal Trail identified karst features within 0.25 mile of the Sabal Trail Project using aerial photographs, topographic maps, potentiometric surface and water table maps, light detecting and ranging data (LiDAR), field surveys, various resources depicting mapped cave systems, and publicly available databases from state and local agencies. In addition, Sabal Trail identified nearby springs and springsheds; completed fracture trace analysis; and conducted geophysical and/or geotechnical surveys at select karst features and proposed HDD sites, compressor stations, and M&R stations within karst areas in Georgia and Florida. The geophysical techniques used to assess subsurface conditions included Electrical Resistivity Imaging, Ground Penetrating Radar, Sub-Bottom Profiling within the primary waterbody crossed by HDD, and the use of Global Positioning System to record the location of data and karst features. In conducting this work, Sabal Trail contracted with Florida-licensed professional geologists and engineers experienced in characterizing karst conditions and implementing karst mitigation measures in the project area. Sabal Trail also consulted with the FGS, GGS, and Suwannee River WMD, and met with affected landowners and other stakeholders regarding karst issues. Sabal Trail's karst assessment is detailed in separate reports for Georgia and Florida (see appendix H) and in the geotechnical and geophysical reports completed for proposed aboveground facilities and HDD sites.

We received useful information from agencies, landowners, and other stakeholders regarding karst geology in the project area, the hydrology and importance of the Floridan aquifer system (FAS) that typically consists of the Avon Park Formation, Ocala Limestone, and Suwannee Limestone, and underlies all of Florida and southern Georgia; and the potential environmental and safety impacts associated with constructing and operating the facilities in karst areas. To ensure the thoroughness of our review, we consulted and met with representatives of the FGS, GGS, Suwannee River WMD, and the FDEP. We also met with affected stakeholders and inspected certain proposed HDD river crossing locations, springs, and other karst features.

<u>Alabama</u>

The USGS (2008) maps karst features in proximity to the Mainline route in Russell County and notes that dissolution in this karst area may result in subtle, shallow, long term, subsidence sinkholes; however, in this area groundwater flow is more diffuse (laminar) through a network of saturated interconnected secondary permeability that has not been enlarged through dissolution, and conduits are not common. The USGS concludes that this area does not pose significant collapse hazards and may not be considered karstic under some definitions. As such, karst conditions are not anticipated for the Sabal Trail Project in Alabama.

Georgia

Within Georgia, the Mainline would cross varying karst conditions from approximate MP 100 in Stewart County to the Florida border at MP 248 in Lowndes County (see figure 3.1.2-1). This area of Georgia karst is described by the USGS (Davies et al., 1984) as generally consisting of fissures, tubes, and caves less than 1,000 feet long and of 50 feet vertical extent with cover material 10 feet to 200 feet thick, and prone to dissolution that may result in subsidence, solution and collapse sinkholes. Approximately 240 potential sinkholes were identified within 0.25 mile of the Mainline in Georgia, and 15 fracture traces were identified that intersect the proposed alignment (see appendix H).

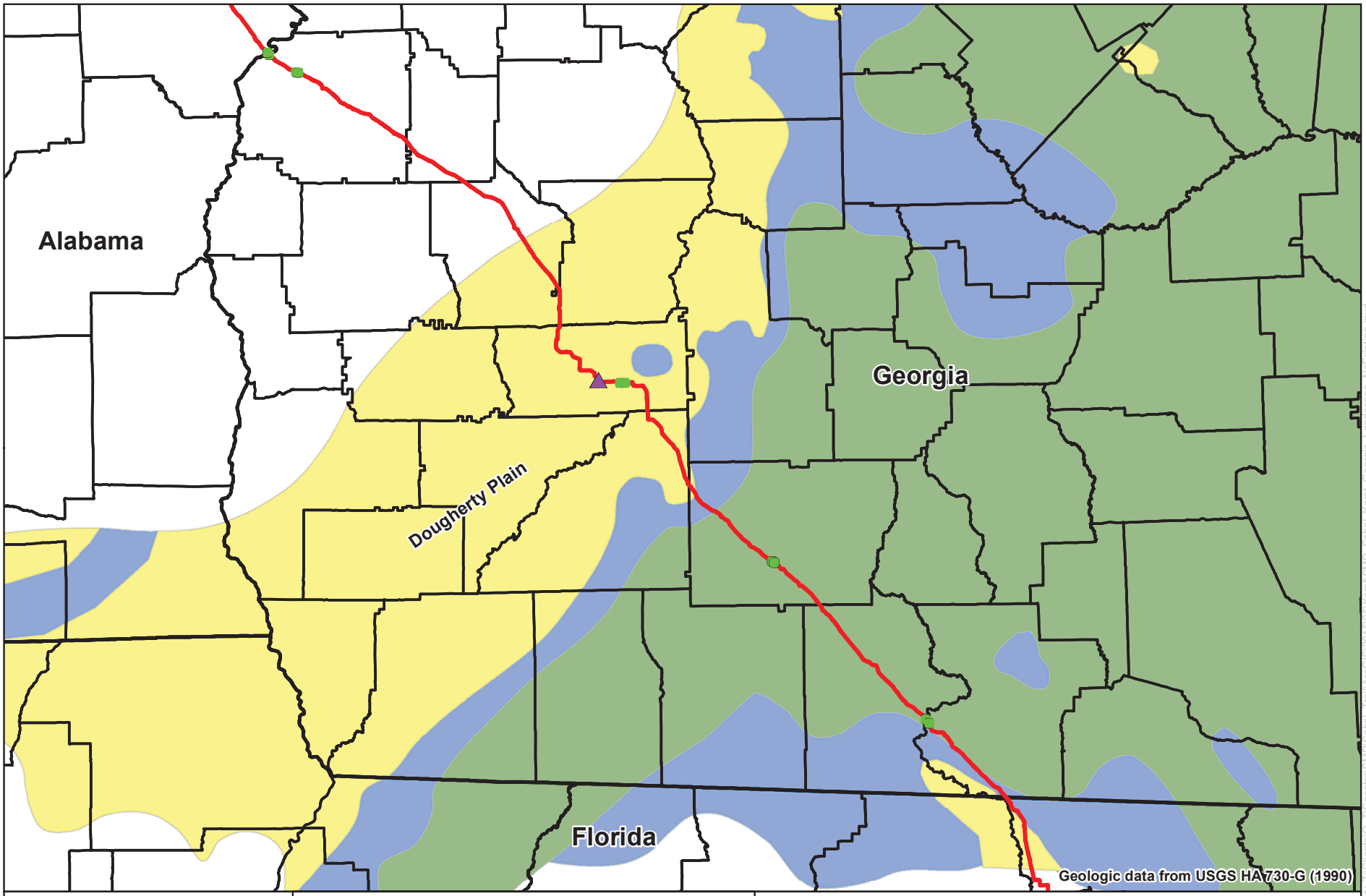
More specifically, karst features are not well pronounced in Stewart, Webster, and Terrell Counties, where the surficial geology is variable and carbonate rocks are lacking at the surface. The majority of sinkholes in proximity to the Mainline occur from around MP 150 in Dougherty County to near MP 175 in Mitchell County, where the Mainline would cross the Dougherty Plain, a physiographic subprovince of the Coastal Plain. The GGS, City of Albany, Dougherty County, and landowners identified the Dougherty Plain as the most karst sensitive area in Georgia and reported the occurrence of sinkholes and other karst features on private land and at the City of Albany well field on the southern outskirts of the city. The FAS is comprised of the Ocala Limestone in the Dougherty Plain and is unconfined (i.e., the top of the water table is phreatic, under atmospheric conditions and is not confined between impermeable geologic units). The Ocala Limestone is typically beneath 20 to 60 feet of sand and clay formed by the weathering of the bedrock (this remnant deposit is referred to as residuum or saprolite).

Cover collapse sinkholes are common in the Dougherty Plain and are typically shallow and range from 10 to 30 feet in diameter, but can involve several acres. Most of the thousands of sinkholes in the Dougherty Plain are prehistoric, although 312 new sinkholes that averaged about 5 feet in diameter formed in conjunction with severe flooding in Albany in 1994 (Hyatt and Jacobs, 1996). A total of 23 new sinkholes also developed at the Albany municipal well field between 2003 and 2007, apparently due to water level fluctuations from pumping and surface water impoundment at the facility (Gordon, 2011).

The eastern boundary of the Dougherty Plain is marked by the Pelham Escarpment, a topographic rise of about 125 feet that separates the Dougherty Plain from the Tifton Uplands to the south. The western base of the escarpment contains karst features including cavities and caves; however, the nearest cave is reported as greater than 10 miles from the Mainline.

In Colquitt County and northern Brooks County the FAS is covered by non-carbonate rocks and deposits and the aquifer in this area is confined. As a result, karst features are less frequent on the land surface. In southern Brooks and Lowndes County, the FAS becomes increasing unconfined and karst solution features become more prevalent.

At proposed aboveground facilities, Sabal Trail considered the historical occurrence of sinkholes in the area and the results of geotechnical and geophysical assessments conducted at each site to assess the relative risk for sinkhole development. Geotechnical and geophysical surveys at the proposed Albany Compressor Station site identified limestone bedrock at a depth of 23.5 feet. The surveys did not identify any anomalies indicative of large subsurface voids or significant increases in depth to the top of the limestone, although two areas that may represent increased weathering of the bedrock were identified. Sabal Trail concluded that shallow foundations would be suitable for structural support of the facility but would conduct additional geotechnical work to develop design-level site preparation plans and foundation designs.



0 7.5 15 Miles

N W E S

Figure 3.1.2-1
Sabal Trail Project
General Karst Terrain of Georgia

Proposed Sabal Trail Mainline
Proposed HDD
Proposed Compressor Station

Area A — Floridan aquifer system is unconfined - Upper confining unit is absent or thin
Area B — Floridan aquifer system is thinly confined - Upper confining unit is generally less than 100 feet thick, breached, or both
Area C — Floridan aquifer system is confined - Upper confining unit is generally greater than 100 feet thick and unbreached

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Florida

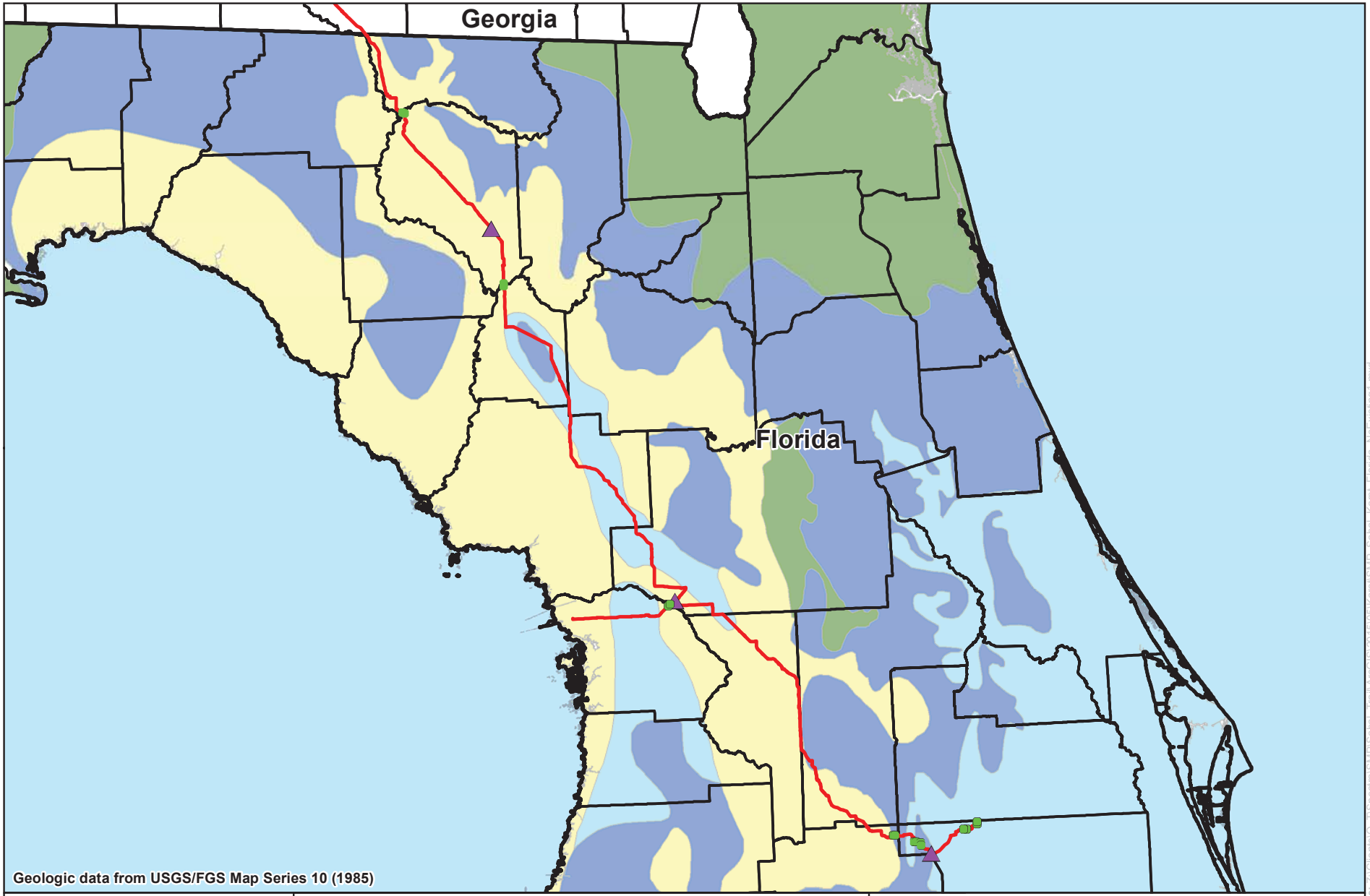
Substantially more information is available regarding karst geology in Florida due to the prevalence of karst features across much of the state. Figure 3.1.2-2 generally depicts the degree of confinement (i.e., degree of impermeable cover) of the FAS in northern and central Florida, and describes the general occurrence of sinkholes in these areas. Figure 3.1.2-2 was developed by the USGS and FGS (Sinclair and Stewart, 1985) and the degree of confinement depicted is similar to subsequent mapping by the USGS (1986). Using GIS databases and other resources, the FGS more recently contributed to the establishment of Spring Protection Areas in Florida (Greenhalgh and Baker, 2005); has assessed the hydrology and vulnerability of the FAS to potential contamination (Arthur et al., 2005); and continues to maintain on-line databases of sinkholes, springs, and wells in the state.

As indicated on figure 3.1.2-2, the Mainline would cross areas (Area I) where carbonate bedrock is at or near the surface from the Florida-Georgia border near MP 248, through Hamilton and Suwannee Counties, to about MP 272R in northern Gilchrist County; and again between MP 378 in southwest Marion County to about MP 465 near the Polk County-Osceola County border. Portions of the CCL and the Hildreth and Dunnellon Compressor Stations occur in this area. Due to the lack of cover on the bedrock, this area is characterized by numerous sinkholes that tend to be shallow, broad, and formed gradually by solution. These areas are also characterized by internal drainage, sinking streams, and springs. Within this area, the Mainline would cross the Cody Escarpment from approximate MP 260 in Madison County to about MP 272R in Gilchrist County. The Cody Escarpment is a topographic embankment that separates the generally elevated Northern Highlands physiographic subprovince to the north from the Gulf Coastal Lowlands subprovince to the south. Sinkholes within the Cody Escarpment are larger due to coalescing of smaller sinkholes in areas of thin overburden, and sinking streams and springs are common. For example, the Santa Fe River goes completely underground at the River Sink O'Leno State Park and emerges at the River Rise State Preserve after traveling several miles underground.

Between about MPs 272R and 378, the Mainline would cross an area (Area II) with 30 feet to 200 feet of generally sandy cover over the carbonate bedrock, although the FGS more recently characterized the thickness of cover in these areas as generally less than 100 feet (Greenhalgh and Baker, 2005). Portions of the CCL and the entire HCL also cross this area. Sinkholes are fewer, tend to be shallow and of small diameter, and develop gradually by subsidence.

Between about MP 465 to the termination of the Mainline at MP 474.4, the Mainline would cross an area (Area III) with 30 feet to 200 feet of generally cohesive cover over the carbonate bedrock. Sinkholes tend to be more numerous, of varying size, and develop suddenly due to cover collapse.

Approximately 3,750 karst and potential karst features were identified within 0.25 mile of the proposed pipeline facilities and 31 fracture traces that intersect the Mainline were identified in Hamilton, Madison, Suwannee, Gilchrist, Alachua, and Levy Counties. Based on the historical occurrence of sinkholes in this area and the results of geotechnical and geophysical assessments, Sabal Trail concluded that a low to medium risk for sinkhole development exists at the Hildreth, Dunnellon, and Reunion Compressor Station sites. In a low risk setting, historical occurrences may have been reported or documented in the area, but it is unlikely that a sinkhole would develop at the site. In a medium risk setting, historical occurrences of sinkholes are well documented in the area and conditions that favor sinkhole development are believed to be present.



0 10 20 Miles

N W E S

Figure 3.1.2-2
Sabal Trail Project
General Karst Terrain of Florida

Proposed Sabal Trail Pipelines
Proposed HDD
Proposed Compressor Station

Area I — Area I: Bare or thinly covered limestone - Few sinkholes, generally shallow and broad that develop gradually.
Area II — Area II: Cover 30'-200' thick - Few sinkholes, shallow and of small diameter that develop gradually.
Area III — Area III: Cover 30'-200' thick - Sinkholes are most numerous, of varying size and develop abruptly.
Area IV — Area IV: Cover is greater than 200' thick - Very few sinkholes but of large diameter and deep.

Source: Z:\Clients\Q_T\Spectra\SMP\Sabal_Trail\ArcGIS\2015\05\Karst\SMP_Sabal_Karst_Florida_NoExisting1.mxd
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Florida Southeast Connection Project

The FSC Project occurs in an area with 30 to 200 feet of largely unconsolidated deposits above the carbonate bedrock and FAS (Sinclair and Stewart, 1985). Sinkholes and closed depressions occur; however, due to the depth of cover over the bedrock and a lack of large springs, the area in which the FSC Project would be located is substantially less sensitive to karst-related issues than the area traversed by the Sabal Trail Project in northern Florida (Vitani, 2015).

From MP 0 to about MP 36, the pipeline facility would cross Area III described above, in which the overburden tends to be more cohesive, and sinkholes tend to be more numerous, of varying size, and develop suddenly due to cover collapse. The remainder of the pipeline facility would be located in Area II in which the overburden tends to be more sandy, and sinkholes tend to be fewer, shallow and of small diameter, and develop gradually by subsidence.

Based on review of geologic maps, aerial photographs, and state databases that identify closed topographic depressions (FGS, 2004) and sinkhole incidents (FDEP, 2013b), over 650 features that may represent karst solution features were identified within 0.25 mile of the project route. No sinkholes were identified in FSC's proposed right-of-way during field surveys.

Impacts and Mitigation

The primary geologic impact that could affect the proposed pipeline and aboveground facilities in karst sensitive areas is the sudden development of a sinkhole that damages the facilities and poses a safety risk. Other subsidence features could develop gradually over time, but would not pose an immediate risk to the proposed facilities. As discussed below, karst features could be initiated by the physical disturbance associated with trenching, grading, or HDD activity; or by diverting or discharging project-related water into otherwise stable karst features. The potential for the Sabal Trail Project or the FSC Project to impact caves, wells, and springs relate primarily to groundwater resources and are discussed in section 3.3.

Karst Mitigation Plans

The Sabal Trail Project and FSC Project would be constructed near sinkholes and closed topographic depressions and could encounter unknown subsidence features within the construction workspace. Sabal Trail and FSC developed Karst Mitigation Plans to address karst features encountered during construction and further reduce the potential to initiate sinkhole development during construction and operation of the facilities (see appendix F). Impact prevention measures described in these plans include:

- Awareness training for identification of karst-like features. The Chief Inspector, Craft Inspectors, Safety Inspectors, Lead Environmental Inspector, and EIs would all be made aware of the potential for sinkhole formation and to identify the signs of sinkhole formation.

- Marking karst features in the field. Sabal Trail would avoid excavation within 300 feet of any 1st or 2nd order magnitude spring without geophysical testing (see table 3.3.1-2); and no excavation would occur within 100 feet and no soil or vegetation disturbance would occur within 35 feet of a sinkhole unless the feature is being evaluated for possible mitigation. FSC would implement certain excavation and grading protocols within 300 feet of karst features as noted below.

- Placing spoil on the trench side that is opposite of the feature whenever feasible; in the event of stormwater erosion, the stockpiled soil would flow into the trench, not the karst feature.

- Preventing construction influenced stormwater from flowing to the karst feature drainage point or throat. Drainage points in karst features would not be used for water disposal.

- Prohibiting the discharge of hydrostatic test water directly into the buffer zone of a karst feature. If site conditions prevent downgradient discharge, the water would be discharged as far as is practicable from the buffer zone using a filtered discharge and erosion and sediment control measures as detailed in the Applicants' construction and restoration plans. Restoration and revegetation of these areas would occur after construction.

The following mitigation measures would be implemented should karst conditions such as surface conduits, subsidence, settlements, depressions, or sinkholes be observed within the pipeline construction right-of-way:

- Work would be temporarily stopped and the area would be assessed by the project geotechnical engineer or other qualified personnel.

- Depending on site-specific conditions, a minor reroute of the pipeline may be implemented or thicker-walled pipe may be installed.

- Various procedures to stabilize a karst feature may be implemented depending on site-specific conditions. These procedures are commonly utilized in Florida and generally involve backfilling of the feature with sand, gravel, rock, or grout, or combinations thereof, with the overarching goal of preventing further collapse and raveling of surface material while maintaining infiltration of recharge waters to the aquifer. The specific methods that may be used by Sabal Trail and FSC are detailed in their respective Karst Mitigation Plans (see appendix F).

- Both companies would inform the Commission of karst-related issues encountered and addressed during construction in their regular construction status reports.

- Over the operating life of the facilities, Sabal Trail and FSC would visually monitor their rights-of-way for signs of karst activity and subsidence and conduct internal inspections of the pipelines for signs of stress or damage in accordance with DOT, Pipeline and Hazardous Materials Safety Administration (PHMSA) requirements. Both companies would implement mitigation measures as necessary if subsidence of karst features would develop. Also, the Applicants would be responsible for project-related damage to nearby facilities (see section 3.9).

Regarding aboveground facilities proposed in in karst sensitive areas, Sabal Trail would implement common construction practices as necessary to support the facilities including the use of reinforced grade beams and slabs capable of spanning small voids, or deep pile foundations that extend to competent bedrock.

Comments were received regarding the geotechnical feasibility of installing Sabal Trail's pipeline facilities via HDD in karst areas considering the potential to encounter large voids along the drill path. As discussed in section 3.3.1, five of the HDDs proposed by Sabal Trail would encounter carbonate

bedrock. Sabal Trail determined that the HDD drilling process would be feasible even if voids up to 15 feet across were encountered along the drill path. In the event that larger voids are encountered that prevent the successful completion of the HDD, Sabal Trail would modify the drill path slightly in an effort to avoid the large cavity. More specific measures that would be implemented during HDD operations in karst sensitive areas are detailed in Sabal Trail's Best Drilling Practices Plan (see appendix E), including the monitoring and control of drilling fluids when drilling through areas of well-developed karst. In addition, interstate transmission pipelines of similar diameter to Sabal Trail's Mainline have been successfully installed via HDD in karst areas in Florida, including FGT's prior crossing of the Suwannee River at the same location as proposed by Sabal Trail.

The potential also exists for HDD operations to cause subsidence as documented during a 3,500-foot-long HDD installation of a 36-inch-diameter natural gas pipeline by FGT in Hillsborough County, Florida (Smith and Sinn, 2013). In this case, three ground subsidence features ranging from approximately 5 to 25 feet in diameter and at least several feet deep developed along the drill path during installation, apparently in conjunction with the loss of drilling fluid to the ground surface. Sabal Trail recognized this potential hazard and would monitor the drill path for indications of subsidence and would implement mitigation measures such as backfilling with sand, if feasible. Sabal Trail would also conduct topographic surveys of nearby structures that could be affected and, as previously stated, would be responsible for any project-related property damage. We conclude that these measures, and long term monitoring of the right-of-way, would adequately address subsidence that could occur in conjunction with Sabal Trail's HDD operations. Whereas the FSC Project does not occur in an area of high karst sensitivity and none of FSC's HDDs would encounter carbonate bedrock, we believe localized subsidence features could occur in conjunction with FSC's HDD installations. Therefore, **we recommend that:**

- **<u>Prior to construction</u>, FSC should file with the Secretary of the Commission (Secretary), for the review and written approval of the Director of OEP, an updated Karst Mitigation Plan that specifies how FSC would monitor for and mitigate any subsidence features attributable to HDD activities.**

<u>Operational Safety</u>

To evaluate the impact that sinkholes may have on the operation of the SMP Project, we reviewed PHMSA pipeline incident data from 1984 to 2014 for Florida and Georgia, which includes reports of damage to pipeline facilities due to unspecified earth movements. A sinkhole event is considered an earth movement by PHMSA. A total of 52 significant incidents (resulting in more than $50,000 in damage and/or injury and fatalities) were reported in Georgia and 41 significant incidents were reported in Florida during the 30-year time frame for this data, although only one of the 93 significant incidents was attributed to earth movement. This event occurred on the FGT system in Lake County, Florida on July 7, 2000. It is unknown whether this incident was the result of sinkhole activity; however, it did not result in any injuries or fatalities. To help place this data in context, PHMSA regulates about 4,560 miles of natural gas transmission line in Georgia and 5,400 miles of natural gas transmission line in Florida. In addition, Georgia and Florida have about 83,200 miles and 40,500 miles of natural gas distribution pipeline, respectively. Many miles of these pipeline facilities have operated for decades in karst sensitive areas in both Georgia and Florida without reported earth movement incidents.

We also contacted the PHMSA Regional Accident Investigator (Buff, 2014) and pipeline safety representatives from the Georgia Public Service Commission (Thebert, 2015) and FPSC (Moses, 2015) and none of these individuals were aware of any pipeline incidents related to sinkholes or other karst activity in their respective jurisdictions. In addition, we reviewed other publically available information for reports/documentation of pipeline incidents related to sinkholes or karst activity in the SMP Project area and found none.

Furthermore, the pipeline and aboveground facilities would be designed, constructed, monitored, and maintained in accordance with PHMSA and industry standards that are protective of public safety. Depending on pipeline grade and diameter, Sabal Trail and FSC calculated that the proposed pipeline facilities would be able to span approximately 50 to 140 feet unsupported without potentially compromising the integrity of the pipelines. This span strength would further reduce the potential for a serious pipeline incident under most sinkhole development scenarios.

Other commentors were concerned that the pipeline facilities could rest unevenly on rugged bedrock, potentially damaging the pipeline. It is not uncommon for pipelines to be installed within bedrock trenches with an irregular surface. As described in section 2.3.1.5, the Applicants would install granular padding beneath the pipelines in bedrock areas to avoid damage, and would inspect the pipelines during operation by using internal inspection tools that are capable of detecting damage or other changes in the pipeline that could develop over time. If anomalies are detected, the Applicants would implement measures to repair or replace the affected area.

Karst Conclusion

In summary, portions of the Sabal Trail Project and, to a substantially less degree, the FSC Project, would be in areas that are subject to karst development and hazards. Each company characterized existing karst conditions in proximity to their proposed facilities and developed specific plans and procedures to minimize and respond to karst activity during construction and operation of the proposed facilities. We have reviewed these studies and plans and find that they adequately address karst conditions in the area. The proposed facilities would also be designed, constructed, maintained, and monitored in accordance with modern construction standards and PHMSA regulations, which would further reduce the potential for karst conditions to adversely impact the facilities. This is further supported by many miles of similar pipeline facilities that were installed using similar methods and have safely operated in karst-sensitive areas in Georgia and Florida for decades. We also note that other residential, commercial, industrial, and infrastructure development has continued successfully in these areas. For these reasons, we conclude that the potential for the SMP Project to initiate or be affected by damaging karst conditions has been adequately minimized.

3.1.3 Mineral Resources

Aerial photographs, USGS topographic maps, state and federal on-line databases, and other publically available information was used to identify mineral resources within at least 0.25 mile of the SMP Project. Specific mineral resources, potential project-related impacts, and the measures that each Applicant would implement to avoid or reduce impacts are discussed below.

3.1.3.1 Hillabee Expansion Project

One granite quarry and 10 sand and gravel mines were identified in counties crossed by the Hillabee Expansion Project, with the nearest being a sand pit approximately 0.5 mile north of Rock Springs Loop at MP 785.3. Gold exploration and mining previously occurred at more than 100 prospects and mines in 7 mining districts located in the Piedmont Province, though no portion of the project would cross a historic gold mine (Lesher et al., 1999). Coal continues to be mined in Alabama but not in proximity to the project.

Approximately 75 oil or gas wells were identified in Choctaw County, where the Rock Springs Loop, Butler Loop, and Compressor Station 84 would be located. All of the wells are located at least 7 miles from the proposed facilities except for one well, listed as “dry and abandoned” approximately 0.1

mile north from Rock Springs Loop MP 789.4. Seven other dry and abandoned wells were identified in Autauga, Chilton, and Dallas Counties, but none are in proximity to Transco's proposed facilities.

Transco is also aware that oil and gas exploration is planned to occur on property crossed by the Rock Springs Loop near MP 785.0. The proposed loop would be parallel to and typically offset by 25 feet from one of Transco's four existing pipelines in this area. Based on the above, we conclude that the incremental expansion of Transco's existing right-of-way would not significantly impact mineral resources in the project area.

3.1.3.2 Sabal Trail Project

Eleven, one, and nine mineral resource facilities were identified within 0.25 mile of the Mainline in Alabama, Georgia, and Florida, respectively. Of these facilities, seven are past producers, four are prospects/occurrences, three are producers, and the status of the remaining five facilities is unknown. No mineral resource facilities were identified within 0.25 mile of any of the aboveground facilities and the project would not cross any underground mines. The project would not cross an oil and/or gas field, and no oil or gas wells were identified within 0.25 mile of the project.

The proposed pipelines would not cross any active mines, although the Mainline would be adjacent to the active Suwannee Material Company – Sanchez Mine (limestone) near MP 304.0, and the active Jahna Industries Mines (sand) near MPs 454.0 and 462.0. The CCL would be near the active Red Level Mine (crushed stone) near MP 19.4. Sabal Trail coordinated with Jahna Industries to avoid future mining areas, and the Mainline would be located on property not owned by the Sanchez Mine. Near the Red Level Mine, the CCL would be within an existing DEF electric transmission easement which already precludes mining.

Based on the above, we conclude that the Sabal Trail Project would not significantly impact mineral resources in the project area.

3.1.3.3 Florida Southeast Connection Project

Nine sand mines and one peat mine were identified within 0.5 mile of the FSC Project. The project would not cross any oil and gas fields, although one dry oil or gas well was also identified more than 700 feet from MP 100.

The project would not cross any of the mining operations, but would cross or abut a state-designated Mandatory Non-Phosphate Site at MPs 4.5, 17.5, 23.8, 29.9, and 30.6. "Mandatory Non-Phosphate Sites" is an FDEP data layer that indicates the maximum extent of areas subject to regulatory oversight and may include areas that have not or will not be disturbed by mining activity. In these areas, FSC routed its pipeline facility along existing rights-of-way or property lines within the required 100-foot setback and would not cross any actively mined areas.

Based on the above, we conclude that the FSC Project would not significantly impact mineral resource operations in proximity to the project.

3.1.4 Geologic Hazards

Geologic hazards are potentially damaging naturally occurring or man-made geologic conditions or phenomena. The geologic hazards that have the potential to impact the SMP Project include seismic-related hazards (earthquakes, surface faulting, and soil liquefaction); landslides; and land subsidence,

including sudden collapse. As discussed below, the potential for a geologic hazard to impact the SMP Project is low.

3.1.4.1 Seismic Related Hazards

The SMP Project area is on the trailing edge of the North American tectonic plate, which experiences substantially less seismic activity than the western United States, which is on the leading edge of the plate. The USGS Earthquake Hazards Program indicates that there is a 2 percent chance over the next 50 years for the area underlying Transco's Billingsley, Autauga, Proctor Creek, and Hissop Loops to experience peak ground shaking of 10 to 14 percent of the acceleration due to gravity. In such an event the perceived shaking would be strong, but the potential damage would be light. The proposed pipelines would be constructed of modern, arc-welded steel that can resist moderate amounts of movement without damage (O'Rourke and Palmer, 1996). The remainder of the SMP Project would be in areas with lower seismic risk than central Alabama noted above.

Earthquakes can also cause damage by causing the ground surface to break along a fault line. As discussed above, the risk of a significant earthquake in the project area is very low, and thus the risk of seismic ground faulting to occur is also very low. The USGS Quaternary Fault and Fold Map does not depict any surface faults that have been active in the last approximate 2 million years in Alabama, Georgia, or Florida.

Soil liquefaction is a phenomenon that occurs when granular, saturated soil temporarily loses strength when subject to strong and prolonged shaking as may occur during an earthquake. Structures located on or within an area experiencing soil liquefaction could sustain damage due to loss of underlying soil strength. Although granular, saturated soils occur in the SMP Project area, the lack of strong seismic activity indicates a low risk for liquefaction to occur.

Based on the above, and considering that the proposed facilities would be constructed and maintained in accordance with applicable PHMSA and industry standards, we conclude that the potential for seismic related hazards to impact the SMP Project is low.

3.1.4.2 Landslides

Landslides are the down slope movement of earth materials under the force of gravity due to natural or man-made causes. Landslides can occur slowly through a process referred to as creep, or suddenly in the form of isolated rock falls or larger scale slope failures. Landslides can damage underground and aboveground structures depending on the type and magnitude of the landslide.

The degree of slope, the composition of surface materials, vegetative cover, and the amount of rainfall exposure are all factors related to landslide activity. Based on these factors, landslide hazard assessment includes an estimate of the susceptibility, or potential, for an area to experience landslide activity; and the incidence rate, an indicator of historic landslide activity in an area.

According to GSA data (GSA, 2011), over 70 percent of Transco's proposed Rock Springs, Butler, Billingsley, and Autauga Loops cross areas of moderate to very high landslide susceptibility, although the majority of the loops cross areas of moderate susceptibility. Approximately 0.2 mile of the Butler Loop crosses an area of very high susceptibility. Based on GSA data, the nearest recorded landslides to Transco's project consist of two incidents located approximately 0.8 mile north of the eastern end of the Verbena Loop in Chilton County. Transco stated that its existing pipeline system, which the proposed loops would parallel, has not been affected by landslide activity. In addition, Transco

engineers evaluated the geologic and topographic conditions at proposed aboveground facility sites and the sites are not located in areas of steep slopes that could be subject to failure.

According to the USGS Landslide Overview Map of the Conterminous United States, the Sabal Trail Project and the FSC Project would occur in areas with low landslide susceptibility and incidence (Radbruch-Hall et al., 1982). Based on the above, we conclude that the potential for landslides to impact the SMP Project is low.

3.1.4.3 Land Subsidence

Land subsidence can damage underground and aboveground facilities located above the subsidence area. Two sources of potential land subsidence were considered for the SMP Project: sinkhole formation in karst areas, and underground mine collapse. Sinkhole formation and mitigation measures are discussed in section 3.1.2.3. According to the Applicants, none of the SMP Project facilities would cross or be located over active or historic underground mines.

3.1.5 Paleontological Resources

3.1.5.1 Hillabee Expansion Project

Based on review of online fossil record databases and consultation with the GSA, Transco identified sites containing high fossil diversity and paleontological significant vertebrates including dinosaurs, sea snakes, mammals, and giant tortoise in proximity to the proposed facilities in Choctaw, Chilton, Autauga, and Dallas Counties. The geologic units containing these fossils underlie approximately 24.2 miles (55 percent) of the proposed loops. State code Acts 1984, No. 84-66 requires that the State Fossil, Basilosaurus cetoides, an Eocene whale, be collected, saved, or donated to a museum if encountered.

Transco developed an Unanticipated Paleontological Resources Discovery Plan that identifies the procedures for handling significant fossils, and stated it would work with the Alabama Natural History Museum and/or the GSA if significant fossils are discovered. Based on Transco's efforts to address this issue, we conclude that significant paleontological resources, if encountered, would be adequately protected.

3.1.5.2 Sabal Trail Project

Sabal Trail reviewed publications and consulted with geologic experts in each state crossed by the Sabal Trail Project regarding the potential to encounter significant paleontological resources during project construction (Ebersole, 2014; Smith, 2014; Rupert, 2014). No specific sites containing significant fossil resources were identified in the project area; however, Sabal Trail noted the potential to encounter significant fossils, particularly in Alabama, and we received comments concerning the potential for Sabal Trail to discover important fossils in Florida sinkholes that may be encountered during project construction. To ensure that significant fossil resources are adequately protected, **we recommend that:**

- **<u>Prior to construction</u>, Sabal Trail should file with the Secretary, for the review and written approval of the Director of OEP, an Unanticipated Paleontological Resources Discovery Plan that describes how Sabal Trail would recognize and manage significant fossils encountered during construction. This plan should also describe the notification procedures to the State Geologists in each state crossed by the Sabal Trail Project.**

With implementation of the above measure, we conclude that significant fossil resources would be adequately protected, if encountered.

3.1.5.3 Florida Southeast Connection Project

FSC does not expect to encounter bedrock during construction of the FSC Project and has not identified any recognized fossil assemblages in the project area to date. However, FSC developed an Unanticipated Paleontological Resources Plan that identifies the procedures for recognizing and handling significant fossils, and stated it would contact the Florida Museum of Natural History, Program of Vertebrate Paleontology if significant fossils are discovered. Based on FSC's efforts to address this issue, we conclude that significant paleontological resources would be adequately protected, if encountered.

3.1.6 Conclusion

The SMP Project would traverse a range of geologic conditions and resources, including karst sensitive areas in Georgia and Florida. As discussed above, the Applicants in general and Sabal Trail in particular conducted studies to characterize geologic conditions and developed project-specific plans and procedures that would minimize the potential for impacts on or by geologic conditions during construction and operation of the proposed facilities. We reviewed these plans and find them acceptable. We also found no record of karst activity causing damage to existing interstate transmission pipeline facilities, some of which have operated in karst sensitive areas of Georgia and Florida for decades. However, we acknowledge that documentation may be incomplete. Therefore, by implementing the proposed construction and restoration plans and our recommendations discussed above, we conclude that the SMP Project would not significantly impact geologic resources in the region and that geologic hazards, including karst activity, would not pose a significant risk to the proposed action.

3.2 SOILS

3.2.1 Existing Soil Resources

The Natural Resource Conservation Service (NRCS) Major Land Resource Areas (MLRAs) geographic database was used to generally characterize soil resources in the SMP Project area. MLRAs usually encompass several thousand acres and are characterized by a particular pattern of soils, geology, climate, water resources, and land uses (NRCS, 2008). The SMP Project pipeline facilities would cross seven MLRAs which are described below and identified in table 3.2.1-1. Proposed aboveground facilities, pipe/contractor yards and staging areas, and access roads would generally be located in or near the pipeline rights-of-way and, thus, within the same MLRAs.

The Southern Piedmont MLRA (136) consists of rolling to hilly uplands with well-defined drainage patterns underlain largely by metamorphic and igneous rocks. The soils in this MLRA are commonly shallow to very deep, generally well drained loams or clays. About 11 percent of the SMP Project pipeline facilities would be within MLRA 136.

The Alabama and Mississippi Blackland Prairie MLRA (135A) consists of rolling to hilly relief underlain by clay, marl, soft limestone, or chalk. Soils are typically fine textured, formed in bedrock on uplands and in clayey and loamy alluvium on flood plains. Less than 1 percent of the SMP Project pipeline facilities would be within MLRA 135A.

TABLE 3.2.1-1

Land Resource Regions and Major Land Resource Areas Crossed by the Southeast Market Pipelines Project Pipelines

Land Resource Region (LRR)	Major Land Resource Area	Hillabee Expansion Project	Sabal Trail Project	Florida Southeast Connection Project
		(miles)		
South Atlantic and Gulf Slope Cash Crops, Forest, and Livestock Region	Southern Piedmont (136)	19.4	56.8	-
	Alabama and Mississippi Blackland Prairie (135A)	-	5.2	-
	Southern Coastal Plain (133A)	24.0	197.7	-
	North-Central Florida Ridge (138)		65.5	-
	LRR Total	43.5	325.2	
Atlantic and Gulf Coast Lowland Forest And Crop Region	Eastern Gulf Coast Flatwoods (152A)	-	17.5	-
	LRR Total	-	17.5	
Florida Subtropical Fruit, Truck Crop, and Range Region	South Central Florida Ridge (154)	-	144.8	26.5
	Southern Florida Flatwoods (155)	-	28.1	99.9
	LRR Total	-	172.9	126.4
Total		43.5	515.6	126.4

The Southern Coastal Plain MLRA (133A) consists of unconsolidated coastal plain sediments underlain by eroded igneous and metamorphic bedrock. The soils common to this MLRA are generally very deep, somewhat excessively drained to poorly drained, and loamy. About 32 percent of the SMP Project pipeline facilities would be within MLRA 133A.

The North Central Florida Ridge MLRA (138) consists of a sand-mantled karstic limestone upland that has an irregular, gently rolling topography. Soils are excessively drained through poorly drained, and are typically sandy throughout or sandy over loamy or clayey sediments reflecting weathering of the variably textured underlying bedrock. About 10 percent of the SMP Project pipeline facilities would be within MLRA 138.

The Eastern Gulf Coast Flatwoods MLRA (152A) is a nearly level, low coastal plain covered by a thin veneer of sand with silt, sand, and gravel valley fill deposits. The soils in this MLRA are typically deep to very deep, somewhat poorly drained to very poorly drained. About 2.5 percent of the SMP Project pipeline facilities would be within MLRA 152A.

The South Central Florida Ridge MLRA (154) is nearly level to gently rolling with many irregularities in topography resulting from sinkhole formation. A sandy marine deposit overlies the limestone in most of the area. The soils common to this MLRA are excessively drained to somewhat poorly drained loam and sand formed in mixed eolian and marine sediments. About 25 percent of the SMP Project pipeline facilities would be within MLRA 154.

The Southern Florida Flatwoods MLRA (155) a nearly level coastal plain with large areas of swamps and marshes. Streams and lakes are common. A sandy marine deposit overlies the limestone in most of the area. The soils in this MLRA are excessively drained to somewhat poorly drained loam and sand formed mixed eolian and marine sediments. About 18.5 percent of the SMP Project pipeline facilities would be within MLRA 155.

3.2.2 Soil Characteristics and Limitations

The types and characteristics of soils crossed by the SMP Project were identified using NRCS Soil Surveys and the computerized Soil Survey Geographic (SSURGO) database for each county affected

by the SMP Project.[1] SSURGO provides the most detailed level of information of soil mapping done by the NRCS. The Web Soil Survey was also reviewed to provide interpretations of the sensitivity of soils to specific types of disturbance and soil suitability for specific types of uses such as roads and excavations.

Based on information contained in the SSURGO database, the SMP Project would cross about 19,100 individual soil map units consisting of one major soil type or complexes of two or more soil types which can contain a minor percentage (generally not more than 10 percent) of dissimilar soils. Our analysis focused on the major soil characteristics for the dominant soils within the map unit.

Soils in the region possess characteristics that could impact construction and restoration of the SMP Project. These include: soils that are susceptible to water and wind erosion; hydric soils; compaction prone soils; soils that are stony, rocky, or underlain by shallow bedrock; droughty soils; and prime farmland. Table 3.2.1-2 identifies the characteristics of soils that would be crossed by the SMP Project.

3.2.2.1 Erosion Potential

Erosion is a natural process generally resulting from water and wind forces that can be accelerated by human disturbance. Factors that influence the magnitude of erosion include soil texture, soil structure, length, and percent of slope, existing vegetative cover, and rainfall.

Soils most susceptible to water erosion are typified by bare or sparse vegetative cover, non-cohesive soil particles, low infiltration rates, and/or moderate to steep slopes. Soils more typically resistant to water erosion include those that occupy low relief areas, are well vegetated, and have high infiltration capacity and internal permeability. The potential for soils to be eroded by water was evaluated based on the K factor, where available, and slope. The K factor represents a relative quantitative index of the susceptibility of bare soil to particle detachment and transport by water, and is one of the factors used in the Revised Universal Soil Loss Equation to calculate soil loss.

Susceptibility to wind erosion is less affected by slope angles and is more directly influenced by physical soil factors including moisture, texture, calcium carbonate content, and organic matter; and landform and landscape conditions including soil roughness factors, unsheltered distance, and vegetative cover. Wind Erodibility Groups (WEGs) are a direct indicator of the inherent susceptibility of soils to wind erosion. Soils with WEGs of 2 or less are considered highly erodible due to wind.

About 1,763.8 acres of soils that are susceptible to water erosion would be affected by constructing the SMP Project, including about 612.5 acres for the Hillabee Expansion Project, 1,149.8 acres for the Sabal Trail Project, and 1.5 acres for the FSC Project. About 8,171 acres of soils that are susceptible to wind erosion would be affected by constructing the SMP Project, including about 144.5 acres for the Hillabee Expansion Project, 6,234.3 acres for the Sabal Trail Project, and 1,792.2 acres for the FSC Project.

[1] SSURGO2 spatial and soil-attribute data are available as ESRI shapefiles from the NRCS Web Soil Survey, http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm.

TABLE 3.2.1-2

Soil Characteristics Affected by the Southeast Market Pipelines Project [a]

	Highly Erodible				Hydric [b]		Compaction Prone [d]		Stony/Rocky [e]		Shallow to Bedrock [f]		Droughty [g]		Prime Farmland [h]			
	Water [b]		Wind [c]												Prime		State Classified	
Project	Const.	Op.	Const.	Op.	Const.	Op.	Const.	Op.	Const.	Op.	Const.	Op.	Const.	Op.	Const.	Op.	Const.	Op.
Hillabee Expansion Project																		
Pipeline [i]	491.0	174.4	115.6	43.9	29.4	13.4	29.4	11.9	172.2	62.1	111.9	40.5	477.7	175.4	120.0	34.7	19.9	6.6
Aboveground Facilities	50.0	7.2	19.0	3.0	0.0	0.0	17.6	<0.1	0.0	0.0	0.0	0.0	65.3	14.0	44.7	8.5	0.0	0.0
Yards [l]	31.1	0.0	0.0	0.0	2.6	0.0	1.6	0.0	13.2	0.0	1.6	0.0	89.8	0.0	49.0	0.0	<0.1	0.0
Access Roads	40.4	5.4	9.9	<0.1	1.0	0.0	<0.1	<0.1	14.5	1.0	20.4	<0.1	36.7	5.3	13.9	2.5	<0.1	<0.1
Hillabee Expansion Project Subtotal	612.5	187.0	144.5	46.9	33.0	13.4	48.6	11.9	199.9	63.1	133.6	40.5	669.5	194.7	227.6	45.7	19.9	6.6
Sabal Trail Project																		
Pipeline [i]	1,009.9	360.7	5,527.7	2,203.5	865.6	429.9	341.7	180.4	470.8	156.0	174.6	57.1	5,292.3	2,032.2	1,821.9	676.4	546.7	200.5
Aboveground Facilities	60.9	31.7	161.5	143.3	56.9	35.8	4.4	3.5	10.5	8.0	74.8	38.2	146.0	101.6	120.2	84.0	63.7	56.0
Yards [l]	41.2	0.0	295.7	0.0	14.0	0.0	2.3	0.0	23.0	0.0	18.3	0.0	241.2	0.0	65.7	0.0	97.3	0.0
Access Roads	63.7	0.0	249.4	4.5	45.8	0.8	16.1	0.0	10.1	0.0	18.5	0.0	190.7	1.2	70.8	0.0	25.3	1.2
Sabal Trail Project Subtotal	1,149.8	392.4	6,234.3	2,346.8	936.1	466.5	361.1	183.9	503.9	164.0	221.2	95.3	5,870.2	2,135.0	1,992.1	760.4	702.5	257.7
Florida Southeast Connection Project																		
Pipeline [i]	1.5	0.7	1,468.2	700.4	310.7	159.1	79.2	45.4	0.0	0.0	12.4	3.7	391.5	181.4	0.0	0.0	655.6	301.1
Aboveground Facilities	0.0	0.0	<0.1	2.7	0.0	0.9	0.0	0.2	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	<0.1	1.4
Yards [l]	0.0	0.0	210.7	0.0	39.8	0.0	<0.1	0.0	2.3	0.0	1.3	0.0	33.9	0.0	0.0	0.0	117.4	0.0
Access Roads	0.0	0.0	109.0	4.5	25.6	0.8	6.0	0.0	0.0	0.0	2.2	0.0	28.5	1.2	0.0	0.0	62.7	1.2
Florida Southeast Connection Project Subtotal	1.5	0.7	1,792.2	707.6	376.1	160.8	85.2	45.6	2.3	0.0	15.9	4.4	453.9	182.6	0.0	0.0	836.8	303.7

TABLE 3.2.1-2 (cont'd)

Soil Characteristics Affected by the Southeast Market Pipelines Project [a]

	Highly Erodible				Hydric [b]		Compaction Prone [d]		Stony/Rocky [e]		Shallow to Bedrock [f]		Droughty [g]		Prime Farmland [h]			
	Water [b]		Wind [c]												Prime		State Classified	
Project	Const.	Op.	Const.	Op.	Const.	Op.	Const.	Op.	Const.	Op.	Const.	Op.	Const.	Op.	Const.	Op.	Const.	Op.
Southeast Market Pipelines Project Total	1763.8	580.1	8,171.0	3,101.3	1345.2	640.7	494.9	241.4	706.1	227.1	370.7	140.2	6,993.6	2,512.3	2219.7	806.1	1559.2	568.0

[a] Soil may have more than one characteristic.

[b] Highly Erodible Soil as defined by the NRCS includes soil where the soil Erosion Index (EI) is greater than 8, using Revised Universal Soil Loss Equation parameters. Where necessary parameters (T and/or L) are missing from the SSURGO2 database, highly erodible land (HEL) includes land in capability subclasses 6e through 8e and soils with an average slope greater than 9 percent. Urban Land and Water have no information and are not included as HEL.

[c] Includes soils in wind erodibility group designation of 2 or less.

[d] Includes soils in somewhat poor to very poor drainage classes with surface textures of sandy clay loam and finer.

[e] Includes soils with a cobbley, stony, bouldery, shaly, very gravelly, or extremely gravelly modifier to the textural class of the surface layer and/or that have a surface layer that contains greater than 5 percent by weight rock fragments larger than 3 inches.

[f] Includes soils identified with bedrock at a depth of 5 feet or less from the surface.

[g] Includes soils with a surface texture of sandy loam or coarser that are moderately well to excessively drained.

[h] As designated by the Natural Resources Conservation Service, SSURGO database. Prime Farmland includes Prime if Drained, all states.

[i] Includes mainline valves, meter and regulating stations, and launcher/receiver facilities not contained within the boundary of a compressor station.

[l] Includes pipe/contractor yards and storage areas.

3.2.2.2 Hydric Soils

Hydric soils are soils developed under sufficiently wet conditions to support the growth and regeneration of hydrophytic vegetation; soils which are sufficiently wet because of artificial measures; or soils that were considered hydric prior to hydrology modifications (e.g., drained) (NRCS, 2010). Some soils designated as hydric have phases that are not hydric depending on water table, flooding, and ponding characteristics.

About 1,345.2 acres of hydric soils would be affected by constructing the SMP Project, including about 33 acres for the Hillabee Expansion Project, 936.1 acres for the Sabal Trail Project, and 376.1 acres for the FSC Project.

3.2.2.3 Compaction and Rutting Potential

Compaction occurs when soil is subjected to heavy loads or traffic which reduce soil aggregation and porosity and increase soil density. Similarly, rutting is caused by the plastic deformation of soil when subject to an external load. The potential for soils in the SMP Project area to become compacted was evaluated based on SSURGO data using texture and drainage class data. Soils that are compactable are limited to sandy loams and finer soils that are classified as very poorly drained, poorly drained, and somewhat poorly drained. In general, compaction and rutting become more pronounced when soils are wet.

About 494.9 acres of soils that are susceptible to compaction and rutting would be affected by constructing the SMP Project, including about 48.6 acres for the Hillabee Expansion Project, 361.1 acres for the Sabal Trail Project, and 85.2 acres for the FSC Project.

3.2.2.4 Stony/Rocky Soils and Shallow Bedrock Soils

The SSURGO database identifies stony/rocky soils as soils with a cobbley, stony, bouldery, shaly, channery, very gravelly, or extremely gravelly modifier to the textural class of the surface layer and/or that have a surface layer that contains greater than five percent by weight rock fragments larger than 3 inches. The SSURGO database also identifies soils that occur where bedrock is within 5 feet of the ground surface, which can contribute to the stony or rocky characteristic.

About 1,076.8 acres of stony/rocky soils and soils over shallow bedrock would be affected by constructing the SMP Project, including about 333.5 acres for the Hillabee Expansion Project, 725.1 acres for the Sabal Trail Project, and 18.2 acres for the FSC Project.

3.2.2.5 Droughty Soils

Soils that are unable to retain moisture may dry excessively during periods of little or no precipitation. The SSURGO identifies drought-prone soils as soils that have a texture of sandy loam or coarser and which are moderately well to excessively well drained.

About 6,993.6 acres of soils that are susceptible to drought conditions would be affected by constructing the SMP Project, including about 669.5 acres for the Hillabee Expansion Project, 5,870.2 acres for the Sabal Trail Project, and 453.9 acres for the FSC Project.

3.2.2.6 Prime Farmland

Prime farmland and related state farmland classifications are attributes of soil map units, and not component soil series, and were obtained by a direct query of the SSURGO database. Prime farmland is defined as land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops, and is also available for these uses (the land could be cropland, pastureland, rangeland, forest land, or other land, but not urban built-up land or water). In general, prime farmlands have an adequate and dependable water supply from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, acceptable salt and sodium content, and few or no rocks. Prime farmlands are not excessively erodible or saturated with water for a long period of time, and they either do not flood frequently or are protected from flooding.

The NRCS also recognizes unique farmlands and farmlands of statewide importance. Unique farmlands are defined as lands other than prime farmland that are used for production of specific high-value food and fiber crops (e.g., citrus, tree nuts, olives, fruits, and vegetables). Unique farmlands have the special combination of soil quality, location, growing season, and moisture supply needed to economically produce sustained high quality or high yields of specific crops when treated and managed according to acceptable farming methods. Farmland of statewide importance is similar to prime farmland but with minor shortcomings such as greater slopes or less ability to store soil moisture.

About 3,778.9 acres of prime farmland and state classified farmland would be affected by constructing the SMP Project, including about 247.5 acres for the Hillabee Expansion Project, 2,694.6 acres for the Sabal Trail Project, and 836.8 acres for the FSC Project. Operating the aboveground facilities and permanent access roads would impact about 154.8 acres of prime farmland and state classified farmland. An additional 1,219.3 acres of prime and state classified farmland would be within the operating right-of-way of the pipeline facilities; however agricultural use would be allowed to continue within the right-of-way in most cases (see

3.2.3 General Impacts and Mitigation

Constructing pipelines and aboveground facilities could impact soil resources. Potential impacts include soil erosion, soil compaction, reduction of soil fertility, and changes to other soil characteristics.

Clearing and grading removes protective vegetation cover and exposes the soil to the effects of wind and rain, resulting in an increased potential for erosion within the workspace and deposition/sedimentation into nearby sensitive areas including wetlands and waterbodies. The loss of topsoil due to erosion also reduces soil fertility, potentially inhibiting revegetation of the right-of-way and reducing agricultural yields. Soils on moderate to steep slopes would be more prone to water-related erosion, and dry, coarse textured soils in open areas, including trench spoil stockpiles, would be more prone to wind erosion and the creation of dust.

Construction activities such as grading, trenching, and backfilling can also cause mixing of soil horizons. Mixing of topsoil with subsoil, particularly in agricultural lands, dilutes the chemical and physical properties of the topsoil and lowers soil fertility. Trenching or blasting of stony or shallow-depth-to-bedrock soils can bring stones or rock fragments to the surface which could interfere with agricultural practices and further reduce soil fertility. Soil fertility could also be affected by spills of fuel or other hazardous materials during construction or operations at aboveground facilities where hazardous materials are stored and used, or when constructing in areas of pre-existing soil contamination.

Grading, spoil storage, and equipment traffic can compact soil, reducing porosity and percolation rates and increasing runoff potential. Compaction can also impede plant root establishment, thereby

inhibiting revegetation of the right-of-way or reducing crop yields. Hydric soils and soils that have been recently wet by precipitation would be more prone to compaction and rutting.

In general, the Applicants would reduce impacts on soils by limiting the area of disturbance to the area needed for safe construction of the proposed facilities; collocating the workspace with previously disturbed areas where possible; initiating restoration as soon as reasonably possible after final grading; and utilizing existing roads for temporary and permanent access to the extent possible. The Applicants would further minimize impacts on soil resources by constructing and operating the SMP Project in accordance with their respective construction and restoration plans identified in section 2.3 and discussed throughout the EIS. The measures applicable to soils include:

- Removing topsoil from either the full work area or from the trench and subsoil storage area in cultivated or rotated cropland and managed pastures; residential area; hayfields; or other areas at the landowner or land managing agency's request. At least 12 inches of topsoil would be removed in areas of deep topsoil and every effort would be made to segregate the entire topsoil layer in soils with less than 12 inches of topsoil. Topsoil piles would be segregated from subsoil throughout construction and would be stabilized with sediment barriers, mulch, temporary seeding, tackifiers, and functional equivalents, where necessary.

- Installing temporary erosion control devices within the trench and workspace immediately after initial disturbance of the soil and maintaining the devices throughout construction until replacement by permanent controls or completion of restoration. Temporary and permanent controls may include slope breakers, trench plugs, sediment barriers, and mulch.

- Implementing measures to reduce wind erosion and control dust including applying water to work areas, reducing vehicle speeds on unpaved surfaces, covering haul trucks in transit, and using gravel at paved road access points as needed.

- Controlling rock removed during blasting operations.

- Using excavated rock to backfill the trench only to the top of the existing bedrock profile. Excess rock would be considered construction debris unless approved for use on the right-of-way by the landowner or managing agency. Excess rock would also be removed from the top 12 inches of soil in all cultivated or rotated cropland, managed pastures, hayfields, residential areas, and other areas at landowner request. The size, density, and distribution of rock within the restored right-of-way would be similar to adjacent areas.

- Testing topsoil and subsoil for compaction at regular intervals in agricultural and residential areas. Severely compacted soils in agricultural areas would be plowed with a paraplow or other deep tillage equipment; the subsoil would be plowed in areas where topsoil has been segregated prior to topsoil replacement. Appropriate soil compaction mitigation would also be conducted in severely compacted residential areas.

- Conducting trench dewatering in a manner that does not cause erosion.

- Segregating the top 12 inches of topsoil from the area of the trench in wetlands, except where standing water is present or soils are saturated.

- Using low-ground-weigh equipment in areas of standing water or saturated soils in wetlands, or if equipment causes rutting or mixing of wetland soils. Alternatively, normal equipment could be supported on timber riprap or similar supports in wetlands.

- Managing fuel and other hazardous materials in accordance with applicable regulations designed to prevent inadvertent spills, and implementing specific measures to limit and cleanup any spills that occur as well as manage pre-existing soil contamination, if encountered.

Additionally, we received several comments concerning the potential for the FSC Project to encounter sandy soils that could result in trench maintenance difficulties. FSC indicated that trench boxes or sheet piling could be implemented in areas where a trench cannot be maintained due to soil conditions.

3.2.4 Conclusion

Construction-related impacts on soils would be temporary and localized to the construction workspace and would be minimized through the use of the Applicants' construction and restoration plans summarized above and discussed throughout this EIS. We have reviewed these plans and find them acceptable. Based on the overall soil conditions in the SMP Project Area and the Applicants' proposed construction and operation methods, we conclude that the SMP Project would not significantly alter the soils of the region.

3.3 WATER RESOURCES

3.3.1 Groundwater

3.3.1.1 Regional Aquifers

As discussed in section 3.1.1, the SMP Project occurs within two physiographic provinces: the Piedmont Province in east-central Alabama; and the Coastal Plain Province for the remainder of the project in southern Alabama, Georgia, and Florida. The physiography and geology of these provinces influence water resources of the region, which is drained by numerous rivers and streams that supply water to cities and other communities. However, the majority of the population, particularly in the Coastal Plain Province, depends on groundwater for its water supply.

Four major aquifer systems[2] occur in the SMP Project area including the Piedmont/Blue Ridge, Southeastern Coastal Plain, Floridan (FAS), and Surficial systems. The Southeastern Coastal Plain and Piedmont/Blue Ridge aquifer systems underlie project facilities in Alabama. Georgia and Florida areas of the project are underlain by surficial aquifers, the FAS, and the Southeastern Coastal Plain system. These major aquifer systems are described below. Milepost ranges for the proposed pipeline facilities are generally used to describe the location of the SMP Project components relative to groundwater resources; the groundwater resources would be the same for the aboveground facilities and other components of the SMP Project that occur within the approximate milepost ranges indicated.

Piedmont/Blue Ridge Aquifer System

Piedmont/Blue Ridge aquifers (undifferentiated) consist of indurated metamorphic rocks, such as gneiss and schist, and igneous rocks, such as granite, that underlie the rolling hills of the Piedmont

[2] An aquifer system consists of two or more aquifers that are hydraulically connected. Their flow systems function similarly, and a change in conditions in one aquifer affects the other aquifer(s) (USGS, 1990).

Province. Although rocks of the Piedmont/Blue Ridge aquifers extend under the Southeastern Coastal Plain aquifer system, these rocks generally yield less water and are not extensively used because groundwater can be more readily obtained from shallower aquifers in the Southeastern Coastal Plain aquifer. The Piedmont/Blue Ridge aquifers are primarily used as a water supply for domestic or agricultural wells. Well yields generally are small because groundwater occurs in fractured or weathered crystalline bedrock. The USGS (1990) reports that this aquifer system is used for domestic and commercial purposes (62.5 percent), agriculture (22.2 percent), industry (4.3 percent), and public water supply by small communities (11 percent). Larger cities and towns in the Piedmont/Blue Ridge aquifer region rely on surface water.

Southeastern Coastal Plain Aquifer System

The Southeastern Coastal Plain aquifer system consists of four aquifers comprised predominately of sand, with some beds of gravel and limestone. The system either grades into or underlies the FAS in areas of the SMP Project and, in many places, groundwater moves easily between the Southeastern Coastal Plain system and the FAS. Southeastern Coastal Plain aquifers generally yields large volumes of water in updip areas, where they are composed of mostly sand, but the aquifers generally become less permeable in a coastward direction due to increasing clay content. The system extends south and east from the Fall Line and generally underlies Transco's proposed Rock Springs, Butler, Billingsley, and Autauga Loops and Sabal Trail's proposed Mainline from about MP 55 in eastern Alabama to MP 320 in Gilchrist County, Florida. The USGS (1990) reports that water from this aquifer system is used for public water supply (36.5 percent); agriculture (25.7 percent); industry, mining, and power (22.3 percent); and domestic and commercial use (15.5 percent).

Floridan Aquifer System

The FAS extends for more than 100,000 square miles throughout all of Florida and the southern portions of Alabama, Georgia, and South Carolina. The most productive part of the FAS occurs beneath the Sabal Trail Project from approximate Mainline MP 140 in central Terrell County, Georgia south beneath all of the Sabal Trail Project and FSC Project in Florida.

The FAS consists primarily of a sequence of limestone and dolomite, which thickens from about 250 feet in Georgia to about 3,000 feet in south Florida, and some equivalent clastic units in updip areas. The FAS is divided into an Upper and Lower aquifer separated by at least one unit of lower permeability. Only the Upper Floridan is present in southern Georgia; regionally extensive confining and semi-confining units separate the Upper and Lower Floridan beginning near the Florida – Georgia state line and increasingly further south.

The FAS is the most productive aquifer in the SMP Project area and is one of the highest producing aquifers in the world (FDEP, 2007; Chalmers et al., 2002). The FAS currently provides drinking water to about 10 million people including residents of Savannah and Brunswick in Georgia; and Jacksonville, Tallahassee, Orlando, and St. Petersburg in Florida (Williams and Kuniansky, 2015). In 2005, about 60 percent of the 2.5 billion gallons per day (gpd) of groundwater used in Florida was obtained from the FAS. Of the groundwater appropriation, public supply accounted for 52 percent, followed by agricultural (31 percent) and commercial-industrial-mining (8.5 percent). In southern Florida, where it is deeper and contains brackish water, the Lower Floridan has been used for the injection of sewage and industrial waste.

As described in section 3.1.2.2, the Sabal Trail Project would cross areas where the FAS is unconfined or thinly confined in Terrell, Lee, Dougherty, and Mitchell Counties, Georgia; and Hamilton, Madison, Suwannee, Gilchrist, Alachua, Levy, Marion, Sumter, and Lake Counties in Florida. Extensive

networks of karst features in these areas are critical in controlling recharge and discharge of the FAS and is a principal reason the FAS is highly productive (Williams and Kuniansky, 2015). Where the aquifer system is thickly confined, much less dissolution occurs and transmissivities[3] tend to be lower. Transmissivity in the aquifer typically range from 6,700 to 67,000 gallons per day per foot, but may be as large as 1,700,000 gallons per day per foot near large springs (Ryder, 1985). As distance from a spring increases, flow becomes more diffuse (laminar) through an interconnected network of saturated secondary permeability (fractures) that has not been enlarged through dissolution of the bedrock.

We received numerous comments from affected landowners, the FGS, FDEP, Florida WMDs, the GGS, and other stakeholders concerning the importance of the FAS in southwest Georgia and Florida as a source of potable water and as the source of water to springs and other surface waterbodies in the area. Springs are addressed in section 3.3.1.5 below.

Surficial Aquifer System

The Surficial aquifer system consists of a thin, widespread layer of unconsolidated sand with a few beds of shell and limestone that are present at the land surface. The Surficial aquifer system is not mapped as present in the SMP Project area in Alabama. In Georgia it is mapped in the project area in Colquitt and Brooks Counties. In Florida it is present in the project area in Polk, Osceola, St. Lucie, Okeechobee, and Martin Counties.

This aquifer system generally yields small volumes of water under unconfined (water table) conditions, and is primarily used for domestic, commercial, or small municipal supplies (USGS, 1990; FDEP, 2007; Chalmers et al., 2002). The Surficial aquifer is only thick and productive in two areas; in southern Florida and the westernmost panhandle of Florida (Williams and Kuniansky, 2015). In 2005, approximately 532 million gpd were withdrawn from the Surficial aquifer for public water supply and domestic and commercial uses (Marella, 2009).

3.3.1.2 Sole Source Aquifers

A Sole Source Aquifer (SSA) is defined by the EPA as an underground water source that supplies at least 50 percent of the drinking water consumed in the area overlying the aquifer. These areas have no alternative drinking water source(s) that could physically, legally, and economically supply all those who depend upon the aquifer for drinking water.

The SMP Project would not be located within a designated SSA, although the Sabal Trail Mainline (MP 465.8 to MP 474.4), the HCL, and approximately 70 percent of the FSC Project overlie the stream flow and/or recharge source zone of the Biscayne SSA which supplies all municipal water supply systems from southern Palm Beach County, Florida, southward. No land use restrictions were identified for the stream flow and/or recharge source zone of the Biscayne SSA. As discussed in sections 3.2.3 and 3.3.1.7, Sabal Trail and FSC would implement construction and restoration procedures that would avoid and minimize potential impacts on groundwater resources including the Biscayne SSA stream flow and/or recharge zone.

3.3.1.3 State Designated Aquifers

The SMP Project would not cross any state designated aquifers in Alabama or Georgia but would cross state designated aquifers in Florida. In Chapter 62-520 of the Florida Administrative Code (F.A.C.), the State of Florida classifies aquifers used for public water supplies based on potability, total

[3] Transmissivity is a measure of how much water can be conveyed through an aquifer.

dissolved solids, and whether the water is located in a confined or unconfined aquifer. The highest aquifer classification is Class G-I which is potable water in a single source aquifer with less than 3,000 milligrams per liter of total solids. Aquifer classifications for the Sabal Trail Project and the FSC Project would be determined by the FDEP in the ERP review process. Based on initial consultation with the FDEP, Sabal Trail and FSC conclude that their respective projects would generally cross Class G-II aquifers, which are defined as potable but have a total dissolved solids content up to 10,000 milligrams per liter.

No land use restrictions were identified for these areas and, as discussed in section 3.3.1.8, the Applicants would implement numerous measures to avoid and minimize potential impacts on underlying aquifers.

3.3.1.4 Water Supply Wells and Wellhead Protection Areas

Public and private water supply wells within 150 feet of the construction workspace identified to date are included in table 3.3.1-1 in appendix D. The Applicants would continue to identify nearby wells in consultation with landowners and agencies.

The Safe Drinking Water Quality Act requires that states develop programs to identify areas around public water supply wells in which contaminants could impact the well. These Wellhead Protection Areas (WHPAs) involve hydrogeologic characterization of the water source; inventory of existing potential contaminant sources that could impact the well; an assessment of contaminant risk; and a program to inform industry and the public of chemical and waste practices to reduce the risk of impact to the water supply.

In Alabama, ADEM Administrative Code Chapter 335-7-12.01 implements the Alabama wellhead protection program. Neither the Hillabee Expansion Project nor the Sabal Trail Project would be located in any designated WHPAs or groundwater protection areas in Alabama (Wilson ADEM, 2014b; Arnold ADEM, 2014).

In Georgia, the source of water supply for all public water systems must be approved by the Georgia Environmental Protection Division (GEPD) in accordance with Chapter 391-3-5.06. The Georgia Wellhead Protection Plan establishes a Control Zone in which the well owner must control all activities in the immediate vicinity of a public water supply well, and a Management Zone in which certain activities may be prohibited (e.g., siting a hazardous waste landfill), and other activities must be performed in accordance with certain rules (e.g., management of hazardous materials in accordance with applicable regulations). Inner Management Zones are typically a defined distance that extends 100 to 500 feet from a well, whereas Outer Management Zones can extend miles from a well based on site-specific hydrologic studies. The City of Albany raised concern that the Sabal Trial Project could impact municipal wells, including a well field on the southern outskirts of the City. The Mainline route parallels the southern boundary of the well field between MP 159.5 and MP 161.2, where it is collocated with an existing Dixie natural gas liquids product pipeline; the SONAT natural gas transmission pipeline also crosses the well field diagonally for 1.5 miles. The City was also concerned that the Albany Compressor Station could impact Well #135. Potential impacts on the municipal water wells are discussed in section 3.3.1.7.

In Florida, the FDEP Wellhead Protection program incorporates the Wellhead Protection Rule, Chapter 62-521, FAC, and groundwater protection measures administered by the FDEP regulatory programs. The Wellhead Protection Rule establishes a 500-foot radius Source Water Assessment and Protection Program (SWAPP) area around all wells that serve community and non-transient non-community public water systems; SWAPP areas around larger public water systems are determined based

on groundwater travel times. The Sabal Trail Project and FSC Project would cross five and eight SWAPP areas, respectively (FDEP, 2008) (see table 3.3.1-1 in appendix D).

Two of the SWAPP areas associated with the Sabal Trail Project are located between approximate MPs 408.5 and 420.5 of the Mainline route and are associated with City of Wildwood, and three are located between approximate MPs 1.5 and 11.4 of the Hunters Creek Line and are associated with the Toho Water Authority. The City of Wildwood expressed concern that the Mainline could affect operation of their West Well and nearby water and sewer utility lines and we address this in section 3.3.1.7. Sabal Trail has committed to work with the City of Wildwood and the Toho Water Authority to avoid impacts on municipal water facilities. The pipeline facilities in these areas would all be installed using standard overland methods; in section 3.3.1.7 we conclude that any impacts on water resources and wells that could occur in conjunction with overland construction would be minor and temporary.

3.3.1.5 Springs

A spring occurs where groundwater flows naturally from bedrock or soil onto the land surface or into a body of water. As described in table 3.3.1-2, Alabama, Georgia, and Florida classify springs according to the volume of flow per unit time.

TABLE 3.3.1-2

Classification of Spring Flow

Magnitude	Flow
1st	≥ 100 cfs (≥ 64.6 mgd)
2nd	≥ 10 to100 cfs (≥ 6.46 to 64.6 mgd)
3rd	≥ 1 to 10 cfs (≥ 0.646 to 6.46 mgd)
4th	≥ 100 gpm to 1 cfs (≥ 100 to 448 gpm)
5th	≥ 10 to 100 gpm
6th	≥ 1 to 10 gpm
7th	≥ 1 pint/min to 1 gpm
8th	< 1 pint/min

cfs = cubic feet per second
gpm = gallons per minute
mgd = million gallons per day
From Meinzer (1927).

Springs can occur in a variety of geologic settings but are most prevalent in areas where carbonate bedrock is at or near the ground surface. The presence of springs, especially 1st and 2nd magnitude springs, is a major indication of karst conditions (Williams and Kuniansky, 2015). Similar to drainage basins associated with surface waters, springs occur within springsheds in which precipitation that falls on the surface infiltrates into the underling limestone bedrock where it becomes entrained in the hydraulic flow system to eventually discharge at a spring or group of springs. As noted in section 3.3.1.1, the flow system near a karst spring is likely to be dominated by conduit flow and, as distance from a spring increases, greater diffuse-type flow through the formation becomes more prevalent. Based on the aerial extent of the springshed and the type of flow within the system, the residence time of groundwater within a springshed can range from days to decades (Jones and Upchurch, 1996; Katz and Hornsby, 1999).

We received numerous comments from landowners, agencies, and other stakeholders expressing concern that constructing the Sabal Trail Project in karst sensitive areas of Georgia and Florida could adversely impact important springs in the area, particularly due to the inadvertent release of drilling mud

during HDD installations. Geotechnical investigations conducted by Sabal Trail determined that five of the proposed HDDs would encounter carbonate bedrock and be located in proximity to mapped springs, including Mainline crossings of the Flint River and Withlacoochee River in Georgia and the Suwannee River and Santa Fe River in Florida, and the CCL crossing of the Withlacoochee River in Florida. Figures 3.3.1-1 through 3.3.1-5 depict potentiometric contours of the FAS as well as springs, fracture traces, and cave systems within at least 1 mile of each of the referenced HDD crossing locations. The HDD construction method is described in section 2.3.2.1 and potential impacts of the HDD method on surface water resources other than springs are discussed in section 3.3.2.5.

Alabama

Hillabee Expansion Project

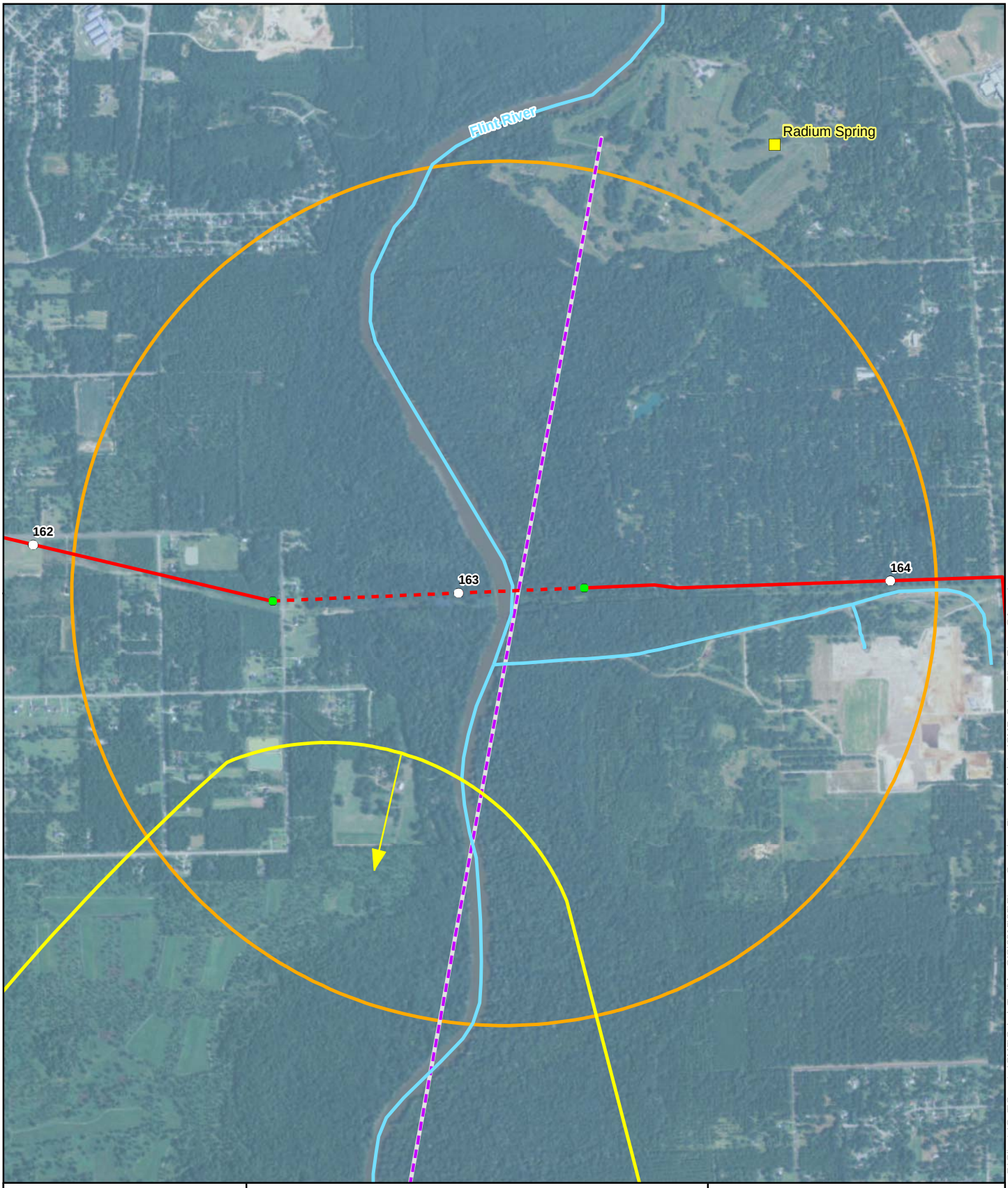
Alabama contains no 1st magnitude springs, eight 2nd magnitude springs, and several hundred smaller magnitude springs (Chandler and Moore, 1987). The GSA identifies eight springs in the counties crossed by the Hillabee Expansion Project (Chandler and Moore, 1987), none of which occur within 1 mile of the proposed facilities, and Transco has not identified any springs within 150 feet of the project.

Sabal Trail Project

The GSA identifies nine springs in the counties crossed by the Sabal Trail Project, none of which occur within 1 mile of the proposed facilities (Chandler and Moore, 1987). However, Sabal Trail identified two non-karst springs within 150 feet of the Mainline construction workspace in Alabama, at MP 0.6 in Tallapoosa County and MP 57.9 in Lee County. The spring at MP 0.6 is located approximately 60 feet from the pipeline centerline but outside the proposed construction workspace. The spring at MP 57.9 is located about 55 feet from the pipeline centerline and within the proposed workspace. Neither spring is a potable water source; however, Sabal Trail would mark the springs with flagging during pre-construction surveys and alert construction personnel and the EI of the springs. At the landowner's request, an expert would review the springs and recommend construction modifications if impacts would likely occur.

Georgia

Statewide databases identifying springs and springsheds are not available for Georgia; therefore, information regarding the location and magnitude of springs and their springsheds is limited. However, Sabal Trail identified two major springs in the general vicinity of the Sabal Trail Project. These include Radium Spring, approximately 1.7 miles northeast and upstream from the proposed HDD crossing of the Flint River in Dougherty County (see figure 3.3.1-1); and Blue (Wade) Spring, approximately 0.9 mile southwest and downstream from the proposed HDD crossing of the Withlacoochee River between Brooks and Lowndes Counties (see figure 3.3.1-2). Radium Springs is the only historical 1st magnitude spring associated with the FAS in Georgia. Due to the significance of Radium Springs, Sabal Trail used USGS potentiometric surface data of the FAS to estimate the extent of the Radium Springs springshed and concluded that the proposed HDD crossing location of the Flint River would not be within the springshed. Other springs are reported to discharge to the Flint River, but most of these springs are within the river bed and are unmapped (Hayes and Maslia, 1983).



0 500 1,000 Feet

N W E S

For environmental review purposes only

Figure 3.3.1-1
Sabal Trail Project
Horizontal Directional Drill Crossing at the Flint River
Dougherty County, Georgia

Proposed Pipeline - Trench
Proposed Pipeline - HDD
1-Mile Radius
Waterbody
Spring
Fracture Trace
Cave System
FAS Potentiometric Contour and Flow Direction (USGS, 2010)

Source: Z:\Clients\Q_T\Spectra\SMP\Sabal_Trail\ArcGIS\2015\05\River_Crossing_Figures_Updates\SMP_Sabal_Flint_River_GA.mxd
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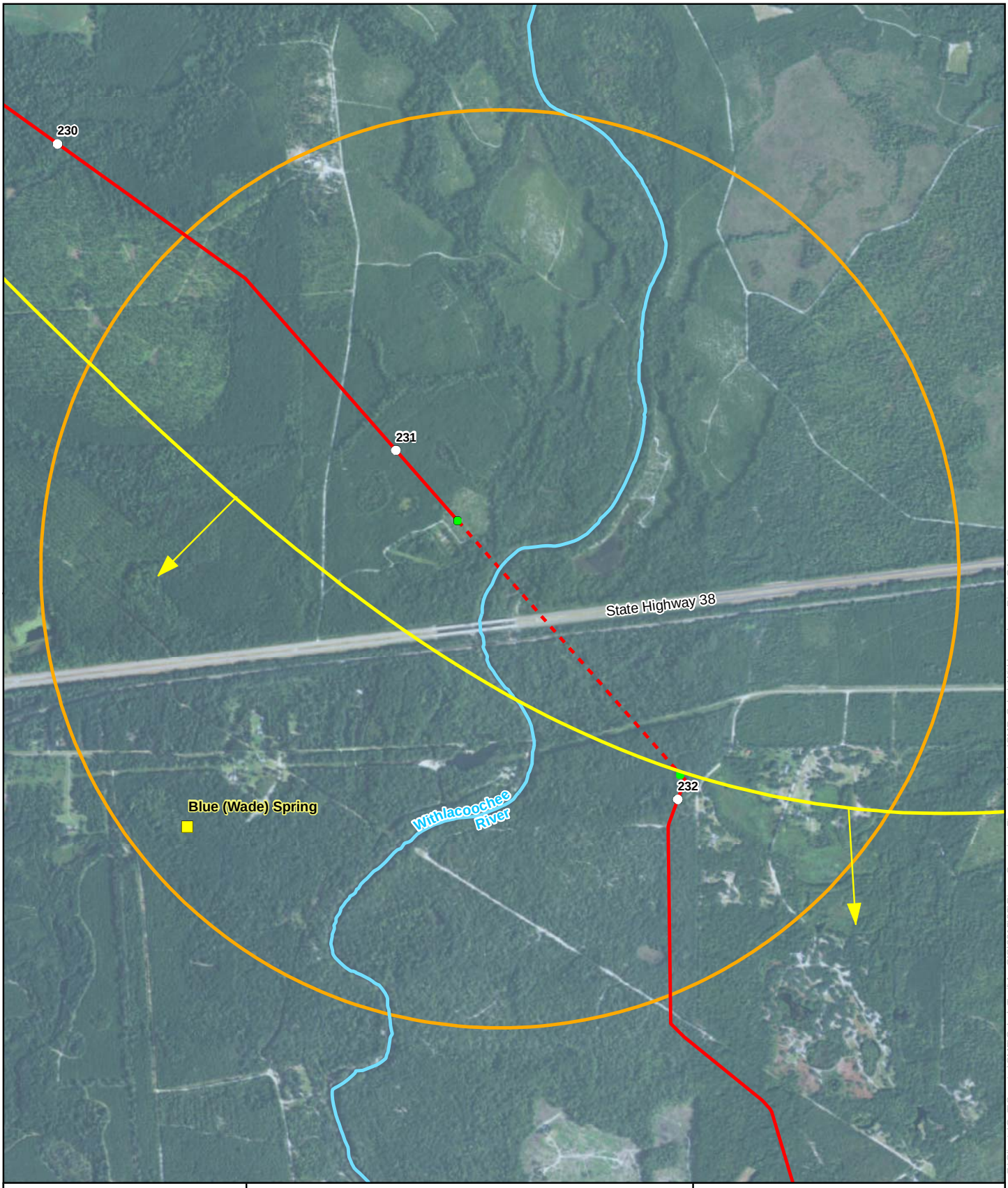

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For environmental review purposes only

Figure 3.3.1-2
Sabal Trail Project
Horizontal Directional Drill Crossing at the Withlacoochee River/SH 38
Brooks and Lowndes Counties, Georgia

- Proposed Pipeline - Trench
- Proposed Pipeline - HDD
- 1-Mile Radius
- Waterbody
- Spring
- Fracture Trace
- Cave System
- FAS Potentiometric Contour and Flow Direction (USGS, 2010)

Source: Z:\Clients\Q_T\Spectra\SMP\Sabal_Trail\ArcGIS\2015\05\River_Crossing_Figures_Updates\SMP_Sabal_Withlacoochee_River_GA.mxd

Date: (7/17/2015)

Florida

Florida has more than 1,000 freshwater springs, including 33 of the 75 1st magnitude springs in the United States. Nearly all of the first-magnitude springs occur in areas where the FAS is unconfined or thinly confined. In addition to their hydrologic role, springs are an important recreational and socioeconomic resource as nineteen state parks are named for springs and other springs are recreational and ecological tourism destinations. Springs also provide habitat for fish, reptiles, birds, and mammals, and in coastal areas, the constant 70-degree water temperatures provide habitat for the federally endangered West-Indian manatee. In 2013 and 2014, the State of Florida and private partners allocated $92 million for spring restoration and protection.

Electronic databases maintained by the State of Florida and WMDs were accessed to identify the location and magnitude of springs, and the areal extent of springsheds in the Sabal SMP Project area, where available. USGS potentiometric surface maps for the FAS were also obtained for the area around Sabal Trail's proposed HDDs of the Santa Fe, Suwannee, and Withlacoochee Rivers, and maps depicting the FAS aquifer discharge zones around the proposed HDDs of the Santa Fe and Suwannee Rivers were obtained from the Suwannee River WMD. Potentiometric surface maps are used to estimate the direction that groundwater flows within an aquifer, and aquifer discharge zones indicate the area in which groundwater in a flow system discharges from the aquifer via either springs or as greater laminar, diffuse-type flow through the aquifer.

The State of Florida utilized similar information, including the amount of cover over the FAS, to identify a 32-county area in northern and northwestern Florida as the Florida Springs Protection Area (SPA). The SPA was developed to assist counties and municipalities in land use planning and resource protection practices relative to springs. Except for the HCL, the entire Sabal Trail Project in Florida occurs within the SPA.

Sabal Trail Project

The FDEP Springs Location database is a compilation of data from various agencies and includes location and magnitude information for more than 1,000 named and unnamed springs in the state, ranging from 1st magnitude to 8th magnitude springs (FDEP, 2011). As indicated in table 3.3.1-3, four springs are located within 0.5 mile of the Mainline route, the nearest of which is about 1,000 feet from the project. There are no springs within 1 mile of the proposed compressor station sites, the CCL, or the HCL.

TABLE 3.3.1-3

Springs Within 0.5 mile of the Sabal Trail Project Mainline in Florida [a]

Spring Name	Magnitude	Nearest Milepost	Waterbody/ County	Nearest Approach to Spring (miles)	Construction Method	Estimated Hydrologic Position of Spring Relative to Project [b]
Tanner	2nd	260.5	Withlacoochee River/Hamilton	0.3	Overland	Downgradient
SUW923972 [c]	4th	267.3R	Suwannee River/ Hamilton and Suwannee	0.2	HDD	Downgradient
SUW917972	4th	308.4	Santa Fe River/ Suwannee and Gilchrist	0.4	HDD	Upgradient
A. Wayne Lee	Unknown	411.5	Little Jones Creek/Sumter	0.2	Overland	Downgradient

[a] Florida Department of Environmental Protection Agency Springs Location database (FDEP, 2011).
[b] Based on potentiometric surface maps of the Floridan Aquifer System (USGS, 2010).
[c] Sabal Trail would monitor this spring during HDD activities in accordance with its Best Drilling Practices Plan.

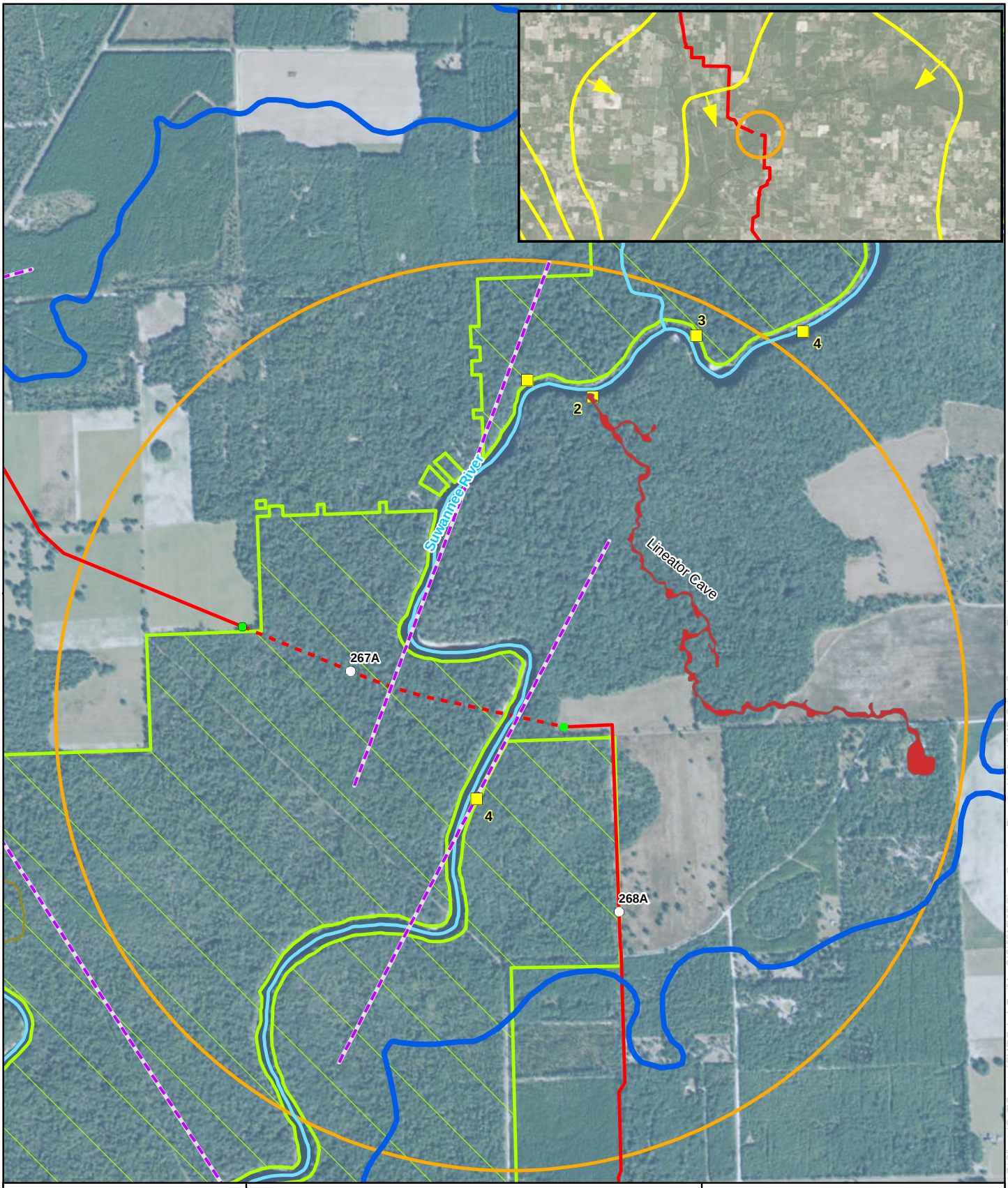
As previously noted, three of Sabal Trail's proposed HDDs in Florida would encounter carbonate karst bedrock including the proposed crossings of the Suwannee River (Mainline MP 267.3A), Santa Fe River (Mainline MP 308.3), and Withlacoochee River (CCL MP 1.3). As discussed in section 3.3.1.8, due to the karstic nature and high transmissivity of the FAS, HDD installation at these locations represent an increased potential to impact springs primarily through an inadvertent release of drilling mud into the FAS. Therefore, springs were identified within 1 mile of these HDD crossings as depicted on figures 3.3.1-3 through 3.3.1-5. As discussed in more detail below, springs located hydrologically upgradient and increasingly distant from the HDD crossings would less likely to be affected by HDD activities than springs located hydrologically downgradient and in closer proximity to the HDD activities.

At the Suwannee River, an unnamed 4th magnitude spring (SUW923972 in table 3.3.1-3) is located about 0.2 mile downstream from the proposed HDD. Three other springs are located within 1 mile of the HDD crossing, all of which are upstream from the crossing location. The nearest of these springs is Stevenson Spring, a 2nd magnitude spring located about 0.8 mile upstream from the HDD crossing.

There are five springs within 1 mile of the proposed HDD crossing of the Santa Fe River, all of which are upstream from the crossing location. The springs are all either 3rd or 4th magnitude springs, the nearest of which is an unnamed 4th magnitude spring (SUW917972 in table 3.3.1-3) about 0.4 mile upstream from the crossing location.

No mapped springs were identified within 1 mile of the proposed CCL HDD crossing of the Withlacoochee River.

Information regarding the aerial extent of springsheds was obtained from a number of sources including Upchurch (2007) and GIS data from the Suwannee River WMD and South Florida WMD. Table 3.3.1-4 identifies the 1st and 2nd magnitude springsheds that would be crossed by the Sabal Trail Project, and figures included in Sabal Trail's karst characterization report for Florida depict boundaries for most of the listed springs (appendix H). Table 3.3.1-4 and the figures indicate that the majority of pipeline routes and aboveground facilities occur within a major springshed; because most of the karst sensitive area of northern Florida is internally drained, it is likely that facilities outside the mapped boundaries of major springsheds occur within springsheds that have not yet been delineated.



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For environmental review purposes only

Figure 3.3.1-3
Sabal Trail Project
Horizontal Directional Drill Crossing at the Suwannee River
Hamilton and Suwanee Counties, Florida

- Proposed Pipeline - Trench
- Proposed Pipeline - HDD
- 1-Mile Radius
- Waterbody
- Spring/Magnitude
- Aquifer Discharge Area (SRWMD)
- Fracture Trace
- Cave System
- State Park
- FAS Potentiometric Contour and Flow Direction (USGS, 2010)

Source: Z:\Clients\Q_T\Spectra\SMP\Sabal_Trail\Arcds\S\2015\05\River_Crossing_Figures_Updates\SMP_Sabal_Suwannee_River.mxd
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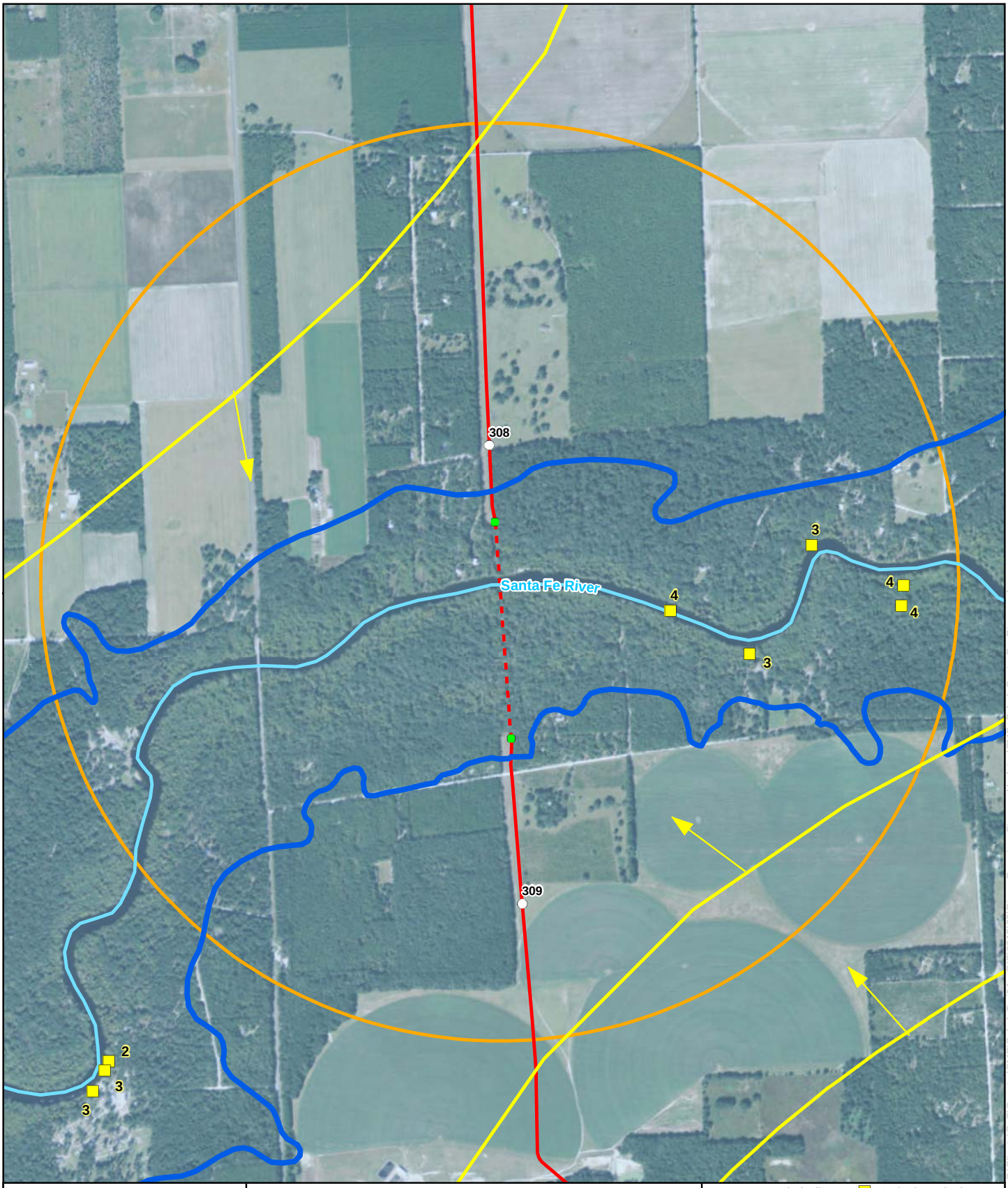

0 500 1,000 Feet

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Figure 3.3.1-4
Sabal Trail Project
Horizontal Directional Drill Crossing at the Santa Fe River
Suwannee and Gilchrist Counties, Florida

Proposed Pipeline - Trench
Proposed Pipeline - HDD
1-Mile Radius
Waterbody
Spring/Magnitude
Aquifer Discharge Area (SRWMD)
Fracture Trace
Cave System
FAS Potentiometric Contour and Flow Direction (USGS, 2005)

Source: Z:\Clients\Q_T\Spectra\SMP\Sabal_Trail\ArcGIS\2015\05\River_Crossing_Figures_Updates\SMP_Sabal_Santa_Fe_River.mxd

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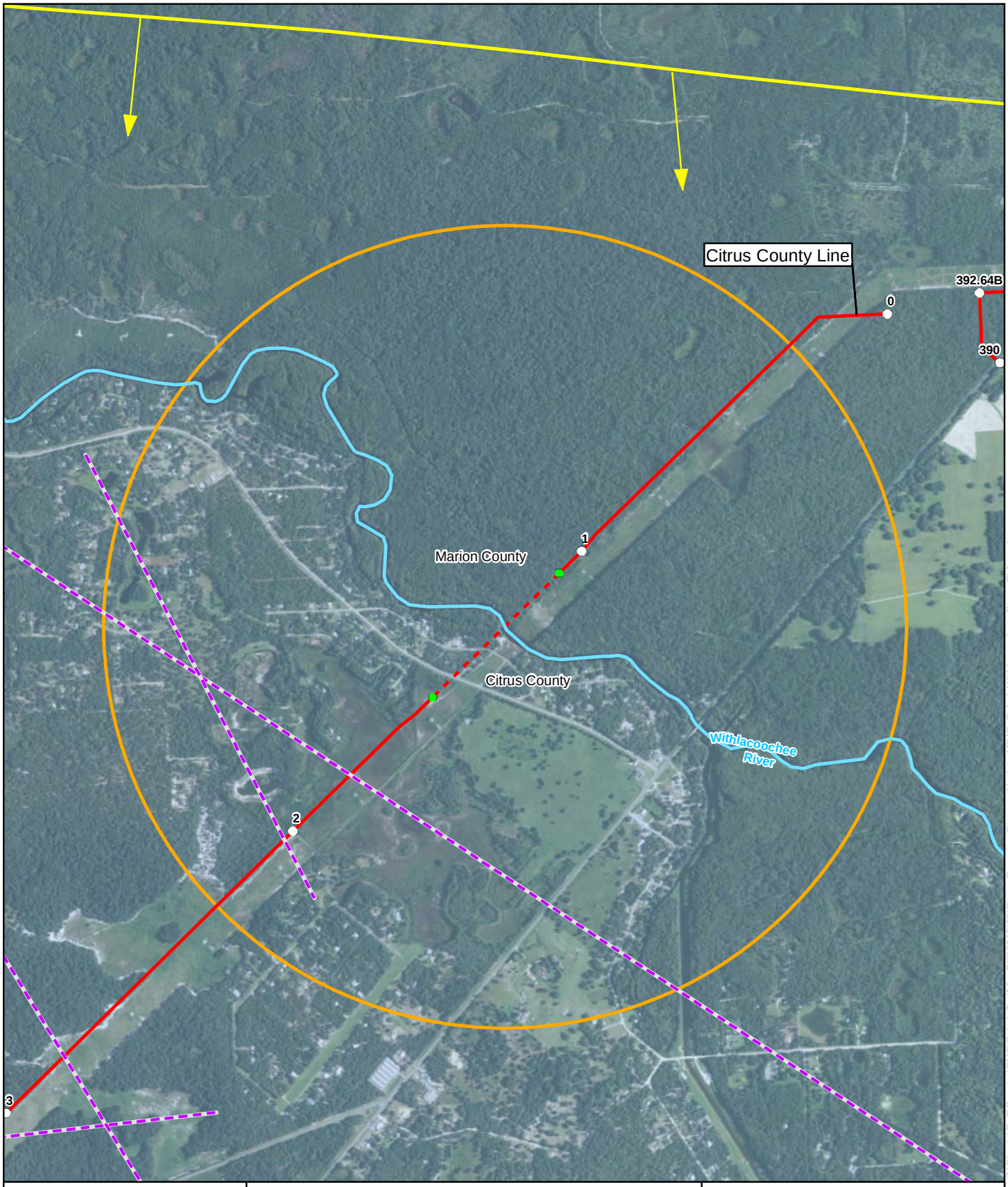

0 750 1,500 Feet

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For environmental review purposes only

Figure 3.3.1-5
Sabal Trail Project
Horizontal Directional Drill Crossing at the Withlacoochee River
Citrus and Marion Counties, Florida

Proposed Pipeline - Trench
Proposed Pipeline - HDD
1-Mile Radius
Waterbody
Spring/Magnitude
Fracture Trace
Cave System
FAS Potentiometric Contour and Flow Direction (USGS, 2010)

Source: Z:\Clients\Q_T\Spectra\SMP\Sabal_Trail\ArcGIS\2015\05\River_Crossing_Figures_Updates\SMP_Sabal_Withlacoochee_River_FL1.mxd

Date: (8/7/2015)

TABLE 3.3.1-4

Mapped 1st and 2nd Magnitude Springsheds Crossed by the Sabal Trail Pipeline Facilities in Florida [a]

Facility/Springshed Name	County	Spring Magnitude	Milepost Range	Miles Crossed	Nearest Approach to Spring (miles)
Mainline					
Madison Blue	Hamilton	1st	247.7 – 259.2	11.5	1.7
Royal	Suwannee	2nd	278.0 – 284.8	6.8	8.0
Troy	Suwannee	1st	284.8 – 296.7	11.9	8.1
Santa Fe [b]	Gilchrist, Alachua, Levy	2nd	319.1 – 351.0	31.9	6.2
Rainbow [c]	Levy, Marion	1st	351.0 – 384.7	33.7	1.8
Gum [d]	Marion, Sumter	2nd	395.0R – 407.1	12.1	0.7
Panasoffkee	Sumter	2nd	411.2 – 424.2	13.0	1.8
Wekiwa	Polk	2nd	461.2 – 462.4	1.2	31
Citrus County Line					
Kings Bay [e]	Citrus	2nd	1.5 – 17.1	15.6	4.3

[a] Upchurch (2007) and GIS data from the Suwannee River WMD and Southwest Florida WMD.

[b] There are 23 1st and 2nd magnitude springs associated with the Santa Fe River; the nearest approach of the proposed Mainline within a major springshed is to the 2nd magnitude Ginnie Spring. The proposed HDD crossing of the Santa Fe River is approximately 15 miles downstream (river length) from Ginnie Spring.

[c] Rainbow Springs consists of 16 springs; the nearest approach of the proposed Mainline within a major springshed is to the 1st magnitude Main Spring.

[d] Gum Spring consists of four springs; the nearest approach of the proposed Mainline within a major springshed is to the 2nd magnitude Gum #1.

[e] Kings Bay Spring consists of 46 mapped springs, including 13 2nd magnitude springs; the nearest approach of the Citrus County Line to the group is indicated.

Sabal Trail's pipeline facilities would cross 11 mapped 1st and 2nd magnitude springsheds, with the nearest approach of the pipeline facilities to a major spring of 0.7 mile near Gum Spring in Sumter County. The pipeline facilities would be at considerably greater distance from the other major springs listed in table 3.3.1-4. All of the pipeline facilities within the above referenced springsheds would be installed using standard overland construction methods; no HDDs are planned within the MP ranges of the springshed crossings. Marion County has identified primary and secondary SPAs for Rainbow Springs, which consists of 16 springs in Rainbow Springs State Park, the nearest of which is approximately 1.8 miles from Mainline MP 380. Sabal Trail states that Marion County has not established land use restrictions that apply to the construction/operation of transmission pipelines in the Rainbow Springs SPA.

Florida Southeast Connection Project

The FSC Project would not occur within any state or county-designated SPAs, and no springs were identified within at least 1 mile from the FSC Project facilities. In addition, carbonate bedrock would not be encountered during construction of the project, including during installation of the nine proposed HDDs.

3.3.1.6 Caves

As discussed in section 3.1.2.2, the dissolution of carbonate rock units can result in large, interconnected caverns that provide conduit flow within the FAS. Some of these caverns are accessible to human exploration, including via underwater diving.

No mapped cave systems were identified within at least 10 miles of the Sabal Trail Project in Georgia. In Florida, Sabal Trail's Mainline route crosses the Falmouth/Cathedral cave system near MP

270.5 A, near the pipeline crossing of Interstate I-90 in Suwannee County. At this location, the pipeline would be installed using standard overland construction techniques which would limit disturbance to within about 8 feet of the ground surface, whereas the cave occurs approximately 150 feet below ground. As depicted on figure 3.1.2-3, the Sabal Trail Mainline would also approach to within about 1,000 feet to the southeast of the Lineater Cave system in Suwannee County. The Lineater Cave is accessed through Stevenson Spring, a 2nd magnitude spring located about 0.8 mile upstream from the proposed HDD crossing of the Suwannee River. At its nearest approach to the cave, the Mainline would be installed using overland construction techniques which would limit disturbance to within 10 feet of the ground surface, whereas the cave occurs at a depth of 30 to 60 feet. The HDD entry point on the east side of the Suwannee River would be approximately 1,500 feet from the cave system, and the HDD drill path would extend westerly, away from Lineater Cave.

The FSC Project is not expected to cross any mapped cave systems.

3.3.1.7 Impacts and Mitigation

Construction

Overland Construction

The Applicants would install more than 98 percent of the pipeline facilities using standard overland construction methods involving shallow, temporary, and localized excavation (see section 2.3.1).

The water table in the SMP Project area is generally below excavation depth, but could be intersected especially near springs, wetlands, and surface water bodies. In those areas, the elevation and flow characteristics of shallow groundwater resources could be affected by dewatering, and excavation could increase turbidity within the resource. These impacts would be temporary, minor, and localized to the area near to construction, and would be further reduced by restoring surface contours to pre-construction conditions and implementing the Applicants' construction and restoration plans which include measures to avoid or minimize soil erosion in the trench and on the right-of-way, control the discharge of water in nearby uplands, and encourage revegetation after construction.

We received comment that the use of sand, gravel, and grout to mitigate karst features could adversely impact the FAS. As noted in section 3.1.2.3, these procedures are commonly utilized in the SMP Project area with the overarching goal of stabilizing the karst feature while maintaining infiltration of recharge waters to the aquifer. Therefore, we do not expect the use of common karst mitigation measures and materials to have a significant impact on the hydrology or groundwater quality of the FAS.

As described previously, the SMP Project would cross the Falmouth/Cathedral cave system in Suwannee County. At this location the Mainline would be about 150 feet above the cave and would not be expected to impact groundwater quality or hydrology in the cave. Sabal Trail's implementation of erosion and sediment control procedures, water management practices, and spill prevention and mitigation measures (discussed below) would further reduce the potential to impact the Falmouth/Cathedral cave or other caves in the project area. The potential impact of the HDD construction method on caves is discussed below.

Overland construction could increase turbidity and impact flow at nearby springs. No major springs were identified within 1 mile of overland construction areas in karst sensitive areas of Georgia. Two springs were identified within 0.5 mile of overland construction areas in karst sensitive areas of Florida (see table 3.3.1-3), the nearest of which is the A. Wayne Lee Spring approximately 0.2 mile downgradient from MP 411.5 of Sabal Trail's Mainline in Sumter County. Based on these distances and

considering that impacts on groundwater resources that could occur in conjunction with overland construction would be temporary, minor, and localized, overland construction would not significantly impact springs. Sabal Trail would continue to consult with affected landowners regarding the location of springs on their property. At the landowner's request, any springs within 150 feet of construction workspaces would be reviewed in the field by an expert who would recommend construction modifications if impacts would likely occur.

Overland construction could increase turbidity and reduce capacity in nearby water supply wells. The Applicants have identified wells within 150 feet of the construction workspaces and would verify well locations through final civil surveys and landowner communication. Blasting would be conducted in accordance with specific plans designed to avoid damage to nearby structures including wells. The Applicants would offer to conduct pre- and post-construction testing of water quality and yield in all wells within 150 feet of the construction workspace, and would repair or replace any wells that are damaged, or otherwise compensate the well owner. Fueling would be prohibited within 200 feet of a private well and within 400 feet of a public well. Based on the implementation of these measures, we anticipate that any increased turbidity or capacity reduction in wells near overland construction would be minor and temporary, and conclude that the Applicants' well identification, testing, and mitigation procedures would adequately mitigate any impacts on wells.

Hazardous Material Spills

An inadvertent release of fuel, lubricants, and other substances could impact groundwater quality. The degree of impact would depend on the type, amount, and duration of material released; the type of soil or geologic material at the land surface; the depth to groundwater; and the characteristics of the underlying aquifer. The potential for a release to impact groundwater is greater in areas where the Sabal Trail Project crosses karst sensitive areas of southwest Georgia and northern Florida, as near-surface karst features provide connectivity to the FAS. To minimize and mitigate impacts, the Applicants provided project-specific plans that specify contractor training; the use of environmental inspectors; procedures for the safe storage and use of hazardous materials; and remedial actions that would be taken to address a release. We have reviewed these plans and conclude that they would sufficiently protect groundwater resources throughout the SMP Project area.

HDD Installation

As indicated in table 2.3.2-1, Sabal Trail would use the HDD method to install its pipeline facilities at 18 locations, and FSC would use the HDD method at nine locations. Transco does not propose to use the HDD method to install the Hillabee Expansion Project loops.

The loss of drilling mud during an HDD could impact water quality and capacity in nearby water supply wells. The HDD drilling process, including the loss of drilling mud, could also impact water quality and flow in springs and caves in proximity to the five Sabal Trail HDDs that would be installed in the carbonate bedrock of the FAS (see figures 3.3.1-1 through 3.3.1-5). None of FSC's HDD installations would occur within the carbonate bedrock of the FAS and there are no springs in proximity to FSC's proposed HDDs. Therefore, FSC's HDD operations would not impact springs, but could impact nearby wells.

As described in section 2.3.2.1, drilling mud used in the HDD process is comprised of 95 percent water plus bentonite, a naturally occurring, non-toxic, and non-hazardous clay mineral that is commonly used in the installation of potable water wells. Sabal Trail could use grout or introduce additives into the drilling mud to stop or reduce the amount of drilling mud loss. These additives could include walnut shells, paper, other biodegradable solids, or polymers that would increase the viscosity and gel strength of

the drilling mud. To ensure that these additives would be protective of groundwater quality, Sabal Trail would review the HDD contractor's list of additives for compliance with NSF Standard 60, which establishes health and safety criteria for drinking water treatment and well development, and other applicable state and federal requirements. Sabal Trail would provide the final list of potential HDD additives to the Commission prior to construction. FSC does not anticipate the use of drilling mud additives during its HDD operations. Because of the increased sensitivity of groundwater resources in the karst sensitive areas of Georgia and Florida, the remainder of this discussion focuses on the HDDs that Sabal Trail would install at the Flint and Withlacoochee Rivers in Georgia, and the Suwannee, Santa Fe, and Withlacoochee Rivers in Florida; references to HDDs proposed by FSC are made where appropriate.

Based on the discussion above, the impact that a loss of drilling mud would have on groundwater quality at springs, wells, and in caves would be increased turbidity. For a receptor to experience turbidity due to the loss of drilling mud, a flow path must exist between the receptor and the point of mud loss, and the receptor must by hydrogeologically downgradient from the point of the loss. In general, the magnitude and duration of increased turbidity would depend on the volume of mud lost, and would diminish with distance and time after the loss occurs. To reduce the likelihood and impact of a drilling mud loss, Sabal Trail selected the HDD locations to avoid construction in close proximity to major springs and caves (see sections 3.3.1.5 and 3.3.1.6, respectively). With the exception of Blue (Wade) Spring in Brooks County, Georgia, no 1st, 2nd, or 3rd magnitude springs were identified within 1 mile downgradient from any of the HDDs. Blue (Wade) Spring is 0.9 mile from the proposed Withlacoochee River crossing.

We recognize that high flow rates and conduits within the FAS could rapidly transmit drilling mud over great distances. However, based on the distance between the HDD locations and major springs and caves, the predominant groundwater gradient at the crossing locations (see figures 3.3.3-1 through 3.3.3-5), we conclude that it is unlikely that a major spring or cave would be affected by the loss of drilling mud during HDD operations. Additionally, at stream crossing locations showing gaining flow conditions (groundwater discharging into the stream segment), the potential for a significant loss of drilling mud into the karst groundwater system becomes less likely. For the same reasons, it would be unlikely for springs or caves located hydraulically upgradient from the proposed HDDs to be affected by the loss of drilling mud; the nearest upgradient 1st, 2nd, or 3rd magnitude spring is 0.7 mile north from the proposed Suwannee River crossing, and the Lineater Cave approaches to within 0.2 mile east from the Suwannee River crossing.

Based on site-specific geotechnical and geophysical studies (see section 3.1.2.3) Sabal Trail also designed the drill path of the HDDs to minimize the potential to encounter large caverns. In addition, Sabal Trail prepared a project-specific Best Drilling Practices Plan that describes HDD drilling techniques that would be implemented to minimize drilling mud loss (see appendix E). Once it becomes apparent that drilling mud circulation is dissipating or that a release has occurred, the drilling contractor may decrease pump pressure; decrease penetration rate; retract the drill string to restore circulation; introduce additional drilling mud along the hole using "weeper" subs; or introduce lost circulation additives as described above.

Sabal Trail's Best Drilling Practices Plan also outlines individual responsibilities and reporting requirements for drilling mud loss events, which includes reporting and documentation of the event to the Commission and other appropriate permitting agencies within 24 hours. The plan also details field monitoring and sampling of wells and springs that would be conducted, including:

- Prior to the start of HDD operations, Sabal Trail would establish baseline turbidity levels of mapped springs within 2,000 feet downgradient of HDD locations. This program would apply to only one spring, SUW923972, a 4th magnitude spring approximately 0.2

mile downgradient from the proposed Suwannee River HDD crossing. Sabal Trail's monitoring of this spring would be contingent upon landowner approval.

- If a drilling mud loss event occurs during the Suwannee River HDD, Sabal Trail would conduct turbidity sampling of spring SUW923972 twice daily until turbidity returns to background levels or are below turbidity concentrations established by the FDEP for Class III waters (F.A.C. 62-302.530).

- Sabal Trail would finalize the identification of wells within 150 feet in any direction from HDD activities and 2,000 feet downgradient from HDD activities and would establish baseline turbidity levels within these wells prior to the start of HDD activities, subject to landowner approval. In the event of a drilling mud loss event, Sabal Trail would sample any wells within 150 feet for turbidity twice daily, and would extend the monitoring to wells located further downgradient if changes in water quality are detected in more proximal wells. Monitoring would continue until turbidity levels return to baseline conditions.

In the event of a confirmed or suspected impact of drilling mud on a spring, Sabal Trail would consult with appropriate agency staff and other experts to the extent practical in the development of remedial clean-up techniques. For wells affected by HDD operations (or any other project activity) Sabal Trail would provide the affected landowner with an alternative source of water until water quality returns to pre-construction conditions. If water quality does not return to pre-construction conditions within a reasonable length of time, Sabal Trail would compensate the landowner for a new well or arrange for other suitable water supply. FSC would also monitor for potential project-related impacts on wells within 150 feet of construction work areas and would similarly mitigate any project-related impacts on wells.

We also received comments expressing concern that the HDD method and installation of the Mainline within the aquifer could block conduit flow paths and alter the flow regime within the FAS, or potentially reduce Florida-state mandated Minimum Flows and Levels (MFLs) in springs and rivers, where established. The loss of drilling mud could block or partially block pore spaces, fractures, and larger conduits depending on the volume and viscosity of drilling mud lost, and the presence of the impermeable steel pipeline itself would inhibit flow. However, due to the high degree of karst development in the FAS, the impact of any blockage of groundwater flow paths that may occur would be expected to be localized and minor as groundwater would make its way into the nearby rivers via other interconnected conduits or fractures in the limestone. Therefore, we conclude that use of the HDD method would not significantly impact the flow regime or flow rates within the FAS, or MFLs, where established.

Groundwater Use

As indicated in table 3.3.2-8, Sabal Trail would use a total volume of up to approximately 47 million gallons of groundwater during construction of the SMP Project. This majority of this water would be obtained throughout Phase 1 of construction (about 12 months) from municipal sources and private wells that would be installed at compressor stations. FSC would utilize up to approximately 29 million gallons of water during construction, but has not identified all of the proposed sources to date. As described in section 3.3.1.1, about 1.3 billion gallons of water per day was withdrawn from the FAS in Florida in 2005, and a single 1st magnitude spring discharges more than 64.6 million gallons per day from the FAS. Considering the large extent and productivity of the FAS, and that groundwater would be obtained from multiple sources over a period of about 12 months, the volume of groundwater proposed for use by Sabal Trail would not impact the availability or productivity of groundwater resources in the

area. Similarly, the amount of water proposed over the course and extent of construction by FSC would not impact the availability of groundwater in the area, even if obtained entirely from groundwater sources. Transco would not appropriate groundwater for construction of the Hillabee Expansion Project.

Operation

We received numerous comments expressing concern that operation of the SMP Project could impact drinking water aquifers and public water supply wells, with the great majority of these comments coming from the City of Albany, Georgia area. The City of Albany and other stakeholders are most concerned about the potential for Sabal Trail's Mainline to leak and impact the municipal well field on the southern outskirts of the City, and for a release of hazardous materials at the Albany Compressor Station to impact Well #135, which some commentors believe is located at the proposed compressor station site. We reviewed the City of Albany Wellhead Protection Plan issued by the GDNR in February 2015. The plan identifies the location of the City's 39 active wells; establishes Control Zones and larger Management Zones around each well; identifies potential sources of pollution within each Management Zone; and recommends best management practices for each potential pollution source. The plan also indicates that new landfills and the land application of hazardous waste, waste water, or sludge would not be permitted within a well Management Zone, and requires that mitigation measures be implemented for certain other activities in the Management Zone (e.g., agricultural waste impoundments, quarries, underground storage tanks).

Based on the Albany Wellhead Protection Plan, the proposed Albany Compressor Station site is 2.2 miles from Well #135 and outside of the Management Zone for the well. In addition, Sabal Trail would implement measures such as secondary containment which would prevent inadvertent spills of hazardous substances. At the municipal well field to the south of town, the Wellhead Protection Plan establishes a 15-foot-radius Control Zone and a 500-foot-radius Inner Management Zone around each well, and an approximately 40 square-mile Outer Management Zone around the field, which includes much of south and west Albany. The Mainline would parallel an existing Dixie natural gas liquids pipeline along the southern boundary of the well field and would be within 350 to 450 feet from four of the eight wells in the field. The Dixie pipeline is within 250 to 450 feet of three of the wells, and the existing SONAT natural gas pipeline is within 200 to 400 feet of two of the wells. The existing pipelines pre-date construction of the well field by at least 30 years and are not identified as potential sources of contamination in the Wellhead Protection Plan. Based on our review, the Wellhead Protection Plan does not specifically prohibit the construction and operation of natural gas pipeline facilities in the Inner or Outer Management Zone. Furthermore, the Mainline would be installed across these zones using standard overland trench methods (not HDD), and Sabal Trail would implement specific measures to manage hazardous materials during construction and operation of the project. Based on the above, we conclude that construction and operation of the Sabal Trail Project would not pose a significant risk to groundwater resources or wells in the Albany area.

We also received comments expressing concern that the Dixie pipeline near the City well field could be damaged during construction of the Mainline, causing a release of natural gas liquids. Based on Sabal Trail's alignment sheets, the Mainline would be offset from the Dixie pipeline by 60 feet, and no construction activity would occur over the pipeline. The surficial geologic materials in the area are unconsolidated; thus, blasting would not be required for installation of the Mainline. Therefore, construction of the Mainline would not impact the Dixie pipeline. Furthermore, a release of natural gas liquids from the Dixie pipeline would not pose a significant risk to groundwater as the liquid would quickly vaporize and disperse to the atmosphere and, as noted above, the GDNR does not consider the Dixie pipeline as a potential source of groundwater contamination.

After installation of the pipeline and aboveground facilities, the Applicants would restore the natural grade and soils to as close to pre-construction conditions as practicable, and initiate revegetation efforts, thereby minimizing impacts on groundwater recharge areas. Herbicides would be used only as needed and would not be applied within 100 feet of a wetland or waterbody except as allowed by the appropriate land management agency or state agency.

The SMP Project would transport natural gas, not a liquid. Unlike a spill from a pipeline that conveys a liquid such as oil or gasoline, a leak of natural gas from a pipeline would dissipate quickly to the atmosphere and not contaminate surrounding media. In addition, the storage and use of hazardous materials at aboveground facilities would be conducted in accordance with applicable regulations, which would include specifically designed containers and secondary containment structures, where necessary. For these reasons and in our experience in overseeing the environmental restoration of interstate natural gas transmission projects, we conclude that operation of the SMP Project would not result in any significant impact on groundwater resources.

3.3.2 Surface Waters Resources

Surface waters support multiple public uses including drinking water, recreation, fish and wildlife habitat, and industrial and agricultural production. Alabama is home to 77,242 miles of streams and rivers (Hairston et al., 2014) and almost 1 million acres of lakes (ADCNR, 2015). Similarly, Georgia is home to 70,150 miles of streams and rivers, and has more than 425,000 acres of lakes (GDNR, 2014), while Florida is home to 10,000 miles of streams and rivers and 7,800 lakes (Purdum, 2002). These surface water resources are managed and protected on national, state, and local levels.

As identified in table 3.3.2-1, the SMP Project facilities would be located through 22 major watersheds, which are the land areas that contribute surface drainage to a specific point such as a waterbody. This includes 5 watersheds crossed by Transco, 15 by Sabal Trail, and 4 crossed by FSC.

3.3.2.1 Surface Water Use Classifications

Surface waters are generally assigned water use classifications based on water quality criteria and state-specific regulations and guidelines. These classifications are summarized in table 3.3.2-2. Additionally, waterbody-specific classifications are identified in table 3.3.2-3 in appendix D. This table also includes each waterbody crossed by pipeline facilities and access roads, including its location (state and MP), name, approximate width, flow type (i.e., perennial, intermittent, ephemeral), state water quality classification, and proposed crossing method.

TABLE 3.3.2-1

Watersheds Crossed by the Southeast Market Pipelines Project

Project	Approximate Milepost Range	State	Watershed (8-Digit Hydrologic Unit Code)
Hillabee Expansion Project			
Rock Springs and Butler Loops; Compressor Station 84	782.8 to 796.7	Alabama	Middle Tombigbee-Chickasaw (03160201)
Compressor Station 95	851.4	Alabama	Middle Alabama (03150203)
Billingsley and Autauga Loops; Compressor Station 100	886.0 to 898.2	Alabama	Upper Alabama (03150201)
Verbena, Proctor, and Hissop Loops; Compressor Station 105	905.7 to 926.9	Alabama	Lower Coosa (03150107)
Alexander City Loop	941.8 to 949.4	Alabama	Middle Tallapoosa (03150109)
Sabal Trail Project			
Mainline	0.0 to 29.8	Alabama	Middle Tallapoosa (03150109)
	29.8 to 48.8	Alabama	Middle Chattahoochee – Lake Harding (03130002)
	48.8 to 86.4 and 110.3 to 111	Alabama	Middle Chattahoochee – Walter F (03130003)
	110.0 to 115.0 and 121.3 to 146.7	Georgia	Ichawaynochaway (03130009)
	115 to 143.5	Georgia	Kinchafoonee - Muckalee (03130007)
	146.7 to 183.4	Georgia	Lower Flint (03130008)
	183.4 to 200.7	Georgia	Upper Ochlocknee (03120002)
	200.7 to 222.6 and 231.9 to 247.8	Georgia	Withlacoochee (03110203)
	222.6 to 224.6	Georgia	Little (03110204)
	247.8 to 265.5 and 369.7 to 435.8	Florida	Withlacoochee (03110203)
	265.5 to 306.2, 308.3 to 311.1 and 318.5 to 332.9	Florida	Lower Suwanee (03110205)
	306.2 to 308.3 and 311.1 to 318.5	Florida	Santa Fe (03110206)
	332.9 to 356.9	Florida	Waccasassa (03110101)
	428.3 to 428.8, 454.6 to 454.7, and 460.6 to 464.8	Florida	Oklawaha (03080102)
	464.8 to 474.4	Florida	Kissimmee River (03090101)
Citrus County Line	0.0 to 12.1	Florida	Withlacoochee (03110203)
	12.1 to 21.4	Florida	Crystal-Pithlachascotee (03010207)
Hunters Creek Line	0.0 to 13.1	Florida	Kissimmee River (03090101)
Florida Southeast Connection Project			
	0.0 to 70.0	Florida	Kissimmee River (03090101)
	70 to 92	Florida	St. John's River (03080101)
	92 to 97	Florida	Vero Beach (03080203)
	97 to 126	Florida	Southeast Florida Coast (03090206)

[a] Hydrologic Unit Code is a classification system developed by the U.S. Geologic Survey to classify drainage basins from the regional level to individual watersheds

TABLE 3.3.2-2

State Water Classifications Affected by the Southeast Market Pipelines Project

State/Designated Use	Description
Alabama [a]	
Public Water Supply (PWS)	Waters that provide a source of water supply for drinking or food-processing purposes. Waters may be used for incidental water contact and recreation June through September.
Swimming and Other Whole Body Water-Contact Sports (S)	The waters that meet accepted standards of water quality for outdoor swimming other whole body water-contact sports
Fish and Wildlife (F&W)	Waters suitable for fishing, propagation of fish, aquatic life, and wildlife (including shrimp and crab), and any other usage except for swimming and water-contact sports or as a source of water supply for drinking or food-processing purposes. Waters maybe used for incidental water contact and recreation June through September.
Georgia [b]	
Recreation	General recreational activities such as water skiing, boating, and swimming; or any other use requiring water of a lower quality.
Fishing: Propagation of Fish, Shellfish and other Aquatic Life	Propagation of fish, shellfish game, and other aquatic life; secondary contact recreation in and on the water; or for any use requiring water of a lower quality.
Florida [c]	
Class III - Fish Consumption; Recreation; Propagation and Maintenance of a Healthy, Well-Balanced Population of Fish and Wildlife	All surface waters of the state fall into this category unless specified in rule 62-302.400, F.A.C.

[a] Alabama Chapter 335 6-2.
[b] Georgia Rule 391-3-6-.03.
[c] Florida Rule 62-302.530 F.A.C.

Alabama

Alabama state water classifications are implemented by the ADEM under Administrative Code R. 335-6-10 (ADEM, 2014a). All the waterbodies that would be crossed by the Hillabee Expansion Project and Sabal Trail Project in the state of Alabama are classified as F&W. In addition, on the Hillabee Expansion Project, Swift Creek (MP 892.9) and Autauga Creek (MP 890.7) are classified as S, and Hillabee Creek (MP 945.0) is classified as PWS. On the Sabal Trail Project, Uchee Creek (MP 70.8) is also classified as PWS and S, and Ihagee Creek (MP 79.2) is classified as S.

Georgia

The GEPD assigns water use classifications under GDNR Rule 391-3-6.03. Classifications are designed to be the best use of surface waters from an environmental and economic standpoint. All streams not specifically listed under the rule are classified for Fishing. All waterbodies crossed by the Sabal Trail Project in Georgia are classified for Fishing except for the Flint River, which is classified for Recreation.

Florida

The FDEP classifies waterbodies in terms of the level of protection required. All waterbodies crossed by the Sabal Trail Project and FSC Project in Florida are classified as Class III. In Florida, special authorization is also required from the FDEP WMDs for crossings of Sovereign Submerged Lands (SSLs), which are surface waters located within lands owned by the state and regulated as part of the Environmental Resource Permit (ERP) program. Certain WMDs also require permits for crossings of designated canals and levees to ensure continued canal function and operation.

3.3.2.2 Waterbody Crossings

We define waterbodies as "any natural or artificial stream, river or drainage with perceptible flow at the time of crossing, and other permanent waterbodies such as ponds and lakes." Waterbodies are further classified as minor if they are 10 feet wide or less, intermediate if they are between 10 and 100 feet wide, and major if they are greater than 100 feet wide at the crossing location. In addition, section 404 of the CWA gives the USACE jurisdiction over waters of the United States, which includes all waters listed in 33 CFR 328.3, including streams. Further, 33 CFR 330 provides the following definitions for perennial, intermittent, and ephemeral streams:

Perennial stream: Has flowing water year-round during a typical year. The water table is located above the stream bed for most of the year. Groundwater is the primary source of water for stream flow. Runoff from rainfall is a supplemental source for stream flow.

Intermittent stream: Has flowing water during certain times of the year, when ground water provides water for stream flow. During dry periods, intermittent streams may not have flowing water. Runoff from rainfall is a supplemental source of water for stream flow.

Ephemeral stream: Has flowing water only during, and for a short duration after, precipitation events in a typical year. Ephemeral stream beds are located above the water table year-round. Groundwater is not a source of water for the stream. Runoff from rainfall is the primary source of water for stream flow.

As identified in table 3.3.2-4, the SMP Project pipelines would require 699 waterbody crossings. Table 3.3.2-4 also summarizes the number of minor, intermediate, and major waterbodies, and the perennial, intermittent, ephemeral, and ponds or other open water waterbodies, crossed by the SMP Project pipelines.

TABLE 3.3.2-4

Number of Waterbodies Crossed by the Southeast Market Pipelines Project Pipeline Facilities [a]

	Size Classification			Flow Classification			
Project/State	Major	Intermediate	Minor	Perennial	Intermittent	Ephemeral	Open Water
Hillabee Expansion Project							
Alabama	3	19	120	53	47	37	5
Sabal Trail Project							
Alabama	4	55	139	110	52	35	1
Georgia	8	36	86	48	48	25	9
Florida	7	26	2	15	5	0	15
Sabal Trail Project Subtotal	19	117	227	173	105	60	25
Florida Southeast Connection Project							
Florida	3	79	112	32	157	1	4
Southeast Market Pipelines Project Total	25	215	459	258	309	98	34

[a] Does not include access roads.

Five waterbodies would be affected by aboveground facilities including three intermittent streams and one ephemeral stream at Transco's Compressor Station 84, and one pond at Sabal Trail's Citrus County M&R Station. In addition, access roads would cross 68 waterbodies during construction of the SMP Project including two waterbodies that would be permanently crossed by Transco's new access road

for Compressor Station 84. In addition, Sabal Trail identified 10 access roads and FSC identified 1 access road which would be adjacent to or in close proximity to waterbodies, but would not be crossed.

Sensitive Waters

Sensitive waterbodies include:

- waters that do not meet the water quality standards associated with the water's designated beneficial uses or has a presence of contaminated sediments, or have been designated for intensified water quality management and improvement;
- waterbodies that contain sensitive fisheries, threatened or endangered species, or critical habitat;
- waterbodies that are crossed less than 3 miles upstream of potable water intake structures;
- waters that have outstanding or exceptional quality, particular ecological and recreational importance, or are located in sensitive and protected watershed areas;
- waterbodies that have steep, unstable, and actively eroding banks;
- rivers on or designated to be added to the Nationwide Rivers Inventory (NRI) or a state river inventory; and/or
- navigable waterbodies subject to USACE permitting under the RHA.

Other waterbodies identified by state agencies or with special state or local designations may also be considered sensitive. The Hillabee Expansion Project would not cross any sensitive waterbodies and no waterbodies are crossed near potable water intakes. Table 3.3.2-5 lists the sensitive waterbodies crossed by the Sabal Trail and FSC facilities.

Waterbodies That Do Not Meet Designated Uses

Section 303(d) of the CWA requires states to develop and maintain lists of waters that are impaired and do not meet water quality requirements. The SMP Project would cross 17 impaired waterbodies that are included in the EPA's 303(d) list for each state. None are located along the Hillabee Expansion Project. The Sabal Trail Project would cross 16 impaired waterbodies, including 14 along the Mainline and 2 along the HCL. The FSC Project would cross one impaired waterbody. The impaired waterbodies that would be crossed and the basis for their impairment are identified in table 3.3.2-5.

TABLE 3.3.2-5

Sensitive Waterbodies Crossed by the Southeast Market Pipelines Project

State/Facility	Milepost	County	Waterbody Name	Proposed Crossing Method	Basis for Sensitivity [a]
Alabama					
Sabal Trail Project Mainline	7.3	Tallapoosa	Tallapoosa River	HDD	NRI
	42.9	Lee	Halawakee Creek	Open Cut	NRI, Impaired (sedimentation/siltation)
	70.8	Russell	Uchee Creek	HDD	NRI, Designated Critical Habitat (mussels)
	79.2	Russell	Ihagee Creek	Open Cut	Impaired (sedimentation/siltation)
Georgia					
Sabal Trail Project Mainline	86.4	Russell (Alabama)/ Stewart (Georgia)	Chattahoochee River	HDD	Georgia (GA) Protected River Corridor, Impaired (fecal coliform), Section 10 Waterbody
	91.4	Stewart	Hannahatchee Creek	HDD	GA High Priority Water, Impaired (fecal coliform), GA state-listed Broadstripe shiner (GA-R) potential
	102.3	Stewart	Hodchodkee Creek	Open Cut	GA High Priority Water, GA state-listed Broadstripe shiner (GA-R) potential
	106.8	Stewart	UT Patula Creek	Open Cut	GA state-listed Broadstripe shiner (GA-R)
	106.9	Stewart	Patula Creek	Open Cut/ Conventional Bore	GA High Priority Water, Impaired (benthic assessments), GA state-listed Broadstripe shiner (GA-R)
	152.3	Dougherty	Cooleewahee Creek	Open Cut	GA High Priority
	163.1	Dougherty	Flint River	HDD	NRI, GA High Priority Water, GA Protected River Corridor, Designated Critical Habitat (mussels), Section 10 Waterbody
	188.6	Colquitt	Bridge Creek	Open Cut	Impaired (fecal coliform)
	192.4	Colquitt	Little Creek	Open Cut	Impaired (fecal coliform)
	199.3	Colquitt	Ochlockonee River	HDD	GA High Priority Water, Impaired (mercury)
	219.4	Brooks	Okapilco Creek	Open Cut	Impaired (fecal coliform)
	231.3	Brooks/Lowndes	Withlacoochee River	HDD	NRI, GA High Priority Water, Impaired (mercury), Section 10 Waterbody
Florida					
Sabal Trail Project Mainline	248.2	Hamilton	Jumping Gully Creek	Open Cut/ Conventional Bore	Impaired (dissolved oxygen, nutrients, turbidity)
	267.4R	Madison	Suwannee River	HDD	Impaired (dissolved oxygen, mercury, nutrients), OFW (SP), Designated Critical Habitat (Gulf Sturgeon), Section 10 Navigable River
	308.3	Suwannee	Santa Fe River	HDD	NRI, OFW (SP), Section 10 Waterbody
	458.9	Polk	UT Withlacoochee River	Open Cut/ Conventional Bore	NRI [b]
	463.7R	Polk	Big Creek Reach	Open Cut	Impaired (dissolved oxygen)
Sabal Trail Project Hunters Creek Line	1.3	Osceola	Reedy Creek	Conventional Bore	Impaired (fecal coliform, dissolved oxygen, nutrients, turbidity)

TABLE 3.3.2-5 (cont'd)

Sensitive Waterbodies Crossed by the Southeast Market Pipelines Project

State/Facility	Milepost	County	Waterbody Name	Proposed Crossing Method	Basis for Sensitivity [a]
	9.2	Osceola	Shingle Creek	HDD	Impaired (biochemical oxygen demand, fecal coliform, dissolved oxygen, nutrients, turbidity)
Sabal Trail Project Citrus County Line	1.3	Citrus/Marion	Withlacoochee River	HDD	NRI, OFW (SP), Section 10 Waterbody
Florida Southeast Connection Project Mainline	53.2-53.4	Polk/Osceola	Lake Kissimmee	HDD	Recreational and Fisheries Uses
	88	Okeechobee	Fort Drum Creek	Open Cut	Impaired (fecal coliform)

[a] NRI = National Rivers Inventory (NPS, 2011); Impaired; GA High Priority Streams (GDNR, 2014); GA Protected River (GDNR, 1996); OFW = Outstanding Florida Water, SP = Special Water (FAC 62-302.700). More details regarding waterbodies that contain sensitive species or habitats is provided in sections 3.7 and 3.8.

[b] A downstream segment of this waterbody is designated as a section 10 waterbody and not expected to extend to this location.

Waterbodies with Exceptional Quality or Importance

Federally Recognized Exceptional Waters

The federal government identifies outstanding waters under both the National River Inventory (NRI) (NPS, 2011) and National Wild and Scenic River (WSR) System. The NRI is a listing of free-flowing river segments that are identified as having at least one outstandingly remarkable natural or cultural value (ORV). Federal agencies must avoid or mitigate actions that have the potential to negatively impact any listed segments. The 1968 National Wild and Scenic Rivers Act (Public Law 90-542; 16 United States Code (U.S.C.) 1271 et. seq) identifies rivers as having exceptional natural, cultural and recreational values and seeks to preserve them for enjoyment of present and future generations (National Wild and Scenic River System, 2014).

No NRI- or WSR-listed waterbodies would be crossed by the Hillabee Expansion or FSC Projects, and no WSR-listed waterbodies would be crossed by the Sabal Trail Project (NPS, 2011). The Sabal Trail Project would cross eight NRI-listed waterbodies, including seven by the Mainline and one by the CCL (see table 3.3.2-5). These include Mainline crossings of the Tallapoosa River (MP 7.3), Hilawakee Creek (MP 42.9), and Uchee Creek (MP 70.8) in Alabama; the Flint River (MP 161.3) and Withlacoochee River (MP 231.3) in Georgia; and the Santa Fe River (MP 308.3) and Unnamed Tributary to the Withlacoochee River (MP 458.9) in Florida; plus the CCL crossing of the Withlacoochee River (MP 1.3). All of these waterbodies are listed with ORVs related to scenery, recreation, fish, and wildlife. The waterbodies crossed in Georgia and the Santa Fe River are also NRI-listed for their history and cultural values. In addition, the waterbodies crossed in Georgia and Florida, and the Hilawakee Creek crossed in Alabama are NRI-listed for their geologic values.

Alabama Recognized Exceptional Waters

The State of Alabama has a national trail system known as the Alabama Scenic River Trail (ASRT), which is a network of scenic rivers valuable for recreation. The ASRT system includes the Tallapoosa and other major rivers in Alabama (ASRT, 2014).

The Sabal Trail Project would cross the Tallapoosa River portion of the ASRT at MP 7.3. No other state recognized exceptional waterbodies would be crossed by either the Hillabee Expansion or Sabal Trail Projects in Alabama.

Georgia Recognized Exceptional Waters

The Sabal Trail Project would not cross any Outstanding Natural Resource Waters or scenic-designated waters in Georgia (Georgia Rivers Network, 2014c). Seven high-priority waters (GDNR, 2014) would be crossed, including Hannahatchee Creek (MP 91.4), Hodchodkee Creek (MP 102.3), Pataula Creek (MP 106.8), Cooleewahee Creek (MP 152.3), Flint River (MP 163.1), Ochlochnee River (MP 199.3), and Withlacoochee River (MP 231.3). In addition, two protected river corridors would be crossed in association with the Chattahoochee River (MP 86.4) and Flint River (GDNR, 1996).

Florida Recognized Exceptional Waters

The State of Florida designates waterbodies as Outstanding Florida Waters (OFW) for protection based on a variety of criteria. The OFW list may include the following waterbodies:

- waters in National Parks, Preserves, Memorials, Wildlife Refuges and Wilderness Areas;
- waters within the State Park System and Wilderness Areas;
- waters within areas acquired under the Environmentally Endangered Lands Bond Program, Conservation and Recreation Lands Program, Land Acquisition and Trust Fund Program and Save our Coast Program;
- rivers designated under the Florida Scenic and Wild Rivers Program, Federal Wild and Scenic Rivers Act of 1968, and Myakka River Wild and Scenic Designation and Preservation Act;
- waters within National Seashores, National Marine Sanctuaries, National Estuarine Research Reserves, and certain National Monuments;
- waters within aquatic preserves; and
- certain waters within the boundaries of National Forests (FAC 62-302.200 (26)).

Each OFW may also be designated as Special Waters (SP) if it is demonstrated to be of exceptional recreational or ecological significance as defined under FAC 62-302.700. The Sabal Trail Project would cross three waterbodies designated as OFW/SP including the Mainline crossings of the Suwannee River (MP 267.4R) and Santa Fe River (MP 308.3); and the CCL crossing of the Withlacoochee River (MP 1.3). The FSC Project would not cross any OFW or SP designated waterbodies.

In addition, we received comments expressing concern that construction of HDD crossings could impact subsurface flow patterns in the Suwannee, Santa Fe, and Withlacoochee Rivers such that minimum flow levels (MFLs) would not be maintained. The Florida legislature has directed WMDs to designate MFLs for streams, springs and rivers within their management boundaries, and the MFLs reflect the lower flow limit at which additional water withdrawals would be harmful to a given water resource or its ecology. Based on consultations with the WMDs crossed by the SMP Project, a MFL for the Suwannee River has not yet been established due to on-going technical evaluations; seasonal flows have been documented below the proposed MFL for the Santa Fe River which requires that the WMD develop a recovery plan; and seasonal flows are above the MFL for the Withlacoochee River in Citrus County, Florida. A discussion about the designated MFLs for major springs near the SMP Project in Florida is provided in section 3.3.1.5.

USACE Navigable Waters

Navigable waters are defined by the USACE as waters subject to the ebb and flow of the tide that are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce. Navigable waters are designated by the USACE and regulated under section 10 of the RHA. Furthermore, in accordance with section 14 of the RHA (33 U.S.C. §408) (section 408), the USACE has the authority to review requests that could modify federal projects (e.g., federal channels) to

ensure that proposed modifications would not impair the usefulness of federal projects and are not injurious to the public interest.

No section 10 waters would be crossed by the Hillabee Expansion Project or FSC Project. The Sabal Trail Project Mainline would cross five section 10 waters, including one on the Alabama/Georgia border, two in Georgia, and two in Florida. The Sabal Trail Project CCL would also cross one section 10 waterbody. The section 10 waterbody crossings are identified in table 3.3.2-5. No section 408 authorizations would be required for the Hillabee Expansion Project or Sabal Trail Project, and one section 408 authorization would be required for the FSC Project.

3.3.2.3 Designated Flood Zones

The Federal Emergency Management Agency (FEMA) defines flood zones at varying levels based on flood risk and type of flooding. Special Flood Hazard Areas (SFHAs) are those that are subject to inundation by a 1-percent-annual chance, or 100-year flood, and FEMA also defines areas of minimal flood hazard that are within the 0.2-percent-annual chance, or 500-year flood (FEMA, 2014). Executive Order 11988 (Order 11988) directs federal agencies to demonstrate a comprehensive approach to floodplain management and establishes avoidance of actions within the 100-year floodplain as the preferred method for complying with Order 11988. Based on review of FEMA flood hazard maps, Transco's proposed pipeline facilities would cross 16 SFHAs and 30 areas of minimal flood hazard, and all four compressor stations and two contractor yards would be within areas of minimal flood hazard. Sabal Trail's proposed pipeline facilities would cross 366 SFHAs; a portion of the Alexander City Compressor Station[4], the Dunnellon Compressor Station, and DEF Citrus County M&R Station would be within SFHAs; and the Reunion Compressor Station (and associated CFH facilities) would be within an area of minimal flood hazard. FSC's proposed pipeline facilities would cross 85 SFHAs, and 2 MLVs would be located within SFHAs. Details on the flood zones crossed, including the FEMA flood zone designations and locations are provided in table 3.3.2-6 in appendix D.

3.3.2.4 Surface Water Resource Impacts and Mitigation

General Impacts and Mitigation

As described in section 2.3.2-1, one of three general methods would be used by the Applicants to install the proposed pipeline across waterbodies. These include the open-cut method, dry-ditch methods (flumed and dam and pump), and the HDD method. Sabal Trail may also use the conventional bore (bore) method at select waterbody crossings. The proposed crossing method for each waterbody crossed is identified in table 3.3.2-3 in appendix D. Where more than one crossing method is identified at a given location, the method used would be dependent on site-specific conditions at the time of construction (e.g., whether perceptible flow is present).

With the exception of the initial clearing equipment, only equipment necessary for in-stream excavation and backfilling would be allowed in a stream channel. All other equipment would cross waterbodies on temporary equipment bridges that would be constructed in accordance with the Applicants' construction plans. In addition, where access roads would be in close proximity to a waterbody, the Applicants would install silt fence along the edge of the access road to avoid impacts on the waterbody and minimize sedimentation.

[4] Another portion of the Alexander Compressor Station and the associated Transco Hillabee Meter Station are located in areas of minimal flood hazard.

Constructing and operating the pipelines would impact surface waters. Construction activities including clearing and grading of adjacent land, in-stream trenching, trench dewatering, and backfilling would temporarily increase sedimentation and turbidity rates, decrease dissolved oxygen concentrations, result in the loss and modification of aquatic habitat, and increase the potential for the introduction of fuels and oils from accidental spills. Indirect or secondary impacts could occur to fisheries and other aquatic organisms that utilize the water resource. However, the impacts of the open-cut construction method would generally be localized, short term, and minor. The degree of impact would depend, in part, on the flow volume in the streams during construction and the waterbody substrate that would be affected by the crossing. If construction occurs during a dry period, most of the impacts on streams would be avoided.

Waterbody crossings completed using the HDD method generally avoid and significantly minimize surface water impacts resulting from erosion, sedimentation, and/or excess turbidity, by limiting the surface disturbance in and immediately adjacent to the waterbody. However, as described in section 2.3.2.1, the HDD method could result in a frac-out, which could occur in a waterbody. Accidental releases of drilling fluid can result in negative impacts on waterbodies. When drilling mud is released into a waterbody it will settle out and disperses downstream by the current depending on the nature of the waterbody (e.g., stream size and flow rate). The effects of releasing drilling mud to a waterbody could range from localized turbidity and sedimentation, which could be quickly diluted by the waterbody's flow, to significant turbidity and sedimentation, which could be carried several miles downstream. Small or slow moving waterbodies may exhibit minimal dispersal of drilling mud and, thus, increased sedimentation at the release point. Large-scale drilling mud releases could be capable of killing fish, altering water chemistry, changing water temperature, and altering habitat.

To avoid and minimize impacts should they occur, Sabal Trail and FSC prepared HDD contingency plans (appendix F) which outline their HDD-specific procedures and methods for addressing an inadvertent drilling mud release. In addition, they would obtain the necessary USACE and state permits and would conduct drilling in accordance with permit conditions. We have reviewed the HDD contingency plans and find the proposed measures would adequately respond to a release of drilling mud.

We have reviewed the measures outlined in the Applicants' construction and restoration plans and find that they are acceptable and would adequately reduce potential impacts on waterbodies by minimizing streamside vegetation clearing, requiring installation and maintenance of temporary and permanent erosion controls, and minimizing the duration of in-stream construction. Disruption to water flow would be limited to only that necessary to construct the crossing, and would reduce the suspension and deposition of sediments downstream of the crossing location. Adequate flow rates would be maintained in streams to limit the potential impacts on aquatic life. Temporary equipment crossing bridges would be installed to allow equipment access across waterbodies. Any necessary trench dewatering would be monitored and directed into appropriate receiving structures for filtration prior to release, and water would be directed into well vegetated areas and allowed to infiltrate.

Following installation and backfilling of the pipeline, suspended sediments and turbidity within waterbodies would decline to pre-construction levels. Waterbody banks would be stabilized as soon as possible after construction to prevent indirect impacts such as sloughing. Permanent erosion control structures would be installed in accordance with the Applicants' construction plans, which we have reviewed and find acceptable. Stabilization, restoration, and revegetation of the pipeline rights-of-way and extra workspaces would also be completed in accordance with these measures and state stormwater discharge permits.

ATWS would be required adjacent to waterbody crossings to facilitate pipeline construction techniques used for crossing these resource areas. Typically, ATWS are used for staging equipment,

assembly and fabrication of the pipe section(s), or for spoil storage. The Applicants' construction and restoration plans require that ATWS be setback at least 50 feet from the edge of waterbodies. However, in some instances those setback distances may not be met due to site-specific conditions (e.g., topographic conditions, proximity to other features such as roadways). As described in table 2.3-1, we have reviewed the proposed variances in setback distances and find they are acceptable.

Spills of gas, lubricants, and other materials during construction have the potential to impact surface water quality and aquatic organisms. As described in section 2.3, each applicant has prepared a spill plan detailing procedures for fueling, storage, containment, and cleanup of hazardous materials to minimize the potential for a release into a waterbody. Copies of the spill plans are included in appendix E. We have reviewed these plans and find them acceptable.

Flood events (severe storms and hurricanes) could impact construction activities. Each Applicant identified specific measures that would be implemented should high precipitation or flooding occur during construction, and committed to comply with stormwater permit requirements to minimize impacts on waterbodies. During operation, flood events have the potential to affect pipeline buoyancy, and could result in loss of soil cover over the pipeline. To prevent pipeline buoyancy in floodplains, the Applicants would conduct buoyancy studies prior to construction, and pipeline segments with particular buoyancy concerns would be fitted with concrete coating, concrete weights, or geotextile saddlebag weights to control buoyancy. If the pipeline were to float, remediation would be required to return the pipeline to the appropriate depth of cover. Sabal Trail also verified that where its aboveground facilities would be located in SFHAs, the facilities would not cause a stage increase in FEMA flood elevations. Similarly, the two FSC MLVs in SFHAs are considered very minor and not likely to cause any flooding. Our review indicates that constructing the SMP Project would result in minor modifications to floodplains. Constructing the pipeline facilities would not result in a reduction in flood storage capacity within the floodplain, and constructing the aboveground facilities could, but we conclude it is minor based on the overall storage capacity of the affected floodplains. Based on the Applicants' construction and restoration measures, and the minor modifications that would occur to floodplains, we conclude that constructing and operating the SMP Project would not conflict with the intent of Order 11988.

We received several comments expressing concern about the impacts on water quality, including specific comment expressing concerns due to the potential release of natural gas, trenching through acid producing mineral formations in the Piedmont physiographic region, and use of herbicides. The SMP pipelines would transport natural gas which, if released, is not water soluble, and would dissipate into the air without affecting water quality. Therefore, we conclude that a pipeline release would not significantly affect surface water quality.

Constructing through areas with acid producing minerals has the potential to accelerate acid drainage which typically occurs due to the natural weathering process. Based on consultation with Alabama Department of Labor's Abandoned Mine Land Reclamation Program, shallow bedrock and subsurface soils that would be exposed during construction activities do not contain potentially acid-producing minerals, such as pyrite and sulfite, in high enough concentrations to increase acidity levels in drainage waters. Therefore, we conclude that constructing through acid-producing rock formations would not significantly impact surface water quality.

Operating the SMP pipelines would not impact surface water use or quality unless maintenance activities involving pipe excavation and repair in or near streams are required. In such a case, the impacts would be similar to those described for pipeline construction. Vegetative maintenance along the pipeline corridor using herbicides would be prohibited within 100 feet of water resources, which we believe provides an adequate level of protection. Therefore, we conclude that herbicide use would not impact surface water quality.

In summary, the Applicants would implement a variety of measures to minimize impacts on aquatic habitats and water quality, including the use of dry-crossing methods to ensure that aquatic species are not directly affected by construction; HDD crossings to avoid disruption of habitat; restoration of disturbed habitat to preconstruction conditions to the extent practicable; minimization of vegetation clearing along waterbodies; setbacks from waterbodies for storage and use of potentially hazardous materials; and implementation of erosion and sediment control to avoid sedimentation. Further, as discussed above, the Applicants would implement the measures in their HDD contingency plans to avoid or minimize the risk of drilling mud release, as well as procedures that would be followed if an inadvertent release does occur. Therefore, through implementation of these measures, we conclude that impacts on aquatic and riparian habitats, and water quality, would be mitigated to the extent practicable.

3.3.2.5 Project-specific Waterbody Impacts and Mitigation

Hillabee Expansion Project

Transco would cross all waterbodies using dry open cut crossing methods except for two (Hillabee Creek at MP 945.0 and Town Creek at MP 944.9), which would be crossed by the wet open-cut crossing method. Transco also provided site-specific plans for each major waterbody crossing (see appendix J), and we find these plans acceptable. In addition, all of these crossings would be directly adjacent to other previously installed Transco pipeline loops. Based on these factors, we conclude the use of these crossing methods would result in minor and temporary impacts, as described above.

At Compressor Station 84, Transco would install culverts to permanently cross one ephemeral and one intermittent streams for site access. Two other intermittent streams would be affected within the workspace required to construct the facility, but would be restored to pre-construction conditions. We have reviewed these impacts and find they are unavoidable and would be mitigated adequately.

As described in section 3.1.2.2, blasting may be required to install the pipeline where shallow bedrock may be encountered in Alabama. If blasting is necessary, instream turbidity and downstream sedimentation could occur, and fish and other aquatic organisms could be directly affected if in the blast zone at the time of blasting. Transco has provided a blasting plan that describes the precautions and pre-blast planning would implement for needed to minimize impacts and would develop site-specific plans where needed. Scare techniques would be used to chase aquatic organisms from the blast area prior to blasting, and rock would immediately be removed from the blast site to maintain stream flow. In addition, other necessary federal and state permits would be obtained. Implementation of these measures would reduce the potential for adverse blasting impacts on waterbodies.

Sabal Trail Project

Sabal Trail would cross waterbodies using wet open cut, dry open cut, the bore, or HDD methods. In Alabama, all three major waterbody crossings would be crossed using the HDD method, including Hillabee Creek (MP 1.3), the Tallapoosa River (MP 7.3), and Uchee Creek (MP 70.8). Of those, the Tallapoosa River and Uchee Creek are considered sensitive due to their listing on the NRI, and the Tallapoosa River is also listed as part of the ASRT system and as a Section 10 water. Crossing Hillabee Creek, the Tallapoosa River, and Uchee Creek by HDD would generally avoid and significantly minimize potentials impacts on these resources.

The other sensitive waterbodies in Alabama, including Halawakee Creek (MP 42.9) and Ihagee Creek (MP 79.2), would be crossed by dry open cut methods. The Halawakee Creek crossing is directly adjacent to an existing 100-foot-wide powerline corridor, and Ihagee Creek is directly adjacent to two existing Southern Natural Gas Pipeline Company (SONAT) pipelines. We find that by collocating with

these existing facilities and implementation of the proposed crossing measures would adequately minimize and mitigate impacts on these sensitive waterbodies.

In Georgia, four of the seven major (and sensitive) waterbodies crossings would be completed using the HDD method, including the Chattahoochee River (MP 86.4), Hannahatchee Creek (MP 91.4), Flint River (MP 163.1), and the Withlacoochee River (MP 231.3). The other three major waterbodies are private ponds of which two (MPs 114.1 and 225.0) would be crossed using the dry open-cut method, and one (MP 169.3) would be crossed by either wet or dry open-cut method depending on conditions at the time of construction. The HDD method would also be used to cross the intermediate and sensitive Ochlockonee River (MP 199.3).

Of the Georgia waterbodies being crossed by HDD method, all are sensitive due to their status as Georgia high priority waters except the Chattahoochee and Flint Rivers, which are designated as Georgia protected river corridors. They are all also impaired except for the Flint River which is also designated on the NRI, contains designated critical habitat for four endangered and one threatened mussel species, and is a Section 10 water. For waterbodies crossed by HDD, Sabal Trail has prepared a Best Drilling Practices Plan (see appendix F), that identifies alternative construction methods that would be considered in the event that an HDD crossing cannot be completed. The Best Drilling Practices Plan also identifies potential polymers that may be added to bentonite drilling mud to facilitate the HDD process. The polymers would generally consist of commercially available cellulosic fibers, flakes, and other thickening agents that would be compliant with NSF/ANSI Standard 60 which provides health effects criteria for many water treatment chemicals, including drilling aids (NSF, 2015). We reviewed Sabal Trail's site-specific crossing plans for the major waterbody crossings and HDD crossings, and conclude that their implementation would minimize the potential for significant impacts on sensitive waterbodies.

Other Georgia sensitive waterbodies would be crossed by the dry open-cut method if there is perceptible flow at the time of construction, or by the wet open-cut method if there is no perceptible flow is present. The crossings would be adjacent to the existing SONAT pipeline crossings except for Cooleewahee Creek, which would be near a Dixie Pipeline crossing, where the creek has been previously channelized. Based on these proposed crossing methods and general impacts and mitigation measures described above, we conclude impacts on these waterbodies would be adequately minimized and mitigated.

In Florida, five of the seven major waterbody crossings would be completed using the HDD method, including Mainline crossings of the Suwannee River (MP 267.4R) and Santa Fe River (MP 308.3); two ponds adjacent to Toll Road 429 (MP 469.7) and Interstate 4 (MP 471.3), respectively; plus the CCL crossing of the Withlacoochee River (CCL MP 1.3). The HDD method would also be used to cross Shingle Creek (HCL MP 9.2) on the HCL. The other two major waterbody crossings, a private pond (MP 408.7) crossed by the Mainline and Reedy Creek (HCL MP 1.3) crossed by the HCL, would be installed by either the wet or dry open cut and conventional boring methods, respectively. Site-specific crossing plans have been prepared for each of the major and HDD waterbody crossing, which detail such details as the depth of the pipe burial, workspace limits, setbacks, and erosion and sediment control measures. We have reviewed these plans and conclude the proposed crossing methods would avoid and minimize the potential for significant impacts on these sensitive waterbodies and ponds. Further, Sabal Trail assessed the potential for the HDDs at the Suwannee, Santa Fe, and Withlacoochee Rivers to impact designated MFLs, and stated that while it may be possible for drilling mud to reduce or obstruct some groundwater flow paths, HDD activities are not likely to impact overall flow patterns or volumes due to the diffuse nature of groundwater flow within the karst terrain at each crossing. We reviewed Sabal Trail's assessment and conclude that the potential for HDD activities to impact groundwater flow to these rivers is negligible.

Other Florida sensitive waterbodies would be crossed by the dry open-cut method if there is perceptible flow at the time of construction, or by the wet open-cut method if there is no perceptible flow is present. These include Jumping Gully Creek (MP 248.2), Big Creek Reach (MP 463.7), and the Unnamed Tributary to Withlacoochee River (MP 458.9). The Jumping Gully Creek crossing would be directly adjacent to an existing SONAT pipeline crossing, and the Big Creek Reach crossing would be directly adjacent to an existing roadway (Sand Mine Road). The Unnamed Tributary to Withlacoochee River crossing would be a greenfield crossing and, like Jumping Gully Creek, would be limited to 75 feet wide at the crossing location due to riparian wetlands. Based on the collocation and proposed crossing methods and general impacts and mitigation measures described above, we conclude impacts on these waterbodies would be adequately minimized and mitigated.

A small pond would be affected by fill for permanent access to the Citrus County M&R Station, and we have reviewed the plan for constructing the access road and conclude that impact on the pond has been avoided and minimized to the extent practical.

As described in section 3.1.2.2, blasting is not expected to be required to install the pipeline route in Florida, but shallow bedrock may be encountered that requires blasting between approximately MPs 0.0 and 100.0 (in Alabama and western Georgia). Sabal Trail has developed a blasting plan similar to Transco's for any blasting that is necessary within Alabama or Georgia, and would limited blasting to the depth necessary for pipeline installation and use the minimum number of charges in order to reduce potential impacts. To identify if blasting is needed at a waterbody crossing, Sabal Trail would drill the bank to determine if bedrock is present prior to construction. Where in-stream blasting is necessary, the pipeline contractor would develop a specifically detailed blasting plan for that location that would comply with regulatory requirements. Implementation of these measures would reduce the potential for adverse blasting impacts on waterbodies.

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FSC would cross all waterbodies using either the dry open-cut or HDD crossing methods except for one waterbody that would be crossed by the bore method in association with a road crossing. In locations where access roads would be in close proximity to a waterbody, FSC would install silt fence along the edge of the access road to avoid impacts on the waterbody and minimize the potential for sedimentation.

As indicated in table 2.3.2-1, FSC would use the HDD construction method to cross seven waterbodies including two major waterbodies, Weohyakapka Creek (MP 38.6) and the Kissimmee River (MP 53.3), and five intermediate waterbodies, including a pond (MP 12.0), Boggy Branch (MP 84.4), and three unnamed waterbodies (MPs 98.8, 105.5, and 114.7). The HDD crossing at approximate MP 114.7 would result in the new pipeline easement encroaching on a portion of the C-23 Canal easement; however, the pipeline would not physically cross the canal and there would be no disturbance to the canal banks. FSC would apply for a section 408 authorization as part of its section 404 authorization from the USACE. Site-specific crossing plans have been prepared for each of the major and HDD waterbody crossings. We have reviewed these plans and conclude the proposed crossing methods would avoid and minimize the potential for significant impacts on these sensitive waterbodies and ponds.

Fort Drum Creek (MP 87) is the only sensitive waterbody that would be crossed by the FSC Project, and is sensitive due to excessive fecal coliform levels. The crossing is located directly adjacent to a roadway and planned to be completed by the dry open-cut crossing method, which would not affect the basis for its sensitivity.

3.3.2.6 Modifications from our Procedures

As indicated in table 2.3-1, the Applicants would implement waterbody crossing procedures and mitigation measures that are based on our Procedures, but have requested modifications to allow extra workspaces within 50 feet of the boundary of certain waterbodies, as listed in table 2.2.1-1 in appendix D. The most prevalent justifications include ATWS for road crossings, HDD entry and exit sites, and spoil storage where sufficient space is not available to meet our setback requirements. For locations where setback requirements would not be met, the Applicants would install and maintain sediment controls to prevent the discharge of sediment into any wetland or waterbody. Based on our review of these requests, we have determined that they are justified and that adequate measures would be implemented to minimize the potential for waterbody impacts.

3.3.3 Water Use

3.3.3.1 Surface Water Withdrawal Permits

Constructing the SMP Project would require the use of water for hydrostatic testing, dust control, and the HDD construction method.

The DOT requires hydrostatic testing to be completed on pipeline segments before they are placed in service under 49 CFR Part 192. Hydrostatic testing involves the use of water that is pressurized within pipeline segments to determine that the installed pipeline is free from leakage and possesses the strength to safely operate at the proposed MAOP. Water withdrawal would also be required for dust control and for mixing the bentonite slurry used as drilling mud for the HDD construction method. Each state administers a program to regulate the withdrawal and discharge of water used for hydrostatic testing under the federal NPDES.

In Alabama, surface water withdrawals in excess of 100,000 gallons per day are required to be registered with the Alabama Office of Water Resources (AOWR) and a Certificate of Use must be obtained. Water withdrawals or diversions for temporary uses (e.g., hydrostatic testing) may be eligible for exemption. Prior to beginning any withdrawal for a temporary use, information regarding the temporary use must be submitted to AOWR to ensure compliance with any AOWR requirements. Additionally the ADEM would require authorization under the General Permit for Discharges Associated with Hydrostatic Test Waters from New and Existing Petroleum and Natural Gas Pipelines (ALG670000). Discharges of trench dewatering activities require coverage under the ADEM NPDES General Permit for Construction Activities (ALR100000).

In Georgia, surface water withdrawals at or above 100,000 gallons per day on a monthly average are required to obtain a surface water withdrawal permit from the GEPD. Discharge of hydrostatic test water is also regulated under the GEPD General Permit for Storm Water Discharges Associated with Industrial Activity (GAR100002).

In Florida, Water Use Permits would be required from the WMDs for hydrostatic testing and HDD surface water withdrawals. Temporary trench dewatering permits for construction may also be required. The WMDs also require a permit modification for alteration of any previously approved Water Use, Well Construction, and/or WMD-issued ERP. Hydrostatic test water discharges are regulated under the FDEP NPDES program and coverage is required under the FDEP NPDES General Permit for Discharge from Large and Small Construction Activities. Trench dewatering for construction is regulated by WMDs in Florida. Three of the SMP Project-area WMDs (Suwannee River, St. John's River, and Southwest Florida) have exemptions for most dewatering activities within their regulatory rules. The

South Florida WMD does not provide an exemption for dewatering activities, but does administer a No-Notice Short-Term Dewater Permit.

3.3.3.2 General Impacts and Mitigation

Withdrawal of hydrostatic test water has the potential to temporarily affect the recreational and biological use of surface water sources if the diversion constitutes a large percentage of the source water flow. Impacts may include an increase in water temperature, a reduction of dissolved oxygen levels, and entrainment of aquatic species.

Surface waterbody withdrawals would be conducted by using pumps placed adjacent to the waterbody with hoses placed into the waterbody. Intakes would be screened to prevent the uptake of aquatic organisms and fish. Following depressurization, water would be discharged to well-vegetated upland areas after being run through a dewatering structure designed to dissipate energy, retain suspended solids, and encourage infiltration. The discharge rate would be regulated to decrease the potential for erosion. Efforts would be made to reuse water between test segments to decrease water withdrawal volumes.

In order to minimize impacts associated from water uses, low flow conditions would be avoided and the intake hose would be screened to avoid entrapment of aquatic organisms. After the testing is complete, the discharges would be directed to dewatering structures located in well-vegetated upland areas and within the same watershed as the source, except where noted below. No significant water quality impacts are anticipated as a result of discharge from hydrostatic testing. The new pipeline installed as part of the project would consist of new steel pipe that would be free of chemicals or lubricant and no additives would be used. Potential impacts resulting from the discharge of water to upland areas would generally be limited to erosion of soils, which would be minimized by adhering to the measures contained in the Applicants' construction and restoration plans. Approximately 189 million gallons of water would be required for the SMP Project, to be used for hydrostatic testing pipeline facilities and aboveground facilities, and HDD pullback. Anticipated withdrawal sites, amounts, and rates are detailed in table 3.3.2-7.

3.3.3.3 Hillabee Expansion Project

Transco proposes to withdraw approximately 14 million gallons of surface water in aggregate from eight surface water sources to test the new pipeline loops. All water withdrawn would be discharged back to the same watershed. Prior to water use, Transco would submit a beneficial use notification to the ADCNR to appropriate from the surface waters. Transco would also apply for coverage under the ADEM General Hydrostatic Discharge Permit for test water discharges, and would comply with applicable requirements. Transco has indicated that the water sources identified as hydrostatic test water sources may also be used for dust control along with municipal water, and stated they would not need to use water for any HDD construction methods. Table 3.3.2-7 identifies the planned sources, locations, volumes, and discharge locations and rates that Transco would use for each pipeline loop. Based on Transco's proposed measures, we conclude the Hillabee Expansion Project would not significantly affect any surface water resources due to its planned water uses.

TABLE 3.3.2-7

Water Use Associated with the Southeast Market Pipelines Project

Project/State/Facility	Water Source	Withdrawal Location (MP)	Approximate Volume (gallons)	Discharge Location (MP)
Hillabee Expansion Project				
Alabama				
Rock Springs Loop	Wahalak Creek	791.1	2,458,819	791.1
Butler Loop	Tributary to Spear Creek	792.4	1,983,275	792.5
Billingsley Loop	Little Mulberry Creek	889.9	2,213,796	889.9
Autauga Loop	Swift Creek	892.9	2,750,043	892.7
Verbena Loop	Pond at beginning of loop	905.7	1,445,063	906.0
Proctor Creek Loop	Proctor Creek	914.4	1,968,530	914.5
Hissop Loop	Dunlaps Lake	927.2	954,774	927.2
Alexander City Loop	Hillabee Creek	945.0	2,812,712	944.9
Hillabee Expansion Project/ Alabama Subtotal			13,774,300	
Sabal Trail Project				
Alabama				
Mainline	Oaktassasi Creek	0.1	1,075,000	4.1
	Tallapoosa River	7.4	6,100,000	28.2
	Private Water Source	37.2	5,120,000	37.2
	N/A	N/A	N/A	50.3
	Uchee Creek	71.0	6,290,000	55.0
	N/A	N/A	N/A	67.6
	Chattahoochee River	86.4	3,290,000	77.8
Mainline HDD	Hillabee Creek	1.4	2,295,000	N/A
	Tallapoosa River	7.4	1,595,000	N/A
	Uchee Creek	70.9	845,000	N/A
	Chattahoochee River	86.4	750,000	N/A
Compressor Stations				
Alexander City	City Water	N/A	31,794,000	0.0
Meter and Regulating (M&R) Stations				
Transco Hillabee	City Water	N/A	46,400	0.0
Sabal Trail Project Alabama Subtotal			62,490,400	
Alabama Subtotal			76,264,700	
Georgia				
Mainline	Chattahoochee River	86.4	8,025,000	146.8
	N/A	N/A	N/A	176.1
	Private pond NE of ROW	204.7R	4,120,000	189.1
	Withlacoochee River (Georgia)	231.3	8,390,000	231.2
	N/A	N/A	N/A	248.9
	Water Well at CS5	296.3	15,500,000	296.3
	N/A	N/A	N/A	326.1
	N/A	N/A	N/A	353.1
Mainline HDD	Private Source	91.23	704,840	N/A
	Municipal Fire Hydrant	163.18	2,565,119	N/A
	City of Moultrie, GA	199.1	967,000	N/A
	Withlacoochee River	231.3	2,121,000	N/A

TABLE 3.3.2-7 (cont'd)

Water Use Associated with the Southeast Market Pipelines Project

Project/State/Facility	Water Source	Withdrawal Location (MP)	Approximate Volume (gallons)	Discharge Location (MP)
Compressor Stations				
Albany	City Water	NA	16,200	159.4R
Sabal Trail Project Georgia Subtotal			42,409,159	
Florida				
Mainline	Water Well at CS5	392.7R	15,625,000	372.4
	N/A	N/A	N/A	392.7R
	Water Well at CS6 (end MLV 30)	409.5	7,311,000	409.5
	N/A	N/A	N/A	437.3R
	MLV 32 / Private Pond (FL-OS-002.005)	466.7	2,887,000	466.7
Mainline HDD	Municipal Water Source	91.23	2,198,000	N/A
	Santa Fe River	308.4	1,325,000	N/A
	Private Pond at FL-OS-002.005	466.7	3,055,000	N/A
Compressor Stations				
Hildreth	Well	N/A	78,300	196.4
Dunnellon	City Water	N/A	140,600	392.7R
Reunion Compressor Station	Private Pond	0.3	148,300	474.4
M&R Stations				
FGT Suwannee	City Water	N/A	60,000	299.7
FSC	City Water	N/A	17,900	474.4
Gulfstream	City Water	N/A	15,500	474.4
FGT Hunters Creek	City Water	N/A	38,600	13.1
Duke Energy Citrus	City Water	N/A	8,400	21.4
Citrus County Line	Withlacoochee River or Water Well at CS6	0.0	2,511,000	0.0
Citrus County Line HDD	Withlacoochee River	1.3	591,367	N/A
Hunters Creek Line	Private pond S of ROW	6.3	3,460,000	6.3
Hunters Creek Line HDD	Private Pond at HCL-FL-OS-031.001	9.6	1,475,000	N.A
	Municipal Water Source	12.8	280,000	N/A
Sabal Trail Project Florida Subtotal			40,718,367	
Sabal Trail Project Subtotal			145,617,926	
Florida Southeast Connection Project				
Florida				
Mainline	N/A	N/A	29,036,000	N/A
Johnson Avenue HDD	N/A	12	74,300	N/A
Weohyakapka Creek HDD	N/A	38	77,866	N/A
Lake Kissimmee HDD	Kissimmee River	54	290,265	N/A
Blanket Bay Slough HDD	N/A	59	80,244	N/A
Boggy Branch/Indian Hammock Trail HDD	N/A	84	44,767	N/A
Forested Wetland HDD	N/A	99	51,655	N/A
Forested Wetland HDD	N/A	106	43,046	N/A
C-23 Canal HDD	C-23 Canal	115	78,515	N/A
SW Warfield Boulevard (SR 710) HDD	Pond adjacent to Warfield Boulevard	124	125,349	N/A
Florida Southeast Connection Project Subtotal			29,776,658	
Florida Subtotal			70,495,025	
Southeast Market Pipelines Project Total			189,168,884	

3.3.3.4 Sabal Trail Project

Approximately 146 million gallons of water would be used to construct the Sabal Trail Project. Sabal Trail would use 12 water withdrawal sources for testing of the pipeline facilities, including 4 private ponds, 2 wells, and 7 surface water resources. A total of 17 water sources would be used for HDD construction, including 7 private ponds, 2 municipal sources, and 11 surface water resources. Eleven water sources would be used for testing aboveground facilities, including 9 municipal water supplies, one private water well, and one private pond.

Public water sources would be utilized for dust control. Sabal Trail estimates the volume of water necessary for dust control at approximately 1,500,000 gallons per construction spread.

Prior to water use, Sabal Trail would obtain necessary state authorizations to appropriate surface waters and discharge test waters, and would comply with applicable requirements. Similar to Transco, Sabal Trail would submit beneficial use notifications for planned surface water uses in Alabama, and would report uses that exceed 100,000 gpd to the Office of Water Resources. Discharges of hydrostatic test water would be authorized under the ADEM NPDES General Permit for Discharge of Hydrostatic Test Water No. ALG670000.

In Georgia, Sabal Trail would obtain a GEPD Surface Water Withdrawal Permit for surface water withdrawals, and would discharge hydrostatic test water under NPDES General Permit for Storm Water Discharges Associated with Industrial Activity (hydrostatic test waters) No. GAR100002.

Approvals to withdraw surface water in Florida would be requested from WMDs, who would ensure no conflicts would be created with existing, authorized withdrawals. Sabal Trail has identified several authorized withdrawals that have the potential to be affected by the project. In the event that one of these permits does require modifications, Sabal Trail would work with the permit holder to ensure that the modification does not adversely affect the landowner's intended use for the water. Discharges in Florida would be subject to an Individual NPDES Permit to be issued by the FDEP.

Table 3.3.2-7 identifies the planned sources, locations, volumes, and discharge locations and rates that Sabal Trail would use. During water withdrawal, Sabal Trail would screen water intake hoses and control the uptake rate to avoid entrainment and impacts on aquatic species. During discharges, the rate would also be controlled and water would be directed into energy dissipation devices to avoid erosion. We reviewed Sabal Trail's proposed withdrawal and discharge measures and conclude they would avoid and minimize the potential for significant impacts on surface water resources.

3.3.3.5 Florida Southeast Connection Project

FSC would use approximately 29,036,000 gallons of water to conduct hydrostatic testing of the pipeline and 740,000 for testing the HDD pullback pipe strings. At this time, FSC has not finalized and identified the specific sources, estimated volumes, discharge locations, and the discharge rates for hydrostatically testing its pipeline or for HDD operations. FSC has stated that municipal water would be used when feasible and surface water would be used where surface water is not a viable option for dust control. In addition, FSC stated it would not use groundwater as a water source. FSC expects to use Lake Kissimmee (MP 53) and C-23 Canal (MP 115) for testing the pipeline, and would finalize its plan for using and discharging water as part of the permit approval process from Florida WMDs and FDEP. However, because FSC has not finalized its water use plans, **we recommend that**:

- **<u>Prior to construction</u>, FSC should provide the sources and volumes of water that would be used for hydrostatic testing activities. This should include hydrostatic test**

water discharge locations, the volumes of water that would be discharged at each location, the maximum discharge rate, and the watershed associated with each source and discharge location. In addition, FSC should provide the volume and sources of water to be used for HDD operations.

3.3.4 Conclusion

Based on the Applicants' use of standard overland construction methods, which would involve shallow, localized areas of disturbance, their measures to avoid or reduce erosion and sedimentation, their procedures to reduce the potential occurrence and impacts of hazardous material spills, and their use of HDDs as described above, we conclude that constructing the SMP Project would not significantly impact groundwater. We also conclude that operating the proposed facilities would not pose a significant risk to groundwater resources because the SMP Project would transport natural gas (not miscible with water), and hazardous materials at aboveground facilities would be stored and managed in accordance with applicable regulations designed to prevent spills.

Additionally, as described above, the Applicants' pipeline construction activities affecting surface waters would be conducted in accordance with their respective construction and restoration plans, along with any conditions that are part of other federal or state water approvals. Based on the measures described in these plans, as well as the Applicants' measures to avoid and minimize impacts on surface waters, we conclude that constructing and operating the SMP Project would not significantly impact water resources.

3.4 WETLANDS

Wetlands are areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and in normal conditions do support, a prevalence of vegetation adapted for life in saturated soil conditions (USACE, 1987). Wetlands serve several functions including, but not limited to flood control, groundwater recharge, maintenance of biodiversity, wildlife habitat, and maintenance of water quality.

Wetlands affected by the SMP Project are federally and state-regulated. On the federal level, the USACE regulates wetlands under section 404 of the CWA and section 10 of the RHA, and the EPA shares responsibility to administer and enforce the section 404 program. Wetland activities under section 401 of the CWA are delegated to the appropriate state agencies; the ADCNR in Alabama, GDNR in Georgia, and FDEP in Florida. In Florida, the FDEP also has additional authority to regulate wetlands under Florida Statutes Chapter 373, Section 373.019. Wetlands are not regulated at the state level in Alabama or Georgia.

3.4.1 Existing Wetland Resources

The Applicants conducted surveys to identify and determine the extent of wetlands crossed along the pipeline routes and access roads, or within ATWS, aboveground facility sites, pipe/contractor yards, and staging areas. Based on review of NWI data, Alabama, Georgia, and Florida currently have a total of approximately 4.0, 5.8, and 12.0 million acres of existing wetlands, respectively. As detailed below, a total of 940.2 acres of wetland would be affected by construction of the SMP Project, including 107.6 acres in Alabama, 134.3 acres in Georgia, and 698.3 acres in Florida. Wetlands were delineated in accordance with the USACE 1987 Wetland Delineation Manual (USACE, 1987), Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (Version 2.0) and Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region (Version 2.0) (USACE, 2010; 2012). For wetlands in Florida, state jurisdictional boundaries were also assessed using the methodology described in Chapter 62-340, F.A.C.

Three wetland types as described by Cowardin et al. (1979) would be crossed by the SMP Project:

- Palustrine emergent wetlands (PEM or emergent wetlands) are dominated by erect, rooted, herbaceous, perennial hydrophytic vegetation.
- Palustrine scrub-shrub wetlands (PSS or scrub-shrub wetlands) are dominated by woody vegetation that is less than 20 feet tall, including tree shrubs, young trees, and trees or shrubs that are small due to environmental conditions.
- Palustrine forested wetlands (PFO or forested wetlands) are dominated by woody vegetation that is equal to or greater than 20 feet tall.

In natural systems, these three wetland classifications are often interspersed creating a mosaic landscape. These wetlands are further described in the subsections below. Table 3.4.1-1 summarizes the wetland types crossed by the SMP Project, and table 3.4.1-2 in appendix D details each wetland crossing. Constructing the SMP Project would impact 940.2 acres of wetland, including 610.2 acres of forested wetlands, 46.8 acres of scrub-shrub wetlands, and 283.2 acres of emergent wetlands. Following construction, affected wetlands (with the exception of forested wetlands within the permanent right-of-way) would be allowed to return to pre-construction conditions. Operating the SMP Project would permanently impact about 214.2 acres of forested wetlands due to vegetative maintenance within 15 feet of the pipeline centerline. Additionally, the Applicants would maintain a 10-foot-wide corridor centered over the pipeline as herbaceous vegetation, impacting 4.8 acres of scrub-shrub wetlands during operation. About 4.0 acres of wetlands would be permanently affected due to construction of new aboveground facilities and associated access and fencing, as described in section 3.4.3, below.

TABLE 3.4.1-1

Summary of Wetland Impacts Associated with the Southeast Market Pipelines Project

Type/State [a]	Construction (acres)	Operation (acres)
PEM Wetlands		
Alabama	34.5	0.1
Georgia	15.0	0.0
Florida	233.7	0.9
Total PEM Wetland Impacts	283.2	1.0
PSS Wetlands		
Alabama	10.7	0.5
Georgia	6.9	0.7
Florida	29.2	4.0
Total PSS Wetland Impacts	46.8	5.2
PFO Wetlands		
Alabama	62.4	17.6
Georgia	112.4	41.6
Florida	435.4	157.6
Total PFO Wetland Impacts	610.2	216.8
Total Wetland Impacts	940.2	223.0

[a] Wetland classification according to Cowardin et al., 1979: PEM = Palustrine Emergent Wetland; PSS = Palustrine Scrub-Shrub Wetland; PFO = Palustrine Forested Wetland.

Note: Sum of addends may not equal total due to rounding.

Per the requirements of section 404 of the CWA, we generally defer qualitative wetlands analysis to the USACE. As required by the USACE and FDEP permitting processes, the Applicants performed wetland functional assessments during field surveys for the SMP Project. These involved using the

Wetland Rapid Assessment Procedure (WRAP) for wetlands identified in Alabama and Georgia, and the Universal Mitigation Assessment Methodology (UMAM) for wetlands in Florida. At the request of the USACE, we are including this information below.

The WRAP scored individual wetland functionality based on six ecological and anthropogenic factors, including wildlife utilization; overstory/canopy; vegetative ground cover; upland buffer; hydrology; and water quality characteristics. Each of these factors were assigned a numerical value ranging from 0 to 3 in 0.5-point increments, with 0 indicating a system that is severely affected and 3 for a highly functioning system. The sum of the rankings for each factor divided by the maximum potential score provides an overall wetland functional assessment between 0 and 1, where values closer to 0 reflect overall low wetland functions, and values closer to 1 reflect overall optimal wetland functions (South Florida WMD, 2014).

The UMAM scored individual wetland functionality within three functional categories, including: location and landscape support; water environment; and community structure characteristics. Each category has several attributes that are assigned a score ranging from 0 to 10, with 0 indicating a low functioning condition and 10 indicating an optimal functioning condition. When combined together and divided by the total maximum score, a percentage of optimal function is assigned for each category. Wetlands that score above 0.75 to 1.00 on the WRAP scale and 7 to 10 on the UMAM scale are considered to be highly functional wetlands.

The majority (68 percent) of the 1,954 wetlands that would be affected by the SMP Project are classified with moderate functionality; 15 percent are classified as low; and 17 percent are near optimal functionality. The existing (i.e., pre-construction) WRAP and UMAM scores for each wetland identified within the SMP Project area are provided in table 3.4.1-2 in appendix D; a summary of the range of scores for wetlands affected in each state are provided in table 3.4.1-3.

TABLE 3.4.1-3

Wetland Functionality Ratings for Wetlands Crossed by the Southeast Market Pipelines Project

State	Wetland Type [a]	Low Functionality [b] (number)	Moderate Functionality [b] (number)	Optimal Functionality [b] (number)	Total
Alabama	PEM	16	112	0	127
	PSS	2	37	0	39
	PFO	4	140	19	162
Alabama Subtotal		22	289	19	328
Georgia	PEM	2	53	1	56
	PSS	1	23	0	23
	PFO	2	174	20	194
Georgia Subtotal		5	250	21	273
Florida	PEM	224	404	72	687
	PSS	19	43	5	66
	PFO	15	352	214	579
	Florida Subtotal	258	799	291	1,332
Southeast Market Pipelines Project Total		285	1,338	331	1,954

[a] Wetland classification according to Cowardin et al., 1979: PEM = Palustrine Emergent Wetland; PSS = Palustrine Scrub-Shrub Wetland; PFO = Palustrine Forested Wetland.

[b] Low Functionality = WRAP score less than or equal to 0.30 or UMAM score less than 3.0; Moderate Functionality = WRAP score between 0.31 and 0.74 or UMAM score between 3 to 7; and Optimal Functionality = WRAP score from 0.75 to 1.00 or UMAM score greater than 7 to 10.

Note: Sum of addends may not equal total due to rounding.

3.4.1.1 Emergent Wetlands

Emergent wetlands in Alabama include freshwater marshes, wet meadows, and sedge meadows. Dominant species in freshwater marshes include giant cane, southern cattail, broomsedge bluestem, bushy bluestem, broadleaf cattail, sensitive fern, cinnamon fern, giant goldenrod, netted chainfern, common rush, shallow sedge, fragrant flatsedge, blunt spikerush, soft rush, beak sedge, common boneset, fowl mannagrass, switchgrass, and woolgrass. Species dominant in wet meadows and sedge meadows, and secondary in freshwater marshes include Cherokee sedge, giant sedge, seedbox, marshpepper knotweed, swamp smartweed, spotted lady's thumb, arrowleaf tearthumb, Handsome harry, and slender yelloweyed grass. Emergent aquatic vegetation in areas with standing water includes water lettuce, spatterdock, water hyacinth, and duckweed.

Emergent wetlands in Georgia are similar to the freshwater marsh and wet meadow type found in Alabama, with the addition of regional species. Additional regional species include peppervine, bushy bluestem, broomsedge bluestem, smallspike false nettle, common buttonbush, slender woodoats, velvet panicum, Virginia buttonweed, dogfennel, rice cutgrass, Mexican primrose-willow, maidencane, Pennsylvania smartweed, shortbristle horned beaksedge, southern beaksedge, broadleaf arrowhead, lizard's tail, southern waxy sedge, false hop sedge, and various bulrush sedges.

Emergent wetlands in Florida are similar to the freshwater marsh and wet meadow communities found in both Alabama and Georgia, with some regional variation. Common regional additions in freshwater marshes include little carpetgrass, narrowfruited horned beakrush, spadeleaf, southern cutgrass, maidencane, lemon bacopa, dotted smartweed, and bluejoint panicum. Emergent aquatic vegetation in areas with standing water includes water lily.

3.4.1.2 Scrub-shrub Wetlands

Scrub-shrub wetlands in Alabama are dominated by hazel alder, black willow, sweetbay, black elderberry, common buttonbush, common rush, silky dogwood, and sweet pepperbush. Saplings present may include sweetgum, red maple, willow oak, and green ash, while herbaceous plants include giant goldenrod, woolgrass, giant cane, netted chainfern, sugarcane plumegrass, Brookside alder, and cinnamon fern.

Scrub-shrub wetlands in Georgia consist of the same dominant species as those in Alabama, with some regional additions. Additional species include swamp titi, swamp doghobble, inkberry, redbay, dwarf palmetto, poison sumac, Eastern baccharis, sawtooth blackberry, field blackberry, Cherokee sedge, Frank's sedge, fragrant flatsedge, strawcolored flatsedge, velvet panicum, blunt spikerush, flattened pipewort, Virginia sweetspire, Elliot's goldenrod, and broadleaf cattail.

Additional dominant species in Florida include the Florida anisetree, large galberry, gallberry, odorless bayberry, fetterbush, myrtle dahoon, common buttonbush, black elderberry, Walter's viburnum, and sea myrtle. Chinese tallow and Brazilian pepper are also present in some disturbed areas.

3.4.1.3 Forested Wetlands

Three types of forested wetlands are present in the SMP Project area; wetland hardwood forests, mixed forest wetland, and wetland coniferous forests. Forested wetlands in Alabama are primarily wetland hardwood forests dominated by red maple, sweetgum, tulip poplar, river birch, black gum, and sweetbay magnolia. Where these communities are adjacent to pine plantations, species such as loblolly pine are also present.

Mixed and hardwood forested wetlands in Georgia include species similar to those described above for Alabama, with the addition of species like pond cypress, swamp titi, slash pine, and longleaf pine. Wetland coniferous forests in Georgia consist of pine flatwoods and cypress swamp. The species identified in pine flatwoods include slash pine, redbay, sweetbay magnolia, cinnamon fern, Chinese privet, and roundleaf greenbriar. The species identified in cypress swamp include bald and pond cypress, common rush, giant cane, broadleaf arrowhead, blackgum, red maple, marsh pennywort, common buttonbush, and sugarcane plumegrass.

Wetland hardwood forests in Florida include red maple, water oak, swamp tupelo, sweetbay magnolia, laurel oak, sweetgum, swamp titi, black titi, loblolly bay, and black willow. Bay swamps, cypress swamps, and gum swamps are also present. Bay swamps, or bayhead communities, are dominated by loblolly bay, sweetbay magnolia, swamp bay, slash pine, and loblolly pine, with large gallberry, fetterbush, wax myrtle, and titi in the understory. Cypress swamps and cypress domes (depressional wetlands with a domed canopy) are dominated by pond cypress or bald cypress. Swamp tupelo, slash pine, black titi, water tupelo, swamp cotton wood, red maple, American elm, pumpkin ash, Carolina ash, overcup oak, water hickory, laurel oak, sweetbay, and sweetgum may also be found in these communities. Gum swamps are dominated by swamp tupelo, water tupelo, or Ogeechee tupelo. Mixed forest wetlands and wetland coniferous forest include the species described above. Bottomlands and exotic hardwoods are also present in Florida, dominated by hardwood species such as red maple, river birch, water oak, sweetgum, willows, and buttonbush, in bottom lands, with the addition of Brazilian pepper and Melaleuca species in exotic hardwood communities.

During scoping, we received comments expressing concern about potential impacts on the Green Swamp which is crossed by the Sabal Trail Mainline in Lake and Polk Counties, Florida. There are numerous conservation easements and land use zoning restrictions associated with the Green Swamp as it has been described as the "liquid heart of Florida" and is an approximately 560,000-acre area that acts as the headwaters to four major rivers in Florida, including the Withlacoochee, Hillsborough, Peace, and Oklawaha Rivers. The Green Swamp is further described in section 3.9.2.5 and alternatives to avoid or minimize impacts on the Green Swamp are evaluated in section 4.3.2.9.

3.4.2 General Impacts and Mitigation

3.4.2.1 Avoidance and Minimization

Consistent with state and federal guidelines and regulations, the Applicants attempted to avoid wetlands, minimize impacts on them, and as applicable, mitigate impacts on them. State and federal agencies require that "sequencing" be followed when proposing a project that may impact wetlands. Sequencing involves three steps. First, wetlands must be avoided to the extent practicable. Second, if avoidance is not an option, impacts must be minimized to the extent practicable. Third, if wetland impacts are unavoidable, wetland replacement or compensatory mitigation is required to replace lost wetland function.

The Applicants routed their respective pipelines and sited their associated aboveground facilities to avoid wetlands to the extent practicable. Several factors influence pipeline routing, and therefore wetland and other environmental impacts. First, the most direct route between receipt and delivery points generally reduces environmental impacts. Second, collocation of new pipeline facilities with existing linear infrastructure generally reduces impacts by using existing disturbed areas during construction and incrementally expanding existing rights-of-way for operation. As discussed in section 4.3.1, we considered several major route alternatives to the Applicants' proposal. In addition and as discussed in section 4.3.2, the Applicants revised their originally proposed routes in response to input from FERC staff, affected landowners, agencies, and other stakeholders to avoid or minimize impacts on

environmental resources including, in many cases, wetlands. In section 4.4 we consider wetland impacts as one factor in our evaluation of pipeline route alternatives and alternative locations for aboveground facilities. We also consider the No Action Alternative, which would avoid all wetland impacts but would not meet the Applicants' stated purpose and need for the SMP Project. Therefore, based on the pipeline routes and amount of collocation, and configuration of aboveground facilities, we have determined that wetland impacts have been avoided to the extent practicable.

Where wetland impacts could not be avoided, impacts would be minimized by implementing the Applicants' specialized construction and restoration plans, which are generally consistent with our Procedures, as summarized below and in section 2.3.2. These include:

- segregating topsoil excavated from the trench in non-saturated wetlands and returning it to the appropriate horizon upon backfill of the trench;
- generally using a reduced, 75-foot-wide, construction right-of-way through wetlands;
- restoring preconstruction contours to the extent practicable;
- sealing trench line at upland/wetland boundaries to maintain wetland hydrology;
- storing all hazardous materials, including fuels, chemicals, and lubricating fluids, a minimum of 100 feet from any wetland boundary; installing erosion and sediment control devices; and
- prohibiting parking or refueling of vehicles within 100 feet of a wetland unless the onsite EI determines that there is no practicable alternative; preventing the introduction and spread of invasive species.

In addition to the routing principals, alternatives review, and typical construction mitigation measures described above, the Applicants would implement certain specialized construction methods, including the HDD method, to avoid impacts on local resources including wetlands, and have adjusted workspace boundaries along pipeline routes and at aboveground facilities to avoid wetlands.

3.4.2.2 General Impacts and Mitigation Measures

Constructing and operating the SMP Project would temporarily and permanently impact wetlands. Construction activities would temporarily and permanently impact wetland vegetation and habitats, and could temporarily impact wetland soils characteristics, hydrology, and water quality. The effects on wetland vegetation would be greatest during and immediately following construction. In general, wetland vegetation would eventually transition back into a community with a function similar to that of the wetland before construction. Emergent wetlands would recover to their pre-existing vegetative conditions in a relatively short period (typically within 1 to 2 years). Scrub-shrub wetlands could take 2 to 4 years to reach functionality similar to preconstruction conditions depending on the age and complexity of the system. In forested wetlands, the impact of construction would be much longer due to the time needed to regenerate a forest community. Given the species that dominate the forested wetlands crossed by the Project, regeneration to preconstruction conditions may take 30 years or longer. Impacts on the vegetative communities may also include changes in the density, type, and biodiversity of vegetation, including invasive species. Impacts on habitats may occur due to fragmentation, loss of riparian vegetation, and microclimate changes associated with gaps in canopy.

Wetland soils would be restored to their original profile to the extent possible. During construction, failure to segregate topsoil could result in the mixing of the topsoil with the subsoil. This disturbance could result in reduced biological productivity or modify chemical conditions in wetland soils that could affect the reestablishment and natural recruitment of native wetland vegetation. In addition, inadvertent compaction and rutting of soils during construction could result from the movement of heavy machinery and the transportation of pipe sections. The resulting alteration of the natural hydrologic patterns of the wetlands could inhibit seed germination and regeneration of vegetative species. The discharge of stormwater, trench water, or hydrostatic test water could also increase the potential for sediment-laden water to enter wetlands and cover native soils and vegetation. Finally, construction clearing activities and disturbance of wetland vegetation could also temporarily affect the wetland's capacity to buffer flood flows and/or control erosion. Wetland hydrology would be maintained by installation of trench breakers at the wetland/upland boundary and by restoring wetlands to original contours without adding new drainage features that were not present prior to construction. Impacts on water quality may include changes in temperature, biochemistry, or water chemistry; sedimentation or release of hazardous materials (e.g., fuels, lubricants); addition of nutrients; and turbidity.

Impacts on wetlands due to temporary access roads would be avoided. Minor and permanent impact on wetlands would occur at four locations where access or fencing is needed for new aboveground facilities as described in section 3.4.3, including at Compressor Station 84 for the Hillabee Expansion Project, and at the Reunion Compressor Station and two M&R stations for the Sabal Trail Project. Impacts on wetlands at pipe/contractor yards and staging areas would be avoided.

Secondary and indirect effects are impacts on adjacent or other nearby environmental resources, such as the sedimentation of water resources down-gradient of disturbed areas or habitat loss due to microclimate changes following clearing of forested vegetation that could result from the principal pipeline construction activities. The Applicants propose measures in their construction and restoration plans to prevent secondary and indirect impacts on adjacent wetland areas. These include such measures as minimizing the length of open trench at any given time, using HDD installation methods in sensitive areas, installing trench breakers to maintain hydrology, employing erosion and sediment control measures to prevent discharge of sediment into adjacent wetlands and waterbodies, and limiting refueling and storage of hazardous materials. In addition, where secondary and indirect effects cannot be avoided or minimized, they would be mitigated as part of applicable USACE and state wetland impact mitigation requirements described below.

Operating the SMP Project would require periodic vegetation maintenance over the pipeline centerline. The Applicants would conduct annual vegetative maintenance of a 10-foot-wide strip centered over the pipelines, but herbaceous wetland vegetation would not generally be mowed or otherwise maintained, and therefore would not be permanently affected. Scrub-shrub wetlands would be allowed to regenerate but would be affected by maintenance of the 10-foot-wide strip. Most of the permanent impacts on wetland vegetation would be in forested wetlands where trees within 15 feet of the pipeline centerline that are greater than 15 feet tall would be selectively cut and removed once every three years. Therefore, by maintaining the right-of-way and limiting revegetation of a portion of scrub shrub and forested wetlands, some of the functions (primarily habitat) of these wetlands would be permanently altered by conversion to scrub shrub and/or emergent wetlands.

Each company has requested specific modifications, most commonly in regard to ATWS within wetlands or within the 50-foot setback required by their construction and restoration plans. The specific modifications requested by each company, supporting justifications, and our acceptance status are summarized in table 2.3-1 in appendix D. We have reviewed these requested modifications and find they are acceptable.

As described previously, the USACE requires mitigation for unavoidable wetland impacts to preserve no net loss of wetland function. The Applicants intend to address this requirement through in-kind mitigation that would be provided or purchased from established wetland banks in the SMP Project area. Wetland mitigation would be designed to maintain no net loss of wetlands and adequately replace lost functions.

The USACE would determine mitigation requirements using WRAP or UMAM scores, the Ratio Method,[5] wetland type indicators, acreage of impact, and secondary or indirect impacts to adjacent resources, as applicable. The FDEP would categorize impacts by duration of impact and utilize UMAM scores to determine mitigation requirements. Due to the differences in the state and federal approaches to determining mitigation ratios, Sabal Trail and FSC would prepare specific mitigation plans for both the USACE and FDEP for work proposed in the State of Florida.

A summary of the specific wetland impacts and potential mitigation banks that may be used for each SMP Project component is provided in the following subsections.

3.4.3 Project Specific Impacts and Mitigation

3.4.3.1 Hillabee Expansion Project

As identified in table 3.4.3-1, constructing the Hillabee Expansion Project would impact about 82.8 acres of wetlands, including 45.4 acres of forested wetlands, 33.0 acres of emergent wetlands, and 4.4 acres of scrub-shrub wetlands. Individual wetland impact information, including locations and UMAM scores, are provided in table 3.4.1-2 in appendix D.

The operational right-of-way for the Hillabee Expansion Project would overlap about 37.6 acres of wetlands including 19.1 acres of emergent wetlands, 17.1 acres of forested wetlands, and 1.4 acres of scrub-shrub wetlands. Vegetative maintenance during operations would permanently convert about 10.3 acres of forested wetlands to scrub shrub and/or emergent wetlands, and 0.2 acre of scrub-shrub wetland to emergent wetland. Compressor Station 84 would permanently impact about 0.8 acre of wetland including 0.1 acre of emergent wetland and 0.7 acre of forested wetland that could not be avoided due to the presence of an existing propane pipeline and grave site that had to be avoided. In addition, approximately 0.3 acre of forested wetland would be permanently affected by two Compressor Station 84 access roads. No wetlands were identified at Transco's proposed contractor yard in Lauderdale County, Mississippi.

In consultation with the USACE, Transco proposes to create a project-specific wetland mitigation plan which would include the purchase of wetland mitigation credits from established wetland mitigation banks. Table 3.4.3-2 provides the list of potentially available mitigation banks based upon a review of the USACE's Regulatory In-lieu Fee and Bank Information Tracking System (RIBITS).

[5] The Ratio Method is a qualitative approach to determining the amount of credits available within the Alabama Port Mitigation Bank.

TABLE 3.4.3-1

Hillabee Expansion Project Wetland Impacts

Facility	Type [a]	Crossing Length (feet)	Construction (acres)	Operation (acres)
Loops				
Rock Springs	PEM	6,698	9.1	0.0
	PSS	281	0.6	0.0
	PFO	3,406	14.5	2.2
Rock Springs Loop Subtotal		10,385	24.2	2.2
Butler	PEM	602	2.8	0.0
	PSS	N/A [b]	0.8	0.0
	PFO	2,225	4.2	1.5
Butler Loop Subtotal		2,827	7.8	1.5
Billingsley	PEM	1,237	5.3	0.0
	PFO	6,598	12.7	4.5
Billingsley Loop Subtotal		7,835	18.0	4.5
Autauga	PEM	3919	6.4	0.0
	PSS	879	2.8	0.2
	PFO	1,301	5.3	1.0
Autauga Loop Subtotal		6,099	14.5	1.2
Verbena	PEM	781	1.0	0.0
	PFO	150	0.8	0.1
Verbena Loop Subtotal		931	1.8	0.1
Proctor Creek	PEM	1,621	2.5	0.0
	PSS	N/A [b]	0.1	0.0
	PFO	798	2.2	0.5
Proctor Creek Loop Subtotal		2,419	4.8	0.5
Hissop	PEM	388	0.6	0.0
	PFO	N/A [b]	0.2	0.0
Hissop Loop Subtotal		388	0.8	0.0
Alexander City	PEM	1,413	2.6	0.0
	PSS	15	0.1	<0.1
	PFO	426	1.3	0.2
Alexander City Loop Subtotal		1,854	4.0	0.2
Loops Subtotal	PEM	16,659	30.3	0.0
	PSS	1,175	4.4	0.2
	PFO	14,904	41.2	10.0
Loops Total		32,738	75.9	10.2
Aboveground Facilities	PEM	N/A	2.7	0.1
	PFO	N/A	3.9	0.7
Aboveground Facilities Total		N/A	6.6	0.8
Access Roads	PFO	N/A	0.3	0.3
Wetland Type Totals	PEM	16,659	33.0	0.1
	PSS	1,175	4.4	0.2
	PFO	14,904	45.4	11.0
Hillabee Expansion Project Total		32,738	82.8	11.3

[a] Wetland classification according to Cowardin et al., 1979: PEM = Palustrine Emergent Wetland; PSS = Palustrine Scrub-Shrub Wetland; PFO = Palustrine Forested Wetland; PUB = Palustrine Unconsolidated Bottom.

[b] Wetlands not crossed by the centerline but within the construction workspace.

Note: Sum of addends may not equal total due to rounding.

TABLE 3.4.3-2

Potential Wetland Mitigation Banks for the Hillabee Expansion Project

Loop	HUC-8 Watershed	Potential Mitigation Banks	Available Credits
Rock Springs Butler	03160201	Alabama Port	11.04
Billingsley Autauga	03150201	McLemore	84.18
		Alabama River	56.91 [a]
Verbena Proctor Creek Hissop	03150107	Yellowleaf	13.00
		Canoe Creek	17.96 [a]
Alexander City	03150109	Yellowleaf	13.00 [a]
		Canoe Creek	17.96 [a]

HUC = Hydrologic Unit Code

[a] Available credits in secondary service area and would require an additional proximity mitigation factor.

Transco has stated that there are limited options for mitigation bank credit purchase within the same watersheds as the proposed project facilities. As such, Transco has stated it would work with the USACE to develop an adequate mitigation plan to address impacts in the watersheds where wetlands impacts would occur. The mitigation plan would also detail measures for restoring affected wetlands and monitoring restoration efforts. However, because this mitigation plan has not been finalized, **we recommend that:**

- **<u>Prior to construction</u>, Transco should file a copy of its final wetland mitigation plan and documentation of USACE approval of the plan.**

3.4.3.2 Sabal Trail Project

As identified in table 3.4.3-3, constructing the Sabal Trail Project would impact about 625.3 acres of wetlands, including 469.9 acres of forested wetlands, 132.2 acres of emergent wetlands, and 23.2 acres of scrub-shrub wetlands. Individual wetland impact information, including locations and WRAP/UMAM scores are provided in table 3.4.1-2 in appendix D.

The operational right-of-way for the Sabal Trail pipeline facilities would overlap about 388.1 acres of wetlands, including approximately 293.8 acres of forested wetlands, 82.4 acres of emergent wetlands, and 11.9 acres of scrub-shrub wetlands. Vegetative maintenance during operations would permanently convert 171.1 acres of forested wetlands to scrub shrub and/or emergent wetlands, and 2.5 acres of scrub-shrub wetlands to emergent wetlands.

Construction of the Alexander City Compressor Station would temporarily impact about 1.4 acres of scrub-shrub wetland and 0.8 acre of forested wetland within the ATWS, and permanently impact about 0.2 acre of forested wetland due to placement of fencing. Approximately 2.1 acres of permanent wetland impact would occur at the Reunion Compressor Station, including 1.2 acre of forested and 0.9 acre of emergent wetlands, due to construction of access and perimeter fencing. No wetlands would be affected by construction or operation of the Albany, Dunnellon, or Hildreth Compressor Stations or the FGT Suwannee, FSC, or Gulfstream M&R Stations. Construction of the FGT Hunters Creek M&R Station would permanently impact less than 0.1 acre of emergent wetland and 0.2 acre of scrub-shrub wetland by construction of the access road to the station. In addition, constructing the DEF Citrus County M&R Station would permanently impact 0.2 acre of forested wetland.

TABLE 3.4.3-3

Sabal Trail Project Wetland Impacts

State/Facility	Type [a]	Crossing Length (feet)	Construction (acres)	Operation (acres)
Alabama				
Mainline	PEM	847	1.5	0.0
	PSS	1,550	4.2	0.3
	PFO	9,427	15.9	6.4
Mainline Subtotal		11,824	21.6	6.7
Aboveground Facilities	PEM	N/A	0.0	0.0
	PSS	N/A	1.4	0.0
	PFO	N/A	0.8	0.2
Aboveground Facilities Subtotal		N/A	2.2	0.2
Access Roads	PEM	76	<0.1	0.0
	PSS	602	0.7	0.0
	PFO	494	0.3	0.0
Access Roads Subtotal		1,172	1.0	0.0
Alabama Subtotal		12,996	24.8	6.9
Georgia				
Mainline	PEM	7,415	15.0	0.0
	PSS	3,974	6.9	0.7
	PFO	59,940	112.0	41.6
Mainline Subtotal		71,329	133.9	42.3
Aboveground Facilities	None			
Access Roads	PFO	835	0.4	0.0
Georgia Subtotal		72,164	134.3	42.3
Florida				
Mainline	PEM	54,063	94.2	0.0
	PSS	4,087	7.9	1.1
	PFO	144,593	264.8	99.7
Mainline Subtotal		202,743	366.9	100.8
Citrus County Line	PEM	5,619	11.1	None
	PFO	1,322	3.6	0.9
Citrus County Line Total		6,941	14.7	0.9
Hunter's Creek Line	PEM	1,971	8.0	0.0
	PSS		None	
	PFO	30,006	62.9	20.9
Hunter's Creek Line Total		31,977	70.9	20.9
Pipeline Facilities Subtotal		241,661	452.5	122.6
Aboveground Facilities	PEM	N/A	1.8	0.9
	PSS	N/A	1.9	0.2
	PFO	N/A	2.3	1.3
Aboveground Facilities Subtotal		N/A	6.0	2.4
Access Roads	PEM	787	0.6	0.0
	PSS	171	0.2	0.2
	PFO	9,370	6.9	0.1
Access Roads Subtotal		10,328	7.7	0.3
Florida Subtotal		251,989	466.2	125.3

TABLE 3.4.3-3 (cont'd)

Sabal Trail Project Wetland Impacts

State/Facility	Type [a]	Crossing Length (feet)	Construction (acres)	Operation (acres)
Wetland Type Totals	PEM	70,778	132.2	0.9
	PSS	10,384	23.2	2.5
	PFO	255,987	469.9	171.1
Mainline and Laterals		324,814	608.0	171.6
Aboveground Facilities		N/A	8.2	2.6
Access Roads		12,335	9.1	0.3
Sabal Trail Project Total		337,149	625.3	174.5

N/A = Not Applicable

[a] Wetland classification according to Cowardin et al., 1979: PEM = Palustrine Emergent Wetland; PSS = Palustrine Scrub-Shrub Wetland; PFO = Palustrine Forested Wetland.

Note: Sum of addends may not equal total due to rounding.

We received comments from the EPA regarding potential impacts on limesink wetlands. Limesink wetlands are not currently defined or addressed in USACE regulatory guidance documents, but they have been described as seasonally inundated, shallow depressions formed by dissolution of limestone bedrock and collapse of surface sands (Golladay et al., 1997), and they function through a confining layer of silt and clay that could be affected by trenching. Additionally, Limesink wetlands have been described as having high biological diversity, and providing important wildlife habitat. Sabal Trail identified 33 potential limesink wetlands that would be crossed by the Mainline route in Terrell, Lee, Dougherty, and Mitchell Counties, Georgia. Based on our review of these wetlands, as well as the measures that Sabal Trail would implement to avoid and minimize impacts on wetlands, we have determined that impacts on limesink wetlands would be minimized to the extent practical.

We also received comments from the Lake County Water Authority regarding the need to carefully restore contours following construction to protect the flow of surface waters across wetlands in Lake County, Florida. Sabal Trail has committed to restore original topographic conditions and contours to as close to pre-construction as possible following construction, and we would require Sabal Trail to meet its commitments following construction.

In consultation with the USACE and FDEP, Sabal Trail proposes to create a project-specific wetland mitigation plan which would include the purchase of wetland credits from established wetland mitigation banks. Sabal Trail is currently in the process of identifying established wetland mitigation banks, with available credits in the types needed, within the watersheds that would be affected by the project using the USACE's RIBITS database. Mitigation credits would be selected using WRAP or UMAM scores.

To date, the following mitigation banks have been identified by Sabal Trail for potential use:

- Alabama and Georgia: Canoe Creek, Martin Creek, MidCreeks, Enon-Sehoy, Bradley Farms Preserve, Upatoi Creek, Kolomoki, Cecil Bay, and Cherry Creek.

- Florida: Bayfield, Upper Coastal, Green Swamp, Withlacoochee, Hammock Lake, and Southport Ranch.

Sabal Trail has stated it would work with the Savannah, Mobile, and Jacksonville Districts of the USACE, as well as the FDEP in Florida, to develop adequate mitigation plans to address impacts in the watersheds where wetland impacts would occur. These mitigation plans would also detail measures for restoring affected wetlands and monitoring restoration efforts. However, because these mitigation plans have not been finalized, **we recommend that:**

- **<u>Prior to construction</u>, Sabal Trail should file a copy of its final wetland mitigation plans and documentation of USACE approvals of each plan.**

3.4.3.3 Florida Southeast Connection Project

As identified in table 3.4.3-4, construction of the FSC Project would impact about 232.1 acres of wetlands, including 118.0 acres of emergent wetlands, 94.9 acres of forested wetlands, and 19.2 acres of scrub-shrub wetlands. Individual wetland impact information, including locations and UMAM scores, are provided in table 3.4.1-2 in appendix D.

TABLE 3.4.3-4

Florida Southeast Connection Project Wetland Impacts

Facility	Type [a]	Crossing Length (feet)	Construction (acres)	Operation (acres)
Mainline	PEM	64,244	114.4	0.0
	PSS	11,255	18.9	2.5
	PFO	44,574	94.7	34.7
Mainline Subtotal		120,073	228.0	37.2
Aboveground Facilities	None			
Pipe/Contractor Yards and Storage Areas	None			
Access Roads	PEM	N/A	3.6	0.0
	PSS	N/A	0.3	0.0
	PFO	N/A	0.2	0.0
Access Road Subtotal		N/A	4.1	0.0
Total PEM		64,244	118.0	0.0
Total PSS		11,255	19.2	2.5
Total PFO		44,574	94.9	34.7
Florida Southeast Connection Project Total		120,073	232.1	37.2

[a] Wetland classification according to Cowardin et al., 1979: PEM = Palustrine Emergent Wetland; PSS = Palustrine Scrub-Shrub Wetland; PFO = Palustrine Forested Wetland; PUB = Palustrine Unconsolidated Bottom.

Note: Sum of addends may not equal total due to rounding.

The operational right-of-way for the FSC Project would overlap about 137.8 acres of wetlands, including 73.7 acres of emergent wetlands, 51.2 acres of forested wetlands, and 12.9 acres of scrub-shrub wetlands. Vegetative maintenance during operations would permanently convert 34.7 acres of forested wetlands to scrub shrub and/or emergent wetlands, and 2.5 acres of scrub-shrub wetlands to emergent wetlands. No wetlands would be affected during construction and operation of the M&R station and pig receiver at the FPL Martin Clean Energy Center and the pig launcher at the start of the project.

In consultation with the USACE and FDEP, FSC proposes to create a project-specific wetland mitigation plan which would include the purchase of wetland credits from established wetland mitigation banks. The mitigation plan would also detail measures for restoring affected wetlands and monitoring restoration efforts. FSC is currently in the process of identifying established wetland mitigation banks, with available credits in the types needed, within the watersheds that would be affected by the project using the USACE's RIBITS database. However, because this mitigation plan has not been finalized, **we recommend that:**

- **<u>Prior to construction</u>, FSC should file a copy of its final wetland mitigation plan and documentation of USACE approval of the plan.**

3.4.4 Conclusion

Constructing the SMP Project would temporarily impact a total of about 940.2 acres of wetlands. Following construction, a majority of these wetlands (717.2 acres) would be allowed to return to pre-construction conditions. Based on the types and amounts of wetlands that would be affected and the Applicants' measures to avoid, minimize, and mitigate wetlands impacts as described above and in their construction and restoration plans, we have determined that the SMP Project would not significantly impact wetlands. These impacts would be further minimized and mitigated by the Applicants' compliance with USACE section 404 and state permit requirements including the purchase of in-kind mitigation.

3.5 VEGETATION

3.5.1 General Vegetation Resources

The SMP Project would be located in the Southeastern Plains, Piedmont, and Southern Coastal Plain ecoregions. The Southeastern Plains ecoregion is comprised of cropland, pasture, woodland, and mixed oak-hickory-pine forest. The Piedmont ecoregion lies is a transitional zone between the Appalachian Mountains and the relatively flat coastal plain and is dominated by pine and mixed hardwood deciduous forests. The Southern Coastal Plain ecoregion consists of flat plains comprised of slash and loblolly pine forests, oak-gum-cypress forests in lowlands, pasture land primarily for beef cattle, marshes and swamps, citrus groves, and urban development.

The ecoregions crossed by the SMP Project have been categorized into six primary vegetative cover types which include upland forest, pine plantation, open upland, agriculture, wetlands (forested wetlands, scrub-shrub wetlands, and emergent wetlands), and developed land (commercial/industrial land and residential areas). Wetland cover types are described in section 3.4.1. Descriptions of each upland vegetation cover type crossed by the SMP Project are provided in table 3.5-1.

3.5.2 Vegetation Communities of Special Concern or Value

Sensitive vegetation communities that could be affected by the SMP Project include longleaf pine forests, the Lake Wales Ridge ecosystem, and habitat management or conservation easement areas. Threatened and endangered plant species are analyzed in section 3.8.

Longleaf pine forests once stretched across vast portions of the Southeast. Today less than 5 percent of the 90-million acre original forest system remain intact. Longleaf pine forests provide a unique ecosystem for numerous wildlife species, including several sensitive species. The Sabal Trail Project would cross intermittent tracts that are dominated by longleaf pine. Potential impacts on forest lands, which include longleaf pine, are discussed in section 3.5.3.

The FSC and Sabal Trail Projects would cross approximately 50 miles of the Lake Wales Ridge ecosystem between Sabal Trail Project MP 449 to FSC Project MP 39 and would include the proposed Reunion Compressor Station and the junction of the two projects. The Lake Wales Ridge is one of the oldest ecosystems in the Southeast and is home to numerous rare species that are endemic to this ecosystem. Roughly 85 percent of the ecosystem has been altered and fragmented by citrus farms, ranches, and residential development. We received multiple comments that undisturbed lands within this ecosystem should be avoided. The proposed pipelines through the Lake Wales Ridge would cross several small areas of relatively undisturbed land, most of which is comprised of undeveloped wetland areas. In most of these undeveloped wetland areas, Sabal Trail and FSC propose to collocate the pipelines along existing road and utility rights-of-way to minimize habitat impacts and would reduce the construction right-of-way to 75 feet in width.

Several public recreational areas and habitat enhancement areas would be crossed by the Sabal Trail and FSC Projects, some of which have vegetation management and conservation objectives. Sabal Trail and FSC have been consulting with these land management agencies to minimize vegetation and recreational impacts. Additional details about these land management areas are provided in section 3.9.

We received several comments expressing concern about impacts on “old growth” forest. Based on our review of the SMP Project, we observed isolated mature forested areas and older trees, but did not identify large contiguous old growth forests. Therefore, we have determined that constructing and operating the SMP Project would not impact old growth forest and do not discuss this vegetation type further in this analysis.

TABLE 3.5-1

Upland Vegetation Cover Types Crossed by the Southeast Market Pipelines Project

Vegetation Cover Types	Project	Typical and Observed Vegetation Species in each Project Area
Upland Forest	Hillabee Expansion Project	Common trees include southern red oak, white oak, turkey oak, American beech, sweetgum, flowering dogwood, tulip poplar, pignut hickory, black cherry, eastern redbud, hornbeam/muscle wood, and loblolly pine. Common shrubs include buckeye, blueberry, mountain laurel, American elderberry, sumac, witch hazel, Chinese privet, and flowering dogwood. Common herbs and vines include blackberry, Japanese honeysuckle, Virginia creeper, Christmas fern, and greenbrier.
	Sabal Trial Project	Common trees include live oak, loblolly pine, shortleaf pine, oak, hickory, sweetgum, blackgum, red maple, and winged elm. Common understory species include dogwoods, viburnums, blueberry, farkleberry, Christmas fern, American beautyberry, yaupon, and numerous woody vines including muscadine grape and greenbrier.
	Florida Southeast Connection Project	Mixed hardwood-conifer forests include live oak, laurel oak, water oak, slash pine, and occasionally longleaf pine, cabbage palm, sweetgum, common persimmon, and red maple. Understory includes palmetto with scattered gallberry. Shrubs typically include saw palmetto, wax myrtle, groundsel tree, and American beautyberry. Xeric oak forests include sand live oak, bluejack oak, turkey oak, sand post oak, live oak, and scattered longleaf or sand pine. Pine flatwoods include slash pine and/or longleaf pine. The understory includes saw palmetto with scattered fetterbush, tarflower, wax myrtle, gallberry, American beautyberry, live oak, sand live oak, wiregrass, roadgrass, broomsedges, pale meadowbeauty, hemlock witchgrass, pinebarren, and Carolina elephantsfoot.
Pine Plantation	Southeast Market Pipelines Project	Consists of land managed primarily for loblolly pine and longleaf pine timber harvest. These areas may be maintained by prescribed fire, herbicide applications, or selective thinning. Mixed hardwood species may encroach into pine plantations if these areas are not maintained.
Open Upland	Hillabee Expansion Project and Sabal Trail Project	Open upland includes pastures, utility rights-of-way, and fallow crop fields. Common herbaceous species include tall fescue, bermudagrass, bahiagrass, broomsedge bluestem, ragweed, and goldenrod. Thickets of blackberry and Japanese honeysuckle, as well as scattered pine and hardwood seedlings and saplings, may also occur.
	Florida Southeast Connection Project	Includes dry prairie, palmetto prairie, and pasture/rangeland. Common herbaceous species of dry prairie include broomsedges, bluestems, Bahiagrass, wiregrass, crabgrasses, love grasses, dogfennel, sweet broom, slender goldenrod, smutgrass, finger grass, buttonweeds, paspalums, witchgrasses, and blackberries. Palmetto prairie species include saw palmetto with wax myrtle, gallberry, muscadine grape, fetterbush, shiny blueberry, coastal plain staggerbush, winged sumac, tar flower, and four-petal St. John's wort. Rangeland species include bahiagrass, limpograss, Bermuda grass, smutgrass, pangola grass, and carpetgrass, with old field species such as dog fennel, sweet broom, common ragweed, slender goldenrod, slender flattop goldenrod, spadeleaf, tropical soda apple, cogongrass, pokeweed, manyflower marshpennywort, and blackberry.
Agriculture Land	Southeast Market Pipelines Project	Agricultural land includes actively cultivated cropland and hay fields, orchards, citrus groves, and pecan farms.
Developed Land	Southeast Market Pipelines Project	Developed land include residential lands, industrial and commercial lands, utility stations, manufacturing or industrial plants, landfills, mines, quarries, and commercial or retail facilities. Residential land generally include tall fescue, bermudagrass, or bahiagrass.

3.5.3 Vegetation Impacts

Table 3.5.3-1 identifies the amount of the vegetation (cover types) that would be affected by constructing and operating the SMP Project. Cutting, clearing, and removing existing vegetation for construction would temporarily and permanently impact vegetation. Removing vegetation would increase the potential for soil erosion (see section 3.2), the introduction and establishment of noxious or invasive species (see section 3.5.5), edge effects (see section 3.5.6), and reduce the amount of available wildlife habitat (see section 3.6). The degree of impact would depend on the type and amount of vegetation affected, the rate at which vegetation would regenerate after construction, and the frequency of vegetation maintenance conducted on the right-of-way during pipeline operation. Site-specific conditions such as grazing, rainfall amounts, elevation, weeds, and soil type would also influence the length of time required to achieve successful revegetation.

Impacts on upland open land, herbaceous wetlands, and agricultural lands (approximately 5,875.0 acres) would be short-term as these vegetation cover types would likely return to their pre-construction states within one to three growing seasons after restoration is complete. Impacts on these communities during operation of the pipeline facilities would be minimal because these areas would be allowed to recover following construction and would typically not require maintenance mowing. The construction or modification of aboveground facilities would result in the permanent loss of vegetation and would convert open land vegetation into industrial facility use. Citrus grove impacts are discussed further in section 3.5.7.

Regeneration of shrub areas within upland open land and scrub-shrub wetland may take 10 to 15 years or longer. Permanent impacts on shrub vegetation would result primarily from right-of-way maintenance activities and the construction of aboveground facilities.

Impacts on upland forest, forested wetland, and pine plantation (4,928.4 acres) would constitute the most pronounced change in vegetation strata, appearance, and habitat. Trees would be cleared along the construction right-of-way and replaced by herbaceous plants, shrubs, saplings, and other successional species until trees can again flourish, which can take several decades or longer to occur. As specified in the Applicants' construction and restoration plans, vegetation maintenance activities may be conducted annually over a 10-foot-wide corridor centered over the pipeline, and vegetation clearing may occur every 3 years within the 50-foot-wide permanent right-of-way in non-riparian areas. The Applicants would maintain a 30-foot-wide pipeline right-of-way in forested wetland areas. These clearing activities would prevent the establishment of larger woody species within the maintained pipeline right-of-way. The temporary and permanent removal of shrub and forested vegetation from construction and operation of the project facilities would result in habitat fragmentation, loss of wildlife habitat (see sections 3.5.6), loss of natural noise barriers and buffers, and other impacts as described at the beginning of this section.

TABLE 3.5.3-1

Vegetation Communities Affected by Construction and Operation of the Southeast Market Pipelines Project (in acres)[a]

	Pine Plantation		Upland Forest		Forested Wetland		Upland Open Land		Herbaceous Wetland		Scrub-Shrub Wetland		Agriculture		Project Totals [b]	
Vegetation Component	Con.	Op.	Con.	Op.	Con.	Op.	Con.	Op.	Con.	Op.	Con.	Op.	Con.	Op.	Con.	Op.
Hillabee Expansion Project																
Alabama																
Pipeline Right-of-Way [c, d]	70.4	26.0	166.8	48.6	32.8	18.3	234.0	141.9	27.2	18.6	3.0	1.6	9.1	2.9	543.3	257.9
Additional Workspaces	21.6	0.0	53.2	0.0	7.8	0.0	79.8	0.0	2.6	0.0	1.4	0.0	4.4	0.0	170.8	0.0
Aboveground Facilities	19.0	2.8	7.3	1.6	3.9	0.6	77.4	10.6	2.7	0.1	0.0	0.0	0.0	0.0	110.3	15.7
Access Roads	2.4	0.6	1.8	0.7	0.2	0.2	2.4	1.6	0.0	0.0	0.0	0.0	0.0	0.0	6.8	3.1
Pipe/Contractor Yards and Storage Areas	0.0	0.0	0.0	0.0	0.0	0.0	55.8	0.0	0.0	0.0	0.0	0.0	26.4	0.0	82.2	0.0
Alabama Subtotal	113.3	29.5	229.1	50.9	44.7	19.2	449.5	154.1	32.5	18.7	4.4	1.6	40.0	2.9	913.5	276.9
Mississippi																
Pipe/Contractor Yard	0.0	0.0	0.0	0.0	0.0	0.0	8.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.2	0.0
Project Total	113.3	29.5	229.1	50.9	44.7	19.2	457.7	154.1	32.5	18.7	4.4	1.6	40.0	2.9	921.7	276.9
Sabal Trail Project																
Alabama																
Pipeline Right-of-Way [c, d]	200.6	95.8	529.2	254.4	15.4	6.3	230.8	120.5	1.6	0.0	4.0	0.4	16.7	8.5	998.3	485.9
Additional Workspaces	66.1	0.0	180.2	0.0	0.6	0.0	146.0	0.0	0.0	0.0	0.1	0.0	7.9	0.0	400.9	0.0
Aboveground Facilities	17.4	2.3	11.9	4.4	0.8	0.2	37.0	24.6	0.0	0.0	1.4	0.0	0.0	0.0	68.6	31.5
Access Roads	2.5	2.5	7.0	6.7	0.2	0.0	54.6	46.2	<0.1	0.0	0.7	0.0	0.9	0.0	65.9	55.4
Pipe/Contractor Yards and Storage Areas	0.0	0.0	0.0	0.0	0.0	0.0	47.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	47.7	0.0
Alabama Subtotal	286.6	100.7	728.4	265.5	17.0	6.5	516.1	191.3	1.6	0.0	6.2	0.4	25.5	8.5	1,581.4	572.9
Georgia																
Pipeline Right-of-Way [c, d]	517.8	249.7	409.7	197.8	107.0	41.3	276.9	146.6	14.4	0.0	6.7	0.9	532.8	258.5	1,865.3	894.8
Additional Workspaces	136.6	0.0	102.7	0.0	4.2	0.0	95.0	0.0	0.4	0.0	0.0	0.0	187.7	0.0	526.6	0.0
Aboveground Facilities	8.4	7.7	0.2	0.2	0.0	0.0	0.3	0.3	0.0	0.0	0.0	0.0	33.6	33.6	42.4	41.7
Access Roads	4.7	2.2	6.4	2.7	0.4	0.0	88.9	31.6	0.0	0.0	0.0	0.0	10.1	2.0	110.5	38.5
Pipe/Contractor Yards and Storage Areas	11.6	0.0	2.2	0.0	0.0	0.0	71.3	0.0	0.0	0.0	0.0	0.0	62.1	0.0	147.2	0.0
Georgia Subtotal	679.2	259.6	521.0	200.7	111.5	41.3	532.3	178.4	14.8	0.0	6.7	0.9	826.3	294.1	2,691.8	975.0
Florida [e]																
Pipeline Right-of-Way [c, d, e]	459.8	219.2	758.5	377.8	260.0	103.7	204.2	101.5	98.7	0.0	5.9	0.8	1,134.1	547.2	2,921.2	1,350.2
Additional Workspaces	75.3	0.0	135.4	0.0	24.9	0.0	68.3	0.0	6.2	0.0	0.5	0.0	329.6	0.0	640.2	0.0

TABLE 3.5.3-1 (cont'd)

Vegetation Communities Affected by Construction and Operation of the Southeast Market Pipelines Project (in acres)[a]

	Pine Plantation		Upland Forest		Forested Wetland		Upland Open Land		Herbaceous Wetland		Scrub-Shrub Wetland		Agriculture		Project Totals [b]	
Vegetation Component	Con.	Op.	Con.	Op.	Con.	Op.	Con.	Op.	Con.	Op.	Con.	Op.	Con.	Op.	Con.	Op.
Aboveground Facilities	36.6	29.9	53.5	48.9	2.3	1.4	3.8	0.9	1.7	0.9	2.0	0.0	19.8	19.2	119.7	102.2
Access Roads	17.3	0.3	23.0	1.6	7.1	0.1	7.0	0.3	0.9	0.0	0.2	0.2	51.7	0.4	107.2	2.9
Pipe/Contractor Yards and Storage Areas	0.7	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	133.4	0.0	135.2	0.0
Florida Subtotal	589.7	249.4	971.4	428.3	294.3	105.2	283.3	102.7	107.5	0.9	8.6	1.0	1,668.6	566.9	3,923.4	1,454.4
Project Total	1,555.5	609.7	2,220.8	894.4	422.9	153.0	1,331.7	472.3	123.9	0.9	21.5	2.2	2,520.3	869.4	8,196.6	3,001.9
Florida Southeast Connection Project																
Florida																
Pipeline Right-of-Way [c, d]	1.1	0.5	182.3	83.1	86.7	56.1	700.4	369.1	102.1	71.0	18.0	12.7	238.6	120.8	1,329.2	713.3
Additional Workspaces	0.3	0.0	19.8	0.0	7.8	0.0	69.2	0.0	12.2	0.0	0.9	0.0	46.8	0.0	157.0	0.0
Aboveground Facilities	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.0	0.0	0.0	0.0	0.1	0.1	0.5	0.5
Access Roads	<0.1	0.0	1.6	0.2	0.3	0.0	31.8	1.2	3.9	0.0	0.3	0.0	6.5	0.2	44.4	1.6
Pipe/Contractor Yards and Storage Areas	0.0	0.0	33.0	0.0	9.3	0.0	142.3	0.0	14.6	0.0	0.0	0.0	0.0	0.0	199.2	0.0
Project Total	1.4	0.5	236.6	83.3	104.1	56.1	944.1	370.6	132.8	71.0	19.3	12.7	292.0	121.1	1,730.3	715.3
Overall Projects Total	1,670.2	639.7	2,686.5	1,028.6	571.7	228.3	2,733.5	997.0	289.2	90.6	45.2	16.5	2,852.3	993.4	10,848.6	3,994.1
Mississippi Impacts	0.0	0.0	0.0	0.0	0.0	0.0	8.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.2	0.0
Alabama Impacts	399.9	130.2	957.5	316.4	61.7	25.7	965.6	345.4	34.1	18.7	10.6	2.0	65.5	11.4	2,494.9	849.8
Georgia Impacts	679.2	259.6	521.0	200.7	111.5	41.3	532.3	178.4	14.8	0.0	6.7	0.9	826.3	294.1	2,691.8	975.0
Florida Impacts	591.1	249.9	1,208.0	511.6	398.4	161.3	1,227.4	473.3	240.3	71.9	27.9	13.7	1,960.6	688	5,653.7	2,169.7

[a] Approximately 588 and 141.1 acres or developed land would be affected by construction and operation of SMP Project, respectively, which is not included in the impacts above. Con. = Construction impacts; Op. = operational impacts.

[b] Does not include open water impacts. See section 3.3.2 of the draft EIS for waterbody impacts associated with the projects.

[c] Project-specific construction right-of-way widths are discussed in the project-specific sections above. Note that impacts presented are based on typical construction right-of-way widths (100, 110, 120, etc.) for the entire length of the pipeline discussed by project below. However, the construction right-of-way would be reduced at certain locations (e.g., wetlands), some portions of the right-of-way would overlap with existing rights-of-way that have been previously disturbed, and/or the HDD method would be used to avoid direct impacts on vegetation.

[e] Project-specific operational right-of-way widths are discussed in the project-specific sections above. Note that impacts presented are based on a typical operational right-of-way width of 50 feet for the entire length of the pipeline discussed by project below. However, most vegetation types would be allowed to revert to pre-construction conditions, limited vegetation maintenance would be allowed in wetlands, some portions of the right-of-way would overlap with existing rights-of-way that are maintained, and/or the HDD method would be used to avoid direct impacts on vegetation.

[d] Impacts in Florida include the Sabal Trail Mainline Pipeline, the Citrus County Line, and the Hunter's Creek Line.

3.5.4 General Construction and Restoration Procedures

Vegetation clearing impacts can be minimized by using special construction techniques, proper restoration measures, and post-construction monitoring. The Applicants' construction and restoration plans include specific measures for construction and restoration in upland and wetland areas, plans to control invasive species, and plans to prevent or mitigate spills of hazardous substances (see section 2.3). The Applicants have proposed, at a minimum, to segregate topsoil over the trench line and spoil storage area for the entire length of the SMP Project pipeline facilities except in certain locations (e.g., saturated soils) as discussed in section 3.2.3. Vegetation on the working side of the construction right-of-way would be mowed or scraped to allow for equipment passage. The Applicants may also segregate topsoil over the entire construction right-of-way in agricultural areas, pastures or hayfields, in residential areas, and at a landowner's or land-managing agency's request. The existing seedbank within the replaced topsoil should increase revegetation success. However, the results of this process can be less than favorable. Weedy species are among the largest component of grassland seed banks (Rice, 1989; Leck, *et al.*, 1989). The presence of noxious and invasive weed species identified during environmental field surveys indicate that weed colonization or at least initial recruitment in disturbed sites would likely occur. Noxious and invasive weed mitigation is discussed further in section 3.5.5.

Seeding would be the primary method of reestablishing vegetation on affected lands. Following construction, seed and fertilizer would be applied to all upland areas. The fertilizer type, seed species composition, and application rates would be in accordance with recommendations from local NRCS offices or as requested by the landowner or land managing agency. Disturbed areas would be seeded within six working days after final grading is complete, weather and soil conditions permitting. Seed would be applied using the drill seeding, hydroseeding, or broadcast seeding methods. If construction is completed during the fall and winter months, a temporary seed mix would be applied to provide temporary vegetative cover until the spring planting season.

Revegetation would be considered successful when the cover and density of non-noxious vegetation within the construction right-of-way is similar to the adjacent undisturbed land. According to each Applicants' restoration plans and procedures, the Applicants would monitor disturbed areas for the first and second growing seasons after construction. It should be noted that this monitoring timeframe is the minimum baseline requirement adopted from the FERC's Plan; the Applicants would be required to monitor the success of revegetation and restore all disturbed areas until restoration and revegetation is deemed successful, regardless of the length of time this may take. During the restoration phase of the SMP Project, landowners may identify areas where additional seeding or restoration actions may be required, including areas of weed infestations. The FERC and various land managing agencies, as appropriate, would also monitor restoration and revegetation success and would determine when restoration is successful.

3.5.5 Noxious Weeds and Pathogens

Invasive species are those that display rapid growth and spread, becoming established over large areas (U.S. Department of Agriculture (USDA), 2013a). Most commonly they are exotic species that have been introduced from another part of the United States, another region, or another continent, although some native species that exhibit rapid growth and spread are also considered invasive. Invasive plant species can change or degrade natural vegetation communities, which can reduce the quality of habitat for wildlife and native plant species. Similar to invasive species, noxious weeds are frequently introduced but occasionally are native. 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, 2013b).

Executive Order 13112 directs federal agencies to prevent the introduction of invasive species; provide for their control; and minimize the economic, ecological, and human health impacts that invasive species can cause. The Executive Order further specifies that federal agencies shall not authorize, fund, or carry out actions likely to cause or promote the introduction or spread of invasive species in the United States or elsewhere unless it has been determined that the benefits of such actions outweigh the potential harm caused by invasive species, and that all feasible and prudent measures to minimize the risk of harm would be taken in conjunction with the actions.

Vegetation communities are more susceptible to infestations of invasive or noxious weed species following soil disturbances. Vegetation removal and soil disturbance during construction of the SMP Project could create optimal conditions for the establishment or spread of undesirable species. Invasive or noxious plants could negatively affect habitat by competing for resources such as water and light, changing the community composition, eliminating or reducing native plants, or by changing the vegetation structure. The changes in community composition or vegetation structure could reduce native plant populations and can also negatively affect wildlife habitat. Equipment movement along the construction right-of-way and access roads also could provide opportunities for seed transport into uninfested areas. Due to the connectivity of lands by access roads and equipment transport, the potential to spread invasive or noxious weeds would not be limited to the SMP Project's area of disturbance.

Noxious weed and invasive species lists have been developed for Alabama, Georgia, and Florida. The Alabama Department of Agriculture and Industries Administrative Code, Chapter 80-10-14 lists noxious or invasive weeds species that must be controlled within the state and establishes regulations pertaining to these species. The GADNR utilizes a list of invasive weeds that was developed by the Georgia Exotic Pest Plant Council. The FFWCC, Invasive Plant Management Section is responsible for controlling invasive aquatic and upland plants within waterways and natural areas in Florida. Through field surveys and evaluation of habitats crossed by the SMP Project, the Applicants have identified several areas where noxious weeds or invasive species are present or are located near the construction right-of-way.

Each Applicant has developed an invasive species management plan (ISMP) to minimize and control the spread of the noxious and invasive species. Some of the management and control measures that would be implemented by each Applicant are discussed below.

- The Applicants would inform and train construction personnel regarding noxious weed and invasive species identification and the protocols to prevent or control the spread of invasive species. EIs would be employed during construction to monitor and provide oversight and implementation of the Applicants' ISMP.

- The Applicants have documented areas that are currently infested with noxious or invasive species during field surveys and would continue to survey for and document the location of noxious and invasive species until construction.

- Vehicles and equipment will be inspected for remnant soils, vegetation, and debris, and would be cleaned of these materials before they are brought to the SMP Project area.

- To prevent the spread of seeds, roots, or other viable plant materials, equipment used in areas containing invasive plant species would be cleaned before moving to an uninfested area.

- The Applicants would ensure that straw or hay bales used for sediment barrier installations or mulch distribution, where appropriate, are certified weed-free and obtained from state-cleared sources.

- Post-construction monitoring of invasive plant species populations and colonization of the right-of-way would be conducted for a minimum of two years. Monitoring reports detailing the success of right-of-way restoration and revegetation measures would identify invasive plant species' colonization locations and densities and the management measures that would be implemented to control the identified populations.

- The Applicants would utilize mechanical treatment or herbicide application to control the spread of invasive species during and after construction. Herbicides would be applied according to manufacturer's printed recommendations and in accordance with applicable agency regulations governing herbicide application. As stated in each Applicant's construction plans, no herbicides or pesticides would be used within 100 feet of waterbodies or wetlands. A qualified contractor would be utilized to determine the appropriate herbicide application method. The Applicants may also consult with landowners, land managing agencies, and local authorities on appropriate treatment methods.

With the implementation of the procedures identified above and in the Applicants' ISMPs, we conclude that the spread of noxious and invasive species should be adequately prevented and controlled.

3.5.6 Fragmentation and Edge Effect

The breaking up of contiguous vegetation cover types into smaller patches results in vegetation fragmentation and forest edges. Forest edges play a crucial role in ecosystem interactions and landscape function, including the distribution of plants and animals, fire spread, vegetation structure, and wildlife habitat. Creation of new forest edge along dense canopy forests could impact microclimate factors such as wind, humidity, and light and could lead to a change in vegetation species composition within the adjacent forest or increase the spread of invasive species. Vegetation along forest edges receive more direct solar radiation during the day, lose more long-wave radiation at night, have lower humidity, and receive less short-wave radiation than areas in the forest interior. Increased solar radiation and wind could desiccate vegetation by increasing evapotranspiration, affect which species survive along the edge (typically favoring shade intolerant species), and impact soil characteristics. Fragmentation and a loss of habitat connectivity could also impact wildlife (see section 3.6.4.1).

The landscape that would be crossed by the proposed SMP Project has already experienced fragmentation in the form of existing roads, other utility rights-of-way, residential and commercial development, and clear cuts. Constructing and operating the SMP Project pipeline facilities would create a new, cleared corridor and new forest edge in areas where the pipelines would not be collocated with existing linear infrastructure or corridors. Temporary construction workspace would also contribute to fragmentation by creating larger open patches within contiguous forested habitats. In areas where the pipeline facilities would be collocated with existing cleared corridors, the SMP Project generally would not increase the amount of edge, but would incrementally widen existing corridors typically by 25 to 50 feet during operation.

To minimize fragmentation effects, the Applicants have collocated approximately 66 percent of the proposed pipeline facilities adjacent to existing cleared rights-of-way to the greatest extent practicable, and would restore shrub and forested habitat within the temporary construction workspace.

Therefore, we conclude that fragmentation effects would be minimized to the greatest extent practicable and would not be significant.

3.5.7 Citrus Impacts

We received comments about the potential for the SMP Project to spread insect parasites, pathogens, or diseases between citrus groves. Diseases that are known to occur within the SMP Project area include citrus canker, citrus black spot, and huanglonbing disease (i.e., citrus greening disease). These diseases and pathogens that transport the diseases could adversely affect crops if SMP Project activities introduce new infestations or contribute to the spread of existing infestations. Trees may be more susceptible to infestation if damaged during clearing activities and/or have soil compacted over their root systems. The spread of insects or disease could result in both short- and long-term effects, such as reduced citrus yields or tree loss.

The USDA and the Florida Department of Agriculture and Consumer Services (FDACS) declared that, as of January 1, 2006, citrus canker cannot be eradicated and initiated the Citrus Health Response Program (CHRP) to keep citrus canker disease and huanglonbing disease at low levels to sustain citrus production, protect uninfected growers, and to deal with future diseases. The CHRP has established a business plan framework for citrus industry to share in the responsibility of protecting the Florida citrus industry.

As indicated in section 3.9.3.2, construction of the FSC Project would impact approximately 223.1 acres of specialty crop, the majority of which consists of citrus crop. The Hillabee Expansion Project and the Sabal Trail Project would not cross areas in citrus crop production. During easement negotiations and restoration monitoring with citrus grove owners, FSC would negotiate appropriate compensation for the loss of production on both a temporary and permanent basis. Additionally, FSC proposes to coordinate with each citrus grove owner to identify participants in the CHRP and would abide by the decontamination and tree and brush disposal procedures in the landowners CHRP. Decontamination procedures for personnel and equipment are required procedures to be carried out by the terms set forth within each CHRP Compliance Agreement under authority of Chapter 581.184 (6), Florida Statutes and Rule Chapter 5B-63, F.A.C. Additionally, prior to departing a citrus grove or citrus production unit, a citrus receiving facility, or a disposal site, all project personnel must inspect vehicles and equipment for citrus plant material and debris and clean all vehicles, equipment, picking sacks, clothing and hand tools free of fruit, limbs, leaves, soil and debris prior to bacterial decontamination. This plant material and debris must be left on the property or be disposed of in accordance with established CHRP procedures. All personnel, vehicles and equipment would be decontaminated by an appropriate sanitizing method in accordance with Approved Decontamination Products & Methods (Schedule 11) of the CHRP. We conclude that FSC's compliance with applicable landowner CHRP procedures would effectively limit the potential spread of citrus diseases.

3.5.8 Pollinator Habitat

On June 20, 2014, President Obama signed a Presidential Memorandum, "Creating a Federal Strategy to Promote the Health of Honey Bees and Other Pollinators." According to the memorandum, "there has been a significant loss of pollinators, including honey bees, native bees, birds, bats, and butterflies, from the environment." The memorandum also states that "given the breadth, severity, and persistence of pollinator losses, it is critical to expand Federal efforts and take new steps to reverse pollinator losses and help restore populations to healthy levels." In response to the President's memorandum, the federal Pollinator Health Task Force published a National Strategy to Promote the Health of Honey Bees and Other Pollinators in May 2015. This strategy established a process to increase and improve pollinator habitat. Constructing the SMP Project would temporarily impact about 10,848.6

acres of pollinator habitat (vegetation). The temporary loss of this habitat would increase the rates of stress, injury, and mortality experienced by honey bees and other pollinators. The Applicants would revegetate both the temporary workspace and permanent rights-of-way immediately after the proposed pipeline facilities are installed with herbaceous and riparian seed mixes in consultation with the NRCS. Once revegetated, the restored workspace and permanent rights-of-way would provide pollinator habitat after the first or second growing season, and may naturally improve pollinator habitat along the project areas. However, to ensure the impacts on pollinator habitat are sufficiently minimized, and consistent with the President's memorandum and subsequent strategy regarding pollinators, **we recommend that:**

- **<u>Prior to construction</u>, the Applicants should each provide a plan describing the feasibility of incorporating plant seeds that support pollinators into the seed mixes used for restoration of construction workspaces. These plans should also describe the Applicants' consultations with the relevant federal and/or state regulatory agencies.**

3.5.9 Conclusion

Based on our review of the potential impacts on vegetation as described above, we conclude that the primary impact from construction and operation would be on forested lands. However, due to the prevalence of forested habitats within the project area, the ability to collocate the proposed facilities adjacent to existing rights-of-way, and the eventual regrowth of forested areas outside of the permanent right-of-way, we conclude that the permanent conversion of forested lands would not result in a significant impact on the vegetative resources within the proposed project area. In addition, impacts on forested and non-forested vegetation types would be further mitigated through implementation of the Applicants' construction and restoration plans.

3.6 WILDLIFE

3.6.1 General Wildlife Resources

The SMP Project area contains a diversity of wildlife, including large and small mammals, reptiles and amphibians, and birds (raptors, waterfowl, and songbirds). Wildlife is dependent on available habitat which is generally associated with existing vegetation cover types. The vegetation characteristics of each cover type are the most important factors for determining a species presence or absence at a particular site.

As described in sections 3.4, 3.5, and in the sections below, the SMP Project would cross several distinct upland and wetland vegetation cover types. These include upland forest, pine plantation, open upland, forested wetlands, scrub-shrub wetlands, emergent wetlands, agricultural land, and developed land. Table 3.6-1 identifies the terrestrial wildlife species commonly occurring in these vegetation cover types. Open water areas also provide wildlife habitat for several species of waterfowl and wading birds.

TABLE 3.6-1 **Wildlife Species Potentially Occurring Within the Southeast Market Pipelines Project Area**	
Vegetation Cover Types Affected by the Southeast Market Pipelines Project	Wildlife Species
Upland Forest and Pine Plantation	White-tailed deer, opossum, nine-banded armadillo, gray squirrel, stripped skunk, cotton rat, fox squirrel, least shrew, raccoon, coyote, bobcat, gray fox, red fox, eastern cottontail, wild turkey, blue-winged warbler, northern cardinal, bluejay, crow, field sparrow, rufous-sided towhee, loggerhead shrike, eastern kingbird, red-headed woodpecker, hairy woodpecker, eastern bluebird, brown-headed nuthatch, pine warbler, bobwhite, red-tailed hawk, American kestrel, sharp-shinned hawk, eastern box turtle, gopher tortoise, six-lined racerunner, black racer, eastern diamondback rattlesnake, timber rattlesnake, black rat snake, western ribbon snake, oak toad
Open Upland	White-tailed deer, wild turkey, coyote, gray fox, red fox, raccoon, eastern cottontail, southeastern pocket gopher, eastern mole, eastern meadowlark, killdeer, song sparrow, field sparrow, blue-winged warbler, rufous-sided towhee, bobwhite, ground dove, red-tailed hawk, American kestrel, sharp-shinned hawk, gopher tortoise, gopher frog, fence lizard, mole skink, eastern coachwhip, garter snake, southern black racer, pine snake, eastern diamondback rattlesnake
Forested Wetland	White-tailed deer, bobcat, eastern box turtle, raccoon, river otter, beaver, swamp rabbit, cotton mouse, white ibis, glossy ibis, wood duck, prothonotary warbler, wild turkey, crow, lesser siren, mud snake, cottonmouth
Shrub-shrub Wetland	White-tailed deer, bobcat, beaver, swamp rabbit, eastern box turtle, red-winged blackbird, pickerel frog, spring peeper
Emergent Wetland	White-tailed deer, swamp rabbit, star-nosed mole, mink, raccoon, muskrat, beaver, rice rat, least bittern, green heron, common yellowthroat, red-winged blackbird, killdeer, common grackle, bullfrogs, common snapping turtle, eastern box turtle, painted turtle, pickerel frog, leopard frog, pinewoods tree frog, bullfrog, green water snake, mud turtle, cooter, chicken turtle, pygmy rattlesnake
Agriculture Land	White-tailed deer, nine-banded armadillo, eastern cottontail, eastern mole, ground dove, mourning dove, mockingbird, tree swallow, kestrel, black vulture, eastern bluebird, common crow, gopher tortoise
Developed Land	White-tailed deer, raccoon, European starlings, house sparrows, rock pigeons, mourning doves, northern mockingbirds

Upland Forest

The upland forests in the SMP Project area provide moderate to high quality habitat for a variety of mammals, birds, amphibians, reptiles, and invertebrates. The predominance of oak is an important habitat component in the project area. Some mammals rely directly on oak mast as a food source, while amphibians and invertebrates rely on the soil chemistry of an oak forest. Predatory species, such as raptors, red fox, and timber rattlesnake, are also attracted to oak-dominated forests and their edges due to the abundance and diversity of prey species. Tree and shrub layers provide food and cover for birds and larger mammals, such as white-tailed deer. Detritus provides food and cover for invertebrates, amphibians, reptiles, and smaller mammals.

As indicated in table 3.5-1, construction of the SMP Project would impact about 1,670.2 acres of pine plantation. Pine plantations generally provide lower quality wildlife habitat than non-managed forest stands. Habitat quality and wildlife use of pine plantations is influenced by several factors, such as land management practices, the quality and abundance of wildlife habitat adjacent to pine plantations, and the maturity and diversity of vegetation species within the stand. Newly established or recently harvested plantations generally support abundant herbaceous vegetation and provide habitat for species that generally prefer open land habitats. Wildlife species that have exhibited regional population declines, such as the prairie warbler, may benefit from the habitat provided by newly established or recently harvested plantations (Sauer and Droege, 1992). However, land management practices such as herbicide applications and prescribed burns temporarily remove the herbaceous vegetation from the treatment area and limit wildlife use. Conversely, land management practices such as allowing understory vegetation to flourish, cultivating multiple pine species within the plantation, and selectively harvesting pine can increase habitat quality and wildlife use.

Open Upland

This habitat type includes all non-forested vegetation; grasslands, pasture, agricultural land, shrublands, residential areas, and maintained utility rights-of-way. Although row crops generally provide poor to moderate habitat, it often provides forage for a number of species. On landscapes where intensive row crop agriculture is the dominant land use, these strip habitats are extremely important for grassland birds and other wildlife. Hayfields, small grains, fallow and old fields, pastures, idled croplands, and grasslands provide nesting and foraging habitats for grassland birds (USDA, 1999). Utility rights-of-way maintained in early successional communities also provide valuable nesting and foraging habitats for grassland bird species (USDA, 1999). Grasslands and old fields can be utilized as foraging and denning habitat by mammals and also provide nesting and breeding habitat to upland game birds such as pheasants. Shrublands provide sources of food and nesting sites for various birds, as well as cover for invertebrates, reptiles, and amphibians. Open fields and shrublands provide habitat for small mammal species such as mice, rabbits, and voles, which make them prime hunting grounds for predator species such as foxes, coyotes, and raptors.

Wetlands

Forested wetlands provide a diverse assemblage of vegetation and an abundance of food and water sources for wildlife. Mammals such as mink, muskrat, raccoon, and white-tailed deer use these areas for foraging. Many waterfowl and wading birds use forested wetlands adjacent to scrub-shrub and emergent wetlands for nesting and foraging. Forested wetland communities are also important habitats for reptiles and amphibians including the American bullfrog, green frog, and various salamander species.

Scrub-shrub wetlands provide cover for invertebrates, reptiles, and amphibians. Scrub-shrub cover provides habitat for small mammal species such as mice and rabbits, which make them prime hunting grounds for predator species.

Emergent wetlands provide important habitat for waterfowl, muskrats, herons, frogs, and salamanders. Bird species such as red wing blackbird and grey catbird also utilize emergent wetland habitat.

Open water areas include the creeks, streams, and rivers crossed by the SMP Project. In addition to the aquatic resources discussed in section 3.7, the open water cover type provides important foraging and breeding habitat for various terrestrial species including waterfowl, reptiles, amphibians, and some mammals.

Developed Land

Developed lands consist of industrial/commercial areas and road crossings and provide minimal habitat for wildlife species. Wildlife diversity is often limited to species that are adapted to human disturbance, such as paved and landscaped areas.

3.6.2 Sensitive or Managed Wildlife Habitats

Sensitive or managed wildlife habitats such as national wildlife refuges, state parks and forests, wildlife management areas, and reserve program lands are generally established to protect lands and waters that have a high potential for wildlife production, public hunting, trapping, fishing, and other compatible recreational uses. Sensitive or managed wildlife habitats that are crossed by or adjacent to the SMP Project are discussed in section 3.9.

3.6.3 General Impacts and Mitigation

SMP Project impacts on wildlife species is dependent on the species' ability to leave project work areas and successfully utilize adjacent habitats during project construction and restoration. Much of the wildlife that would be displaced by construction would relocate to similar adjacent habitats; however, if there were a lack of adequate territorial space, inter- and intra-specific competition, lower reproductive success, and lower survival success may result. Where similar adjacent habitat is present, displacement impacts would generally be short-term for species that utilize herbaceous habitats and long-term for species that utilize scrub or forested habitats, as restoration of wooded areas would require a greater amount of time. Upon successful restoration, wildlife would be expected to return and colonize habitats that were affected by construction.

Constructing the SMP Project may result in mortality of less mobile animals such as small rodents, reptiles, amphibians, and invertebrates which may be unable to escape the immediate construction area, and disruption of bird courting, breeding, or nesting behaviors on and adjacent to construction work areas. These impacts would primarily occur during construction but may also occur during restoration.

Constructing the SMP Project would disturb about 8,004.5 acres of wildlife habitat. The temporary loss of habitat would reduce (protective) cover and foraging habitat in the immediate project area. Changes to wildlife habitat, whether by vegetation removal, conversion of one type to another, or degradation, also impact wildlife populations. The degree of impact would depend on the type and quantity of habitat affected and the rate at which vegetation regenerates after construction. Habitat that is converted to an aboveground facility, is maintained along the 50-foot-wide permanent pipeline right-of-way, or is permanently improved by the construction of access roads would be permanently affected.

Based on our restoration monitoring efforts along previous pipeline rights-of-way, we have found that wetland and upland herbaceous open land cover types typically restore to a preconstruction structural condition in a relatively short time (i.e., 1 to 2 years and 3 to 5 years, respectively). Impacts on species that utilize agricultural land would be minor and temporary as these areas are regularly disturbed and would be replanted during the next growing season. The effect to forest-dwelling wildlife species would be greater because forest habitat would take a comparatively longer time to regenerate and would be prevented from reestablishing along maintained portions of the pipeline rights-of-way. Restoring the temporary construction areas to forest habitats could take 30 years or longer, depending on site-specific conditions such as rainfall, elevation, grazing, and weed introduction. The impacts on shrub-dwelling species would be comparable to impacts on forest-dwelling species due to the lengthy regeneration timeframes of these habitats. The fragmentation and edge effects of maintaining the pipeline rights-of-way are further discussed in the following section.

During pipeline facility installation, there is potential for wildlife and/or livestock to be injured by falling into the open trench. The Applicants propose to consult with livestock owners to determine if temporary fencing should be installed, livestock crossings could be utilized, or alternate feeding arrangements could be utilized during construction. EI's would inspect the trench daily prior to construction commencement for wildlife (or livestock) that may have fallen into the trench. Where wildlife activity is anticipated, the Applicants would install trench ramps at regular intervals to provide a wildlife exit. The Applicants would also place gaps in the temporary trench spoil piles and pipe stringing to allow wildlife to migrate through the construction corridor. Temporary fencing, exit ramps, and migration gaps would all be assessed on a site-specific basis, with the landowner, and would be applied based on the presence or absence of livestock and the amount of wildlife activity in a given area.

3.6.3.1 Habitat Fragmentation and Edge Effect

Fragmenting contiguous wildlife habitats into smaller units could alter wildlife habitat. Many wildlife species require large, undisturbed habitats. When these habitats are affected, wildlife may be subject to increased predation, parasitism, or inter-specific competition; reduced pairing, nesting and reproductive success; inhibited migration, dispersal, and foraging; and expansion of non-native vegetation.

Fragmentation generally affects birds by creating dispersal barriers, resulting in smaller suitable microhabitats, smaller population sizes, and edge effects (Degraaf and Healy, 1990). Edge effects can cause interactions between birds that nest in the interior of forests and species that inhabit surrounding landscapes, typically lowering the reproductive success of the interior species. Other evidence suggests that certain mammals, amphibians, reptiles, and plants are also adversely affected by forest fragmentation. Species that require large tracts of unbroken forest land may be forced to seek suitable habitat elsewhere. Less mobile species, such as reptiles and amphibians, could experience greater impacts from habitat fragmentation, as they are less mobile and less likely to relocate to more suitable habitat. The loss of forest habitat, expansion of existing corridors, and the creation of open early successional and induced edge habitats could decrease the quality of habitat for forest interior wildlife species in a corridor much wider than the actual cleared right-of-way. The distance an edge effect extends into a woodland is variable, but most studies point to at least 300 feet (Rodewald, 2001; Jones, et al., 2000; Ontario Ministry of Natural Resources, 2000; Robbins, 1988; Rosenberg, et al., 1999). Edge effects within this distance could include a change in available habitat for some species due to an increase in light and temperature levels on the forest floor and the subsequent reduction in soil moisture; thereby resulting in habitat that would no longer be suitable for species that require these specific habitat conditions, such as salamanders and amphibians. An alteration of habitat could affect the fitness of some species and increase competition both within and between species, possibly resulting in an overall change to the structure of the forest community.

Potential positive impacts from creating or widening utility rights-of-way would include increased diversity and density of bird species, increased access to a variety of food resources, and increased ground cover, which would favor ground-nesting species (Rosenberg and Raphael, 1986). The close proximity of cover and forage areas at forest edges provides ideal habitat for many bird and game species. For example, bird species diversity in power line corridors through forested vegetation was found to be higher in the corridor than within the adjacent forest (Kroodsma, 1984). Higher levels of flower and fruit production, pollinator, and frugivore densities are often found along the edge.

For the SMP Project, habitat fragmentation would generally occur where the pipeline facilities are not collocated with existing rights-of-way and forested and scrub habitats would be affected. As outlined in section 2.0, the SMP Project pipelines would be collocated with existing, maintained rights-of-way and corridors for 448.9 miles (66 percent) of their total length, which would reduce fragmentation effects. When collocated with existing corridors, it is unlikely that the relatively small widening of existing permanently cleared right-of-way would impede the movement of most wildlife species. Where the proposed facilities would create a new corridor through shrub and forested habitats, wildlife composition would shift from those species favoring shrub and forest habitat to those favoring edge habitat or open areas.

As discussed in section 3.5.6, to adequately minimize fragmentation impacts and restore the construction right-of-way, the Applicants would restore the construction right-of-way according to their respective construction and restoration plans, which includes reseeding measures using site-specific seed mixtures recommended by local seeding authorities, augmented by recommendations from the FWS, land-managing agency, and/or landowner to enhance wildlife habitat. Additionally, the Applicants would

monitor the pipeline rights-of-way for at least two years following initial seeding or until FERC and other permit restoration criteria is achieved. With the Applicants' ability to collocate the majority of the proposed facilities and the commitment to implement and adhere to the measures outlined in the Applicants' respective construction and restoration plans and other permit requirements, we conclude that constructing and operating the SMP Project would adequately minimize habitat fragmentation and edge effect impacts.

3.6.3.2 Game Species and Game Harvesting

Certain wildlife species, as well as other wildlife furbearers and migratory birds, are important game animals in the SMP Project area. They include the white-tailed deer, bobcat, gray squirrel, raccoon, cottontail rabbit, opossum, wild turkey, bobwhite, mourning dove, and various waterfowl (ducks and geese). The SMP Project's potential impacts on game species would be similar to those discussed above for general wildlife species. Game species would be subject to temporary displacement and habitat loss until restoration is complete and native vegetation is reestablished. However, if adjacent habitats are at or near carrying capacity, displacement of or stress on game species could cause reduction in wildlife populations. Permanent habitat impacts would occur where the pipeline rights-of-way are maintained, aboveground facilities are constructed, and where fragmentation occurs. In most instances, suitable adjacent habitat would be available for wildlife species until grasses and woody vegetation are reestablished. Forage vegetation would be expected to recolonize quickly. Following construction, game species would utilize the newly established right-of-way for foraging and travel. Restored pipeline rights-of-way generally provide an opportunity for developing high-quality feeding areas for game species, especially if noxious weeds are controlled and native forage is seeded.

Construction activities that coincide with hunting seasons (which vary in the SMP Project area depending on species and location) may impact the hunters' experience and success in the project area by temporarily restricting access to hunting areas and temporarily affecting the spatial distribution of game species. Construction-related disturbance likely would displace game species from adjacent habitats. In general, game species would be expected to return to habitats they vacated after construction and restoration efforts are completed, and success rates would likely be similar to preconstruction success rates.

The new pipeline right-of-way could increase access to remote or previously inaccessible hunting areas, which could result in increased hunting success. In addition, game species that use a cleared right-of-way could be more likely harvested. Increased public recreation along cleared rights-of-way in the hunting season, especially near crossings of existing access points, has been documented elsewhere (Crabtree, 1984). Increased public access along the new pipeline right-of-way could increase poaching of game and non-game wildlife. This impact would be greater on smaller game species because they typically have smaller home ranges and movement areas than larger species and could experience greater population impacts from habitat loss and fragmentation.

3.6.3.3 Noise

Noise could impact wildlife during all phases of the project. Certain species rely on hearing for courtship and mating, prey location, predator detection, and/or homing. These life functions could be affected by SMP Project construction and operational noise.

Research has demonstrated various wildlife reactions to noise from traffic, airplanes, sonic booms, helicopters, military activities, and blasting; however, specific noise studies from pipeline construction have not been conducted. Studies show that some species avoid roadways due to noise from a few meters to over 3 kilometers in distance. These species appear to be most sensitive during the

breeding season. Conversely, the abundance of small mammals and birds (e.g., starlings, house sparrows, song sparrows, red-winged blackbirds) increased closer to the roadway, possibly due to increased availability of prey species such as insects (Federal Highway Administration, 2004). Construction-related sounds may have an adverse impact on raptors and bird species during nesting and breeding. These impacts occur when noise levels substantially exceed ambient conditions that existed prior to a project (i.e., by 20 to 25 dB, as experienced by the animal) and/or when the total sound level exceeds 90 dB. Such impacts could result in nest abandonment, egg failure, reduced juvenile growth and survival, or malnutrition or starvation of the young. During construction, these impacts are generally related to areas immediately adjacent to the construction right-of-way, but can extend to greater distances for activities such as blasting.

Noise generated from SMP Project construction would result from heavy equipment and machinery use. Most construction activities would be limited to daytime hours, with the exception of a limited number of 24-hour activities, such as water pump operation, road bores, and HDD installations. Construction is anticipated to occur throughout the year and would generally last 6 to 12 weeks at any given location. Noise levels along the construction right-of-way are expected to vary depending on the phase of work, number of locations of operating equipment, distance from noise receptors, and intervening topography. The worst-case noise level for the construction is estimated at 94 dBA at 50 feet from the SMP Project work area (see section 3.12.2.2).

The proposed compressor stations would generate noise on a continuous basis once in operation. The noise impacts associated with the compressor stations would be limited to the general vicinity of the facilities; however, certain operations, such as blow-downs, would generate infrequent, but high noise levels that would extend for a greater distance from the compressor stations. Noise emissions associated with compressor stations are described in section 3.12.2.2. While compressor station noise could affect birds in the area, we expect that in subsequent years, birds and other wildlife would either be habituated to the noise source, or would move into similar available habitat further from the noise source. This, in turn, could lead to increased competition for preferred habitats, depending on the amount of habitat available.

During the operation of the pipeline, noise emissions also would be generated during monitoring and maintenance activities, such as vegetation clearing on the permanent right-of-way, or during ground or air surveillance of the pipeline, as required by regulations. The Applicants would conduct regularly scheduled overflights, and overflights after significant rain events, of the SMP Project rights-of-way at roughly 1,000 feet altitude, which could cause startle effects in wildlife in proximity to the pipeline; however, these activities would be infrequent and short-term in duration.

Overall, with the Applicants' commitment to implement the mitigation measures described above, we conclude that noise impacts on wildlife would be spatially localized, temporary, and of short duration, and that noise impacts from construction and operation would not represent a significant impact on local wildlife.

3.6.3.4 Noxious and Invasive Species

Short- or long-term impacts on wildlife habitat could occur if pipeline construction spreads noxious weeds and other invasive species (see section 3.4.6 for a discussion regarding noxious weed impacts on vegetation). Noxious weeds can outcompete native vegetation and displace native species by spreading rapidly and co-opting resources (i.e., nutrients, water, and sunlight) that can eventually lead to a weed-dominated monoculture. Such transformed habitat can be unsuitable to former wildlife inhabitants. Often, as habitat quality degenerates, wildlife diversity declines. For example, kudzu, Chinese privet, and hydrilla can form dense monocultures that inhibit native vegetation from flourishing, cause a decrease in species diversity, limit water flow and wildlife access to water, and in some instances make waterfowl

nesting areas unsuitable. For additional information about noxious and invasive plants, see section 3.5.5; vegetation pathogens, see section 3.5.7; and invasive aquatic species, see section 3.4.2.

The Applicants have developed plans specifically to prevent the introduction or spread of noxious or invasive species. We have reviewed these plans and find them acceptable. Therefore, we conclude that wildlife impacts due to invasive species would not be significant.

3.6.4 Migratory Birds

Migratory birds are protected under the MBTA (16 U.S.C. 703-711). The MBTA, as amended, prohibits the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, or nests unless authorized under a FWS permit. Bald and Golden Eagles are additionally protected under the BGEPA (16 U.S.C. 668-668d). Executive Order 13186 (66 Federal Register 3853) directs federal agencies to identify where unintentional take is likely to have a measurable negative effect on migratory bird populations and to avoid or minimize adverse impacts on migratory birds through enhanced collaboration with the FWS. The Executive Order states that emphasis should be placed on species of concern, priority habitats, and key risk factors, and that particular focus should be given to addressing population-level impacts.

On March 30, 2011, the FWS and the Commission entered into a Memorandum of Understanding that focuses on avoiding or minimizing adverse impacts on migratory birds and strengthening migratory bird conservation through enhanced collaboration between the two agencies. This voluntary agreement does not waive legal requirements under the MBTA, BGEPA, ESA, Federal Power Act, NGA, or any other statutes and does not authorize the take of migratory birds.

The 1988 amendment to the Fish and Wildlife Conservation Act mandates that the FWS "identify species, subspecies, and populations of all migratory nongame birds that, without additional conservation actions, are likely to become candidates for listing under the Endangered Species Act of 1973." As a result of this mandate, the FWS created the Birds of Conservation Concern (BCC) list (FWS, 2008). The goal of the BCC list is to prevent or remove the need for additional ESA bird listings by implementing proactive management and conservation actions and coordinating consultations in accordance with Executive Order 13186. As outlined in table 3.6.2-1, a total of 20 BCC species within FWS Region 4 are known to breed within the SMP Project area.

A variety of migratory birds, including forest-interior birds, birds of conservation concern, and waterfowl use or could use the wildlife habitats affected by the SMP Project. These birds use these habitats for resting (stopover), sheltering, foraging, breeding, and nesting.

TABLE 3.6.2-1

Birds of Conservation Concern Potentially Occurring Within the Southeast Market Pipelines Project Area [a]

Bird Species	Potential Breeding Potential			Preferred Habitat
	Alabama [b]	Georgia [c]	Florida [d]	
American Kestrel	Confirmed	Possible	Confirmed	Very open pine forest; manmade cavities; woodpecker holes. Breeds/nests from March to August.
Bachman's Sparrow	Possible	Probable	Probable	Historically, open pine forests maintained by frequent fires; now tolerates treeless areas or early stages of regenerating clearcuts. Breeds/nests from March to September.
Bald Eagle	Confirmed	Confirmed	Confirmed	Breeds in forested areas near large bodies of water. Breeds/nests from October 1 to May 15.
Blue-winged Warbler	Probable	None	None	Breeds at forest and field edges, often shaded by large trees. Breeds/nests from April to July.
Brown-headed Nuthatch	Confirmed	Confirmed	Confirmed	Open, mature pine forests with standing snags. Breeds/nests from February to June.
Chuck-will's- widow	Confirmed	Confirmed	Confirmed	Ground nesting in coniferous, deciduous, or mixed forest, often at forest edges. Breeds/nests from March to June.
Kentucky Warbler	Probable	Confirmed	Possible	Ground nest in moist, deciduous woodland thickets, sometimes along streams. Breeds/nests from May to July.
Least Bittern	Probable	Possible	Confirmed	Freshwater or brackish marshes with tall emergent vegetation. Reed nesters. Breeds/nests from April to August.
Limpkin	None	None	Confirmed	Open freshwater marshes, swamp forests, and shores of rivers, lakes, and ponds. Breeds/nests from January to June.
Loggerhead Shrike	Confirmed	Confirmed	Confirmed	Open country with scattered trees and shrubs, savanna, and, occasionally, open woodland; often perches on poles, wires or fenceposts. Breeds/nests from March to July.
Painted Bunting	Possible	None	None	Brushy areas surrounded by open, overgrown fields; semi-open areas. Breeds/nests from March to August.
Prairie Warbler	Confirmed	Possible	Possible	Disturbed areas reverting to young trees and brush; shrubby woodland edges. Breeds/nests from April to August.
Prothonotary Warbler	Probable	Probable	Confirmed	Forested wetlands. Characteristic tree species include willows, sweet gum, willow oak, black gum, tupelo, bald cypress, elms, and river birch. Breeds/nests from March to August.
Red-headed Woodpecker	Confirmed	Confirmed	Confirmed	Old trees in open areas. Breeds/nests from February to September.
Short-tailed Hawk	None	None	Possible	Nests in tops of cypress, pine, or other trees, or in top of mangroves; may be in dense or open stands of tall trees in either flooded or upland locations, in tall straight trees near edge of, or at small clearings in, woodlands, or near the tops of trees taller than the surrounding canopy. Breeds/nests from February to July.
Smooth-billed Ani	None	None	Possible	Open fields and forest clearings within dense thorny bushes or trees. Breeds/nests from March to October.
Swainson's Warbler	Probable	Possible	None	Scrub thickets along rivers and creeks; sometimes deep within pine plantations. Prefers nearby forest gaps with shrubby and viney thickets. Breeds/nests from April to September.
Swallow-tailed Kite	None	Possible	Probable	Forested regions, often bottomland, or riverine forest, also open pine woodland. Breeds/nests from March to June.
Wood Thrush	Confirmed	Probable	None	Heavy deciduous or mixed forested areas, including riparian or wetlands. Breeds/nests from April to August.
Worm-eating Warbler	Possible	Possible	None	Well-drained upland deciduous forests with understory patches of mountain laurel or other shrubs, drier portions of stream swamps with an understory of mountain laurel, deciduous woods near streams; almost always associated with hillsides. Breeds/nests from May to July.

TABLE 3.6.2-1 (cont'd)

Birds of Conservation Concern Potentially Occurring Within the Southeast Market Pipelines Project Area [a]

Bird Species	Potential Breeding Potential			Preferred Habitat
	Alabama [b]	Georgia [c]	Florida [d]	

[a] Based on the FWS Region 4 (Southeast Region) mainland BCC 2008 List.

[b] Based on Alabama Breeding Bird Atlas 2000-2006 (Alabama Breeding Bird Atlas 2000-2006 Homepage, 22 January 2009, T. M. Haggerty (Editor), Alabama Ornithological Society).

[c] The Breeding Bird Atlas of Georgia, 2010, Edited by Todd M. Schneider, Giff Beaton, Timothy S. Keyes, and Nathan A. Klaus, Published by the University of Georgia Press.

[d] Based on the Florida Breeding Bird Surveys results 1986-1991 and 2011-2016 (in progress); The Breeding Bird Atlas Explorer (online resource). 2014. U.S. Geological Survey Patuxent Wildlife Research Center; and Kale, H.W., II, B. Pranty, B.M. Stith, and C.W. Biggs. 1992. An atlas of Florida's breeding birds. Final report Tallahassee, Florida: Florida Game and Fresh Water Fish Commission.

The SMP Project's construction schedule would overlap with the migratory bird nesting season (generally between February and August). The temporary loss of approximately 2,686.5 acres of upland forest and 610.4 acres of forested wetlands associated with pipeline and aboveground facility construction would present a long-term impact for migratory birds that depend on forests. Vegetation clearing and other construction activities could affect egg and young survival. Bird displacement could impact bird migration, nesting, foraging, and mating behaviors. Behavior changes could increase the amount of stress, injury, and mortality experienced by migratory birds. Construction would also reduce the amount of habitat available for foraging and predator protection and would temporarily displace birds into adjacent habitats, which could increase the competition for food and other resources. This in turn could increase stress, susceptibility to predation, and negatively impact reproductive success.

Additionally, increased human presence and noise from construction activities could disturb actively nesting birds. Impacts would not be significant for non-nesting birds, as these individuals would temporarily relocate to avoid construction activities. However, construction activity near active nests during incubation or brood rearing could result in nest abandonment; overheating, chilling, or desiccation of unattended eggs or young causing nestling mortality; premature fledging; and/or ejection of eggs or young from the nest.

Migratory birds, including BCC-listed birds, could also be affected during project operation, which would permanently convert 1,028.6 acres of upland forest and 228.3 acres of forested wetland to an herbaceous state. The reduction in forest habitat could result in increased competition, parasitic bird species, edge effects (as previously discussed in section 2.3.2), and fragmentation resulting from right-of-way maintenance activities.

To address FWS concerns about migratory birds, the Applicants met with the FWS in 2014 to discuss potential migratory bird habitat in the SMP Project area and developed mitigation measures to avoid or adequately minimize impacts on migratory birds. As a result of these discussions, the Applicants cooperatively developed a Migratory Bird Conservation Plan, which has been reviewed and approved by the FWS. The Applicants have committed to implementing the following measures to protect migratory bird species:

- routing project facilities to avoid sensitive resources where possible;
- maximizing the use of existing pipeline and utility rights-of-way;
- limiting the construction and operational right-of-way widths to the minimum necessary;
- conducting mitigation for effects on sensitive resources (e.g., wetlands) through agency permit conditions;
- adhering to the measures outlined in the Applicants' construction and restoration plans; and
- limiting routine right-of-way maintenance clearing and prohibiting clearing during the migratory bird nesting season (April 15 to August 1).

Impacts on non-special status bird species (which do not have significantly reduced populations) would not result in long-term or significant population-level effect, given the stability of local populations and the abundance of available habitat outside the proposed right-of-way and the linear nature of the SMP Project over a large geographic range. While the project would not result in population-level impacts on migratory bird species, it is acknowledged that pipeline construction during the migratory bird breeding

season could impact individual birds and/or nests, and have a greater impact on BCC species due to their limited populations in the area. However, with the implementation of the measures outlined above, we conclude that constructing and operating the SMP Project would not result in population-level impacts or significant measureable negative impacts on birds of conservation concern or migratory birds.

3.6.5 Conclusion

Overall, constructing and operating the SMP Project is not expected to significantly affect wildlife as a significant amount of similar adjacent habitat is available for use. The Applicants would minimize wildlife and habitat impacts by implementing their construction and restoration plans, routing the pipeline to minimize impacts on sensitive areas, collocating the pipeline with other rights-of-way where feasible, and reducing the construction right-of-way through wetlands. Implementing the Migratory Bird Conservation Plan would further minimize impacts on bird species.

3.7 FISHERIES AND AQUATIC RESOURCES

3.7.1 Fisheries

As described in section 3.3.2, constructing and operating the SMP Project would require 548 waterbody crossings, many of which support fisheries and aquatic habitat. Fisheries and aquatic habitats are typically characterized by water temperature (warmwater or coldwater), salinity (freshwater, marine, or estuarine), types of fishing uses (commercial or recreational), and utilization by open water marine fishes that require freshwater upstream areas to spawn (anadromous species) or freshwater species that migrate to marine waters for reproduction (catadromous species). All of the waterbodies crossed by the SMP Project are classified as warmwater fisheries, which generally support fish able to tolerate water temperatures above 80 degrees Fahrenheit (°F). Fish species commonly found in the waterbodies crossed by the project are listed in table 3.7-1.

TABLE 3.7-1

Typical Fish Species within the Southeast Market Pipelines Project Area

Hillabee Expansion Project
Rainbow trout, largemouth bass, shoal bass, smallmouth bass, redeye bass, spotted bass, rock bass, shadow bass, white bass, yellow bass, hybrid striped bass, white crappie, black crappie, flier, warmouth, redbreast sunfish, bluegill, longear sunfish, bream, redfin pickerel, chain pickerel, walleye, and yellow perch
Sabal Trail Project
Spotted gar, blue catfish, channel catfish, flathead catfish, crappie, largmouth bass, spotted bass, yellow bass, shoal bass, white bass, mosquitofish, green sunfish, bluegill, and redbreast sunfish
Florida Southeast Connection Project
White bullhead, yellow bullhead, brown bullhead, bowfin, pirate perch, oscar, silver perch, blackfin pacu, grass carp, common carp, walking catfish, suckermouth catfish, channel catfish, Southern sailfin catfish, vermiculated sailfin catfish, Eastern gizzard shad, threadfin shad, Everglades pygmy sunfish, Okefenokee pygmy sunfish, redbreast sunfish, warmouth, bluegill, dollar sunfish, redear sunfish, spotted sunfish, lake chubsucker, grass pickerel, chain pickerel, swamp darter, golden topminnow, Seminole killifish, Western mosquitofish, least killifish, brown hoplo, flagfish, longnose gar, Florida gar, bluefin killifish, largemouth bass, Japanese weatherfish, white bass, rockfish, golden shiner, taillight shiner, pugnose minnow, blue tilapia, Nile tilapia, pirapatinga, sailfin molly, spotted tilapia, redbelly tilapia, hogchoker, and green swordtail

The NMFS does not manage any waterbodies that would be crossed by the SMP Project, nor do the crossed waterbodies support essential fish habitat as defined under the Magnuson-Stevens Fishery Conservation and Management Act (Public Law 94-265 as amended through January 12, 2007). In addition, no commercial, saltwater marine, or estuarine fisheries would be affected by the SMP Project.

3.7.2 General Impacts and Mitigation

Constructing and operating the SMP Project could result in temporary and permanent impacts on fisheries and aquatic resources. Sedimentation and turbidity, alteration or removal of instream and stream bank cover, stream bank erosion, introduction of water pollutants, water depletions, and entrainment of small fishes during water withdrawals resulting from project activities would increase stress, injury, and mortality of stream biota. The degree of impact on fisheries from construction activities would depend on the waterbody crossing method, the existing conditions at each crossing location, the restoration procedures and mitigation measures employed, and the timing of construction. The discussions below further describe construction impacts on fisheries and aquatic resources and the measures that would be implemented to minimize impacts.

3.7.2.1 Sedimentation and Turbidity

Increased sedimentation and turbidity from in-stream and adjacent construction activities would impact fisheries resources. Sedimentation could smother fish eggs and other benthic biota and alter stream bottom characteristics, such as converting sand, gravel, or rock substrate to silt or mud substrate. These habitat alterations could reduce juvenile fish survival, spawning habitat, and benthic community diversity and health. Fish and other stream biota would be displaced to similar habitat upstream or downstream of the pipeline crossing, which could lead to increased competition for habitat and food sources, which could affect fish survival and health.

Increased turbidity could temporarily reduce dissolved oxygen levels in the water column and reduce respiratory functions in stream biota, which could temporarily displace fish to unaffected stream segments, reduce fish health, or increase fish mortality. Turbid conditions could also reduce the ability for biota to find food sources or avoid prey. The extent of impacts from sedimentation and turbidity would depend on sediment loads, stream flows, stream bank and stream bed composition, sediment particle size, and the duration of the disturbances.

The wet open-cut crossing method would generate the highest amount of sediment and turbidity, but the elevated levels would be short-term and occur over a short distances downstream of the crossing. Furthermore, the warm water species found in these streams are typically resilient to turbid conditions. According to their construction plans, the Applicants would complete all in-stream work in less than 24 hours for minor streams (less than 10 feet across) and less than 48 hours for intermediate streams (between 10 and 100 feet across). Trench spoil would be stored above the banks of waterbodies, and would be protected with erosion control devices that prevent, or significantly reduce, sediment runoff from entering the waterbody.

The dry open-cut crossing methods (e.g., fluming, dam and pump) would further reduce sedimentation and turbidity impacts on fisheries. The HDD method would eliminate sedimentation and turbidity impacts on fisheries, but could release drilling fluid, a naturally-occurring clayey material called bentonite, into a waterbody. The applicants would implement HDD contingency plans to prevent, minimize, or mitigate inadvertent losses of drilling fluid. Overall, the impact of construction on fish and stream biota is expected to be localized and short-term because in-stream conditions and suspended sediment concentrations would return to background condition levels soon after in-stream construction has been completed.

3.7.2.2 Loss of Stream Bank Cover

Stream bank vegetation and structure such as logs, rocks, and undercut banks provide important habitat for fish and stream biota. Open-cut construction through waterbodies would temporarily remove this habitat, which could displace fish and other stream biota to similar habitat upstream or downstream of

the pipeline crossing. Displacement would result in increased competition for habitat and food sources, which could affect fish health and survival.

Once construction is complete, streambeds and banks would be restored to preconstruction conditions to the fullest extent possible. Structure such as rock and gravel would be returned to the stream. Stream bank vegetation is expected to recover over several months to a few years.

3.7.2.3 Fuel and Chemical Spills

An inadvertent release of fuel or equipment related fluids could impact water quality. The chemicals released during spills could have acute fish impacts, such as altered behavior, changes in physiological processes, or changes in food sources. Fish also could also experience greater mortality if a large volume of hazardous liquid is spilled into a waterbody. Furthermore, ingestion of large numbers of contaminated fish could impact fish predators in the food chain.

The Applicants have developed and would implement Spill Plans (see appendix I) which include preventive measures such as personnel training, equipment inspection, and refueling procedures to reduce the likelihood of spills, as well as mitigation measures such as containment and cleanup to minimize potential impacts should a spill occur. Adherence to the Spill Plans would prevent a large spill from occurring near surface waters because construction equipment fueling would be prohibited within 100 feet of the waterbody banks (except for water pumps, which would be placed in secondary containment structures), and hazardous material storage would be prohibited within 100 feet of waterbodies. If a small spill were to occur, adherence to measures in the Spill Plan would decrease the response time for control and cleanup, thus avoiding or minimizing the effects of a spill on aquatic resources. Additionally, the Spill Plans require adequate supplies be available on all construction spreads of suitable absorbent material and any other supplies and equipment necessary for the immediate containment and cleanup of inadvertent spills. Training and lines of communication to facilitate the prevention, response, containment, and cleanup of spills during construction activities also are described in the Spill Plans.

3.7.2.4 Hydrostatic Testing and Water Withdrawals

The Applicants would utilize surface waters for dust control and/or hydrostatic testing of the pipeline (see section 3.3.2). Surface water withdrawals could reduce stream flows and water levels and entrain or impinge stream biota. Hydrostatic test water discharges to surface waters could change water temperature, dissolved oxygen levels, increase turbidity and stream flows, and contribute to stream bank and substrate scour. Additionally, the discharge of hydrostatic test water to different water basins could potentially transfer nuisance exotic organisms between watershed basins. These impacts could reduce fish and biota health or result in injury or mortality.

Water withdrawals impacts would be minimized by adhering to the measures in the Applicants' construction and restoration plans, which prevent water withdrawal from and discharges to exceptional value waters or waters that provide habitat for federally listed threatened and endangered species, unless approved by applicable resource and permitting agencies; screening and positioning water intakes at the water surface to prevent the entrainment of fish and other biota; maintaining adequate flow rates to protect aquatic species; placing water pumps in secondary containment devices to minimize the potential for fuel spills or leaks; regulating discharge rates; and using energy dissipating devices and sediment barriers to prevent erosion, streambed scour, and sedimentation. The Applicants also would be required to obtain and comply with state water withdrawal and discharge permits.

To minimize the potential spread of nuisance exotic organisms between watershed basins, the Applicants propose to discharge hydrostatic test water to upland areas and prevent the discharged water from reaching receiving waters. The discharged water would infiltrate into the ground and any potential

water-dependent exotic organisms would succumb to dry conditions. This procedure would not be required where water is discharged back to the source from which it was obtained.

3.7.2.5 Aboveground Facilities and Access Roads

Construction of aboveground facilities would not cause noticeable fisheries impacts. The Applicants would implement its construction and restoration plans to prevent sediment from entering adjacent waterbodies. Access road use and the placement of temporary or permanent bridges could temporarily impact waterbodies by increasing sedimentation and turbidity, reducing available stream habitat, and limiting fish passage. These impacts would displace fish and other stream biota to similar habitat upstream or downstream of the bridges, which could lead to increased competition for habitat and food sources, which could affect fish survival and health. However, the applicants do not propose to utilize access roads that would cross significant fisheries.

3.7.2.6 Blasting

We received comments that blasting within or adjacent to stream could impact fisheries. As proposed, the Applicants do not anticipate that blasting would be required at any waterbody crossing.

3.7.2.7 Hillabee Expansion Project

The Hillabee Expansion Project would cross 142 waterbodies. Under Alabama Water Quality Standards (Alabama Administrative Code 335-11-.02), all waterbodies in the state are managed for fish and wildlife use. While there are no exceptional waters or special fisheries crossed by the Hillabee Expansion Project, perennial and intermittent streams would support fish and other biota.

3.7.2.8 Sabal Trail Project

The Sabal Trail Project would cross 363 waterbodies. All waterbodies in Alabama are managed for fish and wildlife use. All waterbodies in Georgia are managed under GDNR Rule 391-3-6-.03 as fishing resources. All waterbodies in Florida have been assigned a Florida Class III classification, which requires management for recreation and maintenance of a healthy and well-balanced fish population. In addition to these management goals, eleven waterbodies that would be crossed by the Sabal Trail Project have been given additional state or federal designations, which are summarized in table 3.7.2-1. As stated above, the Applicants would not withdrawal or discharge water into these waters unless approval is granted by state or federal agencies. Additionally, we have determined that constructing and operating the Sabal Trail Project would not adversely affect designated critical habitat for mussels or the Gulf sturgeon, and impacts on state special concern species would not be significant (see section 3.8). Further, the Sabal Trail would be required to comply with state water quality standards, such as the requirements by the FDEP that turbidity levels cannot exceed 29 nephelometric turbidity units or background turbidity levels in Outstanding Florida Waters.

We received comments from the Lake Martin Resource Association that construction of the Sabal Trail Project could impact the waters, fisheries, and recreational uses of Lake Martin and its main tributaries, specifically Hillabee Creek and the Tallapoosa River. As described in section 3.3.2, Sabal Trail would cross Hillabee Creek and the Tallapoosa River using the HDD method; therefore, impacts on the waterbodies and their fisheries, including redeye and shoal bass populations, would be avoided. Transco would cross Hillabee Creek using a dry, open-cut crossing method which would minimize sedimentation and turbidity levels in Hillabee Creek and the Tallapoosa River. By implementing these measures, we do not believe fisheries and recreational uses would be affected.

TABLE 3.7.2-1

Fisheries of Special Concern Crossed by the Southeast Market Pipelines Project

Project/State/Segment	Milepost	County	Waterbody	Special Concern Description
Sabal Trail Project Mainline				
Alabama				
	70.8	Russell	Uchee Creek	Designated critical habitat (mussels)
Georgia				
	86.4	Russell	Chattahoochee River	Georgia Protected River
	91.4	Stewart	Hannahatchee Creek	Georgia High Priority Water
	102.3	Stewart	Hodchodkee Creek	Georgia High Priority Water
	106.8	Stewart	Patula Creek	Georgia High Priority Water, Broadstripe shiner (Georgia-Rare)
	152.3	Dougherty	Cooleewahee Creek	Georgia High Priority Water
	163.1	Dougherty	Flint River	Designated Critical Habitat (mussels), Georgia High Priority Water, Georgia Protected River
	199.2	Colquitt	Ochlockonee River	Georgia High Priority Water
	231.3	Brooks	Withlacoochee River	Georgia High Priority Water
Florida				
	267.4R	Madison	Suwannee River	Designated Critical Habitat (Gulf Sturgeon), Outstanding Florida Waters (Special Water)
	308.3	Suwannee	Santa Fe River	Outstanding Florida Waters (Special Water)
Sabal Trail Project Citrus County Line				
Florida	1.3	Marion	Withlacoochee River	Outstanding Florida Waters (Special Water)
Florida Southeast Connection Project				
Florida	53.3	Osceola	Lake Kissimmee	Recreational and fisheries uses

3.7.2.9 Florida Southeast Connection Project

The FSC Project would cross 43 waterbodies. As stated above, all waterbodies in Florida are managed for recreation and maintenance of a healthy and well-balanced fish population. Lake Kissimmee provides recreational and sport fishing opportunities, along with other smaller perennial waterbodies that would be crossed by the project. No federal or state sensitive species are known to occur within waterbodies that would be crossed by the FSC Project. By implementing the measures described above, including compliance with FDEP's turbidity standards, no significant impacts to fisheries are anticipated.

3.7.3 Conclusion

Based on our review of the potential impacts discussed above, we conclude that constructing and operating the project would not significantly impact fisheries or aquatic resources. As described above, the Applicants have proposed several measures to avoid or minimize impacts on fisheries, and would be required to implement construction, mitigation, and restoration measures required by the USACE or state permitting agencies that would further minimize impacts. Based on our review above, we also conclude that the measures the Applicants would implement would not significantly impact fisheries of special concern, which are more sensitive to the construction impacts or are held to a higher level of value or protection by state agencies.

3.8 SPECIAL STATUS SPECIES

Special status species are afford protection by law, regulation, or policy by state and federal agencies. Special status species generally include federally listed species that are protected under the ESA, species proposed or petitioned for listing under the ESA, are considered as candidates for such listing by the FWS or NMFS, or are species that are state-listed as threatened, endangered, or have been given other state designations.

To assist in compliance with section 7 of the ESA, the Applicants, acting as the FERC's non-federal representative, initiated informal consultation with the FWS regarding federally listed species and designated critical habitat. The Applicants also consulted with state agencies to identify species that are known to occur in the general vicinity of the SMP Project. The Applicants initiated consultation by reviewing the FWS District websites and the Alabama, Georgia, and Florida natural heritage databases to identify which special status species may occur in the project area. Through review of these resources, 102 federally listed species (including proposed, petitioned, or candidate species) and 135 species protected at only the state level could occur in the project area.

The Applicants surveyed the SMP Project area to determine whether special status species habitat would be affected by the project. The survey corridor was generally 300-feet-wide but was expanded in certain areas to accommodate potential variability in the proposed pipeline alignment. Based on special status species habitat preferences and the results of the habitat surveys, the Applicants, FWS, NMFS, and state agencies determined which special status species have the greatest potential to be affected by the SMP Project. The narrowed list of special status species was then used to develop survey requirements and protocols. The survey plans identified which special status species required species-specific surveys, where the surveys should be conducted, and what time of year the surveys should be completed. We have reviewed the survey plans, consulted with the FWS, and concur the survey plans are adequate.

The Applicants completed habitat and species surveys in 2014 and 2015 and filed survey reports which outlined the survey methodologies, locations where surveys were conducted, and the survey results. If a special status species was identified, the location was recorded and information about the species characteristics and habitat was documented. Species-specific surveys remain to be completed on various properties where survey access has been denied. Survey results will be provided when available. Because surveys and our consultations are ongoing, **we recommend that:**

- **the Applicants should not begin construction <u>until</u>:**

  a. all outstanding biological surveys have been completed;

  b. the staff receives comments from the FWS regarding the proposed actions;

  c. the staff completes formal consultation with the FWS; and

  d. the Applicants have received written notification, respectively, from the Director of OEP that construction or use of mitigation may begin.

3.8.1 Federally Listed Threatened and Endangered Species

Federal agencies, in consultation with the FWS and/or NMFS, are required by ESA section 7(a)(2) to ensure that any action authorized, funded, or carried out by the agency would not jeopardize the continued existence of a federally listed threatened or endangered species or species proposed for listing,

or result in the destruction or adverse modification of designated critical habitat. As the lead federal agency, the FERC is responsible for consulting with the FWS and/or NMFS to determine whether any federally listed endangered or threatened species or any of their designated critical habitats are near the proposed action, and to determine the proposed action's potential effects on those species or critical habitats. As stated in section 3.7, none of the waters in the SMP Project area are managed by the NMFS; therefore, consultation with NMFS is not required under the ESA.[6]

For actions involving major construction activities with the potential to affect listed species or critical habitats, the lead federal agency must prepare a Biological Assessment (BA) for those species that may be affected. The lead federal agency must submit its BA to the FWS and, if it is determined that the action may adversely affect a federally listed species, the lead agency must submit a request for formal consultation to comply with section 7 of the ESA. In response, the FWS would issue a Biological Opinion as to whether or not the federal action would likely adversely affect or jeopardize the continued existence of a listed species, or result in the destruction or adverse modification of designated critical habitat. For the SMP Project, we have determined that federally listed species may be adversely affected, and are submitting a BA to the FWS (provided as appendix K of this EIS).

Although proposed, petitioned, and candidate species and proposed critical habitat do not receive federal protection through the ESA, we considered the potential effects on these species and habitats so that section 7 consultation could be facilitated in the event one or more of these species become listed before or during SMP Project construction. Should a federally listed, proposed, petitioned, or candidate species be identified during construction that has not been previously identified during field surveys or assessed through consultation, and project activities could adversely affect the species, the applicants are required to suspend the construction activity and notify the Commission and FWS of the potential affect. The construction activity could not resume until the Commission completes its consultation with the FWS.

Three separate FWS Ecological Services Field Offices are reviewing the SMP Project: the Alabama Field Office is reviewing the Hillabee Expansion Project; the North Florida Field Office is reviewing the Sabal Trail Project; and the Panama City Field Office is reviewing the FSC Project. Our section 7 analysis in the BA is separated by the three SMP Project components to facilitate the FWS's review of the projects.

Table 3.8.1-1 summarizes our determination of effect for federally listed, proposed, petitioned, and candidate species. Our complete federal species analysis and the rationale for our determinations of effect are provided in our BA (appendix K).

[6] Correspondence from NMFS can be found in Appendix E of Sabal Trail's July 7, 2015 supplemental environmental information filing at: https://elibrary.ferc.gov/IDMWS/Doc_Family.asp?document_id=14355066.

TABLE 3.8.1-1

Summary of Effects to Federally Listed Species for the Southeast Market Pipelines Project

Determination of Effect	Hillabee Expansion Project	Sabal Trail Project	Florida Southeast Connection Project
No Effect	Alabama heelsplitter Alabama moccasinshell Coosa moccasinshell Fat three-ridge Georgia pigtoe Heavy pigtoe Orangenacre mucket Ovate clubshell Rayed kidneyshell Southern acornshell Southern clubshell Southern combshell Southern pigtoe Triangular kidneyshell Upland combshell Tulotoma snail Painted rocksnail Round rocksnail Alabama sturgeon Gulf sturgeon Gray bat Indiana bat Northern long-eared bat Red-cockaded woodpecker Wood stork Alabama canebrake pitcher-plant Granite pool sprite/Little amphianthus Kral's water-plantain Mohr's Barbara button Price's potato-bean Tennessee yellow-eyed grass	Ochlockonee moccasinshell Ovate clubshell Southern pigtoe Upland combshell Tulotoma snail Squirrel Chimney Cave Shrimp Indiana bat Northern long-eared bat Everglades snail kite Florida grasshopper sparrow Piping plover Red-cockaded woodpecker American chaffseed Avon park hare-bells Britton's beargrass Canby's dropwort Carter's mustard Clasping warea/Wide-leaf warea Cooley's meadowrue Cooley's waterwillow False poison sumac Florida blazing star Florida bonamia Florida jointweed/wireweed Florida ziziphus Highlands scrub hypericum Lewton's polygala Little amphianthus Okeechobee gourd Papery whitlow-wort Perforate reindeer lichen Pygmy fringe tree Relict trillium Scrub buckwheat Scrub lupine Scrub mint Scrub pigeon-wing Scrub plum Short-leaved rosemary Small's jointweed/Sandlace,	American crocodile Florida grasshopper sparrow Kirtland's warbler Piping plover Red-cockaded woodpecker Avon park hare-bells Britton's beargrass Carter's mustard Clasping warea/Wide-leaf warea Florida blazing star Florida jointweed/wireweed Florida ziziphus Highlands scrub hypericum Lakela's mint Perforate reindeer lichen Pygmy fringe tree Scrub lupine Scrub pigeon-wing Scrub plum Short-leaved rosemary Tiny polygala

TABLE 3.8.1-1 (cont'd)

Summary of Effects to Federally Listed Species for the Southeast Market Pipelines Project

Determination of Effect	Hillabee Expansion Project	Sabal Trail Project	Florida Southeast Connection Project
Not Likely to Adversely Affect	Finelined pocketbook Blue shiner	Fat three-ridge Finelined pocketbook Gulf moccasinshell Oval pigtoe Purple bankclimber Shinyrayed pocketbook Southern Clubshell Gulf sturgeon Frosted flatwoods salamander American alligator Florida panther Crested caracara Wood stork	American alligator Florida bonneted bat Florida panther Crested caracara Everglades snail kite Florida scrub-jay Wood stork
Likely to Adversely Affect		Blue-tailed mole skink Eastern indigo snake Florida sand skink Florida scrub-jay Longspurred mint	Blue-tailed mole skink Eastern indigo snake Florida sand skink Florida bonamia Lewton's polygala Papery whitlow-wort Scrub buckwheat Scrub mint Small's jointweed/Sandlace
Critical Habitat			
Not Likely to Adversely Affect		Fat three-ridge Gulf moccasinshell Oval pigtoe Purple bankclimber Shinyrayed pocketbook Gulf sturgeon	
Proposed, Petitioned, or Candidate Species			
Not Likely to Jeopardize	Alligator snapping turtle Alabama shad Black pine snake Eastern diamondback rattlesnake Northern long-eared bat Georgia rockcress White fringeless orchid	Delicate spike Inflated spike Rayed creekshell Southern elktoe Alabama shad Highlands tiger beetle Striped newt Alligator snapping turtle Eastern diamondback rattlesnake Gopher tortoise Whooping crane Georgia rockcress White fringeless orchid	Striped newt Eastern diamondback rattlesnake Gopher tortoise Red knot Whooping crane

The Applicants propose several measures to minimize impacts on federal species and their habitats, which are discussed throughout our BA. For eight federal species, we determined additional avoidance or conservation measures are necessary to reduce adverse effects that would otherwise occur if the project is constructed, and in part, are basing our determinations of effects on implementation of these measures. Our recommendations regarding these eight federal species are as follows:

To minimize impacts on Florida scrub-jays and occupied Florida scrub-jay habitat, **we recommend that:**

- **Sabal Trail and FSC should avoid construction within occupied Florida scrub-jay habitat <u>between March 1 and June 30</u>, unless additional surveys confirm that this habitat is unoccupied and Sabal Trail or FSC receives written confirmation from the Commission that construction activities can occur within this timeframe.**

To minimize impacts on longspurred mint, **we recommend that:**

- **<u>prior to construction</u>, Sabal Trail should file for the review and written approval by the Director of OEP, results of consultation with the FWS indicating the minimization/avoidance measures that will be used for the longspurred mint, including (in the order listed), opportunities for:**

  a. avoidance of plant locations and associated habitat as feasible, including "necking-in" or reducing the construction footprint;

  b. "temporary" removal of plants and soil profile plugs (which include the A and B horizons) with the intent to replace to original location post construction; and

  c. transplanting and seed banking (only after all other options are considered).

To minimize impacts on six plant species that occur with the proposed FSC Project workspace, **we recommend that:**

- **<u>prior to construction</u>, FSC should file for the review and written approval by the Director of OEP, results of consultation with the FWS indicating the minimization/ avoidance measures that would be used for the Florida bonamia, Lewton's polygala, papery whitlow-wort, scrub buckwheat, scrub mint, and Small's jointweed including (in the order listed), opportunities for:**

  a. avoidance of plant locations and associated habitat as feasible, including "necking-in" or reducing the construction footprint;

  b. "temporary" removal of plants and soil profile plugs (which include the A and B horizons) with the intent to replace to original location post construction; and

  c. transplanting and seed banking (only after all other options are considered).

3.8.2 State Listed Special Status Species

A total of 135 state-listed species (protected at the state level only) were identified by agencies and stakeholders as potentially occurring within the vicinity of the SMP Project. State special status species that would not be affected by the SMP Project are presented in table 3.8.2-1 of appendix D. State special status species that may be affected by the SMP Project are presented in table 3.8.2-2 of appendix D.

Impacts on state special status species may be greater than impacts on other vegetation and wildlife because these species may be more sensitive to disturbance, more specific to a habitat, and less able to move to unaffected suitable habitat which may not be available (or currently exists only in small tracts). Disturbances could therefore have a greater impact on a species' population. Potential impacts that could affect a species' conservation needs or decrease a population's viability include habitat fragmentation, loss, or degradation; decreased breeding or nesting success, increased predation or decreased food sources; and injury or mortality.

Potential impacts and corresponding minimization or mitigation measures are often related to a species' habitat associations. For example, the clearing and removal of scrub could have similar effects to the short-tailed snake, Florida mouse, Bachman's sparrow, and other shrub obligate species. Corresponding measures to minimize impacts on scrub habitat, particularly within high-quality or important habitat, often benefit all scrub associate species. Similarly, measures that are implemented to minimize impacts on freshwater marshes would benefit all species within that habitat association.

The Applicants have proposed measures to reduce habitat and species impacts, and continue to consult with resource agencies to identify and develop additional conservation and mitigation measures to further minimize impacts on state-listed species. State permitting agencies have further opportunity during their permit review and authorization processes to require additional conservation and mitigation measures that would further protect and conserve sensitive species and their habitats according to each agencies' mission and conservation goals. For instance, the FWC, through issuance of its Construction Environmental Resource Permit, has required FSC to complete colonial water bird surveys prior to construction and if found, maintain a minimum distance of 330 feet between the edge of the nesting area and any disturbance activity during the breeding season.

3.8.3 Conclusion

Throughout this EIS, we have recommended additional construction practices, avoidance measures, and mitigation measures where we believe the SMP Project, as proposed, would not adequately support certain species' conservation needs or agency-recommended conservation measures; or where additional habitat data or species-specific surveys are necessary. We note that implementation of these recommendations would minimize impacts on special status species and their habitat associations (e.g., wetlands, waterbodies, sand ridges). Thus, we conclude that project-related impacts on special status and state-listed species would be reduced to levels that would not threaten a species population viability, or contribute to trends toward federal listings.

3.9 LAND USE AND VISUAL RESOURCES

The use of lands crossed by the SMP Project are generally classified into the following categories and definitions:

Forested/Woodland: upland and wetland forests, and pine plantations.

Open Land: utility rights-of-way, open fields, vacant land, herbaceous and scrub-shrub uplands, non-forested lands, emergent wetland, scrub-shrub wetland, golf courses, and municipal land.

Agricultural: active hayfields, cultivated cropland, and specialty crops.

In the Hillabee Expansion Project area, agricultural lands include row crops (corn, cotton, peanuts, and soybeans), sod, poultry, cattle, and vegetable crops such as potatoes, sweet potatoes, and sweet corn, and fruits such as tomatoes and watermelon. Agricultural lands in the Sabal Trail Project area include row crops (corn, wheat, cotton, peanuts, soybeans), sod, hay crops and pasture, poultry, cattle (beef/grazing), and citrus. Agricultural land in the FSC Project area is primarily used for cattle, citrus, commercial sod, ornamental plant production, and horses.

Industrial/Commercial: manufacturing or industrial plants, paved areas, landfills, mines, quarries, electric power or natural gas utility facilities, developed areas, roads, railroads and railroad yards, and commercial or retail facilities.

Residential: existing developed residential areas and planned residential developments. This may include large developments, low, medium, and high density residential neighborhoods, urban/suburban residential, multi-family residences, ethnic villages, and residentially zoned areas that have been developed or short segments of the route at road crossings with homes near the route alignment.

Open Water: ponds, reservoirs, lakes, and streams greater than 100 feet wide and streams visible on aerial photography but less than 100 feet in width.

As summarized in table 3.9-1, constructing the SMP Project would impact approximately 11,436.2 acres, of which approximately 4,143.3 acres would be permanently affected. On a state-by-state basis, constructing and operating the SMP Project would respectively impact 8.2 acres and 0 acres in Mississippi, 2,603 acres and 879.9 acres in Alabama, 2,763.4 acres and 981.5 acres in Georgia, and 6,061.6 acres and 2,281.8 acres in Florida.

The following impacts and mitigation and easement requirements discussions would apply to the SMP Project as a whole. Impacts and mitigation measures that differ from those described below and that are unique to the Hillabee Expansion Project, Sabal Trail Project, and FSC Project area discussed by project in its respective sections below.

TABLE 3.9-1

Summary of Land Use Types Affected by Construction and Operation of the Southeast Market Pipelines Project (in acres)

	Forested/Woodland		Open Land		Agricultural		Industrial/ Commercial		Residential		Open Water		Total	
Project/State/Component	Const. [a]	Op. [b]	Const.	Op.	Const.	Op.	Const.	Op.	Const.	Op.	Const.	Op.	Const.	Op.
Hillabee Expansion Project														
Alabama														
Pipeline Right-of-Way	269.9	92.9	264.2	162.1	9.1	2.9	7.6	3.0	6.1	1.8	3.4	1.7	560.3	264.4
Additional Temporary Workspace	82.7	0.0	83.8	0.0	4.4	0.0	4.5	0.0	0.9	0.0	0.4	0.0	176.7	0.0
Aboveground Facilities	30.2	6.0	80.1	18.9	0.0	0.0	0.0	1.7	0.0	0.0	0.0	0.0	110.3	26.6
Access Roads	4.4	1.6	2.4	1.6	0.0	0.0	55.3	2.6	0.0	0.0	0.0	0.0	62.1	5.8
Pipe/Contractor Yards and Staging Areas	0.0	0.0	55.8	0.0	26.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	82.2	0.0
Alabama Subtotal	387.2	100.5	486.3	182.6	39.9	2.9	67.4	7.3	7.0	1.8	3.8	1.7	991.6	296.8
Mississippi														
Pipe/Contractor Yards	0.0	0.0	8.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.2	0.0
Mississippi Subtotal	0.0	0.0	8.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.2	0.0
Hillabee Expansion Project Subtotal	387.2	99.5	494.5	174.4	39.9	2.9	67.4	5.6	7.0	1.8	3.8	1.7	999.8	296.8
Sabal Trail Project														
Alabama														
Pipeline Right-of-Way	745.2	356.5	236.4	120.8	16.7	8.5	0.0	0.0	19.8	8.9	2.5	1.3	1,020.6	496.0
Additional Temporary Workspace	246.9	0.0	146.1	0.0	7.9	0.0	0.0	0.0	7.4	0.0	0.2	0.0	408.5	0.0
Aboveground Facilities	30.1	6.9	38.4	24.6	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	68.6	31.6
Access Roads	9.8	9.3	55.3	46.2	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	66.0	55.5
Pipe/Contractor Yards and Staging Areas	0.0	0.0	47.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	47.7	0.0
Alabama Subtotal	1,032.0	372.7	523.9	191.6	25.5	8.5	0.0	0.0	27.3	9.0	2.7	1.3	1,611.4	583.1
Georgia														
Pipeline Right-of-Way	1,034.5	488.7	298.0	147.5	532.8	258.5	13.7	4.8	19.2	9.0	4.8	1.9	1,903.0	910.4
Additional Temporary Workspace	243.5	0.0	95.4	0.0	187.7	0.0	8.7	0.0	6.2	0.0	0.5	0.0	542.0	0.0
Aboveground Facilities	28.0	25.9	4.8	4.8	1.6	1.6	0.0	0.0	0.0	0.0	0.0	0.0	34.3	32.3
Access Roads	11.5	4.9	88.9	31.6	10.1	2.0	1.4	0.2	0.7	0.0	0.1	0.1	112.7	38.8
Pipe/Contractor Yards and Staging Areas	13.8	0.0	71.3	0.0	62.1	0.0	24.1	0.0	0.0	0.0	0.0	0.0	171.3	0.0
Georgia Subtotal	1,331.3	519.5	558.4	183.9	794.3	262.1	47.9	5.0	26.1	9.0	5.4	2.0	2,763.4	981.5
Florida														
Pipeline Right-of-Way														
Mainline	1,244.2	585.2	258.5	86.1	1,083.7	526.8	91.2	52.2	16.0	8.4	3.6	1.3	2,697.2	1,260.0

TABLE 3.9-1 (cont'd)

Summary of Land Use Types Affected by Construction and Operation of the Southeast Market Pipelines Project (in acres)

	Forested/Woodland		Open Land		Agricultural		Industrial/ Commercial		Residential		Open Water		Total	
Project/State/Component	Const. [a]	Op. [b]	Const.	Op.	Const.	Op.	Const.	Op.	Const.	Op.	Const.	Op.	Const.	Op.
Citrus County Line	158.0	81.9	37.3	11.4	23.5	10.7	7.2	2.2	0.9	0.4	0.3	0.0	227.2	106.6
Hunters Creek Line	78.2	33.7	13.1	4.7	27.0	9.7	8.6	2.8	0.2	0.0	1.0	0.6	128.1	51.5
Additional Temporary Workspace	235.5	0.0	75.1	0.0	329.6	0.0	25.5	0.0	5.2	0.0	0.3	0.0	671.2	0.0
Aboveground Facilities	92.4	80.2	7.5	1.8	19.8	19.2	1.7	1.0	0.0	0.0	0.0	0.0	121.4	102.2
Access Roads	47.5	2.0	8.0	0.5	51.7	0.4	41.9	8.0	9.9	0.0	0.1	0.0	159.1	10.9
Pipe/Contractor Yards and Staging Areas	1.8	0.0	0.0	0.0	133.4	0.0	34.1	0.0	0.3	0.0	0.2	0.0	169.8	0.0
Florida Subtotal	1,857.6	783.0	399.5	104.5	1,668.7	566.8	210.2	66.2	32.5	8.8	5.5	1.9	4,174.0	1,531.2
Sabal Trail Project Subtotal	4,220.9	1,675.2	1,481.8	480.0	2,488.5	837.4	258.1	71.2	85.9	26.8	13.6	5.2	8,548.8	3,095.8
Florida Southeast Connection Project														
Florida														
Pipeline Right-of-Way	270.1	139.7	820.6	452.8	238.6	120.8	24.9	13.4	28.6	15.8	2.7	1.1	1,385.5	743.6
Additional Temporary Workspace	27.8	0.0	82.3	0.0	46.8	0.0	4.4	0.0	6.0	0.0	0.3	0.0	167.6	0.0
Aboveground Facilities	0.0	0.0	0.4	0.4	0.1	0.1	0.9	0.9	0.3	0.3	0.0	0.0	1.7	1.7
Access Roads	1.9	0.2	36.0	1.2	6.5	0.2	83.3	3.7	0.8	0.1	0.0	0.0	128.5	5.3
Pipe/Contractor Yards and Staging Areas	33.0	0.0	142.3	0.0	0.0	0.0	24.4	0.0	4.6	0.0	0.0	0.0	204.2	0.0
Florida Southeast Connection Project Subtotal	332.8	139.9	1,081.6	454.4	292.0	121.1	137.9	18.0	40.3	16.2	3.0	1.1	1,887.6	750.7
Mississippi Impacts	0.0	0.0	8.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.2	0.0
Alabama Impacts	1,419.2	472.2	1,010.2	366.0	65.4	11.4	67.4	5.6	34.3	10.8	6.5	3.0	2,603.0	879.9
Georgia Impacts	1,331.3	519.5	558.4	183.9	794.3	262.1	47.9	5.0	26.1	9.0	5.4	2.0	2,763.4	981.5
Florida Impacts	2,190.4	922.9	1,481.1	558.9	1,960.7	687.9	348.1	84.2	72.8	25.0	8.5	3.0	6,061.6	2,281.9
Southeast Market Pipelines Project Total	4,940.9	1,914.6	3,057.9	1,108.8	2,820.4	961.4	463.4	94.8	133.2	44.8	20.4	8.0	11,436.2	4,143.3

[a] Project-specific construction right-of-way widths are discussed in the project-specific sections below. Note that impacts presented are based on typical construction right-of-way widths (100, 110, 120, etc.) for the entire length of the pipeline discussed by project below. However, the construction right-of-way would be reduced at certain locations (e.g., wetlands), some portions of the right-of-way would overlap with existing rights-of-way that have been previously disturbed, and/or the HDD method would be used to avoid direct impacts on land use.

[b] Project-specific operational right-of-way widths are discussed in the project-specific sections below. Note that impacts presented are based on a typical operational right-of-way width of 50 feet for the entire length of the pipeline discussed by project below. However, most vegetation types would be allowed to revert to pre-construction conditions, limited vegetation maintenance would be allowed in wetlands, some portions of the right-of-way would overlap with existing rights-of-way that are maintained, and/or the HDD method would be used to avoid direct impacts on land use.

Note: Due to rounding, some addends may be off by 0.1 place.

General Impacts and Mitigation

Constructing and operating the SMP Project would result in temporary to permanent land use impacts. The effects of pipeline construction on open, agricultural, industrial/commercial, and residential land would be expected to be minor and temporary to short term. Temporary to short-term impacts would result from clearing of existing vegetation, standing or row crops, and landscaping; ground disturbance from grading, creating the pipeline trench, backfilling the pipeline trench; and increased equipment traffic associated with construction activities. Impacts would include temporary loss of land use, disturbance of the visual landscape, increased noise and dust, and increased local traffic congestion. Landowner access to homes, fields, storage areas, and other infrastructure would be maintained. Temporary fencing would be used in affected pasture areas, with alternative feeding or boarding arrangements made if necessary. These impacts would be confined primarily to the duration of construction (temporary) and would end after the right-of-way is restored and revegetated and the temporary work areas are relinquished to the landowner. Following construction, the land for the temporary construction right-of-way, ATWS, temporary access roads, and pipe/contractor yards would be restored and allowed to revert to prior uses, with the exception of forest areas.

In agricultural areas, short-term impacts would include the disruption of farming operations for the growing season during the year of construction and interruptions to irrigation systems affected by pipeline construction activities. If lines are damaged during construction, temporary repairs would be conducted immediately and permanent repairs would be completed following construction. Specialty crops within agricultural areas are discussed as applicable by project in the sections below.

In industrial/commercial land, construction would be timed to avoid peak use periods, access to businesses would be maintained, and affected commercial/industrial landowners would be coordinated with by the applicant on an individual basis.

A detailed description of impacts on and mitigation for residences is discussed by individual project below. Construction methods proposed for residential areas are described in section 2.3.2.

Comments were received regarding the potential for disruption of flow patterns in canals and ditches that homeowners rely on to carry water away from their residences. The Applicants would restore any affected waterbodies to preconstruction contours and ensure that flow is maintained. Therefore, we conclude that flow patterns would not be permanently disrupted by project construction.

A detailed description of impacts on and mitigation for open water is discussed by project in section 3.3.2. Construction methods proposed for waterbodies are described in section 2.3.2.

The effect of the SMP Project would be greatest in forest lands (which includes forested wetlands) and in silvicultural lands consisting of upland and wetland pine plantations. Impacts on forest land would include the removal of trees within the construction right-of-way and at ATWS, aboveground facility sites, and new or modified access roads. Post-construction maintenance of the permanent right-of-way would prevent the reestablishment of trees, including orchards and tree crops. Table 3.9-1 lists the amount of tree clearing required for construction and operating the SMP Project, which is dependent on the width of the construction and permanent rights-of-way and the degree to which these areas overlap other existing cleared rights-of-way. Following construction, forest land located outside of the permanent right-of-way, aboveground facility sites, and new permanent access roads would be allowed to regrow. It is expected that the reestablishment of forest areas would take 30 years or longer depending on the age of trees removed and the species of trees that are recruited or replanted. Compensation for tree loss would be determined during easement negotiations between the applicant and the landowner. Impacts on planted pine plantations are discussed in section 3.5.3.

Construction and operation of aboveground facilities and new access roads would result in minor to moderate and permanent impacts on land uses as a result of converting the area to a commercial/ industrial use.

Land encumbrances associated with use restrictions on the permanent right-of-way and aboveground facility sites would permanently impact land uses. Landowners would have use of the permanent right-of-way, though permanent fencing and structures such as houses, trailers, garages, tool sheds, poles, guy wires, catch basins, septic tanks and leech fields, and swimming pools would not be permitted above the pipeline. Also, the planting of trees within the permanent right-of-way would not be allowed. The permanent right-of-way would remain accessible for maintenance and inspection, and for emergency response access. Maintenance activities would be conducted in accordance with the respective Applicant's construction and restoration plans (see table 2.3-2).

Easement Requirements

Pipeline operators must obtain easements from landowners to construct and operate natural gas facilities, or acquire the land on which the facilities would be located. An easement agreement between a company and a landowner typically specifies compensation for losses resulting from construction, including losses of non-renewable and other resources, damages to property during construction, and restrictions on existing uses that would not be permitted on the permanent right-of-way after construction. The easement would give the company the right to construct, operate, and maintain the pipeline, and establish a permanent right-of-way. Landowners would be compensated for the use of their land through the easement negotiation process.

If an easement cannot be negotiated with a landowner and the project has been certificated by the FERC, the company may use the right of eminent domain granted to it under Section 7(h) of the NGA and the procedure set forth under the Federal Rules of Civil Procedure (Rule 71A) to obtain the right-of-way and extra workspace areas. The company would still be required to compensate the landowner for the right-of-way and for any damages incurred during construction. However, a court would determine the level of compensation if a Certificate is issued. In either case, the landowner would be compensated for the use of the land. Eminent domain would not apply to lands under federal ownership.

3.9.1 Hillabee Expansion Project

3.9.1.1 General Land Use

Pipeline Facilities

Land use impacts associated with the Hillabee Expansion Project would include the disturbance of existing land uses within the construction right-of-way, including ATWS, during construction and retention of a new permanent right-of-way for operation of the pipeline loops. Section 2.2 describes the pipeline right-of-way land requirements associated with the Hillabee Expansion Project. Table 3.9.1-1 in appendix D lists where the pipeline right-of-way would be collocated with existing rights-of-way.

Table 3.9.1-2 summarizes the acreage of each land use type that would be affected by construction and operation of the pipeline loop facilities for the Hillabee Expansion Project. The remaining area not permanently maintained would be restored per Transco's CBMPP.

TABLE 3.9.1-2

Summary of Land Use Types Affected by Construction and Operation of the Hillabee Expansion Project Pipeline Facilities (in acres) [a]

	Forested/ Woodland		Open Land		Agricultural		Industrial/ Commercial		Residential		Open Water		Total	
Project Component	Const. [b]	Op. [c, d]	Const.	Op.	Const.	Op.	Const.	Op.	Const.	Op.	Const.	Op.	Const.	Op.
Rock Springs Loop														
Pipeline Right-of-Way	45.8	19.4	34.2	21.2	0.4	0.0	0.2	0.1	0.1	0.0	0.3	0.2	80.9	40.9
Additional Temporary Workspace	15.2	0.0	9.1	0.0	0.4	0.0	0.1	0.0	0.0	0.0	0.0	0.0	24.8	0.0
Rock Springs Loop Subtotal	61.0	19.4	43.2	21.2	0.8	0.0	0.3	0.1	0.1	0.0	0.4	0.2	105.8	40.9
Butler Loop														
Pipeline Right-of-Way	37.0	15.7	27.7	14.9	0.6	0.2	0.7	0.3	2.5	1.0	0.4	0.2	68.9	32.4
Additional Temporary Workspace	7.9	0.0	7.0	0.0	0.0	0.0	1.2	0.0	0.2	0.0	0.0	0.0	16.4	0.0
Butler Loop Subtotal	45.0	15.7	34.7	14.9	0.6	0.2	1.9	0.3	2.7	1.0	0.4	0.2	85.2	32.4
Billingsley Loop														
Pipeline Right-of-Way	39.1	18.2	19.8	9.4	0.0	0.0	1.1	0.5	0.0	0.0	0.6	0.4	60.6	28.4
Additional Temporary Workspace	10.4	0.0	11.9	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.1	0.0	22.9	0.0
Billingsley Loop Subtotal	49.5	18.2	31.7	9.4	0.0	0.0	1.6	0.5	0.0	0.0	0.7	0.4	83.5	28.4
Autauga Loop														
Pipeline Right-of-Way	33.2	8.9	52.7	33.4	5.1	1.7	3.4	1.1	0.7	0.2	0.3	0.2	95.4	45.4
Additional Temporary Workspace	10.6	0.0	11.4	0.0	2.6	0.0	1.7	0.0	0.3	0.0	0.0	0.0	26.6	0.0
Autauga Loop Subtotal	43.8	8.9	64.1	33.4	7.7	1.7	5.1	1.1	1.0	0.2	0.3	0.2	121.9	45.4
Verbena Loop														
Pipeline Right-of-Way	26.4	7.1	23.9	16.2	0.1	0.0	0.4	0.2	0.1	0.0	0.2	0.1	51.1	23.6
Additional Temporary Workspace	10.5	0.0	6.2	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	17.0	0.0
Verbena Loop Subtotal	36.9	7.1	30.0	16.2	0.2	0.0	0.5	0.2	0.1	0.0	0.3	0.1	68.0	23.6
Proctor Creek Loop														
Pipeline Right-of-Way	31.0	5.9	37.7	25.5	0.1	0.0	0.7	0.3	0.7	0.4	0.5	0.2	70.7	32.3
Additional Temporary Workspace	10.2	0.0	9.8	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	20.3	0.0
Proctor Creek Loop Subtotal	41.2	5.9	47.5	25.5	0.1	0.0	0.9	0.3	0.7	0.4	0.5	0.2	91.0	32.3
Hissop Loop														
Pipeline Right-of-Way	15.2	3.3	16.8	11.6	1.6	0.3	0.3	0.1	0.2	0.0	0.1	0.1	34.0	15.5
Additional Temporary Workspace	4.9	0.0	10.2	0.0	0.4	0.0	0.2	0.0	0.1	0.0	0.0	0.0	15.8	0.0
Hissop Loop Subtotal	20.1	3.3	27.0	11.6	2.0	0.3	0.4	0.1	0.3	0.0	0.1	0.1	49.8	15.5

TABLE 3.9.1-2 (cont'd)

Summary of Land Use Types Affected by Construction and Operation of the Hillabee Expansion Project Pipeline Facilities (in acres) [a]

	Forested/ Woodland		Open Land		Agricultural		Industrial/ Commercial		Residential		Open Water		Total	
Project Component	Const. [b]	Op. [c, d]	Const.	Op.	Const.	Op.	Const.	Op.	Const.	Op.	Const.	Op.	Const.	Op.
Alexander City Loop														
Pipeline Right-of-Way	42.3	14.4	51.5	29.9	1.3	0.6	1.0	0.3	1.9	0.2	1.0	0.4	98.9	45.8
Additional Temporary Workspace	12.9	0.0	18.2	0.0	0.9	0.0	0.5	0.0	0.3	0.0	0.2	0.0	32.9	0.0
Alexander City Loop Subtotal	55.2	14.4	69.7	29.9	2.2	0.6	1.5	0.3	2.2	0.2	1.1	0.4	131.7 [l]	45.8 [l]
Total	352.6	92.9	348.0	162.1	13.5	2.9	12.1	3.0	7.0	1.8	3.8	1.7	737.0[e]	264.4 [e]

[a] Includes the temporary and permanent right-of-way and additional temporary workspace areas

[b] Assumes a 110- to 120-foot-wide construction right-of-way. However, the construction right-of-way would be reduced to 75 feet in wetlands.

[c] Does not include wetlands or areas where the permanent right-of-way would not be maintained (e.g., HDDs).

[d] Assumes a 25-foot-wide area at most locations where structures would be precluded from being installed within the new permanent, operational right-of-way. This is in addition to the existing permanent right-of-way for the existing Transco pipelines where structures are already precluded from being installed.

[e] Of the total area affected by construction and operation, approximately 307.4 acres and 155.5 acres, respectively, would occur within a previously disturbed, existing maintained/operational easement.

Note: Due to rounding, some addends may be off by 0.1 place.

Aboveground Facilities

As summarized in table 3.9.1-3, Transco would construct one new compressor station and upgrade three existing compressor stations. Constructing and operating Compressor Station 84 would temporarily affect 79.5 acres of forested and open land and would permanently convert 5 acres of forest and 9 acres of open land into industrial/commercial land.

TABLE 3.9.1-3

Land Use Types Affected by Construction and Operation of the Hillabee Expansion Project Aboveground Facilities (in acres)

	Forested		Open Land		Industrial/Commercial		Total	
Project Component	Const.	Op.	Const.	Op.	Const.	Op.	Const.	Op.
Compressor Stations								
Compressor Station 84	30.2	5.0	49.3	9.0	0.0	0.0	79.5	14.0
Compressor Station 95	0.0	0.0	18.3	0.8	0.0	0.0	18.3	0.8
Compressor Station 100[a]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Compressor Station 105	0.0	0.0	12.5	0.9	0.0	0.0	12.5	0.9
Other Aboveground Facilities [b, d]								
Rock Springs Pig Launcher and Mainline Valve (MLV)	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.2
Rock Springs Pig Receiver and MLV	0.0	0.2	0.0	0.2	0.0	0.0	0.0	0.4
Butler Receiver and MLV	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.3
Billingsley Receiver and MLV	0.0	0.0	0.0	5.0	0.0	0.0	0.0	5.0
Autauga Launcher and MLV	0.0	0.0	0.0	1.6	0.0	1.6	0.0	3.2
Autauga Receiver and MLV	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.4
Verbena Receiver and MLV	0.0	0.2	0.0	0.2	0.0	0.0	0.0	0.4
Proctor Creek Launcher and MLV	0.0	0.2	0.0	0.2	0.0	0.0	0.0	0.4
Hissop Tie-in to Compressor Station 105 [a]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sabal Trail M&R Station [c]	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.2
Alexander City Receiver and MLV	0.0	0.2	0.0	0.2	0.0	0.0	0.0	0.5
Total	30.2	5.0	80.1	18.9	0.0	1.7	110.3	26.6

[a] Proposed upgrades would not result in new land use impacts.

[b] All "other aboveground facilities" would be located entirely within the permanent, maintained right-of-way for the pipeline loops and, therefore, would not result in additional land use impacts beyond that included with the pipeline right-of-way calculations (see table 3.9.1-2). However, they would result in a land use conversion to industrial/commercial land.

[c] Transco would install aboveground appurtenances within the footprint of the Sabal Trail M&R Station, which is associated with the Sabal Trail Project.

[d] Does not include removed facilities, which would be allowed to revert to pre-construction land use(s), except when associated with forested lands within the permanent right-of-way; these would revert to open land.

Note: Due to rounding, some addends may be off by 0.1 place.

Upgrading Compressor Station 100 would not result in ground disturbance and, therefore, no land use would not be affected. Upgrading Compressor Station 95 would affect 18.3 acres of open land, of which 0.8 acre would be permanently affected. Upgrading existing Compressor Station 105 would affect 12.5 acres of open land, of which 0.9 acre would be permanently affected.

Eleven other aboveground facilities would be constructed or removed as part of the Hillabee Expansion Project, including new MLVs and pig launchers/receivers (see table 3.9.1-3). While new facilities would occur within the permanent pipeline right-of-way, they would result in a permanent land use conversion to industrial/commercial land. Conversely, removed facilities would result in the conversion of industrial/commercial land to existing, surrounding conditions, with the exception of any

facilities located on forested land with the permanent right-of-way. These facilities would be allowed to revert to open land.

Pipe/Contractor Yards and Staging Areas

To support construction activities, Transco proposes to use 10 pipe/contractor yards and staging areas. The yards would temporarily affect about 90.4 acres of open and agricultural land that has been previously disturbed and cleared (see table 3.9.1-4). Following construction, these areas would be restored in accordance with Transco's CBMPP or as requested by the landowner or land-managing agency.

TABLE 3.9.1-4

Land Use Types Affected by Construction and Operation of the Hillabee Expansion Project Pipe/Contractor Yards and Staging Areas (in acres)

State/County/Yard Name	Land Use	Impacts [a]
Alabama Yards		
Choctaw County - Butler #3	Open Land	5.0
Choctaw County - Butler #4	Open Land	10.3
Chilton County - Billingsley #1	Open Land	17.3[b]
Chilton County - Verbena #1	Agricultural	11.2
Chilton County - Verbena #2	Agricultural	6.9
Chilton County - Clanton #1	Open Land	4.8[b]
Chilton County - Clanton #2	Open Land	9.2[b]
Chilton County - Clanton #3	Agricultural	8.3
Coosa County - Kellyton #1	Open Land	9.2[b]
Mississippi Yard		
Lauderdale County - Meridian #1	Open Land	8.2
Total		90.4

[a] Impacts would be limited to the construction period; no operational impacts would occur.

[b] Construction area impacts do not include the acreages of wetlands located within the yards. Transco would avoid impacts on wetlands areas during use of the yards.

Note: Due to rounding, some addends may be off by 0.1 place.

Access Roads

While public roads and the construction right-of-way would be used for primary access to project workspaces, Transco proposes to:

- build and permanently maintain 5 new roads for operations;
- permanently maintain 6 existing roads for operations; and
- modify 58 existing roads for temporary access during construction (see table 2.2.1-4 in appendix D).

Of the proposed access roads, 59 are associated with yard and pipeline right-of-way access and 10 are associated with aboveground facility access. Modifications to existing temporary access roads would affect 62.1 acres of land. Permanent access roads would affect 5.8 acres of land. Following construction, temporary access road improvements would be removed and roads restored to their preconstruction condition unless the landowner or land-managing agency requests that the improvements be left in place. To restore the roads, the areas outside the original road footprint would be recontoured and disturbed

areas would be reseeded with an appropriate seed mix unless otherwise requested by the landowner or land management agency. Table 2.2.1-4 in appendix D identifies each road improvement proposed on the Hillabee Expansion Project.

3.9.1.2 Impacts and Mitigation

Section 3.9 describes the general land use impacts associated with constructing and operating the Hillabee Expansion Project. To reduce construction- and operation-related impacts on all land uses, Transco would implement the construction and restoration measures outlined in its CBMPP, which includes Transco's Plan and Procedures and Noxious Weed Control Plan.

3.9.1.3 Land Ownership

Land ownership associated with the Hillabee Expansion Project is private, with the exception of public roads and one public ownership area at MP 942.0, which is owned by the City of Alexander City.

3.9.1.4 Existing Residences and Planned Developments

Existing Residences

Workspace necessary to construct the Hillabee Expansion Project pipelines would be located within 50 feet of 14 residences. Table 3.9.1-5 in appendix D identifies residences within 50 feet of Transco's construction work area and proposed residential mitigation measures, as well as site-specific residential crossing plans (RCPs) (see appendix G).

In residential areas, the most common impacts associated with constructing and operating a pipeline are temporary disturbances during construction and the existence of the permanent right-of-way, which would prevent the construction of permanent structures within the right-of-way.

Temporary construction impacts on residential areas would include inconveniences caused by noise and dusts; disruption to access of homes; traffic congestion; ground disturbance of lawns and visual character caused by removal of trees, landscaped shrubs, or other vegetation screening between residences and/or adjacent rights-of-way; potential damage to existing septic systems or wells and other utilities; and removal of aboveground structures such as fences, sheds, playgrounds, or trailers from within the right-of-way.

Transco would utilize special construction methods designed for working in residential areas. These special construction methods are described in section 2.3.2.5, and specific methods to be used on certain individual properties are shown on Transco's site-specific RCPs. Transco would implement the following general measures to minimize construction-related impacts on all residences and other structures located within 50 feet of the construction right-of-way:

- attempt to reduce the construction right-of-way width near residences and use other ATWS areas located farther from the residences to minimize disruption of residences in the immediate vicinity;
- install safety fence at the edge of the construction right-of-way for a distance of 100 feet on either side of a residence;
- attempt to preserve mature trees, vegetation screens, and landscaping within the construction work area to the extent possible;

- complete final cleanup, grading, and installation of permanent erosion control devices within 10 days after backfilling the trench; and

- restore all lawn areas and landscaping within the construction work area, excluding mature trees within the permanent pipeline easement, immediately following clean up.

Transco anticipates that pipeline construction activities (e.g., pipe stringing, excavation, welding, coating, lower-in, and backfill) would last 45 construction days through residential areas without weather delays. However, where the pipeline centerline is within 25 feet of a residence, Transco would not excavate the trench until the pipe is ready for installation and would backfill the trench immediately after pipe installation. Also, any bore pits or sections of trench left open at the end of the workdays would be fenced and covered with steel plate or timber mats within 20 feet of inhabited structures. Other activities such as tree trimming, clearing activities, and right-of-way restoration activities would be completed in accordance with state and federal timing restrictions and weather permitting, and likely occur outside the estimated 45-day construction period.

To minimize impacts on residences, Transco would stake the limits of disturbance and the centerline of the pipeline and would coordinate with property owners before and throughout the construction process to minimize impacts on landowners. Owners of residential property crossed by the pipelines would be contacted to notify them of the approximate time that construction would take place on their property and to keep them informed about any special construction activities that may concern them.

Transco would attempt to maintain residential access at all times; however, interruption of access necessary to complete a driveway crossing would be coordinated in advance with the landowner. Transco would generally complete construction across driveways within 1 day and install a temporary surface patch. Final surfacing of driveways would occur separately in conjunction with other driveway final restorations within the area. If a road is open cut, traffic flow would be maintained except for temporary periods essential for pipeline installation.

Transco would coordinate with landowners prior to construction to identify and verify their location, and would attempt to avoid septic systems. However, if avoidance is not possible, Transco would relocate and protect septic systems prior to construction. In the event of damage during construction, Transco would immediately provide the landowner with a temporary repair or other accommodations. Once construction is complete, Transco would coordinate with the landowner to provide a suitable permanent solution. Permanent repairs would be completed after construction.

Following construction, all residential areas would be restored to preconstruction conditions or as specified in written landowner agreements. Landowners would continue to have use of the right-of-way provided such use does not interfere with the easement rights granted to Transco for construction and operation of the pipeline system.

To ensure impacts on residences are addressed, Transco has prepared a Landowner Complaint Resolution Procedure. Transco would send a letter to each landowner that includes the dates when construction would occur on their property and a telephone contact for questions or concerns. The procedure letter states that a response to a question or concern would be provided in 24 to 48 hours, and prior to construction if possible. In the event Transco's response is not satisfactory to the landowner, the letter also identifies the FERC's Dispute Resolution Division Helpline contact information. We have reviewed this procedure letter and find it acceptable.

Transco's site-specific RCPs include measures to minimize disruption and ensure access to the residences within 50 feet of the construction work areas (see appendix G). These construction plans include a dimensioned drawing depicting the residence in relation to the pipeline construction; workspace boundaries; the proposed permanent right-of-way; and other nearby residences, structures, roads, and miscellaneous features (e.g., other utilities, playgrounds, catch basins, sewers). We have reviewed the site-specific RCPs and find them acceptable. **However, we encourage the owners of each of these residences to provide us comments on the plan specific for their property.**

We conclude that with implementation of Transco's proposed construction methods, its site-specific RCPs, and Landowner Complaint Resolution Procedure, impacts on residences would be minimized to the greatest extent practicable and would not be significant.

Planned Developments

Based on consultation with the ADEM and local planning departments, no existing or planned residential developments would be crossed by the Hillabee Expansion Project.

3.9.1.5 Recreation and Special Interest Areas

Based on consultations with local agencies and review of public databases and maps, the Hillabee Expansion Project would not cross any recreational or special interest areas, including designated wilderness areas; national wildlife refuges; national parks; national, state, or local parks; national or state forests; designated scenic highways or byways; protected rivers or waterbodies; or coastal zones. Also, no state-owned or managed properties or public lands open to hunting would be crossed by or are located within 0.25 mile of the project. Further, private land in Alabama is not open to hunting to the general public, though private land may be hunted with a landowner's permission.

Two recreational and/or special land use areas are within 0.25 mile of the Hillabee Expansion Project, which include Zach Rogers Park (or City Park) at MP 792.0 along the Butler Loop, and a Wildlife Management Area at MP 911.9 along the Proctor Creek Loop.

The primary concerns with crossings adjacent to recreational or public use areas is the impact of construction on public access and recreational use. Disruption, dust, noise, and visual impacts during construction could be a nuisance to individuals using recreation areas, and could cause a disturbance to wildlife, especially in protected areas. The duration of the impact in any one area, however, would be minor and short-term, lasting only several days to weeks.

3.9.1.6 Coastal Zone Management Act

Based on a review of the Alabama Coastal Zone Management Program, Coastal Zone Maps, the Hillabee Expansion Project falls outside of the geographical boundaries of the Alabama Coastal Zones and, therefore, is not subject to coastal zone consistency review in Alabama (ADEM, 2014b).

3.9.1.7 Hazardous Waste

Based on a review of federal and state regulatory databases to identify known and potential water and soil contamination and hazardous waste sites, no sites were identified within 0.25 mile of the project. However, Transco has developed an Unanticipated Discovery of Contamination Plan, which includes measures that it would implement in the event contaminated media is encountered during construction. This plan includes contacting the appropriate federal and state agencies, including the EPA, if a hazardous

site is encountered. We have reviewed Transco's Unanticipated Discovery of Contamination Plan and find it acceptable.

3.9.1.8 Visual Resources

Pipeline Facilities

Most visual and aesthetic impacts associated with the Hillabee Expansion Project would be limited to the period of active construction, in which the landscape would be characterized by areas of cleared or flattened vegetation, trench excavation, grading, and spoil storage. The removal of existing vegetation and the exposure of bare soils would diminish the visual character of the areas crossed by the pipelines. Other visual effects could result from the removal of large individual trees that have intrinsic aesthetic value; the removal or alteration of vegetation that may currently provide a visual barrier; or landform changes that introduce contrasts in visual scale, spatial characteristics, form, line, color, or texture.

The degree of visual impact would depend on the type of vegetation crossed; the existing visual quality of the affected area; the width of the construction right-of-way; the number of potential viewers affected; the presence or absence of other utility corridors; and the length of time the landscape is visually affected. The visual impact of the Hillabee Expansion Project pipeline itself would not have a long-term visual impact because it would be installed below ground, adjacent to existing rights-of-way, and would revegetate within one to two growing seasons.

The impact of vegetation clearing on the aesthetic value of the project area would be shortest in areas consisting of short grasses and scrub-shrub vegetation and in open and agricultural areas, where the re-establishment of vegetation following construction to previous conditions would be relatively fast (generally less than 3 years). The greatest potential visual impact in forested lands would result from the removal of large specimen trees, which would take longer than other vegetation types to regenerate and would be prevented from re-establishing on the permanent right-of-way.

The installation of the pipeline would generally incrementally widen the existing utility corridors. These existing rights-of-way are maintained periodically on different schedules, using different methods of maintenance. As a result, along the majority of the project, visual resources have been previously affected by other activities.

Aboveground Facilities

No permanent changes to the current visual landscape are anticipated as a result of modifications to existing aboveground facilities beyond what is already experienced at the sites.

The new aboveground facilities, including Compressor Station 84, would result in permanent impacts on visual resources. The magnitude of these impacts depends on factors such as the existing landscape, the remoteness of the location, and the number of viewpoints from which the facility could be seen, as discussed in table 3.9.1-6 in appendix D.

Transco has sited Compressor Station 84 in an area where it would be shielded from public roads and residences. Transco would acquire parcels of land located between the new compressor station and the nearest public road to provide access to the station and a visual buffer. These parcels of land are currently mature forest/woodland land, which would visually screen the new compressor station from residences and public roads.

New pig launchers and receivers would be associated with the MLV sites. Transco does not propose to visually screen the new facilities. Additionally, five launcher/receivers would be removed from their current locations along the Butler, Billingsley, Verbena, Proctor Creek, Hissop, and Alexander City loops. The sites would be reclaimed to correspond with surrounding vegetation and landscape.

Construction and operation of the aboveground facilities would result in a minor to moderate and permanent impact on the surrounding existing visual character of the Hillabee Expansion Project area. However, impacts are not considered significant given the nature of the developed visual character of the area (i.e., adjacent cleared rights-of-way) and/or the maintenance of existing vegetation screening.

Pipe/Contractor Yards and Staging Areas

The primary visual impact associated with the proposed pipe/contractor yards and staging areas would be the storage of equipment, materials, and heavy machinery during project construction. All of these uses would be temporary and expected to last the duration of construction.

Access Roads

Modifications to and temporary use of existing roads for access would not result in significant increased impacts on visual resources as project use would be consistent with current uses. While the establishment of the new permanent access roads would be permanent, due to the generally developed nature of the project area, the new roads would not be inconsistent with similar roadways in the area. Therefore, we conclude that temporary and permanent access roads used during construction and operation of the Hillabee Expansion Project would not result in a significant impact on visual resources in the area.

3.9.2 Sabal Trail Project

3.9.2.1 General Land Use

Pipeline Facilities

Land use impacts associated with the Hillabee Expansion Project would include the disturbance of existing land uses within the construction right-of-way, including ATWS, during construction and retention of a new permanent right-of-way for operation of the pipelines. Section 2.2 describes the pipeline right-of-way land requirements associated with the Sabal Trail Project. Table 3.9.1-1 in appendix D lists where the pipeline rights-of-way would be collocated with existing rights-of-way.

Table 3.9.2-1 below summarizes the acreage of each land use type that would be affected by construction and operation of pipelines for the Sabal Trail Project.

TABLE 3.9.2-1

Summary of Land Use Types Affected by Construction and Operation of the Sabal Trail Project Pipeline Facilities (in acres) [a]

	Forested/ Woodland		Open Land		Agricultural		Industrial/ Commercial		Residential		Open Water		Total	
State/Project Component	Const. [b]	Op. [c]	Const.	Op.	Const.	Op.	Const.	Op.	Const.	Op.	Const.	Op.	Const.	Op.
Alabama														
Mainline	745.2	356.5	236.4	120.8	16.7	8.5	0.0	0.0	19.8	8.9	2.5	1.3	1020.7	496.0
Additional Temporary Workspace	246.9	0.0	146.1	0.0	7.9	0.0	0.0	0.0	7.4	0.0	0.2	0.0	408.5	0.0
Alabama Subtotal													1,429.2	496.0
Georgia														
Mainline	1034.5	488.7	298.0	147.5	532.8	258.5	13.7	4.8	19.2	9.0	4.8	1.9	1,903.0	910.4
Additional Temporary Workspace	243.5	0.0	95.4	0.0	187.7	0.0	8.7	0.0	6.2	0.0	0.5	0.0	542.0	0.0
Georgia Subtotal													2,445.0	910.4
Florida														
Mainline	1244.2	585.2	258.5	86.1	1083.7	526.8	91.2	52.2	16.0	8.4	3.6	1.3	2,697.2	1,260.0
Citrus County Line [h]	158.0	81.9	37.3	11.4	23.5	10.7	7.2	2.2	0.9	0.4	0.3	0.0	227.2	106.6
Hunters Creek Line [b, c]	78.2	33.7	13.1	4.7	27.0	9.7	8.6	2.8	0.2	0.0	1.0	0.6	128.1	51.5
Additional Temporary Workspace	235.5	0.0	75.1	0.0	329.6	0.0	25.5	0.0	5.2	0.0	0.3	0.0	671.2	0.0
Florida Subtotal													3,723.7	1,418.1
Total													7,597.8[d]	2,824.5[d]

[a] Includes the temporary and permanent right-of-way and additional temporary workspace areas.

[b] Assumes a 100-foot-wide temporary construction right-of-way. However, the construction right-of-way would be reduced to 75 feet in wetlands.

[c] Assumes a 50-foot-wide area at most locations where structures would be precluded from being installed within the new permanent operational right-of-way. This is in addition to the existing permanent rights-of-way where structures are already precluded from being installed. Does not include wetlands or areas where the permanent right-of-way would not be maintained (e.g., HDDs).

[d] Of the total area affected by construction and operation, approximately 487.3 acres and 94.7 acres, respectively, would occur within a previously disturbed, existing maintained/ operational easement.

Note: Due to rounding, some addends may be off by 0.1 place.

Aboveground Facilities

Sabal Trail would construct five new compressor stations: the Alexander City Compressor Station in Alabama, the Albany Compressor Station in Georgia, and the Hildreth, Dunnellon, and Reunion Compressor Stations in Florida. Construction and operations impacts are summarized in table 3.9.2-2. Land used for the operation of these facilities would be permanently converted to industrial/commercial land use.

Sabal Trail would also construct six new M&R stations. Of the proposed M&R stations, three would be constructed within proposed compressor station sites and three would be constructed adjacent to the pipeline right-of-way. Pig launcher and receiver sites would be constructed within the compressor and/or M&R sites.

TABLE 3.9.2-2

Land Use Types Affected by Construction and Operation of the Sabal Trail Project Aboveground Facilities (in acres)

	Forested/ Woodland		Agricultural		Open Land		Residential		Industrial/ Commercial		Total	
State/Project Component	Const.	Op.	Const.	Op.	Const.	Op.	Const.	Op.	Const.	Op.	Const.	Op.
Alabama												
Alexander City Compressor Station	29.0	5.8	37.8	24.0	0.0	0.0	0.0	0.0	0.0	0.0	66.8	29.7
Transco Hillabee Meter and Regulating (M&R) Station	0.8	0.8	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	1.3	1.3
Additional Aboveground Facilities	0.3	0.3	0.2	0.2	0.0	0.0	0.0	0.0	0.1	0.1	0.5	0.5
Georgia												
Albany Compressor Station	27.5	25.4	4.5	4.5	1.4	1.4	0.0	0.0	0.0	0.0	33.4	26.3
Additional Aboveground Facilities	0.5	0.5	0.3	0.3	0.2	0.2	0.0	0.0	0.0	0.0	1.0	1.0
Florida												
Hildreth Compressor Station	33.0	27.9	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	34.6	27.9
Dunnellon Compressor Station	37.1	37.1	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0	37.3	37.3
Reunion Compressor Station	1.3	1.3	0.9	0.9	16.2	15.6	0.0	0.0	0.0	0.0	18.4	17.7
FGT Suwannee M&R Station	9.3	6.4	0.4	0.3	0.0	0.0	0.8	0.6	0.0	0.0	10.4	7.4
FSC M&R Station	0.0	0.0	0.0	0.0	1.5	1.5	0.0	0.0	0.0	0.0	1.5	1.5
Gulfstream M&R Station	0.0	0.0	0.0	0.0	1.4	1.4	0.0	0.0	0.0	0.0	1.4	1.4
FGT Hunters Creek M&R Station	3.6	3.5	2.7	0.0	0.0	0.0	0.1	0.0	0.0	0.0	6.4	3.6
DEF Citrus M&R Station	7.5	3.4	1.7	0.4	0.0	0.0	0.6	0.2	0.0	0.0	9.8	4.1
Additional Aboveground Facilities	0.5	0.5	0.2	0.2	0.6	0.6	0.2	0.2	0.0	0.0	1.4	1.4
Total	150.4	112.9	50.9	31.3	21.5	20.9	1.7	1.0	0.1	0.1	224.3	161.1

Note: Due to rounding, some addends may be off by 0.1 place.

Pipe/Contractor Yards and Staging Areas

To support construction activities, Sabal Trail would use a total of 14 pipe/contractor yards and staging areas on a temporary basis. The yards would temporarily affect about 388.7 acres of mixed land uses that have been previously disturbed and cleared, with the exception of Yards 2-3, 5-6, 5-7, and 6-1, which would affect forest/woodland (see table 3.9.2-3). Following construction, these areas would be restored in accordance with Sabal Trail's Plan or as requested by the landowner or land-managing agency.

TABLE 3.9.2-3

Land Use Types Affected by the Sabal Trail Project Pipe/Contractor Yards and Staging Areas (in acres)

State/County, Yard Name	Land Use	Impacts [a]
Alabama		
Chambers County, Yard 1-1	Open Land	22.9
Lee County, Yard 1-2	Open Land	24.7
Georgia		
Lee County, Yard 2-1	Open Land	21.3
Dougherty County, Yard 2-2	Industrial/Commercial Land	24.1
Dougherty County, Yard 2-3	Open Land, Forest/Woodland, Agricultural Land	77.0
Lowndes County, Yard 3-2	Open Land	25.0
Lowndes, Yard 3-3	Open Land	23.9
Florida		
Suwannee County, Yard 4-1	Agricultural Land	24.8
Marion County, Yard 5-5	Agricultural Land, Industrial/Commercial Land	38.3
Marion County, Yard 5-6	Agricultural Land, Forest/Woodland	29.7
Marion County, Yard 5-7	Agricultural Land, Forest/Woodland, Industrial/Commercial Land, Residential Land	18.1
Lake County, Yard 6-1	Agricultural Land, Forest/Woodland, Industrial/Commercial Land	12.2
Osceola County, Yard 6-3	Agricultural Land	17.7
Sumter County Yard 6-5	Agricultural Land, Industrial/Commercial Land, Open Water	29.1
Total		388.7

[a] Impacts would be limited to the construction period; no operational impacts would occur.

Note: Due to rounding, some addends may be off by 0.1 place.

Access Roads

While public roads and the construction right-of-way would be used for primary access to project workspaces, Sabal Trail proposes to:

- build and permanently maintain 36 roads for operations;
- permanently maintain 49 existing roads for operations (1 of which does not require modifications beyond grading);
- build 21 new roads for temporary use, which would be returned to preconstruction conditions following construction; and
- modify 158 existing roads for temporary access during construction (see table 2.2.1-4 in appendix D).

Of the proposed access roads, 251 are associated with yard and pipeline right-of-way access and 8 are associated with aboveground facility access. Modifications to existing temporary access roads would affect 337.8 acres of land. Permanent access roads would affect 105.2 acres of land. Following construction, temporary access road improvements would be removed and roads restored to their preconstruction condition unless the landowner or land-managing agency requests that the improvements be left in place. To restore the roads, the areas outside the original road footprint would be recontoured and disturbed areas would be reseeded with an appropriate seed mix unless otherwise requested by the

landowner or land management agency. Table 2.2.1-4 in appendix D identifies each road improvement proposed on the Sabal Trail Project.

3.9.2.2 Impacts and Mitigation

Section 3.9 describes the general land use impacts associated with constructing and operating the Sabal Trail Project. To reduce construction- and operation-related impacts on all land uses, Sabal Trail would implement the construction and restoration measures outlined in its E&SCP, SPCC Plan, and Noxious Weed Management Plan. Landowners would be compensated for crop losses and other damages.

We received comments regarding landowners concerns about disturbing areas where cremated remains have been intentionally scattered or placed on their property. The presence of these areas would be determined during easement negotiations between Sabal Trail and the landowner, and, should the landowner desire special measures to avoid or minimize impacts on these areas, they may be requested of Sabal Trail during these negotiations.

The following summarizes impacts and mitigation measures that differ from those described in section 3.9 and are unique to the Sabal Trail Project.

Forest Certification Programs

Forest certification is a voluntary process of evaluating and validating forest management practices using a set of standards. The standards vary by certifying agency or organization but address issues such as management plans, protection of resource values, harvesting and management practices, social/economic issues and monitoring.

Several forest certification programs occur in the project area, which consist of the following:

- Alabama Tree Farms, Stewardship Forests, or Treasure Forests – managed by the Alabama Forestry Commission, who evaluates forest land management against agreed upon standards of sustainability and assists private forestland owners to sustainably manage their forests.

- Georgia Forest Stewardship Program – managed by the Georgia Forestry Commission (GFC), who certifies privately owned land through the Forest Stewardship Program. The GFC provides forest management advice and management plans to landowners to assist landowners in managing forestland for multiple use purposes (GFC, 2014).

- Florida Community Forest Certification – managed by the County Forester for each Florida County, who provides assistance to communities and private land owners to improve the health of wooded areas through the Community Forest Program (FDACS, 2014).

- American Tree Farm System – managed by the American Tree Farm System (a program of the American Forest Foundation), certifies privately owned woodlands between 10 and 10,000 acres. The American Tree Farm System provides sustainable forest management advice and management plans to landowners (American Tree Farm System, 2015).

Based on Sabal Trail's landowner consultations, 3 tracts in Georgia and 23 tracts in Florida enrolled in a forest certification program would be crossed by the Mainline facilities. Of these, one

Georgia tract (GA-BR-066.000) is specifically enrolled in the Georgia Forestry certification program. A total of seven tracts are certified by the American Tree Farm System.

While no tracts enrolled in a forest certification program are known to be affected by the project in Alabama, should one be identified, the proposed cleared permanent right-of-way would not conflict with the purpose of agricultural or forestland certification of properties crossed by the Sabal Trail Project, provided construction and operation of the project complies with the property owner's management plan (Alabama Forestry Commission, 2010).

In addition to the forest certification programs, the Georgia Forest Land Protection Act of 2008 provides for an ad valorem tax exemption for property primarily used for the good faith subsistence or commercial production of trees, timber, or other wood and wood fiber products and excludes the entire value of any residence located on the property. One tract affected by the project in Terrell County, Georgia (Private Conservation Land ID #2008034 at MP 132.9) is included in the state program.

Sabal Trail has collocated its proposed right-of-way with existing utility rights-of-way on all of the identified forest certification program tracts to minimize impacts on the certified operations. Also, Sabal Trail would work with the landowner(s) and the state certification agency to ensure continued participation in forest and timber protection programs for all identified certified properties, and other certified properties identified in the future that are affected by the project.

In addition, Sabal Trail would develop grazing deferment plans with willing landowners, grazing permittees, and land management agencies. Sabal Trail would also work with landowners to source grazing areas outside of the construction corridor.

Specialty Crops

Section 101 of the Specialty Crops Competitiveness Act of 2004 (7 U.S.C. 1621 note) and amended under section 10010 of the Agricultural Act of 2014, Public Law 113-79 (the Farm Bill) defines specialty crops as "fruits and vegetables, tree nuts, dried fruits, horticulture, and nursery crops (including floriculture)." Eligible plants must be cultivated or managed and used by people for food, medicinal purposes, and/or aesthetic gratification to be considered specialty crops (U.S.C., 2008).

Based on Sabal Trail's consultations with landowners, several specialty crop areas would be crossed by the project. Specialty crops affected include beans; cabbage; carrots; cotton, peanuts, squash, or eggplant; fruit, palm, ornamental, and pecan trees; peas, millet, and chuffa; pine trees; and watermelon. Construction would affect 264.5 acres of specialty crops, of which 198.7 acres occur in Georgia and 65.8 acres occur in Florida. Operation of the project would affect 130.3 acres of specialty crops, of which 102.5 acres occur in Georgia and 27.8 acres occur in Florida.

Use of the permanent right-of-way to grow specialty crops following construction, with the exception of trees, which would be precluded from occupying the area. Sabal Trail is working with individual landowners through the easement process to avoid and/or determine mitigation measures that may be required for these specialty agricultural lands, such as topsoil segregation in all agricultural and pasture areas, and/or avoiding the use of pesticides on or near organic farms. Sabal Trail is also working with affected landowners and associated regulatory and/or certifying agencies to ensure continued enrollment of the properties in certification programs during construction and operation of the project. Sabal Trail would compensate landowners for any project-related damages to specialty crop areas.

Agricultural Certification Programs

Agricultural certification programs occur in the project area, which consist of the following:

- Alabama Century and Heritage Farm Program – established to recognize and honor those Alabama farms that have been in operation as a family farm over a long period of time and have played a significant role in Alabama history (Alabama Department of Agriculture and Industries, 2014). No known program properties would be affected by the project.

- Georgia Centennial Farm Program – established to distinguish family farms that have contributed to the preservation of Georgia's agricultural history by maintaining working farms for more than 100 years (GHPD, 2014). One Georgia Centennial Farm Program property was identified as crossed by the Project through FERC's scoping process in Colquitt County, near MP 192.5 (FERC, 2014). The property was selected to receive a Centennial Farm honor in October 2015. The Georgia Centennial Farm Program requires that a working farm be owned by members of the same family for 100 years, and include a minimum of 10 acres actively involved in agricultural production or $1,000 annual farm-generated income. As such, the project is not expected to affect the farm's eligibility for this award because it does not prohibit development.

- Florida Century Pioneer Family Farm Program – established to recognize family farms that have maintained at least 100 years of continuous family farm ownership (FDACS, 2014). No known program properties would be affected by the project.

- Florida Rural and Family Lands Protection Program – established and managed by the Florida Forest Service (FFS) to protect agricultural lands, ensure sustainable agricultural practices, and protect natural resources (FDACS, 2014). One known program property, the Circle Pines Farm Conservation Easement, would be affected by the project. Additional information about the easement is provided in section 3.9.2.5.

No other known properties enrolled in agricultural program would be affected by the project. Should additional properties be identified, Sabal Trail would work with the landowner and the certifying agency to ensure continued participation in the program.

Conservation Reserve Program and Conservation Reserve Enhancement Program

The Conservation Reserve Program (CRP), which is administered by the Farm Service Agency (FSA), is the country's largest private-land conservation program. The CRP is a voluntary program for agricultural landowners that is focused on taking highly erodible cropland out of production and stabilizing soil loss through planting permanent cover crops (Alabama Forestry Commission 2015)). Landowners enrolled in the CRP receive annual rental payments and cost-share assistance to establish long-term, resource conserving covers on eligible farmland (Alabama Forestry Commission, 2015). The long-term goal of the program is to re-establish valuable land cover to help improve water quality, prevent soil erosion, and reduce loss of wildlife habitat. The Conservation Reserve Enhancement Program, which is a subset of the CRP and also administered by the FSA, is focused on targeting high-priority conservation issues identified by local, state, or tribal governments or non-governmental organizations (FSA, 2014). Table 3.9.2-4 lists the known FSA program enrolled lands crossed by the Sabal Trail Project.

TABLE 3.9.2-4

Known FSA Program Enrolled Lands Crossed by the Sabal Trail Project

State/Facility/Tract	Milepost Start	Milepost End	Area Affected	
			Construction [a]	Operation [b]
Alabama				
Mainline				
AL-CH-038.000	29.5	29.8	4.3	1.6
AL-CH-039.000	29.8	29.8	1.2	0.3
AL-CH-040.005	29.8	29.9	0.8	0.2
AL-CH-041.000	29.9	30.2	4.1	1.7
AL-CH-042.000	30.2	30.5	4.7	1.8
Georgia				
Mainline				
GA-ST-027.000	101.0	101.3R	4.9	1.8
GA-ST-029.000	101.4R	101.5	3.6	1.3
GA-WE-067.000	113.0	113.4	6.1	3.6
GA-WE-068.000	113.4	113.6	0.0[c]	0.0[c]
GA-WE-079.000	116.3	116.8	8.1	3.4
GA-TE-005.000	122.0	122.4	6.1	2.5
GA-TE-006.000	122.4	122.8	5.2	1.9
GA-DO-007.000	148.4	148.7	5.4	2.4
GA-MI-009.000	174.3	174.7	5.1	2.3
GA-MI-014.000[d]	175.6	175.8	2.6	1.1
GA-COL-022.000	186.9	187.7	11.8	4.9
GA-COL-146.000	204.0	204.1R	2.2	0.9
GA-COL-152.000	204.4R	204.8R	7.2	2.7
Total			83.4	34.4

[a] Land affected during construction, including the construction right-of-way and additional temporary workspace.
[b] Does not include wetlands or areas where the permanent right-of-way would not be maintained (e.g., HDDs).
[c] Impacts are included with tract GA-WE-067.000.
[d] Pines are enrolled in CRP program. If permanently affected, lands may have to be removed from CRP Program.

Based on a database review of CRP lands, the Mainline would cross four private properties enrolled in the CRP in Chambers County, Alabama. Within Georgia, two parcels of CRP lands in Stewart County, two parcels in Webster County, two parcels in Terrell County, one parcel in Dougherty County, two parcels in Mitchell County, and two parcels in Colquitt County would be crossed. No lands enrolled in CRP would be affected by the project in Florida. No affected Conservation Reserve Enhancement Program lands have been identified in Alabama, Georgia, or Florida.

CRP lands occur primarily in agricultural areas and, therefore, the impacts and mitigation measures Sabal Trail would implement on these lands would be the same as those described for general agricultural areas. Following construction, Sabal Trail would restore the right-of-way to meet the long-term objectives for the land enrolled in this program. However, some CRP lands may have provisions for tree plantings that overlap the permanent right-of-way. Because trees would be not allowed to be maintained within the permanent right-of-way, the program agreement may need to be altered to accommodate the pipeline. On CRP lands where tree clearing is necessary, Sabal Trail would reimburse the FSA for payments made, plus related penalties.

Conservation Use Valuation Assessments

The Mainline pipeline would cross three Conservation Use Valuation Assessments program lands in Georgia: one in Terrell County, one in Colquitt County, and one in Brooks County. The Conservation Use Valuation Assessments program encourages landowners to conserve existing uses of agricultural, timberland, and environmentally sensitive land through favorable tax treatment rather than convert the land to residential or commercial/industrial uses (Georgia Department of Revenue, 2014). In addition, two parcels in Brooks County are managed for conservation purposes; however, there is no information regarding conservation programs associated with the two parcels.

Agricultural Drain Tiles and Irrigation/Drainage Structures

As listed in table 3.9.2-5 in appendix D, Sabal Trail has identified locations where agricultural drain tiles and irrigation systems are in use. If drain tiles are damaged during construction, Sabal Trail would repair or replace damaged sections. Sabal Trail would also return land to its original contours following construction in order to maintain preconstruction hydrology.

We received scoping comments regarding the depth of cover in agricultural areas. Colquitt County, Georgia has requested that the depth of cover be increased to 60 inches under agricultural areas and county roads. While 30 inches is the minimum depth of cover per DOT requirements and Sabal Trail would provide 36 inches of cover for the pipeline in other areas, Sabal Trail would bury the pipeline in actively cultivated agricultural land with 48 inches of cover to provide additional safety. Additional depth of cover may be requested by individual landowners during the easement negotiation process.

In areas where irrigation or drainage systems would be crossed, Sabal Trail would identify crossing location during civil survey. Use of protection devices such as mats would be assessed during clearing and grading. If irrigation or drainage systems cross the trench line, they may be excavated during trenching and lowering-in, with temporary repairs made per temporary repair plans and procedures. These systems would only be interrupted for the length of time needed to install the pipeline, typically one day or less. Irrigation and drainage systems would be permanently repaired during backfill and cleanup. Additionally, where livestock watering systems are in use, Sabal Trail would work with landowners to provide continued access to existing systems or provide alternate sources of water for livestock.

3.9.2.3 Land Ownership

Table 3.9.2-6 summarizes public land ownership affected by the Sabal Trail Project. Most of the lands affected are privately owned. The 272.0 acres (approximately 3 percent) of public land that would be affected by the Sabal Trail Project includes federal land managed by the USACE; state land managed by Suwannee River WMD, FDACS, FFS, BOT, Southwest Florida WMD, and FDEP; and municipal or county lands owned by the City of Moultrie. Further, no tribally owned or reservation land would be crossed or affected.

TABLE 3.9.2-6

Summary of Public Land Ownership Affected by Construction and Operation of the Sabal Trail Project (in acres)

	County/Municipal		State		Federal		Roads/Railroads		Total	
State	Const.	Op.	Const.	Op.	Const.	Op.	Const.	Op.	Const.	Op.
Alabama	0.0	0.0	0.0	0.0	0.1	0.1	25.5	0.2	25.6	0.3
Georgia	0.0	0.0	0.0	0.0	0.0	0.0	48.0	0.5	48.0	0.5
Florida	1.3	0.0	145.9	80.0	0.0	0.0	51.2	0.6	198.4	80.6
Total	1.3	0.0	145.9	80.0	0.1	0.1	124.7	1.3	272.0	81.4

We received comments regarding the condemnation process in Georgia. According to commentors, Georgia law allows a natural gas pipeline to acquire rights-of-way by eminent domain only if some of the gas carried is consumed in Georgia (2010 Georgia Code, Title 22, Chapter 3, Article 4). Commentors argue that because Sabal Trail's proposed project would not carry gas to be consumed in Georgia, Sabal Trail would not be able to exercise eminent domain authority in Georgia.

Georgia eminent domain law, however, does not apply to interstate natural gas pipelines because the NGA would preempt state law. Congress, through the NGA, explicitly vested exclusive jurisdiction in the Commission to regulate interstate pipelines. Thus, an interstate pipeline will receive the right to exercise its eminent domain authority pursuant to the NGA, which we note does not condition eminent domain authority on whether the natural gas transported is consumed within each state the pipeline crosses.

Federal Lands

The Mainline and access roads would affect federally owned lands at the Walter F. George Lake and day use park. These lands are managed by the USACE. Per the shoreline management plan, the Walter F. George Lake and day use area are to be managed under Public Law 86-717, which states that, "reservoir areas of projects for flood control, navigation, hydroelectric power development, and other related purposes owned in fee and under the jurisdiction of the Secretary of the Army and the Chief of Engineers shall be developed and maintained so as to encourage, promote, and assure fully adequate and dependable future resources of readily available timber, through sustained yield programs, reforestation, and areas for conservation, recreation, and other beneficial uses: *Provided*, That such development and management shall be accomplished to the extent practicable and compatible with other uses of the project" (USACE, 1960).

The Walter F. George Lake Shoreline Management Plan (USACE, 2011) categorizes the parcels crossed by the project as limited development. Private uses within this category may be authorized.

State and County/Municipal Lands

The Mainline, CCL, and access roads would affect state and county/municipal-owned lands, including state forests, state parks, recreation and conservation areas, and preserves. Additional impacts would result from the crossing of state and county roads and railroads. A total of 147.1 acres of state and county/municipal lands would be affected by construction and 80 acres would be affected by operation of the project.

In Alabama and Georgia, state and county lands affected are primarily state and county roads, railroads, the Alabama Scenic River Trail, and the Tom White Linear Bike Trail. These lands are managed by the ADOT, Tallapoosa River, GDOT, City of Moultrie, county governments, and railroads.

State lands in Florida may be owned by several entities, including the Board of Trustees of the Internal Improvement Trust Fund (Board of Trustees), FDEP, FDACS, FFS, FWC, and/or WMDs. These agencies are also responsible for the acquisition or management of conservation easements and areas under a variety of conservation programs, which provide for the preservation of public and private lands in Florida.

Based on a review of online databases from the Florida Geographic Data Library and agency websites, Sabal Trail identified state-owned or managed lands crossed by or within 0.25 mile of the Sabal Trail Project. These include the areas discussed in section 3.9.2.5. Florida public lands affected by the project include state and county roads, the Twin Rivers State Forest, Suwannee River State Park, Goethe

State Forest, Marjorie Harris Carr Cross Florida Greenway State Recreation and Conservation Area, Halpata-Tastanaki Preserve, and Withlacoochee State Forest. Management entities include the FDOT, Suwannee River WMD, FDEP, Florida Division of Forestry, FFS, Trustees of the Internal Improvement Trust Fund, Southwest Florida WMD, FDACS, and county governments.

The Conceptual State Lands Management Plan identifies the use management and planning for state-owned lands (Florida Board of Trustees, 1983). The plan provides for the issuance of easements on state-owned lands. Fees required for easements on state-owned lands are based on the degree and type of impact the easements would have on existing, future, and/or traditional management activities or uses.

Florida Forever is a state conservation and recreation lands acquisition program intended to conserve the state's natural and cultural heritage (FDEP, 2014). The program acquires and manages conservation easements, designated ecosystems, greenways, working agricultural lands, and other lands that provide natural and cultural value. Specific management of lands acquired by Florida Forever varies and may include the FFS, FWC, and WMDs.

3.9.2.4 Existing Residences and Planned Developments

Existing Residences

Sabal Trail has identified 131 residences and structures within 50 feet of construction work areas. These structures and residences are listed in table 3.9.1-5 in appendix D.

We received several comments regarding potential impacts on residences and residential communities, particularly large wooded residential lots such as the Happy Trails community in Osceola County and Ichetucknee River Estates Homeowners' Association communities such as Waccasassa Flats in Gilchrist County, as a result of the project. These areas have limited development and are interspersed with mature trees (including pine plantations), wetlands, nature preserves, horseback riding areas, and/or private hunting preserves. Commentors are concerned, amongst other topics, that tree clearing and the presence of Sabal Trail's Mainline would affect property values. In section 4.3.2, we analyze route variations that would avoid or reduce impacts on the Happy Trails and Waccasassa Flats communities.

In general, construction methods in, impacts on, and mitigation for existing residences would be similar to those described in section 3.9.2.4. Sabal Trail would mitigate impacts on residential properties per the measures identified in its E&SCP and site-specific RCPs.

As discussed in section 3.9, following construction, forest land located outside of the permanent right-of-way, aboveground facility sites, and new permanent access roads would be allowed to regrow. However, post-construction maintenance of the permanent right-of-way would prevent the reestablishment of trees. Compensation for tree loss would be determined during easement negotiations between the applicant and the landowner. In addition, as discussed in section 3.9, pipeline operators must obtain easements from landowners to construct and operate natural gas facilities, and landowners would be compensated for the use of their land through the easement negotiation process. Section 3.10.2.6 discusses the impacts a pipeline could have on a property's value.

Based on landowner contacts, Sabal Trail identified a total of 73 septic systems within 150 feet of the Sabal Trail Project. These are shown on the RCPs and include 11 systems in Alabama, 35 systems in Georgia, and 27 systems in Florida. Sabal Trail would attempt to avoid septic systems and would coordinate with landowners prior to construction regarding their location. However, if avoidance is not possible, Sabal Trail would relocate and protect septic systems prior to construction. In the event of

damage during construction, Sabal Trail would the provide a temporary repair of the septic system and a permanent repair as soon as practicable during the backfill/rough clean-up phase of construction.

Sabal Trail also prepared a Landowner Complaint Resolution Process. The process identifies a 24-hour hotline in which landowners can contact project representatives with questions, concerns, and complaints prior to, during, and after construction. If the identified issue cannot be immediately responded to, Sabal Trail would attempt to contact the caller within the same business day. Once documented, Sabal Trail would work with the landowner until the issue is resolved. We have reviewed this procedure and find it acceptable.

Sabal Trail's site-specific RCPs include measures to minimize disruption and ensure access to the residences within 50 feet of the construction work areas (see appendix G). These construction plans include a dimensioned drawing depicting the residence in relation to the pipeline construction; workspace boundaries; the proposed permanent right-of-way; and other nearby residences, structures, roads, and miscellaneous features (e.g., other utilities, playgrounds, catch basins, and sewers). We have reviewed the site-specific RCPs and find them acceptable. **However, we encourage the owners of each of these residences to provide us comments on the plan specific for their property.**

We conclude that with implementation of Sabal Trail's proposed construction methods, its site-specific RCPs, and Landowner Complaint Resolution Process, impacts on residents and landowners would be minimized to the greatest extent practicable and would not be significant.

Planned Developments

Based on consultations with county and local agencies, the Sabal Trail Project would be located within 0.25 mile of 64 planned developments. Known planned developments are listed in table 3.9.2-7 in appendix D. These include:

- 28 residential developments, 12 mixed-use developments, 10 non-residential (commercial) developments, 8 roadway projects, 3 industrial site development, 2 trail projects, and 1 unknown development;
- 13 developments have been approved and are either in construction or have identified construction dates;
- 14 developments have approved site plans or are near final approval but construction start dates are unknown;
- 28 developments are in their development and environmental study phase;
- 7 developments have limited status information; and
- 2 developments were identified by the landowner but no records or permits are on file.

Based on consultations with county and municipal planning agencies, no Development of Regional Impact (DRI)[7] projects were identified in Alabama, one DRI was identified in Georgia, and two DRIs were identified in Florida. Of these, the Mainline would abut the partially completed Southern Baell 1B and 2 residential subdivision DRI at MP 201.1 in Georgia. The estimated completion date for this project is June 2018, which would be following Phase 1 of the project. In Florida, the Mainline

[7] Large-scale developments that are likely to have regional effects upon the health, safety, or welfare of citizens of more than one county.

would cross the Westside DRI at MP 465.8 near the border of Polk and Osceola Counties. Submitted site plans for this mixed-use development have expired and no construction dates have been identified. The Mainline would also cross the Reunion Resort and Club DRI in Osceola County, Florida near MP 470.1. Phase 3 of this DRI is anticipated to be completed in December 2016, which would overlap with the Phase 1 construction of the Sabal Trail Project.

In addition to the DRIs and developments listed in table 3.9.2-7 in appendix D, we received comments concerning a planned residential development, Byron Ridge, located approximately 0.75 mile from MP 149 in Dougherty County, Georgia. A master development plan has been developed for the area and development has begun; however, based on the distance of the development from the Sabal Trail Project, we conclude that the planned development would not be affected.

We received comments regarding a planned business-commercial development near MP 200.8 of the Mainline in Moultrie, Georgia. G.B.A. Associates, LLC (G.B.A.) is concerned that retailers committed to the development would withdraw from the project if the Mainline is installed in Sabal Trail's proposed alignment. We contacted the Moultrie Community Planning Department, and the department was not aware of the G.B.A. project. G.B.A. recommends two route variations to avoid the planned development. In section 4.3.2.4, we analyze these two route variations and a third that remains on the G.B.A. property but more closely follows property lines. We conclude that G.B.A. Variation 3 is preferable because it avoids existing constraints south of Moultrie and G.B.A.'s potential development plans. As such, we recommend in section 4.3.2.4 that, prior to the close of the draft EIS comment period, Sabal Trail work with G.B.A. and file a revised alignment sheet that incorporates G.B.A. Variation 3 into the proposed route and documentation of or confirmation that Sabal Trail would obtain the necessary federal approvals for the variation.

We received comments from landowners regarding a planned residential development near MP 316.0 in Gilchrist County, Florida. The landowners filed a plat drawing with the Commission depicting 17 residential lots on approximately 91 acres of land, but indicated that there are no immediate plans to develop the property. Based on a review of alignment sheets and the plat drawing, the Mainline would be collocated with an existing FGT pipeline right-of-way across the eastern-most side of the 91-acre tract for approximately 1,200 feet, crossing two 8-acre lots. Sabal Trail would acquire a 50-foot-wide permanent easement for operating the Mainline. Therefore, the Mainline would effectively expand the existing operating easement by about 0.75 acre on each of the two affected lots. Instead of the proposed alignment, the landowners recommend that Sabal Trail utilize the existing FGT pipeline system to transport the natural gas capacity of the SMP Project. In section 4.2.1.1 we consider, but do not recommend, use of the FGT system to meet the purpose and need of the SMP Project.

We received comments regarding a planned mixed use development, The Global Village at Westmont (Global Village), which would be crossed by the Mainline between approximate MP 473.2 to MP 474.2 (the boundary of the Reunion Compressor Station). Chapman Garden LLC, Westmont Home Owners Association, and Hanover Land Company LLC (collectively referred to as Chapman Garden) are involved in the development and assert that construction of the Mainline and the Reunion Compressor Station would prevent the development from occurring due to environmental, health, and safety concerns, causing the developer, landowners, and Osceola County to lose millions of dollars in compensation and tax revenue. Another landowner in the area, 21 Palms Resort, LLC, also expressed concern that noise emanating from the Reunion Compressor Station would adversely impact their existing recreational vehicle resort 0.2 mile to the west of the station, and could affect future expansion of the resort or residential development of property they own.

Chapman Garden filed a plat drawing depicting approximately 900 residential lots on 550 acres. The development would occur on both sides of an existing utility corridor that includes a Central Florida Power electric transmission line and a Kinder Morgan pipeline. The utility corridor is approximately 150

feet wide. Between MP 473.2 and MP 473.5, the Mainline would be located along the south side of the utility corridor, and the northern boundary of Global Village. The utility corridor turns south at MP 473.5, and the Mainline would cross and then parallel the east side of the corridor to the boundary of the Reunion Compressor Station at MP 474.2. Therefore, the Mainline would incrementally expand the existing utility corridor by 50 feet through the Global Village development. Based on our review of the plat drawing and Mainline alignment sheets, the permanent easement for the Mainline may cross about 20 of the 900 lots within the development. Approximately 100 lots are also depicted in neighborhoods that would abut the Reunion Compressor Station site. However, the majority of these lots would also abut an existing 50-acre DEF electric generating plant which includes natural gas-fired generators, large aboveground storage tanks, and pipeline facilities associated with the Gulfstream system.

We reviewed land ownership records from Osceola County and contacted the Osceola County Planning Department in August 2015. The department is aware of the Global Village development and indicated that Chapman Garden has rezoned 11 parcels totaling about 128 acres within the 550 acre development area to low density residential.

To reduce impacts on the Global Village development, Chapman Garden recommends a Mainline variation and alternative location for the Reunion Compressor Station to the north of the DEF electric generating plant noted above. In section 4.4.2.4 we consider, but do not recommend, these alternatives. We also discuss air quality and noise associated with the Reunion Compressor Station in section 3.12.2.

In conclusion, the primary impact that a pipeline project could have on a proposed development would be to place permanent right-of-way on lots set aside for development, which could affect the constructability of the lots. Depending on the number and location of affected lots, the developer could choose to redesign the affected portion of the development. Depending on the stage of the development, this redesign could require additional review and approval by local permitting officials, which could delay the development. The pipeline project could also impact approved and proposed developments if the construction schedules for the project and development projects coincide. Impacts due to construction and operation of the Sabal Trail Project would vary depending upon the stage of the planned developments, ownership of the parcels, and status of easement negotiations at the time of construction. In any situation, Sabal Trail would obtain the appropriate state or county permits (rezoning, development plan, etc.), and would either purchase the property or negotiate an easement from the current landowner in order to construct and operate the proposed project.

3.9.2.5 Recreation and Special Interest Areas

Based on consultations with local agencies and review of public databases and maps, the Sabal Trail Project would cross or be located within 0.25 mile of multiple public and private lands that support recreation or special interests. Features directly affected include trails, conservation and recreation areas, sports facilities, state forests, wildlife management areas and preserves, and parks, as listed in table 3.9.2-8. No National Parks or Forests, landmarks, wilderness areas, urban parks and recreation recovery areas, or designated wild and scenic rivers were identified within 0.25 mile of the Sabal Trail Project.

TABLE 3.9.2-8

Recreation and Special Use Areas Affected by the Sabal Trail Project

State/Authority/Feature	Owner/Management	Crossing Mileposts	Crossing Method	Area Affected (acres)	
				Const. [a]	Op. [b]
Alabama					
Federal					
Walter F. George Lake	USACE	86.4 – 86.5	HDD	0.1	0.1
State					
Tallapoosa River portion of the Alabama Scenic River Trail [c]	Alabama Department of Conservation and Natural Resources State Lands Division	7.3 – 7.4	HDD	0.0	0.0
Georgia					
Federal					
Walter F. George Lake	USACE	86.4 – 86.5	HDD	0.0	0.0
State					
Georgia State Highway 37	GDOT	185.0	Bore	0.0	0.0
County/Municipal					
Tom White Linear Park [c]	City of Moultrie	200.8	Bore	0.0	0.0
Private/Conservation Lands					
Private Conservation Lands (#2008034)	Private, Georgia Land Trust	132.9 – 133.2	Open cut	4.8	1.8
Private Conservation Land (#2012053)	Private, Georgia Land Trust	155.6 – 156.4	Open cut	11.3	4.8
Private Conservation Land (#2012063)	Private, Georgia Land Trust	161.3 – 161.8	Open cut	8.7	3.4
Carlton Farms	Private, Tall Timbers Land Conservancy	198.6 – 199.2	Open cut and HDD	8.0	3.1
U.S. 19 Dragway	Private	165.5	Bore	0.0	0.0
Florida					
Mainline					
Federal					
FNST, Lower Suwannee River Trail/ Wilderness Trail [c]	FDACS, FFS	MP 267.3R (HDD at the Suwannee River)	HDD	0.0	0.0
FNST, Trail One East, Cross Florida Greenway Trail	FDEP OGT	384.9	Open cut	<0.1	<0.1
State					
Twin Rivers State Forest	BOT, FDACS, FFS	249.8 – 249.9 254.6 – 254.7 258.6 – 259.1	Open cut and HDD	9.5	4.0
Suwannee River State Park [d]	BOT	266.8R – 267.4R	HDD	0.0	0.0
Lower Suwannee River Trail/ Suwannee River Wilderness Trail	FDEP	268.1	HDD	0.0	0.0

TABLE 3.9.2-8 (cont'd)

Recreation and Special Use Areas Affected by the Sabal Trail Project

State/Authority/Feature	Owner/Management	Crossing Mileposts	Crossing Method	Area Affected (acres)	
				Const. [a]	Op. [b]
Santa Fe River Trail [c]	FDEP	308.3	HDD	0.0	0.0
Circle Pines Farm Conservation Area	Private / FDACS, FFS	324.5 – 324.8	Open cut	3.4	1.7
Nature Coast State Trail [c]	BOT / FDEP	332.9	Bore	0.0	0.0
Goethe State Forest [d]	BOT / FDACS, FFS	338.7 – 339.1 340.1 – 341.2	Open cut	19.1	9.1
Marjorie Harris Carr Cross Florida Greenway State Recreation and Conservation Area	BOT / FDEP	383.2 – 389.5R	Open cut	56.4	38.2
Cross Florida Greenway Trail, Trail One East, West Trail, Trail Two West (multiple crossings) [c]	FDEP OGT	384.9R, 385.0R, 385.9R, 386.5R, 387.5R, 388.0R, 389.2R, and 389.5R	Open cut	<0.1	<0.1
Halpata-Tastanaki Preserve/Trail [c]	Southwest Florida WMD	389.5R – 391.1R	Open cut	19.6	9.3
Withlacoochee State Forest [d]	BOT / FDACS, FFS	434.8R – 436.5	Open cut	2.3	1.5
County/Municipal					
FNST Connector [c]	Hamilton County, Florida	266.0R	Bore	<0.1	0.0
Suwannee River Greenway Trail [c]	Suwannee County, Suwannee River WMD	305.6	Bore	<0.1	0.0
FNST Connector [c]	Marion County, Florida	382.7, 384.7	Bore	<0.1	0.0
Private Conservation Lands					
Warner/Harrell Conservation Easement/Echo Plantation	Private	267.4R – 268.1R	HDD and Open cut	10.8	4.0
Chinquapin Farm Conservation Easement	Private, Suwannee River WMD	298.8 – 300.9	Open cut	37.9	19.6
Green Swamp Conservation Easements	Private / FDEP	440.3R – 441.7R	Open cut	14.7	6.3
Green Swamp Land Authority Land Protection Agreements	Private/Green Swamp Land Authority	441.6R – 441.7R 455.3 – 456.5	Open cut	9.6	5.1
Southwest Florida WMD Green Swamp Conservation Easements	Private / Southwest Florida WMD	444.0 – 445.0R 445.1 – 446.1R	Open cut	27.4	18.2
Jahna Ranch Conservation Easement	Private / FDEP	457.8 – 456.5 457.8 – 460.4 460.9 – 462.1 463.7R – 464.3R	Open cut	44.6	26.1
Citrus County Line					
Federal					
FNST / Withlacoochee State Trail [c]	BOT / FDEP, DRP	5.8 – 5.9	Bore	<0.1	0.0
State					
Halpata-Tastanaki Preserve	Southwest Florida WMD	0.1 – 1.3	Open cut and HDD	17.9	6.6

TABLE 3.9.2-8 (cont'd)

Recreation and Special Use Areas Affected by the Sabal Trail Project

State/Authority/Feature	Owner/Management	Crossing Mileposts	Crossing Method	Area Affected (acres)	
				Const. [a]	Op. [b]
Withlacoochee River South Paddling Trail [c]	FDEP	1.3	HDD	0.0	0.0
Withlacoochee State Forest [d]	BOT / FDACS, FFS	1.9 – 3.7	Open cut	20.4	10.5
County/Municipal					
Central Ridge District Park	Citrus County, Florida	5.9 – 6.3	Open cut	4.9	2.0
Hunters Creek Line					
State					
Shingle Creek Regional Park	Osceola County, Florida	8.5 – 8.6	Access Road	1.3	0.0
Shingle Creek Trail / State Paddling Trail [c]	Osceola County, Florida	9.2	HDD	0.0	0.0
Total				333.1	175.5

[a] Assumes a 100-foot-wide construction right-of-way.
[b] Assumes a 50-foot-wide permanent right-of-way. Does not include wetlands or areas where the permanent right-of-way would not be maintained (e.g., HDDs).
[C] Site-specific plans are provided in appendix L.
[d] Special use area associated with the Great Florida Birding Trail.

In addition to the areas identified in table 3.9.2-8, the following recreational and special land use areas are within 0.25 mile of the Sabal Trail Project:

Georgia – Mainline

- Private/Conservation Lands: Moreland Place Bottom Mitigation Bank (MP 134.0R)
- Private/Conservation Lands: Stonebridge Golf Course and Country Club (MP 151.6)
- County/Municipal: Boy Scout Track (MP 162.5)
- Private/Conservation Lands: Private Conservation Land ID 2008052 (MP 189.4)
- County/Municipal: Oris Blackburn Memorial Park (MP 243.9)

Florida – Mainline

- State: Ichetucknee Conservation Area (MP 308.4)
- Private/Conservation Lands: Juliette Falls Golf Club and Spa Club (MP 378.0)
- Private/Conservation Lands: Gum Slough Southwest Florida WMD Conservation Easement (MP 390.8)
- State: Lake Panasoffkee (MP 408.9)
- State: Big Prairie (MP 430.6R)
- Private/Conservation Lands: FDEP Green Swamp Easements (MP 441.8R)
- State: Green Swamp (MP 448.4)

Florida – CCL

- State: Withlacoochee State Forest (MP 4.8)
- State: Crystal River Reserve State Park (19.6)

Florida – HCL

- State: Upper Lakes Basin Watershed (MP 0.7)
- Private Conservation Lands: Florida Mitigation Bank (MP 3.5)
- County/Municipal: Hamilton Reserve (MP 5.6)
- County/Municipal: Shingle Creek Regional Park (MP 8.4)

Access Roads

- Federal: Walter F. George Lake (Mainline MPs 85.2, 85.9, and 86.5)
- State: Gum Slough Southwest Florida WMD Conservation Easement (Mainline MP 390.7)
- State: Lake Panasoffkee (Mainline MP 413.6 – 418.1R)
- State: Crystal River Preserve State Park (CCL MP 19.6 – 21.1)

During pipeline construction within 0.25 mile of the areas identified above, noise and visual impacts would occur; these would be temporary and limited to the time of construction. During operation, moderate and permanent visual and noise impacts would result from clearing of trees from the permanent right-of-way and, if applicable, the placement of permanent facilities such as compressor stations or MLVs within proximity to the recreation and special interest areas.

One of the primary concerns when crossing recreation and special interest areas is the impact of construction on the purpose for which the area was established (e.g., the recreational activities, public access, and resources the area aims to protect). Construction would alter visual aesthetics by removing existing vegetation and disturbing soils. Construction would also generate dust and noise, which could be a nuisance to recreational users. Construction could also interfere with or diminish the quality of the recreational experience by affecting wildlife movements or disturbing trails.

In general, project impacts on recreational and special interest areas occurring outside of forest land would be minor and temporary (limited to the period of active construction), which typically would last only several days to several weeks in any one area. These impacts would be minimized by implementing Sabal Trail's E&SCP. Following construction, most open land uses would be able to revert to their former uses. Forest land affected by the temporary construction right-of-way and ATWS areas, however, would experience long-term impacts because of the time required to restore the woody vegetation to its preconstruction condition. Further, the placement of aboveground facilities and permanent access roads, as well as forest land within the operational right-of-way, would experience permanent impacts because it would be precluded from being reestablished at the site or within the maintained portion of the right-of-way.

Sabal Trail would work with the landowners of the recreational and special interest areas to avoid, minimize, or mitigate impacts on these areas, as requested. Sabal Trail would attempt to maintain access to the areas during construction of the pipeline, and if necessary, would compensate the landowner(s) for the value of any lost resources.

Sabal Trail has proposed general mitigation measures and, for linear trails where a detour or temporary closure may be required (e.g., the Florida National Scenic Trail (FNST), Santa Fe River Trail), provided draft site-specific crossing plans that are being completed in consultation with the applicable land management agency. Each recreation or special interest area is discussed in further detail below. However, based on the impacts identified and mitigation measures Sabal Trail would implement, we do not believe the project would result in significant impacts on recreational or special interest areas. Because these crossing plans are draft, **we encourage the owners/managers of each recreation and special interest area to provide us comments on the plan(s) specific to their property of ownership or management during the draft EIS comment period**.

Visual impacts on recreational and special interest areas that are designated for their scenic value are discussed in section 3.9.2.6.

General recreational opportunities are available throughout the Sabal Trail Project area. These include fishing, boating, birding, wildlife viewing, photography, hiking, biking, and hunting. The following discussions describe recreational and special interest areas designated by federal, state, and county/municipal entities, and the opportunities available at each area.

In Alabama, no state-owned or managed properties or public lands open to hunting would be crossed by the project in Alabama. Private land in Alabama is not open to hunting to the general public, though private land may be hunted with a landowner's permission. In Florida, hunting is permitted in some special land use areas, including the Chinquapin Farm Conservation Easement, Marjorie Harris Carr

Cross Florida Greenway State Recreation and Conservation Area, and the Green Swamp Area. We received comments regarding several private quail hunting operations crossed by or in proximity to the project in Georgia, including the Morrisson Pines Plantation in Moultrie. Seasonal hunting recreation opportunities in these areas would be temporarily affected by construction activities, including associated dust and noise, and may require limiting access to quail hunting grounds. Sabal Trail would coordinate with the owners of these areas during easement negotiations to identify measures, such as avoiding construction during the peak hunting season and/or placing signage, to avoid or minimize impacts on hunters that are acceptable to the owner. Operation of the project would require conversion of forest land to open land or industrial/commercial land at permanent facilities (e.g., operational right-of-way, aboveground facilities), which may affect recreational hunting, though hunting is not limited to forest lands.

Alabama

Walter F. George Lake (Chattahoochee River)

As listed in table 3.9.2-8, the Mainline would cross the Walter F. George Lake at the Alabama/ Georgia state line between Russell County, Alabama and Stewart County, Georgia. The USACE created the lake along the Chattahoochee River, and the lake offers recreational uses such as camping, fishing, hunting, boating, swimming, picnicking, and sunning (USACE, 2015).

The lake shoreline is managed by the Walter F. George Lake Shoreline Management Plan (USACE, 2011). Land management for the area affected by the project is classified as Limited Development, which allows for certain specific private uses such as structures, provided the appropriate permit is obtained.

Sabal Trail would cross the Walter F. George Lake (Chattahoochee River) using the HDD crossing method, which is described in section 2.3.2. Direct impacts on the lake would be avoided; however, recreational users may experience temporary visual and noise impacts associated with construction personnel and equipment and HDD activities. Recreational uses of the lake would not be affected by operations. Also, because the lake would be crossed by the HDD method, tree clearing and vegetation maintenance within the permanent right-of-way on either side of the crossing would not be necessary, thus avoiding permanent visual impacts on recreational users.

HDD set-up and operation activities would be located near the shorelines of the lake. Because a private road providing access to the shoreline runs through an ATWS area associated with HDD exit point, Sabal Trail is working with the USACE to identify measures that would allow for maintained access to the affected shoreline parcels during construction.

Alabama Scenic River Trail (Tallapoosa River)

The Sabal Trail Project would cross the Tallapoosa River portion of the Alabama Scenic River Trail in Tallapoosa County. The Alabama Scenic River Trail is part of a recreational river network that provides uses such as boating, kayaking, canoeing, fishing, and wildlife viewing (NPS, 2015).

The Mainline would cross the Tallapoosa River and Alabama Scenic River Trail using the HDD crossing method, which is described in section 2.3.2. Direct impacts on the river would be avoided; however, recreational users may experience temporary visual and noise impacts associated with construction personnel and equipment and HDD activities. To minimize impacts associated with the scenic designation, the pipeline would be collocated with an existing overhead power line right-of-way. Impacts associated with the project would be incremental to and consistent with these existing features.

Recreational uses of the river trail would not be affected by operations. Also, because the river trail would be crossed by the HDD method, tree clearing and vegetation maintenance within the permanent right-of-way on either side of the crossing would not be necessary, thus avoiding permanent visual impacts on recreational users.

Georgia

In addition to the areas identified below, we received comments concerning the RESORA village, farm, and preserve in Dougherty County, Georgia, also referred to as the Cypress Pond Plantation. Based on Communities, Inc.'s and New Communities at Cypress Pond, LLC's comment letter, RESORA is the largest tract of land owned by African Americans in Dougherty County and the only former plantation in Dougherty County owned by African Americans. Construction of the Mainline would impact about 20 acres of forest and planted pecan trees on the 1,638-acre property, and operation of the pipeline would permanently impact about 8.5 acres. Concerns included impacts on air quality; impacts from noise; disruption of business and activities; and impacts on cultural resources. Section 3.12 discusses air and noise impacts associated with the SMP Project; impacts on commercial/industrial features, including businesses, are discussed in section 3.9, General Impacts and Mitigation; and impacts on cultural resources are discussed in section 3.11.

Walter F. George Lake (Chattahoochee River)

The Sabal Trail Project would cross the Walter F. George Lake at the Alabama/Georgia state line and, therefore, the impacts on the lake in Georgia would be the same as those described above for Alabama.

Georgia State Highway 37

The Sabal Trail Project would cross Georgia State Highway 37, also known as Camilla Highway, in Colquitt County. The GDOT has completed the initial phase of the Scenic Byway designation process for the highway; however, official designation is pending a corridor management plan, for which the timing is currently unknown (GDOT, 2015). Land uses on either side of the road at the crossing location consists of rural residential, agricultural, and open land.

Sabal Trail would cross the highway using the bore crossing method, which is described in section 2.3.2.3. Direct impacts on the highway would be avoided; however, scenic travelers may experience temporary visual and noise impacts associated with construction personnel and equipment and bore activities. To minimize impacts associated with any future scenic designation, the pipeline would be collocated with an existing pipeline and overhead power line rights-of-way. Impacts associated with the project would be incremental to and consistent with these existing features. Recreational uses of the highway would not be affected by operations.

Tom White Linear Park

The Sabal Trail Project would cross the Tom White Linear Park, also known as the Moultrie Trail, in Colquitt County. The 7.2-mile-long park/trail runs between downtown Moultrie and the Moultrie Municipal Airport (Explore Georgia, 2015). The park/trail follows an old CSX rail bed and provides for hiking and biking. Land uses on either side of the park/trail at the crossing location consists of agricultural and open land.

The Mainline would cross the park/trail along with Highway 35 using the bore crossing method. Direct impacts on the park/trail would be avoided; however, hikers and bikers may experience temporary

visual and noise impacts associated with construction personnel and equipment and bore activities. Vegetation clearing would be required during construction, but because agricultural and open land is adjacent to the park/trail crossing, limited vegetation maintenance within the permanent right-of-way adjacent to the crossing is anticipated. Additionally, the project would be collocated with an existing pipeline right-of-way at this crossing, thus avoiding impacts associated with creating a new right-of-way. Following construction, recreational uses of the park/trail would continue throughout project operation. Visual impacts on the trail are discussed in section 3.9.2.7. A site-specific plan for this crossing is included in appendix L.

Conservation Lands

The Georgia Land Conservation Program (GLCP) works to preserve a statewide network of land and water resources through partnerships between cities and counties in Georgia, state and federal agencies, landowners, and other private sector partners (GLCP, 2014). Based on a review of the GLCP database and as listed in table 3.9.2-8, the Mainline would cross three conservation easements that are part of this program and managed by the Georgia Land Trust in Georgia: TC2008034, TC008053, and TC2010063. Each area would be crossed using standard upland construction methods, as described in section 2.3.1.

The section of conservation easement TC2008034 that the Mainline would cross consists of agricultural and forest land, and is managed for biodiversity and closed to public access. Construction would affect 4.8 acres of the easement. Project-related impacts and mitigation measures Sabal Trail would implement on this property would be similar to those described for general agricultural and forested areas (see section 3.9.2.2). To minimize impacts associated with vegetation clearing and the creation of a new right-of-way, the pipeline would be collocated with an existing pipeline right-of-way. Sabal Trail would maintain irrigation systems; work with the landowner to maintain access during the construction; and compensate the landowner for the value of trees removed by construction and operation of the project. Permanent impacts totaling 1.8 acres would occur as a result of the conversion of forested land to open land within the operational right-of-way. Conservation easement TC2008034 is also part of the Georgia Forest Stewardship Program, which is discussed in section 3.9.2.2. Following construction, special uses of the conservation easement would continue throughout project operation.

The section of conservation easement TC008053 that the Mainline would cross consists of privately owned forest land. Due to information lacking in the GLCP database, public access and the primary conservation purpose of the easement information is unknown. Project-related impacts and mitigation measures Sabal Trail would implement would be similar to those describe for forested land (see section 3.9.2.2). Construction would affect 11.3 acres of the easement. To minimize impacts associated with vegetation clearing and the creation of a new right-of-way, the pipeline would be collocated with an existing power line right-of-way. Sabal Trail would work with the landowner to maintain access during construction and would compensate the landowner for the value of trees removed by construction and operation of the project. Permanent impacts on the conservation easement (4.8 acres) would occur as a result of the conversion of forested land to open land within the operational right-of-way. Following construction, special uses of the conservation easement would continue throughout project operation.

The section of conservation easement TC2010063 that the Mainline would cross consists of privately owned center-pivot irrigated agricultural land. Construction would affect 8.7 acres of the easement and operations would affect 3.4 acres. Impacts on this property would be similar to those described for general agricultural and irrigation system areas (see section 3.9.2.2). Sabal Trail would not affect lands managed for biodiversity within the easement and, similar to the mitigation measures described for these land uses, would maintain irrigation systems and landowner access. To minimize

impacts associated with vegetation clearing and the creation of a new right-of-way, the pipeline would be partially collocated with an existing pipeline right-of-way. Following construction, special uses of the conservation easement would continue throughout project operation.

The Mainline would cross the privately owned Carlton Farms Tall Timbers Land Conservancy easement in Colquitt County. The 1,175-acre parcel is managed by the Dougherty County Board of County Commissioners for biodiversity, and is closed to public access (Tall Timbers, 2007). Construction would affect 8.0 acres and operations would affect 3.1 acres of the easement. To minimize impacts on this tract, the pipeline would be collocated with an existing pipeline right-of-way. Construction and operation of the Mainline would result in the conversion of forest land to open land in the permanent right-of-way. Sabal Trail would work with the landowner to maintain access and would compensate the landowner for the value of trees removed by construction and operation of the project. Following construction, special uses of the conservation easement would continue throughout project operation.

U.S. 19 Dragway

The Sabal Trail Project would cross the privately owned U.S. 19 Dragway, near the city of Albany. This site includes a race track that is 0.5 mile long and 60 feet wide.

The Mainline would cross the race track using the bore crossing method, or other crossing method that would not disturb the surface. Parking and other structures on the property would not be affected by the construction and operation of the project. Sabal Trail would coordinate with the facility owner regarding a construction schedule that would minimize disturbance to dragway operations. Following construction, recreational uses of the drag way would continue throughout project operation.

Florida

Sabal Trail would affect three types of conservation easements with legal protections in Florida. These include the following:

1. Land Protection Agreements acquired by the Green Swamp Land Authority pursuant to Section 380.0677, Florida Statutes (1994). Land Protection Agreements were required by statute to be transferred from the Green Swamp Land Authority to the water management district within which the land subject to the agreement is located, and subsequently required by statute to be transferred from the various water management districts to the Board of Trustees.

2. Conservation easements as defined in Section 704.06, Florida Statutes (2014) which were NOT given as mitigation for wetland impacts. Referred to herein as Proprietary Conservation Easements.

3. Conservation easements as defined in Section 704.06, Florida Statutes (2014) which WERE given as mitigation for wetland impacts. Referred to herein as Regulatory Conservation Easements.

Specific to Land Protection Agreements, all provide the following language:

> The following operations, uses or occurrences shall not be prohibited by this land protection agreement . . .[w]ork shall be permitted by any utility and other persons engaged in the distribution or transmission of gas or water, or for the purpose of inspecting, repairing, renewing or constructing on rights of way or public or private

> easements, for any sewers, mains, pipes, cables, utility tunnels, power lines, towers, poles, tracks, or the like.

Therefore, the Sabal Trail Project's right-of-way is expected to be allowed on these lands and Sabal Trail would obtain an easement for its facilities from the owner of the underlying fee interest in lands subject to Land Protection Agreements.

Conservation Easements are defined in Section 704.06, Florida Statutes as:

> a right or interest in real property which is appropriate to retaining land or water areas predominantly in their natural, scenic, open, agricultural, or wooded condition; retaining such areas as suitable habitat for fish, plants, or wildlife; retaining the structural integrity or physical appearance of sites or properties of historical, architectural, archaeological, or cultural significance; or maintaining existing land uses and which prohibits or limits any or all of the following…(a) Construction or placing of buildings, roads, signs, billboards or other advertising, utilities, or other structures on or above the ground…(c) Removal or destruction of trees, shrubs, or other vegetation…(d) Excavation, dredging, or removal of loam, peat, gravel, soil, rock, or other material substance in such manner as to affect the surface…

Based on the above statute language, a pipeline project's activities and facilities would be prohibited or limited. However, Section 704.06 (11), Florida Statutes goes on to state the following:

> Nothing in this section or other provisions of law shall be construed to prohibit or limit the owner of land, or the owner of a conservation easement over land, to voluntarily negotiate the sale or utilization of such lands or easement for the construction and operation of linear facilities, including electric transmission and distribution facilities, telecommunications transmission and distribution facilities, pipeline transmission and distribution facilities, public transportation corridors, and related appurtenances, nor shall this section prohibit the use of eminent domain for said purposes as established by law.

Therefore, the Sabal Trail Project is expected to be allowed on these lands via obtaining consent from the conservation easement holder by simple agreement, without having to engage in vacating or releasing the easement in whole or in part. Sabal Trail has noted that some fee owners may condition the grant of easement on Sabal Trail obtaining consent from the owner of the conservation easement(s).

Based on information provided by Sabal Trail regarding meetings with the FDEP, the Board of Trustees, the Suwannee River WMD, Southwest Florida WMD, and South Florida WMD in March 2105 and April 2015, the FDEP, the Board of Trustees, and the Suwannee River WMD have agreed to enter into a simple consent for Sabal Trail to locate its facilities in conservation easements owned by these entities. The Southwest Florida WMD and South Florida WMD have agreed to provide consents for Sabal Trail to locate its facilities in conservation easements owned by these entities, but only for temporary workspaces. The Southwest Florida WMD and South Florida WMD would require that the affected portion of the conservation easement for the permanent pipeline easement be released from its status.

Sabal Trail would purchase mitigation credits to offset impacts on wetlands within the conservation easements and uplands within Regulatory Conservation Easements. At Proprietary Conservation Easements, Sabal Trail would compensate the owners an amount to be determined by an appraisal performed by a licensed property appraiser agreeable to the conservation easement owner and Sabal Trail. The appraisal would reflect the value of the property interest being conveyed (i.e., temporary

workspace or permanent right-of-way). Sabal Trail would not compensate owners of Regulatory Conservation Easements or Land Protection Agreements.

The conservation easements with known designated names are listed in table 3.9.2-8 and discussed below. Additional conservation easements and their designation as either a Regulatory or Proprietary Conservation Easement (including those identified in table 3.9.2-8) are listed in table 3.9.2-9.

TABLE 3.9.2-9

Conservation Easements Affected by the Sabal Trail Project

Facility/Start Milepost	End Milepost	Conservation Easement Type
Mainline		
267.4R	268.1R	Proprietary
298.7	300.9	Proprietary
324.5	324.8	Proprietary
390.0[a]	--	Proprietary
399.0	399.5	Proprietary
440.3R	441.35R	Proprietary
441.6	441.8	Proprietary
442.1	442.3	Proprietary
444.0	444.0	Proprietary
445.0	446.1	Proprietary
448.0	448.3	Proprietary
455.3	456.0	Proprietary
457.8	460.4	Regulatory
461.0	462.4	Regulatory
463.4	463.5R	Regulatory
463.65R	464.3R	Regulatory
466.75R	466.9R	Regulatory
467.9R	468.2R	Regulatory
468.3R	468.85R	Regulatory
468.9R	469.1R	Regulatory
471.6	471.7	Regulatory
471.7	472.0	Regulatory
472.1	472.3	Regulatory
472.5	472.7	Regulatory
Hunters Creek Line		
1.4 [b]	--	Regulatory
1.6	2.0	Regulatory
2.1	2.2	Regulatory
6.7	7.1	Regulatory
8.2	8.5	Regulatory
10.7	11.0	Proprietary
11.0	11.2	Proprietary
11.5	11.6	Proprietary
11.7	12.1	Regulatory
12.3	12.6	Regulatory
12.7	13.1	Regulatory
Citrus County Line	None	

[a] Access Road on tract FL-MA-055.500 crosses Conservation Easement

[b] ATWS is located within a Conservation Easement

Source: Supplemental Information from Sabal Trail dated June 18, 2015.

Mainline

Florida National Scenic Trail

The Sabal Trail Project would cross the FNST, a non-motorized hiking trail, at two locations (see table 3.9.2-8) (FS, 1986). Additionally, the project would cross two unofficial FNST connectors, which are roads or trails that help users access non-contiguous segments of the FNST (see table 3.9.2-8). These connectors are not officially designated segments of the trail and are owned and managed by other agencies.

The Mainline would cross the FNST connectors at MPs 266.0R, 382.7, and 384.7 using the conventional bore construction method, which is described in section 2.3.2. Construction- and operation-related impacts associated with the project would be the same as those described for other features discussed throughout this section that would be crossed using the bore method. Recreational uses of the trail would not be affected by operations. Land uses at the crossings is open and forested. The ATWS associated with the bore crossings appear to be located such that tree removal is required, resulting in a long-term impact. However, the pipeline would be located adjacent to an already permanently cleared trail. Visual impacts on the scenic trail connectors are discussed in section 3.9.2.7. Site-specific plans for these crossings is included in appendix L.

The Mainline would cross a designated segment of the FNST at MP 267.3R using the HDD crossing method in conjunction with the Suwannee River State Park, Suwannee River State Park Trail, Suwannee River, and Lower Suwannee River Trail/Wilderness Trail crossings. Construction- and operation-related impacts associated with the project would be the same as those described for other features discussed throughout this section that would be crossed using the HDD method. Recreational uses of the trail would not be affected by operations. A site-specific plan for this crossing is included in appendix L.

The Mainline would cross a second designated segment of the FNST at MP 384.9 where it is joined with the Cross Florida Greenway Trail and Trail Two East using standard upland construction methods (open cut). As a result, this crossing would require a temporary trail closure. Notice of a detour would be posted one week prior to construction and the trail would be detoured from the start of construction through cleanup and restoration, approximately 60 to 90 days. Sabal Trail would work with trail managers to schedule construction activities, reroute trail traffic, and develop mitigation such as warning signs and barriers to reduce potential safety effects to trail users. Because the trail would be temporarily closed and specific mitigation measures such as a detour have not yet been identified, **we recommend that:**

- **<u>Prior to the close of the draft EIS comment period</u>, Sabal Trail should:**

  a. file an evaluation of the feasibility of using the bore or HDD crossing method for the FNST crossing at Mainline MP 384.9; and

  b. if the bore or HDD method is not feasible, file a FNST site-specific crossing plan that identifies the location(s) of a detour, public notification, signage, and consideration of avoiding days of peak usage. The crossing plan should be developed in consultation with the land managing agency.

Long-term impacts on the FNST at this crossing would include changes to the scenic quality of the existing forested landscape as a result of permanent right-of-way vegetation maintenance. Visual impacts on the scenic trail are discussed in section 3.9.2.7.

Twin Rivers State Forest

The Sabal Trail Project would cross several parcels within the Twin Rivers State Forest in Hamilton County between MPs 249.8 and 259.1. Land uses in the Twin Rivers State Forest include forest management, ecosystem restoration, recreation, wildlife management, watershed protection and environmental education (FFS, 2005). Recreation uses include picnicking, hiking, bicycling, horseback riding, canoeing, and fishing.

The Mainline would cross forest land in the state forest, which would require temporary and permanent tree clearing and vegetation maintenance for construction and operation, respectively, of the project. The area would be crossed using standard upland construction methods (open cut), as described in section 2.3.1. Construction would affect 9.5 acres and operations would affect 4.0 acres of the state forest. Project-related impacts and mitigation measures Sabal Trail would implement would be similar to those described for forested land (see section 3.9.2.2). Recreational users would potentially be temporarily affected by noise, dust, construction-related traffic, and visual impacts resulting from construction personnel and equipment. To reduce impacts on the state forest, the project would be collocated with an existing power line right-of-way. Operation of the project would result in the conversion of forest land to open land within the permanent right-of-way. Sabal Trail would compensate the landowner for the removal of forest land associated with construction and operation of the project, and recreational uses of the state forest would continue throughout project operation.

Suwannee River State Park and Trail

The Sabal Trail Project would cross the Suwannee River State Park along the border of Hamilton and Suwannee Counties. The park includes over 1,800 acres of land and features such as sinks, streams, springs, rivers, and limestone outcroppings. Recreation uses include picnicking, hiking, boating, and fishing (Florida Park Service, 2015). The state park includes the Suwannee River State Park Trail and is adjacent to the Warner/Harrell Conservation Easement.

The Sabal Trail Project would cross the Suwannee River State Park Trail, which is located within the Suwannee River State Park in Hamilton County, Florida. The trail connects with the FNST and parallels the Santa Fe River Trail (Florida Park Service, 2015).

The Mainline would cross the Suwannee River State Park using the HDD construction method, which is described in section 2.3.2. Direct impacts on the park would be avoided due to the use of the HDD crossing method; however, recreational users may experience temporary visual and noise impacts associated with construction personnel and equipment and HDD activities. Recreational uses of the park would not be affected by operations. Also, because the state park would crossed by the HDD method, tree clearing and vegetation maintenance within the permanent right-of-way on either side of the crossing would not be necessary, thus avoiding permanent visual impacts on recreational users.

The Mainline would cross the Suwannee River State Park Trail at MP 267.0R in conjunction with the HDD for the Suwannee River State Park, FNST, Suwannee River, and Lower Suwannee River Trail/Suwannee River Wilderness Trail. Direct impacts on the trail where the HDD method is used would be avoided; however, recreational users may experience temporary visual and noise impacts associated with construction personnel and equipment and HDD activities. Recreational uses of the trail would not be affected by operations. Also, because the trail would crossed by the HDD method, tree clearing and vegetation maintenance within the permanent right-of-way on either side of the crossing would not be necessary, thus avoiding permanent visual impacts on recreational users. Visual impacts on the trail are discussed in section 3.9.2.7. A site-specific plan for this crossing is included in appendix L.

Lower Suwannee River Trail/Wilderness Trail

The Sabal Trail Project would cross the Lower Suwannee River Trail/Wilderness Trail at the Suwannee River boundary between Hamilton and Suwannee Counties, which is a network of natural, recreational, and historic sites along the Suwannee River from the town of White Springs running 170 miles to the Gulf of Mexico (Suwannee River WMD, 2015).

The Mainline would cross the Lower Suwannee River Trail/Suwannee River Wilderness Trail using the HDD crossing method. Construction- and operation-related impacts associated with the project would be the same as those described for other features discussed throughout this section that would be crossed using the HDD method. Recreational uses of the trail would not be affected by operations. Visual impacts on the trail are discussed in section 3.9.2.7. A site-specific plan for this crossing is included in appendix L.

Santa Fe River Paddling Trail

The Sabal Trail Project would cross the Santa Fe River Paddling Trail, which is a designated paddling trail that runs for 26 miles of the 75-mile long river (Paddle Florida, 2015), and forms the county line between Suwannee and Gilchrist Counties.

The Mainline would cross the Santa Fe River Paddling Trail using the HDD crossing method, which is described in section 2.3.2. Construction- and operation-related impacts associated with the project would be the same as those described for other features discussed throughout this section that would be crossed using the HDD method. Recreational uses of the trail would not be affected by operations. Visual impacts on the trail are discussed in section 3.9.2.7. A site-specific plan for this crossing is included in appendix L.

Circle Pines Farm Conservation Easement

The Sabal Trail Project would cross the Circle Pines Farm Conservation Easement, which is a privately owned 81-acre tract located in Gilchrist County enrolled in the Rural and Family Lands Protection Program managed by the FFS (The Conservation Registry, 2013).

The Mainline would cross the Circle Pines Farm Conservation Easement using standard upland construction methods (open cut). Construction would affect 3.4 acres and operations would affect 1.7 acres of the easement, which is primarily forested land. Impacts on the easement resulting from construction would be similar to those described in 3.9.2.2, depending on the specific land use type affected. Sabal Trail would work with the landowner to maintain access to the easement and develop the project in a manner consistent with the terms of the conservation easement. To reduce impacts on the easement resulting from the creation of a new right-of-way, the project would be collocated with an existing power line right-of-way. Tree clearing and vegetation maintenance would convert forest land to open land within the permanent right-of-way; however, following construction, special uses of the easement would be allowed to continue.

Nature Coast State Trail

The Sabal Trail Project would cross the Nature Coast State Trail, which is a 31.7-mile-long paved trail with recreational uses, including walking, biking, skating, and bird watching, and parallels the north side of State Road 26 between Trenton and Newberry. The crossing is located east of the town of Trenton in Gilchrist County. An equestrian trail parallels some portions of the paved trail (Florida State Parks, 2015b).

The Mainline would cross the Nature Coast State Trail using the conventional bore method. Construction- and operation-related impacts associated with the project would be the same as those described for other features discussed throughout this section that would be crossed using the bore method. At the crossing location, the trail is bordered by a line of trees. The ATWS associated with the bore crossing appears to be located such that tree removal would be avoided. Recreational uses of the trail would not be affected by operations. Visual impacts on the trail are discussed in section 3.9.2.7. A site-specific plan for this crossing is included in appendix L.

Goethe State Forest

The Sabal Trail Project would cross two parcels of the Goethe State Forest (see table 3.9.2-8). Recreational activities in the Goethe State Forest include hiking and equestrian trails, camping, hunting, fishing, and picnicking (FFS, 2013).

The Mainline would cross the state forest using standard upland construction methods (open cut). Construction activities would affect 19.1 acres and operations activities would affect 9.1 acres of land within the state forest. The pipeline crossings would require tree clearing during construction, and result in the conversion of forest land to open land within the permanent right-of-way during operation. To reduce impacts on the state forest, the project would be collocated with an existing cleared electric transmission line right-of-way. Sabal Trail would compensate the land managing agency for the value of trees removed by construction and operation of the project. Similar to other features crossed using the standard construction methods, recreational users would be temporarily affected by project-related noise, dust, traffic, and visual impacts. These impacts would be limited to the time of construction and recreational uses of the trail following construction would be allowed to continue throughout operation of the project.

Marjorie Harris Carr Cross Florida Greenway State Recreation and Conservation Area

The Sabal Trail Project would cross the Marjorie Harris Carr Cross Florida Greenway State Recreation and Conservation Area (Greenway), which is 110 miles long and extends from Yankeetown on Florida's west coast to just south of Palatka on the St. Johns River near Florida's east coast. Recreational use of the Greenway includes biking, hiking, hunting, fishing, paddling and equestrian recreation opportunities (Florida State Parks, 2015). The Western Corridor of the FNST overlaps the Greenway for approximately 36 miles. The Greenway provides a trail corridor link between Ocala National Forest and the Withlacoochee State Trail near Dunnellon.

The Mainline would cross the Greenway in Marion County to the east of the Halpata-Tastanaki Preserve. The Mainline would cross several trails associated with this area: the Trail One East at MP 385.0R; Trail Two West at MPs 385.9R, 386.5R, and 387.5R; and Trail Two East at MPs 389.2R and 389.5R. Sabal Trail would cross the Greenway and each trail segment using standard upland construction methods (open cut). Construction- and operation-related impacts would be similar to those described in 3.9.2.2, depending on the specific land use type affected at each crossing. Use of the trails at these locations would be temporarily disrupted by closing the trail for the duration of construction activities. Similar to other features crossed using the standard construction methods, recreational users would be temporarily affected by project-related noise, dust, traffic, and visual impacts. These impacts would be limited to the time of construction and recreational uses of the trail following construction would be allowed to continue throughout operation of the project. Visual impacts on the trails are discussed in section 3.9.2.7. Site-specific plans for these crossings are included in appendix L.

Halpata-Tastanaki Preserve

The Sabal Trail Project would cross the Halpata-Tastanaki Preserve in Marion County, which is located within a patchwork of public lands that include the adjacent Marjorie Harris Carr Cross Florida Greenway, Two-Mile Prairie, and Ross Prairie State Forest. The Halpata-Tastanaki Preserve contains several Special Designation Areas meant to preserve habitat for sensitive species while also providing high-quality recreation opportunities (Southwest Florida WMD, 1999).

The Mainline would cross the Halpata-Tastanaki Preserve using standard upland construction methods (open cut), affecting a mixture of wetlands (open land), open land, and forest land. Construction activities would affect 19.6 acres and operations activities would affect 9.3 acres of land within the preserve. Construction- and operation-related impacts would be similar to those described in 3.9.2.2, depending on the specific land use type affected at each crossing. To minimize impacts on the Halpata-Tastanaki Preserve, the project would be located adjacent to existing utility rights-of-way within the preserve for much of its length. Sabal Trail would negotiate with the Southwest Florida WMD to develop the project in a manner consistent with the terms of the Halpata-Tastanaki Preserve Management Plan. Similar to other features crossed using the standard construction methods, recreational users would be temporarily affected by project-related noise, dust, traffic, and visual impacts. These impacts would be limited to the time of construction. Tree clearing and vegetation maintenance within the permanent right-of-way would result in the conversion of forest land to open land within the permanent right-of-way; however, recreational uses within the Halpata-Tastanaki Preserve following construction would be allowed to continue throughout operation of the project.

Wildlife and special status species that may be affected by the project are discussed in sections 3.6 and 3.8, respectively.

Moxon Road Trail

The Moxon Road Trail is a natural surfaced trail within the Halpata-Tastanaki Preserve, part of a trail system within the Halpata-Tastanaki Preserve that connects to trail systems in the adjacent Marjorie Harris Carr Cross Florida Greenway, the Ross Prairie State Forest, and other nearby public lands to form a regional network of trails (Southwest Florida WMD, 1999).

The Mainline would cross the Moxon Road Trail at MP 390.3 using the conventional bore method. Construction- and operation-related impacts associated with the project would be the same as those described for other features discussed throughout this section that would be crossed using the bore method. At the crossing location, the trail is bordered a cleared area to the northeast and by a cleared field road to the southwest. Recreational uses of the trail would not be affected by operations. A site-specific plan for this crossing is included in appendix L.

Withlacoochee State Forest

The Sabal Trail Project would cross the Withlacoochee State Forest Jumper Creek Tract in Sumter County, which is comprised of several waterways that flow through different portions of the property and include three waterbodies designated as Outstanding Florida Waters: Withlacoochee River, Little Withlacoochee River, and Jumper Creek (FFS, 2003). However, the project would not cross any of these waterways.

The Mainline would cross the state forest using standard upland construction methods (open cut). Construction activities would affect 2.3 acres and operations activities would affect 1.5 acres of land within the state forest. The pipeline crossing would require tree clearing during construction, and result in

the conversion of forest land to open land within the permanent right-of-way during operation. To reduce impacts on the state forest, the project would be partially collocated with an existing cleared electric transmission line right-of-way. Sabal Trail would compensate the land-managing agency for the value of trees removed by construction and operation of the project. Similar to other features crossed using the standard construction methods, recreational users would be temporarily affected by project-related noise, dust, traffic, and visual impacts. These impacts would be limited to the time of construction and recreational uses of the trail following construction would be allowed to continue throughout operation of the project.

Suwannee River Greenway Trail

The Sabal Trail Project would cross the Suwannee River Greenway Trail in Suwannee County, which is a 12.5-mile-long paved trail following a former CSX railroad corridor in Suwannee County. The paved trail parallels the south side of U.S. Highway 27. Recreational uses include pedestrian, bicycle, equestrian, and other non-motorized uses (Suwannee Parks and Recreation, 2015).

The Mainline would cross the Suwannee River Greenway Trail using the conventional bore construction method. Construction- and operation-related impacts associated with the project would be the same as those described for other features discussed throughout this section that would be crossed using the bore method. At the crossing location, the trail is bordered by open land and forested land. The ATWS associated with the bore crossing appears to be located such that tree removal would be required. To reduce impacts associated with creating a new right-of-way at this crossing location, the project would be collocated with an existing power line right-of-way. Recreational uses of the trail would not be affected by operations; however, long-term impacts on the trail at the crossing would resulting from permanent right-of-way vegetation maintenance, changing the scenic quality of the existing landscape. Visual impacts on the trail are discussed in section 3.9.2.7. A site-specific plan for this crossing is included in appendix L.

Warner/Harrell Conservation Easement, also known as the Echo Plantation

The Sabal Trail Project would cross the Warner/Harrell Conservation Easement in Suwannee County, across the Suwannee River from the Suwannee River State Park. This easement covers approximately 912 acres within the Upper Suwannee River watershed and is not accessible to the public (Conservation Registry, 2015).

The Mainline would partially cross the Warner/Harrell Conservation Easement in conjunction with the HDD for the Suwannee River State Park, FNST, Suwannee River, and Santa Fe River Trail. Construction- and operation-related impacts associated with the project would be the same as those described for the above-listed features and crossed by the HDD method. The HDD entry point and associated ATWS would be on open land on the easement. The remaining easement area would be crossed using upland construction methods (open cut), partially adjacent to an existing road on the western border of the easement Construction would affect 10.8 acres and operations would affect 4.0 acres of land within the easement. The pipeline crossing would require tree clearing during construction, and result in the conversion of forest land to open land within the permanent right-of-way during operation. Sabal Trail would compensate the land managing agency for the value of trees removed by construction and operation of the project. Following construction, special uses of the easement would be allowed to continue.

We received comments regarding the landowner's concerns with the route placement through this conservation easement. During the pre-filing period, Sabal Trail had proposed to cross the Withlacoochee and Suwannee Rivers to the south of the current proposed crossing location, but revised the route based

on the karst formation, endangered species, springs, and the aquifer. The landowner believes that those issues are the same or more severe at the currently proposed crossing location. Potential impacts on karst features are discussed in section 3.1.2.3, threatened and endangered species are discussed in section 3.8, and springs/aquifers are discussed in section 3.3.1.

To reduce impacts on the conservation easement, the landowner recommends a Mainline variation that would avoid this area. In section 4.3.2.6 we consider, but do not recommend, an alternative. However, we recommend that Sabal Trail continue to work with the landowner of the Warner/Harrell Conservation Easement in an effort to reduce project-related impacts through this area.

Chinquapin Farm Conservation Easement

The Sabal Trail Project would cross the Chinquapin Farm Conservation Easement, which encompasses approximately 6,350 acres in Suwannee and Columbia Counties, and is privately owned and held by the Suwannee River WMD. According to the National Conservation Easement Database (NCED), the easement is permanent and closed to public use (NCED, 2014). The easement is used primarily for quail hunting, although a few selected trees are harvested (Suwannee River WMD, 2012). Chinquapin Farm is the site of various field trial and quail hunting events.

The Mainline would cross the Chinquapin Farm Conservation Easement using standard upland construction methods (open cut). The crossing consists of forested and open land adjacent to an existing cleared electric transmission line and pipeline right-of-way. Construction would affect about 37.9 acres and operations would affect 19.6 acres of land within the easement. Construction- and operation-related impacts would be similar to those described in 3.9.2.2, depending on the specific land use type affected. The pipeline crossing would require tree clearing during construction, and result in the conversion of forest land to open land within the permanent right-of-way during operation. Construction activities would also temporarily affect hunting on the easement. To reduce impacts on the easement resulting from creating a new right-of-way, the project would be collocated with existing power line and pipeline rights-of-way. Also, Sabal Trail would compensate the landowner for the removal of forest land associated with construction and operation of the project. Following construction, permanent tree removal within the operational right-of-way would convert forested land to open land; however, special uses of the easement, including hunting events, would be allowed to continue.

FDEP Conservation Easements, Green Swamp Land Authority Land Protection Agreements, and Southwest Florida WMD Conservation Easements

The Sabal Trail Project would cross the Green Swamp, which comprises 560,000 acres and includes portions of Polk, Lake, Sumter, Pasco, and Hernando Counties. The Green Swamp contains a mix of public lands managed by various state and regional agencies, and private lands protected by conservation easements. These easements are managed by the FDEP or the Southwest Florida WMD. Managed areas include the Green Swamp Area of Critical State Concern (Lake and Polk Counties), several privately owned conservation easements that are part of the Green Swamp Land Authority Land Protection Agreements, Green Swamp Conservation Easements, the Green Swamp – Pine Island Recharge Area, the Green Swamp Wilderness Preserve, the Hilochee Wildlife Management Area, and the Jahna Ranch Conservation Easement. Recreation uses include hunting and fishing, hiking, bicycling, horseback riding, and canoeing.

The Mainline would cross the FDEP-managed conservation easements using standard upland construction methods (open cut). Installation of the pipeline would require creation of a new right-of-way, affecting agricultural land, forested land, and open land. Construction would affect 14.7 acres and operation would affect 6.3 acres of land within the FDEP Green Swamp Conservation Easements.

The Mainline would cross the Green Swamp Land Authority Land Protection Agreements using standard upland construction methods (open cut). Installation of the pipeline would require creation of a new right-of-way, affecting primarily open land, though the route would be partially collocated with County Road 565's right-of-way. Construction would affect 9.6 acres and operation would affect 5.1 acres of land within the Green Swamp Land Authority Land Protection Agreements.

The Sabal Trail Project would cross Green Swamp Conservation Easements in Lake County, which are privately owned parcels managed by the Southwest Florida WMD. The Mainline would cross the easements using standard upland construction methods (open cut). Installation of the pipeline would require creation of a new right-of-way, affecting primarily open land containing wetlands. Construction would affect 27.4 acres and operations would affect 18.2 acres of land within the easement.

Construction- and operation-related impacts would be similar to those described in 3.9.2.2, depending on the specific land use type affected. Hunting would be temporarily disrupted during construction activities. Sabal Trail would work with the private landowners and the FWC, the Land Protection Agreement managing agency, to avoid or mitigate effects, maintain access to the tracts during the construction of the pipeline, and if necessary, compensate the landowners for the value of any lost resources.

Further, Sabal Trail would negotiate with the landowner(s) to develop the project in a manner consistent with the terms of the Land Protection Agreement. Similar to other features crossed using the standard construction methods, special uses would be temporarily affected by project-related noise, dust, traffic, and visual impacts. These impacts would be limited to the time of construction and recreational uses of the area following construction would be allowed to continue throughout operation of the project.

Sabal Trail would negotiate with the landowner(s) and the Southwest Florida WMD to develop the project in a manner consistent with the terms of the conservation easement. Similar to other features crossed using the standard construction methods, special uses would be temporarily affected by project-related noise, dust, traffic, and visual impacts. These impacts would be limited to the time of construction and special use of the easement following construction would be allowed to continue throughout operation of the project.

Jahna Ranch Conservation Easement

The Sabal Trail Project would cross the Jahna Ranch Conservation Easement, which is a privately owned tract that consists of discontinuous but connected parcels east of the Green Swamp in Polk County. The easement is managed by the FDEP Division of Water Resource Management and is monitored by the Bureau of Mining and Minerals Regulation due to the presence of an active sand mine that is intended to be restored to a natural state (FDEP, 2013a). There is no public use of the easement.

The Mainline would cross the easement using standard upland construction methods (open cut). Installation of the pipeline would require creation of a new right-of-way, affecting primarily open land and forest land containing wetlands. Construction would affect 44.6 acres and operations would affect 26.1 acres of land within the easement. Construction- and operation-related impacts would be similar to those described in 3.9.2.2, depending on the specific land use type affected at each crossing. Sabal Trail would develop the project consistent with the terms of the conservation easement. Similar to other features crossed using the standard construction methods, special uses would be temporarily affected by project-related noise, dust, traffic, and visual impacts. These impacts would be limited to the time of construction. Tree clearing and vegetation maintenance within the new right-of-way would result in the conversion of forest land to open land within the permanent right-of-way; however, special uses of the easement following construction would be allowed to continue throughout operation of the project.

Great Florida Birding and Wildlife Trail

The Sabal Trail Project would cross the Great Florida Birding and Wildlife Trail, which is a 2,000-mile, self-guided highway trail that connects 515 birding and wildlife viewing sites throughout Florida (Great Florida Birding and Wildlife Trail, 2015). The viewing sites include state forest tracts, conservation areas, and parks.

Viewing sites that are crossed by or within 0.25 mile of the Sabal Trail Project include the Goethe State Forest; Suwannee River State Park, and the Withlacoochee State Forest, Two Mile Prairie Tract. Effects to these areas has been discussed above.

Citrus County Line

Florida National Scenic Trail/Withlacoochee State Trail

The Sabal Trail Project would cross the Withlacoochee State Trail, which is a Rails-to-Trails project located adjacent to the west side of U.S. 41 (N. Florida Avenue) at the CCL crossing. The trail corridor is managed as the Withlacoochee Trail State Park, and occupies 46 miles of an abandoned railroad right-of-way in three counties (FDEP, 2003). The trail consists of a central paved asphalt surface 12 feet wide. A natural-surface trail parallels the paved trail and is designed for non-motorized uses, including pedestrians, equestrians, and cyclists. This segment of the trail is also part of the FNST.

The CCL would cross the Withlacoochee Trail/FNST using the conventional bore crossing method. Construction- and operation-related impacts associated with the project would be the same as those described for other features discussed throughout this section that would be crossed using the bore method. At the crossing location, the trail is bordered by open land and U.S. Highway 41 to the east and forested areas to the west. The ATWS associated with the bore crossing appears to be located such that tree removal would be limited and a line of trees would remain. Recreational uses of the trail would not be affected by operations. Visual impacts on the trail are discussed in section 3.9.2.7. A site-specific plan for this crossing is included in appendix L.

Halpata-Tastanaki Preserve Mitigation Project

The Sabal Trail Project would cross the Halpata-Tastanaki Preserve Mitigation Project in Marion County, which occupies the south part of the Halpata-Tastanaki Preserve. FDOT purchases private wetland mitigation bank credits as one of several wetland mitigation strategies for impacts generated from FDOT roadway projects. The Halpata-Tastanaki Preserve Mitigation Project was constructed by FDOT in advance of anticipated FDOT road improvement projects so that mitigation credits would be available prior to roadway projects (Southwest Florida WMD, 2014). The mitigation project area includes a segment of the existing high voltage electric transmission line right-of-way.

The CCL would cross the mitigation project along the northern edge of the existing cleared right-of-way using the HDD and standard upland construction methods (open cut). Standard construction would affect 17.9 acres and operations would affect 6.6 acres of land within the mitigation project area. Direct impacts on the mitigation project where the HDD method is used would be avoided; where the mitigation project is crossed using standard upland construction methods (open cut), impacts would be similar to those described in 3.9.2.2, depending on the specific land use type affected. To reduce impacts at this crossing location associated with creating a new right-of-way, the project would be collocated with an existing power line right-of-way. Sabal Trail would work with the FDOT to maintain access to the mitigation project during construction of the pipeline and identify further avoidance or mitigation.

Withlacoochee South Paddling Trail

The Sabal Trail Project could cross the Withlacoochee South Paddling Trail, which extends south from the confluence with the Rainbow River, through cypress floodplain swamp to the Green Swamp area.

The CCL would cross the Withlacoochee South Paddling Trail in Marion County at the south boundary of the Halpata-Tastanaki Preserve using the HDD crossing method, which is described in section 2.3.2. Construction- and operation-related impacts associated with the project would be the same as those described for other features discussed throughout this section that would be crossed using the HDD method. To further reduce impacts at this crossing location, the project would also be collocated with an existing power line right-of-way. Recreational uses of the trail would not be affected by operations and, because the trail would crossed by the HDD method, tree clearing and vegetation maintenance within the permanent right-of-way on either side of the crossing would not be necessary, thus avoiding permanent visual impacts on recreational users. A site-specific plan for this crossing is included in appendix L.

Withlacoochee State Forest

The Withlacoochee State Forest is introduced in the Mainline section above. Construction- and operation-related impacts on the state forest and associated with the CCL crossing would be similar as those described above. Construction would affect 20.4 acres and operation would affect 10.5 acres of land within the state forest. To reduce impacts at this crossing location associated with creating a new right-of-way, the project would be collocated with an existing power line right-of-way.

Central Ridge District Park

The CCL would cross the Central Ridge District Park, which is a 133-acre park in Citrus County. Managed by the county, recreation opportunities include a playground, jogging and walking trail, baseball fields, and a softball field (Citrus County, 2015).

The CCL would cross the park using standard upland construction methods (open cut). Construction would affect 4.9 acres and operation would affect 2.0 acres on land within the park. The pipeline would avoid park amenities/facilities. However, similar to other features crossed using the standard construction methods, recreational uses would be temporarily affected by project-related noise, dust, traffic, and visual impacts. These impacts would be limited to the time of construction. To reduce impacts associated with creating a new right-of-way, the project would be partially collocated with an existing power line right-of-way at this crossing. Following construction, recreational uses of the park would be allowed to continue throughout operation of the project.

<u>Hunters Creek Line</u>

Shingle Creek Regional Park

The HCL would cross the Shingle Creek Regional Park, which is a comprised of several parcels purchased through a conservation partnership between Osceola County, the City of Kissimmee, South Florida WMD, Trust For Public Land, and Florida Communities Trust. Recreational uses include birdwatching, biking, fishing, paddling, and picnicking (Osceola County, 2015).

A temporary access road associated with the HCL would cross the Shingle Creek Regional Park. The access road would cross for approximately 110 feet and grading and widening of the road would

affect 1.3 acres during construction. Recreational uses of the park would be temporarily affected by project-related noise, dust, and traffic. These impacts would be limited to the time of construction. Following construction, the road would be restored to pre-existing conditions (unless otherwise requested by the landowner) and recreational uses of the park would be allowed to continue throughout operation of the project.

Shingle Creek Regional Trail

The HCL would cross the Shingle Creek Regional Trail, which is a multi-use recreation trail currently being developed and is anticipated to be completed prior to construction of the proposed project, if approved. The trail is being developed through cooperation between the City of Kissimmee, Osceola County, the City of Orlando, and Orange County. The completed trail would span 32 miles through the urbanized area, connect with a larger regional trail network, and include asphalt multi-use paths, boardwalks, and bridges (City of Kissimmee, 2014).

The HCL would cross the Shingle Creek Regional Trail using the HDD method. Construction- and operation-related impacts associated with the project would be the same as those described for other features discussed throughout this section that would be crossed using the HDD method. While recreational uses of the trail are not expected to be affected by operations, Sabal Trail has initiated discussions with the City of Kissimmee and would continue to work with the trail project land manager to coordinate construction of the pipeline and future use of the trail where it coincides with the permanent right-of-way. Visual impacts on the trail are discussed in section 3.9.2.7. A site-specific plan for this crossing is included in appendix L.

3.9.2.6 Coastal Zone Management Act

Based on a review of the Alabama and Georgia Coastal Zone Management Program, Coastal Zone Maps, the Sabal Trail Project falls outside of the geographical boundaries of the Alabama and Georgia Coastal Zones and, therefore, is not subject to coastal zone consistency review in Alabama and Georgia (ADEM, 2014b; GDNR, 2014). The portions of the project in Florida is, however, within a coastal zone, and is discussed further below.

The entire State of Florida is in the coastal zone, of which there are two tiers of designated coastal zone (National Oceanic and Atmospheric Administration, 2012). Local governments eligible to receive coastal management funds are "limited to those Gulf and Atlantic coastal cities and counties which include or are contiguous to state water bodies where marine species of vegetation constitute the dominant plant community" (National Oceanic and Atmospheric Administration, 2012). Because the project in Florida is located entirely in the interior, it would not affect local governments contiguous to marine plant-dominated waterbodies.

The FDEP Coastal Zone Management Program (FCMP) provides a consistency review in coordination with partner agencies to ensure that all activities having foreseeable coastal effects are consistent with the policies of the program. Consistency reviews are conducted for all federal license or permitting activities that involve the construction and operation of interstate gas pipelines (FDEP, 2013a). Federal consistency reviews are integrated into other review processes conducted by the State of Florida, depending on the type of federal action being proposed. Consistency reviews of federal permits issued under section 404 of the CWA and section 10 of the RHA are conducted in conjunction with the Environmental Resource Permits issued by the FDEP. To ensure the project is consistent with the CZMA, **we recommend that:**

- **<u>Prior to construction</u>, Sabal Trail should file documentation of concurrence from the FDEP that the Sabal Trail Project is consistent with the CZMA.**

As listed in section 5.2, Sabal Trail is required to file documentation verifying it has received all applicable authorizations required under federal law.

3.9.2.7 Hazardous Waste

Based on a review of federal and state regulatory databases to identify known and potential water and soil contamination and hazardous waste sites within 0.25 mile of the project, several sites of potential contamination were identified in the project area. They include the following:

- Mainline – 56 sites were identified within 0.25 mile of the project, 5 of which are within 100 feet of the pipeline;

- CCL – 6 sites were identified within 0.25 mile of the project, 1 of which is within 100 feet of the pipeline; and

- HCL – 32 sites were identified within 0.25 mile of the project, 3 of which are within 100 feet of the pipeline.

Of the nine potential hazardous waste sites within 100 feet of the project, eight have no recorded releases and are not anticipated to affect the Sabal Trail Project. In addition, one potentially contaminated site was identified as affected by the new FGT Hunters Creek M&R Station. No release of material was reported at this site. As such, no impact is anticipated.

Sabal Trail has developed a Waste Management Plan, which includes measures that it would implement in the event contaminated media is encountered during construction. We have reviewed Sabal Trail's Waste Management Plan and find it acceptable.

3.9.2.8 Visual Resources

Impacts on visual resources as a result of use of pipe/contractor yards and storage areas, and modifications to existing roads and the creation of new roads for access as a result of the Sabal Trail Project would be same as that described in section 3.9.1.7 (i.e., would not result in a significant impact on visual resources in the area).

Pipeline

The potential impacts on visual resources resulting from the Sabal Trail Project would be similar to those described in section 3.9.1.7. In general, the visual impact of the project would be relatively minor and short term. The pipeline generally would not have a long-term visual impact since it would be installed below ground and the right-of-way would be revegetated within one to two growing seasons. Although forest land is the most common land use crossed by the project, approximately 60 percent of the Sabal Trail Project would be constructed adjacent to existing rights-of-way. Sabal Trail would reduce the visual impact of the pipelines by overlapping a portion of the construction right-of-way with existing cleared rights-of-way in most areas. Consequently, the installation of the pipeline would generally only incrementally widen the existing corridors.

Most of the recreational and special use areas identified in section 3.9.2.5 offer scenic opportunities related to wildlife viewing, photography, and/or unique vistas or features. However, the following features affected by the project have been specifically designated for their visual quality:

- Alabama Scenic River Trail;
- Georgia State Highway 37; and
- FNST.

As discussed in section 3.9.2.5, the Alabama Scenic River Trail and one segment of the FNST (MP 267.3R) would be crossed using the HDD construction method. The HDD method does not require tree clearing between the entry and exit points and the workspaces associated with the crossing method are located relatively distant from the actual feature crossing. Further, maintenance of the permanent right-of-way would not be necessary between the entry and exit points, thus avoiding the impacts association with vegetation maintenance during operation of the project. The crossing of the Alabama Scenic River Trail would be collocated with an existing power line right-of-way, in which trees have been cleared down to the banks of the river. Some viewpoints of the cleared construction right-of-way and the permanently maintained right-of-way may be present to recreationalists. However, these impacts would be consistent with the existing landscape (already cleared right-of-way), and significant visual impacts on the quality of scenic trails and recreational users' experiences are not anticipated.

As discussed in section 3.9.2.5, Georgia State Highway 37 is in the initial phases of becoming a designated scenic byway (Southwest Georgia Regional Development Center, 2008). Land uses on either side of the crossing consist of forested land, open land, and agricultural land. The project would cross the highway adjacent to an existing cleared right-of-way. Construction activities would be visible to passersby for a few days to weeks. Vegetation cleared from the construction right-of-way would be allowed to revegetate, but the operational right-of-way would remain cleared and would result in permanent visual impacts. Based on the adjacent land use and collocation with an existing right-of-way, adverse or significant impacts on the proposed scenic byway are not anticipated.

As also discussed in section 3.9.2.5, two unofficial connectors of the FNST (MPs 266.0R and 382.7) would be crossed using the bore crossing method. A designated segment of the FNST (MP 5.9 of the CCL) would also be crossed using the bore crossing method. In addition, a designated segment of the FNST (MP 384.9) would be crossed using standard upland construction methods (open cut). Visual impacts on these features as a result of the project would be the same as those associated with general pipeline construction: right-of-way clearing, trenching, etc.

Specific to the FNST crossings, the land use on either side is comprised of open land and forested land. As with general pipeline impacts, vegetation would be reestablished following construction and land uses would be allowed to revert to preconstruction conditions. The greatest visual impact on designated scenic features would be on the FNST crossing at MP 5.9 of the CCL, which is bordered by forest land on the west side of the crossing location. Based on the site-specific crossing plan, the ATWS associated with the bore crossing appears to be located such that tree removal would be limited and a line of trees would remain. The crossing would be approximately 100 feet from U.S. Highway 41, which currently presents an impact on trail users' experience.

Though not specifically or officially designated for their scenic quality, the visual qualities of the following trail features may be affected by the Sabal Trail Project:

- Tom White Linear Park;
- Lower Suwannee River Trail/Wilderness Trail;
- Suwannee River State Park Trail;

- Santa Fe River Paddling Trail;
- Nature Coast State Trail;
- Moxon Road Trail;
- Cross Florida Greenway Trails;
- Suwannee River Greenway Trail;
- Withlacoochee River South Paddling Trail; and
- Shingle Creek Trail/State Paddling Trail.

The Tom White Linear Park, Nature Coast State Trail, Moxon Road Trail, and Suwannee River Greenway Trail would be crossed using the bore crossing method. These crossing locations would affect open land, forested land, and commercial/industrial (roads) uses on either side of the feature. The impacts associated with tree clearing within the operational right-of-way would be permanent. However, tree clearing associated with the bore method would primarily be limited to the ATWS needed to complete the crossing. Also, as shown on the site-specific crossing plans, the ATWS would be set back from the feature crossing such that a line of trees would be maintained.

The Lower Suwannee River Trail/Wilderness Trail, Suwannee River State Park Trail, Santa Fe River Paddling Trail, Withlacoochee River South Paddling Trail, and Shingle Creek Trail/State Paddling Trail would be crossed using the HDD construction method. The HDD method does not require tree clearing between the entry and exit points and the workspaces associated with the crossing method are relatively distant from the actual feature crossings. Therefore, visual impacts associated with permanent right-of-way maintenance would not occur at these crossing locations.

The Cross Florida Greenway Trail One East crossed at MP 385.0R and the Trail Two West crossed six times between MPs 385.9R and 389.6R would be crossed using standard upland construction methods (open cut). The Trail One East crossing would occur within open land, on which vegetation would be reestablished following construction and land uses would be allowed to revert to preconstruction conditions, resulting in a short-term and minor impact on visual quality. The Trail Two West crossings are all bordered by forest land that would be permanently removed for the permanent right-of-way. Because the trail is crossed multiple times and the surrounding forested land would be permanently converted to open land, visual impacts would be permanent. However, because the trails themselves resulted in tree clearing, the impact from the proposed project's operational right-of-way would be incremental and not inconsistent with the immediate landscape.

We received comments regarding potential visual impacts on the Horseshoe Bend National Military Park. Based on a review of aerial alignment sheets and maps, the pipeline approaches to within 0.7 mile southwest of the park boundary and 1.3 miles southwest of the park facilities (trails/monuments, etc.). The proposed pipeline is on the southwest side of an existing power line easement (opposite side from the park), and the overall landscape consists of rolling hills and largely wooded areas. Furthermore, the nearest compressor station is the Alexander Compressor Station, which is about 8 miles west from the park. Based on its distance and local topography, it is unlikely that project construction activities and permanent aboveground facilities would be visible to visitors of the military park.

Aboveground Facilities

The magnitude of visual impacts resulting from the aboveground facilities depends on factors such as the existing landscape, the remoteness of the location, and the number of viewpoints from which the facility could be seen, as discussed in table 3.9.1-6 in appendix D.

We received comments regarding impacts on visual resources resulting from installation of the Albany Compressor Station. Commentors included the City of Albany, residents of the Countryside

Village Mobile Home Park, and residents of nearby residential communities such as the Winterwood Subdivision and the Indian Creek Subdivision.

In response to comments regarding the compressor station's location, Sabal Trail relocated the proposed Albany Compressor Station site in June 2015 to a 98-acre parcel at MP 154.8 along the Mainline. The site is about 0.4 mile south of West Oakridge Road and 1.5 miles west of the West Oakridge Drive and South Westover Boulevard intersection. The compressor station would be located at the southern end of a forested, developed, and open land parcel. The compressor station would affect about 33.4 acres of land and require tree removal. The Countryside Village Mobile Home Park is about 0.2 mile northwest of the site. Based on data provided by Sabal Trail, the mobile home park has about 102 available lots, of which about 49 are currently occupied by mobile homes. About 1.5 miles north of the site is the Winterwood Subdivision and about 1.7 miles north of the site is the Indian Creek Subdivision. As measured from the center of the compressor station site, the nearest mobile home to the site in the West Oakridge Compressor Station site is about 1,640 feet; the nearest residence to the site in the Winterwood Subdivision is about 8,300 feet; and the nearest residence to the site in the Indian Creek Subdivision is about 9,400 feet. Other features in the area but over 1 mile from the compressor station site include the Exchange Club Fairgrounds (1.6 miles), Mount Zion Church (1.4 miles), West Town Elementary School (3 miles), Alice Coachman Elementary School (3.4 miles), and Robert A. Cross Middle Magnet School (2.1 miles).

To address comments related to visual impacts, Sabal Trail has committed to maintaining a minimum 100-foot-wide buffer of existing, mature trees around the compressor station site. Currently, this buffer contains about 250 feet of 30-foot-tall pine trees that stand between the proposed site and the Countryside Village Mobile Home Park. The tallest proposed structure, the exhaust stack, is approximately 60 feet tall. Based on the site elevation and the tree cover, a structure would need to be a minimum of 85 feet tall to be visible from the Countryside Village Mobile Home Park. Consequently, no part of the compressor station would be visible from the nearby mobile home park and roadways, and the more distant residences and public areas (fairgrounds, churches, schools).

As described in table 3.9.1-6 in appendix D, the other compressor stations would be visually screened from nearby residences or roadways, located within previously disturbed areas, located within areas with consistent industrial/commercial qualities, and/or located more than 1,000 feet from a residence. During operation, outdoor lighting would be limited to the minimum amount required for security, and lighting would have directional control or positioning which would minimize visibility from residences.

Other aboveground facilities, including MLVs and pig launcher/receiver facilities, would be installed within or adjacent to compressor or M&R station sites and would have very minor incremental visual impacts. Most of the facilities associated with the MLVs would be below ground.

As a result, the proposed aboveground facilities would have minor to moderate and permanent visual impacts on the surrounding landscape.

3.9.3 Florida Southeast Connection Project

3.9.3.1 General Land Use

Pipeline Facilities

Land use impacts associated with the FSC Project would include the disturbance of existing land uses within the construction right-of-way, including ATWS, during construction and retention of a new

permanent right-of-way for operation of the pipelines. Section 2.2 describes the pipeline right-of-way land requirements associated with the FSC Project. Table 3.9.1-1 in appendix D lists where the pipeline rights-of-way would be collocated with existing rights-of-way.

Table 3.9.3-1 below summarizes the acreage of each land use type that would be affected by construction and operation of pipeline for the FSC Project.

TABLE 3.9.3-1

Summary of Land Use Types Affected by Construction and Operation of the Florida Southeast Connection Project Pipeline Facilities (in acres)[a]

	Forested/ Woodland		Open Land		Agricultural		Industrial/ Commercial		Residential		Open Water		Total	
Project Component	Con.[b]	Op.[c]	Con.	Op.	Con.	Op.	Con.	Op.	Con.	Op.	Con.	Op.	Con.	Op.
Pipeline Right-of-Way	270.1	139.7	820.6	452.8	238.6	120.8	24.9	13.4	28.6	15.8	2.7	1.1	1385.6	743.5
Additional Temporary Workspace	27.8	0.0	82.3	0.0	46.8	0.0	4.4	0.0	6.0	0.0	0.3	0.0	167.6	0.0
Total [d]	298	139.7	902.9	452.8	285.4	120.8	29.3	13.4	34.7	15.8	3.1	1.1	1553.1	743.5

[a] Includes the temporary and permanent right-of-way and additional temporary workspace.

[b] Assumes a 100-foot-wide temporary construction right-of-way. However, the construction right-of-way would be reduced to 75 feet in wetlands.

[c] Assumes a 50-foot-wide area at most locations where structures would be precluded from being installed within the new permanent operational right-of-way. This is in addition to the existing permanent rights-of-way where structures are already precluded from being installed.

[d] Of the total area affected by construction and operation, approximately 46.2 acres and 26.1 acres, respectively, would occur within a previously disturbed, existing maintained/operational easement.

Note: Due to rounding, some addends may be off by 0.1 place.

Aboveground Facilities

The Martin M&R Station would be constructed within the fence line of the existing FPL Martin Clean Energy Plant site, affecting 0.9 acre of industrial/commercial land (see table 3.9.3-2). Operation of this M&R station would affect 0.9 acre of industrial/commercial land.

TABLE 3.9.3-2

Land Use Types Affected by Aboveground Facilities of the Florida Southeast Connection Project (in acres)

	Agricultural		Open Land		Residential		Industrial/ Commercial		Total	
Project Component	Const.	Op.	Const.	Op.	Const.	Op.	Const.	Op.	Const.	Op.
Meter and Regulating (M&R) Station										
Martin M&R Station	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.9	0.9	0.9
Other Aboveground Facilities (MLVs, pig launchers/receivers)										
MLV Launcher and Receiver Sites	0.0	0.0	0.0	0.0	0.3	0.3	0.0	0.0	0.3	0.3
MLVs #1-11	0.1	0.1	0.4	0.4	0.0	0.0	0.0	0.0	0.5	0.5
Total	0.1	0.1	0.4	0.4	0.3	0.3	0.9	0.9	1.7	1.7

[a] Mainline valves would be entirely within the permanent, maintained pipeline right-of-way, but would result in permanently converting the affected area to the industrial/commercial land use.

Note: Due to rounding, some addends may be off by 0.1 place.

One pig launcher would be within the boundary of the Sabal Trail Reunion Compressor Station site; associated land use impacts are discussed in the Sabal Trail Project portion of this EIS (see section 3.9.2.1). A second pig launcher facility proposed at MP 77.1 would affect 0.3 acre of residential land

during construction and operation, permanently converting it into industrial/commercial land. MLVs would be installed in primarily open land and agricultural land. One MLV would be within the Reunion Compressor Station site and a second would be within the Martin M&R Station site.

Pipe/Contractor Yards and Staging Areas

To support construction activities, FSC proposes to use four contractor yards, two pipe storage yards, and one staging area on a temporary basis. The yards would temporarily affect about 204.2 acres of mixed land use (see table 3.9.3-3). Following construction, these areas would be restored in accordance with FSC's Plan or as requested by the landowner or land-managing agency and would be allowed to revert to preconstruction land use.

TABLE 3.9.3-3

Land Use Types Affected by Pipe/Contractor Yards and Staging Areas for the Florida Southeast Connection Project (in acres)

Yard Name	Land Use	Impacts [a]
Contractor Yards		
Polk Contractor Yard	Industrial/Commercial	12.8
Lake Wales Contractor Yard	Open Land	7.5
Osceola Contractor Yard	Open Land, Forested/Woodland	92.5
Okeechobee Pipe Storage Yard	Residential Land, Open Land, Industrial/Commercial	21.5
Martin Contractor Yard	Open Land, Forested/Woodland, Industrial/Commercial	41.3
Martin Pipe Storage Yard	Open Land, Forested/Woodland, Industrial/Commercial	24.4
Staging Areas		
Yeehaw Junction Staging Area	Open Land, Forested/Woodland, Industrial/Commercial	4.3
Total		204.2

[a] Impacts would be limited to the construction period; no operational impacts would occur.
Note: Due to rounding, some addends may be off by 0.1 place.

Access Roads

While public roads and the construction right-of-way would be used for primary access to project workspaces, FSC proposes to:

- permanently maintain 14 existing roads for operations (4 of which do not require modifications);
- build 1 new road for temporary use, which would be returned to preconstruction conditions following construction; and
- modify 254 private, existing roads for temporary access during construction (see table 2.2.1-4 in appendix D).

Of the proposed access roads, 256 are associated with contractor yard and pipeline right-of-way access and 13 are associated with aboveground facility access. Modifications to existing temporary access roads would affect 128.5 acres of land. Permanent access roads would affect 5.3 acres of land. Following construction, temporary access road improvements would be removed and roads restored to their preconstruction condition unless the landowner or land-managing agency requests that the improvements be left in place. To restore the roads, the areas outside the original road footprint would be

recontoured and disturbed areas would be reseeded with an appropriate seed mix unless otherwise requested by the landowner or land management agency.

3.9.3.2 Impacts and Mitigation

Section 3.9 describes the general land use impacts associated with constructing and operating the FSC Project. To reduce construction- and operation-related impacts on all land uses, FSC would implement the construction and restoration measures outlined in its Plan, Procedures, and Invasive Species Management Plan.

Specific to logging areas, FSC would consult with landowners to maintain access to wooded portions of their property during construction. FSC would compensate landowners for the value of trees felled based on an appraisal provided by a local timber expert. Also, if requested by the landowner, cleared trees may be placed off of the construction area for landowner use and sale.

The following summarizes impacts and mitigation measures that differ from those described in section 3.9 and are unique to the FSC Project.

Specialty Crops

Section 101 of the Specialty Crops Competitiveness Act of 2004 (7 U.S.C. 1621 note) and amended under section 10010 of the Agricultural Act of 2014, Public Law 113-79 (the Farm Bill) defines specialty crops as "fruits and vegetables, tree nuts, dried fruits, horticulture, and nursery crops (including floriculture)." Eligible plants must be cultivated or managed and used by people for food, medicinal purposes, and/or aesthetic gratification to be considered specialty crops (U.S.C., 2008).

Based on consultations with landowners, specialty crops such as citrus groves, pine plantations, and horse farms were identified along the proposed route. Construction of the project would affect 223.1 acres of specialty crops; operation would affect 93.4 acres of specialty crops.

FSC would work with individual landowners through the easement process to avoid and/or determine mitigations measures that may be required for these specialty agricultural lands, such as topsoil segregation in all agricultural and pasture areas, and/or avoiding the use of pesticides on or near organic farms. FSC would compensate landowners for any project-related damages to specialty crop areas.

Agricultural Drain Tiles and Irrigation/Drainage Structures

As listed in appendix 3.9.2-5 in appendix D, FSC has identified locations where agricultural drain tiles and irrigation systems are in use. Prior to construction, FSC would identify and verify the locations of drain tiles and irrigation systems during easement negotiations.

If lines are affected during construction, temporary repairs would be made per FSC's Plan. Irrigation and drainage systems would be permanently repaired as soon as possible, no later than the restoration and revegetation phase of construction. Additionally, where livestock watering systems are in use, FSC would work with landowners to provide continued access to existing systems or provide alternate sources of water for livestock.

3.9.3.3 Land Ownership

Most of the land affected by the FSC Project would be private. Public land crossed by the project includes state land managed by South Florida WMD, Southwest Florida WMD, and the BOT; no federal

lands would be crossed. State lands affected comprise 74.2 acres for construction and 34.5 acres for operation. Municipal or county lands are owned by Polk County and comprise 2.0 acres for construction and 0.7 acre for operation. Roads and railroads, affecting 9.7 acres for construction and 5.3 acres for operation, include management by the FDOT, Polk County, Osceola County, Okeechobee County, St. Lucie County, and Martin County. The easement negotiation process and right of eminent domain granted to FSC would be similar to that described in section 3.9.1.3.

State and County/Municipal Lands

The various types of state-owned lands in Florida are described in section 3.9.2.3. Florida public lands affected by the FSC Project include state and county roads, the Upper Lakes Basin Watershed, Upper Lake Marion Creek Watershed, Weohyakapka Creek, Lakes Wales Ridge State Forest, Kissimmee Chain of Lakes, and Lake Kissimmee. These areas are discussed in section 3.9.3.5.

A total of 76.2 acres of state and county/municipal lands would be affected by construction and 35.2 acres would be affected by operation of the project.

3.9.3.4 Existing Residences and Planned Developments

Existing Residences

FSC has identified 68 residences and structures within 50 feet of construction work areas. These structures and residences are listed in table 3.9.1-5 in appendix D. Construction methods in, impacts on, and mitigation for existing residences would be similar to those described in section 3.9.2.4. FSC would mitigate impacts on residential properties per the measures identified in its Plan and Invasive Species Management Plan and site-specific RCPs.

Based on landowner contacts, FSC has identified one septic system that would be crossed by the FSC project at MP 0.9. FSC would attempt to avoid septic systems and would coordinate with landowners prior to construction regarding their location. However, if avoidance is not possible, FSC would relocate and protect septic systems prior to construction. In the event of damage during construction, FSC would the provide a temporary repair of the septic system and a permanent repair during the backfill/rough clean-up phase of construction.

FSC has also prepared a Complaint Resolution Process. The process identifies a 24-hour hotline in which landowners and stakeholders can contact project representatives with questions, concerns, and complaints prior to, during, and after construction. If the identified issue cannot be immediately responded to, FSC would attempt to contact the caller within the same business day. Once documented, FSC would work with the landowner until the issue is resolved. We have reviewed the process and find it acceptable.

FSC's site-specific RCPs include measures to minimize disruption and ensure access to the residences within 50 feet of the construction work areas (see appendix G). These construction plans include a dimensioned drawing depicting the residence in relation to the pipeline construction; workspace boundaries; the proposed permanent right-of-way; and other nearby residences, structures, roads, and miscellaneous features (e.g., other utilities, playgrounds, catch basins, and sewers). We have reviewed the site-specific RCPs and find them acceptable. **However, we encourage the owners of each of these residences to provide us comments on the plan specific for their property.**

We conclude that with implementation of FSC's proposed construction methods, its site-specific RCPs, and Landowner Complaint Resolution Process, impacts on residents and landowners would be minimized to the greatest extent practicable and would not be significant.

Planned Developments

FSC consulted with county and local agencies to identify proposed development crossed by or within 0.5 mile of the FSC Project. These developments are listed in table 3.9.2-7 in appendix D.

Based on consultations with county and municipal planning agencies, one DRI, the Oak Hills Estates, was identified as abutting the FSC Project in Polk County. Phase 1 of the development is anticipated to be built in 2019 and Phase 2 is anticipated to be built in 2024. Because the FSC Project would not directly affect the development and both phases of the development would be built after the pipeline in-service timeframe, impacts are not anticipated. FSC would continue to work with regulators to identify proposed future developments. The project would not cross any proposed projects classified as DRI in Osceola, Polk, Okeechobee, St. Lucie, or Martin Counties.

Other, non-DRI developments would be crossed by the FSC Project. The development name, approximate location, and known status are summarized in table 3.9.2-7 in appendix D. The majority of these projects have approved site plans or are in the environmental review stage, but, as of April 2015, construction dates have not yet been determined.

Of the known planned developments within 0.5 mile of the project (30), all occur in Polk and Osceola Counties and consist of the following:

- 9 residential developments, 18 non-residential (commercial) developments, 2 roadway projects, and 1 industrial site development;
- 25 developments have approved site plans or are near final approval but construction start dates are unknown;
- 2 developments are in their development and environmental study phase;
- 2 developments have limited status information; and
- 1 development was identified by the landowner but no records or permits are on file.

No development projects have been identified in Okeechobee, St. Lucie, or Martin Counties. However, FSC would continue to work with county and municipal agencies to identify any further proposed projects that could be affected by the project. FSC would work with individual affected landowners and development applicants in order to minimize impacts. Also, FSC currently proposes to use the planned industrial/commercial development site, located at MP 72.8 in Osceola County, as a staging area and would coordinate with the landowner to ensure that construction activities would not conflict with future planned development.

We received comments from landowners regarding a planned residential development, Estes Grove, at MP 21 in Polk County, Florida. The landowners filed an official zoning map amendment and master development plan. Based on a review of aerial alignment sheets of the pipeline route in relation to the property, the FSC Project would cross the eastern side of one tract and would cross the middle of a second tract, affecting approximately 3 acres during construction and 1.5 acres during operation.

The primary impact that a pipeline project could have on a proposed development would be to place permanent right-of-way on lots set aside for development, which could affect the constructability of the lots. Depending on the number and location of affected lots, the developer could choose to redesign the affected portion of the development. Depending on the stage of the development, this redesign could require additional review and approval by local permitting officials, which could delay the development. The project could also impact approved and proposed developments if the construction schedules for the project and development projects coincide. Impacts due to construction and operation of the FSC Project would vary depending upon the stage of the planned developments, ownership of the parcels, and status of easement negotiations. However, the specific details of these factors are unknown.

3.9.3.5 Recreation and Special Interest Areas

Based on consultations with local agencies and review of public databases and maps, FSC would cross or be within 0.25 mile of multiple public and private lands that support recreation or special interests. Features directly affected include trails, conservation areas, state forests, lakes, and wetland mitigation banks, as listed in table 3.9.3-4. No national parks, urban parks, national landmarks, wilderness areas, or designated wild and scenic rivers were identified within 0.25 mile of the FSC Project.

In addition to the areas identified in table 3.9.3-4, the following recreational and special land use areas are within 0.25 mile of the FSC Project:

Pipeline Facilities

- Private/Conservation Lands: Reedy Creek Mitigation Bank (MP 7.1)
- Federal: Lakes Wales Ridge National Wildlife Refuge (NWR) (MP 10.7 – 10.9)
- Private/Conservation Lands: Collany Wetland Mitigation Bank (MP 35.4)
- County/Municipal: SUMICA (MP 39.8)
- State: Kissimmee River (MP 51.9)
- Private/Conservation Lands: Red Bay Foundation Preserve (MP 84.8)
- County/Municipal: Bluefield Ranch (MP 113.0)
- Private/Conservation Lands: Bluefield Ranch Mitigation Bank (MP 115.0)
- Private/Conservation Lands: Wetlands Reserve Program Easement #145 (MP 121.7)

Access Roads

- Private/Conservation Lands: Bok Tower Gardens Planted Pines and Preserve (MP 27.4)

TABLE 3.9.3-4

Recreation and Special Use Areas Affected by the Florida Southeast Connection Project

Authority/Feature	Owner/ Management	Crossing Mileposts	Crossing Method	Area Affected	
				Const. [a]	Op. [b]
State					
Upper Lakes Basin Watershed – Lake Marion Creek Wildlife Management Area	South Florida WMD/FWC	7.9 – 8.9	Workspace	1.5	0.0
		12.0	HDD	0.0	0.0
		12.1 – 12.2	Open cut	1.3	0.7
Upper Lakes Basin Watershed – Lake Marion Creek Wildlife Management Area	South Florida WMD	7.9 – 8.9	Access Road	3.0	0.0
Upper Lake Marion Creek Watershed	Southwest Florida WMD	8.9 – 9.4, 11.0 – 11.5	Open cut	5.0	2.7
Upper Lake Marion Creek Watershed Trail	Southwest Florida WMD	8.9	Open cut	<0.1	<0.1
Weohyakapka Creek	BOT	37.6 – 37.9	HDD	0.0	0.0
Lake Wales Ridge State Forest	BOT	42.7 – 44.5, 45.5 – 48.2	Open Cut	56.0	27.5
Lake Wales Ridge State Forest	BOT	43.4, 44.5, 45.3, and 47.4	Access Road	8.5	0.0
Kissimmee Chain of Lakes	South Florida WMD	52.0 – 52.9	HDD and Open cut	9.7	3.7
FNST – Unofficial Connector – State Route 60	FDOT	53.8	Bore	0.0	0.0
Allapattah Flats (Williamson Ranch Parcel)	South Florida WMD	123.7 – 124.1	HDD	0.0	0.0
County/Municipal					
FNST – Unofficial Connector – Old Kissimmee Road	Polk County	0.7	Bore	0.0	0.0
North/Walk-in-Water Creek	Polk County	37.6, 38.3 – 38.5	Open cut	2.1	0.7
Private/Conservation Lands					
Church	Private Individual(s)	1.5	Open cut	0.4	0.2
Reedy Creek Mitigation Bank	Private Individual(s)	7.9	Access Road	0.0	0.0
Church Retreat Center	Private Individual(s)	10.9	Open cut	2.5	1.5
Oakwood Golf Course	Private Individual(s)	28.2 – 28.5	Open cut	5.7	2.4
Tiger Lake Ranch Conservation Easement	Private Individual(s)	40.6 – 41.3	Open cut	8.1	3.7
Church	Private Individual(s)	85.0	Open cut	1.5	0.8
Church and Retreat Center	Private Individual(s)	118.7	Open cut	7.0	3.1
Total				112.4	47.0

[a] Assumes a 100-foot-wide construction right-of-way.

[b] Assumes a 50-foot-wide permanent right-of-way.

General impacts on recreation and special interest areas crossed by or within 0.25 mile of the project would be similar to those discussed in section 3.9.2.5. Similar to the Florida portion of the Sabal Trail Project, general recreational opportunities are available throughout the FSC Project area. These include fishing, boating, birding, wildlife viewing, photography, hiking, biking, and hunting. The following discussions describe recreational and special interest areas designated by federal, state, and county/municipal entities, and the opportunities available at each area. Regarding hunting, the activity is permitted in some Florida special land use areas, including the Kissimmee Chain of Lakes area, Upper Lakes Basin Watershed, and Lake Wales Ridge State Forest. Seasonal hunting recreation opportunities in these areas may be affected by the construction of the FSC Project. These impacts would be temporary and limited to the timing of construction. It is expected that FSC would coordinate with the owners of these areas during easement negotiations to identify measures, such as avoiding construction during the peak hunting season and/or placing signage, to avoid or minimize impacts on hunters that are acceptable to the owner. Operation of the project would require conversion of forest land to open land or industrial/ commercial land at permanent facilities (e.g., operational right-of-way, aboveground facilities), which may affect recreational hunting, though hunting is not limited to forest lands.

The Lake Wales NWR and Everglades Headwaters NWR are within 0.25 mile of the FSC Project. Though the FSC Project would not directly affect these refuges, the FWS is in the process of acquiring additional lands for the refuges that may be affected by the FSC Project. More specifically, the FSC Project appears to abut the Snell Creek Unit of the existing Lake Wales NWR at MP 10.9 and cross two units identified for acquisition into the Lake Wales NWR: the Horse Creek Unit between approximate MPs 9 and 10, and the Flaming Arrow Unit between approximate MPs 35 and 37 (FWS, 2010). Also, the FSC Project appears to cross areas proposed for NWR status in the Everglades Headwaters Conservation Area.

Based on our conversation with staff at these refuges to identify the timeframe for these land acquisitions, the FWS stated that it does not publically disclose information regarding ongoing or future acquisition negotiations. While pipeline easements would not preclude lands from NWR acquisition, the FWS has indicated that lands without easements are preferred, though factors such as resource availability and habitat quality are more significant considerations (Van Den Ende, 2015).

FSC is currently pursuing easements from landowners in areas that are on the acquisition list for both Lake Wales and Everglades Headwaters NWR. As FSC's pipeline easements would transfer with the land, any purchase by FWS (or other party) after easements are issued would be bound by the terms of the easement. FSC would coordinate with the new landowner to negotiate mutually acceptable conditions.

Each recreation or special interest area is discussed in detail further below. Based on the impacts identified and mitigation measures FSC would implement, we do not believe the FSC Project would result in significant impacts on recreational or special interest areas.

Visual impacts on recreational and special interest areas that are designated for their scenic value are discussed in section 3.9.3.7.

Upper Lakes Basin Watershed District – Lake Marion Creek Wildlife Management Area

The FSC Project would cross Upper Lakes Basin Watershed tracts, which include the Huckleberry Island/Snell Creek Assessment Unit and Lake Marion Creek Assessment Unit of the Lake Marion Creek Wildlife Management Area. These watershed district tracts are managed by the South Florida WMD and Southwest Florida WMD, and provide flood attenuation to the area. Recreational uses include hunting, primitive camping, bicycling, boating, canoeing, kayaking, and hiking (South Florida

WMD, 2013). The Lake Marion Creek Assessment Unit is being maintained in a natural state, and has been established as part of the Lake Marion Creek Wildlife Management Area by FWC through a cooperative agreement with the South Florida WMD.

The FSC pipeline would cross the Upper Lakes Basin Watershed tract using the HDD and standard upland construction (open cut) methods. Construction activities would affect 2.8 acres and operation would affect 0.7 acres of land within the tracts. Land uses affected include open land and forested land. Where the tracts would be crossed using the HDD method (MP 12.0), direct impacts would be avoided; however, recreational users may experience temporary visual and noise impacts associated with construction personnel and equipment and HDD activities. Also, as a result of the HDD method, tree clearing and vegetation maintenance within the permanent right-of-way on either side of the crossing would not be necessary, thus avoiding permanent visual impacts on recreational users.

Where the tracts would be crossed using the open-cut method (MP 12.1 to 12.2), direct impacts on the watershed tracts would be similar to those described in 3.9.3.2, depending on the specific land use type affected. Recreational users may experience temporary visual and noise impacts associated with construction personnel and equipment and general construction activities. To minimize impacts associated with construction and creation of a new right-of-way, the pipeline would be collocated with an existing pipeline at the crossing locations. Clearing and tree removal of the project workspace would be required during construction, and routine vegetation maintenance of forested areas within the permanent right-of-way would be required during pipeline operations. As a result, the project would result in the conversion of forest land to open land within the permanent right-of-way. Impacts associated with tree clearing and vegetation maintenance would be long-term to permanent, and incremental to and consistent with the existing collocated right-of-way features. Following construction, recreational uses of the watershed tracts would be allowed to continue; however, long-term impacts associated with tree removal would be visible.

The Upper Lakes Basin Watershed tract would also be crossed by a temporary access road (AR-11454), which would affect 3.0 acres during construction due to grading and widening. Recreational users may experience temporary visual and noise impacts associated with construction-related traffic. Following construction, the access road would be restored to pre-construction conditions unless otherwise requested by the landowner.

Upper Lake Marion Creek Watershed District

The FSC Project would cross two tracts of the Upper Lake Marion Creek Watershed. These watershed district tracts are managed by the South Florida WMD and provides flood attenuation to the area. Recreational uses include hunting, primitive camping, bicycling, boating, canoeing, kayaking, and hiking (South Florida WMD, 2013).

The FSC pipeline would cross the Upper Lake Marion Creek Watershed tracts using the standard upland construction (open cut) method. Construction activities would affect 5 acres and operation would affect 2.7 acres of land within the tracts. Land uses affected include open land, forested land, and industrial/commercial land. Construction- and operation-related impacts would be similar to those described in 3.9.3.2, depending on the specific land use type affected throughout the area, and the same as those described for other features discussed throughout this section that would be crossed using standard upland construction. To minimize impacts associated with construction and the creation of a new right-of-way, the pipeline would be collocated with an existing cleared power line right-of-way. Following construction, recreational uses of the state forest would be allowed to continue; however, long-term impacts associated with tree removal would be visible.

Upper Lake Marion Creek Watershed Trail

The FSC Project would cross an unpaved hiking trail within the Upper Lake Marion Creek tract. The trail would be crossed twice at MP 8.9 and FSC proposes to use this trail as a proposed access road. Use of the trail at this location would be temporarily disrupted by construction activities. Recreational users may experience temporary visual and noise impacts associated with construction-related traffic.

Because specific mitigation measures related to use of the trail as an access road have not yet been identified, **we recommend that:**

- **<u>Prior to the close of the draft EIS comment period</u>, FSC should file a site-specific crossing plan for the Lake Marion Creek Watershed Trail and access road that identifies the location(s) of a detour (if applicable), public notification, signage, and consideration of avoiding days of peak usage. The crossing plan should be developed in consultation with the land managing agency.**

Upper Lakes Basin Watershed Trail/Snell Creek Trail

A temporary access road associated with the FSC Project would cross an unpaved hiking trail (the Snell Creek Trail) within the Upper Lakes Watershed Basin tract. The trail would be crossed three times near MP 10.7 and FSC proposes to use this trail as a proposed access road (AR 1209). Use of the trail at this location would be temporarily disrupted by construction activities. Recreational users may experience temporary visual and noise impacts associated with construction-related traffic.

Because specific mitigation measures related to use of the trail as an access road have not yet been identified, **we recommend that:**

- **<u>Prior to the close of the draft EIS comment period</u>, FSC should file a site-specific crossing plan for the Upper Lakes Watershed Basin Trail/Snell Creek Trail and access road that identifies the location(s) of a detour (if applicable), public notification, signage, and consideration of avoiding days of peak usage. The crossing plan should be developed in consultation with the land managing agency.**

Weohyakapka Creek

The FSC Project would cross Weohyakapka Creek, which is defined by Rule 18-21.003 FAC as a sovereign submerged land held in title by the State of Florida. Sovereign submerged lands include tidal lands, islands, sand bars, shallow banks, and lands waterward of the ordinary or mean high water line, beneath navigable fresh water or beneath tidally-influenced waters, to which the State of Florida acquired title during statehood and has not conveyed or alienated.

The FSC pipeline would cross the creek using the HDD method. Construction- and operation-related impacts would be the same as those described for other features discussed throughout this section that would be crossed using the HDD method. As a result of the HDD method, direct impacts would be avoided and tree clearing and vegetation maintenance within the permanent right-of-way on either side of the crossing would not be necessary, thus avoiding permanent impacts.

Lake Wales Ridge State Forest

The FSC Project would cross the Lake Wales Ridge State Forest, which is comprised of four tracts totaling 26,580 acres of scrub ecosystem used by a variety of rare and endangered plant species

(FDACS, 2015). Recreational activities include camping, fishing, canoeing, hiking, and regulated hunting.

The FSC pipeline would cross the state forest at the edge of the parcel boundary using standard upland construction (open cut) methods. Construction activities would affect 55.9 acres and operation would affect 27.4 acres of land within the state forest. Construction- and operation-related impacts would be similar to those described in 3.9.3.2, depending on the specific land use type affected throughout the area, and the same as those described for other features discussed throughout this section that would be crossed using standard upland construction. To minimize impacts associated with construction and creation of a new right-of-way, the pipeline would be collocated with an existing road at the crossing location. Following construction, recreational uses of the state forest would be allowed to continue; however, long-term impacts associated with tree removal would be visible.

In addition, FSC would temporarily use four existing grass-covered roads within the state forest during construction (access roads AR 1237, 1238, 1239, and 1241). Following construction, the roads would be restored to preconstruction conditions, unless requested otherwise by the landowner or land-management agency.

Kissimmee Chain of Lakes

The FSC Project would cross the Kissimmee Chain of Lakes in Polk County. The area is unique in that it consists of lands acquired by the South Florida WMD to promote water storage and raise lake levels. Land uses consist of improved cattle pasture, agriculture, and restored marsh and wet prairie habitat. More specifically, the project would cross the Oasis Marsh property with the chain of lakes area. Additionally, as defined by Rule 18-21.003 FAC, Lake Kissimmee is a sovereign submerged land and is held in title by the State of Florida.

The FSC pipeline would cross the area using standard upland construction (open cut) method between MPs 52.0 and 52.9, and the HDD method between MPs 52.5 and 52.9. Standard construction activities would affect 9.7 acres and operation would affect 3.7 acres of land within the marsh area in open land and agricultural land. Where the marsh and public use area would be crossed using the open-cut method, construction- and operation-related impacts would be similar to those described in 3.9.3.2, depending on the specific land use type affected throughout the area, and the same as those described for other features discussed throughout this section that would be crossed using standard upland construction. To minimize impacts associated with construction, the pipeline would be collocated with an existing road at the crossing location. Following construction, uses of the marsh would be allowed to continue.

Construction- and operation-related impacts would be the same as those described for other features discussed throughout this section that would be crossed using the HDD method. As a result of the HDD method, direct impacts would be avoided and tree clearing and vegetation maintenance within the permanent right-of-way on either side of the crossing would not be necessary, thus avoiding permanent impacts.

Florida National Scenic Trail

The FNST is introduced and described in section 3.9.2.5. The FSC Project would cross two unofficial trail connectors using the conventional bore construction method, which is described in section 2.3.2. These connectors are roads or trails that help users access non-contiguous segments of the FNST. These connectors are not officially designated parts of the trail and are owned and managed by other agencies. The road used as the unofficial FNST connector at MP 0.7 is Old Kissimmee Road and the road used at MP 53.8 is State Route 60.

Construction- and operation-related impacts associated with the project would be the same as those described for other features discussed throughout this section that would be crossed using the bore method. To minimize impacts associated with construction and creation of a new right-of-way, the pipeline would be collocated with an existing cleared power line right-of-way at MP 0.7 and the State Route 60 at MP 53.8. Based on FSC's consultations with the USFS, the trail-management agency has no concerns with the pipeline crossings of the FNST connectors (Thomas, 2015). Land use on either side of the trail crossing at MP 0.7 is forested and cleared road right-of-way at MP 53.8. Recreational uses of the trail would not be affected by operations; however, long-term impacts on the FNST connector at the MP 0.7 crossing would include clearing and tree removal of the project workspace would be required during construction. Following construction, uses of the trail connectors would continue. Visual impacts on the scenic trail are discussed in section 3.9.3.7.

Allapattah Flats/Williamson Ranch

The FSC Project would cross the Allapattah Flats/Williamson Ranch Parcel, which is a permanent Wetland Reserve Program (WRP) easement (South Florida WMD, 2009). The 533-acre site is managed by the South Florida WMD and is used for hydrologic restoration.

The FSC pipeline would cross the WRP easement using the HDD crossing method. The HDD entry and exit points would be outside of the easement. Construction- and operation-related impacts associated with the project would be the same as those described for other features discussed throughout this section that would be crossed using the HDD method. Based on FSC's consultation with the NRCS, the HDD crossing method is not incompatible with the WRP easement agreement and would not require issuance of a Subordinate Agreement, per the USDA's Wetlands Reserve Program Compatible Use Authorization Approval Process (Pritchett, 2014). FSC's easement request is currently being reviewed by the South Florida WMD. Following construction, special uses of the WRP easement would be allowed to continue.

North Walk-in-Water Creek Site

The FSC Project would cross the North Walk-in-Water Creek site, which consists of a wetland reserve with recreational activities including hiking, wildlife observation, fishing, canoeing (FDACS, 2015).

The FSC pipeline would cross the site using standard upland construction (open cut) methods. Construction would affect 2.1 acres and operations would affect 0.7 acre of land within the site, including open land and forest land. Construction- and operation-related impacts would be similar to those described in 3.9.3.2, depending on the specific land use type affected throughout the area, and the same as those described for other features discussed throughout this section that would be crossed using standard upland construction. To minimize impacts associated with construction and the creation of a new right-of-way, the pipeline would be collocated with an existing road at the crossing location. Following construction, recreational uses of the site would be allowed to continue.

Churches and Retreat Centers

The FSC Project would cross four parcels associated with churches and retreat centers using standard upland construction (open cut) methods. A total of 11.4 acres of church/retreat property would be affected by construction and 5.6 acres of church/retreat property would be affected by operations. Construction- and operation-related impacts would be similar to those described in 3.9.3.2, depending on the specific land use type affected throughout the area, and the same as those described for other features discussed throughout this section that would be crossed using standard upland construction. To minimize

impacts, FSC would coordinate with landowners prior to construction to restore the properties to preconstruction conditions.

Reedy Creek Mitigation Bank

The FSC project would cross the Reedy Creek Mitigation Bank, which is a conservation easement held by the South Florida WMD. The easement functions as a wetland mitigation bank parcel.

While the FSC pipeline would parallel the parcel boundary, approximately 170 feet of an existing temporary access road (AR 11454) would cross the parcel. Use of the access road would affect less than 0.1 acre of land within the easement during construction activities. Following construction, the roads would be restored to preconstruction conditions, unless requested otherwise by the landowner or land-management agency.

Oakwood Golf Course

The FSC Project would cross the Oakwood Country Club and Golf Course using standard upland construction (open cut) methods. More specifically, fairways and interior access roads would be crossed by the FSC pipeline. Construction would affect 5.7 acres and operations would affect 2.4 acres of land within the golf course. Construction- and operation-related impacts would be similar to those described in 3.9.3.2, depending on the specific land use type affected throughout the area, and the same as those described for other features discussed throughout this section that would be crossed using standard upland construction. The project would require creation of a new right-of-way through the golf course. To minimize impacts, FSC would coordinate with landowners prior to construction, compensate the landowner for lost business revenue, and restore the property to pre-construction conditions in coordination with the golf course owner. Following construction, recreational uses of the golf course would be allowed to continue.

Tiger Lake Ranch Conservation Easement

The FSC Project would cross the Tiger Lake Ranch Conservation Easement, which is a privately-owned conservation easement parcel that is currently used for cattle grazing and ecotourism.

The FSC pipeline would cross the Tiger Lake Ranch Conservation Easement using standard upland construction (open cut) methods. Construction would affect 8.1 acres and operation would affect 3.7 acres of land within the easement. Construction- and operation-related impacts would be similar to those described in 3.9.3.2, depending on the specific land use type affected throughout the area, and the same as those described for other features discussed throughout this section that would be crossed using standard upland construction. The FSC Project would require creation of a new right-of-way through the conservation easement. To minimize impacts, FSC has located the route within existing cleared areas. Following construction, special uses of the easement would be allowed to continue.

The easement was negotiated through the Rural and Family Lands Protection Program administered by the FDA and the easement is held by the FFS (National Conservation Easement Database as #924726). Per the easement agreement development, mining, cypress logging, and placement of commercial water wells are prohibited. Because development is prohibited per the easement agreement, **we recommend that:**

- **<u>Prior to the close of the draft EIS comment period</u>, FSC should provide documentation that construction and operation of the FSC Project would not be precluded by the conditions of the Tiger Lake Ranch Conservation Easement.**

3.9.3.6 Coastal Zone Management Act

As described in section 3.9.2.6, the entire State of Florida is in the coastal zone; however, because the project in Florida is entirely within the interior portion of the state, it would not affect local governments contiguous to marine plant-dominated waterbodies. Also, the FDEP FCMP provides a consistency review in coordination with partner agencies, and consistency reviews are necessary for federal permits issued under section 404 of the CWA and section 10 of the RHA. To ensure the project is consistent with the CZMA, **we recommend that:**

- **<u>Prior to construction</u>, FSC should file documentation of concurrence from the FDEP that the FSC Project is consistent with the CZMA.**

3.9.3.7 Hazardous Waste

Based on a review of federal and state regulatory databases to identify known and potential water and soil contamination and hazardous waste sites within 0.25 mile of the project, several sites of potential contamination were identified in the project area. These include the following:

- FSC Pipeline – 171 sites were identified within 0.25 mile of the project, of which 39 may be affected by the project;

- Contractor Yards – 21 sites were identified within 0.25 mile of the project, of which 7 may be affect by the project; and

- Access Roads – 17 sites were identified within 0.25 mile of the project, none of which would be affected by the project.

Of the 46 potentially contaminated sites identified as crossed by or within 100 feet of the project, one site, a tank facility at MP 4.4 in Polk County, has an open status and may require cleanup. The remaining 45 sites are closed, regulated, or in permit compliance with no Resource Conservation and Recovery Act or CWA violations. FSC has developed a set of Unexpected Contamination Encounter Procedures within its Waste Management Plan, which includes measures that it would implement in the event contaminated media is encountered during construction. We have reviewed FSC's Waste Management Plan and find it acceptable.

3.9.3.8 Visual Resources

Impacts on visual resources as a result of use of pipe/contractor yards and storage areas, and modifications to existing roads and the creation of new roads for access as a result of the FSC Project would be same as that described in section 3.9.1.7 (i.e., would not result in a significant impact on visual resources in the area).

Pipeline

The potential impacts on visual resources resulting from the project would be similar to those described in section 3.9.1.7. In general, the visual impact of the FSC Project would be relatively minor and short term. The pipeline generally would not have a long-term visual impact since it would be installed below ground and the right-of-way would be revegetated within one to two growing seasons. Open land is the most common land use crossed by the project and approximately 65 percent of the FSC Project would be constructed adjacent to existing rights-of-way. FSC would reduce the visual impact of the pipelines by overlapping a portion of the construction right-of-way with existing cleared rights-of-way

where possible. Consequently, the installation of the pipeline would generally only incrementally widen the existing corridors.

Most of the recreational and special use areas identified in section 3.9.3.5 offer scenic opportunities related to wildlife viewing, photography, and/or unique vistas or features. Although the FNST connectors affected by the project assist in providing access to the designated segments of FNST, they are not officially established segments of the trail and have not been specifically designated for their visual quality. As also discussed in section 3.9.3.5, the trail connectors would be crossed using the bore crossing method. Visual impacts on these features as a result of the project would be the same as those associated with general pipeline construction: right-of-way and workspace clearing, trenching, etc.

Aboveground Facilities

The proposed aboveground facilities would have relatively minor visual impact as listed in table 3.9.1-6 in appendix D.

3.10 SOCIOECONOMICS

Several socioeconomic factors could be affected in the states, counties, and communities in proximity to the SMP Project during construction. These include alteration of population levels or local demographics, increased employment opportunities, increased demand for housing and public services, tourism and transportation impacts, and an increase in government revenue associated with sales and payroll taxes. The socioeconomic study area, also referred to as the project area, considered for this analysis consists of a 10-mile radius (approximate 30-minute travel time) from the respective project area. The discussions below distinguish the effects of the respective projects by construction phase.

Potential impacts on socioeconomic factors resulting from operation of the SMP Project could include the placement of permanent employees, ongoing local expenditures by the operating companies, and an increased tax base.

Table 3.10-1 provides a summary of the phases, schedules, workforce, and economic benefits of the SMP Project. Additional details regarding the socioeconomic impacts of the SMP Project are presented below.

3.10.1 Hillabee Expansion Project

The Hillabee Expansion Project would be constructed in three phases. Construction of Phase 1 would occur between April 2016 and May 2017; Phase 2 would occur between August 2019 and May 2020; and Phase 3 would occur between August 2020 and May 2021.

TABLE 3.10-1

Summary of the Economic Benefits of the Southeast Market Pipelines Project

Construction Phase	Schedule	Estimated Construction Workforce	Estimated Construction Labor Income (millions)	Estimated Operational Workforce	Estimated Operational Labor Income (millions)	Estimated Indirect Employment	Estimated Indirect Employment Income (millions)	Consumables Expenditures (millions)
Hillabee Expansion Project [a, b]								
Phase 1	April 2016 to May 2017	1,394	$36.9	0	$0.0	798	$26.3	$18.0
Phase 2	August 2019 to May 2020	735	$18.2	0	$0.0	337	$10.7	$8.9
Phase 3	August 2020 to May 2021	901	$20.8	0	$0.0	321	$9.7	$10.2
Hillabee Expansion Project Subtotal		3,030	$75.9	0	$0.0	1,457	$46.7	$27.0
Sabal Trail Project [c]								
Phase 1	May 2016 to May 2017	3,913	$133.8	N/A	N/A	937	$33.7	$608.0
Phases 2 and 3	August 2019 to May 2020; July 2020 to July 2021	164	$56.9	N/A	N/A	40	$13.9	$32.0
Sabal Trail Project Subtotal		4,077	$139.4	360	$16.4	977	$35.1	$640.0
Florida Southeast Connection Project [d]								
One Phase	March 2016 to May 2017	500	$71.9	13	$14.7	576	$69.7	$91.2
Florida Southeast Connection Project Subtotal		500	$71.9	13	$14.7	576	$69.7	$91.2
Southeast Market Pipelines Project Total		7,607	$287.2	373	$31.1	3,010	$151.5	$758.2

Source:

[a] Addy, S. and Ijaz A., 2014

[b] For the purposes of calculating economic benefits, the estimated construction workforce for the Hillabee Expansion Project is based on the average monthly number of construction workers whereas the peak monthly number of construction workers is used in other sections of the socioeconomic analysis.

[c] Fishkind & Associates, 2014a. Estimated construction workforce numbers from the fiscal analysis report were used to assess economy and tax revenue impacts. See section 3.10.2.7 for additional details.

[d] Fishkind & Associates, 2014b

Use of the Meridian Contractor Yard in Lauderdale County, Mississippi would not result in a measureable socioeconomic impact on the county or municipality. Activities at the yard would occur on 8.2 acres and be limited to temporary storage of machinery, equipment, construction materials, pipe, office facilities, and/or temporary parking during Phases 2 and 3 of the project. Also, Transco would not hire new permanent employees for operation and maintenance of the project. Existing Transco personnel would routinely visit the project facilities to conduct inspections and perform maintenance, as needed. Therefore, there would be no permanent impacts on population, employment, housing, public services, tourism, and transportation as a result of operation of the Hillabee Expansion Project. Therefore, socioeconomic information specific to Mississippi and operational personnel are not discussed further in this section.

3.10.1.1 Population and Employment

The Hillabee Expansion Project would be in Alabama and Mississippi. Table 3.10.1-1 lists the facilities proposed for construction during Phases 1, 2, and 3 and the affected counties and communities.

TABLE 3.10.1-1

Summary of Facilities Associated with the Hillabee Expansion Project [a]

Facility, Site	Loop Length (miles)	County, State	Community	Phase
Pipeline Loops				
Rock Springs Loop	6.7	Choctaw, AL	Butler, Lisman, and Needham	2
Butler Loop	5.3	Choctaw, AL	Butler, Lisman	3
Billingsley Loop	4.6	Autauga, AL; Chilton, AL	Billingsley	1
Autauga Loop	7.4	Autauga, AL; Chilton, AL	Billingsley, Clanton, Verbena	3
Verbena Loop	3.9	Chilton, AL	Clanton	2
Proctor Creek Loop	5.3	Coosa, AL	Rockford	1
Hissop Loop	2.5	Coosa, AL	Hissop, Rockford	1
Alexander City Loop	7.5	Tallapoosa, AL	Alexander City, Goodwater, Kellyton, New Site	1
Aboveground Facilities				
Compressor Stations				
Compressor Station 84	N/A	Choctaw, AL	Needham	1
Compressor Station 95	N/A	Dallas, AL	--	1, 2
Compressor Station 100	N/A	Autauga, AL; Chilton, AL	Billingsley	2, 3
Compressor Station 105	N/A	Coosa, AL	Kellyton	1
Other Aboveground Facilities				
Alexander City Receiver	N/A	Tallapoosa, AL	Alexander City, Kellyton	1
Ancillary Facilities				
Meridian Contractor Yard	NA	Lauderdale, MS	Meridian	2, 3

N/A Not Applicable.

[a] Unless noted, other project-related facilities, such as MLVs, pig launchers/receivers, pipe/contractor yards, and access roads, would be within the same socioeconomic study area as the counties and communities listed for the pipeline and aboveground facilities.

The Hillabee Expansion Project would be in unpopulated areas or areas with low population density. According to 2010 U.S. Census Bureau data, Alabama has a population of 4.8 million people with a population density of 94.4 people per square mile. The population and population density of the counties in the study area range from 54,571 people in Autauga County with a population density of 91.8

people per square mile to 11,539 people in Coosa County with a population density of 17.7 people per square mile. The State of Alabama experienced population growth of 8.7 percent between 2000 and 2013 and 1.1 percent between 2010 and 2013. However, most of the counties in the Hillabee Expansion Project study area experienced a decrease in population during both periods. The largest decrease between 2000 and 2013 was in Choctaw County, which had a population decrease of 15.7 percent; the largest decrease between 2010 and 2013 was in Coosa County, which experienced a population decrease of 5.6 percent. Autauga and Chilton experienced population growth during both periods, 26.5 and 11.0 percent between 2000 and 2013, respectively, and 1.2 and 0.7 percent between 2010 and 2013, respectively. Table 3.10.1-2 in appendix D presents information on existing population levels and trends in the Hillabee Expansion Project area.

A number of communities are in close proximity to the Hillabee Expansion Project. The town of Butler is approximately 1.2 miles southwest of the Butler Loop; Billingsley is approximately 0.5 mile south of the Billingsley Loop; Rockford is approximately 0.6 mile northwest of the Hissop Loop; and Alexander City is approximately 1.5 miles southwest of the Alexander City Loop. The population and population density of the communities in the study area range from a population of 14,875 people and a population density of 364.2 people per square mile in Alexander City, to a population of 94 people and a population density of 164.2 in Needham and a population of 658 people and a population density of 36.0 in the Hissop Census-designated place (CDP) (Census.gov, 2015b). At the local level, most of the communities within the Hillabee Expansion Project study area experienced a decrease in population between 2000 and 2013 and between 2010 and 2013. The decrease in population in local communities between 2000 and 2013 ranged from 20.1 percent in Lisman to 0.9 percent in Alexander City. In contrast, one local community, Billingsley, experienced population growth during this period, with a growth rate of 23.3 percent, which is 14.6 percent higher than the state average. The decrease in population of local communities between 2010 and 2013 ranged from 7.4 percent in Kellyton to 0.7 in Billingsley. Population levels in the communities of Clanton and Alexander City remained fairly stable during this period at 0.2 and 0.0 percent, respectively.

The major industries in the State of Alabama and the counties crossed by the Hillabee Expansion Project include education; health and social services; retail trade; manufacturing; and, construction. Based on U.S. Census Bureau information (2008-2012), the civilian workforce in the counties affected by the Hillabee Expansion Project consists of 93,279 people, 6,774 of whom work in the construction industry. The unemployment rate in Alabama averaged 10.3 percent in 2013, which is slightly higher than the national average of 9.3 percent at that time. Unemployment rates within the counties crossed by the Hillabee Expansion Project vary between a high of 19.4 percent in Dallas County, nearly twice the state average, and a low of 8.6 percent in Autauga County, which is nearly 2 percent lower than the state average (Census.gov, 2015c). Unemployment rates within the communities near the Hillabee Expansion Project area vary greatly, with a high of 45.7 percent in Hissop. Table 3.10.1-3 in appendix D presents the top industries and unemployment rates for each county crossed by and community in the Hillabee Expansion Project analysis area.

As listed in table 3.10.1-3 in appendix D, per capita income in 2013 ranged from $25,253 in Autauga County to $16,907 in Dallas County; the per capita income of the State of Alabama in 2013 was $23,587 (Census.gov, 2015c). The per capita income in the local communities near the Hillabee Expansion Project area ranged from a high of $31,505 in Needham to a low of $10,174 in Lisman.

Transco would construct the project facilities during three project phases, as described in section 3.10.1. Construction of all three phases would require a total peak workforce of 3,984 people.[8] Due to the transitory nature and short duration of pipeline construction, most non-local workers do not travel with their families so impacts on population levels would be primarily limited to workers only.

During construction of Phase 1, a temporary population increase based on worker influx would be expected in Autauga, Chilton, Coosa, Tallapoosa, Dallas, and Choctaw Counties and their surrounding communities. Transco estimates that up to 20 percent of the workforce (387 workers) would be local hires and about 80 percent (1,467 workers) would be non-local during the peak of Phase 1 construction. The addition of 1,467 non-local people in the area, if concentrated to one community at once, would result in population increases that range from 7 percent in the community of Alexander City to 1,561 percent in the community of Needham.

During construction of Phase 2, a temporary population increase based on worker influx would be expected in Autauga, Chilton, and Choctaw Counties and their surrounding communities. Transco estimates that up to 20 percent of the workforce (156 workers) would be local hires and about 80 percent (822 workers) would be non-local during the peak of Phase 2 construction. The addition of 822 people in the area, if concentrated to one community at once, would result in population increases that range from 10 percent in the community of Clanton to 875 percent in the community of Needham.

During construction of Phase 3, a temporary population increase based on worker influx would be expected in Autauga, Chilton, and Choctaw Counties and their surrounding communities. Transco estimates that up to 20 percent of the workforce (160 workers) would be local hires and about 80 percent (1,015 workers) would be non-local during the peak of Phase 3 construction. The addition of 1,015 people in the area, if concentrated to one community at once, would result in population increases that range from 12 percent in the community of Clanton to 1,080 percent in the community of Needham.

Constructing the project would impact populations in the affected counties or communities. These impacts, however, would be temporary as they would be limited to the duration of each construction phase and not significant because of the large area over which the workforce would be dispersed.

Additional temporary jobs could be created as a result of secondary activity associated with construction of the Hillabee Expansion Project. This could include hiring additional staff at local retail and food service establishments to accommodate the influx of people to the area. Purchases made by non-local workers on food, clothing, lodging, gasoline, and entertainment would have a temporary (0.5 to 11 months, depending on the project phase), stimulatory effect on the local economy. These jobs would represent a temporary, minor increase in employment opportunities within the project area, as discussed in section 3.10.1.7.

3.10.1.2 Housing

Temporary housing in the Hillabee Expansion Project area is available in the form of daily, weekly, and monthly rentals at motels, hotels, and campgrounds, and rental and seasons units. As listed in table 3.10.1-4 in appendix D, approximately 39 hotels, motels, and campgrounds are available within

[8] To assess impacts on population and employment, housing, public services, tourism, and transportation, the peak construction workforce is presented as it represents the largest possible impact on these resources. For the purposes of calculating economic benefits, the estimated construction workforce for the Hillabee Expansion Project is based on the average construction workforce as it better represents the economic benefits that would be realized during the entire period of construction.

the Hillabee Expansion Project area. In addition, there are hundreds to thousands of rental housing and seasonal units in the project-related counties. The availability of hotels, motels, and campgrounds may vary, particularly during tourist seasons or local events (discussed in section 3.10.1.4), or as a result of demand for housing by other industries. Based on U.S. Census Bureau data, in 2012 Coosa County had the highest rental vacancy rates in the Hillabee Expansion Project area at 8.3 percent. Autauga, Chilton, Choctaw, Dallas Counties had rental vacancy rates between 5 and 6 percent while Tallapoosa County was at 1.8 percent (see table 3.10.1-4 in appendix D).

During the peak of Phase 1 of construction, approximately 1,467 non-local construction personnel are expected to use temporary housing in the Hillabee Expansion Project area. Using a conservative estimate of 25 hotel rooms or campsites per establishment, of which there are approximately 39 as shown in table 3.10.1-4 in appendix D, it is estimated that there are at least 975 room/site accommodations available in the Phase 1 project area. In addition, based on 2015 Census data and rental vacancy rates of the affected counties, there are over 4,000 rental units and over 5,000 seasonal units in the Phase 1 project area.

During the peak of Phase 2 of construction, approximately 822 non-local construction personnel are expected to use temporary housing in the Hillabee Expansion Project area. Using a conservative estimate of 25 hotel rooms or campsites per establishment, of which there are at least 22 as shown in table 3.10.1-4 in appendix D, it is estimated that there are at least 550 room/site accommodations available in the Phase 2 project area. In addition, based on 2015 Census data and rental vacancy rates of the affected counties, there are over 1,000 rental units and over 1,000 seasonal units in the Phase 2 project area.

During the Phase 3 peak of construction, approximately 1,015 non-local construction personnel are expected to use temporary housing in the Hillabee Expansion Project area. Using a conservative estimate of 25 hotel rooms or campsites per establishment, of which there are at least 22 as shown in table 3.10.1-4 in appendix D, it is estimated that there are at least 550 room/site accommodations available in the Phase 3 project area. In addition, based on 2015 Census data and rental vacancy rates of the affected, there are over 2,000 rental units and over 1,200 seasonal units in the Phase 3 project area.

The influx of non-local construction workers would result in a temporary increase in demand for housing. While this would benefit (increased revenue) the proprietors of the local motels, hotels, and other rental units, it would increase competition for units (and cost) and decrease housing availability for tourists, recreationalists, and local renters/residents. Constructing the project would not significantly affect housing in any one particular area due to the short duration of each construction phase and the large area over which the workforce would be dispersed. Based on the large number of accommodations in the socioeconomic study area, we determined the housing accommodations (rental and seasonal), along with hotels, motels, and campgrounds, would be sufficient to house the workforce without significantly displacing tourists, recreationalists, or local workers. The incremental housing, hotel, motel, and campground demand from construction workers during the Hillabee Expansion Project would be temporary and minor to moderate.

3.10.1.3 Public Services

Public services and facilities in the Hillabee Expansion Project area include law enforcement, fire departments, medical facilities (including hospitals and emergency services), and schools. Much of the Hillabee Expansion Project would be in rural areas/communities. The number of law enforcement centers available in each county ranges from six in Coosa County to three in Autauga County, of which most are 10 miles or less from the project. The number of local fire departments (volunteer and public) ranges from 16 in Chilton County to 7 in Autauga and Choctaw Counties, of which all are less than 10 miles from the project. The number of medical facilities available in each county ranges from two in

Tallapoosa County to none in Choctaw and Coosa Counties. Table 3.10.1-5 in appendix D summarizes the medical, police, and fire protection facilities in the counties within the Hillabee Expansion Project area.

All of the counties affected by the project contain areas or populations that have been designated by the U.S. Department of Health and Human Services as Primary Care Health Professional Shortage Areas (HPSA) or Medically Underserved Areas or Populations (MUAs/Ps) (HRSA.gov, 2015). HPSA or MUAs/Ps designation indicates a shortage of health care professionals and facilities (primary care, dental, and mental health).

As shown in table 3.10.1-5, and discussed above, adequate access (less than 30 miles) to medical services is present in Autauga, Chilton, Dallas, and Tallapoosa Counties, but there are no medical services available in Choctaw and Coosa Counties. In the event of a medical emergency during construction work in Coosa County, we anticipate that Transco would seek medical services in neighboring communities in Tallapoosa and Chilton Counties. In the event of a medical emergency during construction work in Choctaw County, we anticipate that Transco would seek medical services in neighboring communities such as the town of Meridian in Lauderdale County, Mississippi, which has four hospitals and is approximately 25 miles from the nearest point of the project.

Constructing the project would increase demands on local services and facilities. Local police may need to assist in maintaining traffic flow during construction at road crossings or may need to respond to emergencies associated with pipeline construction. Fire departments may be needed in response to project-related fires or other emergencies. Increased need for medical services would be mainly due to any illness or injury of workforce personnel. Transco would work with local law enforcement, fire departments, and emergency medical services prior to construction to coordinate for effective emergency response. Constructing the project would not significantly affect public services in the affected counties or communities due to the short duration of each construction phase and the large area over which the workforce would be dispersed. The communities in the project vicinity presently have and are presumed to continue to have adequate infrastructure and services to meet the potential needs of non-local workers who enter the area temporarily.

3.10.1.4 Tourism

Tourism opportunities include federal, state, and local special interest areas discussed in section 3.9 as well as businesses that are dependent upon attracting year-round or seasonal tourists. Tourism occurs year-round in Alabama; however, the peak tourism season is summer (June through August) (Smatertravel.com, 2015). As such, construction of Phase 1 (April 2016 to May 2017) would overlap with the peak tourism season; construction of Phases 2 (August 2019 to May 2020) and 3 (August 2020 to May 2021) would occur outside of the peak tourism season. Tourist attractions in the project area are presented in table 3.10.1-6 in appendix D. The closest tourist attractions to the project are the Coosa WMA (0.5 mile north of the Proctor Creek Loop) and Zach Rogers Park (0.25 mile north of the Butler Loop).

Based on Alabama Tourism Department information (Census.gov, 2015d), tourism accounts for a relatively small percentage of the overall state level. As listed in table 3.10.1-3 in appendix D, tourism-related businesses (i.e., arts, entertainment, recreation, and accommodation and food services; and agriculture, forestry, fishing and hunting, and mining) are not the first or second most abundant economic industry in the counties affected by, and communities in, the socioeconomic study area for the project.

As discussed in section 3.10.1.2 and based on the number of hotel/motels, campground, and vacant rental and seasonal units in the project area, the demand for temporary housing from non-local

workers required for the Hillabee Expansion Project construction would not exceed available supply. The demand for accommodations from tourists and recreationalists combined with the temporary workforce could result in competition and could affect tourist visits and/or deter tourists from continuing to visit local attractions. However, we anticipate that, in the event of limited supply, project workers and/or tourists would take advantage of the larger nearby metropolitan areas to find accommodations. The number of accommodations (hotels/motels) available in these larger metropolitan areas (approximately 157 in Birmingham, 127 in Montgomery, 10 in Auburn, and 43 in Tuscaloosa) would be sufficient to accommodate the non-local workers without exceeding supply or significantly displacing tourists.

Some tourist attractions could experience a temporary visitation impact as a result of construction, particularly if access to an area is restricted due to safety concerns (e.g., open trench). The influx of construction workers and disruptions to tourist attractions would be limited to the time of construction and dispersed throughout the project area. Depending on easement negotiations, landowners could be compensated for losses resulting from construction. Following construction, land uses would be restored and activities would be allowed to resume. As a result, impacts on tourism would be temporary and minor to moderate.

3.10.1.5 Transportation

Transco anticipates that about 263 vehicles would be mobilized to support construction of Phase 1; 106 vehicles to support Phase 2; and 125 vehicles to support Phase 3. Vehicles would include stringing trucks; welding rigs; water trucks; fuel trucks; mechanic trucks; flatbed and lowboy trailer trucks; motor graders; hydrostatic equipment trucks; contractor buses; and inspector, foreman, contractor, and environmental and cultural monitor vehicles. Transco anticipates that some workers would carpool to the construction area, thus reducing passenger vehicle load on local roads. During construction, vehicles would be distributed across the project according to the specific construction method used.

Construction impacts on transportation infrastructure would include disruption to traffic flow due to the movement of construction equipment, materials, and crew members; construction of pipeline facilities across existing roads; and damage to local roads from the movement of heavy construction equipment and materials.

During all phases, construction activities would be scheduled to take advantage of daylight hours and, as such, construction crews would typically avoid peak commuting periods by traveling to the worksite early in the morning and from the worksite later in the evening. Certain construction-related activities such as hydrostatic testing, horizontal directional drilling, tie-ins, purge and packing the pipelines facilities, amongst others, could occur at unspecified times and outside the normal work day. Transco would attempt to schedule these activities in such a way (e.g., outside of peak traffic hours) that impacts on local commuter traffic would be minimized.

Many roads including interstate highways and major county roads would be crossed using the bore or HDD method, which would result in little or no disruption of the road or impact on the road. Smaller roads would be crossed using the open-cut method. Use of the open-cut method generally requires a temporary road closure and establishment of detours. If no detour is feasible, Transco would create temporary travel lanes or install steel plate bridges over the open-cut area to ensure continued traffic flow during construction. At least one lane of the road being crossed would be kept open to traffic except for brief periods when it would be essential to close the road to install the pipeline. Transco would coordinate with local police departments in areas of high traffic volume to avoid traffic flow interruptions and ensure the safety of pedestrians and vehicles and passing emergency vehicles. Transco would also employ traffic control measures, such as flagmen and signs, as necessary to ensure safety of local traffic. Most open-cut crossings require only 1 or 2 days to install the pipe and backfill the trench, although final

road resurfacing could require several weeks to allow for soil settlement and compaction. A complete list of road crossings associated with the Hillabee Expansion Project, including the proposed crossing methods, is provided in table 3.10.1-7 in appendix D.

Public roads used by construction vehicles to get to and from workspaces could experience increase sediment tracking/build-up and surface damage. Paved roads are the most durable and generally stand up well to periodic surges in traffic and heavy use; unpaved roads, on the other hand, are much less durable. Most states fund road repairs with motor fuel taxes, motor vehicle registration fees, and compensatory fees paid by commercial carriers. Commercial carriers need registrations to operate in each state and may need special permits for oversize and overweight vehicles, temporary trip permits within the state, or to haul hazardous materials. Transco would coordinate with state and local departments of transportation and land-managing agencies to obtain the required permits to operate trucks on public roads.

During all phases of construction, Transco would inspect roads periodically and, if damages occur as a direct result of project-related activities, would repair them as appropriate and in accordance with the applicable permit. Depending on the quality of the road surface, impacts could occur to gravel or dirt roads. Following construction, roads would be restored in accordance with road encroachment permit requirements and/or as requested by the landowner or land-managing agency.

As discussed in section 2.2.1, Transco also proposes to improve or modify 34 existing roads to accommodate construction vehicles during Phase 1; 21 existing roads during Phase 2; and, 14 existing roads during Phase 3. Users of these roads could experience temporary disruptions similar to road crossing impacts discussed above. Following construction, Transco would restore improved roads to their preconstruction condition unless the landowner or land-managing agency requests that the improvements be left in place.

As a result of measures and methods described above, construction activities would result in temporary to short-term impacts on transportation infrastructure.

3.10.1.6 Property Values

We received numerous comments from stakeholders concerning the project's impacts on property values. Typically, an easement would be used to convey both temporary (construction-related) and permanent rights-of-way to Transco. As further discussed in section 3.9.1.3, the easement would give Transco the right to access, construct, operate, and maintain the pipeline. In return, Transco would compensate the landowner. If the project is issued a Certificate, an easement could be obtained by use of eminent domain. In that case, the property owner would still be compensated by Transco but the amount of compensation would be determined by the courts.

The effect that a pipeline easement may have on property value is a damage-related issue that would be negotiated between the parties during the easement acquisition process. The easement acquisition process is designed to provide fair compensation to the landowner for the right to use the property for pipeline construction and operation. Appraisal methods used to value land are typically based on objective characteristics of the property and any improvements. The impact a pipeline could have on a property's value would depend on many factors including the size of the tract, the values of adjacent properties, the presence of other utilities, the current value of the land, and the current land use. Subjective valuation is generally not considered in appraisals. A potential purchaser of property may make a decision to purchase land based on his or her planned use. An industrial user might find the pipeline (i.e., a potential source of energy for an industrial plant) preferable; a farmer or resident may or may not find it objectionable. If the presence of a pipeline renders a planned use infeasible, it is possible

that a potential purchaser would decide not to purchase the property; however, each potential purchaser has different criteria and differing capabilities to purchase land.

Property taxes for a piece of property are generally based on the actual use of the land. Construction of the pipeline would not change the general use of the land but would preclude construction of aboveground structures on the permanent right-of-way. If a landowner believes that the presence of a pipeline easement impacts the value of his or her land, resulting in an overpayment of property taxes, he or she could appeal the issue of the assessment and subsequent property taxation to the local property tax agency.

Several studies have looked at the effect of pipelines on sales and property values. We acknowledge that most were conducted on behalf of the natural gas transmission industry. However, our analysis did not identify any relevant studies to refute the conclusions presented here. A report by Allen, Williford & Seale, Inc., which was prepared in 2001 for the Interstate Natural Gas Association of America Foundation, Inc., evaluated the impact of natural gas pipelines on real estate in four separate and geographically diverse areas, including two suburban areas and two rural areas crossed by one to multiple natural gas pipelines. The study concluded that there was no significant impact on property sales located along natural gas pipelines nor by the pipeline size or the product carried. Additionally, other studies have reached similar conclusions, including: PGP Valuation Inc. (2008) for Palomar Gas Transmission Inc.; Ecowest (Fruits, 2008) for the Oregon LNG Project; Diskin, Friedman, Peppas, and Peppas (2011); and Hansen et al. (2006).

3.10.1.7 Economy and Tax Revenues

Transco estimates that the total capital cost for the Hillabee Expansion Project would be about $170 million for all three phases. Direct payroll and materials expenditures related to the Hillabee Expansion Project would have an immediate impact on local economies. Workers would most likely spend a portion of their pay in local communities on items such as housing, food, automobile expenses, entertainment, and other items. Transco would purchase goods and materials locally when possible. Sales tax would be generated on items purchased in the Hillabee Expansion Project area. These direct impacts would stimulate indirect impacts within the region as inventories are restocked and new workers are hired to meet demands. Table 3.10.1-8 provides information regarding the construction and operational costs of the Hillabee Expansion Project for each phase. The information presented in table 3.10.1-8 and discussed below has been derived from an economic study prepared by the Center for Business and Economic Research at The University of Alabama (Addy and Ijaz, 2014). As noted in section 3.10.1.1, the estimated peak construction workforce has been used to assess impacts on population and employment, housing, public services, tourism, and transportation as a result of the Hillabee Expansion Project; however, the estimated average construction workforce has been used to assess the Project's impacts on local economy and tax revenues as it better represents the economic benefits that would be realized during the entire period of construction.

TABLE 3.10.1-8

Construction and Operational Workforce for the Southeast Market Pipelines Project

Project/Location/ Phase	Estimated Construction Workforce	Estimated Construction Labor Income	Estimated Indirect Employment (Construction)	Estimated Indirect Employment Income (Construction)	Estimated Operational Workforce	Estimated Operational Labor Income
Hillabee Expansion Project [a, b, c]						
Alabama						
Phase 1	1,394	$36,900,000	798	$26,300,300	N/A	N/A
Phase 2	735	$18,200,000	337	$10,700,000	N/A	N/A
Phase 3	901	$20,800,000	321	$9,700,000	N/A	N/A
Hillabee Expansion Project Subtotal	3,030	$75,900,000	1,457	$46,700,000	0	$0
Sabal Trail Project [d, e]						
Alabama						
Phase 1	790	$25,717,631	188	$7,335,393	N/A	N/A
Phase 2	N/A	N/A	N/A	N/A	N/A	N/A
Alabama Subtotal	790	$25,717,631	188	$7,335,393	67	$2,059,627
Georgia						
Phase 1	1,277	$37,833,379	318	$11,905,873	N/A	N/A
Phases 2 and 3	67	$1,991,231	17	$626,625	N/A	N/A
Georgia Subtotal	1,344	$39,824,610	335	$12,532,498	102	$4,280,601
Florida						
Phase 1	1,846	$70,200,046	431	$14,477,380	N/A	N/A
Phases 2 and 3	97	$3,694,740	23	$761,967	N/A	N/A
Florida Subtotal	1,943	$73,894,786	454	$15,239,347	191	$10,006,503
Sabal Trail Project Subtotal	4,077	$139,437,027	977	$35,107,238	360	$16,346,731
Florida Southeast Connection Project [f]						
Florida	500	$71,846,072	576	$69,683,506	13	$14,700,000

N/A Operational workforce numbers and labor income do not apply to specific project phases and are therefore provided under Project Total only.

[a] Transco would operate project facilities, or Transco would operate facilities remotely with no new long-term hiring in the project area.

[b] For the purposes of calculating economic benefits, the estimated construction workforce for the Hillabee Expansion Project is based on the average monthly number of construction workers whereas the peak monthly number of construction workers is used in other sections of the socioeconomic analysis.

[c] Source: Addy, S. and Ijaz A., 2014.

[d] No work would be performed in Alabama during Phases 2 and 3 of construction of the Sabal Trail Project.

[e] Source: Fishkind & Associates, 2014a. The workforce numbers provided in this table are taken from the Fishkind & Associates report, which used known workforce numbers as of February 2015. More recent workforce estimates, received from Sabal Trail, were used in other sections of the socioeconomic analysis. See section 3.10.2.7 for additional details.

[f] Source: Fishkind & Associates, 2014b.

Transco estimates that the total project construction payroll (in-state) would be $75.9 million for all three phases of construction. Payroll taxes would be collected from the workers employed on the project. Approximately $15.2 million of the total payroll would be received by local workers (assuming that 20 percent of the workforce would be hired locally). Transco estimated that about $27 million in consumables and project-specific materials such as fuel, tires, concrete, sand, gravel, and office supplies would be purchased locally during all three phases of construction. A breakdown of the economic impacts of construction payroll and consumables by project phase is presented in table 3.10.1-9.

TABLE 3.10.1-9

In-State Expenditures on Payroll and Consumables for the Hillabee Expansion Project

Construction Phase	Total Payroll (millions)	Local Payroll (millions) [a]	Consumables (millions)	Sales Tax Revenues [b]
Phase 1	$36.9	$7.4	$18.0	$720,000
Phase 2	$18.2	$3.6	$8.9	$356,000
Phase 3	$20.8	$4.2	$10.2	$408,000
Project Total	$75.9	$15.2	$27.0	$1,484,000

[a] Assumes that 20 percent of the total workforce would be hired locally.
[b] Sales tax was calculated based on the Alabama state tax rate of 4 percent.
Source: Provided by Transco.

Based on 2014 data, the state income tax rate that would be paid by resident (local) workers and non-local workers (in Alabama) would be an average of 5 percent of net income (Bankrate.com, 2015; Addy and Ijaz, 2014). Using this income tax rate, approximately $1.9 million in income tax revenues would be generated by construction payroll for Phase 1; about $910 thousand in income tax revenues for Phase 2; and about $1 million in income tax revenues for Phase 3.

In addition to the state sales revenues (tax rate of 4 percent in Alabama), local sales taxes are collected and vary across the Hillabee Expansion Project area (one percent in Tallapoosa County to 3 percent in Choctaw County). Depending on the locality where project consumables are purchased, this would further increase sales tax revenues in the project area during construction of all phases. Alabama sales tax revenues are primarily used to fund education, with a portion of the revenues distributed to the counties and the Department of Human Resources.

Another indicator of the economic impacts of a project is to calculate the total project output. Output is calculated by applying a multiplier[9] to the total expenditures on goods and services directly related to construction of the Hillabee Expansion Project. The purpose of calculating output is to capture the indirect impact that these expenditures could have on the local economy beyond their direct effect (e.g., purchases). The total output for construction of the Hillabee Expansion Project is estimated to be $382.8 million based on the economic study sponsored by Transco. The majority of the output would occur during Phase 1 of construction, with a total output of $197.5 million. These expenditures would have a temporary, stimulatory effect on the local economy, and would further increase sales tax revenues at the state, county, and municipal level. Table 3.10.1-10 lists the total direct output that each county would likely receive as a result of construction of the Hillabee Expansion Project.

TABLE 3.10.1-10

Estimated Economic Output during Construction of the Hillabee Pipeline Project

Phase	Total Output (millions)
1	$197.5
2	$90.2
3	$95.1
Project Total	$382.8

Source: Addy and Ijaz, 2014

[9] Output is calculated using RIMS II multipliers developed by the U.S. Department of Commerce's Bureau of Economic Analysis. RIMS II multipliers are available by state, region, county, and metropolitan area throughout the United States. Link to website: http://www.bea.gov/index.htm.

The most substantial tax impacts would be generated by *ad valorem* taxes, which are property taxes that would be assessed per year and distributed to each county crossed by the Hillabee Expansion Project, resulting in long-term benefits to the local and regional economy. The *ad valorem* experienced would depend on the length/amount of project facilities in each county. The total estimated *ad valorem* tax associated with the Hillabee Expansion Project would be about $30 million in Autauga County, $12 million in Chilton County, $90 million in Choctaw County, $66 million in Coosa County, $42 million in Dallas County, and $24 million in Tallapoosa County. These property taxes would be paid over the life of the Hillabee Expansion Project (assumed to be 60 years). The project proponent may be subject to subsidies, which would affect the amount of taxes ultimately realized; however, these subsidies are unknown as they are between the company and the county or state and vary.

Overall, the Hillabee Expansion Project would result in beneficial impacts on the state and local economies by creating a short-term stimulus to the affected areas through payroll expenditures, local purchases of consumables and project-specific materials, and sales tax. Furthermore, operation of the Hillabee Expansion Project would result in long-term ad valorem property tax benefits for all of the counties in the Hillabee Expansion Project area.

3.10.2 Sabal Trail Project

The Sabal Trail Project would be constructed in three phases. Phase 1 would occur between May 2016 and May 2017, Phase 2 would occur between May 2019 and May 2020, and Phase 3 would occur between June 2020 and May 2021.

3.10.2.1 Population and Employment

The Sabal Trail Project would be in 4 counties in Alabama, 9 counties in Georgia, and 13 counties in Florida, and be near several communities as listed in table 3.10.2-1.

Alabama

Construction work areas for the Sabal Trail Project in Alabama generally would be in unpopulated areas or areas with low population density. According to 2010 U.S. Census Bureau data, Alabama has a population of 4.8 million people with a population density of 94.4 people per square mile; population totals in the counties within the study area for the project range from 140,247 people and a population density of 230.8 people per square mile in Lee County to 34,215 people and a population density of 57.4 people per square mile in Chambers County. The State of Alabama experienced population growth of 8.7 percent between 2000 and 2013 and 1.1 percent growth between 2010 and 2013. Lee and Russell Counties experienced a fairly high rate of population growth between 2000 and 2010 with increases of 31.1 and 19.8 percent, respectively, while Chambers and Tallapoosa Counties experienced population decreases of 6.6 and 0.7 percent, respectively. Between 2010 and 2013, population levels in Lee and Russell Counties increased by 7.6 and 12.5 percent, respectively, while population levels in Chambers and Tallapoosa Counties decreased slightly by 0.2 and 1 percent, respectively. Table 3.10.1-2 in appendix D provides information on population levels and trends for all Alabama counties and communities within the study area for the Sabal Trail Project.

TABLE 3.10.2-1

Summary of Facilities Associated with the Sabal Trail Project [a]

State/Facility	Length (miles)	County	Community	Phase
Pipelines				
Alabama				
Mainline	86.5	Tallapoosa, Chambers, Lee, Russell	Alexander City, Auburn, Camp Hill, Cusseta, Dadeville, Daviston, Goldville, Jacksons Gap, LaFayette, Lanett, New Site, Opelika, Phenix City, Smiths Station, Valley, Waverly	1
Georgia				
Mainline	161.7	Stewart, Webster, Terrell, Lee, Dougherty, Mitchell, Colquitt, Brooks, Lowndes	Albany, Baconton, Barwick, Berlin, Bronwood, Camilla, Dasher, Dawson, Doerun, Funston, Lake Park, Leesburg, Lumpkin, Morven, Moultrie, Parrott, Pavo, Quitman, Remerton, Richland, Riverside, Sale City, Sasser, Smithville, Valdosta	1
Florida				
Mainline	232.7	Hamilton, Suwannee, Gilchrist, Alachua, Levy, Marion, Sumter, Lake, Polk, Osceola	Alachua, Archer, Bay Lake, Bell, Belleview, Branford, Bronson, Bushnell, Center Hill, Clermont, Coleman, Davenport, Dunnellon, Fruitland Park, Groveland, Haines City, High Springs, Howey-in-the-Hills, Inverness, Jennings, Kissimmee, Lady Lake, Lake Buena Vista, Lee, Leesburg, Live Oak, Mascotte, Minneola, Newberry, Ocala, Otter Creek, Polk City, Trenton, Webster, Wildwood, Williston	1
Hunters Creek Line	13.1	Osceola, Orange	Bay Lake, Belle Isle, Davenport, Edgewood, Haines City, Kissimmee, Lake Buena Vista, Orlando, St. Cloud	1
Citrus County Line	21.5	Marion , Citrus	Crystal River, Dunnellon, Inglis, Inverness, Yankeetown	1
Aboveground Facilities				
Alabama				
Alexander City Compressor Station	N/A	Tallapoosa	Alexander City, Goldville, Jacksons Gap, New Site	1
Transco Hillabee M&R Station	N/A	Tallapoosa	Alexander City, Goldville, Jacksons Gap, New Site	1
Georgia				
Albany Compressor Station	N/A	Dougherty	Albany, Baconton	2, 3
Florida				
Hildreth Compressor Station	N/A	Suwannee	Branford	1, 3
Dunnellon Compressor Station	N/A	Marion	Dunnellon, Inverness	2
Reunion Compressor Station	N/A	Osceola	Bay Lake, Davenport, Haines City, Kissimmee, Lake Buena Vista, Branford	1
FGT Suwannee M&R Station	N/A	Suwannee	Branford	1
Gulfstream M&R Station	N/A	Osceola	Bay Lake, Davenport, Haines City, Kissimmee, Lake Buena Vista	1
FSC M&R Station	N/A	Osceola	Bay Lake, Davenport, Haines City, Kissimmee, Lake Buena Vista	1

TABLE 3.10.2-1 (cont'd)

Summary of Facilities Associated with the Sabal Trail Project [a]

State/Facility	Length (miles)	County	Community	Phase
FGT Hunters Creak M&R Station	N/A	Orange	Bay Lake, Belle Isle, Edgewood, Kissimmee, Lake Buena Vista, Orlando, St. Cloud	1
Duke Citrus County M&R Station	N/A	Citrus	Crystal River, Inglis, Yankeetown	1
Ancillary Facilities				
Contractor Yard 5-6	NA	Marion	Ocala	1, 2
Contractor Yard 5-7	NA	Marion	Ocala	1, 2

[a] Unless noted, other project-related facilities, such as MLVs, pig launchers/receivers, pipe/contractor yards, and access roads, would be within the same socioeconomic study area as the counties and communities listed for the pipeline and aboveground facilities.

The local community in Alabama with the highest population is Auburn with 53,470 people and a population density of 919.3 people per square mile, and the local community with the lowest population is Goldville with 55 people and a population density of 55.8 people per square mile. At the local level, changes in population levels between 2000 and 2013 vary greatly with Goldville experiencing the highest rate of population growth with a 97.3 percent increase, and Smiths Station experienced the largest decrease in population levels with a 77.1 percent decline. Between 2010 and 2013, Kellyton had the largest increase in population with a 32.7 percent increase and Cusseta had the largest decrease in population levels with a 9.8 percent decline. Population levels in the communities of Alexander City, Auburn, Dadeville, Jacksons Gap, LaFayette, Lanett, New Site, and Valley remained fairly stable during this period with changes of less than one percent.

While the Sabal Trail Project would avoid directly affecting communities in Alabama (i.e., would not cross city limits), a number of communities are in close proximity. The town of Cusseta is approximately 3 miles northeast of the project area; Alexander City and New Site are approximately 4 miles southwest and northeast of the project area, respectively. On average, the remaining local communities in Alabama are 5 miles or greater from the project.

The major industries in Alabama include education, health, and social services; manufacturing; and retail trade. Based on U.S. Census Bureau data (2008-2012), the civilian workforce in Alabama averaged 2.3 million people. In the counties affected by the Sabal Trail Project, the civilian workforce ranges from 70,202 people in Lee County to 15,484 people in Chambers County. In the local communities within the project study area, the civilian workforce ranges from 26,838 in Auburn to 63 in Cusseta. During this same period, the unemployment rate in Alabama averaged 10.3 percent. In the counties within the project study area, unemployment rates range from 9.7 percent in Lee County, nearly on par with the state average, to 16 percent in Chambers County, which is nearly 5.7 percent higher than the state average. Unemployment rates in the local communities range from a high of 47.8 percent in Goldville, over four times the state average, to a low of 4.5 percent in Jacksons Gap, which is 5.8 percent lower than the state average. Per capita income in Alabama averaged $23,587 from 2008 to 2012 (Census.gov, 2015c); at the county level, per capita income in the project study area ranged from $23,162 in Lee County to $18,478 in Chambers County. Per capita income in the local communities within the project study area ranged from $25,641 in Waverly to $10,424 in Kellyton, which is less than half of the state average. Table 3.10.1-3 in appendix D provides the existing economic conditions for the Sabal Trail Project study area in Alabama.

Georgia

Similar to Alabama, construction work areas for the Sabal Trail Project in Georgia generally would be in unpopulated areas or areas with a low population density. Georgia has a population of 9.7 million people with a population density of 168.4 people per square mile. Population totals in the counties within the study area for the project range from 109,233 people and a population density of 220.2 people per square mile in Lowndes County to 2,799 and a population density of 13.4 people per square mile in Webster County. The State of Georgia experienced population growth of 22.1 percent between 2000 and 2013 and 3.1 percent growth between 2010 and 2013. Of the counties within the project area, Lowndes County experienced the highest percentage of population growth during this period with a 22.8 percent increase, which is on par with the state average, while Terrell County experienced the largest decrease in population levels with a 14.6 percent decrease. Between 2000 and 2013, most of the counties within the project area had fairly stable population levels with the highest increase in Lowndes County at 3.6 percent, again on par with the state average for this period, and the largest decrease was in Stewart County which had a population decrease of 3.1 percent. Table 3.10.1-2 in appendix D provides information on population levels and trends for all Georgia counties and communities within the study area for the Sabal Trail Project.

The local community in Georgia with the highest population is Columbus with 189,885 people and a population density of 877.5 people per square mile and the local community with the lowest population is Riverside with 35 people and a population density of 167.6 people per square mile (Census.gov, 2015b). At the local level, changes in population levels between 2000 and 2013 vary greatly with Remerton experiencing the highest rate of population growth with a 33.9 percent increase and Bronwood experienced the largest decrease in population levels with a 58.5 percent decline. Between 2010 and 2013, Columbus had the largest increase in population with a 6.8 percent increase and Bronwood had the largest decrease in population levels with a 48.9 percent decline. Population levels in the communities of Coolidge, Funston, and Lake Park remained fairly stable during this period with a total population change of less than one percent.

While the Sabal Trail Project would avoid directly affecting communities in Georgia, a number of communities are in close proximity. The towns of Bronwood, Funston, Lumpkin, Parrott, Sale City, and Sasser are less than 2 miles from the project area. The remaining local communities listed in table 3.10.1-2 in appendix D are approximately 4 miles or greater from the project area.

The major industries in Georgia include education, health, and social services; retail trade; and, manufacturing. Based on U.S. Census Bureau data (2008-2012), the civilian workforce in Georgia averaged 4.8 million people. In the counties affected by the project, the civilian workforce ranges from 52,017 people in Lowndes County to 1,263 people in Webster County. In the local communities within the project study area, the civilian workforce ranges from 83,528 in Columbus to 13 in Riverside. During this same period, the unemployment rate in Georgia averaged 10.7 percent. In the counties within the project area, unemployment rates range from 6.7 percent in Webster County, 4 percent lower than the state unemployment rate, to 15.5 percent in Dougherty County, which is 4.8 percent higher than the state unemployment rate. Unemployment rates in the local communities range from a high of 33.3 percent in Barwick, approximately three times the state unemployment rate, to a low of 2.5 percent in Funston, which is 8.2 percent lower than the state unemployment rate. Per capita income in Georgia averaged $25,309 from 2008 to 2012; per capita income in the project area ranged from $25,481 in Lee County to $14,218 in Stewart County. Per capita income in the local communities within the project study area ranged from $24,955 in Leesburg to $10,392 in Berlin, which is less than half of the state average. Table 3.10.1-3 in appendix D provides the existing economic conditions for the Sabal Trail Project study area in Georgia.

Florida

Construction work areas for the Sabal Trail Project in Florida generally would be in unpopulated areas or areas with a low population density, however, some segments of the project would be within close proximity to heavily populated areas with a high population density. In Florida, the total population is 18.8 million people with a population density of 350.6. Population totals in the counties within the study area for the project range from 1.2 million people with a population density of 1,268.5 people per square mile in Orange County to 14,799 people with a population density of 28.8 people per square mile in Hamilton County. The State of Florida experienced population growth of 22.3 percent between 2000 and 2013 and 4 percent growth between 2010 and 2013. Most of the counties in the project study area experienced population growth during both periods. The largest increase between 2000 and 2013 was in Sumter County, which had a population increase of 91.9 percent while the most modest population growth was in Madison County with a 2.4 percent increase. In general, most of the counties in the project area continued to see modest increases in population levels between 2010 and 2013. Sumter County experienced the most population growth with an increase of 9.6 percent. In contrast, during this same period, Levy County experienced a 2.1 percent decline in population levels. Table 3.10.1-2 in appendix D provides information for population levels and trends for all Florida counties and communities within the study area for the Sabal Trail Project.

The local community in Florida with the highest population is Orlando with 238,300 people and a population density of 2,327.3 people per square mile and the local community with the lowest population is Lake Buena Vista with 10 people and a population density of 3.4 people per square mile (Census.gov, 2015; 2010 estimates). At the local level, population levels vary greatly between 2000 and 2013. The community that experienced the greatest population growth during this period is Groveland with a total population increase of 311.5 percent and, in contrast, population levels in Crystal River decreased by 91.1 percent. Between 2000 and 2013, population level changes ranged from a 24.4 percent increase in Bushnell to a 5.4 percent decrease in Lee. Population levels in the communities of Bell, Inverness, Lake Buena Vista, Trenton, and Yankeetown remained fairly stable during this period with a total population change of less than one percent.

While the Sabal Trail Project would avoid directly affecting communities in Florida, a number of communities are in close proximity. For example, the town of Bronson is less than 1 mile east of the Mainline Route; the towns of Coleman, Center Hill, and Kissimmee are approximately 2 miles (southwest, west, and southeast, respectively) of the HCL; and the town of Crystal River is approximately 4 miles south of the Citrus Creek Line. The remaining local communities listed in table 3.10.2-2 are approximately 4 miles or greater from the project area.

In addition to the incorporated communities listed in table 3.10.1-2 in appendix D, a number of unincorporated communities, referred to as CDPs, are within the project study area in Florida. CDPs are defined by the U.S. Census Bureau as Defined as "…the statistical counterparts of incorporated places, and are delineated to provide data for settled concentrations of population that are identifiable by name but are not legally incorporated under the laws of the state in which they are located" (Census.gov, 2015a). Table 3.10.2-2 provides a list of these communities and their approximate distance from the Sabal Trail Project. In general, equivalent census data is not available for unincorporated communities as is available for incorporated communities. For this reason, census data for each unincorporated community is not specifically identified in subsequent discussion of this section. Instead, it is assumed that census data relevant to unincorporated communities is captured at the county level.

The major industries in Florida include education, health, and social services; retail trade; professional, scientific, management, administrative, and waste management services. Based on U.S. Census Bureau data, the civilian workforce in Florida averaged 9.3 million people from 2008 to 2012. In the counties affected by the project, the civilian workforce ranges from 637,091 people in Orange County to 5,286 people in Hamilton County. In the local communities within the project study area, the civilian workforce ranges from 142,802 in Orlando to 4 in Lake Buena Vista. During this same period, the unemployment rate in Florida averaged 11.3 percent. In the counties within the project study area, unemployment rates range from 7.9 percent in Alachua County, 3.4 percent below the state unemployment rate, to 16.7 percent in Gilchrist County, which is 5.4 percent higher than the state unemployment rate. Per capita income in Florida averaged $26,451 from 2008 to 2012; per capita income in the counties affected by the project ranged from $26,317 in Sumter County to $15,989 in Madison County. Per capita income in the local communities within the project study area ranged from $40,194 in Belle Isle to $8,154 in Otter Creek, which is approximately one-third of the state average. Table 3.10.1-3 in appendix D provides the existing economic conditions for the Sabal Trail Project study area in Florida.

TABLE 3.10.2-2

Existing Population Levels for Unincorporated Communities in the Sabal Trail Project Area – Florida

Community/CDP [a]	2000 Population	2010 Population	Change in Population (2000-2010) (percent)	Approximate Distance to Project (miles)
Pinetta	NA	NA	NA	5.6
Dowling Park CCD	6,747	7,987	18.4	7.8
McAlpin-Wellborn CCD	6,951	9,116	31.1	0.25 and 9.7, respectively
O'Brien	NA	NA	NA	4.0
Jonesville	NA	NA	NA	9.3
East Bronson CDP	1,075	1,945	80.9	3.7
Williston Highlands CDP	1,386	2,275	64.1	0.3
Morriston CDP	NA	164	NA	2.6
Citrus Springs CDP	4,157	8,622	107.4	2.3
Beverly Hills CDP	8,317	8,445	1.5	3.2
Citrus Hills CDP	4,029	7,470	85.4	5.4
Hernando CDP	8,253	9,054	9.7	4.4
Inverness Highlands North CDP	1,470	2,401	63.3	6.6
Lecanto CDP	5,161	5,882	14.0	7.8
Summerfield	NA	NA	NA	8.9
Lake Panasoffkee CDP	3,413	3,551	4.0	5.2
Sumterville	NA	NA	NA	5.4
The Villages CDP	8,333	51,442	517.3	5.9
Celebration CDP	2,736	7,427	171.5	2.7
Loughman CDP	1,385	2,680	93.5	1.4
Hunters Creek CDP	9,369	14,321	52.9	1.2
Buenaventura Lakes CDP	NA	26,079	NA	3.1
Doctor Phillips CDP	9,548	10,981	15.0	9.1
Oak Ridge CDP	22,349	22,685	1.5	8.4
Pine Castle CDP	8,803	10,805	22.7	8.6
Poinciana CDP	13,647	53,193	289.8	8.9

[a] 2013 population estimates were not available for unincorporated communities.
NA Data unavailable
Source: Census.gov, 2015b

Summary of Impacts

Sabal Trail would construct a pipeline, compressor stations, and other aboveground facilities during three phases, as described in section 3.10.2. According to Sabal Trail the peak construction activity for the Sabal Trail Project would occur during Phase 1 and would require a total peak workforce of 4,520 people. Phases 2 and 3 of construction would require total peak workforces of 180 and 160 people, respectively. Due to the transitory nature and short duration of pipeline construction, most non-local workers do not travel with their families so impacts on population levels would be primarily limited to workers only.

A temporary population increase based on worker influx would be expected in all of the counties affected by the Sabal Trail Project and their surrounding communities. Sabal Trail estimates that approximately 30 percent of the workforce would be local hires and about 70 percent would be non-local during peak construction activities.

In Alabama, up to 207 workers would be local hires and 483 workers would be non-local during peak construction of Phase 1; no work would take place in Alabama during Phases 2 and 3 of

construction. The addition of 483 people in the area, if concentrated to one community at once, would equate to increases in populations, ranging from a 0.3 percent increase in the population of Lee County to a 1.4 percent increase in the population of Chambers County. In Georgia, up to 342 workers would be local hires and 798 workers would be non-local during Phase 1. The addition of 798 people in the area, if concentrated to one community at once, would equate to increases in populations, ranging from a 0.7 percent increase in the population of Lowndes County to a 28.5 percent increase in the population of Webster County. During Phase 2, up to 27 workers would be local and 67 workers would be non-local. During Phase 3, up to 24 workers would be local hires and 56 would be non-local. The addition of 67 people for Phase 2 of construction in the area, if concentrated to one community at once, would equate to increases in populations, ranging from less than 0.1 percent in Lowndes County to 2.4 percent in Webster County. The addition of 56 people for Phase 3, if concentrated to one community at once, would equate to increases in populations, ranging from less than 0.1 percent in Lowndes County to 2 percent in Webster County. In Florida, up to 807 local workers and 1,883 non-local workers would be required during Phase 1 of construction. The addition of 1,883 people in the area, if concentrated to one community at once, would equate to increases in populations, ranging from a 0.1 percent increase in the population of Orange County to an 8 percent increase in the population of Hamilton County. During Phase 2, up to 27 workers would be local and 67 workers would be non-local. During Phase 3, up to 24 workers would be local hires and 56 would be non-local. The addition of 67 people in the area for Phase 2 and 56 people in the area for Phase 3 would equate to increases in populations of less than one percent in all counties.

Additional temporary jobs could be created as a result of secondary activity associated with construction of the Sabal Trail Project. This could include hiring additional staff at local retail and food service establishments to accommodate the influx of people to the area. Purchases made by non-local workers on food, clothing, lodging, gasoline, and entertainment would have a temporary, stimulatory effect on the local economy. These jobs would represent a temporary, minor increase in employment opportunities within the project area.

Sabal Trail stated that it would hire 67 new permanent employees in Alabama, 102 new permanent employees in Georgia, and 191 new permanent employees in Florida for operation and maintenance of the project facilities. Of these new permanent employees, about 3, 5, and 10 people, respectively, would be non-local. The specific locations of where permanent employees would reside are unknown. For the purposes of this analysis, we have assumed that the distribution of permanent workers would likely be spread out in each state and/or they would take residence in one of the more populated communities in the project area. Therefore, the effects of these permanent employees would likely be negligible in regard to population levels within the counties crossed by the Sabal Trail Project. In general, unemployment levels in Alabama, Georgia, and Florida are higher than the U.S. average, and the addition of new permanent jobs in the state would result in a negligible decrease in unemployment levels.

3.10.2.2 Housing

Alabama

Based on U.S. Census Bureau data from 2008 to 2012, rental vacancy rates in the study area in Alabama ranged from 14.6 percent in Chambers County to 1.8 percent in Tallapoosa County. Local rental vacancy rates in Alabama ranged from no rental vacancies in Camp Hill, Cusseta, Dadeville, Daviston, Goldville, Jacksons Gap, New Site, and Waverly to 28 percent in Valley. Table 3.10.1-4 in appendix D provides information on housing accommodations for all Alabama counties and communities within the study area for the Sabal Trail Project.

There are 63 hotels, motels, RV parks, and campgrounds available in Alabama. In addition, there are hundreds to thousands of rental housing and seasonal units in the project-related counties. The

availability of these accommodations may vary, particularly during any tourist season, local event, or as a result of demand for housing by other industries. During the peak of construction activities, using a conservative estimate of 25 hotel rooms or campsites per establishment, it is estimated that there are at least 1,575 room/site accommodations available in the Sabal Trail Project area in Alabama. In addition, based on 2015 Census data and rental vacancy rates of the affected counties, there are over 9,000 rental units and over 4,500 seasonal units in the Alabama project area.

Georgia

Rental vacancy rates ranged from 14.1 percent in Webster County to 1.4 percent in Stewart County. Local rental vacancy rates in Georgia ranged from zero rental vacancies in Baconton, Barwick, Dawson, Funston, Lake Park, Morven, Parrott, Pavo, Richland, Riverside, and Sale City to 19 percent in Berlin. Table 3.10.1-4 in appendix D provides information on housing accommodations for all Georgia counties and communities within the study area for the Sabal Trail Project.

There are 72 hotels, motels, RV parks, and campgrounds available in Georgia. Similar to Alabama, there are hundreds to thousands of rental housing and seasonal units in the project-related counties, the availability of which may vary. During the peak of construction activities, using a conservative estimate of 25 hotel rooms or campsites per establishment, it is estimated that there are at least 1,800 accommodations available in the Sabal Trail Project area in Georgia. In addition, based on 2015 Census data and rental vacancy rates of the affected counties, there are over 7,500 rental units and over 1,500 seasonal units in the Georgia project area.

Florida

Rental vacancy rates in the study area ranged from 23.4 percent in Sumter County to 9.4 percent in Suwannee and Alachua Counties. Local rental vacancy rates in Florida ranged from no rental vacancies in Center Hill, Coleman, Edgewood, Fort White, Otter Creek, and Polk City to 100 percent in Bay Lake. Table 3.10.1-4 in appendix D provides information on housing accommodations for all Florida counties and incorporated communities within the study area for the Sabal Trail Project.

There are 681 hotels, motels, RV parks, and campgrounds available in Florida (Google.com, 2015; RV Park Reviews, 2015). Similar to Alabama, there are hundreds to thousands of rental housing and seasonal units in the project-related counties, the availability of which may vary. During the peak of construction activities, using a conservative estimate of 25 hotel rooms or campsites per establishment, it is estimated that there are at least 17,025 room/site accommodations available in the Sabal Trail Project area in Florida. In addition, based on 2015 Census data and rental vacancy rates of the affected counties, there are over 179,000 rental units and over 92,000 seasonal units in the Florida project area.

Summary of Impacts

The temporary influx of non-local construction workers would result in a minor increase in demand for housing. For example, in Georgia during Phase 1 construction (greatest workforce), the influx of 798 non-local construction workers during Phase 1 would represent an approximately 7 percent increase in demand on available accommodations. In Florida, the influx of 1,883 non-local construction workers during Phase 1 of construction (greatest workforce) would represent an approximately 1 percent demand on available accommodations. While this would benefit (increased revenue) the proprietors of the local motels, hotels, and other rental units, it would increase competition for units (and cost) and decrease housing availability for tourists, recreationalists, and local renters/residents. Constructing the project would not significantly affect housing in any one particular area due to the short duration of each construction phase, the large area over which the workforce would be dispersed, and the abundant supply

of rentals in the area. The combined demand for temporary housing from tourists and recreationalists combined with the non-local workers required for Sabal Trail Project construction crews is not expected to exceed the supply. We determined the housing accommodations (rental and seasonal), along with hotels, motels, and campgrounds, would be sufficient to house the workforce without significantly displacing tourists, recreationalists, or local workers. The incremental housing, hotel, motel, and campground demand from construction workers during the Sabal Trail Project would be temporary and minor. Similarly, the effects of new permanent employees on housing are expected to be negligible in regard to housing demands as a result of operation of the Sabal Trail Project.

3.10.2.3 Public Services

A wide range of public services and facilities are available in the Sabal Trail Project area including law enforcement agencies, fire departments, medical facilities (including hospitals and emergency services), and schools, as described by state below. Table 3.10.1-5 in appendix D summarizes the medical, police, and fire protection facilities in the counties within the project study area.

Alabama

In Alabama, there is one law enforcement center available in each county; the number of law enforcement personnel ranges from 87 in Tallapoosa County to 13 in Chambers County. The number of fire departments in the counties within the study area in Alabama range from 16 in Tallapoosa County to 9 in Chambers County. The number of medical facilities available in each county ranges from two in Russell and Tallapoosa Counties to one in Chambers and Lee Counties.

All of the counties within the project study area in Alabama contain areas or populations that have been designated by the U.S. Department of Health and Human Services as HPSAs or MUAs/Ps, or have been designated at the county level as a whole (HRSA.gov, 2015). HPSA or MUA/P designation indicates a shortage of health care professionals and facilities (primary care, dental, and mental health) at either the county level as a whole or for particular census tracts within the county that contain low-income populations who are underserved by primary medical care. In general, sufficient medical services exist in the larger metropolitan areas of Alabama such as Phenix City/Columbus, which are within 10 to 60 miles of the project study area.

Georgia

In Georgia, the number of law enforcement centers available ranges from three in Dougherty County to one in Lee, Lowndes, and Webster Counties; the number of law enforcement personnel ranges from 645 in Dougherty County to 5 in Webster County. The number of fire departments ranges from 36 in Lowndes County to two in Webster and Brooks Counties. The number of medical facilities available in each county ranges from two in Colquitt, Dougherty, and Lowndes Counties to none in Lee County.

Similar to Alabama, all counties affected by the project in Georgia contain areas designated as HPSAs or MUAs/Ps or have been designated at the county level as a whole (HRSA.gov, 2015). In the event of a medical emergency in Georgia, Sabal Trail would likely seek medical services in neighboring metropolitan areas such as Columbus, Albany, and Valdosta, which are within 10 miles of the Sabal Trail Project.

Florida

In Florida, law enforcement centers in the Sabal Trail Project study area range from four in Alachua County to one in Hamilton, Madison, Gilchrist, Polk, Citrus, and Orange Counties; the number

of law enforcement personnel ranges from 1,375 in Orange County to 6 in Hamilton County. Florida has the greatest number of fire departments within the study area for the Sabal Trail Project with ranges between 79 in Orange County and 5 in Gilchrist County. The number of medical facilities available in each county ranges from five in Marion and Polk Counties to none in Gilchrist and Hamilton Counties.

Similar to Alabama and Georgia, all counties affected by the project in Florida contain areas designated as HPSAs or MUAs/Ps or contain census tracts and populations within the county that have been designated as HPSAs and MUAs/Ps (HRSA.gov, 2015). In the event of a medical emergency in Florida, we anticipate that Sabal Trail would seek medical services neighboring metropolitan areas such as Gainesville and Orlando, which are within 20 miles of the project area.

Summary of Impacts

General impacts on local services and facilities as a result of the Sabal Trail Project would be similar to that described for the Hillabee Expansion Project (see section 3.10.1.3). Sabal Trail would work with local law enforcement, fire departments, and emergency medical services to coordinate for effective emergency response. Construction of the Sabal Trail Project would not significantly affect public services in the counties or communities along the pipeline route due to the short duration of construction and the large area over which the workforce would be dispersed. Also, because most of the non-local workers are expected to come without their families during the construction period, construction of the project should not result in any increase in demand for school-related services.

The long-term impacts on public services as a result of adding approximately 3, 5, and 10 non-local permanent workers for operations and maintenance of the pipeline facilities in Alabama, Georgia, and Florida, respectively, would have a negligible impact on the capacity of public services.

3.10.2.4 Tourism

Tourism opportunities include federal, state, and local special interest areas discussed in section 3.9 as well as businesses that are dependent upon attracting year-round or seasonal tourists. Tourist attractions and general recreation occur throughout the project area. The following lists some of the more popular tourist attractions in the states and counties affected by the Sabal Trail Project.

Alabama

While tourism occurs year-round in Alabama, the peak tourism season is June through August (Smatertravel.com, 2015). As such, all phases of construction of the Sabal Trail Project would overlap with the peak tourism season and could impact public access to tourist attractions and accommodations, and potentially result in economic impacts on local businesses. Tourism opportunities in the project area in Alabama are presented in table 3.10.1-6 in appendix D.

The tourist attractions listed in table 3.10.1-6 in appendix D would not be directly affected by the Sabal Trail Project but are within the project-affected counties. Based on Alabama Tourism Department information (Census.gov, 2015d), tourism in the project area accounts for a relatively small percentage of the overall state level. As listed in table 3.10.1-3 in appendix D, tourism-related businesses (i.e., arts, entertainment, recreation, and accommodation and food services; and agriculture, forestry, fishing and hunting, and mining) are not the first or second most abundant economic industry in the majority of counties and communities affected.

Georgia

Tourism occurs year-round in Georgia but the peak of tourism season is from March to May and September to October (Smatertravel.com, 2015). The peak construction activities of the Sabal Trail Project (July 2016 to February 2017) would overlap with the peak tourism season and could impact public access to tourist attractions and accommodations, and potentially result in economic impacts on local businesses. Tourism opportunities in the project area in Georgia are presented in table 3.10.1-6 in appendix D.

The tourist attractions listed in table 3.10.1-6 in appendix D would not be directly affected by the Sabal Trail Project but are within the project-affected counties. Based on Georgia Tourism Department information (Census.gov, 2015d), tourism in the project area accounts for a relatively small percentage of the overall state level. As listed in table 3.10.1-3 in appendix D, tourism-related businesses (i.e., arts, entertainment, recreation, and accommodation and food services; and agriculture, forestry, fishing and hunting, and mining) are not the first or second most abundant economic industry in the majority of counties and communities affected.

Florida

The State of Florida regularly appears in the top 10 lists of most visited states for tourism (StateofFlorida.com, 2015; usnews.com, 2015). Walt Disney World (Orlando), which is about 5 miles from the project, is also one of the most visited tourist destinations in the United States (Statista.com, 2015). Walt Disney World's Magic Kingdom and Epcot experienced 17.5 million and 11.1 million visitors, respectively, in 2012 (Themed Entertainment Association, 2012). In addition, based on comments, Gilchrist County is known for its caving and ecotourism opportunities. As represented in table 3.10.1-6 in appendix D, opportunities for tourism throughout the project area in Florida are prevalent. While tourist attractions are visited year-round in Florida, the peak tourism season is December through August (Smatertravel.com, 2015). The peak construction activities of the Sabal Trail Project (Phase 1: July 2016 to February 2017) would overlap with the peak tourism season and could impact public access to tourist attractions and accommodations, and potentially result in economic impacts on local businesses. Tourism opportunities in the Sabal Trail Project area in Florida are presented in table 3.10.1-6 in appendix D.

Most of the tourist attractions listed in table 3.10.1-6 in appendix D would not be directly affected by the Sabal Trail Project but are within the project-affected counties. The Santa Fe River Paddling Trail and the Withlacoochee South Paddling Trail would be crossed by the project; details regarding the potential impacts of the Sabal Trail Project on tourism associated with these attractions is presented below. Based on Florida Tourism Department information (Census.gov, 2015d), tourism accounts for about 7 percent of the overall state level. As listed in table 3.10.1-3 in appendix D, tourism-related businesses (i.e., arts, entertainment, recreation, and accommodation and food services; and agriculture, forestry, fishing and hunting, and mining) are included in the top three most abundant economic industries in the majority of counties and communities affected. In particular, tourism-related business is the most abundant economic industry in Orange and Osceola Counties.

Summary of Impacts

General impacts on tourism as a result of the Sabal Trail Project would be similar to that described for the Hillabee Expansion Project (see section 3.10.1.4). Some tourist attractions could experience a revenue loss as a result of construction, particularly if access to an area is restricted due to safety concerns (e.g., open trench). The influx of construction workers and disruptions to tourist attractions would be limited to the time of construction and dispersed throughout the project area. Depending on easement negotiations, landowners could be compensated for losses resulting from

construction. Following construction, land uses would be restored and activities would be allowed to resume. As a result, impacts on tourism would be temporary and minor to moderate.

Operation of the project would not result in significant impacts on tourist opportunities in Alabama and Georgia as none are directly affected and the Mainline would be installed underground. Further, the Mainline would be collocated with existing rights-of-way for 68 percent of the route in Alabama 69 percent of its length in Georgia, and 52 percent of the route in Florida, and would be consistent with the existing character of the project area.

We received scoping comments regarding the proximity of the Sabal Trail Project to Ichetucknee Springs State Park in Suwannee County, Florida. The Sabal Trail Project would be approximately 4 miles west of the eastern boundary of the state park. Due to this distance, construction of the Sabal Trail Project is not anticipated to interfere with public access to the park and any increase in ambient noise levels during construction would result in a negligible impact on recreationalists.

We received scoping comments regarding potential project-related impacts on the Santa Fe River in Suwannee and Gilchrist Counties, Florida. The Santa Fe River Canoe Trail is a popular tourist attraction that offers visitors opportunities for both day-trips and overnight trips. Canoe Outpost is the main outfitter of canoe, kayak, and paddleboard rentals for visitors to the paddling trail. Canoe Outpost is near High Springs, Florida, approximately 16 miles southeast of the Sabal Trail Project area. The Sabal Trail Project would cross the Santa Fe River and the canoe trail using the HDD crossing method between MP 308.2 and 308.6. Because use of the HDD crossing method would not preclude public use of the paddling trail, recreational use of the trail would be uninterrupted. Ambient noise levels would increase in the area during construction and construction activities may be visible to users of the river; this would be a temporary, minor impact that would resolve with the completion of construction.

We received scoping comments regarding the proximity of the Sabal Trail Project to the Rainbow River, Rainbow Spring, and the Withlacoochee River. Rainbow Spring and the Rainbow River are along the western edge of Rainbow Springs State Park. The Sabal Trail Project is approximately 1 mile east of the eastern boundary of Rainbow Springs State Park and would be approximately 1 to 2 miles east of Rainbow Spring and the Rainbow River. Construction of the Sabal Trail Project would not interfere with public access to the park and any increase in ambient noise levels during construction would result in a negligible impact on visitors to the Rainbow Springs State Park because of the distance between the park and the Sabal Trail Project. The Withlacoochee River would be crossed by the CCL between MPs 1.1 and 1.5 using the HDD crossing method. This section of the river is designated as an Outstanding Florida Waterway referred to as the Withlacoochee South Paddling Trail. Because use of the HDD crossing method would not preclude public use of the paddling trail, recreational use of the trail would be uninterrupted. Ambient noise levels would increase in the area during construction and constructive activities may be visible to users of the river; this would be a temporary, minor impact that would resolve with the completion of construction.

We received scoping comments regarding concerns about visual, recreational, and tourism impacts on the 21 Palms RV Resort as a result of the project. The resort is near golf courses and other tourism attractions (Go Camping America.com, 2015). The resort facilities include concrete pads, electrical hookups, a recreation hall, and a heated pool. The Mainline would be approximately 0.2 mile east of the resort near MP 474, on the opposite side of an existing gravel road and electric transmission corridor that run along the eastern boundary of the resort. A forested area that is approximately 0.1 mile wide lies between the resort and the dirt-track road on the west side of the road. The proposed Reunion Compressor Station would be approximately 0.3 mile east of the resort and adjacent to an existing DEF electric generation plant that is industrial in character. The existing Gulfstream pipeline crosses through the entrance to the resort and terminates at the DEF plant. Sabal Trail would use standard upland

construction methods to install the pipeline in this area, which could result in noise and visual impact on visitors to the resort. Construction of the Sabal Trail Project would not interfere with public access to the RV resort. Increases in noise levels and visual impacts associated with pipeline construction activities would be a temporary, minor impact that would resolve with the completion of construction. Due to the distance and existing natural and industrial/commercial barriers between the Mainline and the resort, we conclude that construction and operation of the Mainline would not have a significant impact on operation of the 21 Palms RV Resort. Further, the pipeline would be installed underground, would be collocated with existing utilities in this area, and would be consistent with the existing character of the surrounding area. Operation of the Reunion Compressor Station, however, would result in a permanent increase in noise levels and visual impacts in the area of the resort. Details regarding noise impacts resulting from these facilities are presented in section 3.12.2; visual impacts associated with compressor stations are discussed in section 3.9.2.8.

In addition, the owners of 21 Palms are concerned about impacts the Sabal Trail Project would have on their plans to sell property adjacent to the resort for residential development. Impacts on planned residential developments are discussed in section 3.9.2.4.

3.10.2.5 Transportation

For the Sabal Trail Project, the timing, construction techniques, and restoration of roads crossed during all phases of construction, in addition to project-related impacts on transportation would be the same as that described for the Hillabee Expansion Project (see section 3.10.1.5). A complete list of road crossings associated with the Sabal Trail Project, including the proposed crossing methods, is provided in table 3.10.1-7 in appendix D. A detailed discussion of transportation impacts for each state in the Sabal Trail Project area is presented below.

Sabal Trail also proposes to improve or modify 259 existing roads to accommodate construction vehicles, as discussed in section 2.2.2. Users of these roads could experience temporary disruptions similar to road crossing impacts discussed in section 3.10.1.5. Following construction, Sabal Trail would retain use of 82 roads for permanent access to project facilities. The remaining 177 temporary access roads would be restored to their preconstruction condition unless the landowner or land-managing agency requests that the improvements be left in place.

The peak of construction activity would occur during Phase 1. Sabal Trail anticipates that about 1,120 vehicles would be mobilized to support peak construction activities in Alabama; about 1,799 vehicles would be mobilized to support peak construction activities in Georgia; and, about 3,772 vehicles would be mobilized to support peak construction activities in Florida. Sabal Trail would deploy workers in various locations along the construction spreads in such a way that impacts on traffic in any one location would be minimized and temporary.

As a result of measures and methods described above, construction activities would result in temporary to short-term impacts on transportation infrastructure.

3.10.2.6 Property Values

The effects of the Sabal Trail Project on property values would be the same as those described for the Hillabee Expansion Project (see section 3.10.1.6). Impacts on planned residential developments are discussed in section 3.9.2.4.

3.10.2.7 Economy and Tax Revenues

Sabal Trail estimates that the capital cost for the Sabal Trail Project would be about $3.2 billion. Similar to the Hillabee Expansion Project, direct payroll and materials expenditures would have an immediate impact on local economies; workers would spend a portion of their pay in local communities; goods and materials would be purchased by Sabal Trail locally when possible; and sales tax would be generated on items purchased in the project area. Approximately 20 percent of the total construction cost ($640 million) would be spent on consumables in all three states. Approximately $608 million would be spent during Phase 1, and approximately $32 million would be spent during Phases 2 and 3. These direct impacts would stimulate indirect impacts within the region as inventories are restocked and new workers are hired to meet demands.

A breakdown of the construction and operational payroll and sales tax revenues generated in Alabama, Georgia, and Florida as a result of each phase of the Sabal Trail Project is presented in table 3.10.1-8 and table 3.10.2-3. The information presented in this section has been derived from an economic study prepared by Fishkind & Associates (Fishkind & Associates, 2014a). The economic study was based on known project components as of February 2015 and, as such, there are some discrepancies between the total number of construction personnel presented in previous sections of this section, which are based on more recent information provided by Sabal Trail. For example, the Fishkind & Associates report assumes 4,077 personnel would be required for project construction; however, based on more recent information from Sabal Trail, it is estimated that 4,860 personnel would be required for project construction. This represents an approximately 16 percent increase in personnel. Therefore, it is reasonable to assume that the actual project construction impacts on economy and tax revenues disclosed in the economic study and discussed below would be 16 percent higher. However, the information in the economic report is presented here as it represents the best available information regarding the Sabal Trail Project's potential economic impacts and benefits.

TABLE 3.10.2-3

In-State Expenditures on Payroll for the Sabal Trail Project

Location/Phase	Total Payroll	Local Payroll [a]
Alabama		
Phase 1	$25,717,631	$7,329,525
Phase 2 [b]	N/A	N/A
Alabama Subtotal	$25,717,631	$7,715,289
Georgia		
Phase 1	$37,833,379	$11,350,014
Phases 2 and 3	$1,991,231	$597,369
Georgia Subtotal	$39,824,610	$11,947,383
Florida		
Phase 1	$70,200,046	$21,060,014
Phases 2 and 3	$3,694,740	$1,108,422
Florida Subtotal	$73,894,786	$22,168,436
Project Total	$139,437,027	$41,831,108

[a] Assuming 30 percent of the total workforce would be hired locally.
[b] No work would be performed in Alabama during Phase 2 of construction.
Source: Fishkind & Associates, 2014a

Overall, the Sabal Trail Project would benefit the state and local economies by creating a short-term stimulus to the affected areas through payroll expenditures, local purchases of consumables and Sabal Trail Project-specific materials, and sales tax.

Operational impacts of these benefits would not be as significant. However, operation of the Sabal Trail Project would result in long-term *ad valorem*[10] property tax benefits for the counties crossed by the Sabal Trail Project in Alabama, Georgia, and Florida. These property taxes would be paid for the life of the Sabal Trail Project (estimated to be 60 years). Table 3.10.2-4 provides the total *ad valorem* taxes estimated for each state and county in the Sabal Trail Project area in Alabama, Georgia, and Florida. The total estimated *ad valorem* taxes paid over the life of the Sabal Trail Project is $1.4 billion. As also discussed in section 3.10.1.7, the project proponent may be subject to subsidies, which would affect the amount of taxes ultimately realized; however, these subsidies are unknown as they are between the company and the county or state and vary.

TABLE 3.10.2-4

Ad Valorem Taxes Generated by the Sabal Trail Project

State/County	Ad Valorem Taxes
Alabama	
Chambers	$42,068,936
Lee	$58,192,816
Russell	$45,360,714
Tallapoosa	$75,133,325
Alabama Subtotal	$220,755,791
Georgia	
Brooks	$47,932,102
Colquitt	$50,653,586
Dougherty	$88,943,026
Lee	$1,879,442
Lowndes	$26,021,199
Mitchell	$31,487,514
Stewart	$47,454,387
Terrell	$57,094,369
Webster	$21,250,746
Georgia Subtotal	$372,716,371
Florida	
Alachua	$16,316,112
Citrus	$66,239,094
Gilchrist	$90,401,263
Hamilton	$55,736,894
Lake	$57,083,554
Levy	$83,149,629
Marion	$136,598,898
Orange	$391,903
Osceola	$107,623,808
Polk	$16,452,243
Sumter	$85,088,367
Suwannee	$123,766,025
Florida Subtotal	$838,847,790
Project Total	$1,412,319, 952

Source: Fishkind & Associates, 2014a

[10] See section 3.10.1.7 for a detailed description of "*ad valorem*."

Alabama

Sabal Trail estimates that the total Sabal Trail Project construction payroll for Phase 1 would be $25.7 million in Alabama; no work would be performed in Alabama during Phase 2 or Phase 3 of construction. Payroll taxes would be collected from the workers employed on the project. Approximately $7.3 million of the total payroll for Phase 1 would be received by local workers (assuming that 30 percent of the workforce would be hired locally). Based on 2014 data, the state income tax rate that would be paid by resident (local) workers and non-local workers working in Alabama would be an average of 5 percent on net income (Bankrate.com, 2015, Fishkind & Associates, 2014a). Using an average income tax rate of 5 percent, approximately $1.3 million in income tax revenues would be generated by construction payroll for Phase 1 of the Sabal Trail Project in Alabama. Table 3.10.1-8 provides the construction and operational workforce information for the project in Alabama.

The state sales taxes rate in Alabama is currently 4 percent (Alabama.gov, 2015). In addition to the state sales tax rate of 4 percent, local sales taxes are collected and vary across the project area from 1 to 4 percent. Depending on where project consumables are purchased, additional sales tax revenues would occur in the Sabal Trail Project area as a result of construction. As stated above, a portion of Sabal Trail's estimated percentage of total construction costs for Phase 1 (19 percent) would be spent on consumables and would be subject to Alabama state sales taxes. Alabama sales tax revenues are primarily used to fund education, with a portion of the revenues distributed to the Counties and the Department of Human Resources (Alabama Department of Revenue, 2014).

Sabal Trail would hire 67 permanent employees for operation of the Sabal Trail Project in Alabama. The estimated operation income for the project would be approximately $2.1 million annually, which would generate approximately $102,981 in income tax revenues each year for the life of the project.

The total output[11] for construction of Phase 1 of the Sabal Trail Project would be $104.9 million; no work would be performed in Alabama during Phases 2 and 3 of construction.

The total estimated *ad valorem* tax associated with the Sabal Trail Project would be about $220.8 million in Alabama over the life of the Sabal Trail Project (estimated to be 60 years). Table 3.10.2-4 provides the total *ad valorem* taxes for each county in the project area in Alabama.

Georgia

Sabal Trail estimates that the total Sabal Trail Project construction payroll for all phases would be $39.8 million in Georgia. Payroll taxes would be collected from the workers employed on the project. The total construction payroll for Phase 1 would be $37.8 million. Approximately $11.4 million of the total payroll for Phase 1 would be received by local workers (assuming that 30 percent of the workforce would be hired locally for both phases of construction). Construction payroll for Phases 2 and 3 of the project would be $2 million in Georgia. Approximately $597,369 of the total payroll for Phases 2 and 3 would be received by local workers.

Based on 2014 data, the state income tax rate that would be paid by resident (local) workers and non-local workers working in Georgia would be 6 percent (Bankrate.com, 2015). Using an income tax rate of 6 percent, approximately $2.3 million in income tax revenues would be generated by construction payroll for Phase 1 and approximately $119,474 would be generated by construction payroll for Phases 2

[11] See section 3.10.1.7 for a detailed description of "output."

and 3. Table 3.10.1-8 provides the construction and operational workforce information for the project in Georgia.

The state sales taxes rate in Georgia is currently 4 percent sales tax rate (Bankrate.com, 2015). As stated above, a portion of Sabal Trail's estimated percentage of total construction costs for Phase 1 and Phases 2 and 3 (19 and one percent, respectively) would be spent on consumables and would be subject to Georgia state sales taxes. Georgia sales tax revenues are primarily used to fund education, with a portion of the revenues returned to counties and cities to fund local programs (New Georgia Encyclopedia, 2015).

Sabal Trail would hire 102 permanent employees for operation of the Sabal Trail Project in Georgia. The estimated operation income for the Project would be approximately $4.3 million annually which would generate approximately $256,836 in income tax revenues each year for the life of the project.

The total output for construction of all phases of the Sabal Trail Project in Georgia would be $242.8 million. The majority of the output would occur during Phase 1 of construction, with a total output of $230.7 million. The total output for Phases 2 and 3 of construction would be $12.1 million.

The total estimated *ad valorem* tax associated with the Sabal Trail Project would be about $372.7 million over the life of the Sabal Trail Project. Table 3.10.2-4 provides the total *ad valorem* taxes for each county in the project area in Georgia.

Florida

Sabal Trail estimates that the total Sabal Trail Project construction payroll for all phases would be $139.4 million in Florida. Construction payroll for Phase 1 of the Sabal Trail Project would be $70.2 million and approximately $21.1 million would be received by local workers assuming that 30 percent of the workforce would be hired locally for both phases of the project. Construction payroll for Phases 2 and 3 of the Sabal Trail Project would be $3.7 million and approximately $1.1 million of the total payroll for Phases 2 and 3 would be received by local workers. Florida does not collect personal income taxes and, therefore, the payroll paid by Sabal Trail to local and non-local workers during construction would result in no net increase in state income tax revenues in Florida (Bankrate.com, 2015). Table 3.10.1-8 provides the construction and operational workforce information for the project in Florida.

The state sales taxes rate in Florida is currently 6 percent (Florida Department of Revenue, My Florida, 2014). Additional sales surtaxes are collected by the counties and these rates vary across the project area from 0 to 1.5 percent. As stated above, a portion of Sabal Trail's estimated percentage of total construction costs for Phase 1 and Phases 2, and 3 (19 and one percent, respectively) would be spent on consumables and would be subject to Florida state sales taxes. Depending on where project consumables are purchased, there would be an additional increase in sales tax revenues in the project area as a result of Phase 1. Florida sales tax revenues are used to fund education, corrections, courts, government operations, and health and human services programs (Florida Center for Fiscal and Economic Policy, 2010).

Sabal Trail would hire 191 permanent employees for operation of the project in Florida. The estimated operation income for the project would be approximately $10 million over 60 years; because Florida does not collect income taxes, no income tax revenue would be generated by operation of the Sabal Trail Project in Florida.

The total output for construction of all phases of the Sabal Trail Project in Florida would be $371.3 million. The majority of the output would occur during Phase 1 of construction, with a total output of $352.7 million. The total output for Phases 2 and 3 of construction would be $18.6 million.

The total estimated *ad valorem* tax associated with the Sabal Trail Project would be about $838.9 million over the life of the Sabal Trail Project (estimated to be 60 years). Table 3.10.2-4 provides the total *ad valorem* taxes for each county in the Sabal Trail Project area in Florida.

We received scoping comments regarding the Sabal Trail Project's crossing of the Flying P Ranch in Dunnellon, Florida. The commenter expressed concern that construction would interfere with horse ranching and cattle grazing activities and result in an economic loss. The Sabal Trail Project would cross the Flying P Ranch between MPs 377.1 and MP 380.6 and between MPs 382.7 and MP 384.9. Since receipt of the scoping comment, Sabal Trail has worked with the owner of the Flying P Ranch to negotiate a route alternative that avoids the cattle grazing area of the ranch. The route alternative has been adopted into the proposed route of the Sabal Trail Project. See section 3.0 for a discussion of alternatives.

Concerning economic impacts on ranching practices in general, construction would temporarily impact grazing by disturbing foraging areas and interrupting/displacing grazing activities for the duration of construction. Sabal Trail would minimize the impacts of the open trench on wildlife by implementing the measures listed in section 3.6.3. Following construction, Sabal Trail would restore land affected by construction as described in its E&SCP, and in accordance with any specific requirements identified the landowners during easement negotiations. Sabal Trail would monitor disturbed areas as necessary, but at a minimum after the first and second growing seasons to ensure restoration has been successful. In addition, in accordance with the FERC's Plan, which is part of Sabal Trail's E&SCP, a grazing deferment agreement would be established with the landowner to minimize impacts on livestock and grazing disturbance of revegetation efforts. Restoration of native vegetation in areas disturbed by construction (100-foot-wide right-of-way) would represent a temporary to short-term impact (with the exception of forest land, which would represent a long-term to permanent impact), and the project would not affect other areas of the ranch that would still be available to support grazing livestock. To support the successful restoration of native vegetation, Sabal Trail would utilize the procedures set forth in its Noxious Weed Management Plan during construction and restoration to avoid introducing invasive plant species to grazing lands. Construction and operation of the Sabal Trail Project would not have an adverse, significant impact on ranching and grazing practices in the project area.

We received scoping comments on the potential loss of income on agricultural lands as a result of the project. Sabal Trail would minimize impacts on agricultural lands by implementing measures outlined in its E&SCP. The agricultural field would lose one growing season and Sabal Trail would compensate the landowner for this loss. Further, because trees would be precluded from being reestablished within the permanent right-of-way, Sabal Trail would also compensate the owners of pine plantations and similar agricultural trees for the permanent loss of these resources. Following construction, Sabal Trail would restore land affected by construction as described in its E&SCP and in accordance with any specific requirements identified by agencies or landowners during easement negotiations. Some measures that would be used by Sabal Trail to ensure adequate restoration of agricultural lands are:

- attempt to locate drain tiles and develop procedures for constructing through drain tile systems;
- maintain water flow in crop irrigation systems; and,
- conduct topsoil testing after the construction ROW has been restored to ensure the agricultural land has been restored to similar compaction levels as adjacent lands.

Per its E&SCP, Sabal Trail would monitor disturbed areas after the first and second growing seasons to ensure restoration has been successful. Construction and operation of the Sabal Trail Project would not have an adverse, significant impact on potential loss of income in agricultural lands in the project area.

3.10.3 Florida Southeast Connection Project

The FSC Project would be constructed between March 2016 and May 2017.

3.10.3.1 Population and Employment

The FSC Project would be in Polk, Osceola, Okeechobee, St. Lucie, and Martin Counties, Florida, and be near multiple communities as listed in table 3.10.3-1.

TABLE 3.10.3-1

Summary of Facilities Associated with the Florida Southeast Connection Project [a]

Facility, Site	Approximate Length (miles)	County, State	Community
Pipeline			
	0.5	Osceola, FL	Unincorporated
	47.3	Polk, FL	Unincorporated
	0.5	Polk, FL	Davenport
	1.8	Polk, FL	Haines City
	2.3	Polk, FL	Dundee
	0.5	Polk, FL	Lake Wales
	24.2	Osceola, FL	Unincorporated
	25.0	Okeechobee, FL	Unincorporated
	12.6	St. Lucie, FL	Unincorporated
	11.6	Martin, FL	Unincorporated
Aboveground Facilities			
Meter and Regulating (M&R) Stations			
Martin M&R Station	< 0.25 mile	Martin, FL	Unincorporated
Other Aboveground Facilities			
Pig Launcher	N/A	Osceola, FL	Unincorporated
Pig Receiver/Launcher	N/A	Okeechobee	Unincorporated
Pig Receiver	N/A	Martin, FL	Unincorporated
MLV (Launcher Site)	N/A	Osceola, FL	Unincorporated
MLV1	N/A	Polk, FL	Davenport
MLV2	N/A	Polk, FL	Haines City
MLV3	N/A	Polk, FL	Lake Wales
MLV4	N/A	Polk, FL	Lake Wales
MLV5	N/A	Polk, FL	Unincorporated
MLV6	N/A	Osceola, FL	Unincorporated
MLV7	N/A	Osceola, FL	Unincorporated
MLV8	N/A	Okeechobee, FL	Unincorporated
MLV9	N/A	Okeechobee, FL	Unincorporated
MLV10	N/A	St. Lucie, FL	Unincorporated
MLV11	N/A	Martin, FL	Unincorporated
MLV (Martin M&R Station Site)	N/A	Martin, FL	Unincorporated

[a] Other project-related facilities such as pipe/contractor yards and access roads would be within the same socioeconomic study area as the counties and communities listed for the pipeline and aboveground facilities.

Construction work areas for the FSC Project generally would be in unpopulated areas or areas with low population density; however, the construction work areas in Polk County would be within close proximity to heavily populated areas with a high population density. According to 2010 U.S. Census Bureau data, the state of Florida has a population of 18.8 million people with a population density of 350.6 people per square mile. Of the counties in the FSC Project area, Polk County had the highest population, 602,095 people, with a population density of 334.9 people per square mile. Okeechobee County had the lowest population with 39,996 people and a population density of 52 people per square mile.

The state of Florida experienced population growth of 22.3 percent between 2000 and 2013 and 4 percent growth between 2010 and 2013. Osceola and St. Lucie Counties experienced a fairly high rate of population growth between 2000 and 2010 with increases of 73.1 and 48.9 percent, respectively. Between 2010 and 2013, population levels in Osceola County increased by 11.1 percent, while population levels in Polk, St. Lucie, and Martin Counties increased at a rate similar to the state average (3.5, 3.3, and 3.4 percent, respectively). During this same period, the population of Okeechobee County decreased by 1.7 percent. Table 3.10.1-2 in appendix D provides information on population levels and trends for all Florida counties and communities within the study area for the FSC Project.

The only incorporated communities within the socioeconomic study area, as listed in table 3.10.1-2 in appendix D and discussed throughout, are in Polk County. The local community with the highest population in 2010 was Haines City which had 20,560 people and a population density of 1,116.8 and the local community with the lowest population was Davenport with 2,888 people and a population density of 897.1 people per square mile. Between 2000 and 2013, all of the local communities experienced population growth. Haines City had the highest rate of population growth with a 63.1 percent increase and Lake Wales had the lowest level of population growth with an increase of 46.3 percent. Between 2010 and 2013, population levels in the local communities experienced growth of approximately 4 to 5 percent. While the FSC Project would avoid directly affecting incorporated communities in Florida, it would be approximately 2 to 3 miles east of Davenport, Haines City, Dundee, and Lake Wales.

In addition to the incorporated communities listed in table 3.10.1-2 in appendix D, a number of CDPs are within the project study area in Florida. Table 3.10.3-2 provides a list of these communities and their approximate distance from the FSC Project. In general, equivalent census data is not available for unincorporated communities as is available for incorporated communities. For this reason, census data for each unincorporated community is not specifically identified in subsequent discussion of this section. Instead, it is assumed that census data relevant to unincorporated communities is captured at the county level.

Of the counties affected by the FSC Project, Polk and St. Lucie Counties have the largest civilian workforces with 274,329 and 277,789, respectively. The smallest civilian workforce is in Okeechobee County with 16,903. In the local communities within the FSC Project area, the civilian workforce ranges from 8,814 in Haines City to 1,468 in Davenport.

During this same period, the unemployment rate in Florida averaged 11.3 percent. At the county level, the highest unemployment rate was in St. Lucie County with 15.6 percent, while the lowest unemployment rate was in Polk County with 11.9 percent. In general, unemployment rates in the counties affected by the FSC Project are on par with to slightly higher than the state average of 11.3 percent and the U.S. average of 9.3 percent. Unemployment rates in the local communities range from 8 percent in Lake Wales to 3.4 percent in Dundee; unemployment rates in the local communities are significantly lower than the state average.

TABLE 3.10.3-2

Existing Population Levels for Unincorporated Communities in the Florida Southeast Connection Project Area

Community/CDP [a]	2000 Population	2010 Population	Change in Population (2000-2010) (percent)	Approximate Distance to Project (miles)
Celebration CDP	2,736	7,427	171.5	4.8
Loughman CDP	1,385	2,680	93.5	0.6
Poinciana CDP	13,647	53,193	289.8	5.2
Cypress Gardens CDP	8,844	8,917	0.8	6.9
Highland Park Village	244	230	-5.7	3.2
Babson Park CDP	1,182	1,356	14.7	4.5
Lakeshore	NA	NA	NA	1.4
Indian Lake Estates	NA	NA	NA	2.3
River Ranch	NA	NA	NA	2.3
Kenansville	NA	NA	NA	9.8
Yeehaw Junction CDP	21,778	240	-98.9	0.1
Indiantown	5,588	6,083	8.9	4.7

[a] 2013 population estimates were not available for unincorporated communities.
NA Data unavailable
Source: Census.gov, 2015b

Per capita income in Florida averaged $26,451 from 2008 to 2012; per capita income ranged from $34,522 in Martin County to $17,899 in Okeechobee County. Per capita income rates in the local communities closest to the FSC Project area are considerable lower than the state average and range from $18,416 in Lake Wales to $14,943 in Haines City. Table 3.10.1-3 in appendix D presents the top industries and unemployment rates for each county crossed by and community in the socioeconomic study area.

FSC would construct the pipeline using one or more construction spreads and sequential pipeline construction techniques. Construction is anticipated to occur between March 2016 and May 2017 and would proceed in a continuous manner throughout each spread. Construction activities at any given location are expected to last approximately 2 to 4 months. The busiest period for construction is estimated to occur from July 2016 through March 2017 and would require a peak workforce of 500 people. Due to the transitory nature and short duration of pipeline construction, most non-local workers do not travel with their families so impacts on population levels would be primarily limited to workers only.

A temporary population increase based on worker influx is expected to be distributed across all counties along the pipeline route. FSC estimates that up to 5 to 10 percent of the workforce would be local hires and about 90 to 95 percent would be non-local. Therefore, during the peak of construction, up to 50 workers would be local hires and 450 workers would be non-local. The addition of 450 people in the area, if concentrated to one community at once, would equate to a 13.5 percent increase in the City of Davenport's population, a 10.8 percent increase in the community of Dundee's population, a 2.1 percent increase in Haines City's population, and a 3.1 percent increase in the community of Lake Wales' population. However, it is expected that the majority of these non-local workers would not reside in one location but instead would be dispersed between these communities, due to housing and rental availability as discussed in section 3.10.3.2.

Additional jobs would be created as a result of secondary activity associated with construction of the FSC Project, as purchases made by non-local workers on food, clothing, lodging, gasoline, and entertainment would have a temporary, stimulatory effect on the local economy. These jobs would

represent a temporary, minor increase in employment opportunities within the project area, as discussed in section 3.10.3.7.

FSC would hire approximately 13 full-time, permanent employees from the local population for operation and maintenance of the project. No impacts on population levels and employment levels within the counties crossed by the FSC Project would occur as a result of the project as the permanent employees would be existing local residents.

3.10.3.2 Housing

Temporary housing in the FSC Project area is available in the form of daily, weekly, and monthly rentals at motels, hotels, campgrounds, RV parks, apartments, and houses. Based on U.S. Census Bureau data, in 2012 vacancy rates across the project area range from 27.3 percent in Osceola County to 21 percent in Polk County. Within the local communities in the project area rental vacancy rates vary from 35.1 percent in Davenport to 19.6 percent in Lake Wales. Table 3.10.1-4 in appendix D provides the rental vacancy rates for the counties and communities nearest the pipeline route.

In addition to housing vacancy rates, temporary housing, in the form of hotels, motels, RV Parks, and campgrounds, is available in each county. The number of hotels, motels, RV Parks, and campgrounds varies from county to county with the highest number available in Polk County (286 total) and the lowest number available in St. Lucie County (9 total). In the local communities within the project area, the number of hotels, motels, RV parks, and campgrounds ranges from 155 in Davenport to 30 in Haines City. The availability of hotels, motels, and campgrounds may vary, particularly during tourist seasons or local events, or as a result of demand for housing by other industries.

The largest number of hotel/motels, units for seasonal recreation, and vacant rental units are available in Polk County, and in the local communities of Davenport, Haines City, Dundee, and Lake Wales. While use of available temporary housing in these communities would benefit the proprietors of the local motels, hotels, casinos, RV camps, and other rental units, it could result in the temporary unavailability of such temporary housing for some tourists, recreationalists, or local workers. The potential impacts of the FSC Project on tourism and tourist attractions in the project area are discussed in section 3.10.3.4. The combined demand for temporary housing from tourists and recreationalists in Polk County combined with the approximately 450 non-local workers required for project construction could exceed the supply.

Osceola, Okeechobee, and Martin Counties have a combined total of 382 available hotels, motels, RV parks, and campgrounds and the majority of the workforce for the FSC Project would likely be spread out among these counties. Using a conservative estimate of 25 hotel rooms or campsites per establishment, of which there are a total of 382 as discussed above, it is estimated that there are at least 6,250 room/site accommodations available in Osceola County, 1,725 available in Okeechobee County, and 1,575 available in Martin County. The influx of 450 construction workers would represent approximately 7.2 percent demand on these accommodations in Osceola County, 26.1 percent demand in Okeechobee County, and 28.6 percent demand in Martin County. Based on the large number of accommodations within these counties, housing accommodations would be sufficient to house the workforce without significantly displacing tourists, recreationalists, or local workers. The incremental temporary housing, hotel, motel, campground, and RV park demand from construction workers would be temporary (limited to the time of construction) and minor and is not expected to displace current residents or seasonal visitors.

FSC would hire approximately 13 full-time, permanent employees from the local community for operation and maintenance of the project. The effects of these permanent employees on housing are expected to be negligible as FSC intends to hire local residents.

The temporary influx of about 450 non-local construction workers would result in a minor increase in demand for housing, resulting in temporary, minor increased revenues to individuals and businesses with space for rent.

3.10.3.3 Public Services

A wide range of public services and facilities are available in the project area including law enforcement agencies, fire departments, medical facilities (including hospitals and emergency services), and schools. Because most of the non-local workers are expected to come without their families during the construction period and the addition of 13 permanent employees for operation of the facilities is a relatively small number, the FSC Project would result in a negligible increase in demand for school-related services.

Much of the project area would be near rural communities and, as such, public services available are characteristic of lower population densities. However, public services available in the project area are adequate for construction and operation of the project. The number of law enforcement centers available in each county ranges from 40 in Polk County to two in Okeechobee County. The number of local fire departments ranges from 59 in Polk County to five in Okeechobee County. The number of medical facilities available in each county ranges from 6 in Polk County to one in Okeechobee County. Table 3.10.1-5 in appendix D summarizes the medical, police, and fire protection facilities in the counties within the project area.

Similar to the Sabal Trail project area, all counties affected by the project contain areas designated as HPSAs or MUAs/Ps or contain census tracts and populations within the county that have been designated as HPSAs and MUAs/Ps (HRSA.gov, 2015). However, as shown in table 3.10.1-5 in appendix D, sufficient medical services are available within the socioeconomic study area.

Construction and operation-related demands on local services that could be experienced would be the same as that described for the Sabal Trail Project (see section 3.10.2.3). FSC would work with local law enforcement, fire departments, and emergency medical services to coordinate for effective emergency response. The long-term impacts on public services as a result of adding approximately 13 permanent workers for operation and maintenance of the pipeline facilities would have a negligible impact on the capacity of public services in the project area.

3.10.3.4 Tourism

Tourism opportunities include federal, state, and local special interest areas discussed in section 3.9 as well as businesses that are dependent upon attracting year-round or seasonal tourists. As discussed in section 3.10.2.4, the State of Florida is traditionally one of the top 10 most visited states by tourists and a number of tourist attractions are prevalent in the project area. While tourist attractions are visited year-round in Florida, the peak tourism season is December through August (Smatertravel.com, 2015). Construction of the FSC Project would overlap with the peak tourism season and could impact public access to tourist attractions and accommodations and could result in economic impacts on local businesses. Table 3.10.1-6 in appendix D lists examples of popular tourism opportunities in the project area, including specific areas affected by construction and operation of the project.

The tourist attractions listed in table 3.10.1-6 in appendix D either would be crossed by the FSC Project or are in close proximity to the project area. Based on Florida Tourism Department information (Census.gov, 2015d), tourism in the project area accounts for a relatively high percentage of the overall state level. As listed in table 3.10.1-3 in appendix D, tourism-related businesses (i.e., arts, entertainment, recreation, and accommodation and food services; and agriculture, forestry, fishing and hunting, and mining) are included in the top three most abundant economic industries in the majority of counties and communities affected. In particular, tourism-related business is the most abundant economic industry in Osceola County and the second most abundant economic industry in Polk County.

Because tourism opportunities and attractions are dispersed throughout the project area, impacts on public enjoyment of these areas, or the livelihood of local proprietors near these areas, would be minor and temporary (limited to about a 3-month period when construction would overlap with the peak tourism season). Potential impacts related to project construction would be noise, increased traffic, and visual impacts; these impacts would resolve with the completion of construction.

As discussed in section 3.10.3.2, the use of available temporary housing in the local communities within the project area would benefit the proprietors of the local motels, hotels, casinos, RV camps, and other rental units. However, it could result in demand for temporary housing for some tourists or recreationalists. The local communities of Davenport, Haines City, Dundee and Lake Wales are between 8 and 30 miles south of Walt Disney World's Magic Kingdom and Epcot, tourist attractions that experienced 17.5 million and 11.1 million visitors, respectively, in 2012 (Themed Entertainment Association, 2012). The period of peak construction for the FSC Project would overlap with the peak tourism season of these attractions. However, construction personnel would be dispersed throughout the project area. Also, based on the large number of accommodations available within Osceola, Okeechobee, and Martin Counties, housing accommodations would be sufficient to temporarily house the workforce without significantly displacing tourists or recreationalists. Alternatively, it is expected that construction personnel may seek accommodations away from the busy tourism areas. The incremental temporary housing, hotel, motel, campground, and RV park demand from construction workers would be temporary (limited to the time of construction) and minor and is not expected to significantly displace seasonal visitors.

Operation of the project would not impact tourist opportunities as the pipeline would be installed underground and would not be visible to tourists. Further, the FSC pipeline would be collocated with existing rights-of-way for 79 percent of its route, and would be consistent with the existing character of the project area.

3.10.3.5 Transportation

Construction activities could result in temporary to short-term impacts on transportation infrastructure. These impacts could include disruption to traffic flow due to the movement of construction equipment, materials, and crew members; construction of pipeline facilities across existing roads; and damage to local roads from the movement of heavy construction equipment and materials.

Table 3.10.1-7 in appendix D lists the roads crossed by the project, several of which would be used to access construction. FSC anticipates that about 404 vehicles would be mobilized to support construction of the FSC Project. Vehicles would include stringing trucks; welding rigs; water trucks; fuel trucks; mechanic trucks; flatbed and lowboy trailer trucks; motor graders; hydrostatic equipment trucks; contractor buses; and individual worker vehicles. FSC anticipates that deliveries to pipe/contractor yards and storage areas would account for approximately three trips per day. Assuming a total workforce of 500 workers per day during peak construction activities, traveling to the construction area via 25 busses and 190 personal vehicles, an additional 215 trips per day would be necessary for mobilizing crews to the

FSC Project area. FSC would deploy workers in various locations along the pipeline route in such a way that impacts on traffic in any one location would be minimized.

The timing, construction techniques, and restoration of roads crossed during construction of the FSC Project would be the same as those described for the Hillabee Expansion Project (see section 3.10.1.5). A complete list of road crossings associated with the FSC Project, including the proposed crossing methods, is provided in table 3.10.1-7 in appendix D.

FSC also proposes to utilize approximately 269 existing roads to accommodate construction vehicles, as discussed in sections 2.2.1 and 3.9; the majority of these roads would require improvements or modifications. Users of these roads could experience temporary disruptions similar to road crossing impacts discussed above. Following construction, would be restored in accordance with road encroachment permit requirements and/or as requested by the landowner or land-managing agency.

3.10.3.6 Property Values

The effects of the FSC Project on property values would be the same as those described for the Hillabee Expansion Project (see section 3.10.1.6).

3.10.3.7 Economy and Tax Revenues

FSC estimates that the capital cost for the FSC Project would be about $537.3 million. Direct payroll and materials expenditures related to the FSC Project would have an immediate impact on local economies. Workers would spend a portion of their pay in local communities on items such as housing, food, automobile expenses, entertainment, and other items. FSC would purchase goods and materials locally when possible, which would stimulate local businesses. Sales tax would be generated on items purchased in the project area. These direct impacts would stimulate indirect impacts within the region as inventories are restocked and new workers are hired to meet demands.

Based on an economic study prepared by Fishkind & Associates (Fishkind & Associates, 2014b), FSC estimates that the total project construction payroll would be $71.9 million. Approximately $3.6 to $7.2 million of the total payroll would be received by local workers (assuming that 5 to 10 percent of the workforce would be hired locally). A breakdown of the construction and operational workforce and economic impacts of the FSC Project is presented in table 3.10.1-8.

FSC estimated that about $91.2 million in consumables and project-specific materials such as fuel, tires, concrete, sand, gravel, and office supplies would be purchased locally. The amount of revenue expected from sales taxes on construction materials purchased locally in Florida would be about $5.5 million, based on the $91.2 million purchases estimate discussed above (Florida Department of Revenue, My Florida, 2014). Florida sales tax revenues are used to fund education, corrections, courts, government operations, and health and human services programs (Florida Center for Fiscal and Economic Policy, 2010). Florida residents do not pay personal income tax. Therefore, the payroll paid by FSC to local and non-local workers during construction of the FSC Project would result in no net increase in state income tax revenues in Florida (Bankrate.com, 2015).

Although the state of Florida would not benefit from income tax revenues, another significant indicator of the economic impacts of a project is to calculate the total project output.[12] The total output for construction of the project would be $125.6 million.

[12] See section 3.10.1.7 for a detailed description of "output."

The most substantial tax impacts would be generated by *ad valorem* taxes, which are property taxes that would be assessed per year and distributed to each county crossed by the FSC Project, resulting in long-term benefits to the local and regional economy. The total estimated *ad valorem* tax associated with the FSC Project would be about $123.7 million in Polk County, $56 million in Osceola County, $53.2 million in Okeechobee County, $36 million in St. Lucie County, and $30 million in Martin County. These property taxes would be paid over the life of the project (estimated to be 60 years). As also discussed in section 3.10.1.7, the project proponent may be subject to subsidies, which would affect the amount of taxes ultimately realized; however, these subsidies are unknown as they are between the company and the county or state and vary.

Overall, the FSC Project would benefit the state and local economies by creating a short-term stimulus to the affected areas through payroll expenditures, local purchases of consumables and project-specific materials, and sales tax. Operational impacts of these benefits would not be as significant. However, operation of the project would result in long-term ad valorem property tax benefits for Polk, Osceola, Okeechobee, St. Lucie, and Martin Counties. The total payroll for operation of the project would be approximately $14.7 million over the life of the project.

3.10.4 Environmental Justice

Executive Order 12898 *Federal Action to Address Environmental Justice in Minority Populations and Low-Income Populations* requires federal agencies to consider if impacts on human health or the environment (including social and economic aspects) would be disproportionately high and adverse for minority and low-income populations and appreciably exceed impacts on the general population or other comparison group.

As described below and consistent with the spirit of Executive Order 12898, we reviewed the SMP Project to determine if its resulting impacts would be disproportionately high and adverse for minority and low-income populations and appreciably exceed impacts on the general population or other comparison group. We also reviewed, in response to numerous comments received, the portion of the Sabal Trail Project that would be located in Dougherty County, Georgia, in and near the City of Albany. A specific discussion of Dougherty County, Georgia is provided following our discussion of the SMP Project.

In addition to the comments we received about the SMP Project, the Mainline route through Dougherty County, and the proposed Albany Compressor Station, we received comments expressing concern about project-related impacts (dust and air emissions) on asthma in African-American populations. Based on American Lung Association statistics, "African Americans have one of the highest rates of current asthma compared to other racial/ethnic groups" (American Lung Association, 2015). Therefore, it is reasonable to assume that, where African American populations are present, they have an increased risk of experiencing adverse impacts from decreased air quality. However, as noted later in this section and in the resource-specific air quality section of the environmental analysis, air emissions from the SMP Project would meet all federal regulatory standards and thresholds for air quality.

3.10.4.1 Review Methodology

In consultation with the EPA and based on published EPA guidance concerning environmental justice reviews (1998), we used a three-step approach to conduct our review. These steps are:

1. Determine the existence of minority and low-income populations.
2. Determine if the impacts are high and adverse.
3. Determine if the impacts fall disproportionately on environmental justice populations.

3.10.4.2 Minority and Low-Income Populations

A minority population exists when:

1. the total racial minorities in a U.S. Census Bureau-defined census tract (U.S. Census Bureau, 2012b) are more than 50 percent of the tract's population;

2. the percentage of a racial minority in a census tract is "meaningfully greater" than in the comparison group;[13]

3. the total ethnic minorities in a census tract are more than 50 percent of the tract's population; or

4. the percentage of ethnic minorities in a census tract is meaningfully greater than in the comparison group.

Racial and ethnic minorities include: African American/Black, Native American or Alaska Native, Asian, Native Hawaiian and Other Pacific Islander, two or more races, and other races; and the Hispanic or Latino ethnicity.

A low-income population exists when:

1. the percentage of all persons living below the poverty level is more than the percentage for the state where the census tract is located;[14] or

2. the median household income for the census tract is lower than the median household income for the state where the census tract is located.[15]

Based on U.S. Census Bureau – American Community Survey 2005-2012 5-year census tract estimates, as summarized in table 3.10.4-1 in appendix D, the SMP Project facilities including the proposed aboveground facilities would be located across or within 1 mile of 119 environmental justice (minority and/or low income) populations.

3.10.4.3 High and Adverse Impacts

The impacts of constructing and operating the SMP Project on the natural and human environments are identified and discussed throughout the environmental analysis section of this document. As described in the numerous environmental resource-specific discussions, we conclude that the SMP Project would not significantly impact the environment. Furthermore, using the criteria for determining impacts[16] as identified in table 3.10.4-2 below, we have determined that none of the SMP Project impacts can be considered high and adverse.

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[13] "Meaningfully greater" is defined in this analysis when minority or ethnic populations are at least 10 percentage points more than in the comparison group, which was the county in which the census tract was located.

[14] State poverty levels were used in this analysis as a comparison group because poverty levels at county levels in Alabama, Florida, and Georgia were generally much higher than state averages, and using the state averages provided more equitable basis for identification of environmental justice populations within census tracts.

[15] State median household income levels were used as the comparison group to maintain consistency in identifying environmental justice census tracts based on poverty.

[16] The degree of impact must be high and adverse for all three criteria in order to be considered a high and adverse impact on minority and/or low-income populations.

TABLE 3.10.4-2 **Environmental Justice Population Criteria for Determining Impacts**				
	Impact Degree			
Criteria	Negligible	Minor	Moderate	High and Adverse
Intensity	Little or no impact to the resource would occur; any change that might occur may be perceptible but difficult to measure.	Change in the resource would occur, but no substantial resource impact would result. The change in the resource would be perceptible but would not alter the condition of the resource. The change in the resource would not exceed regulatory permittable levels.	Noticeable change in the resource would occur and this change would alter the condition or appearance of the resource, but the integrity of the resource would remain. The change in the resource would not exceed regulatory permittable levels.	Substantial impact or change in a resource would occur that is easily defined and highly noticeable, and that measurably alters the condition or appearance of the resource. The change in the resource would exceed regulatory permittable levels.
Extent	None	Localized – Impact would occur only in the temporary workspace and would not extend beyond permitted levels into the area outside the geographical area of potential effect.	Entire census tract – Impact on the resource throughout the entire census tract, extending well beyond the temporary workspace.	Region-wide – Impact on the resource throughout the region, potentially extending well beyond the state.
Duration	None	Temporary – Impact would occur only during the construction of the pipeline. After construction, the resource conditions would return to pre-construction conditions.	Short-term – Impact would extend beyond the time of the project, but would not last beyond the life of the pipeline and associated facilities.	Long-term to permanent – Impact would likely last more than 3 years and may continue beyond the life of the pipeline and associated facilities.

3.10.4.4 Disproportionate Impacts on Environmental Justice Populations

The SMP Project was designed to be collocated with existing utility rights-of-way to the greatest extent practical. The Commission encourages the collocation of natural gas pipelines with existing rights-of-way to minimize impacts on the environment. Unlike discrete facilities whose impacts are generally concentrated in one location, a pipeline establishes or expands a narrow corridor over long distances that necessarily traverses a mosaic of ethnic and economic characteristics. Compressor stations associated with a pipeline are anchored by the pipeline corridor and hydraulically bound to a specific segment of the pipeline, with some flexibility within the segment (depending on project-specific conditions).

Approximately 82 percent of the SMP Project would cross or be within 1 mile of census tracts which are considered environmental justice populations. To determine if the impacts of the SMP Project would be disproportionate, we compared the percentage of environmental justice populations affected by the project to the percentage of environmental justice populations that would be affected by the land-based major route alternatives we evaluated in which we considered environmental justice as one comparative factor. Based on that comparison, we find 80 percent of the Station 85 Route Alternative; 78 percent of the FGT Onshore Alternative; 54 percent of the Hillabee Route Alternative, and a range of 70 to 74 percent of the GreenLaw Route Alternatives 1 through 4 would cross or be within 1 mile of census tracts which are considered environmental justice populations. Additional discussion regarding these alternatives is provided in section 4.3.

Based on the majority of these route alternatives having a relatively similar percentage of environmental justice populations that would be affected, we determined that the SMP Project would not disproportionately impact these populations. Furthermore, as discussed previously, the SMP Project would not significantly impact the environment nor would any of its impacts be considered high and

adverse. Consequently, constructing and operating the SMP Project would not result in significant adverse impacts on any population.

3.10.4.5 SMP Project Conclusion

Based on our review, we determined that minority and low-income populations exist in the SMP Project area; the SMP Project impacts would not be high and adverse; and its impacts would not have a disproportionate impact on environmental justice populations. We also determined that the SMP Project would not result in impacts disproportionately high and adverse for minority and low-income populations and appreciably exceed impacts on the general population.

3.10.4.6 Dougherty County, Georgia

As described in section 1.0 of this document, we received comments from the EPA, Dougherty County, City of Albany, potentially affected landowners, concerned citizens, local interest groups, and community organizations regarding potentially adverse impacts on minority and low-income populations in Dougherty County Georgia, particularly in and near the City of Albany. Commentors specifically expressed concern about potential impacts on public safety and health (air and noise emissions) resulting from operation of the proposed Albany Compressor Station and the Mainline through Dougherty County. Commenters also expressed concern about potential impacts on groundwater quality, nearby property values, and other environmental resources. Lastly, the commenters requested that alternative pipeline routes and compressor station locations be evaluated.

In Dougherty County, the Sabal Trail Project would be located across or within 1 mile of seven census tracts, five (71 percent) of which are minority and/or low-income populations. Minority and/or low-income populations exist in Dougherty County. Dougherty County consists of 27 census tracts, 23 (85 percent) of which are minority and/or low-income populations. The proposed Albany Compressor Station would not be located in or within 1 mile of an environmental justice population.

As discussed previously, the SMP Project would not result in high and adverse impacts. Air and noise emissions would meet all federal regulatory standards and thresholds. The facilities would be constructed and operated in compliance with DOT materials and safety standards. Groundwater quality, property values, and other environmental resources would not be significantly affected. Alternatives that would avoid Dougherty County and their impact on environmental justice populations were addressed above and in section 4.0.

Based on the percentage of environmental justice populations affected by the Sabal Trail Project (71 percent) relative to the percentage of environmental justice populations in Dougherty County (85 percent), we conclude that the Sabal Trail Project would not disproportionately impact environmental justice populations in Dougherty County. Furthermore, as noted in the alternatives section of this document, alternatives that would be collocated with the existing SONAT pipeline or other rights-of-way to the northeast of Albany would result in routes that impact a higher percentage of environmental justice populations (100 percent). Additionally, implementing these routes would require the relocation of the Albany Compressor Station into an environmental justice population. Lastly, alternative routes that would be located to the west of the Mainline through Dougherty County would still cross five (71 percent) minority and/or low-income populations.

3.11 CULTURAL RESOURCES

Section 106 of the NHPA as amended, (16 U.S.C. 470) requires the FERC to take into account the effects of its undertakings on properties listed in or eligible for listing in the NRHP and to afford the

ACHP an opportunity to comment on the undertaking. The Applicants, as non-federal parties, are assisting the FERC in meeting our obligations under Section 106 by preparing the necessary information, analyses, and recommendations, as authorized by 36 CFR 800.2(a)(3).

3.11.1 Hillabee Expansion Project

3.11.1.1 Cultural Resources Surveys

Transco conducted cultural resources surveys for the Hillabee Expansion Project between February and March 2014, and have surveyed 100 percent of the project workspace, all in Alabama. Transco surveyed a 200-foot-wide corridor for that portion of the pipeline that would be collocated with an existing utility corridor, with expansions of the corridor as needed for crossing waterbodies or man-made features. Transco surveyed a 50-foot-wide corridor for proposed access roads, the entire footprint of Compressor Station 84, and 10 contractor yards. Areas proposed for expansion within Compressor Stations 95, 100, and 105 were also surveyed, although not subjected to subsurface shovel testing. The area of potential effect (APE) for indirect project effects is the APE for direct effects, plus those properties immediately adjacent to the pipeline corridor, off-corridor facilities, and access roads.

Field surveys re-visited 9 previously recorded archaeological sites, and identified 22 new sites and 12 isolated finds. Of the 31 archaeological sites recorded, 26 are prehistoric sites, 4 are historic, and one site has both prehistoric and historic material. Transco recommended that 16 archaeological sites are not eligible for listing in the NRHP. Table 3.11.1-1 lists the 14 archaeological sites within the project workspace that are recommended eligible for listing in the NRHP or have not been fully evaluated for eligibility, along with the temporal association and recommended treatment.

TABLE 3.11.1-1

NRHP Eligible and Unevaluated Cultural Resources Within the Hillabee Expansion Project Area of Potential Effects

Site Number	Temporal/Cultural Association	Treatment Recommendation	Transco NRHP Eligibility Recommendation
1CW331	Undetermined Prehistoric	Avoidance/Further Testing	Eligible
1CW332	Undetermined Prehistoric	Avoidance/Further Testing	Eligible
1CW336	Undetermined Prehistoric	Avoidance	Eligible
1CW338	Prehistoric Early Woodland Period	Avoidance/Further testing	Eligible
1CW340	Undetermined Prehistoric	Avoidance/Further testing	Potentially Eligible
1CW104	Undetermined Prehistoric	Avoidance/Further Testing	Eligible
1CW120	Nineteenth-Twentieth Century Historic	Avoidance/Further Testing	Potentially Eligible
1AU477	Undetermined Prehistoric	Avoidance	Eligible
1CN559	Undetermined	Avoidance	Eligible
1CN354	Undetermined Prehistoric	Avoidance	Eligible
1CN356	Nineteenth-Twentieth Century Historic	Avoidance/Further testing	Potentially Eligible
1CS222	Prehistoric Early Woodland	Avoidance	Eligible
1TP69	Prehistoric Woodland Period	Avoidance	Eligible
1TP93	Prehistoric Late Archaic Period	Avoidance/Further testing	Potentially Eligible

The Alabama State Historic Preservation Officer (SHPO), in an August 19, 2014 letter, commented on the survey report and disagreed with Transco's non-eligible recommendations for sites 1CW340, 1CN356, 1CW120, 1TP91, and 1TP93, and requested further investigation for sites 1CS223 and 1CS224. Transco provided additional information and clarifications regarding their eligibility recommendations. In reply, the SHPO maintained their potentially eligible recommendations for sites

1CN340, 1CN356, and 1TP93and noted that if the sites could not be avoided, additional testing would be required.

Transco submitted an addendum report for additional survey to the Alabama SHPO. The SHPO agreed that four archaeological sites identified during this survey are eligible for the NRHP (1CW336, 1CW338, 1AU477, and 1CN559), and that portions of two sites are eligible (1CN354 and 1TP69).

Transco developed plans to avoid effects to 3 sites that are potentially eligible for listing on the NRHP (1CW336, 1CS222 and 1CN559); and to avoid effects to those portions that are potentially eligible for 2 sites (1CN354 and 1TP69). The plans call for limiting workspace, along with exclusion fending and signage, or using geotextile and matting. Alabama SHPO concurred with Transco's recommendations for avoidance.

Transco conducted additional testing to determine NRHP eligibility for 8 sites identified during the initial survey. In a report filed July 8, 2015 with the Commission, Transco recommended 7 of the sites not eligible for the NRHP. Transco recommended one site as eligible for the NRHP, and that if the site cannot be avoided it should undergo mitigation.

Transco also surveyed an 8.2-acre contractor yard in Mississippi and reported to the Mississippi SHPO that no cultural resources were identified during the survey. The Mississippi SHPO concurred that no historic properties will be affected by the project in Mississippi. We also concur.

3.11.1.2 Cultural Resources Survey and Testing at Eight Settlement Sites

A 1991 Settlement between FERC and Transco (FERC docket Nos. RP88-68-000, IN89-1-000, and IN89-1-001), resulting from a finding of culpabilities in construction of the Mobile Bay Pipeline, requires notification to FERC and SHPO prior to any ground disturbance at the location of eight prehistoric archaeological sites in Choctaw County, Alabama; 1CW89, 1CW92, 1CW100, 1CW102, 1CW103, 1CW105, 1CW114, and 1CW118. The proposed workspace for the Hillabee Expansion Project would potentially intersect these eight sites. Transco conducted surveys at the location of the eight sites between October 21 and 30, 2014. None of the eight sites were relocated as a result of the surveys. The Alabama SHPO reviewed these findings and concurred with the recommendations that there would be no adverse effect on the 8 sites. We also concur. The Choctaw Nation of Oklahoma concurred with the report findings in an April 2015 letter. The Chickasaw Nation acknowledged receipt of the report, and stated that they did not know of any Chickasaw tribal sites in the settlement sites area.

3.11.2 Sabal Trail Project

3.11.2.1 Cultural Resources Surveys

Sabal Trail conducted a cultural resources survey within a 300-foot-wide corridor for the pipeline corridor, a 50-foot-wide corridor for access roads, and the footprints for all aboveground facilities and contractor yards. The APE for effects to aboveground cultural resources was defined as the APE for direct effects plus areas where land use may change, and any locations from which the Project may be visible.

Table 3.11.2-1 in appendix D lists the NRHP-eligible, potentially eligible, and unevaluated cultural resources sites that were identified along the Sabal Trail Project, along with treatment recommendations.

Alabama

Sabal Trail surveyed 96.2 percent of the project area in Alabama between September 2013 and August 2014. Approximately 3.8 percent of the project workspace remains to be surveyed pending landowner permission.

Sabal Trail identified a total of 98 cultural resource sites, 78 archaeological sites and 20 historic architectural sites. Of the 78 archaeological sites, 51 are prehistoric, 16 are historic, and 11 contain both prehistoric and historic materials. Sabal Trail recommended that 52 archaeological sites are not eligible for listing in the NRHP, and no further work is recommended. Twenty-six sites and 1 isolated find have not been fully evaluated for listing in the NRHP.

Of the 20 historic architecture sites, 3 are potentially eligible for listing on the NRHP; the Blessed Trinity Shrine (HS-AL-11) is listed on the Alabama Register of Landmarks and Heritage, and two segments of the Montgomery and West Point Railroad have been determined potentially eligible. Sabal Trail will avoid the Blessed Trinity Shrine and 2 railroads by project construction design.

In a January 13, 2015 letter the Alabama SHPO requested more rigorous survey methods, and additional site evaluation work. Sabal Trail submitted additional testing research designs for the 22 archaeological sites requiring additional work and proposed to revise the survey report. The Alabama SHPO concurred with Sabal Trail's testing plans for the 22 sites, and requested avoidance and maintenance plans for 2 archaeological sites, 2 cemeteries, 2 linear resources, and 4 structures. The SHPO also requested that remote sensing be used to establish the boundaries of 2 cemeteries (1TP168 and 1TP178). The Alabama-Quassarte Tribal Town concurred with the Alabama SHPO's comments.

Sabal Trail submitted a revised cultural resources survey report to the Alabama SHPO that described the additional field surveys completed, and additional information and discussion regarding site eligibility for several sites. The report also stated that additional testing was completed for 22 archaeological sites and will be reported in the future. The revised survey report is currently under review.

Georgia

Sabal Trail surveyed 96.7 percent of the project workspace in Georgia between September 2013 and August 2014. They will survey the remaining 3.3 percent (6.35 miles of the pipeline corridor) pending landowner permission. The new location of the Albany Compressor Station will also be surveyed for cultural resources. Sabal Trail identified a total of 202 cultural resources sites: 160 archaeological sites and 42 historic architectural sites. Of the 160 archaeological sites or isolated finds, 128 are prehistoric, 10 are historic, and 22 have both prehistoric and historic components. Sabal Trail did not recommend any archaeological sites as eligible for listing in the NRHP. The report recommended that 125 sites are not eligible for NRHP listing. The remaining 35 sites remain unevaluated; further investigations are underway for 24 of the sites and will be described in future reports.

Of the 42 historic architectural sites, 8 buildings or groups of buildings are recommended eligible for NRHP listing, and 9 railroad lines, and 1 railroad trestle are also recommended NRHP eligible. The remaining 24 historic architectural properties are recommended not eligible.

The Georgia SHPO, in a January 26, 2015 letter, requested more rigorous survey methods and additional site evaluation work. The SHPO did not concur with NRHP ineligible recommendations for 30 recorded sites, and recommended additional work, such as closer interval shovel testing and excavation of test units for 20 of the sites. The SHPO also recommended further delineation for 10 sites that were not

fully defined beyond the project workspace (sites 9SW155, 9TE181, 98TE184, 9TE186, 9TE189, 9TE190, 9TE200, 9TE204, 9TE205, and 9BO50).

Sabal Trail submitted a revised cultural resources survey report to the Georgia SHPO that provided additional discussion about site significance and eligibility, revised eligibility status for the 30 sites recommended ineligible in the first report, and recommendations for testing at 22 sites. The revised report is currently under review.

Florida

Sabal Trail conducted surveys in Florida from September 2013 to September 2014. Approximately 96 percent of the project workspace has been surveyed for cultural resources, leaving 4 percent remaining to be surveyed. Sabal Trail identified a total of 322 cultural resources sites, including 186 archaeological sites or isolated occurrences, and 136 historic architecture sites (106 historic structures, 7 resource groups, 2 cemeteries, and 21 historic linear resources). Of the 186 archaeological sites, Sabal Trail recommended that 84 are eligible for listing on the NRHP or unevaluated, and 6 structures, 6 resource groups, and 9 linear resources are eligible for listing in the NRHP or are unevaluated for eligibility (see table 3.11.2-1 in appendix D). Sabal Trail would avoid impacts on the majority of these sites during construction by revising engineering design, narrowing the construction corridor, or boring beneath the site in the case of linear resources.

In a January 29, 2015 letter, the Florida SHPO concurred with the report's findings and recommendations, with the exception of two sites. The SHPO requested additional testing of site 8SU443, and additional surveys to determine the boundaries of site 8SU450. Sabal Trail conducted additional testing at site 8SU443 and recommended it not eligible for listing in the NRHP. We requested additional information about potential impacts to historic architecture sites 89SU498, 8LV869, 8MR3722, 8CI1454, and 8SU499. Sabal Trail conducted additional investigations, and provided us with clarification about project impacts or recommended treatment plans for these 5 historic architectural sites.

Sabal Trail conducted additional testing on 11 archaeological sites, and recommended that the sites are not eligible for listing in the NRHP. In a June 11, 2015 letter the Florida SHPO concurred with Sabal Trail's recommendations, with the exception of site 8SM733/8LA2034 because the site extends outside the recorded boundary. The SHPO concluded that there was insufficient information to assess the eligibility of the site, but held the opinion that the project will have no adverse effect on the site. The THPO of the Seminole Tribe of Florida requested additional work at site 8HA553 in a June 8, 2015 comment letter on the testing results. In a June 29, 2015 email the Thlopthlocco Tribal Town THPO concurred with the Florida SHPO's comments regarding the additional testing reports for 11 archeological sites.

3.11.2.2 Cemeteries

Sabal Trail identified eight cemeteries that are located within or near the project area: five in Alabama, one in Georgia, and three in Florida (see table 3.11.2-2). Cemeteries are not generally eligible for listing in the NRHP, but are protected by state and municipal laws.

TABLE 3.11.2-2 **Historical Cemeteries and Possible Burials Within the Sabal Trail Project Area of Potential Effects**			
Inventory Number/Name	Description	Location	Treatment Recommendation
1TP168	6 displaced headstones, late 19th century	Tallapoosa County, Alabama	Outside project workspace. GPR survey identified 3 graves. Resource Protection Plan prepared.
1TP178	Depression that is a possible grave	Tallapoosa County, Alabama	Outside project workspace. GPR survey detected no anomalies, Resource Protection Plan prepared.
HS-AL-4	Ca. 1917, 14 headstones, fenced	Chambers County, Alabama	Outside project workspace. Resource Protection Plan prepared.
HS-AL-26/ Edwards Cemetery	Late 19th century, 64 headstones, abandoned, not fenced	Lee County, Alabama	Outside project workspace by a minimum of 175 feet. Will not be affected by project.
HS-AL-11/Blessed Trinity Shrine and Cemetery	Mid-century buildings, religious retreat, including enclosed cemetery, listed on ARLH	Russell County, Alabama	Cemetery is outside project workspace. Resource Protection Plan prepared.
HS-GA-32	New Macedonia Church and Cemetery	Brooks County, Georgia	Cemetery is outside project workspace and will not be affected.
8CI1438/Atkins Cemetery	Early 20th century, 40 marked graves, still in use	Citrus County, Florida	Remote sensing to identify unmarked burials
8GI237/Union Baptist Cemetery	Early 20th century, min. 425 marked graves, still in use	Gilchrist County, Florida	Avoidance
8LA4465	Unknown (report pending)	Lake County, Florida	Avoidance

Five cemeteries were recorded in Alabama, including one that is associated with the Blessed Trinity Shrine. Sabal Trail reported that the cemeteries would not be affected by project activities. They provided Resource Protection Plans for 1TP168, 1TP178, HS-AL-4, and the cemetery associated with the Blessed Trinity Shrine (HS-AL-11).

Sabal Trail identified one cemetery in Georgia, associated with the New Macedonia Church in Brooks County (HS-GA-32). The cemetery consists of approximately 150 graves, with the majority covered in cement slabs. The cemetery is about 150 feet northeast of the project survey corridor and will not be affected by the Project.

Three cemeteries were recorded in Florida: the Atkins Cemetery, the Union Baptist Cemetery, and an unnamed cemetery located in Lake County. The Atkins Cemetery (8CI1438) extends into the survey corridor, but would be avoided by the construction workspace. The cemetery located in Lake County (8LA4465) will be discussed in an upcoming survey report.

3.11.2.3 Federal Agency Consultations

Sabal Trail's surveys at the Chattahoochee River crossing within the Walter F. George Reservoir in Russell County, Alabama and Stewart County, Georgia required Archaeological Resource Protection Act permits from the Mobile District of the USACE (permit numbers DACW01-40-1400157 and DACW01-14-0158). In a letter report Sabal Trail informed the District Commander that no cultural resources were recorded during surveys at the river crossing.

In an April 18, 2014 letter to the FERC, the FS expressed concern about disruptions to the FNST, which contains historic sites.

3.11.2.4 Local Consultations

Sabal Trail contacted the Certified Local Governments of the City of Opelika, Alabama; Albany and Moultrie, Georgia; and Kissimmee, Leesburg, and Newberry, Florida to introduce the project and solicit comments. The Albany Dougherty Historic Preservation Commission indicated that it was interested in consulting about the project. Sabal Trail sent the commission a summary of the results of the cultural resources survey within the City of Albany, and invited them to comment.

In addition to the Certified Local Governments, Sabal Trail contacted the Levy County Historical Society in Florida to request information about impacts on cultural resources within the project area. The historical society provided a list of seven cultural resources sites within the project area known to them, and referred Sabal Trail to the Florida SHPO.

3.11.3 Florida Southeast Connection Project

3.11.3.1 Cultural Resources Surveys

FSC conducted surveys between July 2013 and June 2015, and completed surveys for approximately 98 percent of the project area. Two percent of the project area remains to be surveyed pending landowner permission.

In the initial survey report and first supplemental report, FSC reported 43 archaeological sites in the project area, and 20 occurrences (archaeological finds of less than 3 cultural artifacts). Of the 32 archaeological sites, 21 date to the prehistoric period, and 11 date to the historic period. FSC did not recommend any of these sites as eligible for listing in the NRHP.

FSC inventoried 14 previously identified historic architectural sites, and 11 newly identified historic architecture sites. Of these 25 sites, 11 are historic buildings and 14 are historic linear resources. FSC reported that 3 railroads have been determined NRHP eligible by the Florida SHPO, and the Old Kissimmee Road/Old Tampa Road has not been fully evaluated for eligibility. Table 3.11.3-1 lists the 4 historic architectural sites determined eligible or unevaluated for NRHP listing. FSC proposes to avoid adverse effects to the 4 sites by boring under them. FSC recommended that the remaining 21 historic architectural sites are not eligible for listing in the NRHP.

TABLE 3.11.3-1

NRHP Eligible and Potentially Eligible Cultural Resources Within the Florida Southeast Connection Project Area of Potential Effects

Site Name and Number	Location	Temporal/Cultural Association	Treatment Recommendation	FSC NRHP Eligibility Recommendation
8PO7219/8OS2540 South Florida Railroad	Osceola and Polk Counties, Florida	Historic	Avoid by Boring	Determined eligible by the Florida SHPO
8SL3014 FEC Railway – Lake Harbor Branch	St. Lucie County, Florida	Historic	Avoid by Boring	Determined eligible by the Florida SHPO
8MT1514 Seaboard Airline Railroad/CSX Branch	Martin County, Florida	Historic	Avoid by Boring	Determined eligible by the Florida SHPO
8PO7154/8OS2567 Old Kissimmee Road/Old Tampa Road	Osceola and Polk Counties, Florida	Historic	Avoid by Boring	Unevaluated

The Florida SHPO concurred with the findings and recommendations for NRHP eligibility in FSC's initial survey report and first supplemental report. We also concur. The Florida SHPO has not yet provided comments on FSC's second supplemental report.

3.11.4 Tribal Consultations

In March 2014, we sent letters requesting comments on the project to the following 28 federally recognized tribes; Absentee-Shawnee Tribe of Oklahoma, Alabama-Coushatta Tribe of Texas, Alabama-Quassarte Tribal Town, Caddo Nation of Oklahoma, Cherokee Nation, Chickasaw Nation, Chitimacha Tribe of Louisiana, Choctaw Nation of Oklahoma, Coushatta Tribe of Louisiana, Delaware Nation, Eastern Band of Cherokee Indians, Eastern Shawnee Tribe of Oklahoma, Jena Band of Choctaw Indians, Kialegee Tribal Town, Kiowa Indian Tribe of Oklahoma, Miccosukee Tribe of Indians of Florida, Mississippi Band of Choctaw Indians, Muscogee (Creek) Nation of Oklahoma, Poarch Band of Creek Indians, Quapaw Tribe of Indians, Sac and Fox Tribe of the Mississippi in Iowa, Seminole Nation of Oklahoma, Seminole Tribe of Florida, Shawnee Tribe, Thlopthlocco Tribal Town, Tonkawa Tribe of Oklahoma, Tunica-Biloxi Indians of Louisiana, and the United Keetoowah Band of Cherokee Indians.

The following tribes responded that they are interested in consulting on the project, or are interested in additional information: the Alabama-Quassarte Tribal Town, the Chickasaw Nation, the Choctaw Nation of Oklahoma, and the Muscogee (Creek) Nation of Oklahoma.

The following tribes responded that the project lies outside their area of interest, or they deferred to tribes with closer ties to the area: the Quapaw Tribe of Indians, and the United Keetoowah Band of Cherokee Indians in Oklahoma. Twelve tribes did not initially respond: the Caddo Nation of Oklahoma, the Cherokee Nation, the Coushatta Tribe of Louisiana, the Delaware Nation, the Eastern Band of Cherokee Indians, the Jena Band of Choctaw Indians, the Kiowa Indian Tribe of Oklahoma, the Miccosukee Tribe of Indians of Florida, the Sac and Fox Tribe of the Mississippi in Iowa, the Shawnee Tribe, the Tonkawa Tribe of Oklahoma, and the Tunica-Biloxi Indians of Louisiana.

On June 4, 2014, at the request of the Muscogee (Creek) Nation, we hosted a conference call for interested tribes to discuss an unanticipated discovery at a site in Georgia. Survey methodology, archaeological sites identified to date, avoidance options, and general issues on the SMP Project were also discussed. Representatives of the Muscogee (Creek) Nation, the Seminole Tribe of Florida, the Chickasaw Nation, the Mississippi Band of Choctaw, and Thlopthlocco Tribal Town participated in the conference call. Representatives of all three companies, as well as the Alabama, Georgia, and Florida SHPO staff also participated. Sabal Trail has since rerouted the project to avoid the site in Georgia.

On August 5, 2014, we informed the Alabama-Quassarte Tribal Town, the Choctaw Nation of Oklahoma, the Eastern Shawnee Tribe of Oklahoma, the Muscogee (Creek) Nation of Oklahoma, the Seminole Tribe of Florida, and the Thlopthlocco Tribal Town, of the upcoming testing at the eight settlement sites. In a letter dated September 9, 2014, the Choctaw Nation of Oklahoma concurred with the plan to do testing, and requested a copy of the resulting report. Transco submitted the report of testing at the 8 settlement sites to the tribes. The Choctaw Nation of Oklahoma concurred with the report findings in an April 2015 letter. The Chickasaw Nation acknowledged receipt of the report, and stated that they did not know of any Chickasaw tribal sites in the settlement sites area.

On December 22, 2014, following the submission of all certificate applications to the FERC, we provided an email update of the Project to those tribes that requested consultation or additional information.

We distributed the SHPO comment letters for the survey reports to those tribes that requested consultation or additional information in an email on May 11, 2015.

3.11.4.1 Hillabee Expansion Project

In March 2014 Transco sent a letter introducing the Hillabee Expansion Project and requesting information about potential tribal sites to 24 federally recognized tribes. Of these, the Alabama-Quassarte Tribal Town, the Chickasaw Nation, the Choctaw Nation of Oklahoma, the Eastern Shawnee of Oklahoma, the Muscogee (Creek) Nation of Oklahoma, the Seminole Tribe of Florida, and the United Keetoowah Band of Cherokee Indians requested additional information or further consultation regarding the project. The Chitimacha Tribe of Louisiana, the Quapaw Tribe of Oklahoma, and the Shawnee Tribe declined further consultation regarding the project. The remaining 14 tribes (the Absentee Shawnee of Oklahoma, the Alabama Coushatta, the Cherokee Nation, the Coushatta Tribe of Louisiana, the Eastern Band of Cherokee Indians, the Jena Band of Choctaw Indians, the Keweenaw Bay Indian Community, Kialegee Tribal Town, the Miccosukee Tribe of Indians of Florida, the Mississippi Band of Choctaw Indians, the Poarch Band of Creek Indians, the Seminole Nation of Oklahoma, Thlopthlocco Tribal Town, and the Tunica-Biloxi Tribe of Louisiana) have not responded, or requested additional time to review the March 2014 correspondence.

In addition to its initial consultations, Transco provided survey reports and plans to the Alabama-Quassarte Tribal Town, the Chickasaw Nation, the Choctaw Nation of Oklahoma, the Eastern Shawnee of Oklahoma, the Mississippi Band of Choctaw Indians, the Muscogee (Creek) Nation, the Seminole Tribe of Florida, and Thlopthlocco Tribal Town.

The Chickasaw Nation, the Choctaw Nation, the Muscogee (Creek) Nation, and the Seminole Tribe of Florida requested GIS data, which Transco provided directly to them.

3.11.4.2 Sabal Trail Project

Sabal Trail contacted 20 tribes in October 2013, introducing the project and requesting the tribe's assistance in identifying traditional tribal properties and providing comment. Ten tribes requested continued communication about the project: Alabama-Quassarte Tribal Town, Cherokee Nation, Chickasaw Nation, Choctaw Nation of Oklahoma, Muscogee (Creek) Nation of Oklahoma, Seminole Tribe of Florida, the Coushatta Tribe of Louisiana, Jena Band of Choctaw Indians, Mississippi Band of Choctaw Indians, and Thlopthlocco Tribal Town. The United Keetoowah Band of Cherokee Indians replied that they would defer to the other tribes. The Shawnee Tribe responded that they did not have concerns or comments regarding the project. Sabal Trail did not receive a response from eight other tribes: the Absentee-Shawnee Tribe of Oklahoma, the Alabama-Coushatta Tribe of Texas, the Eastern Band of Cherokee Indians, the Eastern Shawnee Tribe of Oklahoma, Kialegee Tribal Town, the Miccosukee Tribe of Indians of Florida, the Poarch Band of Creek Indians, and the Seminole Nation of Oklahoma. Sabal Trail continued to provide project information to all 20 tribes.

Sabal Trail met with the Seminole Tribe of Florida on November 20, 2013 to discuss the methodology for upcoming field surveys, and again on February 20, 2014 to discuss the survey findings.

Alabama-Quassarte Tribal Town, the Cherokee Nation, the Chickasaw Nation, the Choctaw Nation of Oklahoma, the Mississippi Band of Choctaw Indians, the Muscogee (Creek) Nation of Oklahoma, the Seminole Tribe of Florida, and Thlopthlocco Tribal Town requested project information in GIS data, which Sabal Trail provided directly to them.

In April 2014 Sabal Trail sent the preliminary field report and testing plan for site 1RU516 in Russell County, Alabama to the 20 tribes. The Choctaw Nation of Oklahoma deferred to the other tribes regarding the site findings and proposed plans. The Jena Band of Choctaw Indians concurred with the proposed testing methods and requested the testing report.

In April 2014 Sabal Trail notified Alabama-Quassarte Tribal Town, the Jena Band of Choctaw Indians, the Mississippi Band of Choctaw Indians, the Muscogee (Creek) Nation, and the Seminole Tribe of Florida of an inadvertent discovery at a site in Georgia. Sabal Trail provided additional information to these and other interested tribes. The Jena Band of Choctaw Indians deferred comment to tribes closer to the site location. The Muscogee (Creek) Nation commented that earlier consultation with them may have avoided the situation.

Sabal Trail notified Alabama-Quassarte Tribal Town, the Chickasaw Nation, the Choctaw Nation of Oklahoma, the Coushatta Tribe of Louisiana, the Jena Band of Choctaw Indians, the Miccosukee Tribe of Indians of Florida, the Muscogee (Creek) Nation of Oklahoma, the Seminole Tribe of Florida, and Thlopthlocco Tribal Town of an inadvertent discovery at a site in Florida in August 2014. This discovery was on state land, and Sabal Trail worked with the Florida SHPO and consulted with the interested tribes. Sabal Trail is examining a reroute around the site.

In November of 2014, Sabal Trail provided the survey reports for Alabama, Georgia, and Florida to the 20 tribes. In 2015, Sabal Trail provided the evaluation reports for 11 sites in Florida and revised survey reports in Alabama and Georgia to the 20 consulting tribes. The United Keetoowah Band of Cherokee Indians concurred with the recommendations in the Florida evaluation reports. In their June 2015 comment letter for the Florida evaluation reports, the Seminole Tribe of Florida requested additional work at 2 sites. After reviewing the Florida SHPO comment letter regarding the evaluation for the 11 sites, Thlopthlocco Tribal Town concurred with the SHPO findings of no adverse effect to historic properties in a June 2015 email to Sabal Trail.

Sabal Trail provided the survey report addendum for Georgia, the Georgia SHPO comment letter for the revised survey report, and a testing report for site 8SU443, and the Florida SHPO comment letter for the 11 evaluation reports to the 20 tribes in Florida in June 2015. The Coushatta Tribe of Louisiana concurred with the Florida SHPO's comments.

3.11.4.3 Florida Southeast Connection Project

FSC sent letters to five federally recognized American Indian tribes on February 3, 2014 introducing the project, requesting tribal input, and offering to arrange a meeting with the company. In email communications, the Muscogee (Creek) Nation of Oklahoma indicated their interest in meeting with FSC, but stated that it is FERC's obligation to consult with federally recognized tribes. Two tribes, the Miccosukee Tribe of Florida and the Seminole Tribe of Florida, responded that the project was outside their area of concern. FSC met with the Seminole Tribe of Florida on November 15, 2014 in order to review the project's location through GIS shapefiles; the Tribe confirmed that the Project does not cross any areas of concern to them. Two tribes, the Poarch Band of Creek Indians and the Seminole Nation of Oklahoma, have not responded to FSC.

FSC sent the Muscogee (Creek) Nation of Oklahoma the survey report in April 2014, and plan to meet with the Tribe.

3.11.5 Unanticipated Discovery Plans

The Applicants have prepared state-specific plans for unanticipated discoveries that would be implemented in the event that cultural resources or human remains are encountered during construction (see table 2.3-2). The plans provide for the notification of interested parties, including Indian tribes, in the event of any discovery. We find the plans to be acceptable.

3.11.6 General Impacts and Mitigation

Construction and operation of the SMP Project could potentially affect historic properties (i.e., cultural resources listed in or eligible for listing in the NRHP). These historic properties could include prehistoric or historic archaeological sites, districts, buildings, structures, and objects, as well as locations with traditional value to Native Americans or other groups. Direct effects could include destruction or damage to all, or a portion, of an historic property. Indirect effects could include the introduction of visual, atmospheric, or audible elements that affect the setting or character of a historic property.

If NRHP-eligible resources are identified which cannot be avoided the applicants would prepare treatment plans for review and approval by the appropriate parties including the FERC, the SHPOs and Indian tribes. The FERC would afford the ACHP an opportunity to comment in accordance with 36 CFR 800.6. Implementation of a treatment plan would only occur after certification of the project and after the FERC provides written notification to proceed.

Compliance with section 106 of the NHPA has not been completed for the project. The Applicants have not completed cultural resources surveys and evaluations at NRHP-eligible sites or sites that have not been fully evaluated for eligibility and cannot be avoided during project activities. Consultation with the SHPOs, Indian tribes and other parties is not yet complete. To ensure that the FERC's responsibilities under the NHPA and its implementing regulations are met, **we recommend that:**

- **The Applicants should not begin implementation of any treatment plans/measures (including archaeological data recovery); construction of facilities; or use staging storage, or temporary work areas and new or to-be-improved access roads <u>until</u>:**

  a. the Applicants file with the Secretary:

    i. all survey reports, including special studies like Ground Penetrating Radar, evaluation reports and treatment plans; and

    ii. comments on survey reports, special studies, evaluation reports, and treatment plans from the Alabama, Georgia, and Florida SHPOs, as well as any comments from federally recognized Indian tribes, and other consulting parties, as applicable;

  b. the ACHP is afforded an opportunity to comment on the undertaking if historic properties would be adversely affected; and

  c. the FERC staff reviews and the Director of OEP approves all cultural resources reports and plans, and notifies the Applicants in writing that treatment plans/mitigation measures may be implemented and/or construction may proceed.

  All material filed with the Commission that contains <u>location, character, and ownership</u> information about cultural resources must have the cover and any relevant pages therein clearly labeled in bold lettering "<u>CONTAINS PRIVILEGED INFORMATION – DO NOT RELEASE</u>."

3.12 AIR QUALITY AND NOISE

3.12.1 Air Quality

This section of the EIS describes existing air quality; identifies the construction and operating emissions and projected air quality impacts; and outlines methods of compliance with regulatory requirements.

Air quality would be affected by construction and operation of the SMP Project. Section 2.1 describes the primary facilities associated with the SMP Project which include 685.5 miles of natural gas transmission pipeline, six new natural gas-fired compressor stations, and modifications at existing compressor stations (see table 2.1-1). Table 2.1-2 summarizes the primary facilities of the SMP Project by construction phase. Phase 1 (in-service 2017) would include construction of 97 percent of the pipeline facilities, four of the six new compressor stations, and modifications at two existing compressor stations. The new and modified compressor stations associated with Phase 1 generate 66 percent of the total SMP Project compression. Phase 2 (in-service 2020) would include construction of 1 percent of the pipeline facilities, two of the six new compressor stations, and modifications at two existing compressor stations. The new and modified compressor stations associated with Phase 2 generate 20 percent of the total SMP Project compression. Phase 3 (in-service 2021) would include construction of 2 percent of the pipeline facilities and modifications at two existing compressor stations, which would generate 14 percent of the total SMP Project compression. Temporary air emissions would be generated during project construction which would occur over a period of several years and across four states; however, most air emissions associated with the SMP Project would result from the long-term operation of the new and modified compressor stations. Construction and operation air emissions and mitigation measures are discussed in section 3.12.1.3.

3.12.1.1 Existing Environment

Regional Climate

The climate in the SMP Project area is humid sub-tropical and characterized by warm, humid summers and short, mild winters. There is no dry season associated with the area. The mean annual precipitation for the region averages about 4 inches per month. Precipitation is generally distributed evenly throughout the year with the exception of heavier rainfall due to tropical storms in the summer and fall months. With the exception of Georgia, there is little to no recorded annual snowfall for the project region.

In southern Alabama, southeast Mississippi, and southwest Georgia, average daily low temperatures in the mid-30s °F occur in January and average daily high temperatures in the low 90s °F occur in July. In Florida, the average daily low temperatures occur in January and range from the low 40s °F in the northern part of the state to the low 50s °F in the central area of the state. The average daily high temperatures in northern and central Florida occur in July and are in the low 90s °F.

Ambient Air Quality Standards

Ambient air quality is protected by federal and state regulations. Under the CAA, as amended in 1977 and 1990 (CAA), the EPA has established National Ambient Air Quality Standards (NAAQS) for carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO_2), particulate matter less than 10 microns (PM_{10}), particulate matter less than 2.5 microns ($PM_{2.5}$), sulfur dioxide (SO_2), and ozone. Ozone forms by a reaction between NO_x and volatile organic compounds (VOC); and as a result, ozone formation cannot be directly controlled. Limiting NO_x and VOC emissions would result in a lower potential for ozone formation. Therefore, the EPA has established limits for VOC emissions under certain air quality regulations. The NAAQS include primary standards, which are designed to protect human health,

including the health of sensitive individuals such as children and those with chronic respiratory problems. The NAAQS also include secondary standards designed to protect public welfare, including economic interests, visibility, vegetation, animal species, and other concerns not related to human health.

Individual state and local air quality control agencies may set air quality standards that are at least as stringent as the NAAQS. In Mississippi, the Mississippi Department of Environmental Quality (MDEQ) has adopted the NAAQS as defined in 40 CFR 50 in Title 11 Part 2 Rule 4.1 the Mississippi Administrative Code. In Alabama, ADEM has adopted the NAAQS in Alabama Administrative Code 335-3-1-.03. Similarly, the GEPD has adopted all of the NAAQS in Chapter 391-3-1-.2(4) of the Georgia Administrative Code for the state of Georgia. As of January 14, 2015, FDEP has repealed the previously promulgated Florida ambient air quality standards and incorporated by reference the NAAQS in F.A.C. 62-204.800. The NAAQS for the SMP Project area are summarized in table 3.12.1-1.

TABLE 3.12.1-1

Ambient Air Quality Standards in the Southeast Market Pipelines Project Area

Criterial Pollutant	Primary/ Secondary	Averaging Time	Level	Form
CO	Primary	8-hour	9 ppm (10,000 μg/m^3)	Not to be exceeded more than once per year
	Primary	1-hour	35 ppm (40.000 μg/m^3)	Not to be exceeded more than once per year
Pb	Primary	Rolling 3-month average	0.15 μg/m^3 [a]	Not to be exceeded
NO_2	Primary	1-hour	100 ppb (189 μg/m^3)	98th percentile, averaged over 3 years
	Primary and secondary	Annual	53 ppb[b] (100 μg/m^3)	Annual mean
Ozone	Primary and secondary	8-hour (2008)	0.075 ppm[c] (150 μg/m^3)	Annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years
	Primary and secondary	8-hour (1997)	0.08 ppm (157 μg/m^3)	Annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years
	Primary and secondary	1-hour	0.12 ppm (235 μg/m^3)	Annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years
$PM_{2.5}$	Primary	Annual	12 μg/m^3	Annual mean, averaged over 3 years
	Secondary	Annual	15 μg/m^3	Annual mean, averaged over 3 years
	Primary and secondary	24-hour	35 μg/m^3	98th percentile, averaged over 3 years
PM_{10}	Primary and secondary	24-hour	150 μg/m^3	Not to be exceeded more than once per year on average over 3 years
SO_2	Primary	1-hour	75 ppb[d] (195 μg/m^3)	99th percentile of 1-hour daily maximum concentrations, averaged over 3 years
	Secondary	3-hour	53 ppm (1,300 μg/m^3)	Not to be exceeded more than once per year

[a] Final rule signed October 15, 2008. The 1978 lead standard (1.5 μg/m^3 as a quarterly average) remains in effect until 1 year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

[b] The official level of the annual NO_2 standard is 0.053 ppm, equal to 53 ppb, which is shown here for the purpose of clearer comparison to the 1-hour standard.

[c] Final rule signed March 12, 2008. The 1997 ozone standard (0.08 ppm, annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years) and related implementation rules remain in place. In 1997, EPA revoked the 1-hour ozone standard (0.12 ppm, not to be exceeded more than once per year) in all areas, although some areas have continued obligations under that standard ("anti-backsliding"). The 1-hour ozone standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above 0.12 ppm is less than or equal to 1.

[d] Final rule signed June 2, 2010. The 1971 annual and 24-hour SO_2 standards were revoked in that same rulemaking. However, these standards remain in effect until 1 year after an area is designated for the 2010 standard, except in areas designated nonattainment for the 1971 standards, where the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standard are approved.

ppm = parts per million
μg/m^3 = micrograms per cubic meter
ppb = parts per billion

Air Quality Control Regions and Attainment Status

The Air Quality Control Regions (AQCRs) were established in accordance with Section 107 of the CAA as a means to implement the CAA and to comply with the NAAQS through State Implementation Plans (SIPs). The AQCRs are intra- and interstate regions such as large metropolitan areas where the improvement of the air quality in one portion of the AQCR requires emission reductions throughout the AQCR. Each AQCR, or portion thereof, is designated as attainment, unclassifiable, maintenance, or nonattainment. Areas where an ambient air pollutant concentration is determined to be below the applicable ambient air quality standard are designated attainment. Areas where the ambient air concentration is greater than the applicable ambient air quality standard are designated nonattainment. Areas where no data are available are designated unclassifiable. Unclassifiable areas are treated as attainment areas for the purpose of permitting a stationary source of pollution. Areas that have been designated nonattainment but have since demonstrated compliance with the ambient air quality standard(s) are designated maintenance for that pollutant. For permitting of stationary sources, maintenance areas are treated similarly to attainment areas. However, the state's approved maintenance plan may contain specific provisions for the permitting of stationary sources to ensure that air quality in the area would continue to comply with the NAAQS.

The SMP Project would occur in Mississippi, Alabama, Georgia, and Florida. The NAAQS designation for each county that would be crossed by the SMP Project can be found in 40 CFR 81.325, 81.301, 81.310, and 81.311, respectively. All areas in which the SMP Project would be are designated as attainment or unclassifiable for all criteria pollutants.

Air Quality Monitoring and Existing Air Quality

The EPA, state, and local agencies have established a network of ambient air quality monitoring stations to measure and track the background concentrations of criteria pollutants across the United States. Data from these stations are used to establish air quality trends and to determine initial and ongoing attainment/nonattainment designations for AQCRs. Data were obtained from representative air quality monitoring stations to characterize the background air quality in proximity to the Hillabee Expansion Project (see table 3.12.1-2), Sabal Trail Project (see table 3.12.1-3), and FSC Project (see table 3.12.1-4). The nearest or most representative data were used to characterize existing air quality in the SMP Project area.

TABLE 3.12.1-2

Ambient Air Monitoring Data in the Hillabee Expansion Project Area

Monitor Location (County. State)	CO 1-hr 2nd High (ppm) [a]	CO 8-hr 2nd High (ppm) [a]	NO_2 1-hr 98th Percentile (ppb) [a]	NO_2 Annual Max (ppb) [a]	Ozone 8-hr 4th High (ppm) [b]	$PM_{2.5}$ 24-hr 98th Percentile (µg/m³) [b]	$PM_{2.5}$ Annual Mean (µg/m³) [b]	PM_{10} 24-hr 2nd High (µg/m³) [a]	SO_2 1-hr 99th Percentile (ppb) [a]	SO_2 24-hr 2nd High (ppb) [a]
Tuscaloosa, AL	-	-	-	-	-	-	-	-	8	2
Jefferson, AL	6.4	5.7	46	4	-	-	-	-	8	2
Sumter, AL	-	-	-	-	0.067	-	-	-	-	-
Elmore, AL	-	-	-	-	0.073	-	-	-	-	-
Montgomery, AL	-	-	-	-	-	-	-	29	-	-
Shelby, AL	-	-	-	-	-	22	10	-	-	-

[a] Monitored values are listed for counties in the project area based on information available from the EPA Airdata website at: http://www.epa.gov/airdata/ad_rep_mon.html.

[b] Monitored historical ozone and $PM_{2.5}$ values obtained from ADEM air monitoring network data available on the ADEM website at: http://adem.alabama.gov/programs/air/airquality/ozone/historical.cnt.

ppm – Parts per million

ppb – Parts per billion

µg/m³ – Micrograms per cubic meter

TABLE 3.12.1-3

Ambient Air Monitoring Data in the Sabal Trail Project Area [a]

Monitor Location (County. State)	CO 1-hr 2nd High (ppm)	CO 8-hr 2nd High (ppm)	NO_2 1-hr 98th Percentile (ppb)	NO_2 Annual Max (ppb)	Ozone 8-hr 4th High (ppm)	$PM_{2.5}$ 24-hr 98th Percentile (µg/m^3)	$PM_{2.5}$ Annual Mean (µg/m^3)	PM_{10} 24-hr 2nd High (µg/m^3)	SO_2 1-hr 99th Percentile (ppb)	SO_2 24-hr 2nd High (ppb)
Clay, AL	-	-	-	-	-	16	8	-	-	-
Elmore, AL	-	-	-	-	0.061	-	-	-	-	-
Jefferson, AL	5.6	1.7	-	-	0.066	-	-	32	22	4
Montgomery, AL	-	-	-	-	-	18	8.9	27	-	-
Russell, AL	-	-	-	-	0.063	22	10.0	-	-	-
Talladega, AL	-	-	-	-	-	17	9.2	-	-	-
Bibb, GA	-	-	-	-	0.064	21	10.0	-	11	3
Coweta, GA	-	-	-	-	0.053	-	-	-	-	-
DeKalb, GA	1.3	1.2	43	9.3	-	-	-	-	6	2
Daugherty, GA	-	-	-	-	-	25	9.7	-	-	-
Lowndes, GA	-	-	-	-	-	19	8.5	-	-	-
Fulton. GA	1.7	1.2	-	-	-	-	-	-	-	
Sumter, GA	-	-	-	-	0.06	-	-	-	-	-
Paulding, GA	0.7	0.6	18	2.7	-	-	-	-	-	-
Rockdale, GA	-	-	20	4.2	-	-	-	-	-	-
Alachua, FL	-	-	-	-	0.062	16	6.8	-	-	-
Columbia, FL	-	-	-	-	0.059	-	-	-	-	-
Citrus, FL	-	-	-	-	-	16	6.8	-	-	-
Duval, FL	1.4	0.7	38	7.8	-	17	7.1	-	-	-
Hamilton, FL	-	-	-	-	-	-	-	-	26	6
Hillsborough, FL	0.8	0.4	32	4.8	-	-	-	22	68	15
Leon, FL	-	-	-	-	0.062	20	7.9	-	-	-
Marion, FL	-	-	-	-	0.061	-	-	-	-	-
Orange, FL	1.1	1.0	34	4.5	-	13	5.8	24	3	0
Osceola, FL	-	-	-	-	0.065	-	-	-	-	-
Pasco, FL	-	-	-	-	0.063	-	-	-	-	-
Pinellas, FL	1.5	0.9	34	4.6	-	-	-	26	19	3
Polk, FL	-	-	-	-	-	13	6.5	52	-	-
Putnam, FL	-	-	-	-	-	-	-	-	27	5
Sarasota, FL	-	-	15	2.2	-	-	-	-	-	-

TABLE 3.12.1-3 (cont'd)

Ambient Air Monitoring Data in the Sabal Trail Project Area [a]

Monitor Location (County. State)	CO 1-hr 2nd High (ppm)	CO 8-hr 2nd High (ppm)	NO_2 1-hr 98th Percentile (ppb)	NO_2 Annual Max (ppb)	Ozone 8-hr 4th High (ppm)	$PM_{2.5}$ 24-hr 98th Percentile (µg/m^3)	$PM_{2.5}$ Annual Mean (µg/m^3)	PM_{10} 24-hr 2nd High (µg/m^3)	SO_2 1-hr 99th Percentile (ppb)	SO_2 24-hr 2nd High (ppb)

[a] Monitor data is taken from the monitors that are nearest to the project area or the most representative of the project area, from EPA Airdata at http://www.epa.gov/airdata/ad_rep_mon.html. Because 2014 monitor data had not been officially approved by the EPA at the time of this EIS, the 2013 monitor data was used. For the counties that do not have monitor data for all of the criteria pollutants, neighboring county monitor data was used. Percentile values are based on the monitoring year (in this case 2013) rather than averaged over three years.

ppm – Parts per million

ppb – Parts per billion

µg/m^3 – Micrograms per cubic meter

TABLE 3.12.1-4

Ambient Air Monitoring Data in the FSC Project Area [a]

Monitor Location (County. State)	CO 1-hr 2nd High (ppm)	CO 8-hr 2nd High (ppm)	NO_2 1-hr 98th Percentile (ppm)	NO_2 Annual Max (ppm)	Ozone 8-hr 4th High (ppm)	$PM_{2.5}$ 24-hr 98th Percentile (µg/m^3)	$PM_{2.5}$ Annual Mean (µg/m^3)	PM_{10} 24-hr 2nd High (µg/m^3)	SO_2 1-hr 99th Percentile (ppm)	SO_2 24-hr 2nd High (ppb) [b]
Polk, FL	-	-	-	-	-	15.8	7.5	41.7	-	-
Orange, FL	1.67	1.37	0.029	0.014	0.07	-	-	-	0.0037	1.7

[a] Monitor data is taken from the monitors that are nearest to the project area or the most representative of the project area based on 2010-2012 data from EPA Airdata website at http://www.epa.gov/airdata/ad_rep_mon.html. FSC provided SO_2 data for the 3-hr averaging period, which is not a direct summary output from the EPA Airdata website. 24-hour data is provided in this table based on the representative data directly available from the Airdata website summaries.

On December 7, 2009, the EPA updated the definition of air pollution to include six well-mixed greenhouse gases (GHGs), finding that the presence of these GHGs in at the atmosphere endangers public health and public welfare currently and in the future: CO_2, methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. As a result, these GHGs are subject to New Source Review regulations under the CAA.

As with any fossil-fuel fired project or activity, the SMP Project would contribute GHG emissions. The principle GHGs that would be produced by the SMP Project are CH_4, CO_2, and N_2O. No fluorinated gases would be emitted by the SMP Project. Emissions of GHGs are typically estimated as carbon dioxide equivalents (CO_{2e}). The CO_{2e} unit of measure takes into account the global warming potential (GWP) of each GHG. The GWP is a ratio relative to CO_2 that is based on the properties of the GHG's ability to absorb solar radiation as well as the residence time within the atmosphere. Thus, CO_2 has a GWP of 1, CH_4 has a GWP of 25, and N_2O has a GWP of 298. The CO_{2e} of a GHG is equal to the product of the mass of the particular gas multiplied by its corresponding GWP. Total GHG emissions are equal to the sum of the individual CO_{2e} values. In compliance with EPA's definition of air pollution to include GHGs, we have provided estimates of GHG emissions for construction and operation, as discussed throughout this section. Impacts from GHG emissions (climate change) are discussed in more detail in section 3.14.3.

3.12.1.2 Regulatory Requirements for Air Quality

The CAA, as amended in 1977 and 1990, is the basic federal statute governing air pollution. The provisions of the CAA that are potentially relevant to the SMP Project include the following:

- New Source Review (NSR);
- PSD;
- Nonattainment New Source Review (NNSR);
- Title V Operating Permits;
- NSPS;
- National Emission Standards for Hazardous Air Pollutants for Source Categories (NESHAP);
- Chemical Accident Prevention Provisions;
- General Conformity;
- GHG Reporting Rule; and
- State Regulations.

Stationary source permitting regulations are potentially applicable to all of the new compressor stations; Transco's modified Compressor Stations 95 and 105; and Sabal Trail's new FGT Hunters Creek M&R Station. The regulatory applicability of these sources are summarized below. The other M&R stations as well as MLVs and pig launchers/receivers generate much lower emissions in the form of natural gas from equipment leaks or periodic releases (such as blowdowns). Therefore, none of the other

M&R stations or minor aboveground facilities associated with the SMP Project would be subject to stationary source permitting regulations.

New Source Review

Proposed new or modified air pollutant emissions sources must undergo an NSR permitting process prior to construction or operation. Through the NSR permitting process, local, state, and federal regulatory agencies review and approve project construction plans, regulate pollutant increases or changes, emissions controls, and other details. The agencies then issue construction permits that include specific requirements for emissions control equipment and operating limits. The three basic categories of NSR permitting are PSD, NNSR, and minor source NSR. Federal preconstruction review for affected sources in attainment or unclassifiable areas is called PSD. Federal preconstruction review for affected sources in nonattainment areas is called NNSR and contains stricter thresholds and requirements.

All of the new compressor stations; Transco's modified Compressor Stations 95 and 105; and Sabal Trail's new FGT Hunters Creek M&R Station would be in areas designated attainment or unclassifiable and, therefore, the Hillabee Expansion Project and the Sabal Trail Project would potentially be subject to PSD regulations. None of the SMP Project would be located in nonattainment areas; therefore, NNSR would not apply. The SMP Project components would be potentially subject to state minor source permitting.

Prevention of Significant Deterioration

The PSD regulations, codified in 40 CFR 52.21, apply to new major sources or major modifications at existing sources in attainment areas or in areas that are unclassifiable. PSD is intended to keep new air emission sources from causing the existing air quality to deteriorate beyond acceptable levels. Under PSD regulations, a major source is any source type belonging to a list of 28 named source categories that emit or have the potential to emit (PTE) of 100 tons per year (tpy) or more of any regulated pollutant. Additionally, source categories not named on this list are considered major if the facility emits or has the PTE 250 tpy or more of any criteria pollutants.

Natural gas compressor stations are not among the 28 listed source categories; therefore, the 250 tpy major source threshold would apply to the SMP Project compressor stations. A major modification is a physical change or a change in the method of operation at an existing major source facility that causes emissions of criteria pollutants to increase in excess of any of the following Significant Emission Rates: 100 tpy for CO; 40 tpy for NO_X, VOC, or SO_2; 15 tpy for PM_{10}; or 10 tpy for $PM_{2.5}$. At an existing minor source facility, PSD review is triggered if the project-related emissions increase is, by itself, a major source (i.e., greater than the major source threshold).

On May 13, 2010, the EPA tailored the applicability criteria for stationary sources and modification projects, resulting in the PSD GHG Tailoring Rule. However, on June 23, 2014, the U.S. Supreme Court ruled that the EPA cannot require PSD permitting based solely on GHG emissions, striking down a portion of the rule. For existing PSD major sources, the major modification threshold would be 75,000 tpy CO_{2e}.

Transco's existing Compressor Stations 95 and 105 are not currently subject to PSD, and the emissions increase from the Hillabee Expansion Project would be below 250 tpy for each station. Therefore, neither of the station modifications would be subject to PSD review. However, after the proposed modifications, Compressor Station 105 would be classified as a PSD major source. The PTE of all criteria pollutants from the new Transco and Sabal Trail compressor stations and Sabal Trail's FGT Hunters Creek M&R Station would be below the 250 tpy threshold; therefore, these sources would not

be subject to PSD review. Total PTE for the existing equipment and new equipment are shown in tables 3.12.1-8, 3.12.1-9, 3.12.10, and 3.12.1-12.

During the PSD review process, the potential impact of a project on protected Class I areas must also be considered. Areas of the country are categorized as Class I, Class II, or Class III, where Class I areas are designated as pristine natural areas or areas of natural significance, including wilderness areas and national parks, and are afforded special protection under the CAA. If a facility is subject to PSD requirements and near a Class I area, the facility is required to notify the appropriate federal officials and assess the impacts of the facility on the Class I area to ensure pristine air quality is maintained. Since none of the SMP Project facilities would be subject to PSD review, this requirement is not triggered for the SMP Project.

Title V Operating Permits

The Title V permit program, as described in 40 CFR 70, requires sources of air emissions to obtain federal operating permits if their criteria pollutant emissions reach or exceed the Title V major source threshold. Title V permits list all applicable air regulations and include a compliance demonstration for each applicable requirement. The major source thresholds in attainment areas are 100 tpy of CO, NO_x, SO_2, VOC, PM_{10}, or $PM_{2.5}$; 10 tpy of any individual hazardous air pollutant (HAP); or 25 tpy HAPs in aggregate.

On May 13, 2010, the EPA issued the Title V GHG Tailoring Rule, which established Title V permitting requirements and thresholds for GHG. On June 23, 2014, the U.S. Supreme Court ruled that a facility may not be required to obtain a Title V permit based solely on GHG emissions; however, if a facility is a major stationary source based on the PTE of other regulated pollutants, a Title V permit may include permit requirements for GHG, such as Best Available Control Technology limits or compliance assurance monitoring.

Transco's Compressor Station 95 and Compressor Station 105 are existing Title V major sources for NO_x, CO, and GHG and currently operate under Major Source Operating Permit Numbers 104-0031 and 306-0009, respectively. The facilities would remain subject to the Title V program upon completion of the Hillabee Expansion Project. Alabama rules require that an application for a significant modification to an existing Title V operating permit be submitted within 12 months of commencing operation. Transco would submit a modification to the current operating permit for both facilities within the proper timeframe.

As shown in tables 3.12.1-10 and 3.12.1-12, the PTE at the new SMP Project compressor stations and the new FGT Hunters Creek M&R station would not exceed the Title V major source threshold for any regulated pollutant. Therefore, these facilities would not be required to obtain Title V Operating Permits and would only be required to obtain state operating permits.

New Source Performance Standards

The NSPS, codified in 40 CFR Part 60, govern emission rates and provide other requirements for new or significantly modified sources. NSPS requirements include emission limits, monitoring, reporting, and record keeping. The following NSPS requirements were identified as potentially applicable to the SMP Project.

NSPS Subpart Dc, *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units*, applies to all steam generating units with a heat capacity of 29 MW (100 million British thermal units per hour (MMBtu/hr)) or less and greater than 2.9 MW (10 MMBtu/hr). The heater

proposed at the FGT Hunters Creek M&R station would be subject to the requirements of NSPS Subpart Dc.

NSPS Subpart JJJJ, *Standards of Performance for Stationary Spark Ignition Internal Combustion Engines*, applies to manufacturers and owner/operators of spark ignition internal combustion engines manufactured after the applicability date stated in the rule for the particular type and size engine. The SMP Project would include new natural gas-fired spark ignition internal combustion emergency generators at several of the compressor stations. These engines would be subject to NSPS Subpart JJJJ. Transco and Sabal Trail would comply with the applicable emission standards and operational, monitoring, recordkeeping, and reporting requirements of NSPS Subpart JJJJ by installing certified engines or by performing performance testing on an uncertified engine, and would use a non-resettable hour meter to track engine run time and the reason for use.

NSPS Subpart KKKK, *Standards of Performance for Stationary Combustion Turbines*, applies to manufacturers and owner/operators of gas turbines with heat input rating exceeding 10 MMBtu/hr that was constructed, reconstructed, or modified after February 18, 2005 for the particular type and size gas turbine. Subpart KKKK regulates emissions of NO_X and SO_2. Turbines meeting these criteria would be installed at Transco Compressor Stations 95 and 105 and all of the new compressor stations. Transco and Sabal Trail would be required to comply with applicable emission limits and monitoring, reporting, and testing requirements of this subpart. Compliance with the NO_X emission limit set in this subpart would be demonstrated by compliance testing according to the schedule and requirements of this subpart. Additionally, NO_X emissions from the proposed turbines would be minimized using low NO_x burners. The SO_2 emission limit would be achieved through the combustion of only pipeline quality natural gas with a maximum total sulfur concentration of 20 grains per dry standard cubic feet. Transco and Sabal Trail would operate and maintain the turbines, air pollution control equipment, and monitoring equipment in a manner consistent with good air pollution control practices for minimizing emissions at all times including during startup, shutdown, and malfunction.

National Emission Standards for Hazardous Air Pollutants

The NESHAPs, codified in 40 CFR Parts 61 and 63, regulate the emissions of HAPs from existing and new sources. Part 61 was promulgated prior to the 1990 CAA Amendments and regulated eight types of hazardous substances: asbestos, benzene, beryllium, coke oven emissions, inorganic arsenic, mercury, radionuclides, and vinyl chloride. As a result of the SMP Project, Transco and Sabal Trail are not expected to operate any processes that are regulated by Part 61.

The 1990 CAA Amendments established a list of 189 HAPs, resulting in the promulgation of Part 63. Part 63, also known as the Maximum Achievable Control Technology (MACT) standards, regulates HAP emissions from major sources of HAP emissions and specific source categories that emit HAPs. Some NESHAPs may apply to non-major sources (area sources) of HAPs. The major source thresholds for the purpose of NESHAP applicability are 10 tpy of any single HAP or 25 tpy of all HAPs in aggregate. All of the new compressor stations; Transco's modified Compressor Stations 95 and 105; and Sabal Trail's FGT Hunters Creek M&R Station would be considered area sources for HAPs after completion of the SMP Project.

The following discussion addresses MACT regulations that may be applicable to the SMP Project. In addition to the source type-specific regulations below, any source which is subject to a subpart of 40 CFR 63 is also subject to the general provision of NESHAP Subpart A, unless otherwise noted in the applicable subpart.

Subpart ZZZZ, *NESHAP for Reciprocating Internal Combustion Engines* (RICE), requires new engines at an area source of HAPs that are subject to NSPS Subpart JJJJ or NSPS Subpart IIII to meet the requirements of the applicable NSPS. The proposed natural gas-fired spark ignition internal combustion emergency generators to be installed as part of the SMP Project would be subject to Subpart ZZZZ, which requires compliance with NSPS Subpart JJJJ. The method of compliance with NSPS Subpart JJJJ is discussed above.

Chemical Accident Prevention Provisions

The chemical accident prevention provisions, codified in 40 CFR 68, are federal regulations designed to prevent the release of hazardous materials in the event of an accident and minimize potential impacts if a release does occur. The regulations contain a list of substances and threshold quantities for determining applicability to stationary sources, including CH_4, propane, and ethylene in amounts greater than 10,000 pounds. If a stationary source stores, handles, or processes one or more substances on this list in a quantity equal to or greater than that specified in the regulation, the facility must prepare and submit a risk management plan (RMP). An RMP is not required to be submitted to the EPA until the chemicals are stored on-site at the facility.

If a facility does not have a listed substance on site, or the quantity of a listed substance is below the applicability threshold, the facility is not required to prepare an RMP. In the latter case, the facility still must comply with the requirements of the general duty provisions in Section 112(r)(1) of the 1990 CAA Amendments if there is any regulated substance or other extremely hazardous substance on-site. The general duty provision is as follows:

"The owners and operators of stationary sources producing, processing, handling and storing such substances have a general duty to identify hazards which may result from such releases using appropriate hazard assessment techniques, to design and maintain a safe facility, taking such steps as are necessary to prevent releases, and to minimize the consequences of accidental releases which do occur."

Chemicals regulated by this rule, including CH_4 and ethane, would be produced, processed, handled, or stored at all of the new and modified compressor stations and new M&R stations associated with the SMP Project. However, natural gas transmission facilities are not subject to the RMP regulations if they are subject to DOT requirements or to a state natural gas program certified by DOT. As such, the SMP Project facilities are not subject to the RMP regulations.

General Conformity

The General Conformity Rule is codified in Title 40 CFR Part 51, Subpart W and Part 93, Subpart B, Determining Conformity of General Federal Actions to State or Federal Implementation Plans. A conformity determination must be conducted by the lead federal agency if a federal action's construction and operational activities is likely to result in generating direct and indirect emissions that would exceed the conformity threshold for the minimum levels of the pollutant(s) for which an air basin is classified nonattainment or maintenance. According to the conformity regulations, emissions from sources that are major for any criteria pollutant with respect to the NNSR or PSD permitting/licensing are exempt and are deemed to have conformed.

Section 176(c)(1) of the CAA (Title 40 CFR 93), states that a federal agency cannot approve or support any activity that does not conform to an approved SIP. Conforming activities or actions should not, through additional air pollutant emissions:

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

As noted earlier, the SMP Project occurs in areas classified as being in attainment or unclassifiable. Therefore, project activities are not subject to General Conformity Regulations.

Greenhouse Gas Reporting Rule

On September 22, 2009, the EPA issued the final Mandatory Reporting of Greenhouse Gases Rule (GHGRP). This rule requires reporting of operational GHG emissions from suppliers of fossil fuels and facilities that emit greater than or equal to 25,000 metric tpy of GHG (reported as CO_{2e}). On November 8, 2010, the EPA signed a rule that finalizes GHG reporting requirements for the petroleum and natural gas industry under Subpart W of 40 CFR Part 98. Onshore natural gas transmission compression facilities are considered part of the source category regulated by Subpart W. Therefore, the rule applies to the SMP Project's new and modified compressor stations.

The GHGRP does not require emission control devices and is strictly a reporting requirement for stationary sources. If the actual operational emissions from compressor stations are greater than 25,000 metric tpy, Transco and Sabal Trail would be required to comply with all applicable reporting requirements of 40 CFR Part 98.

State Regulations

Transco and Sabal Trail would be required to obtain an air quality permit from the applicable air permitting authority for the new compressor stations and Transco's modified Compressor Stations 95 and 105. The process of obtaining the air permit would involve the review and implementation of state regulations, inclusive of requirements for PSD, as applicable. As discussed below, the M&R stations are not likely to require air quality permits. However, the final permitting applicability would be determined by the jurisdictional agency.

The state regulations summarized below are those that would establish emission limits or other restrictions that may be in addition to those required under federal regulations. State regulations that are not applicable to the SMP Project are not discussed in the following summary.

<u>Mississippi</u>

The only SMP Project activity in Mississippi would be Transco's use of an approximately 8-acre previously disturbed site in Lauderdale County to support construction of the Hillabee Expansion Project. The MDEQ is the lead permitting authority for air permitting in Mississippi. No permanent air emission sources would be constructed at this site. Construction activities would be temporary and intermittent. The MDEQ air rules are codified in Title 11, Part 2 of the Mississippi Administrative Code (Title 11 MAC Part 2). Each potentially applicable rule is summarized below.

Title 11 MAC Part 2 Rule 1.3.C – *General Nuisances*, generally prohibits emissions of particulate emissions in sufficient amounts as to be a public nuisance or create a condition of air pollution and prohibits unnecessary amounts of particulate matter from handling, transporting, or storage of a material.

Transco would be required to abide by this regulation during the construction phase of the project. Construction emissions would be minimized through the use of dust mitigation measures, as needed.

Title 11 MAC Part 2 Rule 1.3.G – *Open Burning*, sets forth conditions for open burning of land clearing debris. Any open burning conducted at the Meridian yard would have to comply with the requirements of this rule.

Alabama

The ADEM is the lead air permitting authority for Alabama air permitting requirements as codified in Division 335 of the *Alabama Department of Environmental Management Administrative Code – Air Pollution Control Program* (ADEM Admin. Code Rule 335-3). For the purposes of the Alabama air pollution control program, counties in Alabama are designated as either Class I or Class II. Class II counties are counties in which more than 50 percent of the county population resides in a non-urban place, as defined by the U.S. Department of Commerce Census Bureau for 1970, and no secondary National Ambient Air Quality Standards are being exceeded, based on 1971 air quality measurements. Class I counties are counties in which the conditions of Class II counties are not met. Elements of the SMP Project occur in Autauga, Lee, and Russell Counties, which are designated as Class I counties, as well as in Choctaw, Marengo, Perry, Dallas, Chilton, Coosa, Tallapoosa, and Chambers Counties, which are designated as Class II counties.

ADEM Admin. Code Rule 335-3-2 – *Air Pollution Emergency*, requires that any person responsible for the operation of a source of air contaminants as determined by the Director shall prepare standby plans for reducing the emissions of air contaminants during periods of an Episode Alert, Warning, and Emergency. Standby plans for Transco's new Compressor Station 84 and modified Compressor Stations 95 and 105, as well as Sabal Trail's Alexander City Compressor Station and Transco Hillabee M&R Station, would be designed to reduce or eliminate emissions of air contaminants in accordance with the objectives set forth in rule 335-3-2-.04.

ADEM Admin. Code Rule 335-3-3 – *Open Burning*, sets forth conditions for open burning of vegetation or untreated wood generated by clearing or maintaining land, or from demolition or operations conducted for certain activities, including: the erection of any structure; construction of any transportation, utility, or communications line; and maintenance of rights-of-way. Any open burning conducted as part of the Hillabee Expansion Project and Sabal Trail Project would comply with the requirements of this section.

ADEM Admin. Code Rule 335-3-4-.01 – *Visible Emissions*, states that no person shall discharge into the atmosphere from any source, particulate of an opacity greater than that designated as twenty percent opacity, as determined by a six (6) minute average and outlines compliance methods, monitoring requirements and work practice standards. This limit would apply to emission units at Compressor Station 84, modified Compressor Stations 95 and 105, and the Alexander City Compressor Station. Transco and Sabal Trail would comply by with this regulation by combusting exclusively pipeline-quality natural gas.

ADEM Admin. Code Rule 335-3-4-.02 – *Fugitive Dust and Fugitive Emissions*, requires reasonable precautions to prevent fugitive dust and PM emissions from becoming airborne during construction and operation of a source. Transco and Sabal Trail would be required to abide by this regulation during both the construction and operational phases of their respective projects. Construction emissions would be minimized through the use of dust mitigation measures, as needed. Operational dust emissions would be minimal due to the types of emission sources (natural gas combustion).

ADEM Admin. Code Rule 335-3-4-.03 – *Fuel Burning Equipment,* sets PM limits based on the location, date of installation and rated capacity for fuel burning equipment. New fuel burning equipment is subject to paragraph (1) of this rule, regardless of location. Fuel burning equipment is basically any equipment that burns fuel primarily for indirect heating of a heat transfer medium. As such, this rule does not appear to apply to the proposed combustion turbines at Compressor Stations 84, 95, and 105 nor those at the Alexander City Compressor Station. However, if this rule did apply to these units, they would comply with the PM limits set forth in this rule by combusting exclusively pipeline quality natural gas.

ADEM Admin. Code Rule 335-3-5-.01 – *SO_2 from Fuel Combustion,* limits sulfur compound emissions from sources based on size, location, and installation date. The applicable facilities would comply with this regulation by exclusively burning pipeline quality natural gas.

ADEM Admin. Code Rule 335-3-14 – *Permits,* requires that any project meeting applicability thresholds would be required to submit applications for the appropriate air quality permits at least 10 days prior to initiating construction. Public notice is required for any permit application for construction at a greenfield site. Transco has applied for the necessary construction permits for Compressor station 84, 95, and 105. ADEM does not have a specific list of source categories that are exempt from air permitting. Therefore, a case-by-case determination is needed for the Transco Hillabee M&R Station. If a permit is required for this small source of air emissions, Sabal Trail would request inclusion of this M&R station with the Alexander City Compressor Station permit.

Georgia

The GEPD is the lead air permitting authority for Sabal Trail's proposed Albany Compressor Station. Georgia air permitting requirements are codified in Georgia Rules for Air Quality Control (GRAQC), chapter 391-3-1.

GRAQC Rule 391-3-1-.02(2)(b) - *Visible Emissions,* restricts the opacity of emissions from direct sources of emissions to less than 40 percent, except sources that are subject to some other emission limitation in this subpart. The fuel gas heaters are the only equipment subject to this regulation because the turbines and generators don't meet the definition of fuel-burning equipment (i.e., their primary purpose is not to generate thermal energy for indirect heat transfer). The fuel gas heaters are subject to a more stringent opacity limit under Rule (d); summarized below.

GRAQC Rule 391-3-1.02(2)(d) - *Fuel-Burning Equipment,* establishes PM, NO_x and opacity limits based on heat input to fuel burning equipment and date of installation. The proposed fuel gas heaters at the Albany Compressor Station would be subject to this regulation. Sabal Trail would comply with this rule by combusting only pipeline quality natural gas in the fuel gas heaters.

GRAQC Rule 391-3-1.02(2)(g) - *Sulfur Dioxide,* establishes SO_2 emission limits for large fuel burning sources and for smaller sources, sets a limit on the sulfur content of fuels to 2.5 percent by weight. The emission units included in the SMP Project would comply with this rule by combusting only pipeline quality natural gas or other fuels containing sulfur equivalent of less than 2.5 percent by weight. Compliance with this rule is supported by the tariff for the natural gas used in the proposed emission units, which defines a maximum sulfur content of 20 grains per 100 dry standard cubic feet. This concentration is significantly less than 2.5 percent weight limit imposed by this rule; therefore, compliance with this rule would be achieved on a continuous basis.

GRAQC Rule 391-3-1-.02(2)(n) – *Fugitive Dust,* requires facilities to take reasonable precautions to prevent fugitive dust from becoming airborne. Sabal Trail would be required to comply with this regulation during both the construction and operation of the Albany Compressor Station.

GRAQC Rule 391-3-1-.03 – *Permits*, requires that any project meeting applicability thresholds would be required to obtain an air quality permit prior to initiating construction. Potential emissions from the Albany Compressor Station exceed the applicability threshold[17] and therefore a construction permit application would be required. Sabal Trail has applied for the appropriate SIP permit for the Albany Compressor Station.

GRAQC Rule 391-3-1-.03(6)(b) – *Exemptions – Combustion Equipment*, provides an exemption from SIP (state minor source) permitting for fuel-burning equipment having total heat input capacity of less than 10 million BTUs per hour burning only natural gas, LPG and/or distillate fuel oil containing 0.50% sulfur by weight or less. A second exemption applies to engines used exclusively as emergency generators. These exemptions do not extend to the emission limits and standards in GRAQC Rule 391-3-1-.02 and potential emissions from exempt units must be included with determining major source applicability. The natural gas fired emergency generator and fuel heaters proposed at the Albany Compressor Station would meet these requirements and therefore be exempt from SIP permitting requirements.

Florida

The FDEP is the lead permitting authority for air emission sources in Florida. Florida air permitting requirements are codified in F.A.C. Chapter 62 (Florida Air Rules). A state air construction permit is not required for any facility, emissions unit or pollutant-emitting activity that satisfies the applicable permitting exemption criteria of F.A.C. Rule 62-210.300(3)(a) or (b). Rule 62-210.300(3)(b)(1) establishes a series of criteria that must be met in order for a source to be exempt from air permitting. Based on a review of these criteria, the Florida M&R stations (with the exception of the Hunters Creek M&R Station) appear to meet these criteria and would not be required to obtain state air quality permits. Sabal Trail's proposed Hildreth, Dunnellon, and Reunion Compressor Stations and the FGT Hunters Creek M&R Station; however, would be required to obtain state air quality permits.

The Sabal Trail Project and FSC Project are subject to regulations contained in F.A.C. Chapter 62. F.A.C Rule 62-256.700 – *Open Burning Allowed*, which allows for open burning of land clearing debris provided that certain conditions are met. Several counties affected by the projects have specific open burning regulations and local fire chiefs have the authority to prohibit burning in periods of drought or other potentially hazardous circumstances. Sabal Trail and FSC would be required to comply with all applicable state and local rules and procedures when conducting open burning.

F.A.C Rule 62-296.320(1) – *General VOC Emissions Standard*, prohibits the storing, pumping, handling, processing, loading, unloading or using in any process or installation, volatile organic compounds or organic solvents without applying known and existing vapor emission control devices or systems deemed necessary and ordered by the FDEP. VOC emissions would be produced during regular operation of Sabal Trail compressor stations. Therefore, Sabal Trail would be required to implement known control devices and procedures to minimize VOC emissions.

F.A.C Rule 62-296.320(4)(b) – *General Visible Emissions Standard*, restricts the opacity of emissions from any activity to less than 20 percent. This limit would apply to the proposed gas turbine compressor sets, emergency generators, heaters, and other fuel burning sources at Sabal Trail's compressor stations and FGT Hunters Creek M&R Station. Sabal Trail would comply with this limit by combusting exclusively pipeline quality natural gas.

[17] Sources are exempt from permitting if potential emissions are below the rates identified in GRAQC 391-3-1-.03(6)(i).

F.A.C Rule 62-297.310 – *General Emissions Test Requirements*, identifies applicability requirements, acceptable test methods, and testing schedule for compliance testing. Specific requirements would be identified, as applicable, in the air operating permit issued for Sabal Trail's compressor stations and FGT Hunters Creek M&R Station. Sabal Trail would be required to demonstrate compliance with emission limits by performing compliance testing as identified in this rule and in each applicable air permit.

3.12.1.3 Air Quality Impacts and Mitigation

Air quality would be affected by construction and operation of the SMP Project. Emissions would be generated during project construction, which would occur intermittently over a period of five years and across four states. Following construction, air quality would transition to operational emissions after commissioning and initial startup of the SMP Project facilities.

Construction Impacts and Mitigation

Construction of the SMP Project facilities would result in intermittent and short-term increases in emissions of air pollutants. This would include combustion emissions from the use of fossil fuel-fired construction equipment, emissions from open burning, and fugitive dust from construction vehicle movement and soil disruption activities such as trenching and backfilling. There would be some temporary indirect emissions attributable to construction workers commuting to and from work sites; trucks transporting construction materials; and on-road and off-road construction vehicle traffic. Construction emissions estimated for the SMP Project are summarized in tables 3.12.1-5 through 3.12.1-7.

TABLE 3.12.1-5

Estimated Construction Emissions for the Hillabee Expansion Project

	Emissions (tons/year)						
Year/Activity	SO_2	PM_{10}	$PM_{2.5}$	NOx	CO	VOC	CO_2e
2016							
Fugitive Dust	0	209.21	16.68	0	0	0	0
Construction Equipment	3.60	8.97	8.69	100.92	127.52	10.95	18,663.14
Commuting Vehicles	0.00	0.11	0.05	1.98	31.20	1.85	4,274.90
Open Burning	0	0	0	0	0	0	0
2016 Total	3.60	218.29	25.42	102.90	158.72	12.80	22,938.04
2019							
Fugitive Dust	0	79.85	13.53	0	0	0	0
Construction Equipment	1.67	4.12	4.00	46.74	58.78	5.00	8,661.50
Commuting Vehicles	0.00	0.05	0.02	0.88	13.89	0.83	1,946.24
Open Burning	0	0	0	0	0	0	0
2019 Total	1.67	84.02	17.55	47.62	72.67	5.83	10,607.74
2020							
Fugitive Dust	0	60.22	5.42	0	0	0	0
Construction Equipment	1.58	3.89	3.76	44.77	52.84	4.64	8,205.30
Commuting Vehicles	0.00	0.05	0.02	0.85	13.76	0.78	1,746.82
Open Burning	0	0	0	0	0	0	0
2020 Total	1.58	64.16	9.20	45.62	66.60	5.42	9,952.12

TABLE 3.12.1-6

Estimated Construction Emissions for the Sabal Trail Project

Year/Activity	Emissions (tons/year)						
	SO_2	PM_{10}	$PM_{2.5}$	NO_x	CO	VOC	CO_{2e}
2016							
Fugitive Dust	0	888.2	88.8	0	0	0	0
Construction Equipment	1	26.3	26.3	454.6	1203.4	61.7	111,924
Commuting Vehicles	0.3	0.3	0.3	24.8	226.3	8.8	16,286
Open Burning	0	269.4	269.4	63.4	2218.3	380.3	50,387
2016 Total	1.3	1184.2	384.8	542.8	3648	450.8	178597
2017							
Fugitive Dust	0	182.7	18.3	0	0	0	0
Construction Equipment	0.2	4.1	4.1	68.4	287.3	11.2	17,406
Commuting Vehicles	0.1	0.1	0.1	4.5	41.7	1.6	2,996
Open Burning	0	47.6	47.6	11.2	391.8	67.2	8,901
2017 Total	0.3	234.5	70.1	84.1	720.8	80	29303
2019							
Fugitive Dust	0	61.4	6.1	0	0	0	0
Construction Equipment	0.06	0.9	0.9	16.8	70.1	3.1	5,064
Commuting Vehicles	0.02	0.02	0.02	1.2	10.4	0.4	780
Open Burning	0	3.5	3.5	0.8	28.5	4.9	647
2019 Total	0.08	65.82	10.52	18.8	109	8.4	6491
2020							
Fugitive Dust	0	31.0	3.1	0	0	0	0
Construction Equipment	0.02	0.3	0.3	5.6	27.4	1.1	1,566
Commuting Vehicles	0.004	0.01	0.01	0.3	2.9	0.1	215
Open Burning	0	0	0	0	0	0	0
2020 Total	0.024	31.31	3.41	5.9	30.3	1.2	1781
2021							
Fugitive Dust	0	42.4	4.2	0	0	0	0
Construction Equipment	0.05	0.7	0.7	13.3	56.7	2.4	3,920
Commuting Vehicles	0.01	0.01	0.01	1.0	8.1	0.3	607
Open Burning	0	0	0	0	0	0	0
2021 Total	0.06	43.11	4.91	14.3	64.8	2.7	4527

TABLE 3.12.1-7

Estimated Construction Emissions for the Florida Southeast Connection Project

Year/Activity	Emissions (tons/year)							
	CO	NO_x	SO_2	VOC	PM_{10}	$PM_{2.5}$	CO_2	CO_2e
2016								
Construction Equipment	193.51	134.01	0.21	15.46	7.77	7.76	30,044	30,295
Commuting	11.49	24.32	0.07	1.51	0.99	0.96	9,484	9,491
Fugitive Dust	--	--	--	--	163.27	18.79	--	--
Open Burning	275.70	7.80	--	47.30	33.60	33.60	6,219	6,251
2016 Total	480.7	166.1	0.3	64.3	205.6	61.1	45,747	46,037
2017								
Construction Equipment	84.24	58.74	0.10	6.99	3.38	3.37	14,818	14,942
Commuting	5.21	10.58	0.04	0.67	0.42	0.41	4,734	4,738
Fugitive Dust	--	--	--	--	81.64	9.39	--	--
Open Burning	137.85	3.91	--	23.66	16.82	16.82	3,109	3,125
2017 Total	227.3	73.2	0.1	31.3	102.3	30.0	22,661	22,805

Fugitive dust would result from land clearing, grading, excavation, concrete work, and vehicle traffic on paved and unpaved roads. The quantity of fugitive dust generated by construction-related activities depends on several factors, including the size of area disturbed; nature and intensity of construction activity; surface properties (such as the silt and moisture content of the soil); wind speed; and the speed, weight, and volume of vehicular traffic. Tables 3.12.1-5 through 3.12.1-7 include the estimated emissions associated with fugitive dust generation.

Open burning of debris generated during construction would also have the potential to impact air quality. Mississippi, Alabama, Georgia, and Florida each regulate open burning through local permitting processes, and the Applicants would be required to comply with applicable regulations.

The Applicants would implement measures to control fugitive dust emissions. Transco and Sabal Trail prepared separate Dust Control Plans and FSC described how it would control fugitive dust in other application materials. Emission reduction measures such as water suppression, covering truckloads during transit, limiting on-site vehicle speed, vehicle rinsing, and measures to reduce track-out on public roads may be used. The Applicants would also provide advanced notification to affected landowners prior to commencing construction in their area to allow landowners to limit exposure to fugitive dust or construction equipment emissions. We have reviewed the Dust Control Plans and procedures and found them to be sufficient. We received a comment from the EPA requesting that the Applicants consider diesel emission reduction measures. Such voluntary measures, as described by the EPA's National Clean Diesel Campaign,[18] include: proper engine maintenance; retrofit technologies; engine repair, rebuild, or repower; vehicle or equipment replacement; operational strategies and idle reduction; and cleaner fuels. It would be the responsibility of the owner to ensure that construction equipment meets current diesel fuel standards and ensure proper engine maintenance and repair. However, the Applicants are committed to use reasonable efforts to reduce emissions by limiting the idling of engines when the construction equipment is not in use and would monitor the contractor's compliance with this measure using its environmental inspectors or other construction inspection staff.

Construction of the SMP Project would occur over several years and across four states, although pipeline construction at any given location would generally last from 6 to 12 weeks. Construction at aboveground facilities and the use of construction support areas would occur over a longer period of time, but at specific locations. Therefore, most construction related emissions would be temporary and localized, and would dissipate with time and distance from areas of active construction. In addition, the Applicants would implement measures to further reduce fugitive dust emissions during construction.

Operational Impacts and Mitigation

Hillabee Expansion Project

The Hillabee Expansion Project would include the installation and operation of the following new stationary point sources of air pollutants.

New Compressor Station 84, which would consist of:

- two natural gas-fired Solar Mars 100 turbine compressor units, each nominally rated at 16,000 hp;

[18] Details on the National Clean Diesel Campaign can be found on the EPA's website at http://www.epa.gov/cleandiesel/basicinfo.htm. Information on the EPA's recommended reduction technologies can be found at http://www.epa.gov/cleandiesel/technologies/.

- one natural gas-fired emergency generator, rated at 1,060 hp; and
- insignificant and/or fugitive emissions, including fugitive leaks from piping components, gas release events, storage tanks, vessels, truck loading, and parts washing.

Modifications to Compressor Station 95, which would consist of:

- two natural gas-fired Solar Mars 100 turbine compressor units, each nominally rated at 16,000 hp;
- one Waukesha natural gas-fired emergency generator, rated a 1,060 hp; and
- insignificant and/or fugitive emissions, including fugitive leaks from piping components, gas release events, storage tanks, vessels, truck loading, and parts washing.

Modifications to Compressor Station 105, which would consist of:

- one natural gas-fired Solar Titan turbine compressor unit, nominally rated at 20,500 hp;
- one Waukesha natural gas-fired emergency generator, rated a 1,060 hp; and
- insignificant and/or fugitive emissions, including fugitive leaks from piping components, gas release events, storage tanks, vessels, truck loading, and parts washing.

Operation of the project facilities at Compressor Stations 84, 95, and 105 would result in air emissions increases over existing emissions levels. Emission calculations have been submitted to ADEM through the air permit application process. The PTE of the currently operating equipment and additional emissions resulting from the proposed actions are summarized in tables 3.12.1-8, 3.12.1-9, and 3.12.1-10. Compressor Station 84 would be a new facility; therefore, no existing emissions are associated with the site.

TABLE 3.12.1-8

Summary of Existing Equipment Potential to Emit – Hillabee Expansion Project

	Emissions (tons/year)						
Site	SO_2	PM_{10} / $PM_{2.5}$	NO_x	CO	VOC	Total HAP	CO_{2e}
Compressor Station 95	3.50	8.20	115.00	141.00	17.40	2.55	137,647
Compressor Station 105	5.40	10.60	220.20	215.10	41.20	1.27	178,160
Title V Major Source Threshold	100	100	100	100	100	15/25	NA

NA = Not Applicable

TABLE 3.12.1-9

Summary of Proposed Modifications (New Sources) Potential to Emit – Hillabee Expansion Project

	Emissions (tons/year)						
Site	SO_2	PM_{10} / $PM_{2.5}$	NO_x	CO	VOC	Total HAP	CO_{2e}
Compressor Station 84	3.14	15.09	61.88	99.09	17.22	1.52	132,931
Compressor Station 95	3.17	15.11	61.98	99.21	10.73	1.2	132,274
Compressor Station 105	1.91	9.12	37.91	64.39	6.38	0.75	80,035
PSD Major Source Threshold	250	250	250	250	250	NA	NA

NA = Not Applicable

TABLE 3.12.1-10

Summary of Potential to Emit for All Sources (New and Existing) – Hillabee Expansion Project

	Emissions (tons/year)						
Site	SO_2	PM_{10} / $PM_{2.5}$	NO_x	CO	VOC	Total HAP	CO_{2e}
Compressor Station 95	6.67	23.31	176.98	240.21	28.13	3.75	269921.21
Compressor Station 105	7.31	19.72	258.11	279.49	47.58	2.02	258195.21
Title V Major Source Threshold	100	100	100	100	100	15/25	NA

NA = Not Applicable

Emissions from sources at these sites would be limited by federal regulations. The turbines at all three compressor stations would be subject to NSPS KKKK, which limits NO_x and SO_2. SO_2 emissions would be limited through the exclusive combustion of pipeline quality natural gas. Compliance with the NO_x emission standard required in NSPS KKKK will be achieved using low NO_x burners and demonstrated through periodic emissions testing. The emergency generator at Compressor Station 84 would be subject to NSPS JJJJ and would be designed and manufactured to meet the requirements of this regulation.

An air quality screening analysis was performed at each of the compressor stations using the AERMOD dispersion model in screening mode. Transco modeled the CO and NO_2 emissions from the project and compared the result for each pollutant and averaging period to the NAAQS. A summary of this screening analysis is provided in table 3.12.1-11.

The screening analysis shows concentrations for each compressor station are below the applicable NAAQS. However, the modeling only accountants for the project emissions. It does not include existing sources at Compressor Stations 95 and 105.

TABLE 3.12.1-11 **Summary of Screening Level Air Quality Analysis – Hillabee Expansion Project Compressor Stations**				
Station	Pollutant	Averaging Period	Modeled Concentration ($\mu g/m^3$)	NAAQS ($\mu g/m^3$)
Compressor Station 84	NO_2	1 hour	68.16	188.7
		Annual	10.71	100
	CO	1 hour	151.05	40,000
		8 hour	135.74	10,000
Compressor Station 95	NO_2	1 hour	57.39	188.7
		Annual	9.85	100
	CO	1 hour	137.36	40,000
		8 hour	126.15	10,000
Compressor Station 105	NO_2	1 hour	54.36	188.7
		Annual	9.61	100
	CO	1 hour	133.48	40,000
		8 hour	123.44	10,000

In order to fulfill our obligations under NEPA and ensure that Compressor Stations 95 and 105 would not result in a local exceedance of the NAAQS, **we recommend that:**

- **<u>Prior to the close of the draft EIS comment period</u>, Transco shall file the results of an air quality screening (AERSCREEN), or refined modeling analysis (AERMOD or EPA-approved alternative) for all of the emission generating equipment (including existing equipment) at Compressor Stations 95 and 105. The results shall demonstrate that the modeled existing emissions, plus the modeled incremental increase in emissions of criteria pollutants from the modifications either:**

  a. results in local concentrations below the NAAQS where current <u>modeled</u> concentrations from the existing compressor station (existing and ambient background) are below the NAAQS; or

  b. does not cause or contribute to significantly increased local area concentrations above the NAAQS where the current ambient background concentrations are currently above the NAAQS.

<u>Sabal Trail Project</u>

The Sabal Trail Project would include the installation and operation of the following stationary point sources of air pollutants.

New Alexander City Compressor Station, which would consist of:

- two natural gas-fired Solar Titan 130 turbine compressor units, each rated at 20,500 hp;
- one natural gas-fired Solar Titan 250 turbine compressor unit, rated at 30,000 hp;
- one natural gas-fired fuel heater, rated at 1.9 MMBtu/hr;
- two natural gas-fired fuel heaters, each rated at 1.5 MMBtu/hr;
- one natural gas-fired emergency generator, with a power output rating of at 1,175 hp; and

- insignificant and/or fugitive emissions, including fugitive leaks from piping components, gas release events, storage tanks, vessels, truck loading, and parts washing.

New Albany Compressor Station, which would consist of:

- two natural gas-fired Solar Titan 130 turbine compressor units, each rated at 20,500 hp;
- two natural gas-fired fuel heaters, each rated at 1.5 MMBtu/hr;
- one natural gas-fired emergency generator, with a power output rating of at 880 hp; and
- insignificant and/or fugitive emissions, including fugitive leaks from piping components, gas release events, storage tanks, vessels, truck loading, and parts washing.

New Hildreth Compressor Station, which would consist of:

- two natural gas-fired Solar Titan 130 turbine compressor units, each rated at 20,500 hp;
- two natural gas-fired fuel heaters, each rated at 1.5 MMBtu/hr;
- one natural gas-fired emergency generator, with a power output rating of at 880 hp; and
- insignificant and/or fugitive emissions, including fugitive leaks from piping components, gas release events, storage tanks, vessels, truck loading, and parts washing.

New Dunnellon Compressor Station, which would consist of:

- one natural gas-fired Solar Titan 130 turbine compressor unit, rated at 20,500 hp;
- one natural gas-fired fuel heater, rated at 1.5 MMBtu/hr;
- one natural gas-fired emergency generator, with a power output rating of at 585 hp; and
- insignificant and/or fugitive emissions, including fugitive leaks from piping components, gas release events, storage tanks, vessels, truck loading, and parts washing.

New Reunion Compressor Station, which would consist of:

- one natural gas-fired Solar Titan 130 turbine compressor unit, rated at 20,500 hp;
- one natural gas-fired Solar Mars 100 turbine compressor unit, rated at 15,900 hp;
- one natural gas-fired fuel heater, rated at 1.2 MMBtu/hr;
- one natural gas-fired fuel heater, rated at 1.5 MMBtu/hr;
- one natural gas-fired emergency generator, with a power output rating of at 880 hp;
- insignificant activities, including lube oil coolers, turbine intake and exhaust systems; and
- insignificant and/or fugitive emissions, including fugitive leaks from piping components, gas release events, storage tanks, vessels, truck loading, and parts washing.

Operation of the compressor stations and the FGT Hunters Creek M&R Station would result in air emissions increases over existing emissions levels. The PTE of the proposed aboveground facilities are summarized in table 3.12.1-12.

TABLE 3.12.1-12

Summary of Proposed Modifications (New Sources) Potential to Emit – Sabal Trail Project

	Emissions (tons/year)						
Facility	SO_2	PM_{10} / $PM_{2.5}$	NO_x	CO	VOC	Total HAP	CO_{2e}
Alexander City Compressor Station	7.79	15.27	97.31	47.82	72.72	8.17	302,236
Albany Compressor Station	4.66	9.14	46.77	40.33	57.80	6.28	187,499
Hildreth Compressor Station	4.62	9.07	46.37	40.24	57.72	6.27	186,190
Dunnellon Compressor Station on	2.30	4.52	23.24	20.41	43.48	4.45	99,872
Reunion Compressor Station	4.16	8.16	41.78	34.68	57.29	6.16	170,019
FGT Hunters Creek M&R Station	0.044	0.55	7.19	10.95	2.64	0.61	8,802
Title V Major Source Threshold	100	100	100	100	100	15/25	NA

Comments were received concerning potential emissions from the Sabal Trail Project pipeline facilities. The estimated emissions from the Sabal Trail Project pipeline facilities and non-combustion sources at the M&R stations are 68.7 tpy VOC and 15,415.6 tpy CO_2e. Although these emissions are not subject to stationary source permitting, these emissions are well below major stationary source permitting levels and would occur across a large distance (roughly 500 miles). We also received comments about the emissions from cold starts and blowdowns at Sabal Trail compressor stations. Sabal Trail would implement their preventive maintenance program at all facilities to identify and prevent leaks, quickly any leaks that are found, and reduce the frequency and extent of unscheduled maintenance blowdowns. In addition, Sabal Trail has included startup and shutdown emissions in the air permit applications for the proposed compressor stations to ensure that they are regulated.

An air quality screening analysis was performed at each of the proposed compressor stations using AERSCREEN. Sabal Trail modeled the CO and NO_2 emissions from the project and compared the result for each pollutant and averaging period to the NAAQS. A summary of this screening analysis is provided in table 3.12.1-13.

As shown above, the screening analysis concentration for each modeling run is below the applicable NAAQS. We received comments about the potential air quality impacts of the Albany Compressor Station due to ongoing operational emissions. Specifically, GreenLaw called into question the adequacy of the screening analysis completed for the May 2014 PSD Permit Application that was submitted to GEPD. This screening modeling was different than the modeling provided with the November 2014 application to FERC described above. We note that the proposed Albany Compressor Station would be a minor source of air emissions and, as a result, Sabal Trail would not be required to submit a PSD application for this station. The modeling provided to FERC was well below the NO_2 NAAQS despite conservative assumptions. Although GreenLaw's reports (submitted to FERC on July 20, 2015 and August 13, 2015) show exceedances of the 1-hour NO_2 NAAQS, the Albany Compressor Station had a maximum contribution to these modeled NAAQS exceedances of 0.14 $\mu g/m^3$ (at the Newton Road location) and 0.014 $\mu g/m^3$ (at the West Oakridge location) which are well below the 1-hour NO_2 significance level of 7.5 $\mu g/m^3$. The alleged exceedances were based on the modeling assumptions used to quantify the impacts from other industrial sources in the area. Based on the modeling provided in the November 2014 application to FERC and our review of this information, we conclude the Albany Compressor Station would not have a significant impact on air quality.

TABLE 3.12.1-13

Summary of Screening Level Air Quality Analysis – Sabal Trail Project Compressor Stations

Compressor Station	Pollutant	Averaging Period	Modeled Concentration ($\mu g/m^3$)	NAAQS ($\mu g/m^3$)
Alexander City	NO_2	1 hour	87	188
		Annual	14	100
	CO	1 hour	125	40,000
		8 hour	123	10,000
Albany [a]	NO_2	1 hour	58.9	188
		Annual	7.7	100
	CO	1 hour	722	40,000
		8 hour	613	10,000
Hildreth	NO_2	1 hour	95.3	188
		Annual	19.8	100
	CO	1 hour	4,331.0	40,000
		8 hour	1,886.2	10,000
Dunnellon	NO_2	1 hour	75.2	188
		Annual	11.2	100
	CO	1 hour	1,687.8	40,000
		8 hour	1,190.8	10,000
Reunion	NO_2	1 hour	101.4	188
		Annual	12.2	100
	CO	1 hour	1,699.9	40,000
		8 hour	1,201.6	10,000

[a] The modeling results shown above represent AERSCREEN modeling that was completed for the original proposed Newton Road location. However, the change in location is not expected to significantly change the meteorological data and the terrain does not appear to be significantly different. Given these considerations and the low estimated impacts, additional modeling was not requested from Sabal Trail for the proposed West Oakridge Drive location.

Comments were received regarding air toxics emissions and their impact on nearby sensitive individuals (e.g., within 1,500 feet of a compressor station). Sabal Trail completed an air toxics analysis for the Alexander City Compressor Station which has residences within approximately 1,000 feet. The analysis was performed as part of the air construction permit application in accordance with ADEM modeling guidance which establishes air toxic concentration thresholds of 1/420th of the threshold limit value-time weighted averages (TLV-TWAs) established by the American Conference of Governmental and Industrial Hygienists. The results of the analysis, summarized in table 3.12.1-14, show that the toxic air pollutant concentrations would be well below the prescribed ADEM threshold for any ambient receptor around the station (including any nearby sensitive individuals).

TABLE 3.12.1-14 **Summary of Toxic Air Pollutant Analysis – Alexander City Compressor Station**			
Pollutant	Annual Modeled Concentration (µg/m^3)	Threshold (TLV-TWA/420) (µg/m^3)	Percent of Threshold
Benzene	2.9E-4	3.8	0.00763
Butadiene (1,3-)	1.0E-5	10.5	0.00010
Ethyl benzene	7.7E-4	1034	0.00007
Naphthalene	3.0E-5	125	0.00002
Propylene oxide	7.0E-4	11.3	0.00619
Toluene	3.12E-3	449	0.00069
Xylenes	1.53E-3	1034	0.00015

Florida Southeast Connection Project

The FSC Project does not include aboveground facilities that would generate appreciable air emissions as part of routine operation of the FSC Project. Insignificant emissions associated with equipment leaks may occur over the course of regular pipeline operation.

In summary, potential impacts on air quality associated with construction and operation of the SMP Project would be minimized by strict adherence to all applicable federal and state regulations which are designed to be protective of air quality. All emission sources proposed in the SMP Project would comply with the appropriate SIP. Emissions from the new compressor stations would be minor sources of air pollution and, therefore, not subject to the federal permitting programs. Transco's existing Compressor Stations 95 and 105 would remain subject to Title V, which involve additional reporting and monitoring requirements, but would not result in emissions that rise to the level of PSD where additional emission controls are necessary. Based on our analysis presented above and the Applicants' strict compliance with the primary and secondary NAAQS, we conclude that operation of Transco Compressor Stations 84; Sabal Trail's Alexander City, Albany, Hildreth, Dunnellon, and Reunion Compressor Stations; and Sabal Trail's FGT Hunters Creek M&R Stations would not have a significant impact on regional air quality. The modifications at Transco's Compressor Stations 95 and 105 themselves would meet the primary and secondary NAAQS. However, the analysis above does not include the impacts from the existing equipment at these stations. As such, we have recommended that Transco provide an analysis demonstrating that all equipment (new and existing) at Compressor Stations 95 and 105 comply with the primary and secondary NAAQS.

3.12.2 Noise

Construction and operation of the SMP Project may affect overall noise levels in the project area. The ambient sound level of a region is defined by the total noise generated within the specific environment and is usually comprised of natural and man-made sounds. At any location, both the magnitude and frequency of environmental noise may vary considerably over the course of a day and throughout the week. This variation is caused in part by changing weather conditions and the effect of seasonal vegetation cover.

Two measurements used by some federal agencies to relate the time-varying quality of environmental noise to its known effects on people are the equivalent sound level (L_{eq}) and the day-night sound level (L_{dn}). The L_{eq} is a sound level over a specific time period corresponding to the same sound energy as measured for an instantaneous sound level assuming it is a constant noise source. Sound levels are perceived differently, depending on the length of exposure and time of day. The L_{dn} takes into account the duration and time the noise is encountered. Specifically, in calculation of the L_{dn} late night and early morning (10:00 p.m. to 7:00 a.m.) noise exposures are increased by 10 decibels to account for

people's greater sensitivity to sound during nighttime hours. The A-weighted scale is used because human hearing is less sensitive to low and high frequencies than mid-range frequencies.

In 1974, the EPA published its *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety*. This document provides information for state and local governments to use in developing their own ambient noise standards. The EPA has indicated that an L_{dn} of 55 decibels on the A-weighted scale (dBA) protects the public from indoor and outdoor activity interference. We have adopted this criterion. The Commission's regulations at 18 CFR 380.12(k)(4)(v)(A) require that noise attributed to any new compressor station or any modification, upgrade, or update to an existing compressor station will not exceed an L_{dn} of 55 dBA at any pre-existing noise-sensitive areas (NSA) such as schools, hospitals, and residences. In addition, Commission regulations at 18 CFR 380.12(k)(4)(v)(B) requires that operation of compressor stations may not result in any perceptible increase in vibration at any noise-sensitive area. Due to the 10 dBA nighttime penalty added prior to calculation of the L_{dn}, for a facility to meet the L_{dn} 55 dBA limit, the facility must be designed such that actually constant noise level on a 24-hour basis does not exceed 48.6 dBA L_{eq} at any NSA. As a point of reference, a person's threshold of perception for a noticeable change in loudness is about 3 dBA, whereas a 5 dBA change is clearly noticeable and a 10 dBA change is perceived as either twice or half as loud.

There are no state noise regulations applicable to the construction or operation of the SMP Project facilities. There are no county or township noise regulations applicable to construction or operation of the proposed SMP Project facilities in Mississippi, Alabama, or Georgia. In Florida, local regulations with quantitative noise limits for the counties in which compressor stations and M&R stations are proposed are summarized below.

Orange County: Orange County Code of Ordinances Article V, Chapter 15, entitled the "Noise Pollution Control Ordinance of Orange County, FL" is, in general, less stringent than the FERC noise standard of 55 dBA (L_{dn}) (i.e., A-wt. sound level equivalent of 48.6 dBA).

Citrus County: The Citrus County Noise, Vibration and Air Pollution Ordinance (i.e., Ordinance No. 2010, Article I, Chapter 21) establishes sound level limits based on the receiving land and time of day (daytime or nighttime). This ordinance generally limits L_{eq} noise to levels in excess of 48.6 dBA. Therefore it is considered less stringent than the FERC guideline.

Martin County: Section 824 of the Martin County Code, prohibits construction within the county between the hours of 9:00 p.m. to 7:00 a.m. The ordinance limits noise in residential areas to 60 dBA from 7:00 a.m. to 9:00 p.m. and 55 dBA from 9:00 p.m. to 7:00 a.m. However, construction related noise levels are exempt from these limits provided construction occurs during allowable hours. The ordinance further requires the use of mufflers on any internal combustion engine used in construction.

In addition to the quantitative noise limits identified above, there are several local noise ordinances that restrict construction activities to daylight hours. In the event that Sabal Trail or FSC plan to construct during nighttime hours, they would request variances for these specific construction activities.

3.12.2.1 Existing Noise Conditions

Hillabee Expansion Project

The Hillabee Expansion Project would include construction and operation of new Compressor Station 84 and modifications at existing Compressor Stations 95, 100, and 105. Transco would not install any M&R stations or utilize the HDD method during pipeline construction.

Transco conducted noise surveys at nearby NSAs to determine existing, ambient noise conditions prior to construction and operation of the new and modified compressor stations (see table 3.12.2-1). Ambient noise levels are used in section 3.12.2.2 to evaluate whether that estimated project-related noise would comply with the FERC's 55 dBA criterion or, if that criterion is already exceeded by ambient conditions, that the potential noise increase would not be greater than 10 dBA.

TABLE 3.12.2-1

Ambient Noise Levels for the Hillabee Expansion Project Compressor Stations (dBA)

Facility/Noise Sensitive Area	Distance/Direction from Compressor Building	Existing Ambient Sound level (Ldn)
Compressor Station 84		
NSA #1 – Residence	2,180 feet/east-southeast	52.2
NSA #2 – Residence	2,620 feet/southeast	43.4
Compressor Station 95		
NSA #1 – Residence	1,550 feet/east	45.8
Compressor Station 100		
NSA #1 – Residence	1,570 feet/southeast	52.2
NSA #2 – Residence	3,090 feet/south-southwest	43.4
Compressor Station 105		
NSA #1 – Residence	650 feet/southwest	56.2
NSA #2 – Residence	840 feet/southeast	52.7

Sabal Trail Project

The Sabal Trail Project would include the construction and operation compressor stations and M&R stations, and the use of the HDD method (see section 2.2.3.1) to install the pipeline facilities at 17 sites. Construction and operation of the aboveground facilities and use of the HDD method could contribute to the noise levels at nearby NSAs. Sabal Trail conducted noise surveys at the nearby NSAs to determine existing, ambient noise conditions prior to construction and operation of the aboveground facilities and HDD installations. Ambient noise levels are used in section 3.12.2.2 to evaluate whether that estimated project-related noise would comply with the FERC's 55 dBA criterion or, if that criterion is already exceeded by ambient conditions, that the potential noise increase would not be greater than 10 dBA.

Table 3.12.2-2 provides the ambient noise conditions at NSAs near to Sabal Trail's proposed compressor stations, M&R stations, and HDD locations. Note that no NSAs were identified within 0.5 mile from the FGT Suwannee M&R Station or the DEF Citrus County M&R Station or within 0.5 mile from either the entry or exit points for the HDD crossings of Hillabee Creek (MP 1.2), State Highway 22 (MP 2.2), Uchee Creek (MP 70.6) or the Chattahoochee River in Alabama (MP 86.2).

TABLE 3.12.2-2

Ambient Noise Levels for the Sabal Trail Project (dBA)

Facility/Noise Sensitive Area	Noise Sensitive Area Distance/Direction from Noise Source	Existing Ambient Sound Level (L_{dn})
Compressor Stations		
Alexander City		
NSA #1 – Residence	980 feet/north	45.7
NSA #2 – Residence	1,170 feet/north-northwest	45.7
NSA #3 – Residence	1,460 feet/northwest	48.0
Albany		
NSA #1 – Residence	1,640 feet/northwest	48.7
NSA #2 – Residence	2,040 feet/north-northeast	49.7
NSA#3 – Residence	3,400 feet/southeast	39.8
NSA #4 – Residence	3,800 feet/northeast	44.4
Hildreth		
NSA #1 – Residence	1,530 feet/south	43.0
NSA #4 – Residence	1,660 feet/south-southeast	43.0
NSA #2 – Residence	1,750 feet/northwest	40.1
Dunnellon		
NSA #1 – Residence	1,440 feet/south	51.4
NSA #2 – Residence	1,980 feet/northeast	50.3
Reunion		
NSA #1 – Residence	1,380 feet/southeast	53.7
NSA #2 – Residence	1,470 feet/southwest	56.5
NSA #3 – Residence	1,980 feet/west	52.5
Meter and Regulating Stations		
Transco Hillabee		
NSA #1	800 feet/northeast	45.7
FSC		
NSA #1	1,100 feet/southwest	56.5
Gulfstream		
NSA #1	1,530 feet/southwest	56.5
FGT Hunters Creek		
NSA #1	1,540 feet/northwest	46.2
Horizontal Directional Drill Sites		
Hillabee Creek	None within ½ mile	-
State Highway 22	None within ½ mile	-
Tallapoosa River	1,770 feet south of entry None within ½ mile of exit	42.3 -
Uchee Creek	None within ½ mile	-
Chattahoochee River	None within ½ mile	-
Hannahatchee Creek	1,410 feet north of entry 1,500 feet northwest of exit	38.4 35.4
Flint River	390 feet east-northeast of entry None within ½ mile of exit	45.9 -
Ochlockonee River	1,470 feet southeast of entry 2,600 feet east of exit	43.8 50.2
State Highway 38 and Withlacoochee River	475 feet southeast of entry 2,240 feet southwest of exit	48.0 48.2
Suwannee River	None within ½ mile of entry 1,605 feet north of exit	- 38.1
Santa Fe River	580 feet east of entry 380 feet west-northwest of exit	46.4 40.4

TABLE 3.12.2-2 (cont'd)

Ambient Noise Levels for the Sabal Trail Project (dBA)

Facility/Noise Sensitive Area	Noise Sensitive Area Distance/Direction from Noise Source	Existing Ambient Sound Level (L_{dn})
US Highway 27	220 feet southeast of entry 110 feet north of exit	49.2 60.0
Toll Road 429	460 feet northeast of entry 620 feet north of exit	56.3 49.8
Interstate 4	2,160 feet south-southwest of entry 1,885 northwest of exit	58.1 52.1
Shingle Creek	348 feet northwest of entry 2,361 feet west of exit	45.7 46.6
Deerfield	870 feet south of entry 1,320 feet southeast of exit	61.1 55.8
Withlacoochee River (Citrus County Line)	620 feet west-northwest of entry 1,190 feet southwest of exit	45.6 46.0

We received comments that the ambient noise survey conducted by Sabal Trail for the Albany Compressor Station site was not representative because it was not conducted at night in the winter. However, the noise survey was done in the morning and the noise consultant attempted to exclude extraneous noise sources such as traffic and other intermittent noise sources in order to prevent overestimation of the existing noise levels. In addition, the noise consultant estimated the nighttime noise levels based on site observations during the survey. The measured noise level (daytime) and the estimated nighttime noise level were used to calculate the existing ambient L_{dn} for the area. The survey was completed in accordance with industry standards and we conclude that it adequately represents the existing, ambient noise level near the proposed station Furthermore, Sabal Trail would be required to complete a post-construction noise survey and implement measures, if necessary, to ensure that actual operating noise complies with our standard at nearby NSAs.

Florida Southeast Connection Project

FSC would construct and operate the Martin M&R Station at the termination of the pipeline facility on the grounds of FPL's Martin Clean Energy Plant. No NSAs were identified within 0.5 mile from the M&R station site.

FSC proposes to use the HDD method (see section 2.3.2.1) to install the pipeline facilities at nine sites, which could contribute to the noise levels at nearby NSAs. FSC utilized land use criteria to estimate the existing ambient noise conditions in accordance with ANSI S12.9-1993/Part 3. Using these criteria, the Johnson Avenue HDD near MP 11.8 is classified as Category 3 (urban and noisy suburban residential), and all other HDD locations are classified as Category 4 (quiet urban and normal suburban residential). Ambient noise levels are used in section 3.12.2.2 to evaluate whether the estimated project-related noise would comply with the FERC's 55 dBA criterion or, if that criterion is already exceeded by ambient conditions, that the potential noise increase would not be greater than 10 dBA. Table 3.12.2-3 provides the ambient noise conditions at NSAs near FSC's proposed HDD locations. Note that no NSAs were identified within 0.5 mile from either the entry or exit points for the HDD crossings of Blanket Bay Slough (MP 58.3), Cow Creek (MP 98.6), or the C-23 Canal (MP 114.4).

TABLE 3.12.2-3

Ambient Noise Levels for the Florida Southeast Connection Project Horizontal Directional Drill Sites (dBA)

Horizontal Directional Drill	Noise Sensitive Area Distance/Direction from Noise Source	Estimated Ambient Sound Level (L_{dn}) [a]
Johnson Avenue	160 feet west of entry 500 feet south of exit	60 60
Weohyakapka Creek	440 feet southwest of entry 340 feet south of exit	55 55
Lake Kissimmee	670 feet northwest of entry 2,450 feet northwest of exit	55 55
Blanket Bay Slough	None within 1 mile	-
Boggy Branch/Indian Hammock Trail	420 feet southwest of entry 1,370 feet south of exit	55 55
Cow Creek	None within 1 mile	-
State Route 70	3,250 feet west of entry 4,400 feet southwest of exit	55 55
C-23 Canal	None within 1 mile	-
SW Warfield Boulevard/State Route 710	500 feet northwest of entry 1,650 feet south of exit	55 55

[a] From ANSI S-12.9-1993/Part 3.

3.12.2.2 Noise Impacts and Mitigation

Construction Impacts and Mitigation

Construction of the SMP Project would involve the use of light equipment such as chain saws and other small power tools; and heavy, gasoline or diesel-powered machines such as excavators, backhoes, bulldozers, dumb trucks, loaders, cranes, and boring equipment. Blasting may be necessary at select locations, and various powered pumps would be used to control water in the workspace or during hydrostatic testing activities. Noise would also be generated by trucks and other light vehicles traveling in and near areas under construction.

In general, noise levels would be highest in the immediate vicinity of construction activities and would diminish with distance from the work area. Surface topography, vegetation cover, wind, and weather conditions would also affect the distance which construction related noise would extend from the workspace. Tall, dense vegetation and rolling topography typically attenuates noise when compared to less vegetated, open land.

Pipeline construction would result in noise along the entire 685.5 miles of pipeline proposed for the SMP Project, although pipeline installation would typically be completed within 6 to 12 weeks at any given location. In addition, pipeline construction related noise would be further mitigated by limiting the great majority of construction to daylight hours when ambient noise levels are often higher and most individuals are less sensitive to noise. Some discrete activities (e.g., hydrostatic testing, tie-ins, purge and packing the pipeline) may require 24 hours of activity for limited periods of time, although these 24-hour activities would require only a few overnight construction personnel and would not result in significant noise generation. Construction equipment noise levels would typically be around 85 dBA at 50 feet when equipment is operating at full load, which could be heard by people in nearby buildings. However, most pipeline construction noise would be localize and temporary and no NSA would be expected to be exposed to significant noise levels for an extended period of time.

Transco and Sabal Trail indicate that blasting may be necessary at certain locations during construction, whereas FSC does not anticipate the need to conduct blasting. As discussed in section 3.1.2.2, blasting would be conducted according to Blasting Plans prepared by Transco and Sabal Trail, which includes measures to limit the effects of blasting, notify persons in the area, and ensure the safety of construction personnel and others. Instantaneous sounds levels from blasting would vary based on a number of factors, but typical construction blasting operation have been documented at about 94 dBA at a distance of 50 feet (Federal Highway Administration, 2011). Because noise from blasting would be similar to other construction activities and would occur infrequently for very short durations, noise impacts from blasting would not be significant.

Construction of aboveground facilities and other activities including HDD operations represent more localized noise sources and are discussed in conjunction with each component of the SMP Project below.

<u>Hillabee Expansion Project</u>

Unlike pipeline construction activities, compressor station construction may occur at a given location for a period of several weeks to several months. Given the nature of the construction activities (primarily limited to daytime hours) and the distance to NSAs, the noise associated with the modifications at Compressor Stations 95, 100, and 105, would not be expected to exceed our 55 dBA L_{dn} noise guideline. Because Compressor Station 84 would be new, construction activities would be more extensive. However, the proposed site is situated in a rural setting bordered by mature trees in most

directions. Transco analyzed Compressor Station 84 and determined that the noise level attributable to construction activities would be 43 dBA or less at the nearest NSA. Thus, construction of Compressor Station 84 would not result in significant noise impacts in the area. Transco would not utilize the HDD method to install the pipeline facilities.

Sabal Trail Project

Construction of the proposed compressor stations and M&R stations associated with the Sabal Trail Project would for a period of several weeks to several months. Considering that the construction activities would be primarily limited to the daytime hours and the distance to NSAs, the noise associated with construction of the compressor stations and M&R stations is not expected to exceed the our 55 dBA L_{dn} noise guideline. Because all of the aboveground facilities would be new, construction activities at each would be similar. Sabal Trail analyzed the noise levels that would be expected during construction at each compressor station. The Albany Compressor Station site has an NSA at the closest distance which would experience the highest noise level attributable to construction. The analysis indicated that the noise level attributable to construction activities would be 52 dBA or less at the nearest NSA to the Albany Compressor Station site. Thus, construction of the Sabal Trail compressor stations would not result in significant noise impacts.

The Sabal Trail Project would include 17 HDD locations. Noise surveys and modeling were completed to estimate the noise that the nearest NSA within 0.5 mile from the HDD entry and exit points could experience (see table 3.12.2-4).

TABLE 3.12.2-4

Estimated Noise Levels at Nearest Noise Sensitive Areas to the Sabal Trail Project Horizontal Directional Drill Sites (dBA)

Horizontal Directional Drill (HDD) Site		Existing Ambient Sound Level (L_{dn})	HDD Sound Level (L_{dn})	Total HDD Sound Level (L_{dn})	Sound Increase (dB)
Tallapoosa River	(Entry)	42.3	50.1	50.8	8.5
Hannahatchee Creek	(Entry)	38.4	52.6	52.7	14.3
	(Exit)	35.4	40.6	41.7	6.3
Flint River	(Entry)	45.9	68.3	68.3	22.4
Ochlockonee River	(Entry)	43.8	52.1	52.7	8.9
	(Exit)	50.2	35.7	50.4	0.2
State Highway 38 and Withlacoochee River	(Entry)	48.0	66.4	66.5	18.5
	(Exit)	48.9	36.3	48.5	0.3
Suwannee River	(Exit)	38.1	42.7	44.0	5.9
Santa Fe River	(Entry)	46.4	65.9	66.0	19.6
	(Exit)	40.4	54.6	54.8	14.4
US Highway 27	(Entry)	49.2	75.1	75.1	25.9
	(Exit)	60.0	69.6	70.0	10.0
Toll Road 429	(Entry)	56.3	66.7	67.1	10.8
	(Exit)	49.8	52.3	54.2	4.4
Interstate 4	(Entry)	58.1	50.9	58.9	0.8
	(Exit)	52.1	39.2	52.3	0.2
Shingle Creek	(Entry)	45.7	69.4	69.4	23.7
	(Exit)	46.6	35.8	46.9	0.3
Deerfield	(Entry)	61.1	60.5	63.8	2.7
	(Exit)	55.8	44.7	56.1	0.3
Withlacoochee River	(Entry)	45.6	61.9	62.0	16.4
	(Exit)	46.0	45.8	48.9	2.9

As indicated in table 3.12.2-4, nine of the HDD entry or exit sites could exceed the FERC's 55 dBA L_{dn} noise guideline at the nearest NSA. Sabal Trail estimates that the majority of work associated with HDD installations would range from about 30 days to complete the Deerfield HDD to 180 days to complete the Tallapoosa River HDD. However, the duration of 24-hour HDD operations would typically require 1 to 3 days at each site. In the event of a noise complaint, Sabal Trail has committed to evaluate noise levels and implement mitigation measures as necessary to meet the 55 dBA L_{dn} guideline at the complaint location. These mitigation measures could include use of various temporary noise barriers; use of exhaust silencers; relocation of equipment; or, for NSAs in close proximity to the HDD noise source (200 – 300 feet), offer of temporary housing or other compensation. The reduced noise impacts for the nine referenced HDD entry or exit locations are estimated in table 3.12.2-5.

TABLE 3.12.2-5

Estimated Mitigated Noise Levels at Nearest Noise Sensitive Areas to the Sabal Trail Project Horizontal Directional Drill Sites (dBA)

Horizontal Directional Drill (HDD) Site		Existing Ambient Sound Level (L_{dn})	Mitigated HDD Sound Level (L_{dn})	Total HDD Sound Level After Mitigation (L_{dn})	Sound Increase (dB)
Flint River	(Entry)	45.9	54.1	54.7	8.8
State Highway 38 and Withlacoochee River	(Entry)	48.0	52.3	53.7	5.7
Santa Fe River	(Entry)	46.4	51.6	52.7	6.3
US Highway 27	(Entry)	49.2	54.5	55.6	6.4
	(Exit)	60.0	54.5	61.1	1.1
Toll Road 429	(Entry)	56.3	52.6	57.8	1.5
Shingle Creek	(Entry)	45.7	53.7	54.4	8.7
Deerfield	(Exit)	61.1	50.5	61.5	0.4
Withlacoochee River	(Entry)	45.6	48.0	50.0	4.4

In addition to noise mitigation measures, Sabal Trail would also provide affected landowners one week notice and a follow-up notice within 24 hours of beginning all nighttime HDD operations. Notice would be provided by phone unless such contact cannot be completed, in which case a notification would be attached to the door the affected residence(s). Sabal Trail has also committed to provide a report documenting any noise complaints and the results of any sound monitoring and mitigation measures to the party filing the complaint, and include the report in the Commission's construction status reports.

Florida Southeast Connection Project

The FSC Project would include nine HDD locations. FSC used ambient noise levels associated with land use type and previously measured noise levels associated with typical HDD operations to estimate the noise that the nearest NSA within 0.5 mile from six HDD entry and exit points could experience (see table 3.12.2-6). No NSAs were identified within 1 mile of the three remaining HDD sites.

TABLE 3.12.2-6

Estimated Noise Levels at Nearest Noise Sensitive Areas to the Florida Southeast Connection Project Horizontal Directional Drill Sites (dBA)

Horizontal Directional Drill (HDD) Site		Existing Ambient Sound Level (L_{dn})[a]	HDD Sound Level (L_{dn})	Total HDD Sound Level (L_{dn})	Sound Increase (dB)
Johnson Avenue	(Entry)	60.0	80.0	80.0	20.0
	(Exit)	60.0	63.0	54.8	4.8
Weohyakapka Creek	(Entry)	55.0	71.0	71.1	16.1
	(Exit)	55.0	67.0	67.3	12.3
Lake Kissimmee Creek	(Entry)	55.0	67.0	67.3	12.3
	(Exit)	55.0	49.0	56.0	1.0
Boggy Branch/Indian Hammock Trail	(Entry)	55.0	71.0	71.1	16.1
	(Exit)	55.0	55.0	58.0	3.0
State Route 70	(Entry)	55.0	52.0	56.8	1.8
	(Exit)	55.0	42.0	55.2	0.2
SW Warfield Boulevard/	(Entry)	55.0	68.0	68.2	13.2
State Route 710	(Exit)	55.0	52.0	56.8	1.8

[a] From ANSI S-12.9-1993/Part 3.

As shown in table 3.12.2-6, the HDD activities without mitigation have the potential to exceed the FERC noise criterion of 55 dBA L_{dn} at 11 of the 12 referenced HDD entry or exit points. However, FSC estimates that all of the HDDs would be completed in 7 to 15 days. FSC prepared an HDD Complaint Mitigation Plan to address concerns raised by nearby landowners. In the event of a noise complaint, FSC has committed to evaluate noise levels and implement mitigation measures as necessary to meet the 55 dBA L_{dn} guideline at the complaint. These mitigation measures could include would evaluate the level of noise implement mitigation measures that could include use of various temporary noise barriers; use of exhaust silencers; relocation of equipment; or, offer of temporary housing or other compensation. FSC estimates that implementation of on-site mitigation measures could reduce the level of HDD-related noise at nearby NSAs by 10 dBA to 15 dBA.

In addition to noise mitigation measures, FSC would notify the FERC and nearby residents prior to beginning HDD operations and whether 24-hour HDD operations would occur. After notification and at the FERC's request, FSC would provide a report documenting any noise complaints and the results of any sound monitoring and mitigation measures. However, because the HDD noise levels would exceed 10 dB at most locations and it is unknown whether 24-hour operation would be required at this time, **we recommend that:**

- **FSC should file <u>in its construction status reports</u> the following information for each HDD entry site:**

  a. noise measurements from HDD activities at the nearest NSA, obtained at the start of drilling operations; and

  b. documentation of noise complaints and measures FSC has taken to resolve such complaints.

Operational Impacts and Mitigation

Hillabee Expansion Project

Noise levels associated with operation of Transco's new and modified compressor stations were modeled based on noise survey results at nearby NSAs and Transco's existing facilities, and estimated noise from the proposed facilities (see table 3.12.2-7). Transco would implement various measures to reduce noise from each facility including installation of new turbines in acoustically insulated buildings; use of mufflers and silencers on exhausts and blowdown units; and insulating certain exterior piping and equipment.

TABLE 3.12.2-7

Estimated Noise Levels During Operation of the Hillabee Expansion Project Compressor Stations (dBA)

Facility/Noise Sensitive Area	Existing Ambient Sound Level (L_{dn})	Sound Level During Operation (L_{dn})	Total Sound Level During Operation (L_{dn})	Sound Increase (dB)
Compressor Station 84 (New)				
NSA #1	36.2	44.3	44.9	8.7
NSA #2	41.3	42.3	44.9	3.6
Compressor Station 95 (Existing, Phase 1)				
NSA #1	45.8	46.1	49.0	3.2
Compressor Station 95 (Existing, Phase 2)				
NSA #1	48.3	46.7	50.6	2.3
Compressor Station 100				
NSA #1	52.2	-	52.4	0.2
NSA #2	43.4	-	43.6	0.2
Compressor Station 105				
NSA #1	53.6	52.8	56.2	2.6
NSA #2	49.0	50.3	52.7	3.7

An analysis of the impacts of low frequency noise was also conducted at each of the compressor stations to assess the potential to perceive operational vibration at nearby NSAs (see table 3.12.2-8).

TABLE 3.12.2-8

Low Frequency Noise (Vibration) Attributable to the Hillabee Expansion Project

Facility/Noise Sensitive Area	Sound Pressure Level in dB per Octave-band Center Frequency (Hz)										
	31.5	63	125	250	500	1000	2000	4000	8000	Total (dBA)	L_{dn} (dBA)
Compressor Station 84											
NSA #1	62	55	48	39	34	30	26	13	0	37.9	44.3
NSA #2	61	53	46	37	32	27	23	8	0	35.9	42.3
Compressor Station 95 (Phase 1)											
NSA #1	63	54	45	37	35	33	34	19	0	39.7	46.1
Compressor Station 95 (Phase 2)											
NSA #1	64	54	45	37	35	34	35	20	0	40.3	46.7
Compressor Station 105											
NSA #1	67	59	54	45	41	40	40	29	24	46.4	52.8
NSA #2	65	57	52	43	39	37	37	26	19	43.9	50.3

The results of the acoustical analysis indicate that the sound contribution of the proposed compressor stations would remain below our 55 dBA L_{dn} criterion at the nearest NSAs during operation. While the overall noise level experienced at NSA 1 for Compressor Station 105 would be 56.2 dBA, we note that the noise attributable to the station at this location would be 52.8 dBA, which is compliant with our noise criterion. Projected sound levels associated with blowdown events are also estimated to result in no more than 44 dBA peak sound level (51 to 52 dBA L_{dn}) at the nearest NSAs and would be infrequent and only last from 1 to 5 minutes. Regarding the potential for facility operations to result in vibration at nearby NSAs, ANSI Standard S12.2-2008 *Criteria for Evaluating Room Noise* concludes that sounds at frequencies of 31.5 Hz and 63 Hz at or above 65 dB and 70 dB, respectively, could result in perceptible vibration in structures with lightweight walls and ceilings. The estimated noise at 31.5 Hz for NSA #1 and NSA #2 near Compressor Station slightly exceed this criteria. Our noise guidelines stipulate that new and modified compressor stations not result in a perceptible increase in vibration at NSAs, and we believe the slight exceedance of the ANSI criteria is unlikely to result in a perceptible increase in vibration at NSA #1 and NSA #2.

To ensure that the actual noise levels resulting from operation of Compressor Stations 84, 95, 100, and 105 comply with our noise guidelines, **we recommend that:**

- **Transco should file noise surveys with the Secretary <u>no later than 60 days</u> after placing the equipment at Compressor Stations 84, 95, 100, and 105 into service. If full load condition noise surveys are not possible, Transco should provide interim surveys at the maximum possible horsepower load and provide the full load survey <u>within 6 months</u>. If the noise attributable to the operation of all of the equipment at each station under interim or full horsepower load exceeds an L_{dn} of 55 dBA at the nearest NSA, Transco should file a report on what changes are needed and should install the additional noise controls to meet the level <u>within 1 year</u> of the in-service date. Transco should confirm compliance with the above requirement by filing a second noise survey for each station with the Secretary <u>no later than 60 days</u> after it installs the additional noise controls. The timeframes above apply to the in-service dates for each phase of construction at each station.**

<u>Sabal Trail Project</u>

Noise levels associated with operation of Sabal Trail's new compressor stations were modeled based on noise survey results at nearby NSAs and estimated noise from the proposed facilities (see table 3.12.2-9). Sabal Trail would implement various measures to reduce noise from each facility including installation of new turbines in acoustically insulated buildings; use of mufflers and silencers on exhausts and blowdown units; and insulating certain exterior piping and equipment.

An analysis of the impacts of low frequency noise was also conducted at each of the compressor stations to assess the potential to perceive operational vibration at nearby NSAs (see table 3.12.2-10).

TABLE 3.12.2-9

Estimated Noise Levels During Operation of the Sabal Trail Project Compressor Stations (dBA)

Facility/Noise Sensitive Area	Existing Ambient Sound Level (L_{dn})	Sound Level During Operation (L_{dn})	Total Sound Level During Operation (L_{dn})	Sound Increase (dB)
Alexander City Compressor Station				
NSA #1	45.7	50.0	51.3	5.6
NSA #2	45.7	48.2	50.1	4.5
NSA #3	48.0	46.6	50.0	2.0
Albany Compressor Station				
NSA #1	48.7	47.7	51.2	2.5
NSA #2	49.7	45.0	51.0	1.3
NSA #3	39.8	38.6	42.3	2.5
NSA #4	44.4	37.2	45.2	0.8
Hildreth Compressor Station				
NSA #1	43.0	46.0	47.8	4.8
NSA #2	43.0	45.1	47.2	4.2
NSA #3	40.1	44.5	45.9	5.8
Dunnellon Compressor Station				
NSA #1	51.4	44.6	52.2	0.8
NSA #2	50.3	41.1	50.8	0.5
Reunion Compressor Station				
NSA #1	53.7	48.4	54.8	1.1
NSA #2	56.5	47.7	57.0	0.5
NSA #3	52.5	44.3	53.1	0.6

TABLE 3.12.2-10

Low Frequency Noise (Vibration) Attributable to the Sabal Trail Project

Facility / Noise Sensitive Area	Sound Pressure Level in dB per Octave-band Center Frequency (Hz)										
	31.5	63	125	250	500	1000	2000	4000	8000	Total (dBA)	L_{dn} (dBA)
Alexander City Compressor Station											
NSA #1	66	59	52	44	39	34	36	28	19	43.6	50
NSA #2	64	58	51	43	37	32	34	25	14	41.8	48.2
NSA #3	62	55	49	41	35	29	30	18	5	39.2	45.6
Albany Compressor Station											
NSA #1	60	53	48	40	35	31	37	24	0	41.3	47.7
NSA #2	58	51	46	38	33	28	34	19	0	38.6	45.0
NSA #3	54	47	42	33	28	22	26	4	0	32.2	38.6
NSA #4	53	46	40	32	27	20	24	0	0	30.8	37.2
Hildreth Compressor Station											
NSA #1	61	64	49	40	35	31	33	23	15	39.6	46
NSA #2	60	53	48	39	34	30	32	21	12	38.7	45.1
NSA #3	60	52	47	39	33	29	31	20	10	38.1	44.5
Dunnellon Compressor Station											
NSA #1	59	52	47	39	33	28	32	21	4	38.2	44.6
NSA #2	56	50	44	36	30	25	28	14	0	34.7	41.1
Reunion Compressor Station											
NSA #1	61	55	49	41	36	31	38	25	10	42	48.4
NSA #2	61	54	49	41	36	30	37	24	8	41.3	47.7
NSA #3	58	52	46	38	33	27	33	18	0	37.9	44.3

The results of the acoustical analysis indicate that the sound contribution of the proposed compressor stations would remain below our 55 dBA L_{dn} criterion at the nearest NSAs during operation. While the overall noise level experienced at NSA 2 for Reunion Compressor Station would be 57 dBA, we note that the noise attributable to the station at this location would be 47.7 dBA, which is compliant with our noise criterion. Projected sound levels associated with blowdown events are also estimated to result in no more than 46 dBA peak sound level (52 to 53 dBA L_{dn}) at the nearest NSAs and would be infrequent and only last from 1 to 5 minutes. Regarding the potential for facility operations to result in vibration at nearby NSAs, ANSI Standard S12.2-2008 *Criteria for Evaluating Room Noise* concludes that sounds at frequencies of 31.5 hertz (Hz) and 63 Hz at or above 65 decibels (dB) and 70 dB, respectively, could result in perceptible vibration in structures with lightweight walls and ceilings. The estimated noise at 31.5 Hz for NSA #1 near the Alexander City Compressor Station and NSA #1 near the Albany Compressor Station meet or slightly exceed this criteria. Our noise guidelines stipulate that new and modified compressor stations not result in a perceptible increase in vibration at NSAs, and we believe the slight exceedance of the ANSI criteria is unlikely to result in a perceptible increase in vibration at the referenced NSAs.

We received a comment that Sabal Trail did not address the fact that the Albany Compressor Station will emit noise 24 hours per day 7 day s per week. However, the noise analysis for the Albany Compressor Station impacts is based on continuous operation of the noise sources at the compressor station and the FERC noise criterion 55 dBA L_{dn} does consider the greater sensitivity to nighttime noise. The L_{dn} noise criterion is described in detail at the beginning of Section 3.12.2 above.

We also received a comment concerning the low frequency noise from the Albany Compressor Station. As noted above, the low frequency noise levels are close to those in low frequency noise standards. In addition, a post-construction noise survey would be required for the compressor station to ensure that the noise impacts to the station are acceptable.

To ensure that the actual noise levels resulting from operation of the Alexander City, Albany, Hildreth, Dunnellon and Reunion Compressor Stations comply with our noise guidelines, **we recommend that:**

- **Sabal Trail should file noise surveys with the Secretary <u>no later than 60 days</u> after placing the equipment at the Alexander City, Albany, Hildreth, Dunnellon, and Reunion Compressor Stations into service. If full load condition noise surveys are not possible, Sabal Trail should provide interim surveys at the maximum possible horsepower load and provide the full load survey <u>within 6 months</u>. If the noise attributable to the operation of all of the equipment at each station under interim or full horsepower load exceeds an L_{dn} of 55 dBA at the nearest NSA, Sabal Trail should file a report on what changes are needed and should install the additional noise controls to meet the level <u>within 1 year</u> of the in-service date. Sabal Trail should confirm compliance with the above requirement by filing a second noise survey for each station with the Secretary <u>no later than 60 days</u> after it installs the additional noise controls. The timeframes above apply to the in-service dates for each phase of construction at each station.**

The primary noise associated with an M&R station is related to the flow control valves (FCVs) (i.e., regulator valve-generated noise) and the FCV noise radiated from aboveground gas piping. The level of piping noise is directly related to the gas pressure drop and amount of gas flow across the FCVs. A noise analysis was completed for each of the proposed M&R stations that assumed the noise would be equal to or less than 85 dBA at 3 feet from the M&R unit when operating at full capacity. But it may be necessary to cover aboveground gas piping with a type of acoustical insulation if the FCV(s) cannot

achieve 85 dBA for the full range of operating conditions. Table 3.12.2-11 below summarizes the noise analysis for the M&R Stations on the Sabal Trail Project.

TABLE 3.12.2-11

Estimated Noise Levels During Operation of the Sabal Trail Project Meter and Regulating Stations (dBA)

Meter and Regulating Station/Noise Sensitive Area	Existing Ambient Sound Level (L_{dn})	Sound Level During Operation (L_{dn})	Total Sound Level During Operation (L_{dn})	Sound Increase (dB)
Transco Hillabee				
NSA #1	45.7	47	49.4	3.7
FSC				
NSA #1	56.6	43.7	56.7	0.2
Gulfstream				
NSA #1	56.5	41.5	56.6	0.1
FGT Hunters Creek				
NSA #1	46.2	39.2	47.0	0.8

Based upon the proposed M&R station configuration (location and orientation) and mitigation measures, the noise attributable to each M&R station would not exceed the FERC criterion of 55 dBA L_{dn} at the nearest NSAs.

The FSC Project includes the Martin M&R Station on the Martin Clean Energy Center property. No NSAs were identified within 0.5 mile of the site, therefore, it was not assessed for potential noise impacts.

In summary of the analyses described above, all aboveground facilities would comply with our noise criteria of 55 dBA L_{dn} and no perceptible noise vibration. Therefore, we conclude that the noise associated with construction and operation of the SMP Project would not result in a significant impact on the local environment.

3.13 RELIABILITY AND SAFETY

The transportation of natural gas by pipeline involves some incremental risk to the public due to the potential for an accidental release of natural gas. The greatest hazard is a fire or explosion following a major pipeline rupture.

CH_4, 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.

CH_4 has an auto-ignition temperature of 1,000 °F and is flammable at concentrations between 5.0 percent and 15.0 percent in air. An unconfined mixture of CH_4 and air is not explosive; however, it may ignite if there is an ignition source. A flammable concentration within an enclosed space in the presence of an ignition source can explode. It is buoyant at atmospheric temperatures and disperses rapidly in air.

3.13.1 Safety Standards

The DOT is mandated to provide pipeline safety under 49 U.S.C. 601. The DOT's PHMSA administers the national regulatory program to ensure the safe transportation of natural gas and other hazardous materials by pipeline. PHMSA develops safety regulations and other approaches to risk management that ensure safety in the design, construction, testing, operation, maintenance, and emergency response of pipeline facilities. Many of the regulations are written as performance standards

which set the level of safety to be attained and allow the pipeline operator to use various technologies to achieve safety.

The PHMSA ensures that people and the environment are protected from the risk of pipeline incidents. This work is shared with state agency partners and others at the federal, state, and local level. DOT provides for a state agency to assume all aspects of the safety program for intrastate facilities by adopting and enforcing, at a minimum, the federal standards. A state may also act as DOT's agent to inspect interstate facilities within its boundaries; however, DOT is responsible for enforcement actions. For the SMP Project, PHMSA federal inspectors perform inspections on interstate natural gas pipeline facilities in Alabama, Georgia, and Florida.

The DOT pipeline standards are published in 49 CFR 190-199. Part 192 specifically addresses the minimum federal safety standards for transportation of natural gas by pipeline.

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

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

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

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

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

Class 2 – Location with more than 10 but less than 46 buildings intended for human occupancy.

Class 3 – Location with 46 or more buildings intended for human occupancy or where the pipeline lies within 100 yards of any building, or small well-defined outside area occupied by 20 or more people on at least 5 days a week for 10 weeks in any 12-month period.

Class 4 – Location where buildings with four or more stories aboveground are prevalent.

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

Class locations also specify the maximum distance to a sectionalizing block valve (i.e., 10.0 miles in Class 1, 7.5 miles in Class 2, 4.0 miles in Class 3, and 2.5 miles in Class 4 locations). Pipe wall thickness and pipeline design pressures; hydrostatic test pressures; MAOP; inspection and testing of welds; and frequency of pipeline patrols and leak surveys must also conform to higher standards in more populated areas. Class locations for the SMP Project have been determined based on the relationship of the pipeline centerline to other nearby structures and manmade features. Table 3.13.1-1 summarizes the class locations for the SMP Project pipeline facilities.

TABLE 3.13.1-1

Lengths of Area Classifications Crossed by the Southeast Market Pipelines Project

Project/Facility	Class 1 (miles)	Class 2 (miles)	Class 3 (miles)
Hillabee Expansions Project			
Rock Springs Loop	6.1	0.6	0.0
Butler Loop	4.2	1.1	0.0
Billingsley Loop	4.6	0.0	0.0
Autauga Loop	7.1	0.4	0.0
Verbena Loop	3.9	0.0	0.0
Proctor Creek Loop	5.3	0.0	0.0
Hissop Loop	2.6	0.0	0.0
Alexander City Loop	6.4	1.2	0.0
Hillabee Expansion Project Subtotal	40.2	3.3	0.0
Sabal Trail Project			
Mainline	433.2	43.5	3.9
Citrus County Line	13.8	6.9	0.9
Hunters Creek Line	7.6	0.5	5.0
Sabal Trail Project Subtotal	454.6	50.9	9.8
Florida Southeast Connection Project	84.6	22.8	19.2
Southeast Market Pipelines Project Total	579.7	77.0	29.0

Note: The totals shown in this table may not equal the sum of addends due to rounding.

The majority of the pipeline routes would be in Class 1 areas. If a subsequent increase in population density adjacent to the right-of-way results in a change in class location for the pipeline, Transco, Sabal Trail, or FSC would reduce the MAOP or replace the segment with pipe of sufficient grade and wall thickness, if required to comply with DOT requirements for the new class location.

The DOT Pipeline Safety Regulations require operators to develop and follow a written Integrity Management Program that contain all the elements described in 49 CFR 192.911 and address the risks on each transmission pipeline segment. Specifically, the rule establishes an integrity management program that applies to all high-consequence areas (HCA).

The DOT has published rules that define HCAs where a gas pipeline accident could do considerable harm to people and their property and requires an integrity management program to minimize the potential for an accident. This definition satisfies, in part, the Congressional mandate for

DOT to prescribe standards that establish criteria for identifying each gas pipeline facility in a high-density population area.

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

- current Class 3 and 4 locations;
- any area in Class 1 or 2 where the potential impact radius[19] is greater than 660 feet and there are 20 or more buildings intended for human occupancy within the potential impact circle;[20] or
- any area in Class 1 or 2 where the potential impact circle includes an identified site.

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

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

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

Once a pipeline operator has determined the HCAs along its pipeline, it must apply the elements of its integrity management program to those sections of the pipeline within HCAs. DOT regulations specify the requirements for the integrity management plan in Subpart O of Part 192, Gas Transmission Pipeline Integrity Management.

Table 3.13.1-2 lists the HCAs for the SMP Project, which have been determined based on the relationship of the pipeline centerline to nearby structures and identified sites. No HCAs would be located along the loops associated with the Hillabee Expansion Project.

The pipeline and aboveground facilities would be designed, constructed, operated, and maintained in accordance with the DOT's Minimum Federal Safety Standards in 49 CFR 192. The general construction methods that the Applicants would implement to ensure the safety of the project are described in section 2.3, including welding, inspection, and integrity testing procedures.

[19] The potential impact radius is calculated as the product of 0.69 and the square root of the MAOP of the pipeline in pounds per square inch (gauge) multiplied by the square of the pipeline diameter in inches.

[20] The potential impact circle is a circle of radius equal to the potential impact radius.

TABLE 3.13.1-2

High Consequence Areas Crossed by the Southeast Market Pipelines Project

Project/State Facility	County	Begin Milepost	End Milepost	Length (miles)
Hillabee Expansion Project	-	-	-	0.0
Sabal Trail Project				
Alabama				
Mainline				
	Lee	48.2	48.9	0.6
	Russell	72.5	72.6	0.1
	Russell	72.6R	73.1R	0.6
	Russell	74.0	74.5	0.5
	Russell	84.3	85.1	0.8
Sabal Trail Project – Alabama Subtotal				2.6
Georgia				
Mainline	Dougherty	153.7	154.5	0.8
	Dougherty	164.5	165.1	0.6
	Dougherty	167.4	167.9	0.5
	Colquitt	200.3	201.1	0.8
Sabal Trail Project – Georgia Subtotal				2.8
Florida				
Mainline	Suwannee	270.3R	271.2R	0.9
	Suwannee	306.7	307.5	0.8
	Gilchrist	318.1	318.5	0.4
	Gilchrist	334.1	334.7	0.5
	Marion	390.1R	390.8R	0.7
	Sumter	414.1	415.0	0.9
	Sumter	422.3	423.1	0.7
	Lake	456.4	457.2	0.7
	Polk	464.2R	464.3R	0.1
	Polk	464.0	465.8	1.8
	Osceola	465.8	466.0	0.2
	Osceola	470.0	471.1	1.1
	Osceola	473.4	474.0	0.6
Citrus County Line	Citrus	5.7	6.6	0.8
	Citrus	6.6	7.4	0.8
Hunters Creek Line	Osceola	0.1	0.9	0.7
	Osceola	5.7	7.2	1.5
	Osceola	7.2R	7.6R	0.4
	Osceola	7.6	8.6	1.0
	Osceola	9.6	10.2	0.7
	Osceola	10.2R	10.4R	0.1
	Osceola	10.4	11.0	0.6
	Osceola	11.0R	11.1R	0.1
	Osceola	11.1	12.9	1.9
Sabal Trail Project – Florida Subtotal				18.1
Sabal Trail Project Subtotal				23.4
Florida Southeast Connection Project				
	Osceola	0.0	5.2	5.2
	Polk	5.2	5.7	0.7
	Polk	11.3	12.4	1.2
	Polk	23.6	25.0	1.5

TABLE 3.13.1-2 (cont'd)

High Consequence Areas Crossed by the Southeast Market Pipelines Project

Project/State Facility	County	Begin Milepost	End Milepost	Length (miles)
	Polk	27.9	28.9	1.0
	Polk	29.5	31.0	1.5
	Polk	32.2	35.7	3.5
	Polk	41.8	41.9	0.1
	Polk	51.3	51.5	0.2
	Osceola	72.0	73.6	1.6
	Okeechobee	84.3	85.4	1.1
	Okeechobee	93.8	94.7	0.9
	Martin	118.0	118.8	0.7
Florida Southeast Connection Project Subtotal				19.2
Southeast Market Pipelines Project Total				42.6

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

- receiving, identifying, and classifying emergency events, gas leakage, fires, explosions, and natural disasters;
- establishing and maintaining communications with local fire, police, and public officials, and coordinating emergency response;
- emergency system shutdown and safe restoration of service;
- making personnel, equipment, tools, and materials available at the scene of an emergency; and
- protecting people first and then property, and making them safe from actual or potential hazards.

We received comments regarding potential safety impacts associated with the installation of the Sabal Trail Project in areas of karst terrain, including the potential for sinkhole formation to damage the proposed facilities. Section 3.1.2.3 includes a discussion of the potential for karst activity to damage SMP Project facilities.

We received comments regarding the potential for fires and controlled burns to affect the proposed pipeline facilities. DOT requirements do not include standards for the use of fire-resistant materials during the installation of underground natural gas pipelines. However, as discussed above, the Applicants would develop emergency plans that would include establishing and maintaining adequate means of communication with appropriate fire, police, and other public officials, and developing prompt and effective response to a notice of each type of emergency, including that of a fire near or directly involving a pipeline facility. The Applicants would develop the emergency response plans in coordination with local emergency response officials, thereby ensuring that its proposed response to a pipeline emergency would be acceptable.

The DOT also requires pipeline operators to place pipeline markers at frequent intervals along the pipeline rights-of-way, such as where a pipeline intersects a street, highway, railway or waterway, and at other prominent points along the route. Pipeline right-of-way markers can help prevent encroachment and excavation-related damage to pipelines. Because the pipeline right-of-way is much wider than the pipeline itself, and a pipeline can be anywhere within the right-of-way, state laws require excavators to call their state One-Call center well in advance of digging to locate underground utilities and ensure it is safe for the contractor to dig in that location.

In accordance with DOT regulations, the proposed facilities would be regularly inspected for leakage as part of scheduled operations and maintenance, including:

- physically walking and inspecting the pipeline corridor periodically;
- conducting fly-over inspections of the right-of-way as required;
- inspecting and maintaining MLVs and M&R stations; and
- conducting leak surveys at least once every calendar year or as required by regulations.

During inspections, employees would look for signs of unusual activity on the right-of-way and would immediately respond to assess the nature of the activity and remedy with prescribed corrective action.

Cathodic protection[21] would be installed along the entire length of the new pipelines to prevent corrosion. Applicant personnel would check the voltage and amperage at regular intervals as well as the pipe-to-soil potentials and rectifiers. In addition, annual surveys are completed, as described above.

Pipeline markers identifying the owner of the pipe and a 24-hour telephone number would be placed for "line of sight" visibility along the entire pipeline length, except in active agricultural crop locations and in waterbodies in accordance with DOT requirements.

We received comments regarding the ability to detect leaks in the pipeline system when an odorant has not been introduced into the natural gas. The Applicants would install data acquisition systems that allow monitoring of pipeline flows and pressures at various points along the system. The system would permit remote closing of MLVs in the event of an incident along the pipeline systems and would utilize a combination of radio and/or satellite communications to transmit data from the pipeline to the Applicants' current gas control centers. Transco's and Sabal Trail's Gas Control Centers would be in Houston, Texas, and FSC's Pipeline Control Center would be in Juno Beach, Florida. In addition, a secondary Pipeline Control Center would be available in Nashville, Tennessee for the Sabal Trail Project. The data acquisition systems would be monitored by gas control technicians who are on duty 24 hours a day, 365 days a year. If unexpected pressure changes are noted that indicate the possibility of a leak, the gas controller on duty can either shut in the pipeline MLVs upstream and downstream of the apparent leak and/or dispatch field technicians to investigate the pressure change.

The DOT regulations specified in Part 192 require that the Applicants establish and maintain liaison with appropriate fire, police, and public officials to learn the resources and responsibilities of each organization that may respond to a natural gas pipeline emergency, and to coordinate mutual assistance. The Applicants would utilize the emergency procedures contained in each project emergency response plan, which require communication with emergency responders on an annual basis. Local contact phone numbers, external contact information, equipment or resources available for mobilization, and any specific procedures to be followed for the Applicants would be incorporated into the emergency response plans prior to commencement of pipeline operations. The Applicants would 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.

The Applicants would establish and maintain liaison with appropriate fire, police, and public officials in a variety of ways. The Applicants' annual communications would include the following information:

- the potential hazards associated with project facilities located in their service area and prevention measures undertaken;
- the types of emergencies that may occur on or near the Applicants' facilities;
- the purpose of pipeline markers and the information contained on them;

[21] Cathodic protection is a technique to reduce corrosion (rust) of the natural gas pipeline that includes the use of an induced current and/or a sacrificial anode that corrodes preferentially.

- pipeline location information and the availability of the National Pipeline Mapping System;

- recognition of and response to pipeline emergencies; and

- procedures to contact each Applicant for more information.

The Applicants' communications with local emergency responders may involve individual meetings, group meetings, or direct mailings. In addition, the Applicants would perform periodic emergency exercises and mock emergency drills with local government, law enforcement, and emergency response agencies, subject to agency availability and willingness to participate.

We received comments regarding the potential to damage existing, older pipelines during construction of the SMP Project, and the potential cumulative safety risk of multiple collocated natural gas pipelines. Collocation of natural gas transmission facilities is a common and encouraged industry practice. Although the Applicants would utilize existing pipeline right-of-way as temporary workspace to some degree, the Applicants would typically not operate heavy equipment over existing pipeline facilities and would generally install the new facilities at least 25 feet from existing pipelines. As discussed above, the existing and proposed natural gas pipeline facilities would be constructed and operated in accordance with the DOT's safety requirements, including pipeline inspections to identify potential corrosion or other impacts associated with the integrity of the facilities.

We received comments from SONAT expressing concern about pipeline integrity and public safety related to the number of times Sabal Trail's Mainline would cross its existing pipeline. In its application, Sabal Trail proposed 73 crossings of the SONAT pipeline. Based on SONAT's concerns, Sabal Trail modified the Mainline route and eliminated more than one-third of the originally proposed crossings (see section 4.3.2 and table 4.3.2-1 in appendix D). Sabal Trail has also committed to work with SONAT on the design and construction methods for the 47 proposed crossings, cathodic protection systems, and future maintenance activities. According to Sabal Trail, these Mainline crossings would be necessary to minimize impacts on residences, cultural resources, and other environmental resources and to address construction constraints (e.g., steep side slopes). We have reviewed these crossings and find that they are sufficiently justified.

We received comments from Dougherty County, the City of Albany, and numerous citizens expressing concern about impacts on residences and public safety resulting from operation of the proposed Albany Compressor Station. The Countryside Village Mobile Home Park is about 0.2 mile northwest of the site. Also, residential subdivisions, churches, and schools are at least 1.4 miles from the site (see section 3.9.2.8). As discussed above, the SMP Project aboveground facilities, including the Albany Compressor Station, would be designed, constructed, operated, and maintained in accordance with DOT *Minimum Federal Safety Standards* in 49 CFR 192. In addition to the general safety procedures discussed above, specific safety measures that Sabal Trail would implement at its proposed compressor stations include:

- Each compressor station would be completely surrounded by a chain link fence with barbed wire to maintain the safety of the facility and workers.

- A controlled access system and intrusion alarm network would be installed to restrict access to authorized personnel and the facilities would be monitored with video cameras.

- Compressor buildings would be ventilated to minimize the potential of gas accumulating in enclosed areas and would be constructed of noncombustible material.

- Compressor stations would be equipped with automatic emergency detection and shut-down systems that include sensors for detecting natural gas concentrations as well as sensors for detecting flames. The system would be maintained and tested routinely to ensure proper operation.

- Compressor station equipment would be designed to shut down automatically if system operation deviates from its designed operating limits, which could cause a mechanical failure and pose risk to personnel and equipment or otherwise constitute a hazard. The compressor stations would also be equipped with relief valves to protect the piping from over-pressurization.

- Fire protection, first aid, and safety equipment would be maintained at the compressor stations and Sabal Trail's emergency response personnel would be trained in proper equipment use and in first aid.

Based on Sabal Trail's compliance with federal design and safety standards and its implementation of the aforementioned safety measures, we conclude that constructing and operating the Albany Compressor Station would not significantly impact public safety.

3.13.2 Pipeline Accident Data

The DOT requires all operators of natural gas transmission pipelines to notify the National Response Center at the earliest practicable moment following the discovery of an incident and to submit a report within 30 days to the PHMSA. Incidents are defined as any leaks that:

- caused a death or personal injury requiring hospitalization; or

- involve property damage, including cost of gas lost, of more than $50,000, in 1984 dollars.[22]

During the 20-year period from 1995 through 2014, a total of 1,265 significant incidents were reported on the more than 315,000 total miles of natural gas transmission pipelines nationwide. To provide perspective, there were 22 incidents in Alabama, 7 incidents in Georgia, and 19 incidents in Florida during this same time period (DOT, 2015a).

Additional insight into the nature of service incidents may be found by examining the primary factors that caused the failures. Table 3.13.2-1 provides a distribution of the causal factors as well as the number of each incident by cause from 1995 to 2014.

The dominant causes of pipeline incidents from 1995 to 2014 were corrosion and pipeline material, weld, or equipment failure, constituting 45.7 percent of all significant incidents. The pipelines included in the data set in table 3.13.2-1 vary widely in terms of age, diameter, and level of corrosion control. Each variable influences the incident frequency that may be expected for a specific segment of pipeline.

[22] $50,000 in 1984 dollars is approximately $112,956 in 2015 (Bureau of Labor Statistics, 2015).

TABLE 3.13.2-1

Natural Gas Transmission Pipeline Significant Incidents by Cause (1995-2014) [a]

Cause	Number of Incidents	Percentage
Corrosion [b]	290	22.9
Excavation	207	16.4
Pipeline material, weld, or equipment failure	334	26.4
Natural force damage	148	11.7
Outside Force [c]	79	6.2
Incorrect operation	40	3.2
All other causes [d]	167	13.2
Total	1,265	100

[a] All data gathered from PHMSA Significant Incident files, July 15, 2015.
[b] Includes third-party damage.
[c] Fire, explosion, vehicle damage, previous damage, intentional damage.
[d] Miscellaneous causes or other unknown causes.
Source: DOT, 2015a.

The frequency of significant incidents is strongly dependent on pipeline age. Older pipelines have a higher frequency of corrosion incidents because corrosion is a time-dependent process. Jones et al. (1986) compared reported incidents with the presence or absence of cathodic protection and protective coatings. The results of that study, summarized in table 3.13.2-2, indicated that corrosion control was effective in reducing the incidence of failures caused by external corrosion. The use of both an external protective coating and a cathodic protection system, required on all pipelines installed after July 1971, significantly reduces the corrosion rate compared to unprotected or partially protected pipe. The data also indicate that cathodically protected pipe without a protective coating actually has a higher corrosion rate than unprotected pipe. This anomaly reflects the retrofitting of cathodic protection to actively corroding spots on pipes.

TABLE 3.13.2-2

Incidents Caused by External Corrosion and Level of Protection (1970 through June 1984)

Corrosion Control	Incidents per 1,000 Miles per Year
None – bare pipe	0.42
Cathodic protection only	0.97
Coated only	0.40
Coated and cathodic protection	0.11

Source: Jones et al., 1986

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

Outside force, excavation, and natural forces were the cause in 34.3 percent of significant pipeline incidents from 1995 to 2014. These result from the encroachment of mechanical equipment such as bulldozers and backhoes; earth movements due to soil settlement, washouts, or geological hazards; and weather effects such as winds, storms, and thermal strains; and willful damage. Table 3.13.2-3 provides a breakdown of outside force incidents by cause.

TABLE 3.13.2-3

Outside Forces Incidents by Cause [a] (1995-2014)

Cause	Number of Incidents	Percent of All Incidents
Third party excavation damage	172	13.6
Operator excavation damage	24	1.9
Unspecified excavation damage/Previous damage	11	0.9
Heavy Rain/Floods	72	5.7
Earth Movement	35	2.8
Lightning/Temperature/High Winds	26	2.0
Natural force	15	1.2
Vehicle (not engaged with excavation)	47	3.7
Fire/Explosion	8	0.6
Previous mechanical damage	6	0.5
Fishing or maritime activity	9	0.8
Intentional damage	1	0.1
Electrical arcing from other equipment/facility	1	0.1
Unspecified/Other outside force	7	0.6
Total	434	34.3

[a] Excavation, Outside Force, and Natural Force from table 3.13.2-1.

Source: DOT, 2015a.

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

We received comments regarding the safety history on Transco's and Sabal Trail's existing pipeline systems. The Commission reviews each project based on its own merits and has siting authority for interstate natural gas infrastructure. PHMSA would be notified of and investigate all pipeline accidents and take any necessary action. Although this information is not relevant to the scope of the Hillabee Expansion Project or Sabal Trail Project, Transco and Sabal Trail provided a summary of the incidents on their respective pipeline systems. In addition, pipeline operator compliance and incident history is publically available on the PHMSA website at www.phmsa.dot.gov/pipeline.

3.13.3 Impacts on Public Safety

The service incident data summarized in table 3.13.2-1 include pipeline failures of all magnitudes with widely varying consequences. Table 3.13.3-1 presents the average annual fatalities that occurred on natural gas transmission lines between 2010 and 2014. The data has been separated into employees and nonemployees to better identify a fatality rate experienced by the general public. Fatalities among the public averaged two per year over the 20 year period from 1995 to 2014. There were five injuries in Alabama and four in Florida during this time period; however, there were no fatalities in Alabama, Georgia, or Florida.

The majority of fatalities from natural gas pipelines are associated with local distribution pipelines. These pipelines are not regulated by FERC; they distribute natural gas to homes and businesses after transportation through interstate transmission pipelines. In general, these distribution lines are smaller-diameter pipes and/or plastic pipes that are more susceptible to damage. In addition, local

distribution systems do not have large rights-of-way and pipeline markers common to FERC-regulated interstate natural gas transmission pipelines.

TABLE 3.13.3-1

Injuries and Fatalities – Natural Gas Transmission Pipelines

Year	Injuries		Fatalities	
	Employees	Public	Employees	Public
2010 [a]	10	51	2	8
2011	1	0	0	0
2012	3	4	0	0
2013	0	2	0	0
2014	1	0	1	0

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

Source: DOT, 2015b.

The nationwide totals of accidental fatalities from various anthropogenic and natural hazards are listed in table 3.13.3-2 in order to provide a relative measure of the industry-wide safety of natural gas transmission pipelines. Direct comparisons between accident categories should be made cautiously, however, because individual exposures to hazards are not uniform among all categories. As indicated in table 3.13.3-2, the number of fatalities associated with natural gas facilities is much lower than the fatalities from natural hazards such as lightning, tornados, floods, earthquakes, etc.

TABLE 3.13.3-2

Nationwide Accidental Deaths [a]

Type of Accident	Annual No. of Deaths
All accidents	130,557
Motor vehicle	35,369
Poisoning	38,851
Falls	30,208
Drowning	3,391
Fire, smoke inhalation, burns	2,760
Floods [b]	82
Lightning [b]	23
Tornado [b]	55
Natural gas distribution lines [c]	14
Natural gas transmission pipelines [c]	2

[a] All data, unless otherwise noted, reflects 2013 statistics from: U.S. Department of Health and Human Services, CDC, National Center of Health Statistics, National Vital Statistics System, 2015.

[b] Reflects 2013 statistics from: U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Weather Service, 2015.

[c] 20-year average, 1995-2014. DOT, 2015c; d.

The available data show that natural gas transmission pipelines continue to be a safe, reliable means of energy transportation. From 1995 to 2014, there were an average of 63 significant incidents and 2 fatalities per year. The number of significant incidents distributed over the more than 300,000 miles of natural gas transmission pipelines indicates the risk is low for an incident at any given location. The rate of total fatalities for the nationwide natural gas transmission lines in service is approximately 0.01 per year per 1,000 miles of pipeline. Using this rate, implementing the proposed 685.5-mile-long SMP Project might result in a fatality (either an industry employee or a member of the public) on the pipeline

every 146 years. The operation of the project would represent only a slight increase in risk to the nearby public.

3.13.4 Terrorism

Safety and security concerns have changed the way pipeline operators as well as regulators must consider terrorism, both in approving new projects and in operating existing facilities. The Office of Homeland Security is tasked with the mission of coordinating the efforts of all executive departments and agencies to detect, prepare for, prevent, protect against, respond to, and recover from terrorist attacks within the United States. Among its responsibilities, the U.S. Department of Homeland Security oversees the Homeland Infrastructure Threat and Risk Analysis Center, which analyzes and implements the National Critical Infrastructure Prioritization Program that identifies and lists Tier 1 and Tier 2 assets. The Tier 1 and Tier 2 lists are key components of infrastructure protection programs and are used to prioritize infrastructure protection, response, and recovery activities. The Commission, in cooperation with other federal agencies, industry trade groups, and interstate natural gas companies, is working to improve pipeline security practices, strengthen communications within the industry, and extend public outreach in an ongoing effort to secure pipeline infrastructure.

The Commission, like other federal agencies, is faced with a dilemma in how much information can be offered to the public while still providing a significant level of protection to the facility. Consequently, the Commission has taken measures to limit the distribution of information to the public regarding facility design to minimize the risk of sabotage. Facility design and location information has been removed from the FERC's website to ensure that sensitive information filed as Critical Energy Infrastructure Information is not readily available to the public (Docket No. RM06-23-000, issued October 30, 2007 and effective as of December 14, 2007).

The likelihood of future acts of terrorism or sabotage occurring at the SMP Project facilities, or at any of the myriad natural gas pipeline or energy facilities throughout the United States, is unpredictable given the disparate motives and abilities of terrorist groups. Further, the Commission, in cooperation with other federal agencies, industry trade groups, and interstate natural gas companies, is working to improve pipeline security practices, strengthen communications within the industry, and extend public outreach in an ongoing effort to secure pipeline infrastructure.

In accordance with the DOT surveillance requirements, the Applicants would incorporate air and ground inspection of its proposed facilities into its inspection and maintenance program. Security measures at the new aboveground facilities would include secure fencing.

Despite the ongoing potential for terrorist acts along any of the nation's natural gas infrastructure, the continuing need for the construction of these facilities is not eliminated. Given the continued need for natural gas conveyance and the unpredictable nature of terrorist attacks, the efforts of the Commission, the DOT, and the Office of Homeland Security to continually improve pipeline safety would minimize the risk of terrorist sabotage of the SMP Project to the maximum extent practical, while still meeting the nation's natural gas needs. Moreover, the unpredictable possibility of such acts does not support a finding that this particular project should not be constructed.

3.14 CUMULATIVE IMPACTS

The region in which the SMP Project would be located has been affected by human activity for over 15,000 years beginning with indigenous peoples who lived in large settlements and associated satellite villages. Today approximately 35 million people reside in Alabama, Georgia, and Florida. These three states have a combined annual gross domestic product of about $13.7 trillion based on

farming, ranching, mineral extraction, commerce, tourism, and other industries. Although the region has been substantially affected by human activity, valuable natural resources remain. NWI data indicates that there are approximately 2.4 million acres of wetlands in the counties that would be crossed by the SMP Project, and National Land Cover Data from the EPA indicates that there are about 4.5 million acres of upland forest in these same counties.

In accordance with NEPA, we identified other actions located in the vicinity of the SMP Project facilities and evaluated the potential for a cumulative impact on the environment. A cumulative impact results from adding the impacts of the proposed action with the impacts of other past, present, and reasonably foreseeable future actions. This analysis evaluates other actions that impact resources also affected by the SMP Project, within the resource-specific regions of influence described below. In this analysis, we consider the impacts of past projects within the regions of influence as part of the affected environment (environmental baseline) which was described and evaluated in the preceding environmental analysis. Actions located outside the regions of influence are generally not evaluated because their potential to contribute to a cumulative impact diminishes with increasing distance from the SMP Project. For example, we received comments recommending that we evaluate the cumulative impacts of the SMP Project and shale gas production in Texas and Pennsylvania. While shale gas production in these states may impact the same resources affected by the SMP Project, these impacts are so far removed from the project area that the effects are not additive with those of the SMP Project. Therefore, we do not address these activities in this analysis.

As described throughout this EIS, constructing and operating the SMP Project would temporarily and permanently impact the environment. However, we conclude that these impacts would not be significant. Additionally, based on the collocation of the SMP Project pipelines with existing rights-of-way (66 percent of the total length), the Applicants' implementation of their construction and restoration plans, and their adherence to our recommendations, we find that with the exception of temporary socioeconomic impacts (e.g., housing, traffic, public services) and long-term air emissions, the impacts of the SMP Project would be largely limited to a narrow corridor that extends for about 685 miles across three states.

Based on the impacts of the SMP Project, the following resource-specific regions of influence were used in this analysis:

- Impacts on geology, soils, wetlands, vegetation, and wildlife would be largely contained within or adjacent to proposed SMP Project workspaces. Impacts on water resources (primarily increased turbidity) could extend outside of the workspaces, but would also be contained to a relatively small area. Therefore, for these resources we evaluated other projects/actions within the HUC 12 sub-watersheds crossed by the SMP Project.

- Impacts on cultural resources would also be largely contained within or adjacent to proposed SMP Project workspaces. Therefore, we evaluated other projects/actions that overlapped with known cultural features potentially affected by the SMP Project.

- Temporary impacts on air quality, including fugitive dust, would be largely limited to areas immediately around active construction. Long-term impacts on air quality would be largely contained within about a 30 mile radius. We evaluated other projects/actions that overlap in time and location with construction activities and those with potentially significant long-term stationary emission sources within a 30 mile radius of the SMP Project.

- Long-term impacts on NSAs were evaluated by identifying other stationary source projects with the potential to result in significant noise that would affect the same NSAs within 0.5 mile of the SMP Project compressor stations. None were identified; therefore we do not consider long-term cumulative noise impacts further in this analysis. However, we did consider areas where the temporary noise from construction of the SMP Project would overlap with noise from other construction projects.

- Communities that could be affected by the increased workforce were considered in our analysis. In more rural locations of the SMP Project, these communities could be located numerous miles from SMP Project workspace.

In addition to the geographic relationship between the SMP Project and other projects in the area, we also considered the temporal relationship between the SMP Project and other projects in the area. The SMP Project would be constructed during three phases over a 5 year period, with a majority of the construction activities occurring between May 2016 and May 2017. As discussed in section 3.0 and summarized below, the majority of impacts associated with the SMP Project would occur during construction and most resources would return to pre-construction conditions shortly after or within 3 years of construction. Thus, construction-related cumulative impacts could occur if other projects in the region of influence would impact the same resources within these timeframes. In addition, permanent impacts resulting from the operation of the SMP Project could contribute to a cumulative impact in the region of influence.

The SMP Project would impact geology, soils, water resources, vegetation, wetlands, wildlife, cultural resources, visual resources, and some land uses. Our review of the SMP Project concludes that nearly all impacts would be contained within or adjacent to the temporary construction right-of-way and ATWS. Erosion control measures included in the Applicants' construction and restoration plans, for example, would keep disturbed soils within work areas. For other resources, the contribution to regional cumulative impacts is lessened by the expected recovery of ecosystem function. For example, the SMP Project would impact 940.2 acres of wetlands; however the vast majority of these impacts (717.2 acres) would only involve the conversion of the vegetative cover and these wetlands would remain functional wetland habitats. This is in contrast with other large-scale development projects in which wetlands are permanently converted to uplands. Similarly, vegetative communities would be cleared, but restoration would proceed immediately following construction. We determined that visual impacts would be minimal at any discrete location along the proposed routes. Because the impacts of the SMP Project would generally be localized, they would only contribute incrementally to a cumulative impact in the region of influence.

Long-term air emissions and forest clearing would contribute to cumulative impacts within the regions of influence and are addressed further below. Other projects/actions within the regions of influence would involve the use of heavy equipment that would produce dust, increase traffic and air emissions. Additionally, when completed, the residential, commercial, and industrial developments in the regions of influence would increase air emissions and noise through increased traffic and operation of industrial equipment. The combination of these effects would add to the air impacts in the area.

Emissions from construction equipment would be primarily restricted to daylight hours and would be minimized through applicable equipment emission standards. Because the construction emissions would be short-term, intermittent, and highly localized, cumulative impacts would depend on the type and location of construction activities occurring at the same time. The majority of these effects would be mitigated by the large geographical area over which the various projects are located and the fact that the SMP Project would be constructed in phases over a 5 year period. Construction air emissions from the SMP Project are not expected to have a significant impact on air quality in the region.

The counties where the proposed compressor stations would be located are designated as attainment or unclassifiable for all NAAQS criteria pollutants. The operational emissions from the SMP Project would not be expected to cause a NAAQS exceedance and, as described in the following project/action-specific discussions, the other notable and reasonably foreseeable stationary source projects in the region would either result in insignificant emission increases and/or be required to comply with applicable air quality regulations.

3.14.1 Past, Present, and Reasonably Foreseeable Projects

Table 3.14-1 in appendix D identifies the past, present, and reasonably foreseeable projects or actions that occur within the regions of influence. These projects were identified by a review of publicly available information, aerial and satellite imagery, consultations with federal, state and local agencies and development authorities, and information provided by the Applicants, affected landowners, and concerned citizens. The identified projects generally fall into four classes: energy projects, residential and other developments, roadway projects, and mining operations.

3.14.1.1 Energy Projects

As noted in section 1.4, non-jurisdictional electric service would be provided to the proposed aboveground facilities. Existing electric service is available or very close to nearly all of the proposed facilities, and would require simple drop-down service lines. Some facilities would require longer extensions of existing electric service. Transco indicated that the Black Warrior Electric Corporation would construct a 0.6-mile long service line along Transco's existing pipeline right-of-way to proposed Compressor Station 84, thereby limiting vegetation clearing or land disturbance. Sabal Trail indicated that Alabama Power may have to replace an existing 4-mile-long power line to the Alexander Compressor Station, but that this replacement would not impact the existing right-of-way. Sabal Trail also identified four aboveground facilities where existing service would be extended between 500 to 1,000 feet by the local power company, and that some vegetation clearing would be needed for three of four extensions. Based on a 50-foot-wide construction right-of-way, we estimate that these extensions would impact a total of about 3 acres of land. Lastly, Sabal Trail indicated that the Central Florida Electric Cooperative would extend existing service about 3,900 feet to MLV 23 in Alachua County, and that this extension would require clearing of dense vegetation. Based on aerial imagery, it appears the service line would follow an existing road through planted pine forest; we estimate that this extension would result in the removal of approximately 5 acres of planted pine. Due to the limited length of the non-jurisdictional electric service extensions, the degree of collocation with existing rights-of-way, and considering that the local electric service providers would obtain required permits, we have determined that the impacts of the electric service extensions when added to the impacts of the SMP Project facilities would not result in significant cumulative impact on any affected resource.

Transco's Mobile Bay South III Project (CP13-523-000) involved the installation of a 20,500 hp natural gas-fired turbine compressor inside a new acoustically attenuating building within the fence line of Transco's existing Compressor Station 85, about 1.5 miles west from proposed Compressor Station 84. The project included other limited activities more than 50 miles from the Compressor Station 84 area. Construction at Compressor Station 85 disturbed 34 acres of land including 26 acres of open land, 7 acres of industrial/commercial land, 1 acre of upland forest, and less than 1 acre of wetland; operation of the new facilities affected 2 acres of land. The Mobile Bay South III Project was completed and placed into service in April 2015. Based on the limited and localized construction-related impacts at Compressor Station 85, and the distance from and offset timing with construction at proposed Compressor Station 84, the two projects would not result in any significant cumulative impacts on any resources, with the possible exception of long-term air quality as described below.

Modeling provided by Transco demonstrated that the most significant air pollutant emissions (NO_x and CO) from proposed Compressor Station 84 would not cause a NAAQS exceedance. This modeling included a background concentration to account for existing sources of NO_2 and CO. The modeling estimated ambient concentrations well below the NAAQS (less than 1.4 percent of the CO NAAQS and less than 36.2 percent of the NO_2 NAAQS). Because this analysis evaluated the maximum potential emissions from Compressor Station 84 and background concentration to account for other NO_2 sources, we have determined that there would not be a significant cumulative impact on regional air quality. Also, based on their distance and intervening forested areas, we have determined that the projects would not result in any significant cumulative noise impacts on NSAs between Compressor Stations 84 and 85.

The FGT Jacksonville Expansion Project (CP15-144-00) would include 3 miles of pipeline loop construction approximately 3 miles from the Sabal Trail Mainline (MP 300.00) in Suwannee County, Florida. The project would also include modifications at an existing compressor station about 35 miles from the proposed Hildreth Compressor Station, which is outside the region of influence we considered for cumulative impacts on air quality. Construction of the two projects could coincide and would result in similar, localized impacts on resources including soils, vegetation, water resources, and air quality. However, based on the limited scope of the Jacksonville Expansion Project and the distance between the two projects, we have determined that the impacts of this project when added to those of the SMP Project would not result in a significant cumulative impact on any affected resource.

The Strom, Inc. LNG Project would involve a small, mobile natural gas liquefaction facility ("LNG in a Box") that is currently proposed to be located on a 15-acre developed parcel about 0.3 mile south from MP 20.00 of the CCL and about 18 miles west of the proposed Dunnellon Compressor Station. This project is currently being reviewed by the DOE and as designed would be capable of liquefying 0.08 Bcf/d of natural gas for transport via truck, rail, or ship to domestic or overseas customers. In its DOE application, Strom, Inc., indicated that it could readily relocate the facility to areas of Florida where small volumes of LNG would be in demand. Given that the proposed site is disturbed and considering the modular nature of the liquefaction plant, little construction-related environmental impact would occur and, thus, little or no cumulative impact would occur in conjunction with the SMP Project. In addition, the facility would be required to obtain all applicable environmental permits, including air permits. Therefore, we conclude the impacts of the Strom, Inc., LNG facility and the SMP Project would not result in significant cumulative impacts on long-term air quality in the region.

As noted in section 1.4, DEF plans to build the 1,640 MW combined cycle DEF Citrus Plant on a 400-acre parcel adjacent to DEF's Crystal River Energy Complex (CREC). DEF received a Determination of Need from the FPSC and approval of its Site Certification application which will provide for consolidated environmental review and permitting of the project through the FDEP. Federal agencies involved in the review and approval of the project include the USACE, FWS, NMFS, and EPA. Available information indicates that construction of the power plant and associated facilities would impact 228 acres including about 183 acres of forest, 23 acres of wetland, 7 acres of freshwater marsh, and 15 acres within existing maintained electric transmission right-of-way. The wetland impacts would include about 4 acres that would be filled, 8 acres that would be converted from forested to herbaceous, and 11 acres that would be temporarily affected. Construction of the project is expected to begin in early 2016 and extend for approximately 24 months, with a partial in-service date of May 2018. Sabal Trail would construct the CCL to serve the new power plant and the DEF Citrus County M&R Station would be on the grounds of the plant. Construction and operation of the DEF Citrus County M&R Station would impact 9.7 acres and 4 acres, respectively, including 6.4 and 3.2 acres of forest, 1.1 and 0.2 acres of wetland, and 2.2 and 0.6 acres open/other land. The construction timing of the projects would overlap and thus, the impacts of the projects where they overlap would be cumulative. However, cumulative impacts would be minimized by implementation of Sabal Trail's construction and restoration plans and

similar plans expected to be implemented by DEF. Workforces from each project could seek housing and other services from the same area during construction; however housing and other services in the area would be sufficient to meet these requirements. There are no NSAs within at least 1 mile from the DEF Citrus Plant and the Citrus County M&R Station, therefore no cumulative impacts from construction noise or dust would occur, and the Citrus County M&R Station would not significantly contribute to operational noise or air emissions from the new power plant or CREC facility. The proposed Dunnellon Compressor Station is about 20 miles to the east of the planned power plant and within the region of influence for potential cumulative impacts on regional air quality. However, our analysis determined that operating air emissions from the Dunnellon Compressor Station would not result in an exceedance of the applicable NAAQS, and air emissions from the new power plant would also have to meet applicable federal standards. As a result, operation of the SMP Project and the DEF Citrus Plant would not result in a significant long-term cumulative impact on regional air quality. In addition, the CREC currently includes four coal-fired electric generation units, two of which would be retired when the DEF Citrus Plant comes on-line, thereby reducing overall air emissions in the region.

On July 2, 2015 FPL announced its plan to construct a 1,600 MW combined cycle electric generation plant on a 2,800-acre site in northeastern Okeechobee County, Florida. Before proceeding, FPL must first obtain a Determination of Need from the FPSC and approval from the Florida Siting Board which includes environmental review and permit coordination through the FDEP. If approved, construction would begin in 2017 and the plant would be on-line in 2019. Specific environmental impacts associated with construction and operation of the planned facility are not known at this time; however, we expect that construction may temporarily impact hundreds of acres of land and operations would include substantial permanent industrial structures and supporting infrastructure. However, the site is located about 3 miles northwest from FSC Project MP 80, and considering that construction timing of the two projects would not overlap substantially, significant construction-related cumulative impacts between the projects would not be expected. The power plant would also be about 60 miles from the proposed Reunion Compressor Station, which is outside the region of influence we considered for cumulative impacts on air quality. We also note that the planned FPL Okeechobee Plant is part of FPL's strategy to replace older, less efficient power plants with modern, more efficient natural gas-fired facilities. FPL has indicated that the plant would be served by a 3- to 4-mile-long lateral from the FSC Project; such a lateral would be under FERC jurisdiction and subject to separate environmental review which would disclose the impacts, including cumulative impacts, associated with the lateral. If additional information becomes available, prior to preparation of the FEIS for the SMP Project, regarding the possible location and associated impacts of this lateral, we would include that in the document.

On July 16, 2015 the FERC authorized the downsizing of Phase 1 of the proposed Floridian Natural Gas Storage Project (CP13-541-000) which would involve a small natural gas liquefaction facility capable of liquefying 0.1 Bcf/d of natural gas for send-out via truck to customers or storage in a 1 Bcf aboveground natural gas storage tank to be constructed at the site. The site is located on a previously developed brownfield property about 2.8 miles southwest from the termination of the FSC Project. Construction of the FSC Project and the Floridian Natural Gas Storage Project could coincide; however, based on the distance between the two projects, we would not anticipate any significant construction-related cumulative impacts to occur. Workforces from each project could seek housing and other services from the same area during construction, but because the FSC Project would extend away from the Floridian project, these impacts would be temporary and would diminish as construction progresses. Regarding air quality, our analysis concluded that the Floridian project would be a minor source under PSD review for all pollutants including GHG emissions and would not have a significant impact on air quality. In addition, the nearest potentially significant source of on-going air emissions for the SMP Project is the Reunion Compressor Station, approximately 100 miles to the northwest, which is outside the region of influence we considered for long-term cumulative impacts on air quality. Therefore we

conclude that the two projects would not result in any significant cumulative impacts on air quality in the region.

3.14.1.2 Residential and Other Development Projects

Over 75 residential and other development projects ranging in scope from the construction of a single structure to the creation of a 500+ acre residential subdivision have been identified within the region of influence as conceptual, having an approved site plan, or under construction. Other development projects include industrial and commercial ventures (including mixed development) and multi-use recreational trails. The SMP Project pipelines would traverse over three quarters of these projects. The remaining projects would be located relatively nearby and within the region of influence. Erecting permanent residential and other aboveground structures and facilities would result in the permanent loss of vegetation and associated wildlife habitat; displacement of wildlife; loss of soil and land use; alteration of surface and groundwater flow and aesthetic characteristics; and could temporarily and/or permanently increase dust, and impact noise and air quality. Establishing multi-use recreational trails is not wholly inconsistent with the operation and maintenance requirements of the SMP Project pipelines. A trail would result in a permanent change of land use and would likely require periodic vegetation maintenance. Otherwise, these facilities would not result in temporary or permanent impacts beyond those associated with the SMP Project pipelines.

Due to the speculative nature of the housing and development markets and funding mechanisms for other projects, it is difficult to determine the amount of land that would ultimately be affected by these projects; and therefore, contributing to a cumulative impact. However, based on the permanent nature of these impacts and the largely temporary SMP Project impacts, we have determined that adding these impacts to the SMP Project impacts would not result in a significant cumulative impact on any of the affected resources.

3.14.1.3 Roadway Projects

There are several road improvement (paving), modification (water flow/retention devices), expansion (roadway extensions and lane widening), and construction (roadways and interchanges) projects planned within the region of influence. Generally, these projects would either traverse an SMP Project pipeline or would be located adjacent to or parallel an SMP Project pipeline. Similar to a pipeline project, a roadway project requires clearing and working in a narrow corridor, typically 25 to 200 feet wide. A roadway project also requires a permanent conversion of land for operation and maintenance. However, unlike a pipeline project, a paved roadway is operated and maintained in a permanently disturbed and unnatural state, whereas a pipeline can be operated and maintained in a semi-natural state. Establishing a roadway would result in the permanent loss of vegetation and associated wildlife habitat; displacement of wildlife; loss of soil and land use; and alteration of surface and groundwater flow and aesthetic characteristics. Roadway projects could also temporarily and/or permanently increase dust and impact local noise and air quality. Based on these impacts and because roadways would either traverse or be located away from the SMP Project, we have determined that adding these impacts to the largely temporary SMP Project impacts would not result in a significant cumulative impact on any of the affected resources.

3.14.1.4 Mining Operations

There are six active surface mining operations with published expansion plans located within the region of influence. Minerals extracted at these facilities include sand, limestone, and phosphorus. Operating these facilities requires surface clearing, excavation, and mineral extraction. These activities

are presently ongoing and could occur into the foreseeable future. These activities are also regulated by state and local authorities.

Depending on the mine operator (and the underlying resources present), we expect future clearing and excavation to occur incrementally, affecting up to 100 acres of land or more. Because surface mining operations by definition require surface clearing and excavation, these activities are excluded from utility rights-of-way, and thus the operation of these facilities would not directly overlap with the operation of the SMP Project. Based on our review of aerial imagery, we have determined that the land uses adjacent to the identified surface mines are generally forested and open/disturbed. Clearing and excavating these lands would result in the permanent loss of vegetation and associated wildlife habitat, removal and relocation of soils, and alteration of surface and groundwater flow. These activities would also permanently alter the aesthetic characteristics of affected lands, displace wildlife, and would temporarily increase dust and noise related to construction equipment use. Based on these impacts, we have determined that adding them to the largely temporary SMP Project impacts would not result in a significant cumulative impact on any of the affected resources.

3.14.2 Cumulative Impacts on Forest

As identified above, adding the 4,356 acres of forest that would be cleared for the SMP Project with the forest clearing of other projects/actions would contribute to a cumulative impact within the regions of influence. The actual amount and timing of forest clearing, and the restoration or mitigation measures that other project proponents may implement is unknown; thus, the cumulative impact of the SMP Project and these other projects cannot be reasonably quantified. However, for the following reasons we conclude that the SMP Project would not contribute significantly to cumulative impacts on forest resources:

- Of the 4,356 acres of upland forest affected by construction, 1,670 acres (38 percent) consists of planted pine forest which generally does not provide as high quality, diverse habitat as native forest, and because of harvesting, planting, and growth cycles is routinely disturbed.

- Of the 4,356 acres affected by construction, 2,688 acres (62 percent) would be allowed to revert to pre-construction condition. Whereas full restoration would take decades, these areas would develop plant diversity and provide habitat for various species throughout the restoration period. About 1,030 of the 2,688 acres (38 percent) that would be allowed to revert to pre-construction condition consists of planted pine.

- 1,668 acres of forest would be affected by project operation, of which 640 acres (38 percent) consist of planted pine.

- 1,553 acres (93 percent) of the forest affected by operations would occur in the pipeline right-of-way, which must be maintained free of large trees to ensure the integrity of the facilities. However, the pipeline right-of-way would be maintained in an herbaceous state, retaining environmental value. The remaining 115 acres of forest would be permanently covered by either aboveground facilities or access roads, of which 48 acres consist of planted pine forest.

- Due to collocation, about 66 percent of the forest impacts would occur as an incremental expansion of existing rights-of-way, further minimizing forest impacts including habitat fragmentation.

- Impacts on forest resources would occur along 685 miles of pipeline right-of-way in three states, thereby avoiding significant cumulative impacts in any localized area or in conjunction with any other project.

- The forest impacts associated with the SMP Project are insignificant in comparison to the substantial extent of the resource in the region.

3.14.3 Cumulative Impacts on Climate Change

We received several comments expressing concern about the SMP Project's contribution to global climate change. Climate change is the change in climate over time, whether due to natural variability or as a result of human activity, and cannot be represented by single annual events or individual anomalies. For example, a single large flood event or particularly hot summer are not indications of climate change, while a series of floods or warm years that statistically change the average precipitation or temperature over years or decades may indicate climate change.

The Intergovernmental Panel on Climate Change (IPCC) is the leading international, multi-governmental scientific body for the assessment of climate change. The United States is a member of the IPCC and participates in the IPCC working groups to develop reports. The leading U.S. scientific body on climate change is the U.S. Global Change Research Program (USGCRP). Thirteen federal departments and agencies participate in the USGCRP, which began as a presidential initiative in 1989 and was mandated by Congress in the Global Change Research Act of 1990.

The IPCC and USGCRP have recognized that:

- globally, GHGs have been accumulating in the atmosphere since the beginning of the industrial era (circa 1750);

- combustion of fossil fuels (coal, petroleum, and natural gas), combined with agriculture and clearing of forests is primarily responsible for this accumulation of GHG;

- these anthropogenic GHG emissions are the primary contributing factor to climate change; and

- impacts extend beyond atmospheric climate change alone, and include changes to water resources, transportation, agriculture, ecosystems, and human health.

In May 2014, the USGCRP issued a report, Climate Change Impacts in the United States, summarizing the impacts that climate change has already had on the United States and what projected impacts climate change may have in the future (USGCRP, 2014). The report includes a breakdown of overall impacts by resource and impacts described for various regions of the United States. Although climate change is a global concern, for this cumulative analysis, we will focus on the potential cumulative impacts of climate change in the SMP Project area.

The USGCRP's report notes the following observations of environmental impacts that may be attributed to climate change in the Southeast region:

- temperatures are projected to increase another 4 to 8 °F by 2100, resulting in increased harmful algal blooms; increased disease-causing agents; spread of non-native plants; reduced dairy and livestock production; and reduced crop productivity;

- the number of days above 95 °F are projected to increase, resulting in major human health implications;
- the global sea level has risen by about 8 inches since reliable record keeping began in 1880, and is projected to rise another 1 to 4 feet by 2100;
- coastal water temperature in several regions are likely to continue warming as much as 4 to 8 °F by 2100;
- increasing acidification resulting from the uptake of CO_2 by ocean waters threatens corals, shellfish, and other living things that form their shells and skeletons from calcium carbonate;
- substantial increases in the extent and frequency of storm surge, coastal flooding, erosion, property damage, and loss of wetlands;
- the intensity, frequency, and duration of North Atlantic hurricanes, as well as the frequency of Category 4 and 5 hurricanes, have increased since the early 1980s;
- short-term droughts are expected to intensify, resulting in decreased aquifer recharge and groundwater availability;
- the number of days that fail to meet federal air quality standards is projected to increase with rising temperatures if there are no additional controls on ozone-causing pollutants; and
- extreme weather events are affecting energy production and delivery facilities, resulting in supply disruptions of varying lengths and magnitudes.

GHG emissions are a primary cause of climate change (EPA, 2014c). Of the GHGs emitted, CO_2 is the most prevalent, accounting for 82 percent of all U.S. emissions in 2012 (EPA, 2014d). Methane (CH_4) is the second most prevalent, accounting for 9 percent of the total U.S. emissions (EPA, 2014e). Between 1990 and 2012, natural gas and petroleum systems accounted for 29 percent of CH_4 emissions in the United States. Although the amount of CH_4 being emitted into the atmosphere is significantly less than that of CO_2, the comparative impact of CH_4 on climate change over a 100-year period (that is, its GWP) is more than 20 times greater (EPA, 2014f). Fugitive CH_4 emissions are common in natural gas systems and can occur during natural gas production, transmission, storage, and distribution (EPA, 2014g).

Currently, there is no standard methodology to determine how the proposed SMP Project's incremental contribution to GHGs would translate into physical effects of the global environment. However, we acknowledge that operation of SMP Project would result in the distribution and consumption of about 1,000,000 Dth/d of natural gas. As discussed earlier, portions of this gas would be consumed by power plants that are replacing coal fired units. Because natural gas emits less CO_2 compared to other fuel sources (e.g., fuel oil or coal), it is anticipated that consumption of the distributed gas to converted power plants would reduce current GHGs emissions, thereby potentially offsetting some regional CO_2 emissions.

Potential future projects that would not be directly offsetting GHG emissions from higher intensity sources (i.e., source that emit more GHGs per unit of electrical power generated), such as the

DEF Citrus Plant and the FPL Okeechobee Plant, would undergo state and federal air permitting processes and would be subject to pertinent emission and mitigation requirements.

Based on these factors, we conclude the SMP Project would not significantly contribute to GHG cumulative impacts.

3.14.4 Cumulative Impacts Conclusion

The SMP Project would occur in a region that has been substantially affected by previous human activity and development is expected to continue in the region. If constructed, the SMP Project and other projects in the area could result in varying degrees of cumulative impact on different resources depending on the type and scope of each project, their proximity to each other, the timeframe in which they are constructed, and the measures that would be implemented to avoid or reduce impacts at each project site. Because of these variables and the uncertainty associated with many of the projects that we considered in our analysis, accurate quantification of cumulative impacts on all resources is not feasible. However, the majority of impacts associated with the SMP Project would be temporary or short-term, and about 66 percent of the pipeline facilities would be collocated with existing infrastructure, thereby reducing overall impacts. As discussed in this EIS, the environmental impacts associated with the SMP Project would be less than significant if the SMP Project is constructed and operated in accordance with the Applicants' proposed construction and restoration plans, other applicable regulations or permit requirements, and our additional recommendations. Therefore, we conclude that construction and operation of the SMP Project would not significantly contribute to cumulative environmental impacts in the region.

4.0 ALTERNATIVES

As required by NEPA and Commission policy, and in cooperation with the USACE per its responsibilities under the CWA, we identified and evaluated alternatives to the specific natural gas transmission facilities (and locations) comprising the SMP Project as proposed by the Applicants in their respective applications and associated supplements. Specifically, we evaluated the no action alternative, system alternatives, pipeline route alternatives, and aboveground facility location alternatives (including compressor station equipment alternatives).

The purpose of this evaluation is to determine whether an alternative would be preferable to the proposed action. We generally consider an alternative to be preferable to a proposed action using three evaluation criteria, as discussed in greater detail below. These criteria include: the alternative meets the stated purpose of the project; is technically and economically feasible and practical; and offers a significant environmental advantage over a proposed action.

Our evaluation of the identified alternatives is based on project-specific information provided by the Applicants, affected landowners, and other concerned parties; publicly available information; our consultations with federal and state resource agencies; and our expertise and experience regarding the siting, construction, and operation of natural gas transmission facilities and their potential impact on the environment. In evaluating alternatives, we considered and addressed as appropriate, the numerous comments provided to the Commission about possible alternatives.

Public Comments

As described in section 1.1, the Commission received hundreds of comments expressing concern about the SMP Project. Many of these comments requested that we evaluate alternatives to the SMP Project, the proposed pipeline routes, and the aboveground facility locations. In response to these comments, we required the Applicants to provide additional environmental information, requested they assess the feasibility of alternatives as proposed by the commenters, conducted site visits and field investigations, met with affected landowners and local representatives and officials, consulted with federal and state regulatory agencies, and sought additional public input. These efforts, along with the Applicants continued assessment of their respective projects resulted in numerous changes to the proposed actions. During the course of the pre-filing processes and the issuance of this draft EIS over 200 route variations were adopted. Additionally, several aboveground facility locations were evaluated and the location of the Albany Compressor Station was changed.

The Commission also received numerous comments suggesting that electricity generated from solar panels and/or other renewable energy sources could eliminate the need for the SMP Project and that the use of these energy sources as well as gains realized from increased energy efficiency and conservation should be considered as alternatives to the project. As stated previously, the purpose of the SMP Project is to transport price competitive natural gas from Alabama to Florida. The generation of electricity from renewable energy sources is a reasonable alternative for a review of power generating facilities. Authorizations related to how the southeast will meet demands for electricity are not part of the application before the Commission and their consideration is outside the scope of this draft EIS. Therefore, because the purpose of the SMP Project is to transport natural gas, and the generation of electricity from renewable energy sources or the gains realized from increased energy efficiency and conservation are not transportation alternatives, they are not considered or evaluated further in this analysis.

Evaluation Process

Through environmental comparison and application of our professional judgement, each alternative is considered to a point where it becomes clear if the alternative could or could not meet the three evaluation

criteria. To ensure a consistent environmental comparison and to normalize the comparison factors, we generally use desktop sources of information (e.g., publicly available data, GIS data, aerial imagery) and assume the same right-of-way widths and general workspace requirements. Where appropriate, we also use site-specific information (e.g., field surveys or detailed designs); however, we generally defer qualitative wetlands analysis and comparisons (e.g., WRAP scores) to the USACE. As described previously, our environmental analysis and this evaluation only considers quantitative data (e.g., acreage or mileage) and uses common comparative factors such as total length, amount of collocation, and land requirements. Our evaluation also considers impacts on both the natural and human environments. Impacts on the natural environment include wetlands, forested lands, karst geology, and other common environmental resources. Impacts on the human environment include residences, roads, utilities, and industrial and commercial development near construction workspaces. In recognition of the competing interests and the different nature of impacts resulting from an alternative that sometimes exist (i.e. impacts on the natural environment versus impacts on the human environment), we also consider other factors that are relevant to a particular alternative or discount or eliminate factors that are not relevant or may have less weight or significance.

The purpose of the SMP Project, which is described in greater detail in section 1.1, is to transport price competitive natural gas from existing transmission facilities in Alabama to customers in Florida. With its December 2012 authorization of a RFP for new natural gas transportation capacity to serve FPL's natural gas-fired generating facilities in Florida, the FPSC indicated that enhanced reliability and competitiveness was needed. Therefore, a preferable alternative must maintain the price competitive nature of the proposed action. An alternative that would significantly reduce or eliminate the price competitiveness of the transported natural gas would not satisfy the purpose for the project and is not a preferable alternative to the proposed action.

Many alternatives are technically and economically feasible. Technically practical alternatives, with exceptions, would generally require the use of common construction methods. An alternative that would require the use of a new, unique or experimental construction method may not be technically practical because the required technology is not available or unproven. Economically practical alternatives would result in an action that generally maintains the price competitive nature of the proposed action. Generally, we do not consider the cost of an alternative as a critical factor unless the added cost to design, permit, and construct the alternative would render the project economically impractical.

Determining if an alternative provides a significant environmental advantage requires a comparison of the impacts on each resource as well as an analysis of impacts on resources that are not common to the alternatives being considered. The determination must then balance the overall impacts and all other relevant considerations. In comparing the impact between resources (factors), we also considered the degree of impact anticipated on each resource. Ultimately, an alternative that results in equal or minor advantages in terms of environmental impact would not compel us to shift the impacts from the current set of landowners to a new set of landowners.

One of the goals of an alternatives analysis is to identify alternatives that avoid significant impacts. In section 3.0, we evaluated each environmental resource potentially affected by the SMP Project and concluded that constructing and operating the SMP Project would not significantly impact these resources. Consistent with our conclusions, the value gained by further reducing the (not significant) impacts of the SMP Project when considered against the cost of relocating the route/facility to a new set of landowners was also factored into our evaluation.

Because we received a large number of comments expressing concern about impacts on environmental justice communities, we included this as a comparison factor for several alternatives, particularly alternatives involving southwest Georgia. We compared the number of environmental justice populations crossed (census tracts), the miles of environmental justice populations crossed, and the number

of environmental justice populations within 1 mile of the centerline. Regarding these comparative factors, we generally consider it preferable if an alternative crosses fewer environmental justice populations.

4.1 NO ACTION ENERGY ALTERNATIVE

NEPA requires the Commission to consider and evaluate the no action alternative.[1] According to the Council on Environmental Quality, in instances involving federal decisions on proposals for projects, no action would mean the proposed activity would not take place and the resulting environmental effects from taking no action would be compared with the effects of permitting the proposed activity. In accordance with the section 404 (b)(1) guidelines, the no action alternative is not considered by the USACE in its review of alternatives to avoid or minimize impacts to waters of the U.S. because it does not allow the Applicant's to achieve the overall project purpose.

If the SMP Project is not constructed, then there would be no impact on the environment. Compared to the proposed action, no impact on the environment would offer a significant environmental advantage; however, this alternative would not meet the stated purpose of the SMP Project. Furthermore, not constructing the SMP Project may cause the natural gas shippers to seek other means of transporting the proposed volumes of natural gas from Alabama to Florida, and the purchasers of the natural gas to seek other sources of the gas, both of which may result in equal or greater environmental impacts. Additionally, the "no action" alternative could result in inadequate fuel supplies for the anticipated energy demands (i.e., fuel shortages), which could lead to insufficient energy production to meet expected demands. Therefore, we have determined that this alternative is not preferable to the proposed action.

4.2 SYSTEM ALTERNATIVES

System alternatives to the proposed action would make use of existing or other proposed natural gas transmission systems/facilities to meet the stated purpose of the SMP Project. Implementing a system alternative would make it unnecessary to construct all or part of the SMP Project, although some modifications or additions to an existing transmission system/facility or other proposed transmission system/facility may be necessary. We identified and evaluated several system alternatives as described below. These system alternatives would make us of existing natural gas pipeline and other transmission systems/facilities. We did not identify any other proposed natural gas transmission systems/facilities. These alternatives are depicted on figure 4.2-1.

4.2.1 Existing Natural Gas Pipeline Systems

The FGT, Gulfstream, SONAT, Cypress, and Transco pipeline systems are the only existing interstate, natural gas transmission systems operating in or in part of the SMP Project area.

4.2.1.1 FGT Pipeline System

FGT operates approximately 5,400 miles of pipeline from Texas to south Florida. The FGT system is located approximately 70 miles south of Transco's Compressor Station 85. Additionally, there are multiple locations where the Sabal Trail and FSC pipelines would cross, be located in close proximity to, or parallel the FGT system.

[1] In accordance with the section 404 (b)(1) guidelines, the no action alternative is not considered by the USACE in its review of alternatives to avoid or minimize impacts on waters of the U.S. because it does not allow the Applicants to achieve the overall project purpose.

0 25 50 Miles

N W E S

For Environmental Review Purposes Only

Figure 4.2-1
Southeast Market Pipelines Project
System Alternatives

Proposed Pipeline
FGT
Gulfstream
SONAT
Cypress Express
Transco
Proposed Port Dolphin LNG

Source: Z:\GeneralQ_FS\Spectra\SMP\Sabal_Trail\ArcGIS\2015\05\Figure_Updates_PADEIS\SMP_Sabal_System_Alts.mxd
Date: (8/3/2015)

The existing FGT system is operating at or near capacity and, therefore, is incapable of transporting the volumes of natural gas that would be transported by the SMP Project. Use of this system is not technically feasible or practical without significant modifications. However, by constructing substantial new natural gas transmission infrastructure, the FGT system may be able to meet the stated purpose of the SMP Project. An expansion of the FGT system is technically feasible. In 2010, FGT (Phase VIII Expansion Project[2]) constructed approximately 482.8 miles of natural gas pipeline to transport approximately 820 MMcfd of natural gas. Although this is slightly less than 75 percent of the SMP Project capacity, it is feasible that FGT could construct additional facilities that would allow it to meet the stated purpose of the SMP Project; however, based on the EIS developed for the FGT Phase VIII Expansion Project, the environmental impacts of another FGT expansion project would most likely be similar in scope and magnitude to the impacts of the SMP Project. Therefore, we have determined that this alternative would not offer a significant environmental advantage over the proposed action and is not preferable to the proposed action. In section 4.3.1 we address route alternatives that would collocate the SMP Project with portions of the FGT system.

4.2.1.2 Gulfstream Pipeline System

Gulfstream operates a pipeline system that is about 745 miles long extending from near Mobile, Alabama across the Gulf of Mexico and into central Florida. The Gulfstream system is located approximately 110 miles south of Transco's Compressor Station 85. Additionally, there are multiple locations where the Sabal Trail and FSC pipelines would cross, be located in close proximity to, or parallel the Gulfstream system.

The existing Gulfstream system is operating at full capacity and, therefore, is incapable of transporting the volumes of natural gas that would be transported by the SMP Project. Use of this system is not technically feasible without significant modifications. However, by constructing substantial new natural gas transmission infrastructure, approximately 600 miles of pipeline, the Gulfstream system may be able to meet the stated purpose of the SMP Project. However, offshore construction is substantially more expensive than land-based construction and the total cost of a system expansion/modification, approximately 5.9 billion, would result in this alternative being economically impractical and unable to meet the stated purpose of the SMP Project. Therefore, we have determined that this alternative is not preferable to the proposed action. In section 4.3.1 we address route alternatives that would collocate the SMP Project with portions of the Gulfstream system.

4.2.1.3 SONAT Pipeline System

SONAT operates approximately 7,600 miles of pipeline from the Gulf of Mexico to northern Florida, including portions of 10-inch-diameter pipeline that are collocated with the SMP Project in southwest Georgia and northern Florida. SONAT also operates the approximately 167-mile-long Cypress Pipeline that links the Elba Island LNG Terminal supplies in northeastern Georgia to interconnections with FGT in northeastern Florida.

These existing pipeline systems are operating at or near capacity and, therefore, are incapable of transporting the volumes of natural gas that would be transported by the SMP Project. Furthermore, these systems do not service the SMP Project interconnections. Use of these systems is not technically feasible without significant modifications and the construction of substantial new natural gas transmission infrastructure. Looping the SONAT system in southwest Georgia and constructing a greenfield pipeline from the terminus of SONAT in north Florida to central Florida is analogous to the SMP Project, which is primarily collocated with SONAT in southwest Georgia. This modification would offer no significant

[2] FERC Docket CP09-17-000.

environmental advantage. Use of the Cypress Pipeline system is not practical because the bulk of its facilities are located in eastern Georgia outside of the SMP Project area. Based on the factors described above, we have determined that these alternatives are not preferable to the proposed action.

4.2.1.4 Transco Pipeline System

Transco operates approximately 10,200 miles of pipeline from Texas to New York. As described previously, Transco's Hillabee Expansion Project would involve looping existing Transco pipeline in order to transport natural gas from near the existing Compressor Station 85 to the kick-off point of the Sabal Trail Project. We evaluated two system alternatives to the Hillabee Expansion Project; the compression intensive alternative (CIA) and the looping intensive alternative (LIA).

Compression Intensive Alternative

The CIA would involve the use of compression only to meet the delivery requirements of the project and would eliminate the need for pipeline looping. The CIA would include construction of Compressor Station 84 and installation of additional compression at Transco's existing Compressor Stations 90, 95, 100, 105, and 110. Implementing this alternative would require a total of 185,245 hp, more than double the 88,500 hp for Transco's proposed project, and would impact about 144 acres of land during construction and 70 acres during operation of the facilities. In comparison, the proposed project would impact about 973 acres of land during construction and 312 acres during operation. Implementing the CIA alternative would reduce impacts on most environmental resources but would result in greater air and noise emissions and reduced reliability when compared to Transco's proposed combination of looping and compression. Assuming that this additional compression were achieved through the installation of new compressor units of similar efficiency to those currently proposed, we calculated that the air emissions would increase by about 114 percent, including an additional 185 tpy NO_x, 300 tpy CO, and 395,269 tons CO_2e. Therefore we conclude that the alternative is not preferable to the proposed action.

Looping Intensive Alternative

The LIA would involve the use of pipeline looping only to meet the delivery requirements of the project. The LIA would eliminate the need for new Compressor Station 84 and increased compression at existing stations, and the operational air emissions and noise associated with the compression. However, the LIA would require 84.6 miles of looping, or nearly twice the 43.5 miles of looping associated with the proposed project. Implementing this alternative would impact about 489 acres more land during construction and 202 acres during operation. In general, this alternative would result in additional impacts on the environment. Therefore, we have determined that this alternative is not preferable to the proposed action.

4.2.2 Other Natural Gas Transmission Systems

4.2.3 LNG Import

LNG is transported daily throughout the world via LNG ship carriers. We evaluated the use of a domestic LNG seaborne (Gulf of Mexico) transmission system and associated onshore pipeline (originating from the west central coast of Florida to the SMP Project delivery points) as an alternative to the SMP Project. Currently, there are no operating LNG terminals along the Florida panhandle or the west central coast of Florida. The Port Dolphin LNG facility (Port Dolphin) was licensed as a deep water LNG import terminal in 2010. As approved, the facility with a capacity to receive up to 1.2 billion cubic feet per day of LNG would be located about 28 miles offshore of Tampa, Florida and connected to the existing Gulfstream pipeline system via a 36-inch-diameter pipeline in Manatee County, Florida. However, this facility has not

been constructed[3] and we are unaware of any other licensed/approved or proposed LNG terminal facilities in the SMP Project area. Due to the cost of constructing two LNG terminals, operating LNG ship carriers, and constructing the necessary natural gas pipeline, this system would not be economically practical. Therefore, we have determined that this alternative is not preferable to the proposed action.

4.2.4 Use of Trucks and/or Rail

LNG in relatively small volumes is transported via truck and/or rail in many locations throughout the United States, including the SMP Project area. We evaluated the use of this existing transmission system as an alternative to the SMP Project. Commercially available LNG tanker trucks have storage/ transmission capacities ranging between 7,500 gallons and 16,000 gallons, and commercially available railway tankers have storage/transmission capacities ranging between 16,000 and 30,000 gallons. Based on the capacities of these systems, it would take approximately 1,100 to 1,900 trucks per day, or 440 to 885 railway tankers per day to deliver the 1.1 Bcf/d of gas from Transco's Compressor Station 85 to the SMP Project's delivery points. In addition, liquefaction and vaporization facilities would need to be constructed at the receipt and delivery points, respectively. Based on the number of trucks and/or rail cars that would be needed to transport the SMP Project volumes and the facilities, time, and cost necessary to process and deliver these volumes, we have determined the use of this system would not be economically practical. Therefore, we have determined that this alternative is not preferable to the proposed action.

4.3 ROUTE ALTERNATIVES AND VARIATIONS

We evaluated route alternatives and variations to determine whether their implementation would be preferable to the proposed corresponding action. Route alternatives are greater than 50 miles in length and can deviate from the proposed route by a significant distance. Route variations are less than 50 miles in length and deviate from the proposed route to a lesser degree than a major route alternative.

As described previously, route alternatives and variations were identified based on public comments, information provided by the Applicants, agency consultations, and our independent review of the SMP Project area. In developing their projects, the Applicants collectively considered numerous route alternatives and hundreds of route variations, all of which were included in their respective applications. We also received requests to evaluate dozens of additional route alternatives and variations. Furthermore, we identified during our review of the SMP Project many more route alternatives and variations. We reviewed, considered, and evaluated all of these alternatives.

4.3.1 Major Route Alternatives

We evaluated 12 major route alternatives to the proposed pipeline route or portions of the route (see table 4.3.1-1 and figure 4.3.1-1). We did not identify or evaluate any major route alternatives specific to Transco's proposed pipeline loops in Alabama because the loops would abut or only deviate slightly from Transco's existing cleared right-of-way. However, a number of the major route alternatives evaluated would eliminate the need for the Hillabee Expansion Project. Additionally, several alternatives were evaluated to address concerns raised about environmental impacts on southwest Georgia and north central Florida.

[3] On November 20, 2014 the FERC granted Port Dolphin an extension of time to construct the facilities by December 31, 2018.

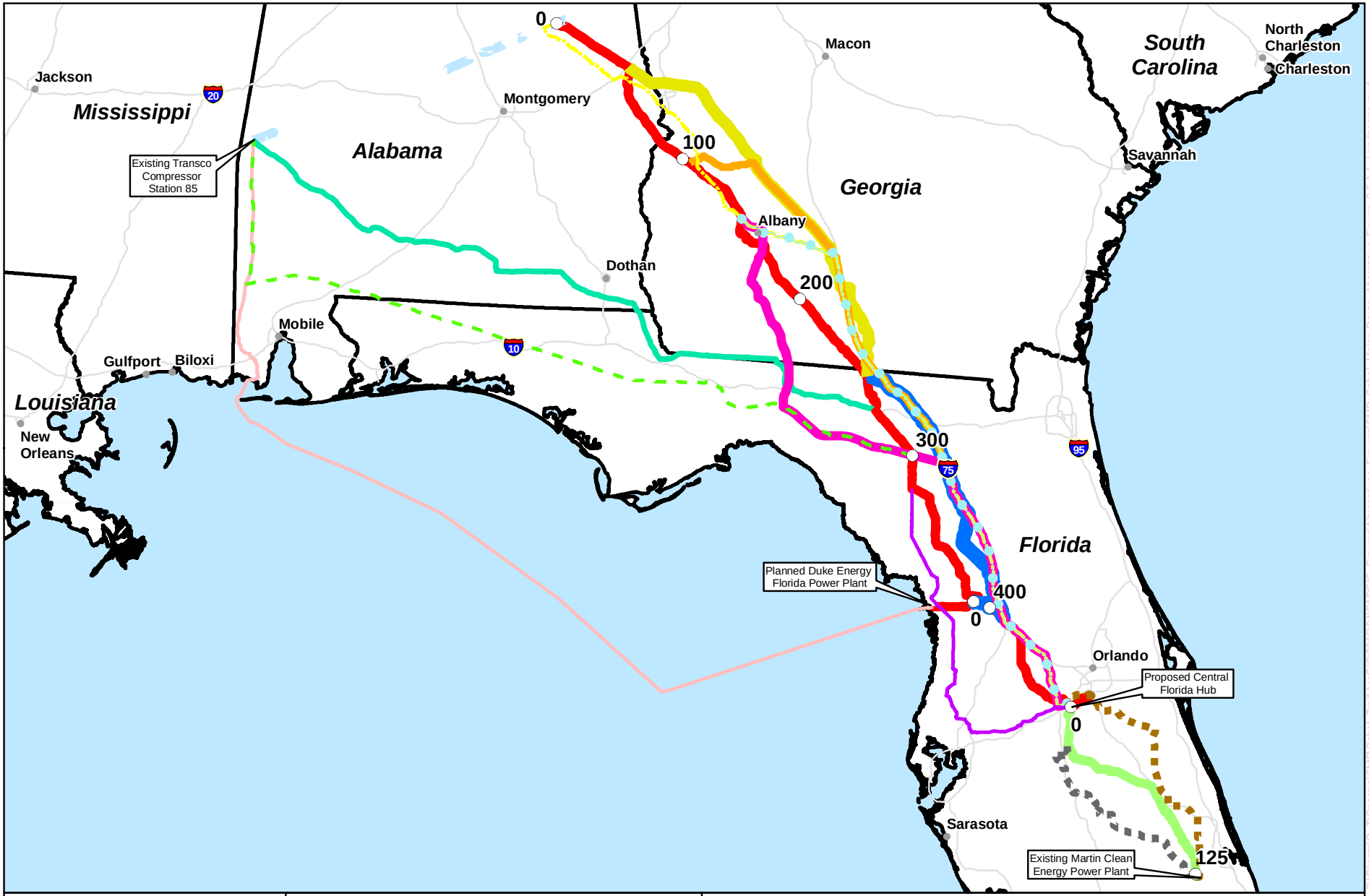
TABLE 4.3.1-1 **Major Route Alternatives Evaluated for the Southeast Market Pipelines Project**		
Alternative	Milepost Range	Primary Reasons for Evaluation
Station 85	0.0 – 269.1	Avoid or reduce routing in Georgia
FGT Onshore	0.0 – 299.8	Avoid routing in Georgia; follow other right-of-way
Gulf Crossing	0.0 – 390.0	Avoid routing in Georgia and northern Florida; minimize on-land disturbance
Hillabee	42.2 – 252.3	Follow other right-of-way in Georgia; increase collocation
Interstate 75	252.3 – 408.9	Follow other right-of-way; increase collocation; reduce routing in karst sensitive areas of Florida
FGT to CFH	316.8 – 474.4	Follow other right-of-way; increase collocation
GreenLaw 1	142.7 – 474.4	Increase collocation; reduce routing in karst sensitive areas; avoid routing in Dougherty County, Georgia
GreenLaw 2	0.0 – 474.4	Increase collocation; reduce routing in karst sensitive areas; avoid routing in Dougherty County, Georgia
GreenLaw 3	142.7 – 474.4	Increase collocation; reduce routing in karst sensitive areas; avoid routing in Dougherty County, Georgia
GreenLaw 4	104.3 – 474.4	Increase collocation; reduce routing in karst sensitive areas; avoid routing in Dougherty County, Georgia
FSC 1	0.0 – 126.4	Increase collocation
FSC 2	0.0 – 126.4	Increase collocation

4.3.1.1 Station 85 Route Alternative

Several commentors recommended the Station 85 Route Alternative to avoid and/or minimize impacts on southwest Georgia. The Station 85 Route Alternative begins at the receipt point for the SMP Project near Transco's Compressor Station 85 in Choctaw County, Alabama. From there the alternative extends southeast along the Alabama/Florida and Georgia/Florida borders into northern Florida, where it follows Interstate 10 east and intersects Sabal Trail's Mainline route near MP 269.1. Figure 4.3.1-1 illustrates the alternative and table 4.3.1-2 compares the alternative to the corresponding segments of the proposed routes.

TABLE 4.3.1-2 **Analysis of the Station 85 Route Alternative**		
Factor	Proposed Route [a]	Station 85 Route Alternative
Length (miles)	312.8	369.1
Length in Georgia	161.7	48.5
Collocation		
Parallel to Existing Rights-of-Way (miles/percent)	199.1/64	209.2/57
Greenfield (miles/percent)	113.7/36	159.9/43
Construction Land Requirements (acres)	3,791.5	4,473.9
Operation Land Requirements (acres)	1,895.8	2,237.0
Forested Upland Impacts (acres)	1,522.6	1,881.8
Wetland Impacts (acres)	159.2	381.8
Forested Wetland Impacts (acres)	145.9	367.6
Karst Features Crossed (miles)	174.6	259.6
Recreation and Special Interest Areas Crossed (miles)	6.8	72.4
Residences within 50 feet of the Construction Right-of-Way (no.)	92	98
Environmental Justice Communities		
Within 1 Mile of Centerline (no.)	38	47
Crossed (no.)	35	38
Crossed (miles)	238.6	324.9

[a] Includes the Hillabee Expansion Project plus the Sabal Trail Mainline between MPs 0.0 – 269.1.



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N W E S

For Environmental Review Purposes Only

Figure 4.3.1-1
Southeast Market Pipelines Project Major Route Alternatives

- Proposed Hillabee Expansion Project
- Proposed Sabal Trail Project
- Proposed FSC Project
- Station 85 Alternative
- FGT Onshore Alternative
- Gulf Crossing Alternative
- Hillabee Route Alternative
- Interstate 75 Alternative
- FGT to Central Florida Hub Alternative
- Green Law Alternative 1
- Green Law Alternative 2
- Green Law Alternative 3
- Green Law Alternative 4
- FSC Alternative 1
- FSC Alternative 2

Source: Z:\Clients\Q_T\Spectra\SMP\Sabal_Trail\ArcGIS\2015\04\PADEIS_Figures\Alternatives_Figures\SMP_Sabal_Major_Route_Alternative_Figure_3.5.1-1_Landscape.mxd

Date: (8/3/2015)

This alternative reduces pipeline construction in Georgia from 161.7 miles to 48.5 miles and eliminates the Hillabee Expansion Project. However, the alternative is 56.3 miles longer and involves 46.2 miles more of greenfield construction than the corresponding combination of Transco's proposed loops and Sabal Trail's Mainline. As a result, the alternative requires an additional 682.4 acres of land for construction, and affects 359 more acres of forest and 222 more acres of wetland than the proposed route. Compared to the proposed route, the alternative also crosses 86.3 miles more of areas classified as environmental justice communities, 85.0 miles more of karst features, and 65.6 miles more of special interest or recreational areas. For these reasons, we have determined that the Station 85 Route Alternative does not offer a significant environmental advantage and is not preferable to the proposed action.

4.3.1.2 FGT Onshore Route Alternative

The FGT Onshore Route Alternative was evaluated to avoid construction in Georgia and increase collocation with existing pipeline facilities. This alternative begins at the receipt point for the SMP Project near Transco's Compressor Station 85 in Choctaw County, Alabama, extends south along an existing Gulf South Pipeline corridor to an existing FGT pipeline corridor, and then extends east adjacent to FGT through the Florida panhandle until intersecting the Sabal Trail Mainline route near MP 299.8. Figure 4.3.1-1 illustrates the alternative and table 4.3.1-3 compares the alternative to the corresponding segments of the proposed route.

TABLE 4.3.1-3

Analysis of the FGT Onshore Route Alternative

Factor	Proposed Route [a]	FGT Onshore Route Alternative
Length (miles)	343.5	428.0
In Georgia	161.7	0.0
Number of Compressor Stations (new/modified)	6/3	8/0
Collocation		
Parallel to Existing Right-of-Way (miles/percent)	288.0/84	373.0/87
Greenfield (miles/percent)	55.5/16	55.0/13
Construction Land Requirements (acres)	4,163.6	5,187.9
Operation Land Requirements (acres)	2,081.8	2,593.9
Forested Upland Impacts (acres)	1,568.5	1,955.2
Wetland Impacts (acres)	163.6	685.5
Forested Wetland Impacts (acres)	151.8	663.6
Karst Features Crossed (miles)	205.3	263.2
Recreation and Special Interest Areas Crossed (miles)	5.4	120.8
Residences within 50 feet of the Construction Right-of-Way (no.)	50	28
Environmental Justice Communities		
Within 1 Mile of Centerline (no.)	42	46
Crossed (no.)	38	43
Crossed (miles)	269.4	334.4

[a] Includes the Hillabee Expansion Project plus the Sabal Trail Mainline between MPs 0.0 – 299.8.

The FGT Onshore Route Alternative avoids construction of 161.7 miles of pipeline and one compressor station in Georgia, eliminates the Hillabee Expansion Project, and is located within 50 feet of 22 fewer residences than the proposed route. However, the alternative is 84.5 miles longer and includes a similar length of greenfield pipeline construction as the corresponding combination of Transco's proposed loops and Sabal Trail's Mainline. As a result, the alternative requires an additional 1,024.3 acres of land for construction and affects 386.7 more acres of forest and 521.9 more acres of wetland than the proposed route. Compared to the proposed route, the alternative also crosses 65.0 miles more of areas classified as

environmental justice communities, 57.9 miles more of karst features, and 115.4 miles more of special interest or recreational areas. Based on these factors, we have determined that the FGT Onshore Route Alternative does not offer a significant environmental advantage and is not preferable to the proposed action.

4.3.1.3 Gulf Crossing Route Alternative

The Gulf Crossing Route Alternative was evaluated to avoid construction in Georgia and northern Florida and to minimize overall land-based impacts. Throughout our environmental review, we received comments requesting that this alternative be fully evaluated. This alternative would begin at Transco's Compressor Station 85 in Choctaw County, Alabama and follow an existing Gulf South Pipeline corridor south until reaching the existing Gulfstream Pipeline near Mobile, Alabama. The alternative then follows Gulfstream southeasterly for about 266 miles in the Gulf of Mexico, and then turns northeasterly for an additional 140.8 miles to make landfall near the terminus of the CCL in Citrus County, Florida. A more direct route across the Gulf of Mexico to the terminus of the CCL, while possible, was considered but discounted because it would cross more sensitive shallow water habitat. Once on land, the alternative follows the CCL alignment to rejoin Sabal Trail's Mainline at the proposed Dunnellon Compressor Station near MP 390.0. The comparative segment of the SMP Project includes the 43.5 miles of pipeline looping of the Hillabee Expansion Project, the Sabal Trail Mainline from MPs 0.0 to 390.0, and the CCL. Figure 4.3.1-1 illustrates the alternative and table 4.3.1-4 compares the alternative to the corresponding segments of the proposed routes.

The Gulf Crossing Route Alternative would eliminate the need for Hillabee Expansion Project and the Sabal Trail Project in Georgia and northern Florida. Overall, the alternative is 104.3 miles (23 percent) longer than the corresponding proposed routes and does avoid Georgia. The alternative results in approximately the same length of pipeline in Alabama and reduces the length of pipeline in Florida by about 122 miles. The alternative reduces onshore pipeline construction by 302.5 miles but increases offshore pipeline construction by 406.8 miles. Both routes are collocated with existing rights-of-way for a similar percentage of their length.

Constructing the alternative will affect 5,226.1 acres, or 289.1 acres less than the proposed SMP Project, including approximately 1,848.5 acres onshore and 3,377.6 offshore. Due to its alignment in the Gulf of Mexico, the alternative affects 3,666.7 acres less onshore including 1,164.2 acres less forested land. It also crosses 184 fewer waterbodies, 100.7 miles fewer designated springsheds, 279.2 miles fewer karst features, 296.6 miles fewer areas classified as environmental justice communities, and is located within 50 feet of 17 fewer homes than the proposed route. In addition, the alternative results in lower operating air emissions as it requires 129,000 hp less compression than the proposed SMP Project. However, the alternative impacts the marine environment, which is not affected by the proposed SMP Project, crossing 332.0 miles of EFH,[4] 394.2 miles of soft bottom habitat, 7.8 miles of hard bottom habitat, 5.6 miles of critical habitat for the Gulf sturgeon, and 2.8 miles of seagrass beds. It also affects 42.5 acres more wetlands, including 68.9 acres more forested wetlands. Further, approximately 117 miles of the alternative occurs in waters that are less than 200 feet deep, requiring that the pipeline be buried to a depth of at least 3 feet. This shallow marine water construction includes a 15.5-mile-long crossing of the Florida Middle Grounds, which is designated by the NMFS as a Habitat Area of Particular Concern, a 3-mile-long crossing of a Florida-designated Manatee Protection Area, and areas of dense seagrass beds as the alignment approaches Florida.

[4] In the Magnuson-Stevens Fishery Conservation and Management Act, Congress defined EFH as "...those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity." Federal agencies are required to consult with the NMFS when their activities, including permits and licenses they issue, may adversely affect EFH and respond to NMFS recommendations for protecting and conserving EFH. NMFS must also include measures to minimize the adverse effects of fishing gear and fishing activities on EFH as well.

TABLE 4.3.1-4

Analysis of the Gulf Crossing Route Alternative

Factor		Proposed Route [a]	Gulf Crossing Route Alternative [b]
Length (miles)			
Onshore		455.0	152.5
Offshore		N/A	406.8
	Total	455.0	559.3
Length in Georgia		161.7	0.0
Collocation			
Onshore (miles/percent)		320.6/70	146.5/96
Offshore (miles/percent)		N/A	266.0/65
	Total	320.6/70	412.5/74
Construction Requirements (acres) [c]			
Onshore (acres)		5,515.2	1,848.5
Offshore Dredging (acres)		N/A	1,511.0
Offshore Anchor Placement (acres)		N/A	211.1
Offshore Anchor Dragging (acres)		N/A	468.0
Offshore Cable Sweep (acres)		N/A	1,187.5
Subtotal Offshore		N/A	3,377.6
	Total	5,515.2	5,226.1
Operation Requirements (acres) [d]			
Onshore (acres)		2,757.6	924.3
Offshore (acres)		N/A	196.0
	Total	2,757.6	1,120.3
Forested Upland Impacts (acres)		1,892.7	728.5
Wetland Impacts (acres)		220.2	262.7
Forested Wetland Impacts (miles)		179.3	248.2
Karst Features Crossed (miles)		317.1	37.9
Waterbody Crossings (no.)		350	166
Major Water Crossings (no.)		2	5
Springshed Crossing (miles)		116.2	15.5
Recreation and Special Interest Areas Crossed (miles)		1.4	3.6
Residences within 50 feet of the Construction Right-of-Way (no.)		77	60
Critical Habitat Crossed (miles)		N/A	5.6
Soft Bottom Habitat Crossed (miles)		N/A	394.2
Hard Bottom Habitat Crossed (miles)		N/A	7.8
Essential Fish Habitat Crossed (miles)		N/A	332.0
Seagrass Beds Crossed (miles)		N/A	2.8
Offshore Increase in Turbidity During Construction (Yes or No)		No	Yes
Environmental Justice Communities			
Within 1 Mile of Centerline (no.)		56	18
Crossed (no.)		51	14
Crossed (miles)		384.7	88.1
New/Modified Compressor Stations (no.)		6/3	3/0
Total Compression (horsepower)		298,000	169,000

TABLE 4.3.1-4 (cont'd)

Analysis of the Gulf Crossing Route Alternative

Factor	Proposed Route [a]	Gulf Crossing Route Alternative [b]

[a] Includes the 43.5 miles of pipeline looping for the Hillabee Expansion Project, the Sabal Trail Mainline between MPs 0.0 – 390.0, and the Citrus County Line between MPs 0.0 – 21.5.

[b] Includes 131.0 miles of pipeline in Alabama, 406.8 miles of pipeline in the Gulf of Mexico, and the Citrus County Line between MPs 0.0 – 21.5.

[c] Construction land requirements based on a 100-foot-wide right-of-way. Based on marine construction methods in various water depths, the average construction right-of-way would be approximately 30 feet wide.

[d] Operation land requirements based on a 50-foot-wide right-of-way. For this analysis the width of the operating right-of-way in the Gulf of Mexico equals the diameter of the pipeline.

For the 117 miles where dredging occurs, turbidity will be generated that will result in sediment deposition over the seafloor and, for all 406.8 miles of offshore construction, there will be turbidity and physical impacts on the seafloor from anchoring the laybarge and the associated the footprint of the anchors, trenches created if the anchors fail to hold, and anchor cable sweeps. Cable sweep is caused by slack in anchor lines and the cables making contacting with the seafloor. When the cable is winched in or towed by the barge, it scrapes along the sea floor.

Following construction of its pipeline in 2001, Gulfstream conducted a comprehensive study comparing anchoring impacts to the seafloor as reported in *An assessment of potential additional impacts associated with non-use of mid-line buoys during the OCS construction of the Gulfstream Natural Gas System* (ENSR, 2002). Post-construction monitoring surveys were conducted using sidescan sonar, a remotely operated vehicle, and divers to assess the extent and magnitude of anchoring impacts. On Gulfstream, anchor footprints on the seafloor were approximately one to two times the size of the anchor (177 to 314 square feet), and cable sweep averaged 1,766 square feet per barge anchor set. In addition, approximately 10.3 percent of the Gulfstream barge anchors were documented to create anchor scars averaging 6,960 square feet per dragging when mid-line buoys (MLBs) were used to keep the anchor chain suspended, and possibly substantially more if MLBs were not used.

Assuming the SMP Project implements deepwater construction techniques similar to Gulfstream to construct the Gulf Crossing Alternative, i.e., using an anchored laybarge with MLBs on all anchor cables, we calculated that approximately 1,866.6 acres of physical impact on the seafloor simply due to the anchors.[5] In addition to the physical impacts on the seafloor, temporary increases in turbidity will occur during deepwater construction, which will not occur for the proposed SMP Project.

As identified in table 4.3.1-4, the Gulf Crossing Route Alternative would result in significantly less environmental impact on terrestrial resources than the Mainline route. This alternative would also reduce the amount of compression required for operating the project, avoid Georgia completely, and impact less environmental justice populations. However, Sabal Trail noted in its application that constructing the Gulf Crossing Route Alternative would cost at least $2.2 billion more than the SMP Project. Based on these factors, we have concluded that the Gulf Crossing Route Alternative offers environmental advantages over the proposed action, but implementing this alternative would not be economically practical; therefore, we have not recommended it.

4.3.1.4 Hillabee Route Alternative

The Hillabee Route Alternative was evaluated to avoid residential lands and disadvantaged communities in southwest Georgia. This alternative is a relatively direct route following an existing 345-kV transmission line right-of-way from Alabama through Georgia and into northern Florida. The alternative deviates from the proposed route at approximately MP 42.2 in Lee County, Alabama, and continues southeasterly through Georgia where it is generally parallel to, but offset from the proposed Mainline route by 25 to 30 miles, until rejoining Sabal Trail's Mainline route at approximately MP 252.3 in Hamilton County, Florida. Figure 4.3.1-1 illustrates the alternative and table 4.3.1-5 compares the alternative to the corresponding segment of the proposed route.

[5] Assumes the laybarge will utilize an 8-point mooring array, with 3 anchor sets per mile, and 3 passes of the laybarge along the pipeline route; or approximately 29,290 anchor placements for the 406.8 mile offshore segment.

TABLE 4.3.1-5 **Analysis of the Hillabee Route Alternative**		
Factor	Proposed Route	Hillabee Route Alternative
Length (miles)	210.2	214.2
Collocation		
Parallel to Existing Rights-of-Way (miles/percent)	161.5/77	201.4/94
Greenfield (miles/percent)	48.7/23	12.8/6
Construction Land Requirements (acres)	2,547.4	2,596.8
Operation Land Requirements (acres)	1,273.7	1,298.4
Forested Upland Impacts (acres)	985.8	890.3
Wetland Impacts (acres)	120.5	207.5
Forested Wetland Impacts (acres)	112.8	167.6
Karst Features Crossed (miles)	157.8	168.4
Waterbody Crossings (number)	209	265
Springshed Crossing (miles)	65.1	5.3
Recreation and Special Interest Areas Crossed (miles)	1.6	2.1
Residences Within 50 feet of the Construction Right-of-Way (no.)	37	22
Environmental Justice Communities		
Within 1 Mile of Centerline (no.)	30	27
Crossed (no.)	26	26
Crossed (miles)	181.8	137.0

The Hillabee Route Alternative avoids impacts on the communities of Albany and Moultrie, Georgia, but would result in impacts on the communities of Americus, Tifton, Adel, Bemis, and Valdosta, Georgia. Compared to the proposed route, the alternative impacts 95.5 acres fewer of forested land, crosses 59.8 miles fewer designated springsheds, is within 50 feet of 15 fewer homes than the proposed route, and crosses 44.8 miles fewer of environmental justice communities. However, the alternative is 4 miles longer, impacts an additional 49.4 acres of land, affects 87 acres more of wetlands (including 54.8 acres of forested wetlands), and crosses 56 more waterbodies and 10.6 miles more karst features than the proposed route. The Hillabee Route Alternative provides both advantages and disadvantages when compared with the proposed route. For most factors, the difference is not significant. In balancing the factors evaluated, we do not find an overall significant environmental advantage for the alternative when compared to the proposed route. Therefore, we determined this alternative is not preferable to the proposed action.

4.3.1.5 Interstate 75 Route Alternative

The Interstate 75 Route Alternative was evaluated to avoid sensitive karst areas in Florida and to increase the amount of collocation with other existing rights-of-way. The alternative would deviate from Sabal Trail's Mainline route at MP 252.2 in Hamilton County, Florida and traverses along County Road 152 to Interstate 75 and then follow the interstate in a southeasterly direction for approximately 169 miles until it deviates to the southwest about 3 miles southwest of Gainesville. The alternative then continues in a southerly direction until it rejoins the Mainline route near MP 408.9 in Sumter County, Florida.

Implementing this alternative would require relocating the Dunnellon Compressor Station from its proposed site to a new site near Interstate 75 and extending the CCL to the new compressor station in order to meet the contracted delivery volumes to the planned DEF Citrus Plant. We did not identify or analyze alternative sites for the Dunnellon Compressor Station relative to the Interstate 75 Route Alternative because impacts associated with an alternative compressor station site would be similar to the proposed site and, therefore, not decisive in light of the scope of the Interstate 75 Route Alternative. However, we include the impacts associated with constructing a 15.5-mile-long extension of the CCL from the proposed

Dunnellon Compressor Station site to the Interstate 75 Route Alternative. Figure 4.3.1-1 illustrates the Interstate 75 Route Alternative and table 4.3.1-6 compares the alternative to the corresponding segments of the proposed route.

TABLE 4.3.1-6

Analysis of the Interstate 75 Route Alternative

Factor	Proposed Route [a]	Interstate 75 Route Alternative [b]
Length (miles)	156.9	175.5
Collocation		
Parallel to Existing Right-of-Way (miles/percent)	110.4/70	175.5/100
Greenfield (miles/percent)	46.5/30	0/0
Construction Land Requirements (acres)	1,901.6	2,126.2
Operation Land Requirements (acres)	950.8	1,063.1
Forested Upland Impacts (acres)	363.2	641.2
Wetland Impacts (acres)	57.8	58.3
Forested Wetland Impacts (acres)	32.6	46.2
Bare or Thinly Covered Limestone Crossed (miles)	94.9	81.6
Waterbody Crossings (number)	11	39
Springshed Crossing (miles)	198.1	276.6
1st, 2nd, and 3rd Order Springs Within 0.5 mile (no.)	7	0
Recreation and Special Interest Areas Crossed (miles)	13.7	6.5
Residences Within 50 feet of the Construction Right-of-Way (no.)	83	218

[a] Includes Sabal Trail's Mainline between approximate MPs 252.2 – 408.9.
[b] Includes 160.0 miles of mainline construction and a 15.5-mile-long extension of the Citrus County Line.

The Interstate 75 Route Alternative is collocated with other existing rights-of-way for 100 percent of its route, compared to 70 percent for the proposed route, and while we conclude in section 3.1.2.3 that karst features can be crossed by the SMP Project without significant risk to the pipeline and environmental resources, this alternative does cross less karst sensitive areas in northern Florida. More specifically, the alternative crosses the area where the underlying limestone bedrock is bare or thinly covered for 13.3 miles less than the proposed route and there are no 1st, 2nd, or 3rd Order springs within 0.5 mile of the alternative, whereas there are seven designated springs within 0.5 mile of the proposed route. The alternative also crosses 7.2 miles less recreation and special interest areas as compared to the proposed route. The disadvantages of the alternative are that the pipeline facilities are 18.6 miles longer, affecting 224.6 acres more land, 278 acres more forest, 15.2 acres more of forested wetlands, and 28 more waterbodies during construction. The alternative also encounters more congested areas as indicated by 135 more residences within 50 feet of the alternative. Based on these factors, we determined that the Interstate 75 Route Alternative does not offer a significant environmental advantage when compared to the proposed action and is not preferable to the proposed action.

4.3.1.6 FGT to Central Florida Hub Route Alternative

The FGT to Central Florida Hub Route Alternative was evaluated to increase collocation of the SMP Project with the existing FGT pipeline system through western Florida. We also considered an alternative that would have been collocated with FGT's existing system through eastern Florida but eliminated it from further evaluation as it would require construction in extensively developed areas.

The FGT to Central Florida Hub Route Alternative would deviate from Sabal Trail's proposed Mainline route near MP 316.8 in Gilchrist County and remain parallel to FGT, traversing southerly through Levy, Citrus, Hernando, and Pasco Counties into Hillsborough County, then turning easterly north of Tampa Bay to follow FGT until reaching the CFH/Reunion Compressor Station at MP 474.4 in Osceola

County. The alternative also includes a 3-mile-long lateral from routing parallel to the FGT system to the planned DEF Citrus Plant. Figure 4.3.1-1 illustrates the alternative route and table 4.3.1-7 compares the alternative to the corresponding segment of the proposed route.

TABLE 4.3.1-7

Analysis of the FGT to Central Florida Hub Route Alternative

Factor	Proposed Route [a]	FGT to Central Florida Hub Route Alternative [b]
Length (miles)	179.0	203.8
Collocation		
Parallel to Existing Right-of-Way (miles/percent)	99.2/55	192.1/94
Greenfield (miles/percent)	79.8/45	11.7/6
Construction Land Requirements (acres)	2,169.4	2,468.9
Operation Land Requirements (acres)	1,084.7	1,234.8
Forested Upland Impacts (acres)	425.3	744.4
Wetland Impacts (acres)	264.4	183.8
Forested Wetland Impacts (acres)	169.7	127.9
Bare or Thinly Covered Limestone Crossed (miles)	81.8	91.5
Waterbody Crossings (number)	70	87
Springshed Crossing (miles)	232.4	201.1
Recreation and Special Interest Areas Crossed (miles)	16.9	23.4
Residences Within 50 feet of the Construction Right-of-Way (no.)	83	72

[a] Includes Sabal Trail's Mainline from MPs 316.8 – 474.4 plus the Citrus County Line from MPs 0.0 – 21.5.

[b] Includes 200.8 miles of mainline construction plus a 3-mile-long lateral from mainline routing parallel to the FGT system to the planned DEP Citrus Power Plant.

The FGT to Central Florida Hub Route Alternative increases the amount of pipeline collocation and reduces construction related wetland impacts by 80.6 acres, forested wetland impacts by 41.8 acres, avoids the proposed HDD crossing of the Withlacoochee River between Citrus and Marion Counties, and crosses 30.7 miles fewer of designated springsheds. Lastly, the alternative is located within 50 feet of 11 fewer homes. The primary disadvantages of the alternative are that it is 24.8 miles (14 percent) longer and impacts 299.5 acres more land than the proposed route, including 319.1 more acres of forested land. The alternative also crosses 17 more waterbodies and 6.5 miles more designated recreation and special interest areas than the proposed route. The alternative does not avoid the HDD crossings of the Suwannee River or Santa Fe River and crosses 9.7 miles more area where the underlying limestone bedrock is bare or thinly covered than the proposed alignment. The FGT to Central Florida Hub Route Alternative provides both advantages and disadvantages when compared with the proposed route. In balancing the factors evaluated, we determined that this alternative does not offer a significant environmental advantage when compared to the proposed action and is not preferable to the proposed action.

4.3.1.7 GreenLaw Route Alternatives 1 – 4

The GreenLaw route alternatives (1-4), which were identified on behalf of concerned parties including the Kiokee-Flint Group, Flint Riverkeeper, Chattahoochee Riverkeeper, and Georgia Chapter of the Sierra Club, were evaluated to avoid and minimize impacts on these parties and southwest Georgia in general.

Figure 4.3.1-1 illustrates the GreenLaw Route Alternatives 1 through 4 and table 4.3.1-8 compares the alternatives to the corresponding segments of the proposed route. Many of the factors included in our analyses characterize the natural environment. Other factors (e.g., residences within 50 feet and tracts) characterize the human environment that may be affected. Our analysis of these alternatives includes high population areas (called "urbanized areas" by the U.S. Census Bureau) and other populated areas (areas referred to by the Census Bureau as a "designated place") that are categorized by DOT as HCAs. HCAs include areas adjacent to the pipeline that contain 20 or more structures intended for human occupancy, buildings housing populations of limited mobility, buildings that would be hard to evacuate (e.g., nursing homes, schools), or buildings and outside areas occupied by more than 20 persons on a specified minimum number of days each year (DOT, 2015). The inclusion of HCAs is intended to reflect population densities that are more commonly aggregated along transportation corridors. The GreenLaw Route Alternatives would require relocating the Dunnellon Compressor Station from its proposed site to a new site near Interstate 75, and extending the CCL to the new compressor station. As in our analysis of the Interstate 75 Route Alternative (section 4.3.1.5), we did not analyze alternative sites for the Dunnellon Compressor Station, but we include the impacts associated with constructing a 15.5-mile-long extension of the CCL in each GreenLaw Route Alternative analysis.

GreenLaw Route Alternative 1

GreenLaw Route Alternative 1 would deviate from Sabal Trail's Mainline route at its intersection with U.S. Highway 82 near MP 142.7 in Terrell County, Georgia and generally follows U.S. Highway 82 and other existing rights-of-way in a southeasterly direction, staying north of the City of Albany until reaching Interstate 75 near Tifton, Georgia. The alternative then follows Interstate 75 through Georgia and into northern and central Florida until it intersects with the Florida Turnpike (State Highway 91) near Wildwood, Florida. The alternative then traverses in a southeasterly direction paralleling State Highway 91 until turning south to follow the Claude Pepper Memorial Highway (U.S. Highway 27) through Clermont, Florida, crossing over the proposed route and then turning easterly to follow an existing FGT pipeline right-of-way until it rejoins the proposed route near MP 471.4, just north of the CFH/Reunion Compressor Station.

GreenLaw Route Alternative 1 is collocated almost entirely along major highways and passes through developed areas of numerous cities not affected by the Mainline route including portions of Albany, Sylvester, Ty Ty, Tifton, Adel, Valdosta, and Lake Park, Georgia; and Lake City, Gainesville, Ocala, Mineola, Clermont, and Four Corners, Florida. The corresponding Mainline route would not impact these areas and would be collocated primarily with existing pipeline and electric transmission lines in predominantly rural or lesser developed areas.

This alternative is 5.5 miles longer than the corresponding Mainline route and is collocated with other existing rights-of-way for 97 percent of its length, compared to 65 percent for the corresponding Mainline route. Constructing the alternative would impact 66.6 acres more land but 227.5 acres less forest, 110.1 acres less wetland, 135.6 acres less forested wetland, and cross 59.2 miles less of areas designated as environmental justice communities than the proposed route. The alternative also crosses 715 more tracts, is within 50 feet of 115 more residences, and requires crossing 141 more miles of HCAs than the corresponding Mainline route.

TABLE 4.3.1-8

Analysis of the GreenLaw Route Alternatives [a]

Environmental Factor	Proposed Route	GreenLaw Route Alternative 1	Proposed Route	GreenLaw Route Alternative 2	Proposed Route	GreenLaw Route Alternative 3	Proposed Route	GreenLaw Route Alternative 4
Length (miles)	331.6	337.1	474.4	494.3	331.6	352.6	370.0	379.5
Collocation								
Parallel to Existing Right-of-Way (miles/percent)	215.4/65	327.0/97	343.2/72	477.0/97	215.4/65	339.1/96	252.2/68	368.8/97
Greenfield (miles/percent)	116.2/35	10.1/3	131.2/28	17.3/3	116.2/35	13.5/4	117.8/32	10.7/3
Construction Land Requirements (acres)	4,019.4	4,086.0	5,750.3	5,991.5	4,019.4	4,273.9	4,484.8	4,600.0
Operation Land Requirements (acres)	2,009.7	2,043.0	2,875.2	2,995.8	2,009.7	2,137.0	2,242.4	2,300.0
Forested Upland Impacts (acres)	983.0	755.5	1,756.4	1,310.1	983.0	838.8	1,132.1	751.2
Wetland Impacts (acres)	348.2	258.3	402.7	259.1	348.2	396.0	296.4	255.4
Forested Wetland Impacts (acres)	256.4	120.8	305.5	120.8	256.4	205.2	270.9	118.2
Karst Features Crossed (miles)	331.6	337.1	379.9	393.4	331.6	352.6	370.0	379.5
Waterbody Crossings (number)	155	163	350	331	155	137	190	203
Recreation and Special Interest Areas Crossed (miles)	6.0	3.3	6.0	3.3	6.0	31.5	6.0	3.3
Tracts Affected (no.)	1,810	2,525	2,553	3,900	1,813	3,149	1,993	2,844
Residences Within 50 feet of the Construction Right-of-Way (no.)	233	348	355	572	241	482	270	374
Environmental Justice Communities								
Within 1 Mile of Centerline (no.)	59	94	74	137	59	91	65	90
Crossed (no.)	47	58	61	89	47	57	51	62
Crossed (miles)	319.0	259.8	440.2	385.9	319.0	302.1	356.9	299.5
High Consequence Areas (miles) [b]	32.0	173.0	41.7	230.1	32.0	133.7	32.7	162.0

[a] See text for description of the GreenLaw Route Alternatives and comparative segments of the proposed Sabal Trail Mainline routes. Each GreenLaw Route Alternative includes a 15.5-mile-long extension of the Citrus County Line.

[b] Includes high population areas (called "urbanized areas" by the U.S. Census Bureau) and other populated areas (areas referred to by the Census Bureau as a "designated place"). Specifically, includes areas adjacent to the pipeline that contain 20 or more structures intended for human occupancy; buildings housing populations of limited mobility; buildings that would be hard to evacuate (e.g., nursing homes, schools); or buildings and outside areas occupied by more than 20 persons on a specified minimum number of days each year (DOT, 2015).

Constructing GreenLaw Route Alternative 1 would offer some environmental advantages when compared to the corresponding Mainline route; however, this alternative would also impact the human environment to a greater degree than the Mainline route. Therefore, we determined that this alternative does not offer a significant environmental advantage when compared to the proposed action and is not preferable to the proposed action.

GreenLaw Route Alternative 2

GreenLaw Route Alternative 2 would begin at Sabal Trail's proposed Alexander City Compressor Station in Tallapoosa County, Alabama. The alternative initially follows Transco's existing pipeline right-of-way about 7 miles to the southwest until intersecting U.S. Highway 280 where it turns southeasterly to follow U.S. Highway 280, staying south of Alexander City, until it intersects with Interstate 85 just southwest of Opelika, Alabama. From there it follows Interstate 85 and other road rights-of-way to the east, until crossing the proposed Mainline route near MP 48.5. It then continues southeasterly along State Highway 38 into Columbus, Georgia and then continues along U.S. Highway 280/State Highway 520 through Dawson and Sasser, Georgia until reaching the proposed Mainline route and GreenLaw Route Alternative 1 at MP 142.7. From there it follows the same route as GreenLaw Route Alternative 1.

GreenLaw Route Alternative 2 is 19.9 miles longer than the corresponding Mainline route and is collocated with other existing rights-of-way for 97 percent of its length, compared to 72 percent for the corresponding Mainline route. Constructing the alternative would impact 241.2 acres more land but 446.3 acres less forest and 143.6 acres less wetland than the corresponding Mainline route. The alternative also crosses 54.3 miles less of environmental justice communities and the same communities affected by GreenLaw Route Alternative 1 south of the Albany, Georgia area, which include all or new portions of 13 cities not affected by the corresponding Mainline route. GreenLaw Route Alternative 2 also crosses developed areas of Auburn and Opelika, Alabama; and Columbus, Parrot, Dawson, and Sasser, Georgia, which are not affected by the corresponding Mainline route. Furthermore, this alternative crosses 1,347 more tracts, is within 50 feet of 217 more residences, and requires crossing 188.4 more miles of HCAs than the corresponding Mainline route.

Constructing GreenLaw Route Alternative 2 would offer some environmental advantages when compared to the corresponding Mainline route; however, this alternative would also impact the human environment to a greater degree than the Mainline route. Therefore, we determined that this alternative does not offer a significant environmental advantage when compared to the proposed action and is not preferable to the proposed action.

GreenLaw Route Alternative 3

GreenLaw Route Alternative 3 is also similar to GreenLaw Route Alternative 1 in that it starts at Mainline MP 142.7 and follows existing road rights-of-way north of the City of Albany, but deviates due south on the east side of Albany to follow U.S. Highway 19/State Highway 3 through Camilla and Thomasville, Georgia, then U.S. Highway 19/State Highway 57 in Florida to the existing FGT pipeline right-of-way east of Wacissa, Florida. The alternative then follows the FGT corridor in an east-southeast direction until crossing the Mainline route near MP 300 and reaching Interstate 75 in Suwannee County, Florida. From there it follows the same route as GreenLaw Alternative 1.

GreenLaw Route Alternative 3 is 21.0 miles longer than the corresponding Mainline route and is collocated with other existing rights-of-way for 96 percent of its length, compared to 65 percent for the corresponding Mainline route. Constructing the alternative would impact 254.5 acres more land and 47.8 acres more wetland, but 144.2 acres less forest than the proposed route. The alternative also crosses 17 miles less of areas designated as environmental justice communities. GreenLaw Route Alternative 3

crosses the same areas as GreenLaw Route Alternative 1 where the two alternatives are common north and east of Albany Georgia, and where they follow Interstate 75 in Florida to the CFH, which includes all or new portions of seven cities not affected by the corresponding Mainline route. GreenLaw Route Alternative 3 also crosses developed areas east and south of Albany, Georgia plus the communities of Putney, Camilla, Pelham, and Thomasville, Georgia; and Monticello, Florida, which are not affected by the corresponding Mainline route. Furthermore, this alternative crosses 1,336 more tracts, is within 50 feet of 241 more residences, and requires crossing 101.7 more miles of HCAs than the corresponding Mainline route.

Constructing GreenLaw Route Alternative 3 would offer some environmental advantages when compared to the corresponding Mainline route; however, this alternative would also impact the human environment to a greater degree than the Mainline route. Therefore, we determined that this alternative does not offer a significant environmental advantage when compared to the proposed action and is not preferable to the proposed action.

GreenLaw Route Alternative 4

GreenLaw Route Alternative 4 deviates from the proposed Mainline route at MP 104.3 in Stewart County, Georgia and follows State Highway 27 through Richland, Plains, and Americus, Georgia, then turns south-southeast to follow an existing Georgia Power electric transmission corridor until it intersects with U.S. Highway 82/State Highway 520 and GreenLaw Route Alternative 1 about 2.5 miles west of Tifton, Georgia. From there it follows the same route as GreenLaw Route Alternative 1.

GreenLaw Route Alternative 4 is 9.5 miles longer than the corresponding Mainline route, and is collocated with other existing rights-of-way for 97 percent of its length, compared to 68 percent for the corresponding Mainline route. Constructing the alternative would impact 115.2 acres more land but 380.9 acres less forest and 41.0 acres less wetland than the corresponding Mainline route. The alternative also crosses 57.1 miles less of areas designated as environmental justice communities and the same communities affected by GreenLaw Route Alternative 1 where the two alternatives are common from near Tifton, Georgia to the CFH, which includes all or new portions of 10 cities not affected by the proposed Mainline route. GreenLaw Route Alternative 4 also crosses developed areas of Richland, Preston, Plains, Americus, and Tifton, Georgia, which are not affected by the corresponding Mainline route. Furthermore, this alternative crosses 851 more tracts, is within 50 feet of 104 more residences, requires crossing 129.3 more miles of HCAs than the corresponding Mainline route.

Constructing GreenLaw Route Alternative 3 would offer some environmental advantages when compared to the corresponding Mainline route; however, this alternative would also impact the human environment to a greater degree than the Mainline route. Therefore, we determined that this alternative does not offer a significant environmental advantage when compared to the proposed action and is not preferable to the proposed action.

4.3.1.8 FSC Route Alternative 1

FSC Route Alternative 1 was identified as a northern route alternative between the CFH and the Martin Plant that would increase collocation with existing corridors. The alternative begins at the CFH and follows an existing FGT pipeline right-of-way northeast around Kissimmee, Florida before turning south and east until it intersects with an existing FPL 500 kV transmission line right-of-way. From there it follows the FPL right-of-way south to the Martin Plant. Figure 4.3.1-1 illustrates the alternative and table 4.3.1-9 compares the alternative to the corresponding segments of the proposed route.

TABLE 4.3.1-9

Analysis of FSC Route Alternative 1

Factor	Proposed Route	FSC Alternative 1
Length (miles)	126.4	144.4
Collocation		
Parallel to Existing Right-of-Way (miles/percent)	101.9/81	136.0/94
Greenfield (miles/percent)	24.5/19	8.4/6
Construction Land Requirements (acres)	1,532.1	1,750.3
Operation Land Requirements (acres)	766.0	875.2
Forested Upland Impacts (acres)	269.0	157.0
Wetland Impacts (acres)	105.3	169.8
Forested Wetland Impacts (acres)	60.0	71.6
Karst Features Crossed (miles)	3.3	1.2
Waterbody Crossings (number)	190	482
Sensitive Habitats Crossed (miles) [a]	106.4	129.6
Recreation and Special Interest Areas Crossed (miles)	7.2	46.1
Residences within 50 feet of the Construction Right-of-Way (no.)	70	150

[a] Core foraging habitat for the wood stork; Florida scrub-jay management areas.

FSC Route Alternative 1 is collocated with other existing rights-of-way for 94 percent of its length, compared to 81 percent for the proposed route. However, the alternative is 18 miles longer and would impact an additional 218 acres of land, 64.5 acres of wetlands, and 11.6 acres of forested wetlands compared to the proposed route. The alternative also crosses 39 miles more of recreation and special interest areas, 23.2 miles of wood stork and Florida scrub jay habitats, 292 more waterbodies, and is located within 50 feet of an additional 80 residences. Based on these factors, we determined that this alternative does not offer a significant environmental advantage and is not preferable to the proposed action.

4.3.1.9 FSC Alternative 2

The FSC Alternative 2 was identified to increase collocation with existing corridors. It follows an existing DEF electric transmission line and existing FGT and Gulfstream pipeline rights-of-way. The alternative begins at FSC MP 21 and follows existing citrus grove roads to the south and turns west along an existing DEF electric transmission line where it joins the FGT pipeline. It follows the FGT pipeline right-of-way toward Avon Park and then follows the Gulfstream pipeline in a southeasterly direction to the Martin Clean Energy Center. Figure 4.3.1-1 illustrates the alternative and table 4.3.1-10 compares the alternative to the corresponding segment of the proposed route.

FSC Route Alternative 2 is collocated with other existing rights-of-way for 89 percent of its length compared to 81 percent for the proposed route and reduces impacts on forested areas by 19 acres and on forested wetlands by 8.7 acres. However, the alternative is 21.5 miles longer and would impact 260.6 acres more land and 22.7 acres more wetlands than the corresponding proposed route. The alternative would also cross an additional 6.1 miles of recreation and special interest areas, 13.9 miles of wood stork and Florida scrub jay habitats, and 160 waterbodies, and is within 50 feet of an additional 11 residences. Based on these factors, we determined that this alternative does not offer a significant environmental advantage and is not preferable to the proposed action.

TABLE 4.3.1-10

Analysis of FSC Route Alternative 2

Factor	Proposed Route	FSC Alternative 2
Length (miles)	106.3	127.8
Collocation		
Parallel to Existing Right-of-Way (miles/percent)	83/81	113.5/89
Greenfield (miles/percent)	23.3/19	14.3/11
Construction Land Requirements (acres)	1,288.5	1,549.1
Operation Land Requirements (acres)	644.2	774.5
Forested Upland Impacts (acres)	187.0	168.0
Wetland Impacts (acres)	66.8	89.5
Forested Wetland Impacts (acres)	26.7	18.0
Karst Features Crossed (miles)	2.0	2.0
Waterbody Crossings (no.)	168	328
Sensitive Habitats Crossed (miles) [a]	86.3	100.2
Recreation and Special Interest Areas Crossed (miles)	6.5	12.6
Residences within 50 feet of the construction right-of-way (no.)	31	42

[a] Core foraging habitat for the wood stork; Florida scrub-jay management areas

4.3.2 Route Variations

Route variations are relatively short deviations (less than 50 miles in length and generally in close proximity to the proposed route) that would avoid or further reduce impacts on specific localized resources. A total of 305 route variations were considered by the Applicants during initial project planning and throughout the pre-filing processes, including 29 associated with the Hillabee Expansion Project, 257 associated with the Sabal Trail Project, and 19 associated with the FSC Project (see table 4.3.2-1 in appendix D). Almost all of these variations, which involved relatively minor adjustments of the pipeline alignments, were identified by affected landowners, local governments, and other stakeholders. Of the 305 route variations identified, 238 route variations (including 214 along the Sabal Trail Project and 14 along the FSC Project) were incorporated into the proposed routes that we analyzed in section 3.

Route variations that were not incorporated into the SMP Project are identified in table 4.3.2-1 in appendix D, which includes the Applicants' reason(s) for not incorporating each variation. We reviewed these route variations and unless otherwise noted, we determined that the Applicants reasoning was sufficient and the implementation of these variations was not preferable to the proposed action.

It is our understanding that Sabal Trail intends to incorporate five of the route variations listed in table 4.3.2-1 in appendix D into the proposed alignment in a future filing, and continues to evaluate three other route variations. Based on our preliminary review, these variations are relatively minor and, if adopted, would result in similar environmental impacts as the proposed alignment.

As identified in table 4.3.2-1 in appendix D, we provide additional discussion of the following route variations.

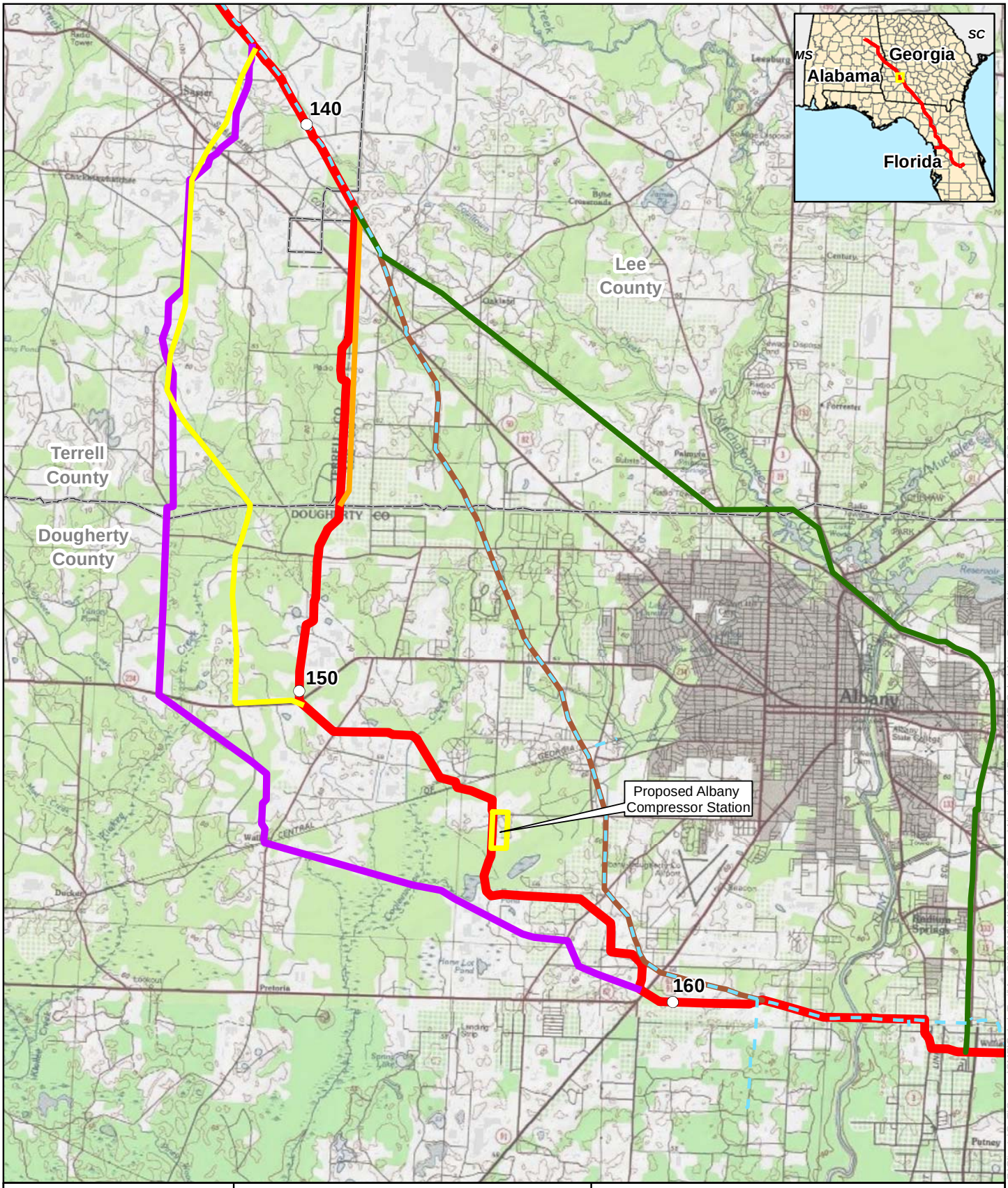
4.3.2.1 Chambers County Variation

The Chambers County Variation was evaluated in response to a landowner's request to reduce impacts on his property in Chambers County, Alabama where Sabal Trail's Mainline would cross over to the west side of an Alabama Power Company (APCO) electric transmission corridor and then cross back between approximately MP 31.2 to 31.6. Sabal Trail crosses over APCO to avoid the landowner's dam, pond, and tree buffer near his residence located on the east side of the corridor. The proposed route would impact approximately 2.1 acres of forested land, the majority of which occurs on the opposite side of the APCO corridor from the residence. The landowner requested that Sabal Trail locate the pipeline and/or temporary workspace within the APCO corridor, which Sabal Trail states is problematic because towers, poles, and guy wires present obstacles to routing in the APCO corridor. The Chambers County Variation would avoid crossing over the powerline corridor by deviating along the north and east sides of the landowner's property, but is slightly longer, impacts 0.4 acre more forest land, places the pipeline nearer to the landowner's residence, and reduces the amount of collocation in this area. For these reasons we determined that the variation does not offer an environmental advantage when compared to the corresponding Mainline route and is not preferable to the proposed action.

4.3.2.2 Dougherty County/Terrell County/City of Albany Area Variations

We received approximately 150 comment letters from about 100 separate individuals, agencies, elected officials, and NGOs; received about 420 copies of 4 separate form letters; and received 4 petitions with approximately 1,128 signatures, concerning the routing and siting of proposed facilities in southwest Georgia, particularly through Dougherty County. We also received similar comments concerning Terrell County. Commenters included the City of Albany, the Kiokee-Flint Group, affected landowners, and concerned citizens. In response to these concerns, particularly the concerns about impacts on the natural environment, environmental justice communities, and the safety and health of adjacent residences, we conducted an extensive review of potential route variations in both counties. We visited Dougherty County eight times; and met with affected landowners, government officials, and other stakeholders. As summarized in section 1.3, these visits included our public scoping meeting in Albany on March 3, 2014, and a town hall meeting hosted by the City of Albany and Dougherty County on September 28, 2014. Based on this extensive review, we identified and evaluated five route variations as discussed below and depicted on figure 4.3.2-1. Albany Compressor Station alternatives are addressed in section 4.4.2.1.

Sabal Trail's Mainline crosses through Terrell County for about 25.4 miles between MPs 120.5 and141.1 and MPs 141.9 and 146.7. Between MPs 141.1 and 141.9 (0.6 mile) the route crosses a corner of Lee County. In Terrell County the proposed route is collocated with an existing SONAT natural gas pipeline for 19.4 miles (76 percent). The Mainline route departs the SONAT right-of-way near MP 141.6 and follows the eastern boundary of Terrell County, to avoid approximately 5 miles of dense residential development that has occurred along both sides of the SONAT pipeline to the northwest of Albany (see SONAT Collocation Variation below). According to U.S. Census data, the population of Terrell County was 9,022 in 2013; the area of Terrell County crossed by the Mainline route is rural and consists primarily of managed forest, pecan plantations, and agricultural land. Homes in the area are generally widely separated; the Mainline is within 50 feet of only one home and it is vacant.



0 0.75 1.5 Miles

N W E S

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Figure 4.3.2-1
Sabal Trail Project
Dougherty County/Terrell County/ City of Albany Area Variations

- Proposed Mainline
- Sasser Variation 1
- Sasser Variation 2
- Sasser Variation 3
- Albany Northeast Route Variation
- SONAT Collocation Variation
- Existing SONAT Pipeline

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Date: (8/3/2015)

Sabal Trail's Mainline crosses through Dougherty County for about 23.1 miles between MPs 146.7 and 169.8 and is collocated primarily with the existing SONAT pipeline system approximately 4.9 miles and/or a Dixie Pipeline Company (Dixie) liquids product pipeline for about 2.6 miles (7.5 miles total, or about 33 percent) of its length in Dougherty County. According to U.S. Census data, the population of Dougherty County was 92,969 in 2013, of which 76,185 (83 percent) resided in the City of Albany. The Mainline route crosses the southwest corner of the Albany city limits in a rural area between MPs 152.4 and 155.0 (2.6 miles). The remainder of the route in Dougherty County occurs primarily in rural areas consisting of forest, managed forest, pecan plantations, agricultural land, and residences. The Mainline approaches more developed areas on the southern outskirts of Albany, where it is collocated with SONAT and/or Dixie, but generally avoids residences. In the 23.1-mile segment, the Mainline is within 50 feet of only eight occupied homes. As discussed in section 3.3.1.1, the Mainline also crosses the southern perimeter of the Albany municipal water plant and well field from MPs 159.5 to 161.2, where it is collocated with the existing Dixie liquids product pipeline; the SONAT natural gas pipeline also crosses the well field diagonally for 1.5 miles. The City of Albany has voiced concern regarding the potential for the Sabal Trail Project to contaminate the city's water supply. All of the route variations discussed below are common with the proposed route in proximity to the city water plant; but as discussed in section 3.3, natural gas is not miscible in water and constructing and operating a natural gas transmission pipeline does not represent a significant risk to groundwater resources.

As noted previously, all of these variations were evaluated in response to concerns raised by potentially affected landowners about routing across their properties and the resulting impacts on the environment and their homes.

Sasser Variations 1, 2, and 3

Sasser Variation 1 diverges from the Mainline route about 1.5 miles northeast of Sasser, Georgia, between County Line Road NE and Macedonia Road, at MP 138.5 in Terrell County and extends southerly into Dougherty County. It is generally offset about 2.5 to 3.0 miles to the west of and parallel to the Mainline route, and rejoins the route near MP 159.4. Sasser Variation 2 also diverges from the proposed route near MP 138.5 and extends southerly for about 6 miles on a route similar to Sasser Variation 1 and then southeasterly to rejoin the Mainline route at approximate MP 150.0. Sasser Variation 3 is a minor offset from the proposed route that traverses Lee County rather than Terrell County between MPs 141.6 and MP 146.7. Figure 4.3.2-1 depicts the Sasser Variations and table 4.3.2-2 compares the Sasser Variations to the corresponding segments of the Mainline route.

The Sasser Variation 1 is collocated with other existing rights-of-way for 5.7 percent more of its length, impacts 18.6 acres less of forested lands, crosses 31 fewer tracts, is within 50 feet of 4 fewer residences, and crosses environmental justice communities for 1.6 miles less. However, the variation is approximately 1 mile longer, impacts an additional 11.6 acres of land, and crosses eight additional waterbodies. In addition, the variation requires an approximately 1-mile-long inlet/outlet lateral to access the proposed West Oakridge Road Compressor Station site, which further increases the land requirements and impacts on forest, wetlands, and waterbodies. The variation and the corresponding Mainline route have a similar effect on wetlands.

TABLE 4.3.2-2

Analysis of Sasser Variations 1, 2, and 3

Factor	Proposed Route	Sasser Variation 1	Proposed Route	Sasser Variation 2	Proposed Route	Sasser Variation 3
Length (miles)	21.0	21.9	11.8	12.9	5.0	5.0
Collocation						
Parallel to Existing Right-of-Way (miles/percent)	3.5/17	4.9/22	3.2/27	6.3/49	0.1/2	0.1/2
Greenfield (miles/percent)	17.5/83	17.0/78	8.6/73	6.6/51	4.9/98	4.9 /98
Construction Land Requirements (acres)	255.0	265.6	143.0	156.4	61.1	60.9
Operation Land Requirements (acres)	127.5	132.8	71.5	78.3	30.5	30.4
Forested Upland Impacts (acres)	118.2	99.6	91.1	62.6	48.5	28.2
Wetland Impacts (acres)	34.3	34.2	12.2	25.1	1.0	2.6
Forested Wetland Impacts (acres)	30.0	31.6	9.1	24.2	1.0	2.3
Karst Features Crossed (miles)	21.0	21.9	11.8	12.9	5.0	5.0
Waterbody Crossings (no.)	10	18	6	19	2	2
Recreation and Special Interest Areas Crossed (miles)	0	0	0	0.3	0	0
Tracts Affected (no.)	85	54	52	70	22	19
Residences Within 50 feet of the Construction Right-of-Way (no.)	5	1	1	0	0	1
Environmental Justice Communities						
Within 1 Mile of Centerline (no.)	4	4	2	2	1	1
Crossed (no.)	3	2	1	1	1	1
Crossed (miles)	11.5	9.9	7.0	8.4	4.1	>0.01

The Sasser Variation 2 is collocated with other existing rights-of-way for 3.1 miles more (21.7 percent) of its length and impacts 28.5 acres less of forested lands. However, the variation is approximately 1.1 mile longer, impacts an additional 13.4 acres of land, 12.9 acres more of wetland, 15.1 acres more of forested wetland, crosses 13 more waterbodies, crosses 18 more tracts, and 1.4 miles more of environmental justice communities.

The Sasser Variation 3 and the proposed route have very similar land use requirements and impacts on most resources. Sasser Variation 3 crosses more agricultural land and, thus, impacts 20 acres less of forested land. By crossing Lee County rather than Terrell County in this area, the variation also crosses 4.1 miles less of environmental justice communities, although the routes are offset by less than 0.25 mile. The variation impacts 1.6 acres more wetland, crosses three less tracts, and is within 50 feet of one additional residence than the Mainline route.

The Sasser Variations are in the same general area west of Albany and are similar lengths as the corresponding segments of the Mainline route. As a result, land requirements and resource impacts are not significantly different than the corresponding Mainline routes. Because the impacts are generally similar, we are not compelled to shift the impacts from the current set of landowners to a new set of landowners. Therefore, we determined that the Sasser Variations do not offer a significant environmental advantage over the corresponding Mainline routes and are not preferable to the proposed action.

Albany Northeast Variation

The Albany Northeast Variation deviates from the Mainline route at approximately MP 141.6 near the border of Lee and Terrell Counties, Georgia, and extends southeasterly toward Albany along the existing SONAT pipeline right-of-way and then follows an existing Oglethorpe Power Corporation right-of-way. Near the Lee and Dougherty County line, it begins to follow Ledo Road to the east, then follows U.S. Highway 19 (Liberty Expressway) around the northern and eastern portions of Albany for several miles, and then rejoins the Mainline route at MP 165.4 south of Albany. The Albany Northeast Variation is depicted on figure 4.3.2-1 and table 4.3.2-3 compares the variation to the corresponding segment of the proposed route.

TABLE 4.3.2-3

Analysis of the Albany Northeast Variation

Factor	Proposed Route	Albany Northeast Variation
Length (miles)	23.7	20.1
Collocation		
Parallel to Existing Right-of-Way (miles/percent)	6.5/27	19.7/98
Greenfield (miles/percent)	17.2/73	0.4/2
Construction Land Requirements (acres)	287.4	243.9
Operation Land Requirements (acres)	143.7	121.9
Forested Upland Impacts (acres)	125.2	40.2
Wetland Impacts (acres)	38.8	6.2
Forested Wetland Impacts (acres)	34.2	5.8
Karst Features Crossed (miles)	23.7	20.1
Waterbody Crossings (no.)	8	7
Major Waterbodies (no)	1	3
Horizontal Directional Drills (no.)	1	3
Recreation and Special Interest Areas Crossed (miles)	0.6	0.4
Tracts Affected (no.)	96	31
Residences Within 50 feet of the Construction Right-of-Way (no.)	10	18
Road Crossings (no.)	26	42
Environmental Justice Communities		
Within 1 Mile of Centerline (no.)	6	12
Crossed (no.)	6	7
Crossed (miles)	14.5	10.7
High Consequence Areas (miles)	2.5	14.3

The Albany Northeast Variation is approximately 3.6 miles shorter than the corresponding Mainline route and impacts 43.4 acres less land, 85 acres less forested land, 33 acres less wetlands, and crosses 65 fewer tracts. It is collocated with existing rights-of-way (primarily U.S. Highway 19) for 98 percent of its route, compared to 27 percent for the corresponding Mainline route. The disadvantages of this alternative are that is routed through substantially more congested residential, industrial, and commercial areas in northern and eastern Albany; along the Liberty Expressway, a 4-lane divided highway; and through approximately 11.8 miles more of HCAs. This congestion results in concerns about feasible and practical construction particularly as the variation would likely require several crossovers of U.S. Highway 19 and two crossings of Kinchatoonee Creek, a major waterbody, in north Albany, in addition to a crossing of the Flint River. Congestion associated with the roadway, both in terms of use during construction and possible expansion of existing facilities in the future, presents additional impacts not associated with the proposed route. This congestion would also likely result in greater public concern because a greater portion of the city's population is located proximate to this variation. Implementing this

variation would also require relocating the proposed Albany Compressor Station to the southeast of Albany where it could impact environmental justice communities and raise concerns similar to those currently raised for the original site. Considered on the whole, the alternative provides clear advantages in terms of impacts on the natural environment, but affects the human environment more adversely. We conclude that the minor advantages in terms of impact on the natural environment do not represent an overall significant environmental advantage to the proposed action.

SONAT Collocation Variation

The SONAT Collocation Variation would remain collocated with the existing SONAT pipeline right-of-way between MPs 141.6 and 162.7, as depicted on figure 4.3.2-1. While this variation is about 3.8 miles shorter, impacts about 46 acres less of land, and is collocated for approximately 89 percent of its length compared to 23 percent for the corresponding Mainline route, it traverses approximately 5 miles of dense residential development that has occurred along the SONAT corridor in southern Lee and Dougherty Counties since the pipeline was constructed, and would result in approximately 64 residences within 50 feet of construction. Due to the substantial residential impacts associated with the SONAT Collocation Variation, we determined that this variation would not provide a significant environmental advantage to the proposed action.

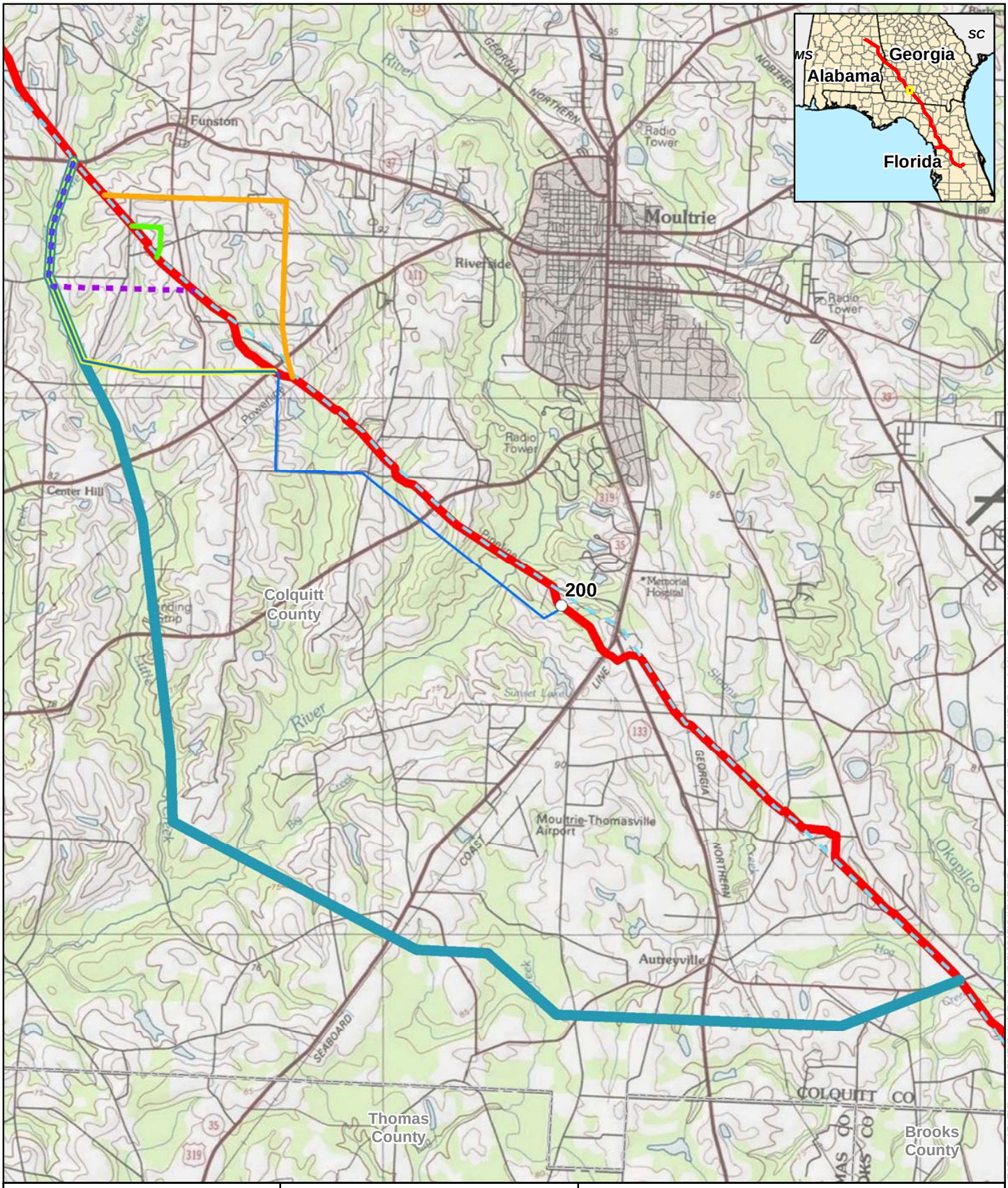
4.3.2.3 Moultrie Variations 1 – 6

These variations were evaluated based on landowner comments concerning impacts on her GDNR Centennial farm, residence, and other properties in the area. Specifically, the landowner expressed concern about safety and the impact of the SMP Project on agricultural land. Safety and reliability are addressed in section 3.13, and impacts on agricultural land are addressed in section 3.9.

The proposed route crosses two parcels owned by the landowner, including a 150-acre parcel that is largely cultivated and a 25-acre parcel that includes the landowner's residence. The Mainline crosses the agricultural parcel for about 2,350 feet, of which about 1,900 feet (81 percent) crosses open, agricultural land. The remainder crosses a wooded buffer along the property line (250 feet) and a drainage swale (100 feet). The Mainline crosses a wooded area of the residential parcel for about 600 feet. The proposed pipeline is located on the opposite side of the SONAT pipeline from the landowner's residence, and is about 180 feet from the residence at its nearest approach. The Mainline is collocated with the existing SONAT pipeline for 100 percent of each crossing. Construction of the proposed route would result in the removal of about 0.5 acre and 1.2 acres of forest on the agricultural parcel and residential parcel, respectively.

We evaluated six route variations that avoid the landowner's property, referred to as Moultrie Variations 1 – 6. Our review included meeting on-site with the landowner on two occasions and an independent review of information provided by the landowner and Sabal Trail. Figure 4.3.2-2 depicts Moultrie Variations 1 – 6 and table 4.3.2-4 compares the variations to the corresponding segments of the proposed route.

All of the Moultrie Variations avoid the landowner's property, but they are all longer and collocated less than the corresponding segments of the proposed route, and subsequently result in greater land disturbance, environmental impacts, and/or impact other landowners that would not be affected when compared to the proposed SMP Project. Therefore, we determined that the Moultrie Variations do not provide a significant environmental advantage over the corresponding proposed route and are not preferable to the proposed action.



0 0.5 1 Miles

N W E S

For Environmental Review Purposes Only

Figure 4.3.2-2
Sabal Trail Project
Moultrie Variations

- Proposed Mainline
- Moultrie Variation 1
- Moultrie Variation 2
- Moultrie Variation 3
- Moultrie Variation 4
- Moultrie Variation 5
- Moultrie Variation 6
- Existing SONAT Pipeline

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Date: (8/3/2015)

TABLE 4.3.2-4

Analysis of Moultrie Variations 1 – 6

Factor	Proposed Route	Moultrie Variation 1	Proposed Route	Moultrie Variation 2	Proposed Route	Moultrie Variation 3	Proposed Route	Moultrie Variation 4	Proposed Route	Moultrie Variation 5	Proposed Route	Moultrie Variation 6
Length (miles)	2.1	3.1	3.4	4.7	7.9	9.8	14.5	17.8	3.1	4.2	0.5	0.7
Collocation												
Parallel to Existing Right-of-Way (miles/percent)	2.1/100	0.0/0	2.7/79	0.0/0	6.6/84	3.7/38	11.3/78	0.0/0	2.2/71	2.2/52	0.5/100	0.0/0
Greenfield (miles/percent)	0.0/0	3.1/100	0.7/21	4.7/100	1.3/17	6.1/62	3.2/22	17.8/100	0.9/29	2.0/48	0.0/0	0.7/100
Construction Land Requirements (acres)	25.0	38.0	41.5	56.4	95.7	119.1	176.3	215.5	37.9	50.5	5.8	8.4
Operation Land Requirements (acres)	12.5	19.0	20.7	28.2	47.9	59.6	88.1	107.7	18.9	25.2	2.9	4.2
Forested Upland Impacts (acres)	7.4	14.4	17.8	22.8	50.8	49.9	83.0	115.7	15.0	11.6	1.2	0.6
Wetland Impacts (acres)	0.9	3.0	1.6	8.0	6.9	16.4	10.9	30.6	1.2	2.2	0.3	0.2
Forested Wetland Impacts (acres)	0.9	3.0	1.6	8.0	6.9	16.4	10.3	29.0	1.2	2.2	0.3	0.2
Karst Features Crossed (miles)	2.1	3.1	3.4	4.7	7.9	9.8	14.5	17.8	3.1	4.2	0.5	0.7
Waterbody Crossings (no.)	3	10	7	12	12	20	21	31	6	7	1	1
Recreation and Special Interest Areas Crossed (miles)	0.0	0.0	0.0	0.0	0.6	0.7	0.6	0.0	0.0	0.0	0.0	0.0
Tracts Affected (no.)	15	19	32	26	71	54	106	71	33	24	5	12
Residences Within 50 feet of the Construction Right-of-Way (no.)	0	1	1	1	3	2	3	2	1	6	0	0
Environmental Justice Communities [e]												
Within 1 Mile of Centerline (no.)	1	1	1	1	4	3	4	5	1	1	1	1
Crossed (miles)	2.1	3.1	3.4	4.7	7.9	9.8	14.5	17.8	3.1	4.2	0.5	0.7

4.3.2.4 G.B.A. Variations 1, 2, and 3

We received numerous comments from G.B.A. and an individual business partner concerning the potential impacts of the Sabal Trail Mainline on a planned commercial development at approximate MP 201 in the southern outskirts of the City of Moultrie, Georgia. The parties also requested a route variation be considered. G.B.A. states that it is under contract with Wal-Mart, Publix, and other high volume retailers to develop the site, but provided no specific plans depicting the proposed development. We contacted the City of Moultrie Community Development Department in June 2015 and the department was unaware of the planned development.

Sabal Trail's proposed route is collocated with the existing SONAT pipeline as it approaches Moultrie from the northwest. At approximately MP 199.8, the Mainline diverges from the SONAT right-of-way to avoid construction near homes off of Minisee Road, Main Street, McIntosh Place, and between homes on Baell Trace Court. From MPs 199.8 to 200.7 (0.9 mile) the route traverses undeveloped wooded land owned, in part, by G.B.A. The Mainline then crosses U.S. Highway 319, the parking lot of a small retail center, Georgia Route 33, and open land behind the homes along Baell Trace Court before rejoining the SONAT right-of-way at MP 201.2.

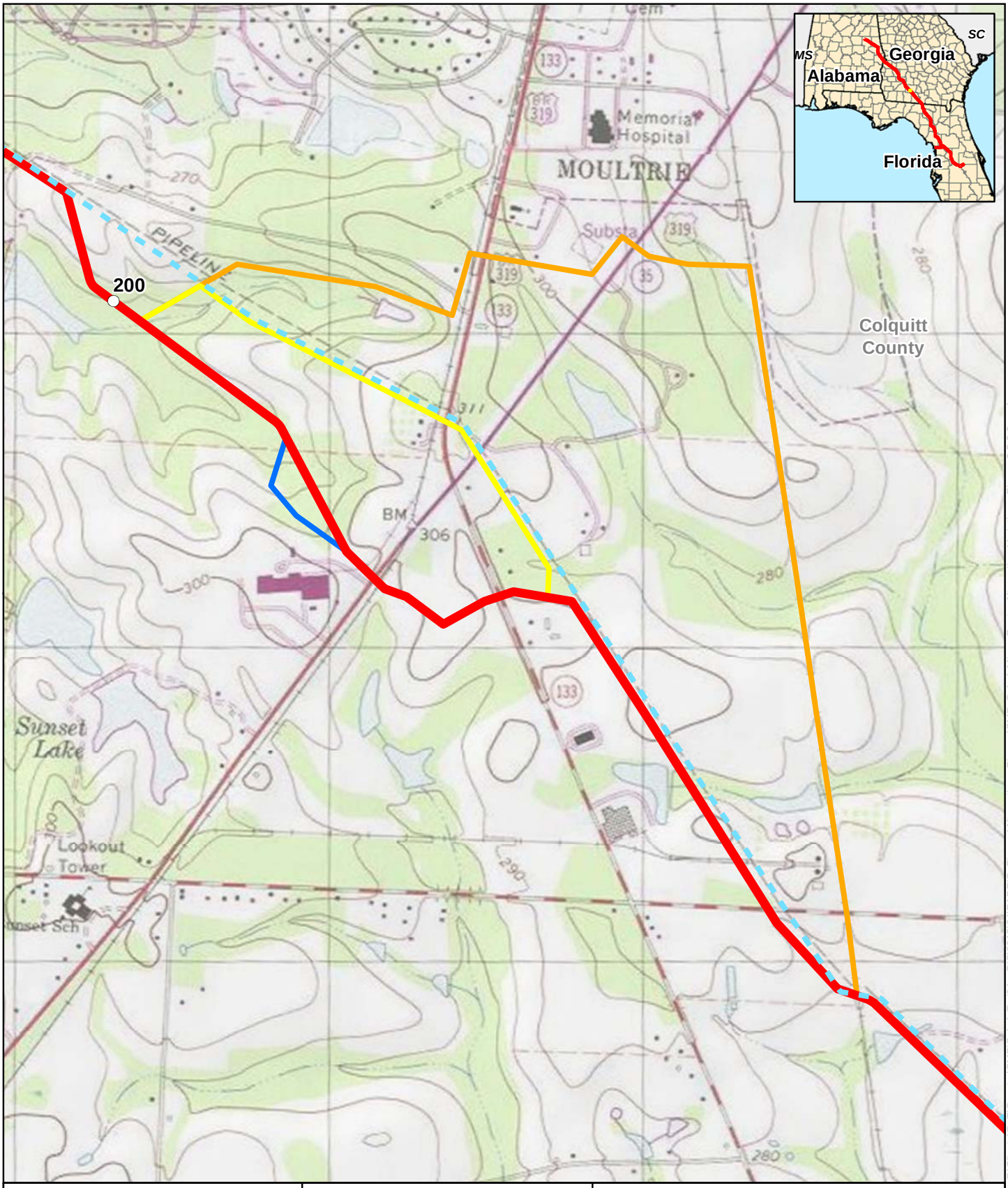
G.B.A. identified two route variations that would avoid its property and Sabal Trail developed a third variation that remains on G.B.A. property but more closely follows property lines. G.B.A. Variations 1, 2, and 3 are depicted on figure 4.3.2-3, and table 4.3.2-5 compares them to the proposed Mainline route.

G.B.A. Variation 1 diverges from the proposed route at approximate MP 200.1 and extends northeasterly across the SONAT corridor and then easterly along a powerline corridor to Georgia Route 33. The variation is collocated with Georgia Route 33 for a short distance before crossing the roadway and extending through a wooded area adjacent to a residential development, then southerly along a former railroad right-of-way to rejoin the proposed route and the SONAT right-of-way at approximately MP 202.2.

TABLE 4.3.2-5

Analysis of G.B.A. Variations 1, 2, and 3

Factor	Proposed Route	G.B.A. Variation 1	Proposed Route	G.B.A. Variation 2	Proposed Route	G.B.A. Variation 3
Length (miles)	2.2	2.9	1.1	1.1	0.3	0.3
Collocation						
Parallel to Existing Right-of-Way (miles/percent)	1.0/46	2.3/79	0/0	1.0/91	0/0	0/0
Greenfield (miles/percent)	1.2/55	0.6/21	1.1/100	0.1/9	0.3/100	0.3/100
Construction Land Requirements (acres)	20.7	34.4	13.2	13.5	3.1	3.7
Operation Land Requirements (acres)	12.6	17.2	6.6	6.7	1.6	1.8
Forested Upland Impacts (acres)	9.6	15.5	5.7	6.8	2.2	1.3
Wetland Impacts (acres)	0.6	0.7	0.7	0.3	0.3	1.6
Forested Wetland Impacts (acres)	0.6	0.7	0.7	0.3	0.3	1.6
Waterbody Crossings (no.)	1	4	1	1	0	0
Tracts Affected (no.)	18	39	10	12	2	3
Road Crossings (no.)	2	2	2	4	0	0
Residences Within 50 feet of the Construction Right-of-Way (no.)	1	3	0	3	0	0



0 750 1,500 Feet

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Figure 4.3.2-3
Sabal Trail Project
GBA Variations

Proposed Mainline
GBA Variation 1
GBA Variation 2
GBA Variation 3
Existing SONAT Pipeline

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G.B.A. Variation 1 is collocated with other existing rights-of-way for 79 percent of its route, compared to 46 percent for the proposed route. However, the variation is approximately 0.7 mile longer and impacts an additional 13.7 acres of land, 5.9 acres of forested land, 3 waterbodies, 21 tracts, and is within 50 feet of 2 additional residences. For these reasons we have determined that G.B.A. Variation 1 does not offer a significant environmental advantage over the corresponding proposed route and is not preferable to the proposed action.

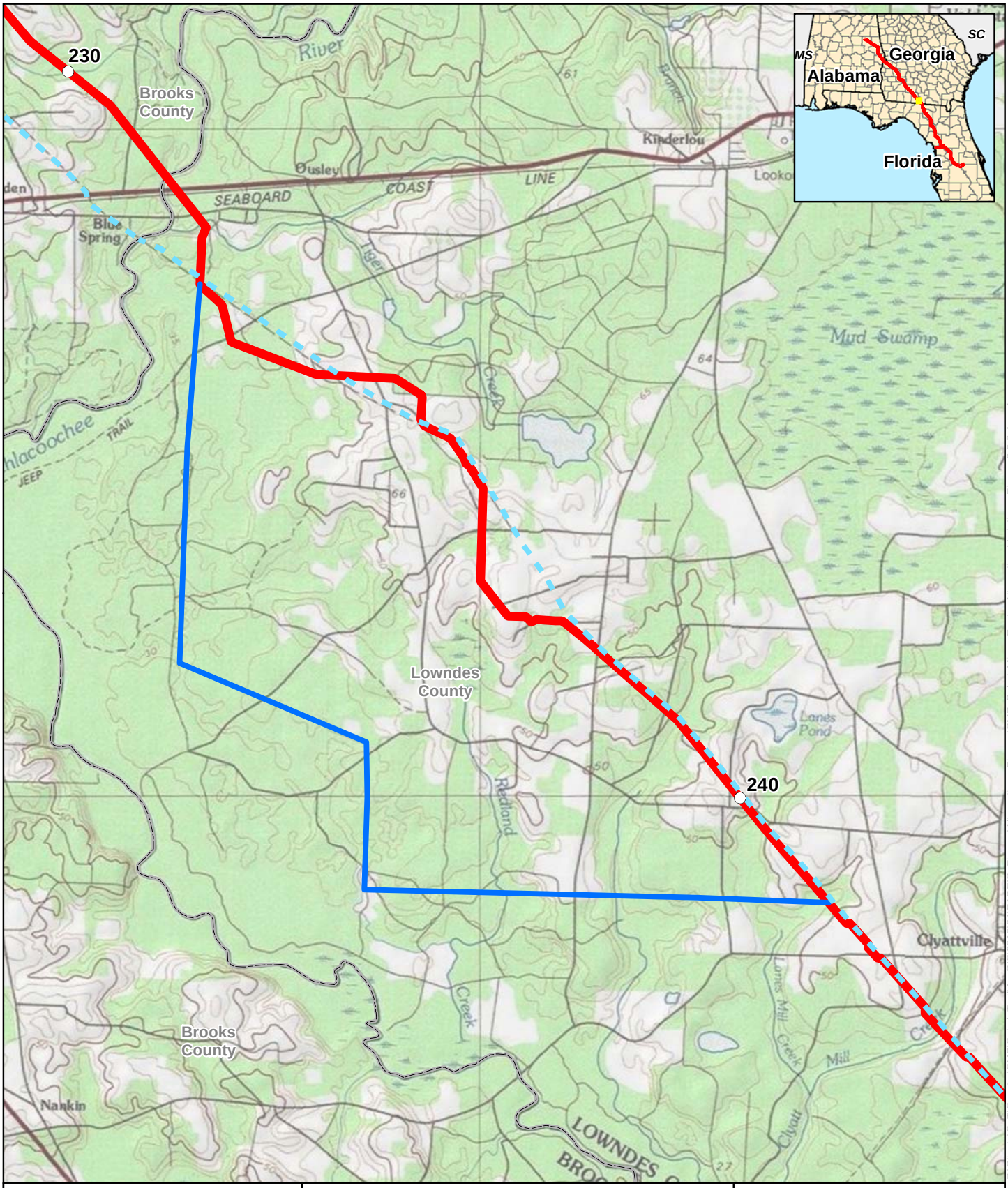
G.B.A. Variation 2 involves collocating the Mainline with the SONAT corridor through Moultrie, thus avoiding the G.B.A. property. The comparative routes are very nearly the same length and, thus, have similar land requirements and impact most resources similarly. While the variation is collocated much more and reduces wetland impacts by 0.4 acre compared to the proposed Mainline route, as noted above, collocation with the existing SONAT right-of-way would involve construction near homes at several locations. Although pipeline construction near these homes is technically feasible as suggested by G.B.A., we have determined that G.B.A. Variation 2 does not offer a significant environmental advantage over the corresponding proposed route and is not preferable to the proposed action.

In response to a request by FERC staff, Sabal Trail developed G.B.A. Variation 3, which remains on the G.B.A. property but more closely follows property lines in an effort to reduce impacts on future development activities. The variation is nearly the same length, reduces forest impacts by 0.9 acre, and increases forested wetland impacts by 1.3 acres compared to the proposed route. Although the environmental impacts are slightly greater, we conclude that G.B.A. Variation 3 is preferable because it strikes a reasonable balance between the proposed Mainline routing to avoid existing constraints south of Moultrie and G.B.A.'s potential development plans. Therefore, **we recommend that:**

- **<u>Prior to the close of the draft EIS comment period</u>, Sabal Trail should work with G.B.A. to the extent feasible and file with the Secretary a revised alignment sheet that incorporates G.B.A. Variation 3 into the proposed route and documentation of or confirmation that Sabal Trail will obtain the necessary federal approvals for the variation.**

4.3.2.5 Lowndes County Variation

The Lowndes County Variation was identified by affected landowners to reduce impacts on the environment. The variation deviates from the Mainline route at approximate MP 232.5 and extends to the south about 3.5 miles across Spain Ferry Road, then southeasterly about 2 miles across Knights Ferry Road, then south about 1.4 miles across Rowland Road, and then due east for 4.4 miles across Rocky Ford Road and Bay Lane to rejoin the Mainline route at approximately MP 241.3. Figure 4.3.2-4 depicts the Lowndes County Variation, and table 4.3.2-6 compares the variation to the corresponding segment of the proposed route.



0 0.5 1 Miles

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Figure 4.3.2-4
Sabal Trail Project
Lowndes County Variation

Proposed Mainline
Lowndes County Variation
Existing SONAT Pipeline

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Date: (8/3/2015)

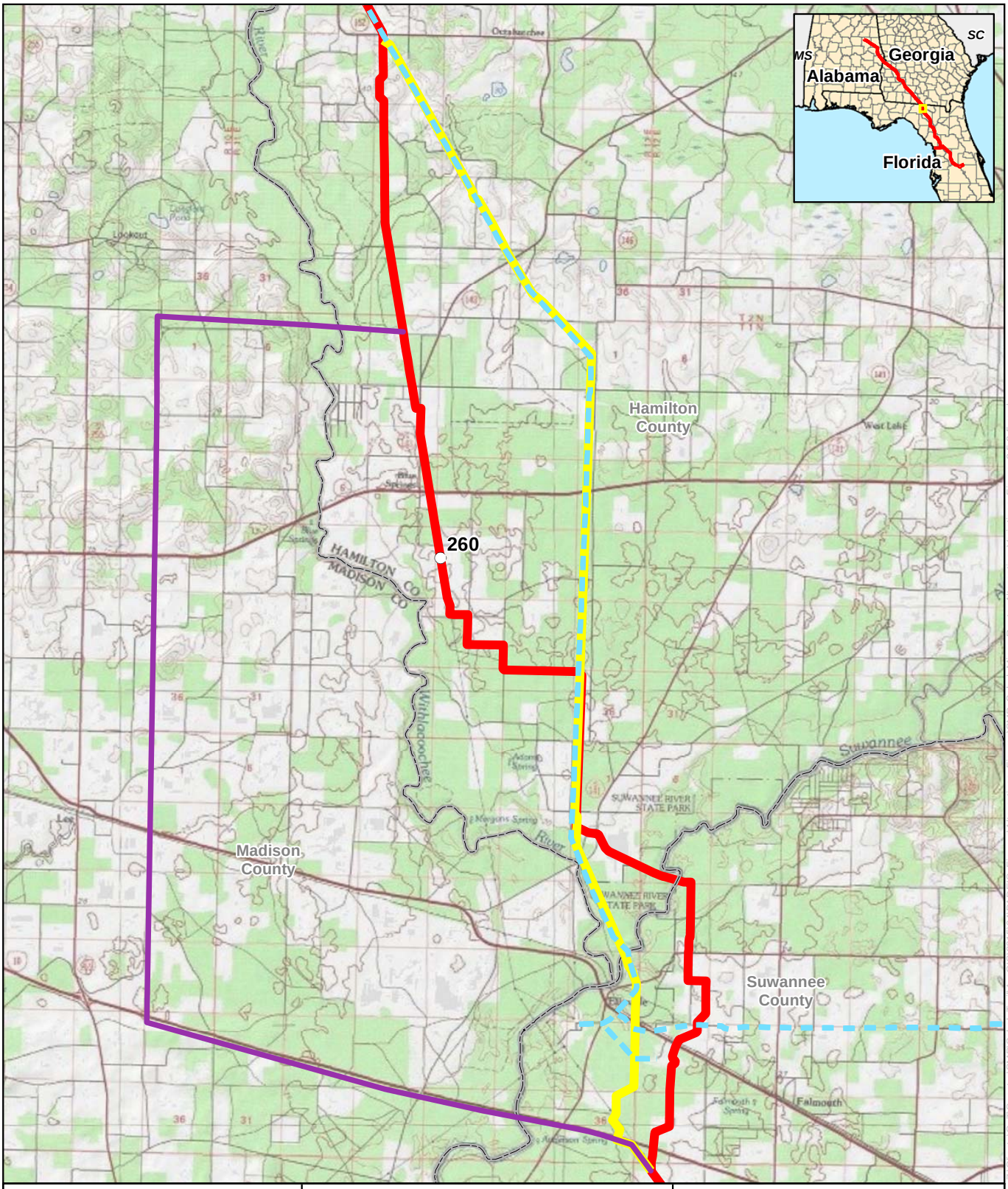
TABLE 4.3.2-6 **Analysis of the Lowndes County Variation**		
Factor	Proposed Route	Lowndes County Variation
Length (miles)	9.1	11.2
Collocation		
Parallel to Existing Right-of-Way (miles/percent)	4.2/46	0.0/0
Greenfield (miles/percent)	4.9/54	11.2/100
Construction Land Requirements (acres)	110.1	135.2
Permanent Land Requirements (acres)	55.0	67.6
Forested Upland Impacts (acres)	44.8	70.1
Wetland Impacts (acres)	5.6	20.8
Forested Wetland Impacts (acres)	5.6	20.4
Karst Features Crossed (miles)	9.1	11.2
Waterbody Crossings (no.)	3	7
Tracts Affected (no.)	33	10
Residences Within 50 feet of the Construction Right-of-Way (no.)	0	0
Environmental Justice Communities [e]		
Within 1 Mile of Centerline (no.)	3	4
Crossed (miles)	8.8	11.2

The Lowndes County Variation crosses 23 fewer tracts than the corresponding proposed route; however, the variation is about 2.1 miles longer, not collocated with any existing rights-of-way, and affects an additional 25.2 acres of land, 25.3 acres of forest land, 15.2 acres of wetlands (including 15.1 acres of forested wetlands), and 4 additional waterbodies compared to the corresponding proposed route. Based on the greater impacts of the Lowndes County Variation compared to the proposed route, we determined that the variation does not offer a significant environmental advantage over the corresponding proposed route and is not preferable to the proposed action.

4.3.2.6 Withlacoochee River Variations 1 and 2, and Echo Plantation Variation

The Withlacoochee River Variations 1 and 2 were evaluated to further minimize impacts on affected landowners and sensitive springs and karst features. Figure 4.3.2-5 illustrates the Withlacoochee River Variations, and table 4.3.2-7 compares the variations to the corresponding segments of the proposed route.

Withlacoochee River Variation 1 diverges from the proposed route near MP 252.4 by following the existing SONAT pipeline corridor to the southeast, and then to the south where it parallels NW 40th Avenue, and continues to follow SONAT through a portion of Twin Rivers State Forest and Suwannee River State Park where it crosses the Suwannee River and rejoins the proposed route near MP 270.4. Variation 2 diverges from the proposed route near MP 256.7 and extends to the west and across the Withlacoochee River along an existing Duke Energy powerline corridor, then south along the Duke corridor through a portion of the Twin Rivers State Forest until intersecting and following Interstate 10 to the southeast and rejoining the proposed route near MP 270.4.



0 1 2 Miles

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Figure 4.3.2-5
Sabal Trail Project
Withlacoochee River Variations

- Proposed Mainline
- Suwannee/Withlacoochee River Variation 1
- Suwannee/Withlacoochee River Variation 2
- Existing SONAT Pipeline

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Date: (06/2015)

TABLE 4.3.2-7

Analysis of Withlacoochee River Variations 1 and 2

Factor	Proposed Route	Variation 1	Proposed Route	Variation 2
Length (miles)	20.0	17.8	15.7	21.3
Collocation				
Parallel to Existing Right-of-Way (miles/percent)	11.2/56	15.7/88	6.9/44	14.1/66
Greenfield (miles/percent)	8.8/44	2.1/12	8.8/56	7.2/34
Construction Land Requirements (acres)	243.3	217.3	191.9	258.4
Operation Land Requirements (acres)	121.4	108.5	98.6	129.1
Forested Upland Impacts (acres)	82.5	87.0	66.1	109.3
Wetland Impacts (acres)	4.9	2.5	4.7	2.9
Forested Wetland Impacts (acres)	4.7	2.5	4.7	2.9
Bare or Thinly Covered Limestone Crossed (miles)	20.0	17.8	15.7	21.3
1st, 2nd, and 3rd Order Springs Within 0.5 mile (no.)	7	4	7	1
Hydraulically Upgradient Distance from Closest Known Spring within 0.5 mile (feet)	1,076	160	1,076	0
Waterbody Crossings (no.)	3	3	3	3
HDD Waterbody Crossings (no.)	1	1	1	2
Springshed Crossing (miles)	6.7	6.4	2.5	7.6
Recreation and Special Interest Areas Crossed (miles)	1.8	2.8	1.8	2.0
Tracts Affected (no.)	92	103	78	81
Residences Within 50 feet of the Construction Right-of-Way (no.)	0	4	0	10

The primary advantages of the Withlacoochee River Variation 1 are that it is about 2.2 miles shorter; affects 16 acres less land; impacts 2.4 acres less wetland; is within 0.5 mile of three fewer springs; and crosses 2.2 miles less of bare or thinly covered limestone bedrock, which contains numerous karst features. The most significant disadvantage of the variation is that it involves overland construction in the Suwannee River State Park near overnight cabins, campgrounds, and the Columbus Cemetery, a civil war era cemetery. Representatives from the state park indicated their preference to avoid overland construction the park. In addition, at the HDD crossing of the Suwannee River, the variation is in the immediate vicinity of one 1st Order spring, two 2nd Order springs, and one 4th Order spring, whereas there are no 1st, 2nd, or 3rd Order springs within 0.5 mile of the proposed HDD crossing, or within 1 mile downstream from the proposed crossing. Therefore, there is an increased potential for the HDD associated with the variation to impact springs, which is a concern to many commentors in the area. Based on the above discussion, we determined that Withlacoochee River Variation 1 does not offer a significant environmental advantage over the corresponding proposed route and is not preferable to the proposed action.

Withlacoochee River Variation 2 affects 1.8 acres less wetland and is within 0.5 mile of six fewer springs than the proposed route. However, the variation is 5.6 miles longer and results in increased impacts on all other resources. The variation also requires an additional HDD crossing of the Withlacoochee River, which is avoided by the proposed route. Based on resources affected and the additional HDD that would be required, we determined that the Withlacoochee River Variation 2 does not provide a significant environmental advantage over the corresponding proposed route and is not preferable to the proposed action.

As discussed in section 3.9.2.5, the Mainline route in this area also crosses the Warner/Harrell Conservation Easement (also known as Echo Plantation) on the east side of the Suwannee River. Echo Plantation encompasses about 912 acres, and an environmental assessment provided by the landowner identified the biological, geological, and water resources within the property. The landowner is concerned that the proposed route will impact endangered species, springs, caves, and the underlying Floridan aquifer.

We did consider recommending the relocation of the overland construction segment of the Mainline about 150 feet west of the proposed route and into Suwannee River State Park for about 0.5 mile in order to avoid crossing this easement. However, the park in that area is completely forested, as compared to the corresponding proposed route, which is sparsely forested. Considering that all other factors are equal (e.g., length, land requirements, endangered species, springs, caves, aquifer effects), we determined that changing the route slightly to avoid the western perimeter of the Echo Plantation does not provide a significant environmental advantage over the corresponding proposed route and is not preferable to the proposed action.

4.3.2.7 Waccasassa Flats Variation

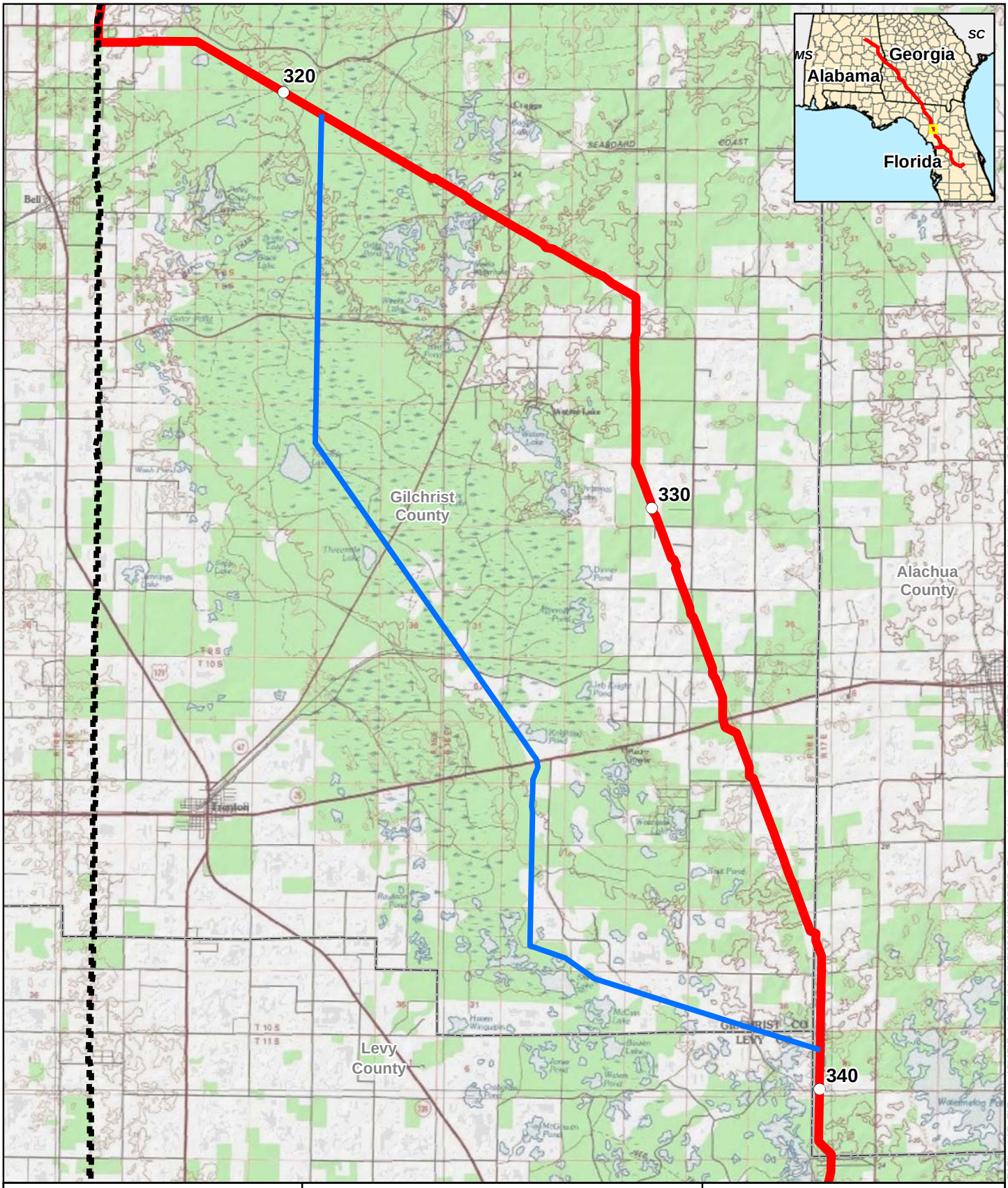
The Waccasassa Flats Variation was identified by the Gilchrist County (Florida) Board of Commissioners and the Gilchrist Pipeline Committee (a committee comprised of residents of Gilchrist County) to minimize impacts on landowners and the environment. As discussed in section 3.9.2.4, the Waccasassa Flats area has very limited development and is interspersed with pine plantations, forested wetlands, and large private hunting preserves. The Waccasassa Flats Variation deviates south from the Mainline route at approximately MP 320.7 and traverses south and southeasterly through the Waccasassa Flats area, rejoining the proposed route at MP 339.4 in Alachua County. Figure 4.3.2-6 depicts the Waccasassa Flats Variation and table 4.3.2-8 compares the variation to the corresponding Mainline route.

TABLE 4.3.2-8

Analysis of the Waccasassa Flats Variation

Factor	Proposed Route	Waccasassa Flats Variation
Length (miles)	18.7	19.4
Collocation		
Parallel to Existing Right-of-Way (miles/percent)	16.5/88	0.0/0
Greenfield (miles/percent)	2.2/12	19.4/100
Construction Land Requirements (acres)	226.1	235.5
Operation Land Requirements (acres)	113.1	117.7
Forested Upland Impacts (acres)	43.4	73.0
Wetland Impacts (acres)	8.3	55.8
Forested Wetland Impacts (acres)	8.3	52.9
Waterbody Crossings (no.)	2	10
Springshed Crossing (miles)	37.3	59.6
1st, 2nd, and 3rd Order Springs Within 0.5 mile (no.)	0	0
Critical Habitat Crossed (miles)	0.0	0.0
Recreation and Special Interest Areas Crossed (miles)	0.4	0.0
Tracts Affected (no.)	99	48
Residences Within 50 feet of the Construction Right-of-Way (no.)	2	2

The Waccasassa Flats Variation is approximately 0.7 mile longer than the corresponding Mainline route and is not collocated with any existing rights-of-way, compared with 88 percent collocation for the corresponding Mainline route. The variation also impacts an additional 9.4 acres of land, 30 acres of forested lands, 47.5 acres of wetlands, 44.6 acres of forested wetlands, and 22.3 miles of springshed areas. Although a higher percentage of the route variation occurs in an area with greater cover over the Floridan aquifer, no 1st, 2nd, or 3rd Order springs occur within 0.5 mile of either the proposed route or the variation and we conclude in section 3.1.2.3 that the SMP Project does not pose a significant risk to karst resources. Based on these factors, we have determined that the Waccasassa Flats Variation does not offer a significant environmental advantage over the corresponding Mainline route and is not preferable to the proposed action.



0 1 2 Miles

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Figure 4.3.2-6
Sabal Trail Project
Waccasassa Flats Variation

Proposed Mainline
Waccasassa Flats Variation
Existing FGT Pipeline

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Date: (8/3/2015)

4.3.2.8 Halpata-Tastanaki Preserve Area Variations

Based on numerous comments received, including comments from the Southwest Florida WMD, Audubon Florida and its Marion County Chapter, Rainbow River Conservation, and private landowners, we evaluated multiple alternatives (table 4.3.2-1 in appendix D) to avoid and minimize impacts on private property and conservation areas in and near the Halpata-Tastanaki Preserve in Marion County, Florida. Our review included facilitating or participating in multiple meetings and site visits with Sabal Trail and stakeholders. Based on these efforts, Sabal Trail incorporated multiple variations into its proposed route and we conclude it now avoids and minimizes impacts on sensitive resources in this area to the extent practicable, as described in section 3.9.

4.3.2.9 Green Swamp Area Variations

We received numerous comments concerning Sabal Trail's Mainline route through sensitive wetlands and private properties in the Green Swamp area of Lake and Polk Counties, Florida, an Area of Critical State Environmental Concern. In response to these concerns, we evaluated four route variations that collocate the route adjacent to existing rights-of-way. Additionally, 23 other route variations in the Green Swamp area were evaluated as summarized in table 4.3.2-1 in appendix D.

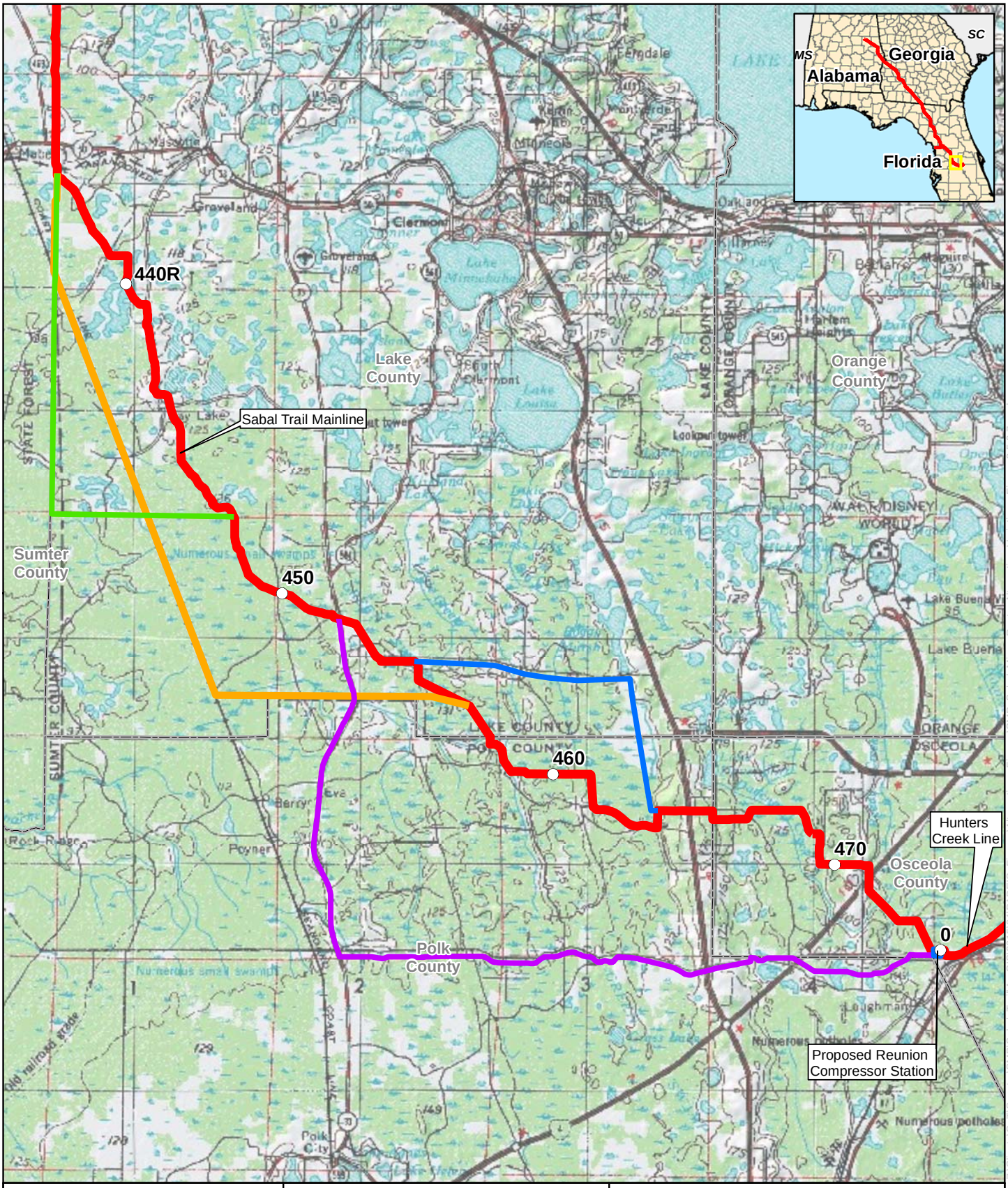
Audubon Variations

Audubon Florida expressed concern about the proposed routing through the Green Swamp and requested variations be evaluated that follow existing roadway corridors (including County Road 474, U.S. Highway 27, State Road 33, and Deen Still Road).

The Highway 474/27 Variation was identified to avoid large undisturbed crossings of wetlands, state lands, and conservation easements between MPs 454 and 464 in Lake County, Florida. It diverges from the Mainline route at approximately MP 454.4 and extends eastward along the south side of State Highway 474 for approximately 6 miles, then turns south and travels along the west side of U.S. Highway 27 for approximately 3.8 miles until it rejoins the proposed route at MP 464.3R.

The State Road 33/Deen Still Road Variation diverges from the Mainline route at approximately MP 451.8 and extends south along the east side of State Road 33 for approximately 9.6 miles, then turns east along the south side of Deen Still Road, which becomes Ronald Reagan Expressway (after crossing U.S. Highway 27), for approximately 12.8 miles, and then turns to the northeast to follow the south side of the Osceola/Polk County Line Road for about 4.5 miles into the proposed CFH/Reunion Compressor Station at MP 474.4.

Figure 4.3.2-7 illustrates the Highway 474/27 and Highway 33/Deen Still Road variations, and table 4.3.2-9 compares these route variations to the corresponding segments of the proposed route.



0 1.5 3 Miles

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Figure 4.3.2-7
Sabal Trail Project
Green Swamp Area Variations

- Proposed Pipeline
- Audubon Highway 474/27 Variation
- Audubon Hwy 33/Deen Still Rd. Variation
- Rails to Trails Variation
- Transmission Line Variation

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Date: (8/3/2015)

TABLE 4.3.2-9 **Analysis of Audubon Variations in Green Swamp**				
Factor	Proposed Route	Highway 474/27 Variation	Proposed Route	Highway 33/Deen Still Road Variation
Length (miles)	9.9	9.8	23.4	26.9
Collocation				
Parallel to Existing Right-of-Way (miles/percent)	1.8/12	5.7/58	5.8/25	23.8/89
Greenfield (miles/percent)	8.1/82	4.1/42	17.6/75	3.1/11
Construction Land Requirements (acres)	120.1	118.7	283.6	326.1
Operation Land Requirements (acres)	60.0	59.4	141.8	163.0
Forested Upland Impacts (acres)	18.8	14.9	0.3	0.3
Wetland Impacts (acres)	60.4	84.9	12.5	7.4
Forested Wetland Impacts (acres)	59.8	62.1	12.1	6.5
Karst Features Crossed (miles)	9.9	9.8	23.4	26.9
Waterbody Crossings (no.)	10	8	16	18
Recreation and Special Interest Areas Crossed (miles)	4.3	2.8	4.2	<0.1
Tracts Affected (no.)	36	41	134	212
Residences Within 50 feet of the Construction Right-of-Way (no.)	0	0	9	37

The Highway 474/27 Variation is very similar in length and land disturbance compared to the corresponding Mainline route. The variation is collocated with other rights-of-way for 58 percent of its length, compared to 12 percent for the corresponding Mainline route, and it crosses two fewer waterbodies, 3.9 acres less forested land, and about 1.5 miles less of recreation and special interest areas (i.e., both routes cross the Jahnna Conservation Easement). The disadvantages of this variation are that it impacts an additional 20.5 acres of wetland, 2.3 acres of forested wetland, five additional tracts of land, and crosses a portion of Hilochee Wildlife Management Area, which is not crossed by the corresponding Mainline route. In addition, Sabal Trail stated that where this variation is offset from developed areas along Highway 27, there is standing water averaging 4 feet deep, which eliminates the ability to use conventional upland construction techniques and, due to the depth of water and soil conditions, requires a 140-foot-wide construction right-of-way to excavate the trench, keep it open while the pipe is pushed into it, and keep the excavated material from filling back into the trench before the pipeline is installed. In addition, several areas along Highway 474 are similarly saturated. Based on these factors, we determined that the Highway 474/27 Variation does not offer a significant environmental advantage compared to the corresponding Mainline route and is not preferable to the proposed action.

The Highway 33/Deen Still Variation is collocated with other rights-of-way for 89 percent of its length compared to 25 percent for the corresponding Mainline route and crosses 4.2 miles less recreation and special interest areas. The variation would impact a similar amount of forested land and about 5.1 acres less wetland. However, it is about 3.5 miles longer, impacts an additional 42.5 acres of land during construction, is within 50 feet of 28 more residences, and crosses 2 more waterbodies and 78 more tracts compared to the corresponding Mainline route. Therefore, we determined that the variation does not offer a significant environmental advantage over the corresponding Mainline route and is not preferable to the proposed action.

Transmission Line Variation

We identified and evaluated the Transmission Line Variation in response to concerns about impacts on the Green Swamp. This variation diverges from the Mainline route between approximate MPs 436.0 and 447.1 in Sumter County, extends south along an existing power line corridor for about 9 miles, and

then east primarily along an existing two-track road for about 5 miles. Figure 4.3.2-7 illustrates the Transmission Line Variation, and table 4.3.2-10 compares the variation to the corresponding segment of the proposed route.

TABLE 4.3.2-10

Analysis of the Green Swamp Transmission Line Variation

Factor	Proposed Route	Transmission Line Variation
Length (miles)	11.1	14.0
Collocation		
Parallel to Existing Right-of-Way (miles/percent)	0.8/7	11.9/85
Greenfield (miles/percent)	10.3/93	2.1/15
Construction Land Requirements (acres)	135.0	169.9
Operation Land Requirements (acres)	67.5	85.0
Forested Upland Impacts (acres)	17.1	58.6
Wetland Impacts (acres)	29.7	54.0
Forested Wetland Impacts (acres)	10.7	47.8
Karst Features Crossed (miles)	11.1	14.0
Waterbody Crossings (no.)	10	4
Recreation and Special Interest Areas Crossed (miles)	0.9	10.6
Tracts Affected (no.)	88	47
Residences Within 50 feet of the Construction Right-of-Way (no.)	9	3

The Transmission Line Variation is collocated with other existing rights-of-way for a greater percentage than the corresponding Mainline route and crosses 6 fewer waterbodies, 41 fewer tracts, and is located within 50 feet of 6 fewer residences. However, the total length of pipeline required is approximately 2.9 miles longer, and it impacts an additional 34.9 acres of land, 24.3 acres of wetlands, 37.1 acres of forested wetlands, and 9.7 miles more of recreation and special interest areas. Based on these factors, we determined that the variation does not offer a significant environmental advantage over the corresponding Mainline route and is not preferable to the proposed action.

Rails to Trails Variation

The Rails to Trails Variation was also identified and evaluated in response to concerns about impacts on the Green Swamp. This variation diverges from the Mainline route between approximate MPs 436.0 and 456.5 in Sumter County and traverses south along the border of Sumter and Lake Counties for approximately 2.7 miles until intersecting an abandoned railroad corridor and the General James A. Van Fleet State Trail. It then follows the trail and the abandoned railroad corridor through the Green Swamp in a southeasterly direction for approximately 15.1 miles, and then turns east on a greenfield route just north of the Lake and Polk County line for approximately 7.0 miles until rejoining the proposed route. Figure 4.3.2-7 illustrates the Rails to Trails Variation, and table 4.3.2-11 compares the variation to the corresponding segment of the proposed route.

TABLE 4.3.2-11 **Analysis of the Rails to Trails Variation**		
Factor	Proposed Route	Rails to Trails Variation
Length (miles)	20.5	22.1
Collocation		
Parallel to Existing Right-of-Way (miles/percent)	1.8/9	15.3/69
Greenfield (miles/percent)	18.7/91	6.8/31
Construction Land Requirements (acres)	248.8	268.1
Operation Land Requirements (acres)	124.4	134.0
Forested Upland Impacts (acres)	40.7	75.2
Wetland Impacts (acres)	57.6	94.2
Forested Wetland Impacts (acres)	38.6	82.1
Karst Features Crossed (miles)	20.5	22.1
Waterbody Crossings (no.)	16	14
Springshed Crossing (miles)	4.7	1.0
Recreation and Special Interest Areas Crossed (miles)	0.1	10.4
Tracts Affected (no)	168	130
Residences Within 50 feet of the Construction Right-of-Way (no.)	7	2

The Rails to Trails Variation is collocated with other rights-of-way for a greater percentage than the corresponding Mainline route and crosses 2 fewer waterbodies, 38 fewer tracts, and is within 50 feet of 5 fewer residences. However, this variation is about 1.6 miles longer and it impacts an additional 19.3 acres of land, 34.5 acres of forested lands, 36.6 acres of wetlands, and 43.5 acres of forested wetlands. In addition, it impacts about 10.4 miles of the Van Fleet Trail, a regional biking and walking trail. Based on these factors, we determined that the variation does not offer a significant environmental advantage over the corresponding Mainline route and is not preferable to the proposed action.

4.3.2.10 Happy Trails Variation

The Happy Trails Variation was identified and evaluated in response to affected landowners concerns about impacts on wetlands and residences. During the pre-filing and post application reviews, Sabal Trail continued to evaluate variations through the community and in cooperation with the FDEP, Sabal Trail modified the proposed route.

Sabal Trail originally proposed a route that traversed southeast across residential properties on North Goodman Road, and then turned east through mature forests and forested wetlands behind other homes. During our review we conducted three site visits and met with landowners to discuss potential routing options in the area. As a result, we requested that Sabal Trail evaluate two route variations including one to the north and east, and one to the west and south, of the proposed route in an effort to minimize impacts on residents, forest, and forested wetlands. Sabal Trail conducted additional field work including inspections with the FDEP who recommended the wetlands along the originally proposed route be avoided due to the higher UMAM scores as compared to wetlands affected by the two route variations evaluated. In a filing dated March 27, 2014, Sabal Trail adopted the route variation to the north and east of its originally proposed route as its proposed route through this area.

The remaining Happy Trails Variation is included here for comparison with the currently proposed route, modified in March 2014. The variation diverges from the Mainline route at approximately MP 467.1 near the northern entrance to the Happy Trails Community and extends south on for approximately 3.8 miles across Champions Gate Golf Resort and Tri County Road to just north of the intersection of Westside Boulevard and Loughman Road. After passing into Polk County, it then turns easterly, generally north of

Loughman Road and south of Osceola Polk Line Road, until reaching the Reunion Compressor Station. Figure 4.3.2-8 illustrates the Happy Trails Variation, and table 4.3.2-12 compares the variation to the corresponding segment of the proposed route

TABLE 4.3.2-12

Analysis of the Happy Trails Variation

Factor	Proposed Route	Happy Trails Variation
Length (miles)	8.2	9.4
Collocation		
Parallel to Existing Right-of-Way (miles/percent)	1.6/20	1.0/11
Greenfield (miles/percent)	6.6/80	8.4/89
Construction Land Requirements (acres)	99.0	113.6
Operation Land Requirements (acres)	49.5	56.8
Forested Upland Impacts (acres)	16.7	17.5
Wetland Impacts (acres)	44.7	31.7
Forested Wetland Impacts (acres)	42.7	25.8
Karst Features Crossed (miles)	8.2	9.4
Waterbody Crossings (no.)	6	9
Recreation and Special Interest Areas Crossed (miles)	0.0	0.0
Tracts Affected (no)	102	82
Residences Within 50 feet of the Construction Right-of-Way (number)	0	0

The Happy Trails Variation impacts 13 acres less wetlands, including 16.9 acres fewer forested wetlands, and crosses 20 fewer tracts. However, it is about 1.2 miles longer than the proposed route, is less collocated with existing rights-of-way, crosses three more waterbodies, and impacts 14.6 acres more land compared to the corresponding Mainline route. Although the NWI data accessed for the alternative analysis indicates that the variation impacts less wetland, our review indicates that the wetlands along the variation appear to be more mature and high-functioning forested and/or saturated wetlands than the wetlands crossed by the proposed route and subsequently result in greater impacts on wildlife habitats. Based on these factors, we determined that this variation does not offer a significant environmental advantage over the corresponding Mainline route and is not preferable to the proposed action.

4.4 ABOVEGROUND FACILITY LOCATION ALTERNATIVES

We evaluated several alternative aboveground facility locations. The factors considered for an aboveground facility are different than those considered for a pipeline route because an aboveground facility is a fixed location rather than a linear facility and because, unlike a pipeline, an aboveground facility is visible during operations and, in most cases, generates noise and air emissions. In evaluating these locations, we consider: amount of available land; current land use, as well as adjacent land use; location accessibility; engineering requirements; and impacts on the natural and human environments.

We did not evaluate alternative locations for the proposed modifications at existing compressor stations because the modifications are largely determined by hydraulic modeling to meet the contracted capacity of the SMP Project and occur within the boundaries of existing facilities. We also did not evaluate alternative locations for M&R stations because the locations of those facilities are largely determined by interconnections with other pipeline systems and delivery points and the facilities have a relatively small footprint. Similarly, the locations of proposed MLVs are based in part on PHMSA regulations and MLVs and other appurtenant aboveground facilities occupy a small footprint within existing or proposed pipeline rights-of-way.

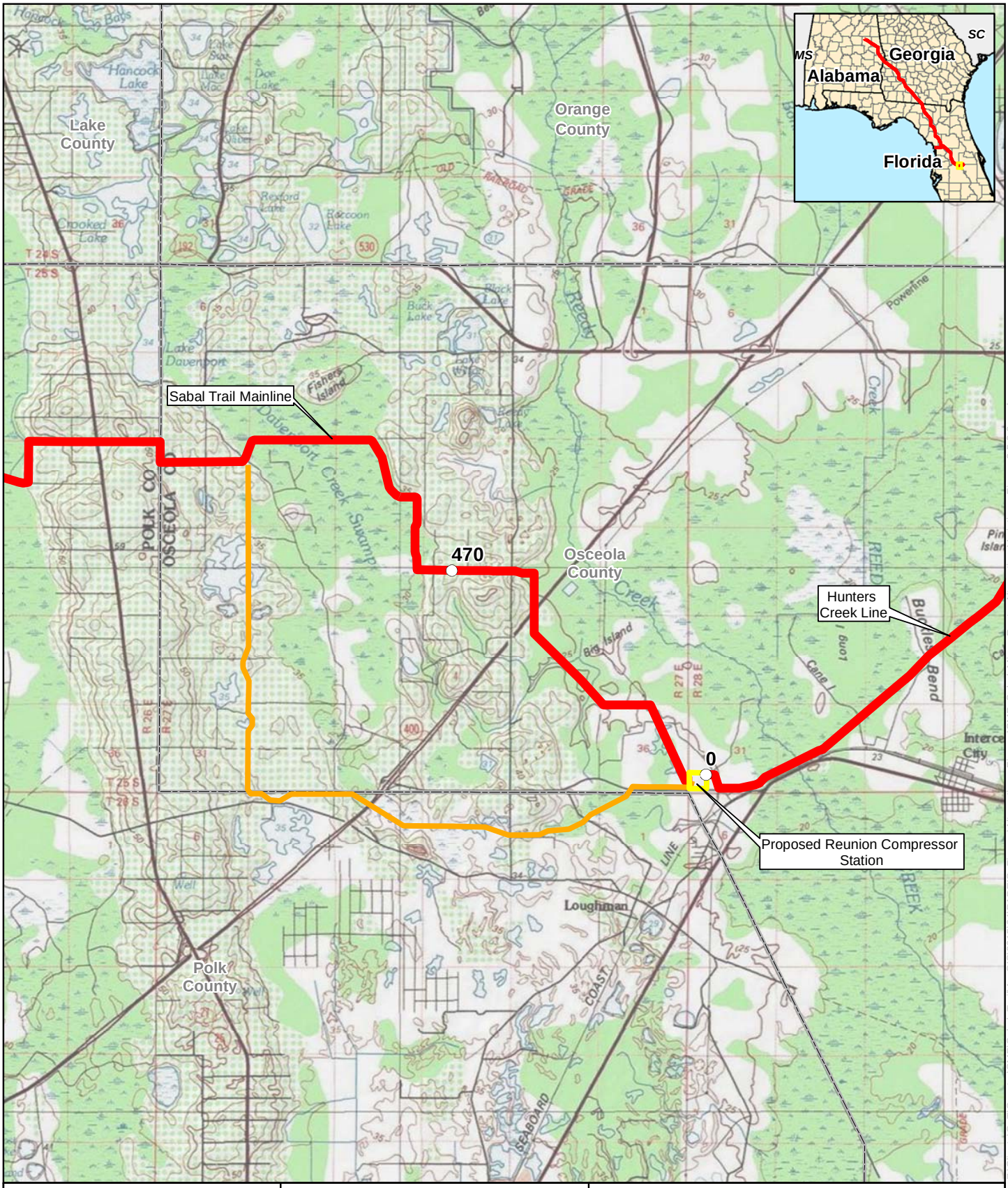

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Figure 4.3.2-8
Sabal Trail Project
Happy Trails Variation

Proposed Mainline
Happy Trails Variation

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4.4.1 Hillabee Expansion Project

4.4.1.1 Compressor Station 84 Alternatives

We evaluated modifying Transco's existing Compressor Station 85 as an alternative to constructing Compressor Station 84; however, Compressor Station 85 is designed to serve the Mobile Bay Lateral, which extends south for approximately 120 miles to Mobile, Alabama. Based on hydraulic modeling information provided by Transco and independently verified by our engineering staff, we determined that modifying Compressor Station 85 was not feasible because the modification would interrupt service on the Mobil Bay Lateral. Modeling further determined that the additional compression needed for the Hillabee Expansion Project must be located no more than 2 miles upstream (west) from Compressor Station 85. Transco searched for suitable sites along its mainline facilities but found no alternatives to the proposed site, and no other alternative sites were identified during our review.

We evaluated the use of electric-driven compressors as an alternative to the proposed natural gas-fired compressor units at Compressor Station 84 because electric-driven compressors would not result in any direct air emissions. However, natural gas is a secondary source of energy, meaning that other sources of energy are used to create electricity. About 54 percent of the electricity generated in Alabama comes from the burning of fossil fuels; thus, the use of electric-driven compressors at Compressor Station 84 would result in regional air emissions. In addition, a high-voltage power line would have to be constructed to the compressor station site, which would result in additional environmental impacts compared to Transco's proposal. Lastly, the use of natural gas to power compressors is more reliable than electric service, which can be more readily interrupted by storms or extreme power demands. For these reasons we concluded that the use of electric-driven compressors at Compressor Station 84 does not offer a significant environmental advantage when compared to the proposed action and is not preferable to the proposed action.

4.4.2 Sabal Trail Project

The Sabal Trail Project would include five new compressor stations (see table 2.1.2-2). We did not evaluate any alternative locations for the Alexander City Compressor Station in Tallapoosa County, Alabama, because the proposed site is of sufficient size, available, meets the hydraulic requirements of the project, is located adjacent to an existing industrial facility, and does not require a long access road or pipeline lateral as it is situated near Transco's mainline system. Further, we received no comments proposing an alternative or requesting that an alternative be considered.

4.4.2.1 Albany Compressor Station

Sabal Trail originally proposed to locate the Albany Compressor Station on a 79-acre parcel of land at the corner of Leary Road and State Highway 91, just south of Albany, Georgia. As described previously, the City of Albany, Dougherty County, the Kiokee-Flint Group, and private citizens expressed numerous concerns about this proposed location. Their comments concerned public safety and health, potential impacts on groundwater, the visual character of this corridor leading into Albany, the potential for karst conditions to damage the facility, proximity to the local airport, air emissions and noise associated with the facility, and impacts on environmental justice communities.

In response to these concerns, on June 10, 2015, Sabal Trail proposed a new location for the Albany Compressor Station near the intersection of West Oakridge Drive and Lockett Station Road in western Albany. We evaluate the environmental impacts of the new site in section 3.0 as part of Sabal Trail's proposal.

In this section we compare the new, proposed site to five alternative sites. All of the alternative sites are in Dougherty County, and within the acceptable hydraulic range for the Sabal Trail Project which is defined as an approximately 15-mile-long segment of the pipeline between approximately MPs 147.3 and 162. Figure 4.4.2-1 depicts the alternative sites and table 4.4.2-1 compares the alternative sites to the proposed site.

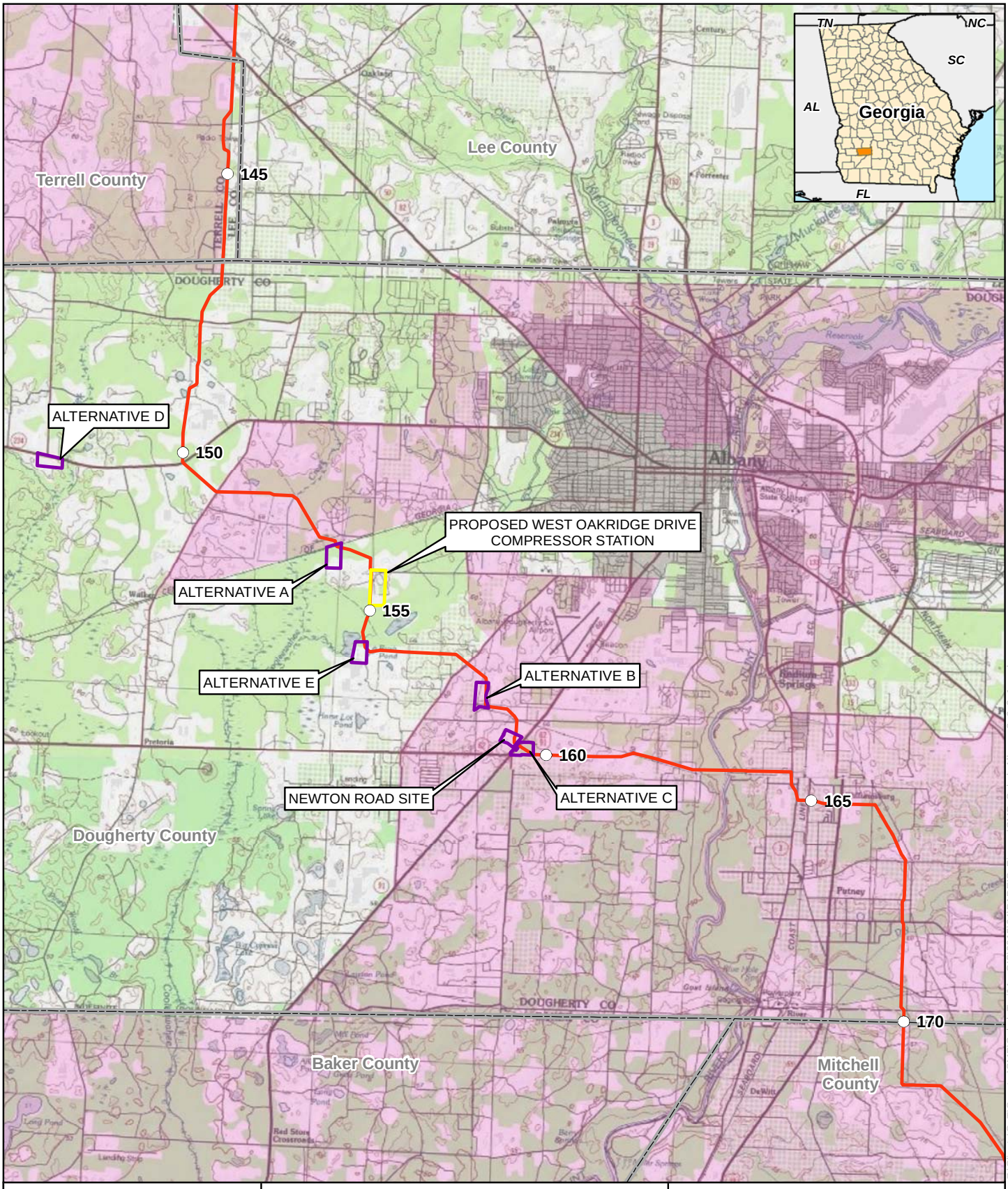

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Figure 4.4.2-1
Sabal Trail Project
Albany Compressor Station Alternatives
Dougherty County, Georgia

- Proposed Mainline
- Proposed Site
- Alternative Site
- Environmental Justice Community (census tracts)

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TABLE 4.4.2-1

Analysis of Albany Compressor Station Site Alternatives

	Compressor Station Sites						
Factors	Proposed Site (West Oakridge Drive Site)	Newton Road Site	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
Nearest Milepost	154.8	159.3	153.5	158.3	159.6	150.0	155.7
Size (acres)	98.0	79.2	66.6	57.5	46.8	51.9	54.1
Availability (Yes/No)	Yes	Yes	Unknown	Unknown	Unknown	Unknown	Yes
Existing Land Use (type)	Forested/ Wetland/Open Water	Agricultural/ Open/Non-Forested Wetland	Forested/ Forested Wetland/Non-Forested Wetland	Agricultural/ Open/Grassland	Forested	Forested/ Forested Wetland	Agricultural/ Grassland/Non-Forested and Forested Wetland/Open Water
Construction/Operation Area (acres)	33.4/26.3	42.6/35.1	66.6/30.0	54.8/28.0	46.8/44.5	51.9/35.0	54.1/35.0
Construction/Operation Impact on Agricultural Land (acres)	0/0	34.8/34.8	0/0	57.2/57.2	0.0/0.0	0.0/0.0	5.2/5.2
Construction/Operation Impact on Forested Upland (acres)	27.5/25.4	0/0	4.3/4.2	0/0	45.2/43.0	44.7/44.7	20.1/20.1
Construction/Operation Impact on Non-forested Wetlands (acres)	0.7/0.7	1.7/1.7	0/0	0/0	0/0	0/0	7.8/7.8
Construction/Operation Impact on Forested Wetlands (acres)	0/0	0/0	34.3/30.0	0/0	0/0	6.2/6.2	0.4/0.4
Length of New Access Road (feet) [a]	0	0	0	0	0	0	6,500
Additional Pipeline Right-of-Way (miles)	0	0	0	0	0	2.1	0
Karst Features Present (Yes/No)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Noise Sensitive Areas (NSA) within 0.5 mile (no.) [b]	38	15	11	5	10	0	0
Distance to the Nearest NSA (feet)	1,640	950	750	1,300	500	6,180	4,250
Within an Environmental Justice Community (Yes/No) [a]	No	Yes	No	Yes	Yes	No	No

[a] The access road length is considered 0 for sites that abut an existing public road.
[b] As measured from the designed location of the compressor building or the center of the site.

The Newton Road Site is a 79-acre parcel along Newton Road (State Highway 91). A church and fire station are located across Newton Road from the site, an Albany municipal water well field is about 0.2 mile east from the site, and the nearest school is about 1.5 miles to the west of the site. The Newton Road Site is within a defined environmental justice census tract and is generally aligned with one of the two runways at the Southwest Georgia Regional Airport 1.5 miles to the northeast. The primary advantages of the Newton Road Site are that it would not require mature tree removal and there are 23 fewer NSAs (residences) within 0.5 mile. However, we note that the mature trees at the proposed site are planted pine and that noise surveys and modeling by Sabal Trail indicate that the operating noise from the proposed site would meet our criteria, which are protective of ambient noise conditions at nearby NSAs (see section 3.12.2). The primary advantages of the proposed site are that the station would be largely screened from view by the surrounding mature pine trees. More specifically, the proposed site would be 700 feet farther from the nearest NSA, 2,600 feet further from the nearest school, 1 mile further from the nearest church, and 3 miles farther from the Albany municipal well field than the Newton Road Site. In addition, the proposed site is not in a defined environmental justice census tract and is not aligned with runways at the local airport. We consider issues that may be associated with construction in a karst setting to be similar between the proposed site and all the alternative sites and, therefore, not a decisive factor in our comparative alternatives analysis. Furthermore, we conclude that constructability concerns in karst areas can be adequately addressed through appropriate engineering design and construction mitigation measures (see section 3.1.2.3). Based on these factors, we determined that this alternative location does not offer a significant environmental advantage over the proposed location and is not preferable to the proposed action.

Alternative A was identified by Sabal Trail during project design and is a forested parcel about 0.5 mile northwest from the proposed site. The alternative is bordered by West Oakridge Drive to the south, a Dixie pipeline right-of-way to the west, and a railroad line to the north. The primary advantage of the alternative is that there are about 27 fewer residences within 0.5 mile, although the nearest home is about 900 feet closer to Alternative A. However, the great majority of homes near both sites are within the mobile home park at the corner Lockett Station Road and West Oakridge Drive. Because both sites are largely wooded and facilities at either site would be required to comply with our noise regulations, visual and noise impacts from the facilities would be comparable and minimized at either site. A primary disadvantage of Alternative A is that construction at the site would impact 38.6 acres of forest, 34.3 acres of which is forested wetland, whereas construction at the proposed site would impact 27.5 acres of forest, none of which is forested wetland. In addition, the forested area at Alternative A appears natural and mature, whereas the forest at the proposed site consists of planted pine that has been recently thinned. For these reasons we determined that Alternative A does not offer a significant environmental advantage over the proposed location and is not preferable to the proposed action.

Alternative B was identified by Sabal Trail during project design. The site is in an agricultural field that is readily accessible from Densen Road. The primary advantage of Alternative B is that there are about 33 fewer homes within 0.5 mile, although the nearest home is about 340 feet closer to Alternative B. As previously discussed, all of the proposed compressor stations would be required to comply with our noise regulations which are protective of NSAs. Another advantage of the alternative is that construction would not require any tree removal, whereas construction at the proposed site would require removal of 27.5 acres of planted pine forest. However, a compressor station at the alternative site would be more visible from numerous view points in the area as there is no existing forest buffer to provide visual screening or noise attenuation. The alternative site is also directly aligned with the main runway at the nearby airport and is located within a designated environmental justice census tract, both of which were raised as concerns with the originally proposed site along Newton Road. For these reasons, we determined that Alternative B does not offer a significant environmental advantage over the proposed location and is not preferable to the proposed action.

Alternative C consists of forested land directly across Highway 91 from the Newton Road Site and adjacent to the City of Albany water treatment plant, well field, and fire station. As many of the impacts associated with Alternative C are comparable to those associated with the Newton Road Site, we determined that Alternative C does not offer a significant environmental advantage over the proposed location and is not preferable to the proposed action.

Alternative D was identified as a potential location for the Albany Compressor Station along Sasser Variation 1, which we determined is not preferable to the proposed action (see section 4.3.2.2). Alternative D consists primarily of forested land (planted pine), with some forested wetlands. Alternative D does not have any residences within 0.5 mile of the site, compared to 38 residence that are near the proposed site, and the nearest NSA is 6,180 feet away compared to 1,640 feet for the proposed site. However, the site is about 2.1 miles from the Mainline, which would require that inlet and outlet lateral pipelines be installed to connect the site to the Mainline. In addition, it would impact about 13.3 acres more forested land than the proposed site and 6.2 acres of forested wetland compared to none for the proposed site. Based on these factors, we determined that Alternative D does not offer a significant environmental advantage over the proposed location and is not preferable to the proposed action.

Alternative E was identified in response to a request for additional environmental information. The site consists primarily of agricultural land (mature pecan trees), bordered by forest, grassland, non-forested and forested wetlands, and some open water. An advantage of the alternative is that there are no NSAs within 0.5 mile of the site; although, as previously discussed, Sabal Trail would maintain a tree buffer around the West Oakridge Drive Site to minimize noise and visual impacts on nearby residents and all of the compressor stations would be required to comply with our noise regulations at nearby NSAs. The primary disadvantage of Alternative E is that a new, 6,500-foot-long permanent road is required to access the site. Depending on final routing, the access road would cross numerous parcels, resulting in increased environmental impacts, and could potentially pass near residences. In comparison, access to the proposed West Oakridge Drive Site would involve use of an existing road located entirely on the site. Implementing Alternative E would also result in greater impacts on agricultural land (designated as prime farmland) and wetlands. Furthermore, the landowner requested that the facility be located in an area of less mature pecan trees within this parcel. However, the area proposed by the landowner is less favorable for construction, significantly smaller in size, and construction would be further inhibited by the presence of a wetland. For the reasons, we determined that Alternative E does not offer a significant environmental advantage over the proposed location and is not preferable to the proposed action.

In addition to reviewing site alternatives, we received numerous comments recommending the use of electric-driven compressors to avoid air emissions at the Albany Compressor Station. However, the energy needed to run the electric-driven compressors would be generated in the region, which includes a variety of power generation sources. We utilized the EPA's Emissions & Generation Resource Integrated Database (eGRID) to estimate the hypothetical regional SO_2, NO_x, and GHG emissions that would occur if electric-driven compressor units were installed rather than natural gas-fired compressor units. eGRID integrates many different federal data sources on power plants to allow for direct comparison of environmental attributes of electric generation within defined regions of the United States. The analysis found that the use of electric-driven compressors would result in a clear increase of SO_2, NO_x, and GHGs emissions in the region. In addition, the use of electric-driven compressors would require a new 2-mile-long high voltage power line to the station, which would result in additional environmental impacts on the area. Lastly, the use of natural gas to power compressors is more reliable than electric service, which can be more readily interrupted by storms or extreme power demands. For these reasons we have determined that the use of electric-driven compressors at the Albany Compressor Station does not offer a significant environmental advantage when compared to the use of natural gas-fired compressors and is not preferable to the proposed action.

4.4.2.2 Hildreth Compressor Station

We evaluated one alternative site for the Hildreth Compressor Station. Alternative A is located approximately 3.2 miles southeast of the proposed site at approximately MP 296.3 in Suwannee County, Florida. The alternative is adjacent to the Mainline and FGT Suwannee M&R Station, and adjacent to the existing FGT pipeline system. Figure 4.4.2-2 depicts the location of the Alternative A, and table 4.4.2-2 compares the alternative to the proposed site.

TABLE 4.4.2-2

Analysis of the Hildreth Compressor Station Site Alternative

Factors	Proposed Location	Alternative A
Nearest Milepost	293.1	296.3
Size (acres)	45.0	45.0
Availability (Yes/No)	Yes	Unknown
Existing Land Use (type)	Forested/Shrubland/Grassland	Forested/Shrubland/Grassland
Construction/Operation Area (acres)	35.6/27.9	40.0/30.0
Construction/Operation Impact on Forested Upland (acres)	29.3/21.6	26.3/16.3
Prime Farmland Present (Yes/No)	Yes	Yes
Karst Risk	Low to Medium [a]	Unknown
Noise Sensitive Areas (NSA) within 0.5 mile (no.)	7	0
Distance to the nearest NSA (feet)	1,530	3,690

[a] Geophysical and geotechnical testing at the site by Sabal Trail concluded that there is a low to medium risk of karst activity but grouting below structures not recommended.

Construction of Hildreth Compressor Station Alternative A would affect about 4.4 acres more land and 3.0 acres less forest than the proposed site, based on preliminary design information provided by Sabal Trail. The primary difference between the two sites is that there are no NSAs within 0.5 mile of the alternative, whereas there are seven NSAs within 0.5 mile of the proposed site, the nearest of which is 1,530 feet away. However, as described in section 3.12.2, noise generated from the compressor station would not exceed our noise requirements at NSAs. Based on these factors, we determined that Alternative A does not offer a significant environmental advantage over the proposed site and is not preferable to the proposed action.

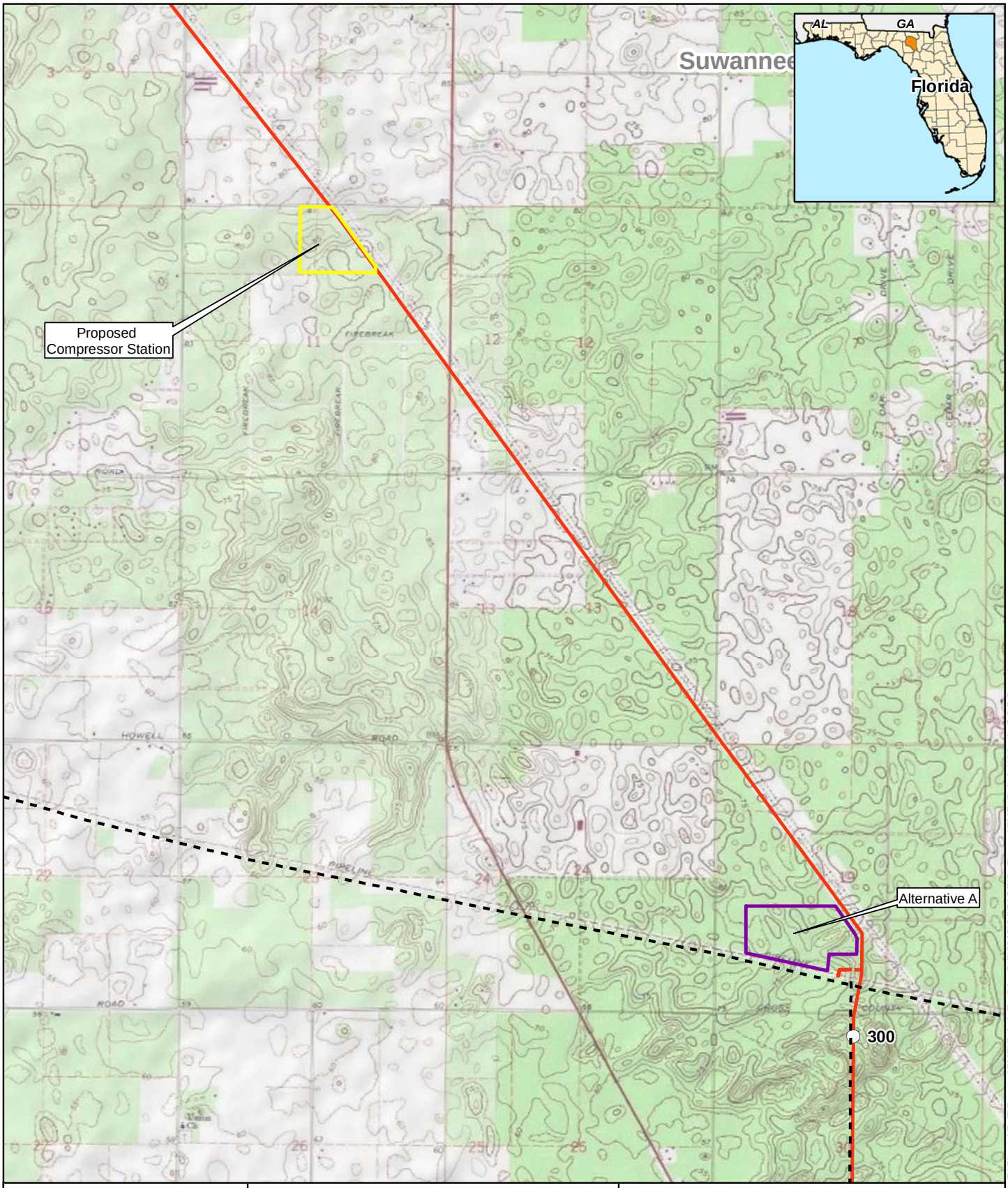

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Figure 4.4.2-2
Sabal Trail Project
Hildreth Compressor Station Alternatives
Suwannee County, Florida

Proposed Mainline
Proposed Site
Alternative Site
Existing FGT Pipeline

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4.4.2.3 Dunnellon Compressor Station

We evaluated one alternative site for the Dunnellon Compressor Station. Alternative A is located on the south side of SW State Road 200, directly across from the proposed site, near MP 390.0 in Marion County, Florida. Figure 4.4.2-3 depicts the location of the Alternative A, and table 4.4.2-3 compares the alternative to the proposed Dunnellon Compressor Station site.

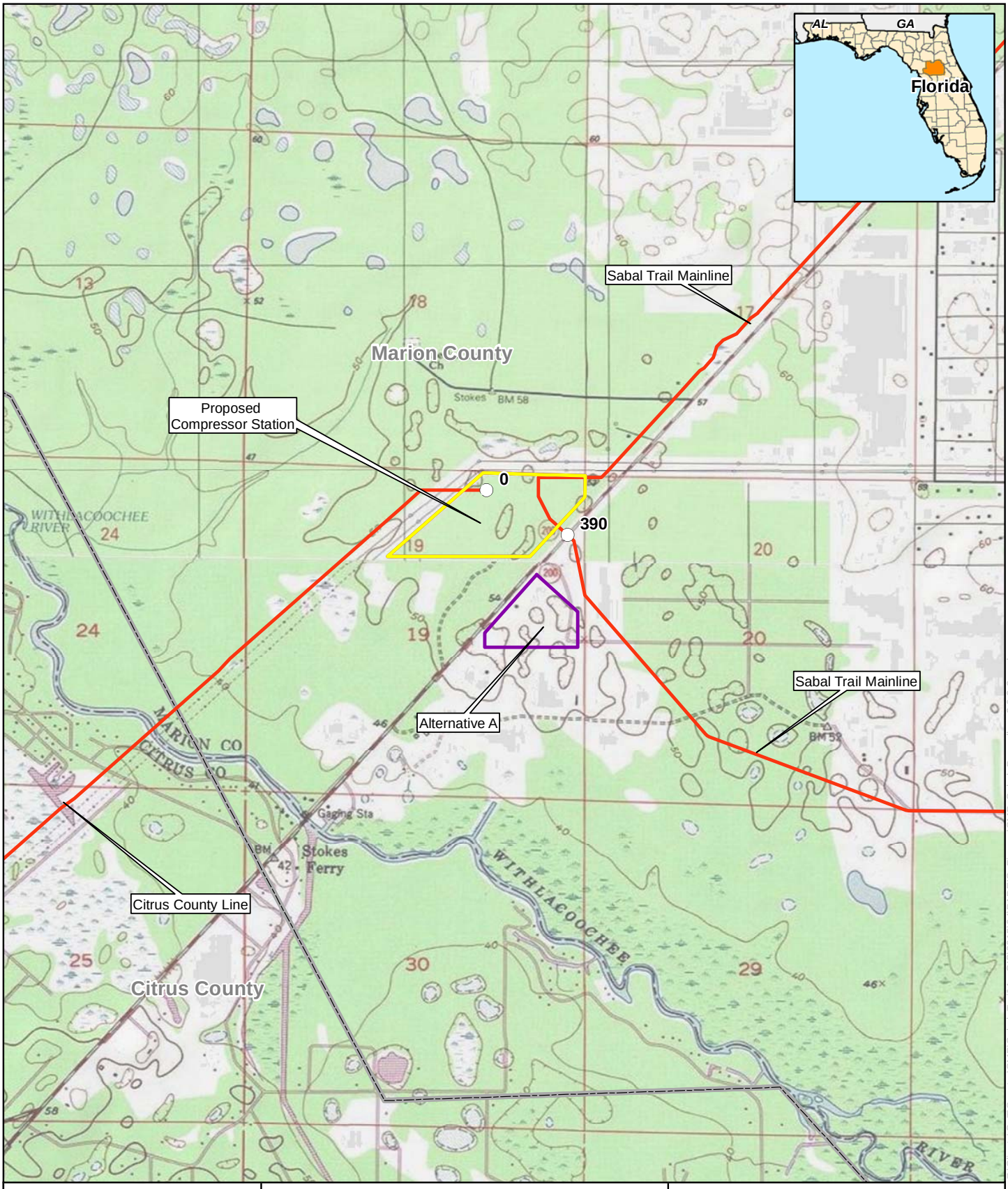
TABLE 4.4.2-3

Analysis of the Dunnellon Compressor Station Site Alternative

Factors	Proposed Location	Alternative A
Nearest Milepost	390.0	390.1
Size (acres)	63.2	44.1
Availability (Yes/No)	Yes	Unknown
Existing Land Use (type)	Forested	Pasture/Grassland/Non-forested Wetlands
Construction/Operation Area (acres)	35.7/35.7	44.1/26.4
Construction/Operation Impact on Agricultural Land (acres)	0/0	16.2/16.2
Construction/Operation Impact on Forested Upland (acres)	35.7/35.7	1.0/1.0
Construction/Operation Impact on Non-forested Wetlands (acres)	0/0	1.0/1.0
Construction/Operation Impact on Forested Wetlands (acres)	0/0	0.9/0.9
Additional Pipeline Right-of-Way (miles)	0	0.3
Karst Risk	Low to Medium [a]	Unknown
Noise Sensitive Areas (NSA) within 0.5 mile (no.)	2	2
Distance to the Nearest NSA (feet)	1,440	1,825

[a] Geophysical and geotechnical testing at the site by Sabal Trail concluded that there is a low to medium risk of karst activity but not within proposed structure footprints; grouting not recommended.

The primary difference between the proposed and alternative site is that the proposed site is largely forested pine whereas the alternative site is largely open land. Based on preliminary design information provided by Sabal Trail, constructing the alternative would impact an additional 8.4 acres of land, 16.2 acres of agricultural land, and 0.9 acre of wetlands compared to the proposed site. However, Sabal Trail proposes to retain a forested buffer around the compressor station to reduce noise and visually screen the facility from traffic on adjacent State Road 200, whereas a forested buffer is not available at the alternative site. There are two NSAs within 0.5 mile of each site, and the nearest NSA is about 385 feet further for the alternative than the proposed site. Further, Alternative A also requires approximately 0.2 mile of additional inlet/outlet pipelines for the CCL and about 0.1 mile for the Mainline route to tie-into the site. These pipelines would impact an additional 4.3 acres of land including 3.6 acres of forested land, assuming both the inlet/outlet lines can be built within a 100-foot-wide construction right-of-way. Although construction of the proposed site impacts more forest, the presence of forest on the site provides visual and noise screening that is not available at Alternative A. Based on these factors, we determined that Alternative A does not offer a significant environmental advantage over the proposed site and is not preferable to the proposed action.



0 1,000 2,000 Feet

For Environmental Review Purposes Only

Figure 4.4.2-3
Sabal Trail Project
Dunnellon Compressor Station Alternative
Marion County, Florida

Proposed Pipeline
Proposed Site
Alternative Site

Source: Z:\Clients\Q_T\Spectra\SMP\Sabal_Trail\ArcGIS\2015\04\PADEIS_Figures\SMP_Sabal_Dunnellon_3.6.2-3.mxd
Date: (8/3/2015)

4.4.2.4 Reunion Compressor Station

We evaluated two alternative sites for the proposed Reunion Compressor Station in Osceola County, Florida. Figure 4.4.2-4 illustrates the location of the alternative sites and table 4.4.2-3 compares the alternatives to the proposed site.

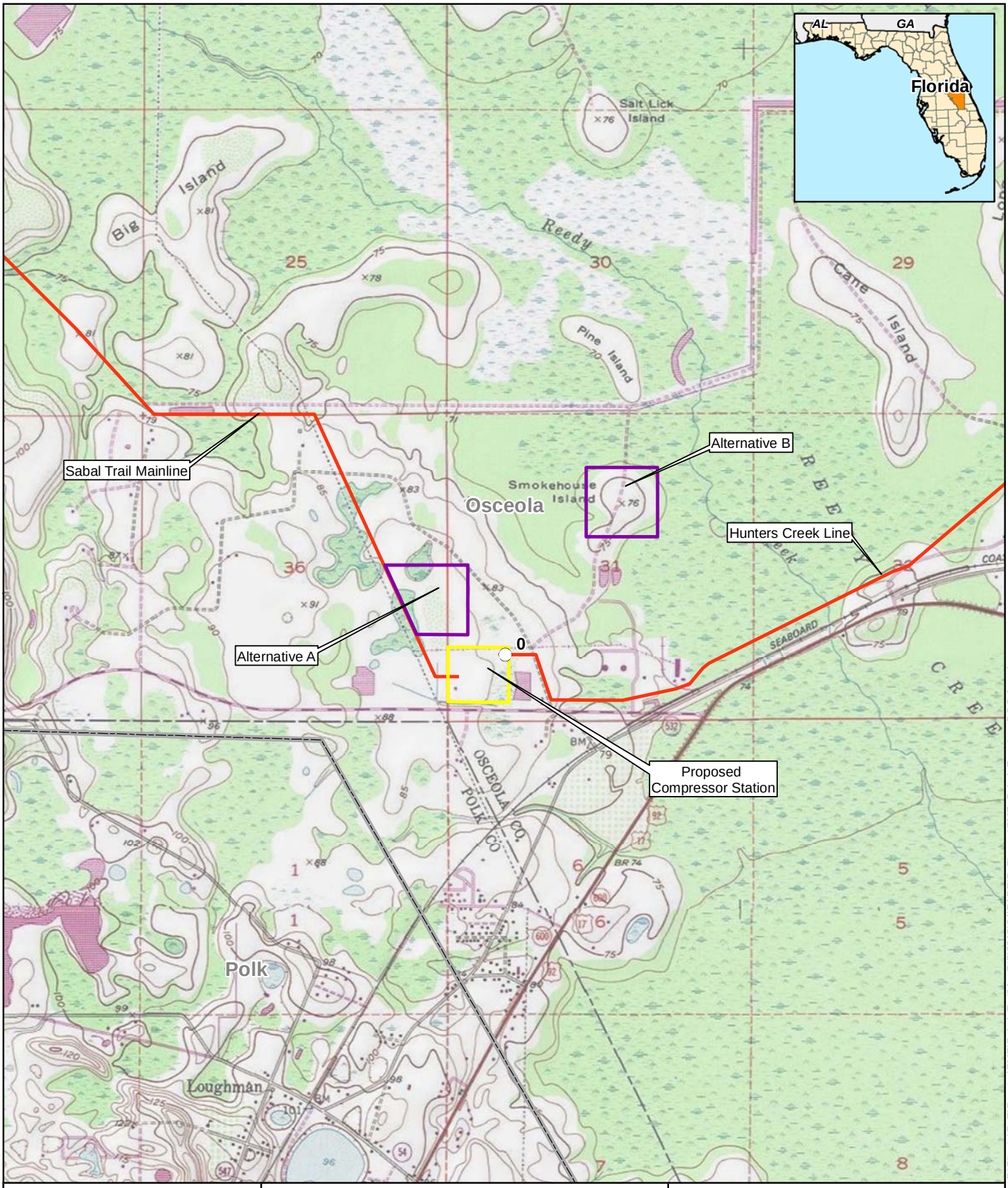
TABLE 4.4.2-4

Analysis of Reunion Compressor Station Site Alternatives

Factors	Proposed Location	Alternative A	Alternative B
Nearest Milepost	474.4	474.3	474.2
Size (acres)	47.8	42.0	45.0
Availability (Yes/No)	Yes	Unknown	Unknown
Existing Land Use (type)	Open/Grassland/ Wetlands	Forest/Grassland/Non-forested and Forested Wetland	Forest/Grassland/Non-forested Wetland
Construction/Operation Area (acres)	18.4/17.8	42.0/32.8	40.0/30.0
Construction/Operation Impact on Agricultural Land (acres)	4.3/4.3	10.7/10.7	0/0
Construction/Operation Impact on Forested Upland (acres)	0/0	10.6/10.6	21.6/21.6
Construction/Operation Impact on Non-forested Wetlands (acres)	2.9/2.9	0.7/0.7	2.8/2.8
Construction/Operation Impact on Forested Wetlands (acres)	0/0	3.7/3.7	3.0/3.0
Prime Farmland Present (Yes/No)	No	No	No
Length of New Access Road (feet)	0	1,000	4,500
Associated Pipeline Modifications (feet)	0	0	7,000
Karst Risk	Low to Medium [a]	Unknown	Unknown
Noise Sensitive Areas (NSA) within 0.5 mile (no.)	165	200	6
Distance to Nearest NSA (feet)	511	605	1,330

[a] Geophysical and geotechnical testing at the site by Sabal Trail concluded that there is a low to medium risk of karst activity and that some ground improvement may be necessary to support structures.

Alternative A was identified by Sabal Trail during project planning and is located immediately north of the proposed site. The primary difference between the sites is that the alternative is partly forested whereas the proposed site is non-forested open land. As a result, construction of Alternative A impacts 10.6 acre of forest, including 3.7 acres of forested wetland. An additional 35 NSAs are within 0.5 mile of Alternative A, although both sites are offset from the nearest NSA by approximately the same distance. Based on these factors, we determined that Alternative A does not offer a significant environmental advantage over the proposed site and is not preferable to the proposed action.



0 1,000 2,000 Feet

For Environmental Review Purposes Only

Figure 4.4.2-4
Sabal Trail Pipeline Project
Reunion Compressor Station Alternatives
Osceola County, Florida

Proposed Pipeline
Proposed Site
Alternative Site

Source: Z:\Clients\Q_T\Spectra\SMP\Sabal_Trail\ArcGIS\2015\04\PADEIS_Figures\SMP_Sabal_Reunion_3.6.2.4.mxd
Date: (8/3/2015)

Alternative B was identified by Chapman Garden LLC, Westmont Home Owners Association, and Hanover Land Company LLC (collectively referred to as Chapman Garden) which is involved in a planned mixed use development referred to as Global Village, in the immediate vicinity of the proposed Reunion Compressor Station. Chapman Garden asserts that construction of the Mainline and the Reunion Compressor Station as proposed would prevent the development from occurring, and recommends Alternative B to avoid or minimize effects on the planned development. We discuss the Global Village development in detail in section 3.9.2.4.

The primary difference between Alternative B and the proposed site is that the alternative is a largely wooded parcel surrounded for the most part by mature, forested wetland, whereas the proposed site is an unwooded parcel adjacent to Osceola County Road 532 and an existing utility corridor and surrounded primarily by previously disturbed land. As a result, construction of the alternative impacts 21.6 acres of forest and 3.0 acres of forested wetland whereas the proposed site does not impact these resources. Implementing Alternative B would also involve rerouting the Sabal Trail Mainline, HCL, and FSC Mainline, as well as construction of a lateral to connect the Gulfstream pipeline to the alternative site. We estimate that these modifications total 7,000 feet more pipeline than required for the proposed site. In addition, the alternative site requires construction of a permanent access road which we estimate at 4,500 feet long, whereas the proposed site is immediately accessible from County Road 532. Due to the presence of mature forest and forested wetlands around the alternative site, and depending on final pipeline and access road routing, construction of the added pipelines and access roads will impact 20 to 30 acres more forest and 10 to 15 acres more forested wetland than pipelines and access roads associated with the proposed site. An advantage of Alternative B is that there are 160 fewer NSAs within 0.5 mile of the site and the nearest NSA is an additional 820 feet from the site. The alternative is also less visible to individuals in the area. However, the proposed site is next to an existing Duke Energy power plant and thus, visually consistent with the existing landscape, and operation at either site would be required to meet our noise regulations which are protective of NSAs. Based on these factors, we determined that Alternative B does not offer a significant environmental advantage over the proposed site and is not preferable to the proposed action.

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 CONCLUSIONS ON THE ENVIRONMENTAL ANALYSIS

The conclusions and recommendations presented in this section are those of the FERC environmental staff. Our conclusions and recommendations were developed with input from the USACE, which may adopt the EIS per 40 CFR 1506.3 if, after an independent review of the document, they conclude that their permitting requirements and/or regulatory responsibilities have been satisfied. However, the USACE would present its own conclusions and recommendations in its respective and applicable records of decision. Otherwise, the USACE may elect to conduct its own supplemental environmental analysis, if necessary.

We determined that construction and operation of SMP Project would result in adverse environmental impacts. However, if the SMP Project is constructed and operated in accordance with applicable laws and regulations, the mitigating measures discussed in this EIS, and our recommendations, the project would not result in a significant impact on the environment. This determination is based on a review of the information provided by the Applicants and further developed from data requests; field investigations; scoping; literature research; alternatives analysis; and contacts with federal, state, and local agencies as well as individual members of the public. As part of our review, we developed specific mitigation measures that we determined would appropriately and reasonably reduce the environmental impacts resulting from construction and operation of the SMP Project. We are therefore recommending that our mitigation measures be attached as conditions to any authorizations issued by the Commission. A summary of the anticipated impacts and our conclusions is provided below by resource area.

5.1.1 Geology and Paleontological Resources

The SMP Project would traverse a range of geologic conditions and resources, including karst sensitive areas in Georgia and Florida. Numerous commentors expressed concern that construction of the Sabal Trail Project and, to a substantially less degree the FSC Project, could impact cave systems and trigger sinkhole development in karst sensitive areas. Commentors were also concerned that future sinkhole activity could damage the pipeline and aboveground facilities, potentially resulting in a public safety hazard.

FSC in general and Sabal Trail in particular conducted detailed studies to characterize karst geologic conditions and developed project-specific plans and procedures that would minimize potential karst-related effects during construction and operation of the proposed facilities. These plans include procedures for managing construction-related water in a manner to minimize the potential for sinkhole activation; measures to mitigate sinkholes and other karst features if encountered during construction; and monitoring the pipeline rights-of-way for signs of subsidence during operations. Sabal Trail also developed a Best Drilling Practices Plan that details how HDD activities would be conducted, including the five HDDs that would occur in karst sensitive areas. The HDD method has been used successfully in karst regions, and Sabal Trail anticipates successful completion of the proposed HDDs. None of the HDDs proposed by FSC would cross karstic bedrock, but we have recommended that FSC update its Karst Mitigation Plan to specify how FSC would monitor for and address any subsidence attributable to HDD activities, and to provide the updated plan to the Commission prior to the start of construction. Karst concerns at aboveground facilities would be mitigated by appropriate subgrade preparation and foundation design.

We reviewed FSC's and Sabal Trail's geologic studies and construction and operation plans in karst areas and find them acceptable. We also found no record of karst activity causing damage to existing interstate transmission pipeline facilities, some of which have operated in karst sensitive areas of Georgia and Florida for decades. By implementing the Applicants' proposed construction and restoration plans and

our recommendations, we conclude that construction of the SMP Project would not significantly impact karst features, including caves; that the risk of initiating karst activity would be minimized; and karst features would be adequately mitigated. We also conclude that operation of the proposed facilities in karst sensitive areas would not pose a significant risk to the public. Other geologic hazards would not be expected to impact the SMP Project.

Blasting would likely be necessary along portions of Transco's proposed loops and between MPs 0 and 100 of the Sabal Trail Project Mainline. Each company stated that blasting would be conducted by licensed professionals in accordance with applicable state and local regulations. Each company also provided a Blasting Plan that includes measures to ensure worker and public safety and protect nearby facilities including existing pipelines, residences, and water wells. We find these plans acceptable and conclude that by conducting blasting in accordance with the Blasting Plans and applicable state and local regulations, impacts on geologic resources and nearby residences and facilities would be avoided or adequately minimized.

The SMP Project would largely avoid active mineral resource facilities and is substantially collocated with existing infrastructure that already precludes mineral development, if resources are present. The permanent use of land for operation of the SMP Project would reduce the amount of land potentially available for mineral development; however, considering the large geographic extent over which most mineral resources occur, the SMP Project would not significantly reduce future mineral extraction. Construction of the SMP Project would require the use of mineral resources such as sand and gravel and we expect that existing mining operations in the area would be readily able to provide the necessary materials.

Transco and FSC provided Unanticipated Paleontological Resource Discovery Plans that describe the procedures for recognizing and handling important fossils discovered during construction, including notification to the appropriate state agency. The Sabal Trail Project would also cross rocks that could contain important fossils, and we received comments regarding the potential for Sabal Trail to discover fossils in sinkholes within the construction workspace. Therefore we have recommended that Sabal Trail provide an Unanticipated Paleontological Resource Discovery Plan similar to those prepared by Transco and FSC to the Commission prior to the start of construction. By implementing these contingency plans we conclude that paleontological resources would be adequately protected.

5.1.2 Soils

The SMP Project would traverse a variety of soil types and conditions. Construction activities such as clearing, grading, trenching, and backfilling, could adversely impact soil resources by causing erosion, compaction, and the introduction of excess rock or fill material to the surface, which could hinder restoration. However, the Applicants would implement mitigation measures contained in their construction and restoration plans to control erosion and enhance successful restoration. Specifically, soil impacts would be mitigated through measures such as topsoil segregation, temporary and permanent erosion controls, and post-construction restoration and revegetation of work areas. The Applicants would also implement plans to avoid and limit inadvertent spills of fuel and other hazardous substances, and to address pre-existing contaminated soil if encountered.

Permanent impacts on soils would occur at aboveground facilities where structures and various surfaces would be installed. Operation of the SMP Project would also impact about 1,374 acres of prime or state classified farmland; however, 1,219 acres (88 percent) would be within the operating right-of-way of the pipeline facilities where agricultural use would typically be allowed to continue.

Based on the overall soil conditions in the SMP Project area and the Applicants' proposed construction and operation methods, we conclude that the SMP Project would not significantly alter the soils of the region.

5.1.3 Water Resources

Groundwater

The SMP Project crosses four major aquifer systems, none of which are designated as an EPA sole source aquifer in the project area. The proposed pipelines would be installed for 98 percent of their length using standard overland construction methods, which would generally limit ground disturbance to a depth of about 6 to 8 feet. Because groundwater generally occurs at greater depths, construction related impacts on most groundwater resources would be avoided. In areas of shallow groundwater, pipeline construction could result in increased turbidity and altered hydrology. These impacts would be short term and localized, and would be further mitigated by implementation of the Applicants' construction and restoration plans. Each Applicant has also developed a plan to appropriately manage fuel and other hazardous materials during construction, and to cleanup any spills that would occur. We have reviewed these spill plans and find that they would be protective of groundwater resources.

Groundwater resources could also be affected by the inadvertent release of drilling mud during HDD operations. Drilling mud is composed of water and bentonite, a naturally occurring clay mineral that is used in potable well construction; thus the primary impact of a drilling mud loss on groundwater quality would be increased turbidity. Water supply wells located hydraulically downgradient from a drilling mud loss could also experience increased turbidity and reduced production due to blocking of the well screen. No HDDs are proposed for the Hillabee Expansion Project. Sabal Trail and FSC developed HDD drilling and contingency plans that include measures to reduce the likelihood of an inadvertent loss of mud from occurring and to minimize the volume of drilling mud lost during a release. The companies would also attempt to recover drilling mud that discharges to the ground surface. All of the Applicants have identified water supply wells within 150 feet of construction workspaces. The Applicants would provide pre- and post-construction testing of the nearby wells with landowner permission and would repair or replace any wells affected by the project, or otherwise compensate the affected landowner. Due to high groundwater flow rates within karst sensitive areas of Georgia and Florida, Sabal Trail has and would continue to identify water supply wells within 2,000 feet downgradient from HDD locations and would extend its well monitoring plan further downgradient as necessary in the event of an inadvertent loss of drilling mud. We conclude that the Applicants' HDD drilling procedures, drilling mud loss contingency plans, and well monitoring and mitigation plans would reduce any impact from HDD operations to less than significant levels.

We also received many comments concerning the potential for the HDD method to impact the hydrology and groundwater quality in nearby springs in the karst sensitive areas of southwest Georgia and northern Florida. As summarized in section 5.1.1, Sabal Trail conducted detailed studies to characterize the karst geology and identify springs in proximity to the proposed HDDs in karst sensitive areas. Sabal Trail sited the HDDs in karst sensitive areas to avoid close construction to major springs and would implement its Best Drilling Practices Plan which includes procedures to reduce the loss of drilling mud; plans to monitor springs within 2,000 feet downgradient of a drilling mud loss; and a commitment to consult with applicable agencies regarding remedial cleanup techniques should a spring be affected. By implementing these plans and procedures, we conclude that the inadvertent loss of drilling mud during HDD operations in karst sensitive areas would not result in significant impacts on the hydrology or groundwater quality in springs.

The City of Albany and other stakeholders in the area expressed concern that construction and operation of the Sabal Trail Project could adversely impact the municipal water supply. Unlike a spill from a pipeline that conveys a liquid such as oil or gasoline, a leak of natural gas from a pipeline would dissipate quickly to the atmosphere and not contaminate surrounding media. In addition, the storage and use of hazardous materials at the Albany Compressor Station would comply with applicable regulations designed to avoid inadvertent spills. Therefore, we conclude that the Sabal Trail Project would not pose a risk to the City of Albany's water supply.

Lastly construction of the SMP Project would utilize approximately 47 million gallons of groundwater; however, considering the large extent and productivity of groundwater aquifers in the region, and that groundwater would be obtained from multiple sources over a period of several months, the volume of groundwater proposed for use during construction would not impact the availability or productivity of groundwater resources in the area.

Surface Waters

The SMP Project pipeline facilities would cross 699 waterbodies, including 258 perennial, 309 intermittent, 98 ephemeral, and 34 open water. This also includes 25 major waterbody crossings and 6 section 10 (navigable) waterbodies.

The Applicants would use one of three general methods to install the proposed pipelines across waterbodies. These include the open-cut method, dry-ditch methods (flumed and dam and pump), and the HDD method. Sabal Trail may also use the conventional bore (bore) method at select waterbody crossings. Five waterbodies would be affected by aboveground facilities including three intermittent streams and one ephemeral stream at Transco's Compressor Station 84, and one pond at Sabal Trail's Citrus County M&R Station. In addition, access roads would cross 68 waterbodies during construction of the SMP Project including two waterbodies that would be permanently crossed by Transco's new access road for Compressor Station 84. Sabal Trail identified 10 access roads and FSC identified 1 access road which would be adjacent to or in close proximity to waterbodies, but would not be crossed. Where waterbodies are crossed by access roads, temporary and permanent culverts or equipment bridges would be installed.

The Applicants are proposing to use surface waters and municipal water for hydrostatic testing, dust control, and the HDD construction method. A total of 189 million gallons of water would be used including approximately 13.7 million gallons for the Hillabee Expansion Project, 145.6 million gallons for the Sabal Trail Project, and 29.7 million gallons for the FSC Project. Transco and Sabal Trail have identified the sources and volumes they would use but FSC has not finalized its water use plans so we are recommending that they do so prior to construction. Impacts associated with the withdrawal and discharge of water would be minimized by the Applicants adherence to the measures contained in their construction and restoration plans. In addition, the Applicants would obtain appropriate state water withdrawal and NPDES discharge permits, and would prevent spills during construction and operations through implementation of their respective spill plans.

Pipeline construction activities affecting surface waters would be conducted in accordance with the Applicants' construction and restoration plans, along with any conditions that are part of other federal or state water approvals. We conclude that with these measures, along with our additional recommended mitigation measures, impacts on surface waters would be effectively minimized or mitigated, and would be largely temporary in duration.

5.1.4 Wetlands

Construction of the SMP Project would impact a total of 940.2 acres of wetlands, including 107.6 acres in Alabama, 134.3 acres in Georgia, and 698.3 acres in Florida. The majority of wetland impacts would be from temporary construction work areas and ATWS (717.2 acres) which would return to pre-construction conditions following construction. The Applicants would maintain a 30-foot-wide corridor over the pipeline with selective removal of trees within forested and scrub-shrub wetlands, impacting a total of 214.2 acres through the operational life of the SMP Project. Additionally, the Applicants would mow and maintain a 10-foot-wide corridor within scrub-shrub wetlands, impacting a total of 4.8 acres during operation. A small amount of wetlands (less than 4 acres) would be permanently affected due to construction of new aboveground facilities and associated access and fencing.

Construction and operation-related impacts on wetlands would be mitigated by the Applicants' construction and restoration plans and compliance with the USACE section 404 and state permit requirements, including providing in-kind mitigation. The Applicants would conduct annual post-construction monitoring of wetlands affected by construction to assess the condition of revegetation and the success of restoration until revegetation is successful.

The Applicants identified site-specific conditions that do not allow for a 50-foot setback of ATWS from wetlands, or where a 75-foot-wide right-of-way is insufficient to accommodate wetland construction, and requested approval to implement alternative measures. Based on our review, we conclude that those requests are justified.

Based on the Applicants' efforts to route the pipeline facilities and site aboveground facilities to avoid and minimize impacts on wetlands, and by the Applicants' implementation of proposed construction and restoration plans, we conclude that impacts on wetland resources would be effectively minimized and mitigated.

5.1.5 Vegetation

Impacts on vegetation from the SMP Project would range from short-term to permanent due to the varied amount of time required to reestablish certain community types, as well as the maintenance of grassy vegetation within the permanent rights-of-way and the conversion of aboveground facility locations to non-vegetated areas. Construction of the proposed facilities would temporarily impact about 10,848 acres of vegetation (5,920 acres of open land and 4,928 acres of forested vegetation) and permanently impact about 3,994 acres (2,097 acres of open land and 1,897 acres of forested vegetation). The SMP Project would also impact vegetation communities of special concern, including longleaf pine forests and xeric shrub habitat of the Lake Wales Ridge. While 2,097 acres of open land would remain within the permanent right-of-way, most of this acreage would return to open land vegetation during operation of the SMP Project facilities.

The greatest impact on vegetation would be on forested areas because of the time required for tree regrowth in all temporary workspace back to preconstruction condition. The Applicants would limit the amount of disturbance to forests by utilizing existing rights-of-way during construction to the extent possible. Construction in forest lands would remove the tree canopy over the width of the construction right-of-way, which would change the structure and local setting of the forest area. The regrowth of trees in the temporary workspaces would take years and possibly decades. Moreover, the forest land on the permanent right-of-way would be affected by ongoing vegetation maintenance during operations, which would preclude the re-establishment of trees on the rights-of-way. However, the SMP Project would not contribute significantly to forest fragmentation. Much of the proposed pipeline routes are located along existing rights-of-way, are in areas that are already developed and highly fragmented, or consist of

silviculture land (1,670.2 acres) which is prescriptively altered by harvesting practices. As a result, the forested areas that are present are predominantly edge habitats.

Multiple invasive species have been identified throughout the SMP Project area. The Applicants would implement Invasive Species Control Plans to address the spread of invasive plants within the pipeline rights-of-way and control invasive populations that might prevent successful revegetation. This management would include construction personnel training, inspecting and washing construction equipment, construction phase mitigation measures, post-construction monitoring, and post-construction management.

Following construction, all disturbed areas would be restored. The impact of the SMP Project on open lands would be short term, as these areas would recover within one to two growing seasons. Construction of the proposed pipeline facilities would have a long-term impact on forested wetland and upland vegetation within the construction rights-of-way. Maintenance activities would result in permanent conversion of some areas of existing upland forested vegetation to herbaceous or scrub-shrub vegetation. However, because the Applicants have routed the pipeline facilities to use existing utility rights-of-way and road corridors to the extent possible, impacts on forested vegetation would be minimized. We find that project-specific minimization and mitigation measures, and mitigation measures described in the Applicants' construction and restoration plans, would be sufficient to offset adverse impacts on vegetation in the SMP Project area. Therefore, we conclude that constructing and operating the proposed facilities would not significantly impact existing vegetation populations.

5.1.6 Wildlife and Aquatic Resources

Wildlife

The SMP Project would impact wildlife species and their habitats. Impacts from construction include the displacement of wildlife from the right-of-way or work sites into adjacent areas and the potential mortality of some individuals. The cutting, clearing, and/or removal of existing vegetation within the construction work area could also impact wildlife by reducing the amount of available habitat for nesting, cover, and foraging. Construction could also lower reproductive success by disrupting courting, nesting, or breeding of some species, which could also result in a decrease in prey available for predators of these species. These impacts would be temporary, lasting only while construction is occurring, or short-term, lasting no more than a few years until the pre-construction habitat and vegetation type would be reestablished. Other impacts would be longer term such as the re-establishment of forested habitats, which could take decades. The Applicants proposed several measures to minimize or avoid impacts on wildlife, including collocating the proposed workspace with other existing rights-of-way (approximately 66 percent of the proposed alignment), implementing speed restrictions, inspecting the construction rights-of-way and pipeline trench daily for trapped wildlife, and utilizing trench exit ramps and placing wildlife movement gaps along the construction rights-of-way.

A variety of migratory bird species, including BCCs, are associated with the habitats that would be affected by the SMP Project. Based on the proposed construction schedule, the Applicants would conduct the majority of tree-clearing activities within the breeding and nesting season, which would impact migratory birds. The Applicants developed a Migratory Bird Conservation Plan to minimize breeding and nesting impacts, which was developed in conjunction with and approved by the FWS. With the implementation of the measures outlined in the bird plan, we conclude that constructing and operating the SMP Project would not result in population-level impacts or significant measureable negative impacts on migratory birds including BCC species.

Given the impact avoidance, minimization, and mitigation measures proposed by the Applicants, we conclude that the SMP Project would not have a significant adverse impact on wildlife.

Aquatic Resources

The SMP Project would cross 699 waterbodies, all of which are classified as warmwater fisheries. Seven waterbodies are considered sensitive due to the presence of sensitive aquatic species. None of the waterbodies that would be crossed by the SMP Project are managed by the NMFS or contain EFH. State resource agencies have confirmed that no timing restrictions are necessary for in-stream construction activities.

In-stream pipeline construction across waterbodies could impact aquatic species and their habitats, including increased sedimentation and turbidity, alteration or removal of aquatic habitat cover, stream bank erosion, impingement or entrainment of fish and other biota associated with the use of water pumps, downstream scouring, and the potential for fuel and chemical spills. In-stream blasting may occur along portions of the Hillabee Expansion Project and Sabal Trail Project. Transco and Sabal Trail have developed blasting plans that provide measures for minimizing blasting-related fishery impacts.

The Applicants would minimize the impacts of their respective projects on aquatic resources through the use of various trenchless or dry crossing methods, extra workspace restrictions, and restoration procedures. The Applicants would also implement measures outlined in their construction and restoration plans to minimize impacts on aquatic resources such as restoring stream beds and banks to pre-construction conditions and implementing measures to minimize erosion and sediment loads. Adherence to the restoration plans would maximize the potential for regrowth of riparian vegetation.

Sabal Trail and FSC propose to use the HDD method at 39 waterbody crossings, including 15 major waterbody crossings (greater than 100 feet wide). This method would avoid impacts on the streambed, stream banks, and aquatic resources. The Applicants would also use dry crossing methods (flume, dam and pump, or cofferdam) to minimize potential sedimentation and turbidity impacts. The Applicants would ensure that hydrostatic test water appropriations and discharges would not result in a significant entrainment of fish, loss of habitat, or an adverse impact on water quality. Discharge would comply with regulatory permit conditions and be controlled to prevent scour and sedimentation, flooding, or the introduction of foreign or toxic substances into the aquatic system. The Applicants would minimize the potential for spills to impact aquatic resources by implementing the measures contained in their spill plans.

Given the impact avoidance, minimization, and mitigation measures proposed by the Applicants, including their adherence to multiple resource protection plans, we conclude that the SMP Project would not result in significant adverse impacts on aquatic resources.

5.1.7 Special Status Species

To comply with section 7 of the ESA, we consulted either directly or indirectly (through the Applicants' informal consultation) with the FWS, NMFS, and state resource agencies regarding the presence of federally listed, proposed for listing, or state-listed species in the project area. Based on these consultations and assuming implementation of our recommendations for 8 species, we determined that construction and operation of SMP Project would not adversely affect 17 federally listed species and may adversely affect 11 federally listed species. No designated critical habitat would be adversely affected by the SMP Project. In compliance with section 7, we have prepared a BA and requested formal consultation with the FWS. We are recommending that construction of the SMP Project should not commence until our consultation with the FWS is complete.

In addition to the federally listed and proposed species, several candidate, state-listed, or special concern species were identified as potentially present in the SMP Project area. Many of these species could be affected by the SMP Project, but we do not expect any adverse impacts given the proposed construction and restoration measures and our recommendations. Based on implementation of those measures, we conclude that impacts on special status species would be adequately avoided or minimized.

5.1.8 Land Use and Visual Resources

Constructing the SMP Project would affect approximately 11,436.2 acres of land, and operating the proposed facilities would affect about 4,143.3 acres of land. Of this, constructing and operating the Hillabee Expansion Project would respectively impact 999.8 acres and 296.8 acres; the Sabal Trail Project would respectively impact 8,548.8 acres and 3,095.8 acres; and the FSC Project would respectively impact 1,887.6 acres and 750.7 acres. The new pipelines would require a 50-foot-wide permanent right-of-way. To facilitate pipeline inspection, operation, and maintenance, the entire permanent right-of-way in upland areas would be maintained in an herbaceous/scrub-shrub vegetated state. This maintained right-of-way would be mowed no more than once every 3 years, but a 10-foot-wide strip centered over the pipelines may be mowed annually to facilitate operational surveys.

The Applicants' proposed construction work areas are within 50 feet of 213 residential and other structures. The Applicants prepared site-specific residential construction plans to address impacts for residences within 50 feet of construction workspace. We reviewed these plans and find them acceptable. However, we are encouraging the owners of each of these residences to provide us comments on the plan specific to their property. The Applicants have also developed plans that identify how stakeholders can contract project representatives with questions, concerns, and complaints prior to, during, and after construction. We have reviewed these plans and processes and find them acceptable.

Ninety-four planned developments in various stages of development were identified within 0.5 mile of the Sabal Trail Project and FSC Project. Sabal Trail and FSC committed to work with individual affected landowners and developers in order to minimize impacts on the planned developments. Further, Sabal Trail and FSC would obtain the appropriate state or county permits (rezoning, development plan, etc.), and would either purchase the property or negotiate an easement from the current landowner in order to construct and operate the proposed facilities. We analyzed alternatives to minimize or avoid impacts on some planned developments and are recommending adoption of a variation at one of the planned developments along Sabal Trail's Mainline in Moultrie, Georgia.

In general, impacts on recreational and special interest areas would be temporary and limited to the period of active construction, which typically would last only several days to several weeks in any one area, with the exception of linear trails where a detour or temporary closure may be required. Sabal Trail developed site-specific plans for several of these crossings. However, site-specific crossing plans were not provided for the Florida National Scenic Trail at Sabal Trail's Mainline MP 384.9 or where the FSC Project would affect trails that may require a detour or closure. Therefore, we are recommending that a site-specific crossing plan for each of these features be provided by Sabal Trail and FSC prior to the close of the draft EIS comment period.

The Sabal Trail Project and FSC Project pipeline would cross several tracts of land supporting specialty crops such as fruit (e.g., citrus), pecan, and pine trees; and lands enrolled in Forest Certification Programs, Agricultural Certification Programs, the Conservation Reserve Program, the Conservation Reserve Enhancement Program, and Conservation Use Valuation Assessments. The Applicants have committed to continuing coordination with landowners to avoid and minimize impacts on specialty crops and the landowners' participation in these programs. Where impacts on specialty crops cannot be avoided, the Applicants would compensate landowners for any project-related damages to specialty crop areas. The

Applicants would implement special construction procedures in accordance with their respective construction, restoration, and mitigation plans.

Visual resources along the pipeline route are a function of geology, climate, and historical processes, and include topographic relief, vegetation, water, wildlife, land use, and human uses and development. Of the 685.4 miles of pipeline for the SMP Project, about 448.9 miles (66 percent) would be collocated with other existing rights-of-way. As a result, the visual resources along collocated portions have been previously affected by other similar activities. Impacts in other areas would be greatest where a conversion from forested land to a grassy, maintained right-of-way would occur, particularly at viewing locations such as roadways and features managed for their visual quality (e.g., Florida National Scenic Trail).

In general, the impacts on visual resources resulting from the construction and operation of the MLVs and pig launchers/receivers would be minimal as each site is small and would be operated within the pipeline operational right-of-way, and/or within an aboveground facility. Construction and operation of compressor stations and M&R stations would result in a greater impact on the visual landscape, resulting in conversion of 194.4 acres of land to a commercial/industrial facility. Most compressor stations would be visually screened from nearby residences or roadways, located within previously disturbed areas, located within areas with consistent industrial/commercial qualities, and/or located more than 1,000 feet from a residence. We anticipate that visual impacts on nearby visual receptors during operation would be permanent, but negligible.

We received comments regarding impacts on visual resources resulting from installation of the Albany Compressor Station. Sabal Trail committed to maintaining a minimum 100-foot-wide buffer of existing, mature trees around the compressor station site. Currently, this buffer contains 30-foot-tall pine trees that stand between the proposed site and the Countryside Village Mobile Home Park. The tallest proposed structure is approximately 60 feet tall. Based on the site elevation and the tree cover, a structure would need to be a minimum of 85 feet tall to be visible from the Countryside Village Mobile Home Park. Consequently, no part of the compressor station would be visible from the nearby mobile home park and roadways, or the more distant residences and public areas (fairgrounds, churches, schools).

With adherence to the Applicants' proposed impact avoidance, minimization, and mitigation plans, and our recommendations, we conclude that overall impacts on land use and visual resources would be adequately minimized.

5.1.9 Socioeconomics

Construction of the SMP Project would not have a significant adverse impact on local populations, housing, employment, or the provision of community services. There would be temporary increases in housing such as hotels, motels, and other rental units due to the influx of construction workers. Also, traffic levels would temporarily increase due to the commuting of the construction workforce to the area of the project as well as the movement of construction vehicles and delivery of equipment and materials to the construction right-of- way.

We received comments regarding the potential effect of the SMP Project on property values. We assessed available studies regarding property values and conclude that a significant loss of property value is not supported by the literature. Also, the effect that a pipeline easement may have on property value is a damage-related issue that would be negotiated between the parties during the easement acquisition process.

We received comments specific to the Sabal Trail Project expressing concern about potentially adverse impacts on environmental justice populations in Dougherty County, Georgia, particularly in and

near the City of Albany as a result of project-related dust and compressor station air emissions. Based on our research and analysis, there is no evidence that the Sabal Trail Project would result in disproportionately high and adverse health or environmental effects on environmental justice populations.

The SMP Project construction would benefit state and local economies by creating a short-term stimulus to the affected areas through payroll expenditures, local purchases of consumables and project-specific materials, and sales tax. The long-term socioeconomic effect of the SMP Project during operation is also likely to be beneficial, based on the increase in tax revenues that would accrue in the affected communities and jurisdictions; however, these benefits would not be as significant as during construction.

Based on the analysis presented, we conclude that the SMP Project would not have a significant adverse impact on the socioeconomic conditions of the project area.

5.1.10 Cultural Resources

The Applicants conducted archival research and field surveys to identify historic resources and locations for additional subsurface testing in areas with potential for prehistoric and historic archaeological sites. Transco identified 30 archaeological sites within the Hillabee Expansion Project's APE. Sixteen sites are not eligible for listing on the NRHP; 14 sites are eligible or require further evaluation.

Sabal Trail identified 424 archaeological sites within the Sabal Trail Project's APE. Of these, 279 sites are not eligible for listing on the NRHP and 145 sites are eligible or require further evaluation. Additionally, Sabal Trail identified 198 historic aboveground resources within the APE. We have determined that 42 of these historic aboveground resources are eligible for listing in the NRHP and that 156 resources are not eligible. Sabal Trial would avoid impacts on eligible or unevaluated cultural sites by project design, or would conduct additional studies to further assess NRHP eligibility.

FSC identified 32 archaeological sites and 25 historic architecture sites. We have determined that none of the 32 archaeological sites are eligible for listing on the NRHP. Of the 25 historic architecture sites, we have determined that 21 historic architectural sites are not eligible for listing in the NRHP and 4 sites would be avoided.

Both we and the Applicants consulted with 28 federally recognized Native American tribes to provide them an opportunity to comment on the SMP Project. Several tribes and organizations requested additional information, and we have responded to tribes that commented on the project.

The Applicants have prepared plans to be used in the event any unanticipated archaeological sites or human remains are encountered during construction. The plans provide for work stoppage and the notification of interested parties, including Indian tribes, in the event of discovery.

To ensure that our responsibilities under Section 106 of the NHPA are met, we are recommending that the Applicants not begin construction until any additional required surveys are completed; that survey reports, special studies, evaluation reports and treatment plans have been reviewed by the appropriate parties; and we provide written notification to proceed. The studies and impact avoidance, minimization, and measures proposed by the Applicants, and our review and recommendations, would ensure that historic properties are identified, evaluated, and any adverse effects appropriately mitigated.

5.1.11 Air Quality and Noise

Air Quality

Air quality impacts associated with construction of the SMP Project would include emissions from fossil-fueled construction equipment and fugitive dust. These impacts would generally be temporary and localized, and would not be expected to cause or contribute to a violation of applicable air quality standards.

Operation of SMP Project would generate emissions of nitrogen oxides, carbon monoxide, and particulate matter, sulfur dioxide, volatile organic compounds, GHGs, and hazardous air pollutants. Emissions from the new compressor stations would be minor sources of air pollution and, therefore, not subject to the federal permitting programs. Transco's existing Compressor Stations 95 and 105 would remain subject to Title V, which involves additional reporting and monitoring requirements, but would not result in emissions that rise to the level of PSD where additional emission controls are necessary. Based on the air dispersion modeling analysis presented in section 3.12.1 and the Applicants' strict compliance with the primary and secondary NAAQS, we conclude that operation of Transco Compressor Stations 84; Sabal Trail's Alexander City, Albany, Hildreth, Dunnellon, and Reunion Compressor Stations; and Sabal Trail's FGT Hunters Creek M&R Station would not have a significant impact on regional air quality. The modifications at Transco's Compressor Stations 95 and 105 themselves would meet the primary and secondary NAAQS. However, we are recommending that, prior to the close of the draft EIS comment period, Transco provide an analysis demonstrating that all equipment (new and existing) at Compressor Stations 95 and 105 comply with the primary and secondary NAAQS.

Noise

Noise would be generated during construction of the proposed facilities. Construction activities in any one area would typically last from several days to several weeks on an intermittent basis. Construction equipment would be operated on an as-needed basis during this period. Construction of the SMP Project would be limited primarily to daytime hours with the exception of some discrete construction related activities (e.g., hydrostatic testing, tie-ins, purge and packing the pipeline) and select HDD work. Generally, nighttime noise is expected to increase only in localized areas near 24-hour HDD activities; however, these activities are expected to last for only a matter of 1 to 15 days. In addition, the Applicants have agreed to notify nearby residences prior to commencing 24-hour HDD activities. Transco and Sabal Trail indicate that blasting may be necessary at certain locations during construction, whereas FSC does not anticipate the need to conduct blasting. Blasting would cause noise but would be conducted in accordance with Blasting Plans that require limiting the amount of charge needed to complete the work and require notification of persons in the area.

The Applicants performed noise assessments for proposed new and modified compressor stations and M&R stations. Based on the noise assessments, these aboveground facilities would be in compliance with our noise criteria of 55 dBA L_{dn} and no perceptible vibration at the nearest NSAs. To ensure that compressor stations meet our noise criteria, we are recommending that the Applicants file noise surveys of the facilities operating at full load conditions after placing the new/modified equipment into service, and install additional noise controls if the applicable noise standards are exceeded.

Given adherence to the Applicants' proposed measures as well as our additional recommendations, we conclude that potential air and noise-related impacts associated with the SMP Project would be adequately minimized or mitigated.

5.1.12 Reliability and Safety

The pipeline and aboveground facilities associated with the SMP Project would be designed, constructed, operated, and maintained to meet the DOT Minimum Federal Safety Standards in 49 CFR 192 and other applicable federal and state regulations. These regulations include specifications for material selection and qualification; minimum design requirements; and protection of the pipeline from internal, external, and atmospheric corrosion. The DOT rules require regular inspection and maintenance, including repairs as necessary, to ensure the pipeline has adequate strength to transport the natural gas safely.

We received comments regarding the potential for fires and controlled burns to affect the proposed pipeline facilities. DOT requirements do not include standards for the use of fire-resistant materials during the installation of underground natural gas pipelines. However, the Applicants would develop emergency plans that would include establishing and maintaining adequate means of communication with appropriate fire, police, and other public officials, and developing prompt and effective response to a notice of each type of emergency, including that of a fire near or directly involving a pipeline facility.

We received comments regarding the ability to detect leaks in the pipeline system when an odorant has not been introduced into the natural gas. The Applicants would install data acquisition systems that allow monitoring of pipeline flows and pressures at various points along the system. The system would allow for remote closing of MLVs in the event of an incident along the pipeline systems and would utilize a combination of radio and/or satellite communications to transmit data from the pipeline to the Applicants' current gas control centers.

We received comments regarding the potential to damage existing, older pipelines during construction of the SMP Project, and the potential cumulative safety risk of multiple collocated natural gas pipelines. Collocation of natural gas transmission facilities is a common and encouraged industry practice. Although the Applicants would utilize existing pipeline rights-of-way as temporary workspace to some degree, the Applicants would typically not operate heavy equipment over existing pipeline facilities and would generally install the new facilities at least 25 feet from existing pipelines.

SONAT expressed concern regarding the number of times Sabal Trail's Mainline would cross SONAT's existing pipeline system. In response, Sabal Trail modified the Mainline route to eliminate more than one-third of the originally proposed crossings and has committed to work with SONAT on the design and construction methods for the remaining crossings, cathodic protection systems, and future maintenance activities. We conclude that the remaining Mainline crossings of SONAT's pipeline system are sufficiently justified to minimize impacts on residences, cultural resources, and other environmental resources and to address construction constraints (e.g., steep side slopes).

We received comments from Dougherty County, the City of Albany, and numerous citizens expressing concern about impacts on residences and public safety resulting from operation of the proposed Albany Compressor Station. In addition to complying with DOT Minimum Federal Safety Standards in 49 CFR 192, Sabal Trail would implement specific safety measures at its compressor stations including installation of chain link fence with barbed wire to maintain facility and worker safety; controlled access and alarm systems; ventilation of compressor buildings to prevent the accumulation of gas; automatic emergency detection and shut-down systems; and maintenance of fire protection, first aid, and safety equipment.

The Applicants would meet with the emergency services departments of the municipalities and counties along the proposed pipeline facilities on an ongoing basis as part of their liaison programs and as required by the DOT's federal safety standards. The Applicants would provide these departments with emergency contact information and verbal, written, and mapping descriptions of the pipeline systems. This

liaison program would identify the appropriate fire, police, and public officials and the responsibilities of each organization that may respond to a gas pipeline emergency, and coordinate mutual assistance in responding to emergencies.

We conclude that the Applicants' compliance with applicable design, construction and maintenance standards, and DOT safety regulations would be protective of public safety.

5.1.13 Cumulative Impacts

If constructed, the SMP Project and other projects in the area could result in varying degrees of cumulative impact on different resources depending on the type and scope of each project, their proximity to each other, the timeframe in which they are constructed, and the measures that would be implemented to avoid or reduce impacts at each project site. The majority of impacts associated with the SMP Project would be temporary or short-term, and about 66 percent of the pipeline facilities would be collocated with existing infrastructure, thereby reducing overall impacts. The environmental impacts associated with the SMP Project would be less than significant if the SMP Project is constructed and operated in accordance with the Applicants' proposed construction and restoration plans, other applicable regulations or permit requirements, and our additional recommendations. As such, we conclude that construction and operation of the SMP Project would not significantly contribute to cumulative environmental impacts in the region.

5.1.14 Alternatives

As an alternative to the proposed action, we evaluated the no-action alternative, system alternatives, route alternatives and variations, and aboveground facility site alternatives. While the no-action alternative would eliminate the short- and long-term environmental impacts identified in this EIS, the end-use markets would not be provided the SMP Project's 1.1 Bcf/d of natural gas transmission service. Because this alternative would not be able to meet the purpose of the SMP Project, we conclude it is not preferable to the proposed action. We also conclude alternative energy sources, energy conservation, and efficiency are not within the scope of this analysis because the purpose of the SMP Project is to transport natural gas. The generation of electricity from renewable energy sources, or the gains realized from increased energy efficiency and conservation, are not transportation alternatives.

Our analysis of system alternatives included an evaluation of whether the use of other existing or proposed natural gas transmission systems; additional compression/looping; a domestic liquefied natural gas seaborne transmission system; and trucks and/or rail could meet the Applicants' objectives while offering an environmental advantage. Other existing natural gas transmission systems in the SMP Project area lack the available capacity to meet the purpose of the project. Modifying these systems could result in impacts similar to those of the proposed project or would be economically impractical. Additional compression/looping would not offer a significant environmental advantage over the proposed actions. The use of an alternative transportation system; liquefied natural gas ship carrier, truck, or rail would be economically impractical. We conclude that the use of a system alternative is not preferable to the proposed action.

We evaluated twelve major pipeline route alternatives including routes that would follow existing rights-of-way and one that would cross the Gulf of Mexico. We also evaluated 20 route variations and reviewed the over 300 variations considered by the Applicants. Furthermore, we evaluated numerous aboveground facility (compressor station) locations including several alternatives for the proposed Albany Compressor Station. Increasing collocation with existing rights-of-way, avoiding the State of Georgia, concern about construction through karst sensitive terrain, impacts on affected landowners and communities, general environmental concerns, and future development were all reasons for evaluating pipeline alternatives and variations. In evaluating these alternatives and variations, we compared a number

of factors including (but not limited to) total length, acres affected, wetlands and waterbodies crossed, the number of residences within 50 feet of workspace, environmental justice populations, and high consequence areas. We also considered construction constraints, degree of nearby development, traffic impacts, and economic practicality.

Based on our evaluations, we conclude that the major pipeline route alternatives do not offer a significant environmental advantage when compared to the proposed route or would not be economically practical; and therefore, are not preferable to the proposed action. We also conclude with one exception that the route variations evaluated do not offer significant environmental advantages when compared to the corresponding segments of the proposed pipeline route; and therefore, are not preferable to the proposed action. We are recommending one minor route variation that would reduce the potential to impede potential future development. Lastly, we conclude that the alternative aboveground facility locations evaluated do not offer significant environmental advantages when compared to the proposed locations and are not preferable to the proposed action.

5.2 FERC STAFF'S RECOMMENDED MITIGATION

If the Commission authorizes the SMP Project, we recommend that the following measures be included as specific conditions in the Commission's Order. We believe that these measures would further mitigate the environmental impact associated with constructing and operating the proposed SMP Project. In the following section, "file" means to file with the Secretary at the FERC.

1. The Applicants shall follow the construction procedures and mitigation measures described in their applications and supplements (including responses to staff data requests) and as identified in the EIS, unless modified by the Order. The Applicants must:

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

    b. justify each modification relative to site-specific conditions;

    c. explain how that modification provides an equal or greater level of environmental protection than the original measure; and

    d. receive approval in writing from the Director of OEP **before using that modification**.

2. The Director of OEP has delegated authority to take whatever steps are necessary to ensure the protection of all environmental resources during construction and operation of the SMP 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 impact resulting from project construction and operation.

3. **Prior to any construction**, the Applicants shall file affirmative statements 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 EIS, as supplemented by filed alignment sheets. **As soon as they are available, and before the start of construction**, the Applicants 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.

   The Applicants' 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. The Applicants' right of eminent domain granted under NGA section 7(h) does not authorize it to increase the size of its natural gas pipeline/facilities to accommodate future needs or to acquire a right-of-way for a pipeline to transport a commodity other than natural gas.

5. The Applicants shall file with the Secretary detailed alignment maps/sheets and aerial photographs at a scale not smaller than 1:6,000 identifying all route realignments or facility relocations, and staging areas, pipe storage yards, new access roads, and other areas that would be used or disturbed and have not been previously identified in filings with the Secretary. Approval for each of these areas must be explicitly requested in writing. For each area, the request must include a description of the existing land use/cover type, documentation of landowner approval, whether any cultural resources or federally listed threatened or endangered species would be affected, and whether any other environmentally sensitive areas are within or abutting the area. All areas shall be clearly identified on the maps/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 workspace allowed by the Applicants' project-specific construction plans described in the EIS and/or minor field realignments per landowner needs and requirements which do not affect other landowners or sensitive environmental areas such as wetlands.

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

   a. implementation of cultural resources mitigation measures;

   b. implementation of endangered, threatened, or special concern species mitigation measures;

   c. recommendations by state regulatory authorities; and

   d. agreements with individual landowners that affect other landowners or could affect sensitive environmental areas.

6. **Within 60 days of the acceptance of the authorization and before construction begins**, the Applicants shall file Implementation Plans with the Secretary for review and written approval by the Director of OEP. The Applicants must file revisions to the plans as schedules change. The plans shall identify:

a. how the Applicants will implement the construction procedures and mitigation measures described in their applications and supplements (including responses to staff data requests), identified in the EIS, and required by the Order;

b. how the Applicants 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 companies will ensure that sufficient personnel are available to implement the environmental mitigation;

d. company personnel, including EIs and contractors, who will receive copies of the appropriate material;

e. the location and dates of the environmental compliance training and instructions the Applicants will give to all personnel involved with construction and restoration (initial and refresher training as the project progresses and personnel change), with the opportunity for OEP staff to participate in the training session(s);

f. the company personnel (if known) and specific portion of the Applicants' organizations having responsibility for compliance;

g. the procedures (including use of contract penalties) the Applicants will follow if noncompliance occurs; and

h. for each discrete facility, a Gantt or PERT chart (or similar project scheduling diagram), and dates for:

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

7. Beginning with the filing of their Implementation Plans, the Applicants 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 the Applicants' efforts to obtain the necessary federal authorizations;

b. the construction status of each spread, 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 the Applicants from other federal, state, or local permitting agencies concerning instances of noncompliance, and the Applicants' response.

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

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

10. **Within 30 days of placing the authorized facilities in service**, the Applicants shall file an affirmative statement with the Secretary, certified by a senior company official:

    a. that the facilities have been constructed in compliance with all applicable conditions, and that continuing activities will be consistent with all applicable conditions; or

    b. identifying which of the conditions in the Order the Applicants have complied with or will comply with. This statement shall also identify any areas affected by the SMP Project where compliance measures were not properly implemented, if not previously identified in filed status reports, and the reason for noncompliance.

11. **Prior to construction**, FSC shall file, for the review and written approval of the Director of OEP, an updated Karst Mitigation Plan that specifies how FSC would monitor for and mitigate any subsidence features attributable to HDD activities. (Section 3.1.2.3)

12. **Prior to construction**, Sabal Trail shall file, for the review and written approval of the Director of OEP, an Unanticipated Paleontological Resources Discovery Plan that describes how Sabal Trail would recognize and manage significant fossils encountered during construction. This plan shall also describe the notification procedures to the State Geologists in each state crossed by the Sabal Trail Project. (Section 3.1.5.2)

13. **Prior to construction**, FSC shall provide the sources and volumes of water that would be used for hydrostatic testing activities. This shall include hydrostatic test water discharge locations, the volumes of water that would be discharged at each location, the maximum discharge rate, and the watershed associated with each source and discharge location. In addition, FSC shall provide the volume and sources of water to be used for HDD operations. (Section 3.3.3.5)

14. **Prior to construction**, the Applicants shall file copies of their final wetland mitigation plans and documentation of USACE approval of the plans. (Sections 3.4.3.1, 3.4.3.2, and 3.4.3.3)

15. **Prior to construction**, the Applicants shall each provide a plan describing the feasibility of incorporating plant seeds that support pollinators into the seed mixes used for restoration of construction workspaces. These plans shall also describe the Applicants' consultations with the relevant federal and/or state regulatory agencies. (Section 3.5.8)

16. The Applicants shall not begin construction **until**:

    a. all outstanding biological surveys have been completed;

    b. the staff receives comments from the FWS regarding the proposed actions;

    c. the staff completes formal consultation with the FWS; and

    d. the Applicants have received written notification, respectively, from the Director of OEP that construction or use of mitigation may begin. (Section 3.8)

17. Sabal Trail and FSC shall avoid construction within occupied scrub-jay habitat **between March 1 and June 30**, unless additional surveys confirm that this habitat is unoccupied and Sabal Trail or FSC receives written confirmation from the Commission that construction activities can occur within this timeframe. (Section 3.8.1)

18. **Prior to construction**, Sabal Trail shall file for the review and written approval by the Director of OEP, results of consultation with the FWS indicating the minimization/avoidance measures that will be used for the longspurred mint, including (in the order listed), opportunities for:

    a. avoidance of plant locations and associated habitat as feasible, including "necking-in" or reducing the construction footprint;

    b. "temporary" removal of plants and soil profile plugs (which include the A and B horizons) with the intent to replace to original location post construction; and

    c. transplanting and seed banking (only after all other options are considered). (Section 3.8.1)

19. **Prior to construction**, FSC shall file for the review and written approval by the Director of OEP, results of consultation with the FWS indicating the minimization/avoidance measures that would be used for the Florida bonamia, Lewton's polygala, papery whitlow-wort, scrub buckwheat, scrub mint, and Small's jointweed including (in the order listed), opportunities for:

    a. avoidance of plant locations and associated habitat as feasible, including "necking-in" or reducing the construction footprint;

    b. "temporary" removal of plants and soil profile plugs (which include the A and B horizons) with the intent to replace to original location post construction; and

    c. transplanting and seed banking (only after all other options are considered). (Section 3.8.1)

20. **Prior to the close of the draft EIS comment period**, Sabal Trail shall:

    a. file an evaluation of the feasibility of using the bore or HDD crossing method for the FNST crossing at Mainline MP 384.9; and

b. if the bore or HDD method is not feasible, file a FNST site-specific crossing plan that identifies the location(s) of a detour, public notification, signage, and consideration of avoiding days of peak usage. The crossing plan shall be developed in consultation with the land managing agency. (Section 3.9.2.5)

21. **Prior to construction**, Sabal Trail and FSC shall file documentation of concurrence from the FDEP that their respective projects are consistent with the CZMA. (Sections 3.9.2.6 and 3.9.3.6)

22. **Prior to the close of the draft EIS comment period**, FSC shall file site-specific crossing plans for the Lake Marion Creek Watershed Trail and Upper Lakes Watershed Basin Trail/Snell Creek Trail and access roads that identify the location(s) of a detour (if applicable), public notification, signage, and consideration of avoiding days of peak usage. The crossing plans shall be developed in consultation with the land managing agency. (Section 3.9.3.5)

23. **Prior to the close of the draft EIS comment period**, FSC shall provide documentation that construction and operation of the FSC Project would not be precluded by the conditions of the Tiger Lake Ranch Conservation Easement. (Section 3.9.3.5)

24. The Applicants shall not begin implementation of any treatment plans/measures (including archaeological data recovery); construction of facilities; or use staging storage, or temporary work areas and new or to-be-improved access roads **until**:

    a. the Applicants file:

        (1) all survey reports, including special studies like Ground Penetrating Radar, evaluation reports, and treatment plans; and

        (2) comments on survey reports, special studies, evaluation reports, and treatment plans from the Alabama, Georgia, and Florida SHPOs, as well as any comments from federally recognized Indian tribes, and other consulting parties, as applicable;

    b. the ACHP is afforded an opportunity to comment on the undertaking if historic properties would be adversely affected; and

    c. the FERC staff reviews and the Director of OEP approves all cultural resources reports and plans, and notifies the Applicants in writing that treatment plans/mitigation measures may be implemented and/or construction may proceed.

    All material filed with the Commission that contains **location, character, and ownership** information about cultural resources must have the cover and any relevant pages therein clearly labeled in bold lettering **"CONTAINS PRIVILEGED INFORMATION – DO NOT RELEASE."** (Section 3.11.6)

25. **Prior to the close of the draft EIS comment period**, Transco shall file the results of an air quality screening (AERSCREEN), or refined modeling analysis (AERMOD or EPA-approved alternative) for all of the emission generating equipment (including existing equipment) at Compressor Stations 95 and 105. The results shall demonstrate that the modeled existing emissions, plus the modeled incremental increase in emissions of criteria pollutants from the modifications either:

a. results in local concentrations below the NAAQS where current **modeled** concentrations from the existing compressor station (existing and ambient background) are below the NAAQS; or

b. does not cause or contribute to significantly increased local area concentrations above the NAAQS where the current ambient background concentrations are currently above the NAAQS. (Section 3.12.1.3)

26. FSC shall file **in its construction status reports** the following information for each HDD entry site:

    a. noise measurements from HDD activities at the nearest NSA, obtained at the start of drilling operations; and

    b. documentation of noise complaints and measures FSC has taken to resolve such complaints. (Section 3.12.2.2)

27. Transco shall file noise surveys **no later than 60 days** after placing the equipment at Compressor Stations 84, 95, 100, and 105 into service. If full load condition noise surveys are not possible, Transco shall provide interim surveys 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 each station under interim or full horsepower load exceeds an L_{dn} of 55 dBA at the nearest NSA, Transco 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. Transco shall confirm compliance with the above requirement by filing a second noise survey for each station **no later than 60 days** after it installs the additional noise controls. The timeframes above apply to the in-service dates for each phase of construction at each station. (Section 3.12.2.2)

28. Sabal Trail shall file noise surveys **no later than 60 days** after placing the equipment at the Alexander City, Albany, Hildreth, Dunnellon, and Reunion Compressor Stations into service. If full load condition noise surveys are not possible, Sabal Trail shall provide interim surveys 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 each station under interim or full horsepower load exceeds an L_{dn} of 55 dBA at the nearest NSA, Sabal Trail 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. Sabal Trail shall confirm compliance with the above requirement by filing a second noise survey for each station **no later than 60 days** after it installs the additional noise controls. The timeframes above apply to the in-service dates for each phase of construction at each station. (Section 3.12.2.2)

29. **Prior to the close of the draft EIS comment period**, Sabal Trail shall work with G.B.A. to the extent feasible and file a revised alignment sheet that incorporates G.B.A. Variation 3 into the proposed route and documentation of or confirmation that Sabal Trail will obtain the necessary federal approvals for the variation. (Section 4.3.2.4)

APPENDIX A

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Appendix A

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John Hayes, Commissioner

Lamar Hudgins, Commissioner
Michael McCoy, Asst. County Administrator
Richard Crowdis, County Administrator
Sheriff Kevin Sproul, Commissioner
W. Spencer Lee, County Attorney

Lee County
Billy Mathis, Commissioner
Dennis Roland, Commissioner
Ed Duffy, Commissioner
Greg Frich, Commissioner
Luke Singletary, Commissioner
Rick Muggridge, Commissioner
Sheriff Reggie Rachals

Lowndes County
Clay Griner, Commissioner
Crawford Powell, Commissioner
Demarcus Marshall, Commissioner
John Page, Commissioner
Joyce Evans, Commissioner
Richard Raines, Commissioner
Scott Orenstein, Commissioner
Sheriff Chris Pine, Commission Chair
Tally Wisenbacker, Commissioner

Mitchell County
B. Keith Jones, Commission Chair
Benjamin Hayward, Commissioner
Clark Harrell, Sheriff
David Sullivan
Julius Hatcher, Commissioner
Reggie Bostick, Commissioner
W. E. Bozeman

Stewart County
Arcola Scott
Ernest Brown
Jimmy Lee
Joe Williams
Joseph Williams, Commissioner
Matt Halloway
Sheriff Larry Jones

Terrell County
Brad Stafford, Commissioner
Clifford Webb, Commissioner
Ernest Johnson, Commissioner
Larry Faust, Commissioner
Lucius Holloway, Sr., Commissioner
Nell Breedlove, President, Historic Preservation Society
Sheriff John W. Bowens
Wilbur Gamble, Jr, Commission Chair

Webster County
George Moore
Jack Holbrook

Jonah McCluster
Melvin Crimes
Randy Dely

Town Agencies

Daniel Parrish, Planning Director, Historic Preservation Commission, Moultrie, GA
David Moore, Engineer, Engineering, Dadeville, AL
Joseph Moncrief, Assistant Engineer, Engineering, Dadeville, AL
Mike Stewart, Superintendent, Gas Department, Alexander City, AL
Paul Forgery, Planning Director, Historic Preservation Commission, Albany, GA
Dorothy Hubbard, Mayor, Albany, GA
Mayor Gary Fuller, Opelika, AL
Tom Berry, Albany, GA
Charles Shaw, Sr., Alexander City Mayor, Alexander City, AL
Rene La Porte, Assistant Public Works Director, Haines City, FL
John Seymour, City Administrator, Opelika, AL
Cardarious Lee, City Council, Rockford, AL
Carel Smith, City Council, Rockford, AL
Florence Eddy, City Council, Billingsley, AL
Frankie Cousin, City Council, Rockford, AL
Howard Harrison, City Council, Billingsley, AL
Jayne Johnson, City Council, Billingsley, AL
Judy Wilder, City Council, Rockford, AL
Karen Pemberton, City Council, Rockford, AL
Kenny Mosley, City Council, Butler, AL
Mary Ellen Williams, City Council, Billingsley, AL
Phil Pope, City Council, Butler, AL
Ron Mason, City Council, Butler, AL
Sarah Sims, City Council, Billingsley, AL
Shane Jimerson, City Council, Butler, AL
Terry Morgan, City Council, Butler, AL
Albert Striplin, City Council District 1, Prattville, AL
Bobby Tapley, City Council District 1, Alexander City, AL
Sherry Ellison-Simpson, City Council District 2, Alexander City, AL
Willie L. Wood, Jr., City Council District 2, Prattville, AL
Bob Howard, City Council District 3, Alexander City, AL
Denise B. Brown, City Council District 3, Prattville, AL
Billy Ray Wall, City Council District 4, Alexander City, AL
Jerry Starnes, City Council District 4, Prattville, AL
Clyde Chambliss, City Council District 5, Prattville, AL
James Spann, City Council District 5, Alexander City, AL
Ray C. Boles, City Council District 6, Prattville, AL
Tony A. Goss, City Council District 6, Alexander City, AL
Lora Lee Boone, City Council District 7, Prattville, AL
Mickey Carter, City Council Place 1, New Site, AL
Michael East, City Council Place 2, New Site, AL
Thomas Turner, City Council Place 3, New Site, AL
Linda Meadows, City Council Place 4, New Site, AL
Barry Clark, City Council Place 5, New Site, AL
Robby Anderson, P.E., City Engineer, Prattville, AL

Amy Arrington, City Manager, Davenport, FL
Bill Ed Cannon, City Manager, Wildwood, FL
James L. Taylor, City Manager, Albany, GA
Jim Gleason, City Manager, Mascotte, FL
Ken Sauer, City Manager, Haines City, FL
Mathew Brower, City Manager, Ocala, FL
Mike Scott, City Manager, Moultrie, GA
Mike Steigerwald, City Manager, Kissimmee, FL
Samuel Oppelaar, City Manager, Groveland, FL
Scott L. Lippman, City Manager, Williston, FL
Terry Leary, City Manager, Lake Wales, FL
Roger Marietta, Commissioner, Albany, GA
Sara Shaw, Commissioner, Kissimmee, FL
Paula Wheeler, Councilmember, Seat 1, Crystal River, FL
Mike Gudis, Councilmember, Seat 2, Crystal River, FL
Ken Brown, Councilmember, Seat 3, Crystal River, FL
Robert Holmes, Councilmember, Seat 5, Crystal River, FL
Joseph D. Pritchard, County Manager, Valdosta, GA
Jerry Rodriguez, Development Services Director, Davenport, FL
Richard Greenwood, Director-Community Development, Haines City, FL
Mike Stripling, Director-Public Works, Haines City, FL
Harold Gallup, Economic Development Director, Lake Wales, FL
Kem Jones, Fire Chief, Alexander City, AL
Larry Roberts, Fire Chief, Butler, AL
Terry Brown, Fire Chief, Prattville, AL
Larry Thomas, Fire Chief (Volunteer), Billingsley, AL
Lucie Ghioto, Historic Preservation Planner, Kissimmee, FL
Darlene Bradley, Mayor, Davenport, FL
Ed Wolf, Mayor, Wildwood, FL
Frankin Shuler, Mayor, Bronson, FL
Jim Farley, Mayor, Crystal River, FL
Jim Gearhart, Mayor, Groveland, FL
Jim Swan, Mayor, Kissimmee, FL
John Gayle, Mayor, Valdosta, GA
Kent Guinn, Mayor, Ocala, FL
Milton Hill, Mayor, Coleman, FL
Tony Rosado, Mayor, Mascotte, FL
William M. McIntosh, Mayor, Moultrie, GA
Gregg Davis, Mayor of Billingsley, Billingsley, AL
Mike Williams, Mayor of Butler, Butler, AL
Randall Lewis, Mayor of Rockford, Rockford, AL
Phillip Weddle, New Site Deputy Chief, Alexander City, AL
Curtis Mims, New Site Mayor, New Site, AL
John McKelvey, New Site Public Safety Director, Dadeville, AL
Ben Yates, New Site Volunteer Fire Chief, Alexander City, AL
Margaret Swanson, Planning Director, Lake Wales, FL
Mark Bennett, Planning Manager, Haines City, FL
Jimmy Huckeba, Police Chief, Butler, AL
Mark Thompson, Police Chief, Prattville, AL
Willie Robinson, Police Chief, Alexander City, AL
Tom Moran, Public Works Director, Lake Wales, FL

Corey Shaw, Rockford Police Chief, Rockford, AL
Wade Turner, Rockford Volunteer Fire Chief, Rockford, AL
Joseph DeLegee, Town Clerk, Dundee, FL
Kim Annis, Town Clerk, Billingsley, AL
Kimberly Gay, Town Clerk, Lake Hamilton, FL
Andy Stewart, Town Manager, Dundee, FL
Dan Cavanah, Town Manager, Bell, FL
Sarah Anderson, Town Manager, Lee, FL
Douglas Leonard, Town Planner, Lake Hamilton, FL
Blaine Suggs, Utility Director, Newberry, FL
Vincent Ruano, City Manager, Bushnell, FL
Lisa Harrelson, Historic Preservation Commission, Opelika, AL
Gene Bowles, Mayor, Center Hill, FL
Planning and Econ Dev Director, Newberry, FL

Libraries

Adelia M Russell Library, Alexander City, AL
Choctaw County Public Library, Butler, AL
Chilton Clanton Library, Clanton, AL
Lewis Cooper Jr Memorial Library, Opelika, AL
Autauga-Prattville Public Library, Prattville, AL
Selma-Dallas County Public Library, Selma, AL
H Grady Bradshaw Library, Valley, AL
Bell Library, Bell, FL
Cagans Crossing County Library, Clermont, FL
Haines City Public Library (Polk), Haines City, FL
Elisabeth Lahti Library (Martin), Indiantown, FL
Kenansville Branch Library Annex (Osceola), Kenansville, FL
Osceola Library System, Kissimmee, FL
Poinciana Branch Library (Osceola), Kissimmee, FL
Lake Wales Public Library (Polk), Lake Wales, FL
Live Oak Public Library, Live Oak, FL
Okeechobee County Public Library (Okeechobee), Okeechobee, FL
Pruitt Campus Library (St. Lucie), Port St. Lucie, FL
Dougherty County Public Library, Albany, GA
Moultrie-Colquitt County Library, Moultrie, GA

Newspapers and Media

Alexander City Outlook, Alexander City, AL
Opelika-Auburn News, Opelika, AL
Coosa County News; Eldred Jones, Editor, Rockford, AL
Sumter County Times, Bushnell, FL
Four Corners News Leader, Clermont, FL
El Osceola Star, Kissimmee, FL
Osceola News-Gazette, Kissimmee, FL
Lake Wales News, Lake Wales, FL
Lakeland Ledger, Lakeland, FL
Suwannee Democrat, Live Oak, FL
Okeechobee Sun, Okeechobee, FL

El Sentinel (Central Florida), Orlando, FL
Orlando Sentinel, Orlando, FL
The Stuart News, Stuart, FL
The Albany Herald; Carlton Fletcher, Albany, GA
Ledger-Enquirer, Columbus, GA
The Dawson News, Dawson, GA
Moultrie Observer, Moultrie, GA
Valdosta Daily Times, Valdosta, GA
WCTV; Winnie Wright, Valdosta, GA

Landowners, Individuals, and Organizations/Companies

Ladis P Hurst & Sandra Hurst, Adamsville, AL
Sandra Sue & Ladis P. Hurst, Adamsville, AL
ADOT, Alexander City, AL
Allen Wayne & Joyce Ann Smith, Alexander City, AL
Amy M Jones, Alexander City, AL
Angie Larae, Alexander City, AL
Ann Harden Stewart, Alexander City, AL
Anna K Probst, Alexander City, AL
Anna Scruggs, Alexander City, AL
Betty Carol Graham, Alexander City, AL
Blythe Settlement Properties, LLC, Alexander City, AL
Bobby Sanders, Alexander City, AL
Bradley Houghton, Alexander City, AL
Charles Bailey, Jr., Alexander City, AL
City of Alexander City, Alabama, Alexander City, AL
Clara Wesson & Diane Wesson, Alexander City, AL
David G & Patricia R Jones, Alexander City, AL
David Jones & Patricia Jones, Alexander City, AL
Desiree Davis Mason, Alexander City, AL
Diana Boddie & Thomas Boddie, Alexander City, AL
Diane and Clara Wesson, Alexander City, AL
Dorothy Wright, Alexander City, AL
Dutch Bend, LLC, Alexander City, AL
Elene Young Irrevocable Lead Trust, dated November 4, 1989, Alexander City, AL
First Alabama Bank, Alexander City, AL
Jacob Keith and Kathy B. Moon, Alexander City, AL
James Tremelling, Alexander City, AL
Jeffrey & Rhonda Alford, Alexander City, AL
Jeffrey W & Amanda J Graham, Alexander City, AL
Joan Denny, Alexander City, AL
Joel W & Betty M Graham, Alexander City, AL
Joyce Ann Johnson & L. M Johnson Jr., Alexander City, AL
Leonard Morse & Ruby Morse, Alexander City, AL
Lynn Mcelroy Brown, Alexander City, AL
Marcus W & Amanda Milford, Alexander City, AL
McGill Timberland Company, LLC, Alexander City, AL
Melissa J & Ricky J Abram, Alexander City, AL
Melvin E. Ervin, Alexander City, AL
Morgan Wilbanks, Alexander City, AL
Norman Strickling & Misha Strickling, Alexander City, AL
R.E. Ray & Doris W. Ray, Alexander City, AL
Rachel Johnson, Alexander City, AL
Richard B and Darlene N Wagoner, Alexander City, AL
Richard Speake, Alexander City, AL
Ricky L & Rhonda R Strickland, Alexander City, AL
Rita Kimbrough, Alexander City, AL
Ronald B & Barbara James, Alexander City, AL
Sandra Mann & Shelby Bowen, Alexander City, AL
Sandra Phillips, Alexander City, AL
Sherm Blasegene, Alexander City, AL
Southfirst Bank, Alexander City, AL
Steve Forehand, Dutch Bend LLC, Alexander City, AL
Steve Forehand, Lake Martin Res Assoc, Alexander City, AL
Thomas Hunter & Maxine Hunter, Alexander City, AL
Town Creek Baptist Church, Alexander City, AL
William Fuller Wilbanks, Jr., Alexander City, AL

Willie Lamar Britton, Alexander City, AL
Basil W Jr Thompson, Analusia, AL
Alabama Electric Cooperative, Inc., Andalusia, AL
Basil W. Thompson, Jr. & Era J., Andalusia, AL
Lucile P Whatley & Stephen W Whatley, Anniston, AL
James Conrad Hamilton, Arab, AL
Howard Ballard, Ashland, AL
Richard Runyan (a/k/a Runyan Farm Properties, LLC), Ashland, AL
Ernest Jr. Campbell, Athens, AL
John A Jr Dickinson, Attalla, AL
Angela L. Dollar & W. Mason Dollar, Auburn, AL
Arthur Cooper, Auburn, AL
Auburn Timberlands, Inc., Auburn, AL
Bruce B. Ferguson, LLC, Auburn, AL
Carl Summers Jr., Auburn, AL
Daniel Moore, Auburn, AL
Eric Malloy & Faith Malloy, Auburn, AL
Hennon King Jr., Auburn, AL
John Thomas, Auburn, AL
Rommeo Holloway & Sandy Holloway, Auburn, AL
Sabal Trail Transmission, LLC, Auburn, AL
Yukihisa Kitami, Auburn, AL
Barbara Ray, Bessemer, AL
Chastain Hugh, Billingsley, AL
Billingsley Cemetery Care Association, Billingsley, AL
Chelsi Cleckler, Billingsley, AL
David & Josh Wright, Billingsley, AL
David B & Josh Jr & James V Wright, Billingsley, AL
David B.Wright, c/o Josh Wright, Jr., Billingsley, AL
Gary Jones, Billingsley, AL
Gregory L. & Jane O. Davis, Billingsley, AL
Hiram Wayne & Catherine L Summerlin, Billingsley, AL
James V. Wright, c/o Josh Wright, Jr., Billingsley, AL
Jimmy CARROLL, Billingsley, AL
John H Phillips, Billingsley, AL
John Tindol, Billingsley, AL
Josh Wright, Jr., Billingsley, AL
Julia Avon Tindol, Billingsley, AL
Kent Elrod, Billingsley, AL
L. C. Stanfield, Billingsley, AL
Larry C. & Linda R. Thomas, Billingsley, AL
Leola May Kizziah, Billingsley, AL
Lethenual C. Stanfield, Billingsley, AL
Mark Godwin, Billingsley, AL
Michael J. McGhee, Billingsley, AL
Ted Missildine, Billingsley, AL
Robert Mcdonald, Billinsgley, AL
Alabama Power Company, Birmingham, AL
Beth Hamric, Executive and External Affairs, Nature Conservancy - Alabama, Birmingham, AL
Betty Cole, Birmingham, AL
Elaine DeBuys Hankins, Birmingham, AL
Elna H. Watkins, Birmingham, AL
H & K Properties LLC, c/o Bill Bussey, Birmingham, AL
Jane Hinds (the Hinds Family Trust attn: Jane H. Hinds, Trustee), Birmingham, AL
Janice Rogers, Birmingham, AL
Jerry Lafayette Evers, Birmingham, AL
Johnston Properties, Inc.., Birmingham, AL
Katie Belle Holloway Estate, Birmingham, AL
L A Timberlands LLC, c/o Real Estate Dept., Birmingham, AL
Leanne Evers Moran, Birmingham, AL
Linda Messervy, Birmingham, AL
Margaret C. Coffman, Asst General Counsel, Southern Natural Gas Company, LLC, Birmingham, AL
Margaret Victoria Brown Daviston, Birmingham, AL
Robert And Elizabeth Reames, Birmingham, AL
Ruth H. Yarbrough, Birmingham, AL
Sandra Mcewen, Birmingham, AL
Seibels Enterprises, Inc.., Birmingham, AL
Southern Natural Gas, Birmingham, AL
Sowega Power, LLC, Birmingham, AL
Steven Lamar Lewis, Birmingham, AL
The Hinds Family Trust, Birmingham, AL
Thompson Tractor Co, Inc., Birmingham, AL
Tommy E. Turpin, Birmingham, AL
Virginia T. Hare, Birmingham, AL
William Christopher Patterson, Birmingham, AL
James Justin & Todd Humphries, Boaz, AL
Amos L. & Nola C. Turner Estate, Butler, AL
Amos L. and Nola C. Turner, Butler, AL
Betty Claire Broughton, Butler, AL
Billy Joe Kearley, Butler, AL
Bob & Odessa Goines, Butler, AL
Byron l. Jr. And Janice bailey, Butler, AL
Callie Ridgeway, Butler, AL
Charles Allen, Butler, AL

Charles Loftis, Butler, AL
Christopher & Rhonda Rhodes, Butler, AL
Christopher and Rhonda Rhodes, Butler, AL
City of Butler, Butler, AL
Clark and Claudette Gibson, Butler, AL
Claud T. and Mary Joel Owen, Butler, AL
Connie James, Butler, AL
Cornelius Ruffin, Butler, AL
Danny Hearn, Butler, AL
David R. Marie, Jr. & Gina Lynn, Butler, AL
Donna Gayle Busby, Butler, AL
Durwood D. & Beverly F. / Pierre E. & Rebecca Blount, Butler, AL
E.J. Todd, Butler, AL
Eric R. Crawley, Butler, AL
Frankie Tyson, Butler, AL
Garry and Patricia H Skelton, Butler, AL
Gary W. & Sheila Busby, Butler, AL
Gary W. et ux Shelia Busby, Butler, AL
Howard M. and Lynn H. Whitted, Butler, AL
Howard Mason Whitted & Margaret W Dukes, Butler, AL
J W and Callie Casey, Butler, AL
James D. Abston, Butler, AL
James D. Evans (Jodane Partnership Ltd c/o James D. Evans), Butler, AL
James S. & Jill Caudle, Butler, AL
James William Pierce, Butler, AL
Jean M. Malcom, Butler, AL
Jerry Belcher, Butler, AL
Jerry DeWayne Bohannon, Butler, AL
Jerry W. Tindle, Butler, AL
Jo Ann Luden Williams, Butler, AL
Joan T. Kelly, Butler, AL
Jodane Partnership LTD, c/o James D. Evans, Butler, AL
Joe Dobbins, Butler, AL
John H. Shoemaker, Butler, AL
John Leon Graham Jr., Butler, AL
John R. Colson, Butler, AL
Johnny L. and Heather S. Minor, Butler, AL
Jon Lyle Broughton, Butler, AL
Judy Briggs (William e. Radcliffe est c/o Judy Briggs), Butler, AL
Larry Mcclinton, Butler, AL
Lillie and Archie Johnson, Butler, AL
Louise T. Ruffin, Butler, AL
Margaret Dukes, Butler, AL
Marvin and Carolyn Minor, Butler, AL
Mary Eddie, Butler, AL
Mary Esther Diamond, Butler, AL
Mary Whitted, Butler, AL
McPhearson Land and Land Company LLC, Butler, AL
Michael Bohannon, Butler, AL
Norma Jean Skelton (Marilyn Pasley, Shelia A. Case, Ivan Norris, Joseph Todd, Angelia Ll. Todd c/o Norma Jean Skelton), Butler, AL
Orell M. Ford, Butler, AL
Robert E. & Jennifer Clark, Butler, AL
Robert Thrash, Butler, AL
Roy L. and Shirley A. Morgan, Butler, AL
Samuel lL Gilliand, Butler, AL
Stephen James and Donovan Monica Hearn, Butler, AL
Thomas and Jennifer Mcilwain, Butler, AL
Thomas C. Littlepage, Butler, AL
Timothty Whitted Dukes, Butler, AL
Verna and Raymond Wainright, Butler, AL
Vernon C. Hearn, Butler, AL
Vernon Wayne Hearn, Butler, AL
Wade and Tonia C. Rolison, Butler, AL
Whitted, Butler, AL
William E. Radcliffe Estate, c/o Judy Briggs, Butler, AL
William George Sr. and Julia Mae Carter, Butler, AL
William Merrill & Kay D. Carlisle, Butler, AL
Willie E. & Sue Hearn, Butler, AL
Willie Royce Harrison, Butler, AL
William J Hardy, Camden, AL
Alice Yvonne Counts, Camp Hill, AL
Antoinette Todd & Billy James Todd, Camp Hill, AL
Ben L Langley & Doris S Langley, Camp Hill, AL
Bessie Heard & Linda Rhoden, Camp Hill, AL
Calvin Floyd, Camp Hill, AL
Charlotte McDonald, Camp Hill, AL
Christopher Neal Langley, Camp Hill, AL
Clara Drake & Otis Drake, Camp Hill, AL
Credit Shelter Trust, Camp Hill, AL
Edward Eugene Heard Jr. & Joyce Marie Heard, Camp Hill, AL
June G Clark & Roger E Clark, Camp Hill, AL
Lonzie S. Wood, Camp Hill, AL
Marshelle Wallace, Camp Hill, AL
Nessie Black, Camp Hill, AL
Thomas Wayne Counts & Kimberly Counts, Camp Hill, AL
Timothy Wood, Camp Hill, AL
Veronica Finley, Camp Hill, AL

Daisy P Syfrett, Canton, AL
Rock Bridge Lodge LLC, c/o William F. Spratlin, Chelsea, AL
Aubrey & Annette Moates, Clanton, AL
Barbara J. Griffin, Clanton, AL
Danny Allen & Glenda Popwell, Clanton, AL
Elaine Staton, Clanton, AL
Frances W Jr & Valerie Speaks, Clanton, AL
James L Driggars, Clanton, AL
Linda W. Turnipseed, Clanton, AL
Melba Headley, Clanton, AL
Raymond D & Linda C Foshee, Clanton, AL
Rickey Grant Headley, Clanton, AL
Sibley G. Reynolds, Clanton, AL
Steve & Robbie Frederick, Clanton, AL
Henry C Williams Sr. and Henry C Williams, Clanton, AL
Steve & Janice Jordan, Columbiana, AL
Margaret Holt, Cottonwood, AL
Steve Goodman, Cuba, AL
Ann Wilder & Charles Wilder, Cusseta, AL
Caroline Williams & Tommy Williams, Cusseta, AL
Christine Miller Williams, Cusseta, AL
DeForest William Andrews, Cusseta, AL
Harold M. Prather, Cusseta, AL
Jack Robertson, Cusseta, AL
Leigh Sumner & Robert Sumner, Cusseta, AL
Lewis Wilder, Cusseta, AL
Thomas Wallace, Cusseta, AL
Barbara E. Hamilton, Cussetta, AL
Alan J. Swindall Jr. & Betty Carlyn Swindall, Dadeville, AL
Candice M. Thaggard & Jody Thaggard, Dadeville, AL
Charles Stanton Sullivan Jr., Dadeville, AL
Danny Lloyd, Dadeville, AL
David Coker & Timothy Coker, Dadeville, AL
Debbie M. Brewer & Paul Brewer, Dadeville, AL
Derick Freeman, Dadeville, AL
Edna Ingram & Gary D. Ingram, Dadeville, AL
Elizabeth F. Floyd & Tilford L. Floyd, Dadeville, AL
Emily Trotter & Wayne Trotter, Dadeville, AL
Faye Grooms/Dadeville HC for Tharpe Estate, Dadeville, AL
Gary Phillip Easterwood, Dadeville, AL
Henry Gray McKelvey & Ruth W. McKelvey, Dadeville, AL
James Larry Freeman & Linda Susan Freeman, Dadeville, AL
James McCullers & Staci L. McCullers, Dadeville, AL
James Parrott, Dadeville, AL
James Patterson, Dadeville, AL
Jason H. Moran, Dadeville, AL
Javier Cruz, Dadeville, AL
Kenneth P. Thompson, Dadeville, AL
Lee Lloyd & Nancy A. Lloyd, Dadeville, AL
Leonard McKelvey & Lola McKelvey, Dadeville, AL
Lisa Ballard, Dadeville, AL
Lorene Boone Cowhick Life Estate, Dadeville, AL
Manda Cherie Greer & Ted L. Greer, Dadeville, AL
Margaret A. White, Dadeville, AL
Mary S. Schryer & Michael P. Schryer, Dadeville, AL
Richard Lucas & Wanda Lucas, Dadeville, AL
Ricky Dale Parrott & Bobbie Parrott, Dadeville, AL
Ruth H Moran, Dadeville, AL
Sara Boone & William Leon Boone, Dadeville, AL
Tallapoosa County Road Dept., Dadeville, AL
Terry DeWayne Greer, Dadeville, AL
Thomas W. Sargent, Dadeville, AL
Vicky Patterson, Dadeville, AL
Ephesus Baptist Church, Davison, AL
Frances Sawyer, Dothan, AL
Melissa Jo T Lankford, Dothan, AL
Sara Mitchell Carter, Dothan, AL
Wiregrass Homebuilders, Inc., Dothan, AL
Wiregrass Homebuilders, Inc., Dothan, AL
J B & Glenda Hughes, Eclectic, AL
James S & Cheryl Selby, Equality, AL
Lanier Edwards, Eufala, AL
Cynthia Lanier Meador, Fairhope, AL
Dan Wright, Foley, AL
Fairfield Plantation Limited Partnership, Fort Mitchell, AL
Jerline Denson, Fort Mitchell, AL
John A. McCoy & Mamie Frazier & Juanita Mann & Sallie Streeter & Maccine Horace & Hazel King & Gilbert McCoy, Fort Mitchell, AL
Leisa Marie Davis & Paul Davis, Fort Mitchell, AL

Missionary Servants of the Most Holy Trinity, Inc., Fort Mitchell, AL
Nancy Patterson Rudd, Fort Mitchell, AL
United States Government, Fort Mitchell, AL
Mary Catherine Cook Hughes, Gadsden, AL
James Stogsdill and Evelyn Stogsdill, Geraldine, AL
Javie C. Allen, Gilbertown, AL
Marjoe Family Limited Partnership, Gilbertown, AL
Cahaba Forests LLC, Harpersville, AL
Cahaba Forests LLC, c/o Real Estate Dept., Harpersville, AL
Hawaii ERS Timberland, LLC, Harpersville, AL
Arthur Thomas Jordan & Mary Graves Jordan, Hartselle, AL
Jeffrey Gray Gibson, Hoover, AL
Kathryn M Donahoo, Hoover, AL
Cynthia Purcell Moore & Michael David Purcell & Karen Purcell Trammell, Huntsville, AL
Hiram W. Heard, Huntsville, AL
Janet M Willis & Joseph E Willis Jr., Huntsville, AL
Angela L. Young & Rex N. Young, Jacksons Gap, AL
Clarissa Kay Stewart & Cheri Thompson & Laurie Ann Dimmlich & Rea Oliver, Jacksons Gap, AL
Marcus Steve Easterwood, Jacksons Gap, AL
Matthew David and April L Price, Jemison, AL
Karen Welch, Jones, AL
April Butler Smith, Kelleyton, AL
Daniel D & Lisa A Champion, Kellyton, AL
Tony Lee & Tina Annette Mcvey, Kellyton, AL
Alex Walton & Ann S. Walton, Lafayette, AL
Andrew Wagner & Nancy Wagner, Lafayette, AL
Beatrice Finley & Ora Finley, Lafayette, AL
Benjamin Adams, Lafayette, AL
Bessie Calloway, Lafayette, AL
Betty Lynn Andrews Muszynski, Lafayette, AL
Chambers County Road Dept., Lafayette, AL
Christine Spear, Lafayette, AL
Curtis Lewis Langley, Lafayette, AL
David Richard Conway Jr. & Elizabeth W Conway, Lafayette, AL
Edwin B. Yancey & Robert L. Yancey, Lafayette, AL
Grady A Davis Sr. & Jane A Davis, Lafayette, AL
Gregory Zachery & Ossie M Zachery, Lafayette, AL
Howard Ray Estate, Lafayette, AL
James W Allen II, Lafayette, AL
Joey Bruce, Lafayette, AL
Jonathan Walton, Lafayette, AL
Joseph Tucker & Sandra L. Tucker, Lafayette, AL
Mary Walton, Lafayette, AL
Mattie Ray & Willie Ray, Lafayette, AL
Mevalyn W. Andrews White, Lafayette, AL
Miller Huguley Jr., Lafayette, AL
Paul J Porter, Lafayette, AL
Pleasant View Christian Church, Lafayette, AL
Preston McLean & Ruth McLean, Lafayette, AL
Scott Thomas Langley Jr., Lafayette, AL
Souriphone Porter Living Trust, Lafayette, AL
W. H Landrum Jr., Lafayette, AL
Walter Hughley, Lafayette, AL
Catherine L McCoy, Lanett, AL
Ida Robertson, Lanett, AL
The Industrial Development Authority of Chambers County, Alabama, Lanett, AL
Wayne Busby, Lisman, AL
Alabama Trust for Historic Preservation, Livingston, AL
The Windermere(50%), Magnolia, AL
Burt Wade, Maplesville, AL
Marie K. Bearden, Marbury, AL
Donald E. Stephens, Marion Junction, AL
Herbert E. Carter, Jr., Marion Junction, AL
Nancy S. England, Marion Junction, AL
James Cherry, Maxwell AFB, AL
William Koon & Lachelle Koon, McCalla, AL
Andrew Thornton Wall, Midland, AL
Eryk Brighurst, Millbrook, AL
Billy Mosley (B R Mosley Land Company LLC), Mobile, AL
Elizabeth Benning Patterson Bracewell, Mobile, AL
George Wimberly, Mobile, AL
James Edwin Walker, Mobile, AL
Kirkland Edwards Reid, Mobile, AL
Shirley Logan, Mobile, AL
Michael Lee Harris, Montgomery, AL
Anthony C. & Eleanor J. Drake, Montgomery, AL
Barry W. Andrews, Montgomery, AL
Frazine Taylor, Chairperson, Alabama Black Heritage Council, Montgomery, AL
George Speake, Montgomery, AL

Gregory Crews (Crews LLC attn: Gregory Crews), Montgomery, AL
Marvin Whitted, Montgomery, AL
Michael Lee Harris, Montgomery, AL
Michael N & Wanda M Asbury, Montgomery, AL
Neal & Christine Truesdale, Montgomery, AL
Waldo B Jr Frederick, Montgomery, AL
McGilvray Family Trust, Mountain Brook, AL
Keith Donald, Needham, AL
Robert E. and Viola W Turner, Needham, AL
Rodney W. Turner, Needham, AL
A. J. Osment, Opelika, AL
Amy B Horne & Joseph Horne, Opelika, AL
Andrea Capps & Benjamin W. Capps II & George Wesley Capps, Opelika, AL
Andrew Bundrick, Thomas Gerald Bundrick, Joseph Michael Bundrick, Dorothy LaJon Caviness, Charles Monroe Bundrick & Judy Faye Karnap, Opelika, AL
Angela Kittrell & Walter Kittrell, Opelika, AL
Augustus Baker Dean III & Daniel Robertson Dean Jr. & Joseph L Dean Jr. & Robert Arrington Dean, Opelika, AL
Bruce Thornton & William Thornton, Opelika, AL
Cammy Johnston & Kerry Johnston, Opelika, AL
Candy Mackey, Opelika, AL
Carl A Hand & Martha C Hand, Opelika, AL
Danway Properties, Ltd., Opelika, AL
David R Deshields & Leigh Deshields, Opelika, AL
Deep South, LLC, Opelika, AL
Elaine Kirschner, Opelika, AL
Frances Lawler, Opelika, AL
George Tucker Walker & James Edwin Walker, Opelika, AL
Jack Leonard & Jewel Leonard, Opelika, AL
James C Martin & Kerriann S Martin, Opelika, AL
James Newsome, Opelika, AL
James Spencer Roy Jr., Opelika, AL
Jeffery L Wheeles & Kandy L Wheeles, Opelika, AL
Jeffrey Simon, Opelika, AL
Joanne Smith, Opelika, AL
Juanita Jones, Opelika, AL
Kelly Leonard, Opelika, AL
Lee County Road Dept., Opelika, AL
Leonard Kidder & Tammy Kidder, Opelika, AL
Linda Bradley, Opelika, AL
Lisa Johnson, Opelika, AL
Martha B. Shirah, Opelika, AL
Myra Morgan-Barnes, Opelika, AL
Olin Hanvey, Opelika, AL
Opelika Industrial Development Authority, Opelika, AL
Paula Dean, Opelika, AL
Peter Skrdla, Opelika, AL
Rebecca Robertson, Opelika, AL
Regina Daniel, Opelika, AL
Robert Earl McKendree Estate, Opelika, AL
Rosalind C. Burnham & William Michael Burnham, Opelika, AL
Rosalyn S. Rosenblum, Opelika, AL
Samuel Campbell, Opelika, AL
Sarah Mauldin, Opelika, AL
Sherrie G. Crowley, Opelika, AL
Sherry Boothe, Opelika, AL
Sylvia Anderson, Opelika, AL
Talmadge Vinson Sanders Jr., Opelika, AL
Teresa Feltman, Opelika, AL
The Winston Smith T. Estate, Opelika, AL
Thomas Miller, Opelika, AL
Timothy Crowley, Opelika, AL
Wendy Dean Smith, Opelika, AL
Wendy L Henderson, Opelika, AL
William Roberts Dean, Opelika, AL
Roland Anderson, Opp, AL
Merrick M. Chandler, Ozark, AL
Alexander Farris, c/o Farris Harden, Pelham, AL
Andy Nowell, Phenix City, AL
Bernice Evans, Phenix City, AL
Betty Jean Pharris & Miranda Elaine Pharris, Phenix City, AL
Bobby Adkins & Royce Adkins, Phenix City, AL
Bonnie Messer, Phenix City, AL
Bowden Realty, Inc., Phenix City, AL
Carey A. McCoy, Phenix City, AL
Carla B Tamor & Gary Tamor, Phenix City, AL
Crawford Partners II, LP, Phenix City, AL
Debra Anderson, Phenix City, AL
Delores R. Cantrell, Phenix City, AL
Edward Colley & Lucy B. Colley, Phenix City, AL
Emily Leigh Pharris, Phenix City, AL
Estate of Linda Johnson, Phenix City, AL
Frances Modling, Phenix City, AL
Girard Partners, LP, Phenix City, AL

Gloria Hughes & Turner Hughes Jr., Phenix City, AL
Gloria R Ellis, Phenix City, AL
Greene Communications, Inc., Phenix City, AL
Hugh Livingston, Phenix City, AL
Jacquelyn Clark, Phenix City, AL
Joe W. Price Sr. & Nanette Price, Phenix City, AL
John M Dudley Jr., Phenix City, AL
John M. Dudley, Phenix City, AL
Leslie D. Greene, Phenix City, AL
Lewis Graham & Pamela Corbett Graham, Phenix City, AL
M&N Farms, c/o Steve W. Nelson, Phenix City, AL
Patrick Weeks, Phenix City, AL
R. M. Greene, Inc., Phenix City, AL
Rhonda Adams, Phenix City, AL
Ronald Eric Thompson, Phenix City, AL
Steven Page, Phenix City, AL
Todd Ayers, Phenix City, AL
Todd Caton, Phenix City, AL
Tracy Lyles, Phenix City, AL
Vernell Mack, Phenix City, AL
Willie J McCoy, Phenix City, AL
Willie Joseph Johnson, Phenix City, AL
Robert L Boggan, Pike road, AL
Curtis A. Jones, Pike Road, AL
Bobby & Marilou H Bearden, Plantersville, AL
Angela D. Sargent & Ronnie L. Sargent, Prattville, AL
Charles R. & Leanda S. Jenkins, Prattville, AL
Gay K. Stephens, Prattville, AL
Gayle P. Kimbrough & Jon W. Kimbrough, Prattville, AL
Gwen Lawrence, Prattville, AL
Jean Taylor, Prattville, AL
Red Mountain Timber Co. 1 LLC, c/o Real Estate Dept., Prattville, AL
Susan M Cook & William Scott Missildine, Prattville, AL
Sylvia Carter, Prattville, AL
W. R. Missildine, Prattville, AL
William Scott Missildine, Prattville, AL
Candace K & Basil Phil Harley, Rockford, AL
Ivor D & Rochelle Smith, Rockford, AL
Alma O Dunlap, Rockford, AL
Annie Lee Ward, Rockford, AL
Annise Brown, Rockford, AL
Basil Phil & Candace K. Harley, Rockford, AL
Bridgit Graham, Rockford, AL
Byron Jr & Dorot Hughes, Rockford, AL
Christopher D Hanna, Rockford, AL
Coosada Land Company Inc., Rockford, AL
Freddie Traylor, Rockford, AL
Gary C & Florine I Linkous, Rockford, AL
Gilbert & Donna Summerlin, Rockford, AL
Grady & Marion Robin Thornton, Rockford, AL
Jerry Keith & Lori H Bullard, Rockford, AL
Jerry L & Elizabeth Bullard, Rockford, AL
Joel D & Melanie J Glover, Rockford, AL
John Kelley & Linda Johnson, Rockford, AL
John Kelley Johnson, Rockford, AL
John R III & Donna J Miller, Rockford, AL
Keith Varden, Rockford, AL
Kitami Yukishia, Rockford, AL
Larry G. & Linda C. Taylor, Rockford, AL
Margie W Mcdaniel, Rockford, AL
Miles P & Sherry Heath, Rockford, AL
Patsy B Johnston, Rockford, AL
R E & S E Prater, Rockford, AL
Ralph E Burton, Rockford, AL
Randy Spivey, Rockford, AL
Robert D & Kerry K Bulger, Rockford, AL
Mr. and Mrs. Robert Wyndall Heath, Rockford, AL
Stephen Tammy & Barbara Prater, Rockford, AL
Terry L & Randy Jo Wilson, Rockford, AL
William H. & Diane B. Mitchell, Rockford, AL
James W. & Rachael C. Pendley, Rogersville, AL
Barbara D. Crum, Salem, AL
Barry Gullatt & Theresa Gullatt, Salem, AL
Ben Kacer, Salem, AL
Benjamin Franklin Thomas III, Salem, AL
Berry C. Dudley & John Robert Dudley, Salem, AL
Board of Deacons of the Pleasant Grove Baptist Church, Salem, AL
Buford Burke, Salem, AL
Carolyn Gibbons & Dawn Gibbons & Dona Gibbons, Salem, AL
Cassandra Moore, Salem, AL
Charles Randy Flournoy, Salem, AL
Charles Waters Gilmer Jr., Salem, AL
Cynthia Kay, Salem, AL
David S Underwood & Marion R Underwood, Salem, AL
Delores M. Butts & Gregory D. Butts, Salem, AL
Dennis Malloy & Linda Malloy, Salem, AL

Dudley Lumber Company, Inc., Salem, AL
Earl Gullatte, Salem, AL
Eric M. Hooper, Inc., Salem, AL
Grady E. Flournoy, Salem, AL
Gullatte Partnership #2, LTD, Salem, AL
Gullatte Partnership #3, LTD, Salem, AL
Harrison Bryce & Peggy H. Bryce, Salem, AL
Jamie K Wampler & Samuel A Wampler, Salem, AL
Jan M Pickren & Larry Pickren, Salem, AL
Jimmy Hardee Malloy, Salem, AL
Jodi Harris & Travis Harris, Salem, AL
Jody C Nelson & Myron A Nelson Jr., Salem, AL
Lloyd P. Albert & Roosevelt A. Albert III, Salem, AL
Lora Jones & Neil Harold Jones, Salem, AL
Margie H Smith & Randy L Smith, Salem, AL
Martha C. Brown, Salem, AL
Mortgage Electronic Registration, Salem, AL
Owen Wesley II, Salem, AL
Patricia Elizabeth Heilman, Salem, AL
Peggy Newsome, Salem, AL
Priscilla Moffett, Salem, AL
Rachel Baker, Salem, AL
Richard Basiliere & Weleeta Basiliere, Salem, AL
Robert Edwin Gullatte Jr., Salem, AL
Robert Love Moffett & Mary D. Smith-Moffett, Salem, AL
Shirley Buckelew & Thomas Buckelew, Salem, AL
Timothy Redmond, Salem, AL
James William Carter, Sardis, AL
Mary Lou Wonder, Satsuma, AL
Adlynn Loy Fish & Robert Lee Fish, Seale, AL
Adrian J. Lyles, Seale, AL
Alan Turner, Seale, AL
Albert O. Howard Jr. & Melanie P. Howard, Seale, AL
Ann Robinson & Ross E Robinson Jr., Seale, AL
Anthony Didonato, Seale, AL
Arrina Wright, Seale, AL
Arrowhead Farms, LLLP, Seale, AL
Bernard Griggs & Patricia Griggs, Seale, AL
Brenda Faye Johnson Matthews, Seale, AL
Bruce Strucken & Veronica Strucken, Seale, AL
Callie Johnson, Seale, AL
Caroline Walton, Seale, AL
Carolyn McCoy Player, Seale, AL
Charles F McGuffey & Mary Lucy McGuffey, Seale, AL
Charles R. Lynn Jr., Seale, AL
Charlie Woods & Toney Woods, Seale, AL
Cherry Jones & Mathew Jones, Seale, AL
Chevy Carnley, Seale, AL
Curtis Elias & Frank Elias Jr. & Joesphus Elias, Seale, AL
Cynthia Mains & Mark Mains, Seale, AL
Dana Ward & Scott Ward, Seale, AL
Deborah Guthrie, Seale, AL
Della J Wiggins & Harry Wiggins, Seale, AL
Don Taylor & Elizabeth Taylor, Seale, AL
Donna W Stokes & Steven E Stokes, Seale, AL
Donna Wilson, Seale, AL
Dorothy E Vaught & Greg Vaught, Seale, AL
Edward Toliver, Seale, AL
Elizabeth Ann Grant & General Grant, Seale, AL
Ellery Stewart, Seale, AL
Ethel Ivey, Seale, AL
Eula Hudson & Gwendolyn McCoy Hudson & Richard Hudson Jr., Seale, AL
Heath Davis & Kathy Jo Davis, Seale, AL
Howard Lowe & Murdis T Lowe, Seale, AL
James Mark Leverett, Seale, AL
Jeanette Lewis, Seale, AL
Jeff Faircloth, Seale, AL
Jerline T. Mitchell, Seale, AL
John Bloszies & Linda Bloszies, Seale, AL
Johnny Williams, Seale, AL
Larry Davis & Sherry Davis, Seale, AL
Leon Messer, Seale, AL
Mary May, Seale, AL
Mary McCoy, Seale, AL
Michael Escott & Traiema J. Escott, Seale, AL
Michael Riley, Seale, AL
Millicent Belrose, Seale, AL
Nancy K. Reid, Seale, AL
Norman S Luton Jr., Seale, AL
Omer E. Smith Jr. & Shana M. Smith, Seale, AL
Patricia McKinney & Richard A McKinney Jr., Seale, AL
Pattina Riley, Seale, AL
Rhonda R Folmar & Rodger L Folmar, Seale, AL
Richard Knapp, Seale, AL
Ronnie E Reeves, Seale, AL
Russell County Road Dept, Seale, AL
Taylor Farms of Russell County, LLLP, Seale, AL

Terri Cameron, Seale, AL
Terry Dean Newman, Seale, AL
Tonya Harris, Seale, AL
Verner Millirons, Seale, AL
W.G. Faulk, Seale, AL
Charles R. & Elizabeth Pendley, Selma, AL
E.S. Miller, Selma, AL
Gloria H. Chance, Selma, AL
Wanda W. Chance, Selma, AL
Kenneth Bohannon, Semmes, AL
South Alabama Land & Timber Company Inc., Silas, AL
Michael Forbes, Smiths Station, AL
Summer Alice Hardy, Smiths Station, AL
Mark Land, Sulligent, AL
Shirley Radcliffe Estate, c/o Sybil Rogers, Sweet Water, AL
Sybil rogers (Shirley Radcliffe est. c/o Sybil Rogers), Sweetwater, AL
Edna Jones McCain, Sylacauga, AL
Janice & Alton L Hendon, Sylacauga, AL
Mary Elizabeth Mitchel Estate Attn: Mary Henrickson, Sylacauga, AL
Philip S & Patrenia B Collins, Sylacauga, AL
Robert Musick (Presley Orville Estate), Sylacauga, AL
Suphronia Guinn, Sylacauga, AL
Carolyn Moore (Moore Carolyn Life Est c/o Delta Properties), Tallassee, AL
Elaine Thornton, Tallassee, AL
Jonathan Gale, Thorsby, AL
Mason D. Brown, Troy, AL
Donald R. Groves, Tuscaloosa, AL
Janet Phillips, Tuskegee, AL
Marilyn McCoy Player, Tuskegee, AL
Chattahoochee Valley Historical Society, Inc., Valley, AL
James Simms, Valley, AL
Jeanne Anderson, Valley, AL
Joe Rudd & Lou Ann Rudd, Valley, AL
John M Riley II, Valley, AL
Anne Seery Thomas, Valley Grande, AL
Bobby w & Karen F Cagle, Verbena, AL
Jeanette Burdette, Verbena, AL
Annette Michelle and Joe G. Holley, Verbena, AL
Betty F Aldridge, Verbena, AL
Carlis A Jr Shaw, Verbena, AL
Corinth Missionary Baptist, Verbena, AL
Dianna and Keith Loftis, Verbena, AL
Donald Ray & Sherry H Traywick, Verbena, AL
Doug & Debra Price, Verbena, AL
Elaine Boddie, Verbena, AL
Elzie Sanders, Verbena, AL
Ferrell W. & Flora Mae Price, Verbena, AL
Gary Wayne Sanders, Verbena, AL
Henry and Audrea Moore, Verbena, AL
James & Lois Collins, Verbena, AL
Lawrence Jones, Verbena, AL
Linda G Chandler, Verbena, AL
Marian Winters (Mary Williams Estate), Verbena, AL
Michael W Nabors & Ann N Ingram, Verbena, AL
Thomas & Lisa A Mattox, Verbena, AL
Thomas T & Shelia A Acreman, Verbena, AL
Tommy Alan Robbins, Verbena, AL
Tony Emfinger c/o Travis Emfinger, Verbena, AL
Vicki P Wilkins and Tim & Jennifer Gilliand C/o Jennifer D Gilliand, Verbena, AL
Wilbur & Donna Deloris Gore, Verbena, AL
Orr Properties, L.L.C., Vestavia Hills, AL
Dianne Bruce, Waverly, AL
James Moore & Shelia C Moore, Waverly, AL
Joe R Robertson Jr., Waverly, AL
Samford Real Estate Holdings, LLC, Waverly, AL
Thomas Black, Waverly, AL
Martha Messer, Wedowee, AL
Michelle Boston, Wetumpka, AL
Don A & Marie Gilliland, Wetumpka, AL
George Flournoy, Wetumpka, AL
Nancy Darl And Randell C. Faust, Wetumpka, AL
Black Belt African-American Genealogical and Historical Society, Selma, AL
Stephen J. Fox, LLC - undivided 1/2 interest and Sandra R. Fox, LLC - undivided 1/2 interest, Corning, AR
A.D. Roberts & Jannie Roberts, Fayetteville, AR
Okapilco Farms, LLC, Little Rock, AR
Shirley A Elmore Holmes, Little Rock, AR
The Windermere, c/o Real Estate Dept., Magnolia, AR
Barlem Corporation, Fountain Hills, AZ
Daniel P. Hays, Prescott, AZ
NHC-FL 126, LLC, Scottsdale, AZ
Walton Acquisitions FL, LLC, Scottsdale, AZ
Elizabeth Robbins, Sedona, AZ
Ram K Chillar & Rakesh Chillar, Newport Coast, CA

The Tan Family Trust, Arcadia, CA
Hopkins Trust, Auburn, CA
Carol Ann Whelan and Jean M. McAfee, Campbell, CA
Eddie Chien Lu, Campbell, CA
Mary L. Martin, Citrus Heights, CA
Barry M Asher, Costa Mesa, CA
Jonathan G Watkins, Encinitas, CA
Worldwide Homes, LLC, Encinitas, CA
Amy Sun & Hilda Sun & Joseph Sun & Peter Sun & Teresa Sun, Freemont, CA
Sally E. Cuthbert, Fullerton, CA
Christopher Nguyen, Garden Grove, CA
Jackson Hung Hsiu Tan, Hacienda Heights, CA
Freda K Cheung & Violet K Wong, Laguna Woods, CA
James W. Plowden, Los Angeles, CA
Kabbalah Centre of Florida, Inc., Los Angeles, CA
Rejer Investment, Co., Maywood, CA
Enrique J Alejo & Enrique M Alejo & John Alejo & Randy Alejo & Randy B Alejo, Moorpark, CA
Herbert J. Curry and Rosemary Curry, North Fork, CA
Janet Catherine Ryan et al, Ocean Side, CA
RJ Property Investments LLC, Rancho Santa Fe, CA
Vaughn Trust, Redondo Beach, CA
Bogdan Tkachuk, Sacramento, CA
Jamila Michelle Sims-Adams, Sacramento, CA
Nguyen Dinh Nguyen, San Diego, CA
Joyce Wei, San Francisco, CA
Jose Teruel, Santa Rosa, CA
Maria Ramos, Santa Rosa, CA
Anna Milrud, Sherman Oaks, CA
Windsor Mortgage Holdings Limited, LLC, Sherman Oaks, CA
Dinah C Wong & Heng I Chao, South Pasadena, CA
Lulu S H Tan & Michael Hung Yen Tan, Temple City, CA
Francis Yong & Irene Yong, Torrance, CA
Auhin M Bagchee, Watsonville, CA
Bel Air G, LTD., Westlake Village, CA
Terry Knight, Niwot, CO
Hyperion Communications of Florida LLC, Broomfield, CO
Hyperion Communications of Florida LLC, c/o Telcove Long Haul, L.P. - Property Tax Division, Broomfield, CO
Level 3 Communications, c/o Real Estate Dept., Broomfield, CO
William M. Turner, Castle Rock, CO
Harper C. Daniels, Colorado Springs, CO
Mark H Fletcher & Nan S Fletcher, Colorado Springs, CO
Michael Hamilton, Englewood, CO
Walter G Fritzlan & William W Fritzlan, Grand Junction, CO
Michele Cerquozzi, Lake George, CO
Gina L. Bumbalough & Thomas E. Bumbalough Sr., Littleton, CO
Betty L Bartok & Joseph C Bartok, Ashford, CT
Patricia A Depelteau, Bethel, CT
Christopher J Wolf & Elaine C Wolf, Gastonbury, CT
Thomas P. Peterffy Amended and Restated Revocable Trust, Greenwich, CT
FD Destiny Credit, LLC, Milford, CT
Chuovy Lisa Son & Leng Nhip Keo, North Haven, CT
Marilyn M Maruschak & Stephen Maruschak, Sandy Hook, CT
DAM Tapestry, LLC, Southport, CT
Beverly Johnson & Mervin B Johnson, Stamford, CT
Carolyn Elefant, PPLC, Law Offices of Carolyn Elefant, Washington, DC
GTD Properties, LLC, Camden, DE
Henry Bell and Bernice Bell, Milton, DE
Stephen A Chopko, Newark, DE
7L Capital, LLC, Wilmington, DE
James D Shelley Jr. & Barbara E Shelley, Apopka, FL
Juliella Cooper Owens, Avon Park, FL
Karen J Wold Serrano, Clearwater, FL
Angela Kristen Stacy, Davenport, FL
Awildo Diaz, Davenport, FL
Benjamin Blanco Delgodo, Davenport, FL
Carl Adam Shutt, Davenport, FL
Carmen T Claudio & Carmelo Diaz, Davenport, FL
Carol Grimes, Davenport, FL
Charles G Glueck Jr., Davenport, FL
Darlene Irwin, Davenport, FL
David A Frederick, Davenport, FL
David Spencer & Cheryl Ann Spencer, Davenport, FL
Donald C Wilson & Carol Ann Wilson, Davenport, FL
Eleanor A Rauch, Davenport, FL

Emilia Cummings, Davenport, FL
Florence C Imler, Davenport, FL
Franklin Olivas, Davenport, FL
Henry H Lamb & Billie Jean Leisenring, Davenport, FL
James H. Appleton, Jr. Estate, Davenport, FL
James R Grupy, Davenport, FL
Jennifer Barbarito & Jamel Logan Sr., Davenport, FL
Joseph Charles, Davenport, FL
June A Voss & John K Voss, Davenport, FL
June M Bork & Dale A Bork, Davenport, FL
Karen A Maclean & John W Maclean, Davenport, FL
Katherine Boyle & Dudley A Boyle, Davenport, FL
Kristen Lake Properties, Inc., Davenport, FL
Linda E Gammon, Davenport, FL
Linda Lontz & John Lontz, Davenport, FL
Magali Hernandez, Davenport, FL
Maria D Emba, Davenport, FL
Maria E Mapes, Davenport, FL
Mary Y Williams & James O Williams, Davenport, FL
Michael Joseph Long, Davenport, FL
Michael T Imler & Melissa A Imler, Davenport, FL
Monique J Stacey & Donald J Stacey, Davenport, FL
Nicholas S Appleton, Davenport, FL
Norman Craig & Deborah Craig, Davenport, FL
Paul Robert, Davenport, FL
Phyllis Rose & John H Rose, Davenport, FL
Raymond G Freehauf & Donna L Freehauf, Davenport, FL
Ronald T Jordan & Christine Jordan, Davenport, FL
Sammy H Rassaouani, Davenport, FL
Shao Vang Khang & Nao Tou Khang, Davenport, FL
Sharon J Oxley, Davenport, FL
Stephen Heck, Davenport, FL
Susan C Spitzer & Robert Armentano, Davenport, FL
Tamara Huff, Davenport, FL
Timothy Baker, Davenport, FL
Tony E Calhoon, Davenport, FL
Vicky Hussey & Chad Hussey, Davenport, FL
Wm N R Parent & Leticia Z Parent, Davenport, FL
Martin Romero, Groveland, FL
Danny C Potter, Haines City, FL
Mercedes C Diaz, Luis A Diaz, Maritza Diaz, & Delio Jimenez, Hialeah, FL
Keith L Boettger & Gail M Boettger, Howey In The Hills, FL
Edward Lee Lively, Intercession City, FL
Patricia S Masters, Intercession City, FL
Robin L Hughes & John M Hughes, Intercession City, FL
Catel Land Trust, Kissimmee, FL
E-Estate, LLC, Kissimmee, FL
Glen H Davis, Kissimmee, FL
Heather A Johnston & David J Johnston, & Dean Baldwin, Kissimmee, FL
Ismael R Delgado & Anneris L Delgado, Kissimmee, FL
Joann Hartsell & Edward T Leone, Kissimmee, FL
Juan C Santos, Kissimmee, FL
Karran Persaud & Dhanmattie Persaud, Kissimmee, FL
Leonard Santiago & Brenda Cruz, Kissimmee, FL
Linda Davis & Allen Davis, Kissimmee, FL
Linda J Davis & Hubert Allen Davis, Kissimmee, FL
LJ Management, LLC, Kissimmee, FL
Martha Aguilar & Leonidas Aguilar, Kissimmee, FL
Michael W Davis & Lisa G Davis, Kissimmee, FL
Michele Giguere & Damien A Giguere, Kissimmee, FL
Ramon Hernandez & Opal Dean Hernandez, Kissimmee, FL
Raul Segarra, Kissimmee, FL
Rene B Lara, Kissimmee, FL
Uzma Kausar & Shakil Akhtar Khan, Kissimmee, FL
Vinod Sujanani, Kissimmee, FL
Janice R Roberts, Lakeland, FL
Joseph A King, Lakeland, FL
James D Jones, Loughman, FL
Robert Mercado, Loughman, FL
Emily K McClinsey, Minneola, FL
Fadoua Kasmein Loudiyi & Chaouki Loudiyi, Orlando, FL
Jacqueline E Green, Orlando, FL
Jose Jimenez & Diana Zayas De Jimenez, Port St. Lucie, FL
Joe Dipola, Saint Cloud, FL

Colfin AI FL 2, LLC, Suite 125, FL
George Pousa, Winter Haven, FL
Annie H Sims & Henry M Sims, Alachua, FL
Elaine G. Sauerman, Alachua, FL
Madison Timberlands, Inc., Alachua, FL
Northern Alachua Holdings, LLC, Alachua, FL
Steven M Nadler, Alachua, FL
W. J. Aderholt Jr., Alachua, FL
Chou Keomanychanh and Jan Phet, Altamonte Springs, FL
Hugh Harling, Exec. Director, East Central Florida Regional Planning Council, Altamonte Springs, FL
Nature Conservancy - Florida, Altamonte Springs, FL
Tara McCue, Director of Planning and Community Devleopment, East Central Florida Regional Planning Council, Altamonte Springs, FL
Dan Tansmeire, Apalachicola Riverkeeper, Apalachicola, FL
Hanh Shanahan & Sean Shanahan, Apollo Beach, FL
Stephen Jones, Landowner Consulting, Apollo Beach, FL
Steve Jones, Land Owner Consulting, Inc, Apollo Beach, FL
Florida Northern Railroad, Apopka, FL
Bobby Ray Triplett & Judith S Triplett, Archer, FL
James C. Willingham III & Joy P. Willingham, Archer, FL
Beverly Gatton & Thomas E Gatton, Astatula, FL
Blue Bar Properties III, LLC, Auburndale, FL
Brian Beasley, B Beasley Prop Serv Inc, Auburndale, FL
Donald O. Knapp Revocable Living Trust, Auburndale, FL
Judith L Wilkerson, Auburndale, FL
Timothy P. O'Gorman, et al., Auburndale, FL
Eileen Schechter & Richard Schechter, Aventura, FL
Ella III, LLC, Aventura, FL
Felix Tennenbaum, Herman Tennenbaum & Lilly Lewis, Aventura, FL
William Kracer, Aventura, FL
Winder VI LLC, Aventura, FL
Bassett Groves, Inc., Babson Park, FL
Langford Services, Inc., Babson Park, FL
Ray L. Bassett, Babson Park, FL
Thomas Spiker, Babson Park, FL
Jennifer Codo-Salisbury, MPA, AICP, Planning Director, Central Florida Regional Planning Council, Bartow, FL
Polk County, Bartow, FL
State of Florida Department of Transportation, Bartow, FL
TMR FAM, LLC, Bartow, FL
Anita L. Moore & David L. Moore, Bell, FL
Barbara A. Langford & Larry A. Langford, Bell, FL
Betty J. Shepherd & Nathan Shepherd, Bell, FL
Billy C. Long & Earlene Long, Bell, FL
Brandon J. Hendrix & Schalene S. Hendrix, Bell, FL
Bruce D. Maurer & Susan E. Maurer, Bell, FL
Bruce E. Thomas Sr. & Dan C. Thomas & John R. Thomas & Ray E. Thomas Jr., Bell, FL
Carol Lawson & Gina Leggett & Lena Legget & Nan Leggett O'Steen, Bell, FL
Cindy W. Moore & Kenneth L. Moore, Bell, FL
Dale E. Chauncey & Dean E. Chauncey & Mark E. Chauncey Jr. & Martha E. Chauncey & Belinda S. Blair, Bell, FL
Deborah M. Deleonardo & Joseph Gerard Deleonardo, Bell, FL
Dennis P. Baldi & Elaine W. Baldi, Bell, FL
Diamond 99 Inc., Bell, FL
Earline Philman & I.J. Philman, Bell, FL
Eric Glenn Molzen & Jennifer Molzen, Bell, FL
Esperanza Smith & Mark D. Smith, Bell, FL
Geneva B. Shannon & Laurence P. Shannon, Bell, FL
Gilchrist County Road Department, Bell, FL
Gilchrist County, Florida, Bell, FL
Heath Hart & Janelle Hart, Bell, FL
Heather M. Class, Richard A. Felmey, Bell, FL
Janet L. Bass & Thomas G. Bass, Bell, FL
Jesse R. Moore, Bell, FL
Joanna Thomas & Ray E. Thomas, Bell, FL
John M. Chastain & Susan R. Chastain, Bell, FL
Keith L. Philman & Linda F. Philman, Bell, FL
Kelly Philman, Bell, FL
Kenneth R. McMillen & Sandra K. McMillen, Bell, FL
L.R. Thomas, Inc., Bell, FL
Linda Dee Walker, Bell, FL
Lisa A Brito, Bell, FL
Marjorie A. Dunkelberger, Bell, FL
Michael E. Cherry, Bell, FL
Michael E. Cherry, Michael McDougal, Bell, FL

Michael McDougal, Bell, FL
Peggy Diane Boke, Bell, FL
Penny L. Fason, Bell, FL
Robert William Wootters, Bell, FL
Ron Baker & Roseanne M. Baker, Bell, FL
Ronald D Smith & Lana V. Smith, Bell, FL
Thomas L. Vail, Bell, FL
Vanaernam Timber Management, Bell, FL
Wayne Stacy Brock II, Bell, FL
William L Smith, Bell, FL
Peter D Madison, Belle Isle, FL
Jocalbro Inc. Profit Sharing Plan Trust, Belleview, FL
Nyla Peterson Wilson, Belleview, FL
The Boatright Family Revocable Trust, Belleview, FL
Leela Purugulla & Murahari R Purugulla, Beverly Hilla, FL
Citrus Builder Owner Corp, Beverly Hills, FL
David Pollard, Beverly Hills, FL
Robert L Sorrell, Beverly Hills, FL
Susan Mary Thielmann-Gamache, Beverly Hills, FL
Alberto Luchtan, Boca Raton, FL
Alderman Holdings, LLLP, Boca Raton, FL
Alvaro M Gurdian, Boca Raton, FL
Andre Benoit & Manon Benoit, Boca Raton, FL
Brian G Rubin, Boca Raton, FL
Christine V. Sapan Trust, Boca Raton, FL
Clean Water Action, Boca Raton, FL
Loucilia Laguerre & Michael Laguerre, Boca Raton, FL
MLR Florida, LLC, Boca Raton, FL
Nir Mordechay, Boca Raton, FL
REO Partners, Inc., Boca Raton, FL
William F Potter, Bonita Springs, FL
Alfred Smith & Monique Smith, Boynton Beach, FL
Beverly Mowatt, Boynton Beach, FL
Robert R. Rickerd & Sharon S. Rickerd, Bradenton, FL
Sumter, LLC, Bradenton, FL
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Jerry Thompson & Sheila Thompson, Champions Gate, FL
Sebasitan Mascaro, President, Happy Trails Property Owners Association, Champions Gate, FL
Sebastian Mascaro, Happy Trails POA, Champions Gate, FL
Hamlets HOA, Championsgate, FL
Highgate Park Homeowners' Association, Inc., Championsgate, FL
The Hamlets Owner Association, Inc., Championsgate, FL
Florida Department of Transportation, Chiefland, FL
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Nisha Saxena, Clermont, FL
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Smoak Family Limited Partnership, Clermont, FL
Wellington Homeowners Association of Polk County, Inc., Clermont, FL
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Mary A. Padgett Estate, Crystal River, FL
Moonbug, LLC, Crystal River, FL
Ralph E. Oesterle, II Living Trust Agreement, Crystal River, FL
Ramona Stanford & Toby Stanford, Crystal River, FL
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Russell P Lee, Crystal River, FL
Shamrock Industrial Park, Inc., Crystal River, FL
Waldron Family Trust, Crystal River, FL
Lorie S Larson & Judy Lynn Smith, Cutler Bay, FL
Smith Joint Trust, Cutler Bay, FL
Wilson Smith, Cutler Bay, FL
Boyett Land, Inc., Dade City, FL
Paul Novitch, Dania, FL
Richard A Loury & Mary Loury, Dania, FL
21 Palms RV Resort, Inc., Davenport, FL
345 Meadow Green Dr. Trust, Davenport, FL
Adames Luz M Ramirez & Julian A Rolan Guerrero, Davenport, FL
Ahilya Mattow and Chandrawati Maraj, Davenport, FL
Aldonso Jefferson and Estate of Ethel Sharp, Davenport, FL
Ana E Lozano & Elio Fabio Lozano, Davenport, FL
Andrew Bass & Mandy Bass, Davenport, FL
Ann K Clarke, Davenport, FL
Applied Building Development Company, Davenport, FL
Applied Building Development Company - Oakhills, Inc., Davenport, FL
Boris Lazano, Davenport, FL
Breann Nichole Shearer, Davenport, FL
Candido Rodriguez, Davenport, FL
Charles Giordano, Davenport, FL
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Diana and Jeremy Petras, Davenport, FL
Dominick Marco Moschetto and Shawna David, Davenport, FL
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Elouise Shepherd, Davenport, FL
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Iasonas Enterprises, Inc., Davenport, FL
James A Oros & Lynnette I Oros, Davenport, FL
Jean Parker, Davenport, FL
Jeremy Petras & Diana Miller, Davenport, FL
Jerry Thompson, Davenport, FL
Joseph J White & Lynn C McLennan, Davenport, FL
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Mary Gressett-Chappin, Davenport, FL
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Michael B. Swain, Davenport, FL
Mirianthi Investment Group, LLC, Davenport, FL
Mohamed Alli, et al., Davenport, FL
Nabu Rodriguez and Becky A. Velez, Davenport, FL
Nancy E. Walker, Davenport, FL
Nikki L Lindgren & Richard F Lindgren, Davenport, FL
Osvaldo Pernas & Yanara Perez, Davenport, FL
Polk Investment, LLC, Davenport, FL
Richard D Miller & Richard Joseph Miller, Davenport, FL
Rito J. Romero, Davenport, FL
Robert Freiburger and Teresa Freiburger, Davenport, FL
Sandhill Groves, LLC, Davenport, FL
Standard Sand and Silica Company, Davenport, FL
Wiley U. Pridgen, Davenport, FL
Zebra Connect Realty LLC, Davenport, FL
Carroll Ray Anderson Revocable Trust, Davie, FL
Hanford Hernandez, Davie, FL

Michael Seegers, Davie, FL
United Vision Ventures, LLC, Davie, FL
Jesse W. Thompson, Dawsonville, FL
ICI Orlando Residential Holding, LLC, Daytona Beach, FL
Lillian M. Williams, Daytona Beach, FL
Alina T. Fletcher & Patrick C. Fletcher, Debary, FL
Bereather Williams, Delray Beach, FL
Daniel A Pappas & Robert A Pappas & Elizabeth DePauw, Delray Beach, FL
Lorene B. Shell Trust, Delray Beach, FL
Sanchelima Dairy Farms, Inc., Doral, FL
Co-Operative Enterprises, Inc., Dundee, FL
Ellery Brice Farmer (Buyer in Agreement for Deed), Barbara Louise Vaughn Hunter (Title Holder), Dundee, FL
Ellery Brice Farmer and Nicole Farmer, Dundee, FL
Mary L. Farmer, Dundee, FL
Miss Hazel Citrus, Inc., Dundee, FL
Nim Lithuel, LLC, Dundee, FL
Terry Arnold and Sonndra F. Arnold, Dundee, FL
Washita Land, Inc., Dundee, FL
Aaron Stacy, Dunnellon, FL
Alan T Olbrich & Richard K Trumphour, Dunnellon, FL
Alisha D Gordon, Dunnellon, FL
Allen A. Heine, Dunnellon, FL
Alton L Wright & Judith L Wright, Dunnellon, FL
Anita M Black & James A. Black Sr., Dunnellon, FL
Antony T. Barrios, Dunnellon, FL
Arbor Springs Properties, LLC, Dunnellon, FL
August W. Moser & Christina M. Moser, Dunnellon, FL
Barbara Meisenholder & Joseph L Meisenholder & Louetta Hartigan, Dunnellon, FL
Becky L. Hughes & Ernest T. Hughes, Dunnellon, FL
Beverly E Sutton & Richard E Sutton, Dunnellon, FL
Billy W Todd, Dunnellon, FL
C. A Nilson, Dunnellon, FL
Carol A. Maiille & Ronald Maiille, Dunnellon, FL
Carol Griffith, Spruce Creek Preserve, Dunnellon, FL
Cedar Grove Ministries, Inc., Dunnellon, FL
Charles Cerase & Melonie Howard, Dunnellon, FL
David M Brooks & Lisa Brooks, Dunnellon, FL
David Newman & Pamela S Newman, Dunnellon, FL
David P. Houseknecht & Paula M Houseknecht, Dunnellon, FL
David Richard Bond & Karen Sue Bond, Dunnellon, FL
Deborah M Powell & Leonard V Powell, Dunnellon, FL
Debra D. Faurote & Lonnie R. Faurote, Dunnellon, FL
Dennis L Jennings & Wanda K Jennings, Dunnellon, FL
Dennis W Ross & Phyllis L Ross, Dunnellon, FL
Donald C Affelder & Mary Ruth Dobnikar, Dunnellon, FL
Donald R. Allender & Geraldine Allender, Dunnellon, FL
Doris June Ellis, Dunnellon, FL
Edna M. Fowler & John A. Fowler, Dunnellon, FL
Edward M Stone, Dunnellon, FL
Ernest Granke & Winina Granke, Dunnellon, FL
Eugene Clarence Roberts, Dunnellon, FL
Frank Gunter Jr., Dunnellon, FL
Gail David, Dunnellon, FL
Garry L. Wilson, Dunnellon, FL
Gary Rose & Yvonne J Rose, Dunnellon, FL
Gerald T Martin & Mary L Martin, Dunnellon, FL
Glen Pilcher, Dunnellon, FL
J. Thomas Jordan & Mary Lou Jordan, Dunnellon, FL
James F Buchanan & Mary L Buchanan, Dunnellon, FL
James H. Lybass, Jr. Family, LLC & Tillinghast G. Lybass Limited Partnership & Oregon E. Lybass, Dunnellon, FL
James J Guidice Jr., Dunnellon, FL
James R Keller, Dunnellon, FL
Jeanette Petley, Dunnellon, FL
Jennifer J. Johnson, Dunnellon, FL
John Wilchynski & Roseanna Ceniceros, Dunnellon, FL
Jonathan Brainard, Dunnellon, FL
Jr Nowling & Lydia A Nowling & William R Nowling, Dunnellon, FL

Judith W. Piche & Rene A. Piche, Dunnellon, FL
K5G, LLC, Dunnellon, FL
Karl Kurt Voorhese, Dunnellon, FL
Kathleen A. Craig & Robert R. Craig, Dunnellon, FL
Kathy L Caudill & Sylvia W Caudill, Dunnellon, FL
Kelly Marie David & Kenneth M David, Dunnellon, FL
Kurt L. Sundberg, Dunnellon, FL
Long Family Trust, Dunnellon, FL
M. Robert Rubin, Dunnellon, FL
Mable M. Mellott, Dunnellon, FL
Mark Howard & Stephanie Phillips, Dunnellon, FL
Mary Sky, Dunnellon, FL
Matthew J Dombrowski & Nadia Dombrowski, Dunnellon, FL
Michael B Ramos & Robin Ramos, Dunnellon, FL
Michael M. Park, Dunnellon, FL
Michelle Pasteur, Dunnellon, FL
Myron Speigle & Sherry L. Speigle, Dunnellon, FL
Nancy F Blanton, Dunnellon, FL
Philip M Upright, Dunnellon, FL
Phyllis S Loury & Thomas N Loury, Dunnellon, FL
Randy Cousino, Dunnellon, FL
Richard A. Catt & Yvonne M. Catt, Dunnellon, FL
Robert Bruce Johnson, Dunnellon, FL
Robert C Scharet & Tammy L Scharet, Dunnellon, FL
Russell T. Perrin, Dunnellon, FL
Sandra Marraffino, Dunnellon, FL
Steven E Tallman, Dunnellon, FL
Susan J Morgillo, Dunnellon, FL
The Heirs of the Estate of Frank Verity & Gary L. Nero & Nancy M. Nero, Dunnellon, FL
Theodore R. Linne III & Sarah Jo Linne, Dunnellon, FL
Thomas Craig Reese & Kellie A Turcotte, Dunnellon, FL
Timothy C. Lawler, Dunnellon, FL
Tom Bognetti, Dunnellon, FL
Tricia L Miller & William T Miller, Dunnellon, FL
Wayne E. Loy & Jeri Loy, Trustees of The Wayne E. Loy & Jeri L. Loy Joint Living Trust, Dunnellon, FL
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William Wilson, Dunnellon, FL
Willis R. Howell & Bette J. Howell Revocable Trust, Dunnellon, FL
Winston O. Britt & Betty H. Britt Revocable Trust, Dunnellon, FL
M & J Lands, LLC, Eagle Lake, FL
Susan M. Lescenski, Ellenton, FL
Huguette V Ventre, Estero, FL
Jane Nogaki, Clean Water Action, Fanning Springs, FL
8G Farms, LLC, Floral City, FL
Duval Farms, LLC, Floral City, FL
Marsha D Stevenson, Floral City, FL
W.M. Gilmore, Floral City, FL
Arlie J. Garrett, Fort Lauderdale, FL
BCF, LLC, Fort Lauderdale, FL
Florida State Turnpike Authority, Fort Lauderdale, FL
Gertie Block & Irwin Block, Fort Lauderdale, FL
Hudson Capital Group, Inc., Fort Lauderdale, FL
Jason Mason & Sheila Mason, Fort Lauderdale, FL
Jean Carol Jeffrey, Fort Lauderdale, FL
Johan Malary, Fort Lauderdale, FL
MMF, LLC 2, Fort Lauderdale, FL
Osceola Development Inc., c/o George R. Moraitis, Fort Lauderdale, FL
Rona Beth Gigliotti, Fort Lauderdale, FL
Sonia Lewis Bryham, Fort Lauderdale, FL
State of Florida Department of Transportation, Fort Lauderdale, FL
W.D. Land Company, c/o W. George Allen, Fort Lauderdale, FL
Yvon Georges, Fort Lauderdale, FL
Zeca Management, LLC, Fort Lauderdale, FL
Steffan Holdings, III LLC, Fort Myers, FL
5M Pioneer Properties LLC, Fort Pierce, FL
Adams Ranch, Inc., Fort Pierce, FL
Bull Head Ranch, Inc., Fort Pierce, FL
Estate of Sam and Lula M. Sirmons, Fort Pierce, FL
Feroz Ali & Aamir A Chagani, Fort Pierce, FL
Greenberg Cattle & Citrus, Inc., Fort Pierce, FL
James R. Turner, Fort Pierce, FL

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Roger C. Jacobson, Fort Pierce, FL
Ru-Mar, Inc., Fort Pierce, FL
Sandscrub, LLC, Fort Pierce, FL
Sherwood Johnson and Son Grove Management, Inc., Fort Pierce, FL
St. Lucie County, Fort Pierce, FL
Karen Mullins, Fort White, FL
Laura Dailey, Fort White, FL
Merrillee Malwitz-Jipson, President, Our Santa Fe River, Inc., Fort White, FL
734 LMC Groves, LLC, a Florida limited liability company, Frostproof, FL
Triple S Ranch, Inc., Ft. Pierce, FL
Christine L. Pogonovich, Ft. White, FL
Dehomey Agrippa, Ft. White, FL
James Tatum, Ft. White, FL
Alachua County Public Works Department, Gainesville, FL
Carl P. Turlington & Muriel W. Turlington Inter Vivos Joint Trust, Gainesville, FL
Carolyn F. Mikell, Gainesville, FL
Clarence Walter Weise, Gainesville, FL
Clyde Bass Family Limited Partnership, Gainesville, FL
Coastal Woodlands, LLC, Gainesville, FL
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Franklin P. Flowers, Gainesville, FL
G.R. Brooks, Gainesville, FL
James R. Cooper Jr., Gainesville, FL
Jay T. Blankenfeld, Gainesville, FL
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Margaret Martin, Gainesville, FL
Nicholas Sanchez & Marion Sanchez, Gainesville, FL
Richard Esnabrook, Gainesville, FL
The Inter Vivos Joint Trust, Gainesville, FL
Tiger Pines, LLC, Gainesville, FL
William B Wurzbach, Gainesville, FL
John Herbert, Gainsville, FL
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Bay Lake Groves Inc., Groveland, FL
Bay Lake Missionary Baptist Church, Inc., Groveland, FL
Betty Ruth Knight & David Knight, Groveland, FL
Beverly A Flesher & Douglas L Flesher, Groveland, FL
Bobby Michael Odom & Donna D Odom, Groveland, FL
Brande L Cook & John R Cook, Groveland, FL
Carl Johns, Groveland, FL
Charles Sunderman, Sunderman Groves, Groveland, FL
Charlie E Grooms & Darlene S Grooms, Groveland, FL
Christopher A Kuharske, Groveland, FL
Christopher Ash, Groveland, FL
Claudia Lillian Romero, Groveland, FL
Cleveland M. & Gladys H. Kuharske Family Trust, Groveland, FL
Clifford James Johnson & Helen Noble Johnson, Groveland, FL
Clint M McMillan & Mary L McMillan, Groveland, FL
Dave M Sloan & Angela Elliston, Groveland, FL
David E Bridges & Elizabeth K Bridges & Raliegh C Bridges, Groveland, FL
David L Williams & Tricia Morrison, Groveland, FL
Diamond Bar Ranch Inc., Groveland, FL
Donald Morphet & Majorie Morphet, Groveland, FL
Ellen E Heltzel & William E Heltzel, Groveland, FL
Gary A Merritt, Groveland, FL
Gary Sisson & Lisbeth Jankuhn, Groveland, FL
Harvey C Fender & June E Fender, Groveland, FL
Henry S Monroe, Groveland, FL
Hillary & Sons Inc., Groveland, FL
James P Keliher & Vickie L Keliher, Groveland, FL
Janet S Kerns & Norman S Kerns, Groveland, FL
Janice Sunderman, Sunderman Groves, Groveland, FL
Janie Geraci, Micheloni Prop, Groveland, FL
Jeff Mathis Odom & Carolyn Louis Odom Life Estate, Groveland, FL
Jeffrey Rozar & Wendy Rozar, Groveland, FL

Karen A Cook, Groveland, FL
Kathryn Sutch & Eric S Sutch, Groveland, FL
Kenneth S Ludwick, Groveland, FL
Marjorie R Rytter & Carl L Rytter, Groveland, FL
Mark R. and Margaret R. Smith, Groveland, FL
Marsha B Purvis & Charlotte L Peterson, Groveland, FL
Marsha S Avera & Robert E Avera, Groveland, FL
Marshall B. Partin, Groveland, FL
Martha Brack, Groveland, FL
Mary Helen Myers & Wallace C Myers Jr., Groveland, FL
Michael H Andrew & Wendy Andrew, Groveland, FL
Phan Minh, Groveland, FL
Philip H. & Madeline H. Kuharske Family Trust, Groveland, FL
Rudy and Jane Geraci, Groveland, FL
Rudy Geraci, Micheloni Prop, Groveland, FL
Russell Fogg, Groveland, FL
Savitri D Persaud, Groveland, FL
Steve C Bridges, Groveland, FL
Steven N Copeland, Groveland, FL
Svitlana Forehand & Whitley B Forehand, Groveland, FL
The August 8 2003 Edward Doyle Freeman Inter Vivos Revocable Trust Agreement, Groveland, FL
Thelma & Daryl Hyatt, Groveland, FL
Theresa M Knight & Thelma S. Knight Life Estate, Groveland, FL
Toby Wolter & Nicole Wolter, Groveland, FL
Victory A Rozar, Groveland, FL
Abraham Benitez and Irma Benitez, Haines City, FL
Aleeta R. Hall and Rudene C. Allred, Haines City, FL
Alejandro Estrada and Belen I. Estrada, Haines City, FL
Ambrosio Lopez Jr. and Ana Boyzo, Haines City, FL
Andres Hernandez, Haines City, FL
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Arnulfo Garcia, Haines City, FL
Aurora Alcazar and Raul Alcazar, Haines City, FL
Beatrice Galloza, Haines City, FL
Billy C. Moore and Sherry L. Moore, Haines City, FL
Bob Walker, Ewing, Blackwelder & Duce Ins., Haines City, FL
Byrd Groves, Inc., Haines City, FL
Carol L. Morgan f/k/a Carol L. Davidson, Haines City, FL
Carrie M. Jackson, Haines City, FL
Charles E. Glass and Virginia M. Glass, Haines City, FL
Cory Johns and Krysti Johns, f/k/a Krysti Dimartino, Haines City, FL
Daryl H. Toadvine, Haines City, FL
David Garrett Jr. and Sharon B. Garrett, Haines City, FL
David R. Lawson, Haines City, FL
David R. Lawson, Jr., Haines City, FL
David Van Gundy, Haines City, FL
E. William Barnhart and Angie O. Barnhart, husband and wife, Haines City, FL
Ebenezer Pentecostal Church of Haines City, Inc., Haines City, FL
Edward Tyndal, Bobbie R. Tyndal, Edward R. Tyndal, Jr. and MIchael Ray Tyndal, Haines City, FL
Ernest K. and Margaret A. Bradbury, husband and wife, Haines City, FL
Eugene Wilson Dunn and Karrie Diane Dunn, Haines City, FL
Francisca Lopez, et al, Haines City, FL
Francisco Arredondo and Rubi C. Arredondo, Haines City, FL
Gerald Amos and Barbara Amos, Haines City, FL
Glenn M. Cramer, Haines City, FL
Grady A. Batchelor, Haines City, FL
Greenleaf Wood Products, Inc., Haines City, FL
Gregory Hansell, Haines City, FL
Gregory J. Greenlee, Haines City, FL
Hinson McTeer, Haines City, FL
Ismael Benitez, et al, Haines City, FL
Israel Cervantes and Jeronima Yuri Cervantes, Haines City, FL
Israel Rodriguez Suarez and Susana Santana, Haines City, FL
Jaime Lopez and Blanca A. Lopez, Haines City, FL
James E. Hill and Joan E. Hill, Haines City, FL
Jason S. Good, Haines City, FL
Jerry L. Jones and Margie F. Jones, Haines City, FL

Johnny D. Koon and Teresa K. Koon, Haines City, FL
Juanita Congdon, Haines City, FL
Julie E. Firebaugh and Dennis E. Glass, Haines City, FL
Keith E. Webster and Birdie L. Webster, Haines City, FL
Landmark Baptist Church, Inc., of Haines City, Florida, Haines City, FL
Leon McTeer, Haines City, FL
Lighthouse of Holiness, Inc. c/o Edward Jordan Esq., Haines City, FL
Lighthouse of Holiness, Inc. c/o Edward Jordan Esq., Haines City, FL
Lola Smith, Haines City, FL
Lori L. Prouty, Haines City, FL
Marisela Lopez, Haines City, FL
Mark Mather and Terry Mather, husband and wife, Haines City, FL
Michael D. Pierce and Constance L. Pierce, Haines City, FL
Michael Dennis Stephens, Edith Ann Stephens, and Ronnie Darrell Stephens, Haines City, FL
Miguel A. Colon, Haines City, FL
MLB Rental Properties, Inc., Haines City, FL
Nelson Family Trust, Haines City, FL
Norman Peyton Driggers, Haines City, FL
Olga L. Pereyra and Marisela Lopez, Haines City, FL
Patricia Murphy, Haines City, FL
Paul Smith and Penny Smith, Haines City, FL
Richard G. Martin and Nancy H. Martin, Haines City, FL
Rickey D. King, Haines City, FL
Robert C. Walker and Karen L. Walker, his wife, Haines City, FL
Rosalva Leon and Pedro Leon, Haines City, FL
Roy Lee Good and Nancy Arlene Good, Haines City, FL
Salvador Lopez and Agustina R. Lopez, Haines City, FL
Salvador Lopez, Sr., Haines City, FL
Shirley S. Moye and Stephen L. Moye, Haines City, FL
Steve Gano, Haines City, FL
Tempie Ann Prevatt, Haines City, FL
Terry E. Jones, Haines City, FL
Thomas S. Stamey and Rhonda M. Stamey, his wife, Haines City, FL
Vernon Interiano, Haines City, FL
Virgie Washburn, Haines City, FL
William A. Willis, Haines City, FL
William Cody Moye, Haines City, FL
William E. Garrison, Haines City, FL
Cheri G. Surloff Trust, Hallandale, FL
Kenneth Muller, Hallandale, FL
Complete Interiors, Inc., Heathrow, FL
Marcianna M Sigurdsen & Richard A Sigurdsen, Hernanda, FL
A Professional Roof System, Hernando, FL
A Reverence for Roses, Inc., Hernando, FL
Bobby J Kirby Jr. & Tammy M Kirby, Hernando, FL
Charles Race & Jackie Race, Hernando, FL
Charles W. Hansen, Hernando, FL
Church of Christ, Hernando, FL
Dodge Family Revocable Living Trust, Hernando, FL
Dorothy K Schedel & John R Schedel, Hernando, FL
Geraldine Wasik & Marvin B Wasik, Hernando, FL
Leonard V Codella & Samuel F McMechan, Hernando, FL
Philip Sapp & Susan Woolfe, Hernando, FL
Tammy L Woodburn, Hernando, FL
William F Berry Jr., Hernando, FL
Emiliano P Orta, Hialeah, FL
Herbert F Meeker & Kathy D Meeker, Hialeah, FL
Nick Morales, Hialeah, FL
Patria E Figueroa, Hialeah, FL
Paul Cheung & Cheung King Diwong, Hialeah, FL
Sade Diaz, Hialeah, FL
Santa Quesada, Hialeah, FL
Zara Land Corporation, Hialeah, FL
Alavan Beasley, High Springs, FL
Loncala Incorporated, High Springs, FL
Lucinda Merritt, The Ichetucknee Alliance, High Springs, FL
Larry Thomas and Colleen Thomas, Hobe Sound, FL
Frank Atkins & Jewel Atkins, Holder, FL
Gary Lee Pemberton, Holder, FL
John Atkins, Holder, FL
Kenneth Sapp & Shirley J Sapp, Holder, FL
Sadie F Hannah, Holder, FL
Alisa Jurascheck & Hans Jurascheck, Hollywood, FL

Hollywood Iron Works Inc. & County Waste Realty Inc., Hollywood, FL
Mary Chaplin, Hollywood, FL
Palm Coast Investment Group VII, LLC, Hollywood, FL
Properties of Central Florida, LLC, Hollywood, FL
Route 70 Property Holdings, LLC, Hollywood, FL
Carlos Colon Bermudez, Homestead, FL
Community Bank of Florida, Homestead, FL
Cordero Suwannee Properties, LLC, Homestead, FL
Rodrigo Bueno, Homestead, FL
Carole C Kaniaris, Homosassa, FL
Lindsay Bassing & Sharon Bassing, Homosassa, FL
Robert T Grund, Homosassa, FL
James A Brown, Howey In The Hills, FL
Charles L. Tarman & Margaret L. Tarman, Hudson, FL
Joyce L Dyer & Rockne W Dyer, Hudson, FL
Yvon Belley, Michael Belley and Robert Belley, Hudson, FL
Gary Levin, Indian Lake Estates, FL
Lisa Armes & William Armes, Indian Rock Beach, FL
Ruth Ann Holt, Indiantown, FL
Thomas A. Ross, Indiantown, FL
Carmen C Lozano, Intercession City, FL
Edward Lee Lively, Intercession City, FL
Jose M. Aguilar, Intercession City, FL
Gerrits Citrus, Inc., Inverness, FL
Prospect Properties, Inc., Inverness, FL
Florida Land Group, LLC, Islamorada, FL
Alfred L. Smalls, Jacksonville, FL
Anthony Alain Vannetzel, Jacksonville, FL
Arthur D. Cooper & Laura Cooper, Jacksonville, FL
Ashburn Hill Plantation, LLC, Jacksonville, FL
BKL Investment Company, Jacksonville, FL
Bruce D. Maurer & Susan E. Maurer, Jacksonville, FL
Bullard Properties, Inc., Jacksonville, FL
Bullard-Denune Investment Company, Jacksonville, FL
Chinquapin Farm, LLC, Jacksonville, FL
Clinton Carter & Danny L. Carter & Michelle M. Carter & Susan McLeod, Jacksonville, FL
CSX Transportation, Inc., Jacksonville, FL
Dana Gary Stevens & Victoria Grace Stevens, c/o Florida Property Rights Advocates, Jacksonville, FL
Debbie B. Musgrove, Jacksonville, FL
Donald R. McAlister, Jacksonville, FL
Elizabeth B. Bolton, Jacksonville, FL
Elizabeth Deanette C Kuhn & James Langford, Jacksonville, FL
Florida East Coast Railway Co., Jacksonville, FL
Florida Rock Industries, Inc., Jacksonville, FL
Frances G. Perry & Samuel R. Perry, Jacksonville, FL
Georgia Southwestern Railroad-Terrell County, Jacksonville, FL
Glaythia Ann Collins & Tommy D. Collins, Jacksonville, FL
Greystone Land Company, Jacksonville, FL
Hamilton Energy Resources Opportunities, LLC, Jacksonville, FL
Hazel Kimble, Jacksonville, FL
Homer F. Ratliff, Jacksonville, FL
Inky Fingers, Inc. 401 Retirement Plan, Jacksonville, FL
Jay A. Liguori & Lynn P. Liguori, Jacksonville, FL
Jeffrey A Bello & Jutta A Bello, Jacksonville, FL
Jerome Karon & Maritza Karon, Jacksonville, FL
Jerpat Properties, LLC, Jacksonville, FL
Jessie L. Skierski & Thomas J. Skierski, Jacksonville, FL
Ken Fleming, Jacksonville, FL
Lashawn V. Hayes, Jacksonville, FL
Luther McCoy, Jacksonville, FL
Manuel DeGuzman & Raulito DeGuzman & Ruby DeGuzman & Yolanda S. DeGuzman, Jacksonville, FL
Margaret R Smith & Mark R Smith, Jacksonville, FL
Maxine Sullivan & Wade Sullivan & Lynn Chappell, Jacksonville, FL
Michael D. Lipp and Rosemary Lipp, Jacksonville, FL
Minnie B. Bell, Jacksonville, FL
Nathaniel S. Combass & Katherine S. Combass, Jacksonville, FL
Nelson Eason & Pamela Eason, Jacksonville, FL
Randall L. Madison & Melissa Russell, Jacksonville, FL

Rayonier Atlantic Timberland Company, Jacksonville, FL
Reginald R. McClain, Jacksonville, FL
Rex M Smith, Jacksonville, FL
Sidney L. Combass, Jacksonville, FL
Sunderman Groves, Inc., Jacksonville, FL
The Bank of New York Mellon Trust Co., Jacksonville, FL
The Suzanne Bass Living Trust, Jacksonville, FL
Thomas Edwards, Jr., Edwards & Ragatz, PA, Jacksonville, FL
U Joint Acquisitions, LLC c/o CSX Tax Dept., Jacksonville, FL
Ventura Ranch, LLC, Jacksonville, FL
Virginia C. Johnson & William I. Johnson Sr., Jacksonville, FL
Asa D. Smith, Jasper, FL
Beth A. Davis & John T. Davis, Jasper, FL
Carolyn McCulley & Richard N. McCulley, Jasper, FL
Constance D Matthews & Terry Matthews, Jasper, FL
Deanna & Chris Mericle, Jasper, FL
Donald R. McAlister, Jasper, FL
Hamilton County, Florida, Jasper, FL
Imogene Hart & Tommy L. Hart, Jasper, FL
James Rye & Pricilla M. Rye, Jasper, FL
Mary Ellen Tatum, Jasper, FL
Milton C. Hitson, Jasper, FL
Nathaniel S. Combass & Katherine S. Combass, Jasper, FL
Reid Family Partnership, LP, Jasper, FL
Robin J. Crotty & Wayne H. Crotty, Jasper, FL
Sidney L. Combass, Jasper, FL
Annie Lee Marine & J C. Marine, Jennings, FL
Billy Clyde Collier, Jennings, FL
Bird Investments Inc., Jennings, FL
Clinton Carter & Michelle M. Carter, Jennings, FL
Cora B. Wright Estate, Jennings, FL
Danny L. Carter & Susan R. McLeod, Jennings, FL
Deas Brothers Farms, Inc., Jennings, FL
Estate of Ada Singletary & Willie Coffee, Jennings, FL
J Tillman Carroll & Lender Lee Carroll, Jennings, FL
Maxine Sullivan & Wade Sullivan & Lynn Chappell, Jennings, FL
Robert B. Mercer, Jennings, FL
Santa Anna M. Deas, Jennings, FL
Teresa Raines & Debra Hodge & Everal Allen & Sybil J. Allen, Jennings, FL
Terry K. McCulley, Jennings, FL
The Heirs of Clabe Collier, Jennings, FL
Viola Merine, Jennings, FL
Campus USA Credit Union, Jonesville, FL
Florida Power & Light Company, Juno Beach, FL
Sam Forrest, Florida Power & Light Company, Juno Beach, FL
Blake Liebeskind and Jessica Lynne Liebeskind, husband and wife, Jupiter, FL
Dennis Thompson and Irene Thompson Declaration of Trust Thompson, Jupiter, FL
Maureen A. Gardner & Richard W. Gardner, Jupiter, FL
Patricia Townsend, Jupiter, FL
Willie S. Townsend Jr., Jupiter, FL
Willie Townsend, Jupiter, FL
Linda D. Perkins Living Trust, Key Largo, FL
Jon M Foster, Kissimiee, FL
8550 Patricia Trail Children's Church Trust, Kissimmee, FL
Anganee Changoor, Kissimmee, FL
ANKM, INC., Kissimmee, FL
Anson Jaw, Kissimmee, FL
Bernadette Chan-Yau & Kam Lun Yau, Kissimmee, FL
Bertrand Le Helley & Larissa Le Helley, Kissimmee, FL
Betty Keefer, Kissimmee, FL
Bronsons, Kissimmee, FL
Brown Ranch Six Properties, LLC, Kissimmee, FL
Carmen Morrow, Kissimmee, FL
Celeste A Ricklefs & Michael L Ricklefs, Kissimmee, FL
Charles E Moore Jr. & Valarie Jackson Moore, Kissimmee, FL
Christina M Beasley & Amanjot Chada, Kissimmee, FL
City Of Kissimmee, Kissimmee, FL
Craig S Marlatt & Jolyn M Marlatt, Kissimmee, FL
Cristina A Arocha, Kissimmee, FL
Curt A Morse, Kissimmee, FL
Daniel & Isabel Rosario Living Trust, Kissimmee, FL
David Johnston & Heather Johnston, Kissimmee, FL

David S Durham & Jody Jean Durham, Kissimmee, FL
David W Cramp III & Sharon Cramp, Kissimmee, FL
Dorothy M. Tyner Revocable Trust, Kissimmee, FL
Edwin McKenzie, Kissimmee, FL
Elsa Taveras & Narciso Taveras, Kissimmee, FL
Emerald Island Resort Master Association, Inc., Kissimmee, FL
Enriqueta A Rios, Kissimmee, FL
Estate of Frank E. Brown, Kissimmee, FL
Estate of Lee Coffin MacDonald, Kissimmee, FL
Fabiola Martinez, et al., Kissimmee, FL
Feng Deng & Lan Wang, Kissimmee, FL
Frank Edward Brown II, Oren Scott Brown & Frankie Brown Norris, Kissimmee, FL
Frank M. Townsend, Trustee, Kissimmee, FL
Frederick O Zesewitz, Kissimmee, FL
Garth Forbes, Kissimmee, FL
Gerd Menzel, Kissimmee, FL
Glenn and Norma Bynes, Kissimmee, FL
Glenn Merritt, Kissimmee, FL
Global Network USA, Inc., Kissimmee, FL
Indrowtie Sookrah, Kissimmee, FL
Ismael R. Delgado and Anneris L. Delgado, husband and wife, Kissimmee, FL
James O Betts & Marie U Betts, Kissimmee, FL
Jane S Lynch & Karl B Lynch, Kissimmee, FL
Jeff Pifer, Kissimmee, FL
Jeffrey Waite, Kissimmee, FL
John Newstreet, Pres/CEO, Chamber of Comm of Kissimmee/Osceola Co, Kissimmee, FL
Joseph Marnell, Kissimmee, FL
Jutta Fink & Klaus Fink & Denis Rocks, Kissimmee, FL
Karen M Bonzi & Tom Bonzi, Kissimmee, FL
Kawala Ramhi & Barat P Ramhi, Kissimmee, FL
Kendra Y Velez-Hernandez, Kissimmee, FL
Kenneth C Richards & Tracey Richards, Kissimmee, FL
Kissimmee Utility Authority, Kissimmee, FL
LaToya Mays, Kissimmee, FL
Laura Garcia de Chacon & Juan Chacon, Kissimmee, FL
Laura Koppelmann, Kissimmee, FL
Lino Maldonaldo & Maria Maldonado, Kissimmee, FL
Lise Lotte Lundsgaard Breeden Living Trust, Kissimmee, FL
Luis E Rosado, Kissimmee, FL
Maritza E Fajardo, Kissimmee, FL
Mary Maldonado, Kissimmee, FL
Miguel A Vega Cintron & Vernice Negron, Kissimmee, FL
Miriam Macfie & Carlos R Macfie, Kissimmee, FL
Narine Persaud Soman & Parbatle Soman, Kissimmee, FL
Nathaly Familia, Kissimmee, FL
Osceola County, Kissimmee, FL
Parbin Sadat & Golam Sadat, Kissimmee, FL
Patrick Whelan, Kissimmee, FL
Paul Riccordi, Kissimmee, FL
Pauline Fore, Kissimmee, FL
Quyen V Le & Ly T Nguyen, Kissimmee, FL
Rafael Salmeron and Anita Ruth Coste, Kissimmee, FL
Ravenwood Of Kissimmee Ltd., Kissimmee, FL
Richard P Stone, Kissimmee, FL
Robert Bertrand, Kissimmee, FL
Rodney Buckingham, Kissimmee, FL
Roland Cordero, Kissimmee, FL
Romero Revocable Trust, Kissimmee, FL
Ron Hibbeln, Kissimmee, FL
Safwat Issa, Kissimmee, FL
Said Mourfik & Raja Addabagh, Kissimmee, FL
Samsud Doha, Kissimmee, FL
Sandra Roberts, Kissimmee, FL
School Board of Osceola County, Kissimmee, FL
Sebastian Mascaro, Kissimmee, FL
Shad Zaman & Ashrafun Nahar, Kissimmee, FL
Shamsa Sajjad & Mohammad Sajjad, Kissimmee, FL
Story Musgrave, Kissimmee, FL
Tammy Narbonne, Kissimmee, FL
The Gloria Joy Trust, Kissimmee, FL
Tohopekaliga Water Authority, Kissimmee, FL
Tran Thu Trang & Trinh Thein, Kissimmee, FL
Treetop Sales Corporation, Kissimmee, FL
US92-49 Land Trust, c/o W. T. Paul Liau, Trustee, Kissimmee, FL
Vitaliy Kirimov & Tetyana Kyrymova, Kissimmee, FL
Wladimyr Augustin & Latara Shanta Augustin, Kissimmee, FL
Wyndham Palms Master Community Association, Inc., Kissimmee, FL

Ben Hill Andrews III, Lafayette, FL
Florence McNeer Hamilton & Arthur H McNeer III & Lu Ann G McNeer & Patricia C McNeer, Lake Alfred, FL
Joseph R. Barwick and Bridgette Barwick, Lake Alfred, FL
Reedy Creek Improvement District, Lake Buena Vista, FL
The Celebration Company, Lake Buena Vista, FL
BKL Investment Company, Lake City, FL
Blaton Wright, Lake City, FL
Brenda Lemnah & Wendell Lemnah, Lake City, FL
Bullard Management Services, Inc., Lake City, FL
Bullard Properties, Inc., Lake City, FL
Bullard-Denune Investment Company, Lake City, FL
Doyce C. Cason & Rose Marie Cason, Lake City, FL
Florida Department of Transportation, Lake City, FL
Greystone Land Company, Lake City, FL
Leroy Clark, Lake City, FL
Lori Ann Harley, Lake City, FL
Nicholas Didado, Lake City, FL
Reba Faye Aderholt & Roy Whit Aderholt, Lake City, FL
Sally Lloyd & William M. Lloyd III, Lake City, FL
Brenda G. Newell, Lake Hamilton, FL
Jerry R. Henkel, Lake Hamilton, FL
Christine S. Hardee, Lake Mary, FL
Connie Rook, Duke Energy Florida, Inc., Lake Mary, FL
Daniel Hendricks, Duke Energy Land Services, Lake Mary, FL
Duke Energy Florida, Inc., Lake Mary, FL
Duke Energy Florida, Inc., Lake Mary, FL
Florida Power Corporation, Lake Mary, FL
Cynthia & Robert C. Townsend, Lake Panasoffkee, FL
Judith L. Sanders, Lake Panasoffkee, FL
Marjorie Wells, Wells Family Ent LLLP, Lake Panasoffkee, FL
Wendel F. Martinkovic and Nancy Dwyer Dwyer, Lake Panasoffkee, FL
Everley Farquharson, Lake Park, FL
Richard F. McCarthy, Lake Park, FL
Boston Mining Company, Lake Placid, FL
Shannon Larsen, Ancient Trees, Lake Placid, FL
The Cheshire Family Revocable Living Trust and The Revocable Living Trust Agreement of F. Ray Daniels, Lake Placid, FL
Wheeler Farms, Inc., Lake Placid, FL
Albin E. Kendall, Lake Wales, FL
Alcoma Properties, Ltd., Lake Wales, FL
Alfredo Fred Cabrera, Lake Wales, FL
Amanda Rose Wyrosdick, Lake Wales, FL
Anthony Iannucci, Lake Wales, FL
Bennie Hall, Lake Wales, FL
Beulah Baptist Church, Lake Wales, FL
Bok Tower Gardens Foundation, Inc. c/o David Price and Rose Young, Lake Wales, FL
Brian Keith Harris, Lake Wales, FL
C B M Groves, Inc., Lake Wales, FL
Carlos Saldago, Lake Wales, FL
Carol Grimes, Lake Wales, FL
Carolyn Diane Lunsford and Helen Louise Lunsford, Lake Wales, FL
Cheryl K. Bull, Lake Wales, FL
Citrosuco North America, Inc., Lake Wales, FL
City of Lake Wales, Lake Wales, FL
Corbett G. Watson, Jr. and Cassandre D. Watson, his wife, Lake Wales, FL
David Price, Bok Tower Gardens Foundation, Inc. c/o David Price and Rose Young, Lake Wales, FL
Dennis L. White and Susan G. White, his wife, Lake Wales, FL
Dollie Mae Hill, Lake Wales, FL
Donald J. Henderson, Lake Wales, FL
Donna Jean Hardee, Lake Wales, FL
Doreen H. Keen Trust, c/o Doreen H. Keen, Trustee, Lake Wales, FL
E. R. Jahna Industries, Inc., Lake Wales, FL
Eddie L. Brown and Mavis Marie Brown, Lake Wales, FL
Edward G. English, Lake Wales, FL
Enid Oprecht, Lake Wales, FL
Estate of William Billy Tucker c/o Gene Tucker, Lake Wales, FL
Floyd M. Spivey, Lake Wales, FL
George M. Breen and Joelyn Ann Breen, Lake Wales, FL
Goff Properties, LLC, Lake Wales, FL
Graciela Carranza, Lake Wales, FL
H. D. Farmer, Jr. Irrevocable Trust, Lake Wales, FL
Hazel P. Harper, Lake Wales, FL
Hortencia Miranda, Lake Wales, FL

Hunt Bros., Inc., Lake Wales, FL
Irene Simmons and Patricia S. Moore, Lake Wales, FL
James P. Vaughn, Sr., Lake Wales, FL
Jayshiv Bhumi, LLC, Lake Wales, FL
Jennifer M. Brantley, Lake Wales, FL
Jerry Sheffield, Lake Wales, FL
Jerry W. Smith, Lake Wales, FL
Jesus Gonzalez Arredondo, Lake Wales, FL
John Persichetti and Kim M. Persichetti, Lake Wales, FL
Jose Tereso Carranza, Lake Wales, FL
Juanita Spivey, Elizabeth Jane Williams and Floyd M. Spivey, Lake Wales, FL
Katy M. Gukich., Lake Wales, FL
Keith E. Hyatt and Amy D. Hyatt., Lake Wales, FL
Kem Goff, Goff Properties, LLC, Lake Wales, FL
Kenneth G. Hyatt, Lake Wales, FL
Lajuaia A. Keen, Lake Wales, FL
Lake Aurora Christian Assembly, Inc., Lake Wales, FL
Lightsey Ranches, Ltd., Lake Wales, FL
Lightsey Ranches, Ltd., Noel J. Cramer, Jr. and June Smith, Lake Wales, FL
Lightsey Ranches, Ltd. 50% and Cecilia M. Michalski 50%, Lake Wales, FL
Lightsey Ranches, Ltd. Clinton D. Lightsey and Clifton L. Lightsey, Lake Wales, FL
Linda M. Cochran, Lake Wales, FL
Lonesome Ranch Revocable Living Trust, c/o Jeffrey Ray Crawford, Trustee, Lake Wales, FL
Lori J. Reese, Lake Wales, FL
Lorine Dirckson, Lake Wales, FL
Marilyn S. Newell Trust, Marilyn S. Newell, Trustee; and Bruce Newell Trust, Bruce Newell and Marilyn S. Newell, Trustees, Lake Wales, FL
Marty Holbrook, Lake Wales, FL
Mary Wyrosdick, Lake Wales, FL
Melanie Kremkau, Lake Wales, FL
Michael C. Simmons, Lake Wales, FL
Milmack, Inc., Lake Wales, FL
Mountain Lake Corp., Lake Wales, FL
Myers Family Land Trust c/o C. B. Myers, III, Lake Wales, FL
Myers Groves, Inc., Lake Wales, FL
Naret Pamee and Yochaya Pamee, his wife, Lake Wales, FL
Nola Land Company, Inc., Lake Wales, FL
Oakwood Land Company, L.L.P., Lake Wales, FL
Patricia Harris, Lake Wales, FL
Patricia J. Moore, Lake Wales, FL
Patricia Park, Lake Wales, FL
R. J. Keen and Son, Inc., Lake Wales, FL
Ricky Williams, Lake Wales, FL
River Ranch Property Owners Association, Inc., Lake Wales, FL
Robert E. Tucker and Teresa W. Tucker, Lake Wales, FL
Robert J. Malone and Belinda A. Morgan, Lake Wales, FL
Robert Perry, Lake Wales, FL
Robert R. Denny, Lake Wales, FL
Ronald H. Mason and Mary Lou Mason, his wife, Lake Wales, FL
Rose M. Wyrosdick, Lake Wales, FL
Sharon Lynn Taylor, Lake Wales, FL
Stacie Smith Padgett, Lake Wales, FL
T & E Farm, Inc., Lake Wales, FL
Terri Devero Williams, Lake Wales, FL
The Latt Maxcy Corporation, Lake Wales, FL
Tiffany M. Capers and Curtis Capers, Lake Wales, FL
Timothy Taylor and Matthew John Mesimer, Lake Wales, FL
Tracy L. Britt and Tonda K. Britt, husband and wife, Lake Wales, FL
Upco, Inc., Lake Wales, FL
Valerie M. Kane, Lake Wales, FL
Vonann Groves, Inc., Lake Wales, FL
Wade L. Collins, Lake Wales, FL
Webster and Leonard, Inc., Lake Wales, FL
Woodrow W. Ellison, Jr. and Virginia C. Ellison Trust, Lake Wales, FL
Glen Rovinelli & Mary M. Rovinelli, Lake Worth, FL
Kim M. Ambry Williams, Lake Worth, FL
Kim R. Thompson & Robert L. Thompson Jr., Lake Worth, FL
Robyn G. Adams, Lake Worth, FL
Tamara Gamble, Lake Worth, FL
Timothy B Gietz & Michael J Simon, Lake Worth, FL
William Michael Kirton, Lake Worth, FL
Anil Dholakia, Lakeland, FL
Black & Myers Properties, LLC, Lakeland, FL
Estate of Jane Presley, Lakeland, FL
Evie Clyde and Betty Jo Williams, Lakeland, FL

Garth Emanuel Forbes, Lakeland, FL
Hammerstone Holdings, LLC, Lakeland, FL
Jim Stone, Lakeland, FL
John B Eastman & Yvonne Kirby, Lakeland, FL
JSREM, LLC c/o Joe L. Saunders, Agent, Lakeland, FL
Montego Bay Homeowners' Association, Inc., Lakeland, FL
Stephen G. Webb and Karen J. Webb, Lakeland, FL
Steven W Strickland, Lakeland, FL
Steven W. Burnett, Lakeland, FL
Stuart M. Vaughn & Kimberly Vaughn, Lakeland, FL
Reymundo Jimenez and Maribel Segarra Navarro, Lakeshore, FL
CMJ, LLC, Land O'Lakes, FL
Fresnel Fadael and Frans Fadael, Lantana, FL
Fritzner Estime and Fritzline Estime, Lantana, FL
Geoffrey C. Simpson & Jean M. Simpson, Lantana, FL
Imelda Martinez, Lantana, FL
Jean G Aristhil, Lantana, FL
Jude Mentor, Lantana, FL
Leclerc Joseph and Marie E. Joseph, Lantana, FL
Wesner Mentor, Lantana, FL
Louisette Denson, Largo, FL
Rose Hall Investment Group, LP, Largo, FL
Stephen J. & Bonnie M. Potters, Largo, FL
Peggy J Stevens, Lauderdale Lakes, FL
Carol Hyman, Lauderhill, FL
Denise Elaine Bailey & Jacqueline Christine Bailey & Neville Anthony Bailey & Peter Alexander Bailey, Lauderhill, FL
James Adams, Lauderhill, FL
Marguerite White & Murge R. Charles, Lauderhill, FL
Orel Hill Hudson & Wintworth Hudson, Lauderhill, FL
Citrus County, Lecanto, FL
Citrus County, Land Development Division, Lecanto, FL
Harold D Roberts & Joan E Roberts, Lecanto, FL
Boyles Tree Farm, Ltd., Lee, FL
Edward C. Ragans, Lee, FL
Bigham Hide Company, Inc., Leesburg, FL
Geoff Norcross, Leesburg, FL
Kyana S Solomon, Leesburg, FL
Linda Bystrak, Leesburg, FL
Patricia Ann Otto Revocable Trust Agreement, Leesburg, FL
W. Garry Ives, Leesburg, FL
Linda Tidwell Addison, Lehigh acres, FL
Eleanor S Grenier & Gilbert A Grenier, c/o Steven Grenier, Lighthouse Point, FL
Gilbert A. & Eleanor S. Grenier c/o Steven Grenier, Lighthouse Point, FL
Nelson Rodriguez, Lighthouse Point, FL
Cecil Lay and Charlotte G. Lay, Lithia, FL
Aaron C. Stratton & Kimberly J. Stratton, Live Oak, FL
Alfred L. Linton & Erika D. Linton, Live Oak, FL
Alfreda Lusk, Live Oak, FL
Andrew C. Bass, Live Oak, FL
Ann Shortelle, SRWMD, Live Oak, FL
Anthony P. Jennings & Kimberly E. Jennings, Live Oak, FL
Arthur Page Land Jr. & Ernestine Land, Live Oak, FL
Beaver Property Investments LLC, Live Oak, FL
Betty L. Sullivan Revocable Trust, Live Oak, FL
Brenda S. Schmidt & Klaus P. Schmidt, Live Oak, FL
Brian Hallaran, Live Oak, FL
Bruce Musgrove & Debbie B. Musgrove, Live Oak, FL
Bryan H. Thrasher & Lauren G. Thrasher, Live Oak, FL
Burch Farms Inc., Live Oak, FL
Byron Bass Estate, Live Oak, FL
Candice T. Herring & Doyle Ray Herring & Elizabeth Dianne Herring & Marshall D. Herring, Live Oak, FL
Capital Resources Financial Group, LLC, Live Oak, FL
Carol Johnson & Maxwell Johnson & Ruby Johnson & Lois Brown, Live Oak, FL
Carrie S. Morris & Donald Morris, Live Oak, FL
Charles McGuffin & Patricia McGuffin, Live Oak, FL
Charles R. Thomas & Myra P. Thomas, Live Oak, FL
Cheryl Ann Albenberger, Live Oak, FL
Christine C. Thompson, Live Oak, FL
Cindy Gail Johnson & Larry C. Johnson, Live Oak, FL
Connie J. Walters, Live Oak, FL

Connie Walters, Live Oak, FL
Coteries Sims, Live Oak, FL
Dana S. Darby, Live Oak, FL
Danny Butts, Live Oak, FL
Dawn King & George R. King, Live Oak, FL
Debra D. Sapp & Wesley Donald Sapp, Live Oak, FL
Deloris McCullough Chotiner, Live Oak, FL
Denny C. Conway & Linda E. Conway, Live Oak, FL
Derenda L. Vann Shepherd & Ella Mae Vann & James E. Shepherd, Live Oak, FL
Donald E. Garrison & Terri R. Garrison, Live Oak, FL
Donald Jensen & Glenda Jensen, Live Oak, FL
Donna M. King & James O. King, Live Oak, FL
Dorothy A. Chauncey & Myrtice Chauncey & Paul Buren Chauncey Jr. & Paul Chauncey, Live Oak, FL
Dorothy A. Chauncey & Paul Buren Chauncey Jr., Live Oak, FL
Dorothy I. Sponcil & Fred H. Sponcil, Live Oak, FL
Eileen A. Franklin & Gerald V. Franklin, Live Oak, FL
Elizabeth A. Allison & Scott T. Allison, Live Oak, FL
Elizabeth Deanette C Kuhn & James Langford, Live Oak, FL
Estelle E. Dickinson & Rin Dickinson & Candice D. Hudson & M. Renae D. Williams, Live Oak, FL
Franklin P. Flowers, Live Oak, FL
Freda Land & Jack H. Land, Live Oak, FL
Gail Candice Sharyn Kogan, Live Oak, FL
Gerald E. Corbett & James Dale Williams & Tammie C. Williams, Live Oak, FL
Glaythia Ann Collins & Tommy D. Collins, Live Oak, FL
Harold W. Parks & Linda A. Parks, Live Oak, FL
Hazel Y. Jenkins Revocable Trust, Live Oak, FL
Home Savers Plus, Inc. & Cornett's Spirit of the Suwannee, Inc., Live Oak, FL
Homer F. Ratliff, Live Oak, FL
Howard Hamlin, Live Oak, FL
James D. Morgan & Wanda L. Morgan, Live Oak, FL
James D. Morgan & Wanda L. Morgan, Live Oak, FL
Jesse Carroll Flowers, Live Oak, FL
Jesse Lee Wilson & Weta K. Wilson, Live Oak, FL
Jessie F. Roddenberry & Phillip Morris Roddenberry & Tami Ann Johnson, Live Oak, FL
Jessie L. Skierski & Thomas J. Skierski, Live Oak, FL
Jimmie Lee McClendon, Live Oak, FL
Joan E. Camilli & Michael A. Camilli, Live Oak, FL
Joan E. Camilli & Michael A. Camilli, Live Oak, FL
Joan Holmes Radford & Jodi Harrell & Mary E. Roberson & Robert B. Roberson & Sherry L. Howell, Live Oak, FL
Joan Holmes Radford Life Estate, Live Oak, FL
Joe C. Sullivan Revocable Trust, Live Oak, FL
John McHugh, Live Oak, FL
John Myron Holmes, Live Oak, FL
Jose J. Rodriguez & Susan Rodriguez, Live Oak, FL
Joseph Phillip Sumner & Wynette Lynn Sumner, Live Oak, FL
Julia Ann Murrah, Live Oak, FL
Justo Escobar, Live Oak, FL
L. Carl Douglas Jr. & Pauline E. Douglas, Live Oak, FL
Lamar Jenkins, Sr. Revocable Trust, Live Oak, FL
Lavaughn Boatright, Live Oak, FL
Lois Jean Holmes & Thelma Elaine Holmes, Live Oak, FL
Lucius Smith & Mary Lee Smith, Live Oak, FL
Lucy V. Roddenberry & Phillip M. Roddenberry Jr., Live Oak, FL
Major Wright, Live Oak, FL
Martha A. Knisley Revocable Living Trust, Live Oak, FL
Matthew W. Sandifer, Live Oak, FL
Michael A. Mathews & Tamara A. Mathews, Live Oak, FL
Music Land & Timber Holdings, LLC, Live Oak, FL
Myrtice Chauncey & Paul Chauncey, Live Oak, FL
Narciso Escobar, Live Oak, FL
Norma A. Lawson & Walter J. Lawson, Live Oak, FL
Patricia C. Sapp & William J. Sapp, Live Oak, FL
Patricio Fernandez, Live Oak, FL

Patrick A. Voyles, Live Oak, FL
Paul Buchanan, Live Oak, FL
Paul W. Warren, Live Oak, FL
Phyllis R. Murray & Ralph E. Murray, Live Oak, FL
Ramona M. Land & William T. Land, Live Oak, FL
Raymond D. Stratton & April L. Warner, Live Oak, FL
Rick Mitidieri, Live Oak, FL
Robert B. Mercer, Live Oak, FL
Robert O'Neal & Vivian O'Neal, Live Oak, FL
Roberto Torres & Carmen D. Saldago, Live Oak, FL
Ronald G. Knight & Denise A. Parnell, Live Oak, FL
Roni Hayes & Sidney D. Hayes, Live Oak, FL
Ronny W. Nobles, Live Oak, FL
Santiago Medina Torres, Live Oak, FL
Seville Flowers & Franklin P. Flowers, Live Oak, FL
Sharon Murphy & Donna White, Live Oak, FL
Sharon Sapp, Live Oak, FL
Styxnstonz, LLC, Live Oak, FL
Suwannee County, Florida - Fee, Live Oak, FL
Suwannee County, Florida, Suwannee County Commission, Live Oak, FL
Suwannee River Water Management District, Live Oak, FL
Suwannee Valley Electric Coop, Live Oak, FL
The Estate of Bobby Joseph Mercer, Live Oak, FL
The Estate of Bobby Joseph Mercer, Live Oak, FL
The Estate of Theodis Broome, Live Oak, FL
The John & Gloria Finney Family Revocable Trust, Live Oak, FL
The Justo Escobar Revocable Trust dated March 3, 1995, Live Oak, FL
The Lawson Trust, Live Oak, FL
Tina F. Slaughter & William R. Slaughter II, Live Oak, FL
Tina Metts, Live Oak, FL
Virginia C. Johnson & William I. Johnson Sr., Live Oak, FL
William Warren Blackmon Jr., Live Oak, FL
13th Street Properties, Inc., Longwood, FL
Mitchell W. Madden, Longwood, FL
Sandy Ridge HOA of Polk County, Inc., Longwood, FL
David Smith and Joyce L. Smith, Loughman, FL
Douglas Michaels and Glinda Sue Michaels, Loughman, FL
Eddie Lee Scott and Janie Lee Scott, his wife, Loughman, FL
Ethel Griffin, Loughman Community Club, Inc., Loughman, FL
Horace Betts and wife, Cassandra A. Betts, Loughman, FL
Jeanette Hall Glenn, Loughman, FL
Jeanette Parker, c/o Helen P. Boddie, Loughman, FL
Loughman Community Association, Inc., Loughman, FL
Raymond Kenneth Wilson and Cynthia Jean Wilson, husband and wife, Loughman, FL
Reginald Maddox and Mwatha Grant, Loughman, FL
Wilmer D. Byrd, Loughman, FL
Jeanette Glean, Loughnan, FL
Jose M. Martinez, Lowell, FL
Darlene K. Young, Loxahatchee, FL
Dennis Bleakley & Janis Bleakley, Loxahatchee, FL
Dorilia Concepcion, Loxahatchee, FL
Jonathan Olofin & Lola Olofin, Loxahatchee, FL
Kristine Rebmann & Michael K. Rebmann, Loxahatchee, FL
Lupe R. Martinez, Loxahatchee, FL
Richard A. Sheehy & Stacey A. Sheehy, Loxahatchee, FL
Scott Schoverling, Loxahatchee, FL
Alice A. Roberts & John V. Roberts, Lutz, FL
Charles V. Watson and Cheryl M. Watson, Trustees, Lutz, FL
Robert Adair, Lutz, FL
Trident Land Trust, Lutz, FL
Betty Johnson, Madison, FL
Jo Allan Willis, Madison, FL
Madison County, Florida, Madison, FL
Travis L. Renfroe & Barbara Renfroe, Madison, FL
Charles Lee, Director of Advocacy, Audubon Society Florida, Maitland, FL
James W. Hickman Marital Trust, Maitland, FL
Victoria Nations, Supervising Regulatory Scientist, SJRWMD, Bureau of Natural and Cultural Resources, Maitland, FL
Donald F. Brannen, Malabar, FL
Joshua Stephens et al, Mango, FL
V & K Properties, LLC, Maramar, FL

E.C.P. Properties II, Margate, FL
Matthew G. Levesque, Margate, FL
William A Ward, Margate, FL
Franklin D. Kreutzer, Mayo, FL
Georgia D. Anderson, Mc Alpin, FL
Julia Moon, Mc Alpin, FL
Connie Lambert & Ralph Lambert, McAlphin, FL
Father John Gregory of The Trinity ODM Infinite Love, Inc., McAlphin, FL
Allen R. & Ilene M. Feldman, McAlpin, FL
Amanda R. Johnson & William I. Johnson Jr., McAlpin, FL
Apostles of Infinite Love, Inc., McAlpin, FL
Arthur D. Cooper & Laura Cooper, McAlpin, FL
Brandon Timothy Roberts & Jamie Lynn Roberts, McAlpin, FL
Brian Hallaran, McAlpin, FL
Candice T. Herring & Marshall D. Herring, McAlpin, FL
Charles H. Allen & Donna W. Allen, McAlpin, FL
Christopher J. Clark & Kathryn R. Clark, McAlpin, FL
Dawn King & George R. King, McAlpin, FL
Debra K. Kolwyck & Shaylynn D. Kolwyck, McAlpin, FL
Derenda L. Vann Shepherd & Ella Mae Vann & James E. Shepherd, McAlpin, FL
Donald Keith Monroe, McAlpin, FL
Donna F. McCullers & James F. McCullers, McAlpin, FL
Dorothy Pendleton & Jack R. Matthews, McAlpin, FL
Doyle Ray Herring & Elizabeth Dianne Herring, McAlpin, FL
Evelyn Demoss & Rodger F. Waldron, McAlpin, FL
James A. Belanger & Maryanne Belanger, McAlpin, FL
James R. Voss & Mark James Voss & Virginia A. Voss, McAlpin, FL
Jerry C. Nowicki, McAlpin, FL
John A. Paulton, McAlpin, FL
John Craig, McAlpin, FL
Joseph Phillip Sumner & Wynette Lynn Sumner, McAlpin, FL
L. Carl Douglas Jr. & Pauline E. Douglas & Carolyn W. Douglas, McAlpin, FL
Lauren U. Melo, McAlpin, FL
Lloyd C. Hawthorne, McAlpin, FL
Marcel Djulvez, McAlpin, FL
Mary R. Fridman, McAlpin, FL
Michael Baker, McAlpin, FL
Pamela S. Wainwright & Wesley G. Wainwright, McAlpin, FL
Rita J. Utendorf Richmond & Melvin J. Utendorf, McAlpin, FL
Shasta Garrison Lee, McAlpin, FL
Sherry Rucker & Teddy Rucker Jr., McAlpin, FL
Susan Van Brunt & Thomas F Van Brunt Jr., McAlpin, FL
The Heirs of Sallie Brown, McAlpin, FL
Timothy N. Norris, McAlpin, FL
Donna Louise Stevenson Revocable Trust, McAlpine, FL
Billy R. Curry & Susan G. Curry, Melbourne, FL
Bryan Ranch, Ltd. Partnership, Melbourne, FL
Carl R Luchsinger Jr., Melbourne, FL
Danny Peters & Stella R. Peters, Melbourne, FL
Dr. Glenn E. Bryan, Melbourne, FL
Eddie J Velie & Nancy A Velie, Melbourne, FL
Eugene S. Smith Trust, Melbourne, FL
Godwin Groves, Inc., Melbourne, FL
Mary E Bowers, Melbourne, FL
Polk Property, LLC, Melbourne, FL
Randy C Clark & Sandra L Clark, Melbourne, FL
The Revocable Trust Agreement of Billy R. Curry & Susan G. Curry, Melbourne, FL
Albert A Menendez & Elaine D Menendez, Miami, FL
Ana C. Gonzales, Miami, FL
Ana M Torres & Idalberto Torres, Miami, FL
Antonio Diaz, Miami, FL
Carlos Engracio & Gloria M Engracio, Miami, FL
Carol A Bartley & John Charles Bartley, Miami, FL
Citrus Springs Venture Corp., Miami, FL
D & B, Inc., Miami, FL
Daniel Rodriguez and Sylvia Rodriguez, husband and wife, Daniel A. Rodriguez, Diego R. Rodriguez, Sylvia M. Rodriguez, n/k/a Sylvia Hernandez, and Rossana I. Rodriguez, n/k/a Rossana Vilar, Miami, FL
Danpol Investments, Inc., Miami, FL

David Henry Philpot & Thomas Philpot & Mary Ann Philpos & Donald Gordon & Maurice Rosen, Miami, FL
Donald Wayne Harvey, Miami, FL
Eduardo Garcia, Miami, FL
Elizabeth Brown, Miami, FL
Eric Draper, Executive Director, Audubon of Florida, Miami, FL
Ernst Francillon and Nadine Francillon, Miami, FL
Ferlando Francis, Miami, FL
Fredrick Douglas Pullum, Miami, FL
Gisela Vainstein, Miami, FL
Glenn A Watkins & Rebecca A Watkins, Miami, FL
Gloria Garcia-Prieto, Miami, FL
Horace R. Gordon & Rachel B. Gordon, Miami, FL
Jacinto Oliva & Nelson Oliva II, Miami, FL
Jane Cairo & Rene Cairo, Miami, FL
Johnson Gil, Miami, FL
Jose Martinez-Espada & Emlia Martinez, Miami, FL
Josefina C. Deconcheso, Miami, FL
Jostam Property Inc., Miami, FL
Julia S. Lampson 2007 Revocable Trust, Miami, FL
Julia Vilarino & Rodolfo Vilarino, Miami, FL
Julio Palau, Miami, FL
Julio Palau c/o Laurence A. Wanshel, Miami, FL
Karl C. Lange, Miami, FL
Kelly Koon, Miami, FL
Lo Yin Kwan, Miami, FL
Mario Rosenfeld & Selma Rosenfeld, Miami, FL
Mark F. Kozerski, Miami, FL
Meco Investments Company, Inc., a Florida Corporation, Miami, FL
Miami Heart Institute, Inc., Miami, FL
Monica K Chang & Paul Pei-Wu Chang, Miami, FL
Norma Carrington, Miami, FL
Parasram Rambarran, Miami, FL
Peter R Chaponis, Miami, FL
Pride Homes of North Florida, LLC., Miami, FL
Rafael Pastor Fuentes and Marta Fuentes, Miami, FL
Ralph Wiley Parkman Sr., Miami, FL
Ransford Dempster & Tatlyn Dempster, Miami, FL
Rodolfo Vilarino and Julia Vilarino, MiamI, FL
Russell D. Marsh Jr. & Terry D Marsh, Miami, FL
S3 Holdings, LLC, Miami, FL
Sara Kuper, Miami, FL
Sergio A. Carrasco & Yolanda Carrasco, Miami, FL
Sidney A Palau c/o Laurence A. Wanshel, Miami, FL
Teresa Gayol Garcia, Miami, FL
Yvonne Loshusan & Laura Loshusan-Arce, Miami, FL
Baozhen Xiong & George Z Xiong, Miami Beach, FL
Exiquio Hernandez and Daisy Hernandez, Miami Beach, FL
Kenneth N. ReKant, Miami Beach, FL
Luis Marcelin, Sr., Marta Lopez and George Marcelin, Miami Beach, FL
Maria Marcelin, Miami Beach, FL
Miguel de las Cuevas & Antonio Camacho, Miami Beach, FL
Sunbeam Properties, INC., a Florida Corporation, Miami Beach, FL
Bob Graham, Miami Lakes, FL
New Vista Properties, Inc., Miami Lakes, FL
The Graham Company, Miami Lakes, FL
Joseph P. Lowe & Yolanda Lowe, Miami Springs, FL
Alvin A. Price & Diane M. Price, Micanopy, FL
William E Winter & Nancy Hardt, Micanopy, FL
Leonard T Davis, Micco, FL
Boykin Brothers FL, LLC, Minneola, FL
David A Bradley, Minneola, FL
Indian Creek Osceola County Homeowners Association, Inc., Minneola, FL
Gyliane Fouche, Miramar, FL
Kalloo Singh & Lucille SIngh, Miramar, FL
Nichola Hamm, Miramar, FL
Norice Mattews, Miramar, FL
2M Land & Timber, LLC, Monticello, FL
Alvin B. Mikell & Marie K. Mikell, Morriston, FL
Angela Bombonato & Guilherme Bombonato, Morriston, FL
Carol Anne McKay, Morriston, FL
Carole J. Pierce, Morriston, FL
Dennis E. Foster & Roxana I Foster, Morriston, FL

Elizabeth L. Sheffield & Timothy A Sheffield, Morriston, FL
George C. Bolton & Mary E. Bolton, Morriston, FL
James A. Markham & Jimmie Markham, Morriston, FL
Jerry L. Robinson & Mitzi J. Robinson, Morriston, FL
Michael F. Elliott & Rene A Elliott, Morriston, FL
Misty Dawn Kirk, Morriston, FL
Patrica P Yaich, Morriston, FL
Shirley Ann Damron, Morriston, FL
William Gilreath Revocable Trust, Morriston, FL
17-92, LLC, Naples, FL
AP Properties, LP, Naples, FL
Jamie L. Mueller & Steven M. Mueller, Naples, FL
128 Incorporated, New Port Richey, FL
Donald R. Taaffe Sr., New Port Richey, FL
Four D Lodge, LLC, New Port Richey, FL
Kathleen S Edmondson, New Port Richey, FL
Kathy Lane Lozzi, New Port Richey, FL
Vincent G. Cotroneo & Brandee M. Cotroneo, New Port Richey, FL
Bass Farms, Inc., Newberry, FL
Billie Ray Langford, Newberry, FL
Brian Jones, Newberry, FL
Bryan M. Chrisp, Newberry, FL
Charles D. Williams & Constance R. Williams, Newberry, FL
Charlotte S Mendez & Tony L Mendez, Newberry, FL
Clinton R. Croft & Frances R. Croft & Beverly K. Carroll & Kathryn Lynn Croft-Lyon, Newberry, FL
Daniel Jones & Joyce Jones, Newberry, FL
Edgar A. Langford III, Newberry, FL
Greg Martin & Karen Martin, Newberry, FL
Hilda Don Dalton, Newberry, FL
Howard C., Jr. & Doris Hoffman, Newberry, FL
Jack Cuthbertson & Sharron Cuthbertson, Newberry, FL
Loynell Hines, Newberry, FL
Neil Camner & Ninive E Camner, Newberry, FL
Norfleet Properties, LLLP, Newberry, FL
Robert A Butler & Annette G Butler, Newberry, FL
Robert Elmore & Linda L. Elmore, Newberry, FL
Sharon Langford, Newberry, FL
Sheri Ann Styles, Newberry, FL
F&F Citrus Springs, LLC, North Fort Meyers, FL
Marion E. Fennessey, North Fort Myers, FL
Benjamin Nwigwe & Cordelia Nwigwe, North Lauderdale, FL
Derrick Mahfood & Mark Mahfood, North Miami, FL
Jeanine Charles & Marc Charles, North Miami, FL
Nichola R. Hamm, North Miami, FL
Lucia Kodan, North Miami Beach, FL
Pola Mansdorf & Claire Fainstein, North Miami Beach, FL
Alvin W. Bass, O'Brien, FL
Amanda D. Barnes & Jerry L. Barnes Jr., O'Brien, FL
Anita Baxley & Phillip B. Baxley, O'Brien, FL
Carol J. Vann & J W. Vann Jr., O'Brien, FL
Chris Summerlin, O'Brien, FL
David Hinson, O'Brien, FL
Donald M. Odom & Minnie P. Odom, O'Brien, FL
Doyle E. Martin & Ella Mae Martin, O'Brien, FL
Fabian Santos & Mari C. Santos, O'Brien, FL
Gerald C. Clemans, O'Brien, FL
Glen Hayes & Janice Hayes, O'Brien, FL
Glenda P. Ryckewaert & James W. Ryckewaert, O'Brien, FL
Helen Byrd & Arthur Witt & Horace Witt, O'Brien, FL
Janet C. Barnes & Jerry L. Barnes Sr., O'Brien, FL
Jimmie Dicks & Mabel A. Dicks, O'Brien, FL
Joel Bravo Perez, O'Brien, FL
John L. Meyers II & Mary M. Meyers, O'Brien, FL
Jonathan W. Hause, O'Brien, FL
Joseph Peurrung & Victoria Peurrung, O'Brien, FL
Kevin R. Fletcher & Shelly Fletcher, O'Brien, FL
Kyle Hayes & Natalie Hayes, O'Brien, FL
Lisa D. Souchet, O'Brien, FL
Noella Roberts & Philip Roberts, O'Brien, FL
Ralph E. Washnock, O'Brien, FL
Rebecca Morgan & Travis Morgan, O'Brien, FL
Roger Shepard & Benjamin & Helen Shepard Estate, O'Brien, FL

The Estate of Helen Shepard, O'Brien, FL
Tracy Martin & William C. Martin, O'Brien, FL
Augusto Arce & Joaquina P Arce, Ocala, FL
Az Ocala Ranch, LLC, Ocala, FL
Barbara Ferrentino, Ocala, FL
Bert Yancey, Ocala, FL
Bob Drake, Ocala, FL
Brenda K Cavanah, Ocala, FL
Catherine Pietryka & Chester Pietryka, Ocala, FL
Cheyenne Yearego, Ocala, FL
D Paul Mack, Ocala, FL
Deltona Corporation, Ocala, FL
Drake Ranch Partnership, Ocala, FL
Elena H Maynard & Henry M Maynard, Ocala, FL
Florida Department of Transportation, Ocala, FL
Frederick V Myers II, Ocala, FL
Gladys A Blas & Noel Blas, Ocala, FL
Gloria Gindy, Ocala, FL
Green Swamp Ranch, LLC, Ocala, FL
Holland Drake, Ocala, FL
James Clarence Snelling, Ocala, FL
John S Clardy Jr., Ocala, FL
Joseph Hanratty, Forman, Hanratty, Thomas & Montgomery, Ocala, FL
Judy Smith, Ocala, FL
Larry B. Pitts & Regenia G. Pitts, Ocala, FL
Long Hammock Ranch II, LLC, Ocala, FL
Long Hammock Ranch, LLC, Ocala, FL
Luisa E Grant & Mark S Grant, Ocala, FL
Marion County, Ocala, FL
Marion County Board of County Commissioners, Office of County Engineer, Ocala, FL
McBride Management BRR, LLC, Ocala, FL
Mohamed Kromopawiro & Kasiladebie Mathoera, Ocala, FL
On Top of the World, Inc. Communities, Ocala, FL
Robert A Field, Ocala, FL
Salvatore Palazzolo, Ocala, FL
Sammie Edmond Albritton, Ocala, FL
Shepherd Timberlands-Farms LLC, Ocala, FL
Steve Dalton & Tamarah S Dalton, Ocala, FL
STR Realty, Inc., Ocala, FL
T. Richard Barber Jr. Trust, Ocala, FL
The Deltona Corporation, Ocala, FL
WRA c/o The Deltona Corporation, Ocala, FL
State of Florida Department of Transportation, Ocoee, FL
Be-Mac's Service Inc., Odessa, FL
Barn 4, LLC, Okeechobee, FL
Burell C. Rogers, Okeechobee, FL
Burnham Farms, Inc., Okeechobee, FL
David Trojanowski and Pamela Trojanowski, Okeechobee, FL
Dunklin Memorial Church, Inc., Okeechobee, FL
Estate of Melvin Teeters, Okeechobee, FL
Fanizzi Consulting, LLC, Okeechobee, FL
Fort Drum Community Church, Okeechobee, FL
Indian Hammock Hunt and Riding Club, Inc., Okeechobee, FL
James A. Burnsed and Brenda K. Burnsed, Okeechobee, FL
James Padgett, Olney-Alger Family Trust, Okeechobee, FL
James Shannon Burnsed and Bridget Michelle Burnsed, Okeechobee, FL
JKRRL Family Partnership, Okeechobee, FL
John Hoglo, Okeechobee, FL
John William Norris and Joanne Norris, husband and wife, Okeechobee, FL
Joyce Bond, Life Estate, Okeechobee, FL
Juan Contreras & Maria E. Contreras, Okeechobee, FL
Kermit Russell (Entrust Freedom LLC), Okeechobee, FL
Maurice R. Levesque, Okeechobee, FL
Melissa Leitner, Okeechobee, FL
Michael B. Hall and Patricia L. Hall, Okeechobee, FL
Phillip Smith, Okeechobee, FL
Richard D. Wymer, Okeechobee, FL
Sandra F. Silasavage, Okeechobee, FL
Sandra T. Carr, Okeechobee, FL
Tara Rowley, Okeechobee, FL
Tonya Campbell Ford, Okeechobee, FL
Wayne E. Carr and Cynthia L. Carr, Okeechobee, FL
Shaun Linton Lamenta-Johnson, Old Town, FL
John Szoke & Marta Szoke, Orange Park, FL
Mattie B. Branch & Theodore E. Branch, Orange Park, FL
A. B Reynolds Jr. & Betty L Reynolds, Orlando, FL
Addiel Perez & Shelly Perez, Orlando, FL
Amelia Jane Smith, c/o Richard Milian, Orlando, FL
Angela Hall, Orlando, FL
Angelo R Matos, Orlando, FL

Anthony F Ellis & Urma C Ellis, Orlando, FL
B K Ranch, LLC c/o Kent Hipp, Orlando, FL
B. Diane Smith, FRP, Paralegal to J. Christy Wilson, III, Orlando, FL
Barbara H Logan & James P Logan, c/o Raymer F. Maguire, Orlando, FL
Barbara Merritt Hodges, c/o Raymer F. Maguire, Orlando, FL
Belinda Revocable Living Trust, Orlando, FL
Ben Snyder, Orlando, FL
Benner Land Corporation, a Florida corporation, Orlando, FL
Betsy M Trinder & Brian J Trinder, c/o Ed Pantaleon, Orlando, FL
Betty Sue Rozar & Jimmy Dale Rozar & Jimmy Eward Rozar, Orlando, FL
Bouchenot Properties, Orlando, FL
Brenda L Smith & John J Smith, Orlando, FL
Carl Johns, Orlando, FL
Carol A Jones & Raymond G Jones, Orlando, FL
Carol Ann Mayer, Orlando, FL
Carol Johnson & Maxwell Johnson & Ruby Johnson & Lois Brown, Orlando, FL
Carroll Street Properties, LLC, Orlando, FL
Cathie Rogalski, Orlando, FL
Central Florida Investments, Inc., Orlando, FL
Chapman Garden, LLC, c/o Kent Hipp, Gray-Robinson, Orlando, FL
Charles O Kuharske & Cynthia C Kuharske, Orlando, FL
Christopher Byrd, The Byrd Law Gp, Orlando, FL
CIL Properties, LLC., Orlando, FL
Country GA, LLC (Countryside Village Mobile Home Park), Orlando, FL
Craig S Marlatt & Jolyn M Marlatt, Orlando, FL
Curtis Royal and Caron Kendrick, Orlando, FL
Daryl G Hyatt & Grady M Hyatt & Thelma Hyatt, c/o Raymer F. Maguire, Orlando, FL
Debra D. Sapp & Patricia C. Sapp & Wesley Donald Sapp & William J. Sapp, Orlando, FL
Deerfield Land Corporation, Orlando, FL
Dennis Bleakley & Janis Bleakley, Orlando, FL
Derlys Torres & Nefalty Torres, Orlando, FL
Donna Clark, Orlando, FL
Doyle C Lee & Hazel Elizabeth Lee, Orlando, FL
Dyer Blvd., LLC, Orlando, FL
E.R. Jahna Industries, Inc., a Florida corporation, Orlando, FL
Ed Pantaleon, Orlando, FL
Edward L Sloan, Orlando, FL
Everett Ralph Schnoebelen & Karen S Schnoebelen c/o Ed Pantaleon, Orlando, FL
Fabiola Lozano, Orlando, FL
Francisco Javier Jimenez, Orlando, FL
Gary Yokley & Maxine Yokley, Orlando, FL
Gene Randy Harris & Teresa Kay Harris, Orlando, FL
George L Sola, c/o Cecelia Bonifay, Orlando, FL
Gladys C. Johns Life Estate, c/o Raymer F. Maguire, Orlando, FL
Gloria Doscher, Orlando, FL
GP Limited Partnership, c/o Xentury City Development Co., Orlando, FL
Gwendolyn A Thompson & Richard Thompson, Orlando, FL
Hans Krug & Josefina Krug, Orlando, FL
Harold E. Morlan III, Shutts & Bowen, LLP, Orlando, FL
Harold Lassman, Maguire Lassman, Orlando, FL
Herman F Lukz c/o Richard Milian, Orlando, FL
Jackson MC Olsen & John Thomas Olsen & Thomas R Olsen, Orlando, FL
James J Beard & Joy S Beard, Orlando, FL
James O Betts & Marie U Betts, Orlando, FL
Jean M Gregoire & Lisette Gregoire, Orlando, FL
Jewel Howard and Jo Ann Howard, his wife, Orlando, FL
John W. & D. Jane Giles Living Trust, Orlando, FL
Jose Marcelino Battistini & Ana Paula Do Lago Palacio, Orlando, FL
Juan Quintana, Orlando, FL
Jutta Fink & Klaus Fink & Denis Rocks, Orlando, FL
K.E.L Homes, Orlando, FL
KB Home Orlando, LLC, Orlando, FL
Kelley Properties c/o J. Christy Wilson, III, Orlando, FL
Kent Hipp, Gray Robinson, Orlando, FL
Kurtis T. Bauerle, Orlando, FL
Kyle Muehlstein, Orlando, FL
Lawton C Rozar, Orlando, FL
Louisette Denson, Orlando, FL
Lucille T. Odom Revocable Trust, Orlando, FL

Marcy Weekley & Rodney Weekley, c/o Harold Lassman, Orlando, FL
Maria De Rojas & Sheila D Rojas, c/o Richard Milian, Orlando, FL
Marshall B Partin, c/o Raymer F. Maguire, Orlando, FL
Martha C Brack, Orlando, FL
Martin Andersen-Gracia Andersen Foundation, Inc., Orlando, FL
Marvin Valarezo, Orlando, FL
Mary C. Galloway c/o Ed Pantaleon, Orlando, FL
Micheloni Properties Inc., Orlando, FL
Mitchem-Rivers, LLC, Orlando, FL
Mohammad Javed Lodhi & Shihda Parveen, Orlando, FL
Munir G Rasool, Orlando, FL
Nola Land Company, Inc., Orlando, FL
North East Polk, LLLP, a Florida Limited Liability Limited Partnership, Orlando, FL
Osceola Crossings Owner, LLC, Orlando, FL
Park Square Enterprises, LLC, Orlando, FL
Paul D Grohsmeyer & Vickilyn A Grohsmeyer, Orlando, FL
Pia Emily Sola 2006 GST Irrevocable Trust, c/o Cecelia Bonifay, Orlando, FL
Polyak Development, Inc., Orlando, FL
Pulte Home Corporation, Orlando, FL
Randy A Garfield, Orlando, FL
Reunion West SPE LLC, Orlando, FL
Richard V Dickerson, Orlando, FL
Rita G. Cole Revocable Trust, Orlando, FL
Robert L. Kuharske Revocable Trust, Orlando, FL
Robin J. Crotty & Wayne H. Crotty, Orlando, FL
Rolando Balleras, Orlando, FL
Ronadiad, Inc., Orlando, FL
Ronald K Mohn & Michele J Mohn, Orlando, FL
S & R Investments USA, Inc., Orlando, FL
Salvatore R. Scarito Trust & Revocable Trust dated 6/28/1999, Orlando, FL
Savi Investments, LLC, Orlando, FL
Sharon Murphy & Donna White, Orlando, FL
State of Florida Department of Transportation, Orlando, FL
Stephen C Talbert, Orlando, FL
Suzanne S. Markel, Orlando, FL
Ted Edwards, Orlando, FL
The First Pentecostal Church of Orlando, Inc., c/o Jay W. Small, Orlando, FL
The Robert A. Davis Family Trust, c/o Ed Pantaleon, Orlando, FL
Timothy Lee McIntire, Orlando, FL
Tohopekaliga Water Authority c/o Kent Hipp, Orlando, FL
Tuan Nguyen and Dai Thi Trang, his wife, Orlando, FL
Valerie J. Tourtelot 2005 Irrevocable Trust, c/o Cecelia Bonifay, Orlando, FL
Veranda Palms HOA, Inc., Orlando, FL
Vivek Investment Corporation, Orlando, FL
Westside Community Development District, Orlando, FL
Westside SPE, LLC, Orlando, FL
William L Canole, Orlando, FL
William Ray Glidewell, Orlando, FL
Zenaida Silverio-Almonte, Orlando, FL
Diane Mcachren & Greg Mcachren & Maryann Ginesta & William Worrell, Ormond Beach, FL
Island For Sale, LLC, Ormond Beach, FL
William A. Worrell and Richard A. Bruno, Ormond Beach, FL
William Worrell, Ormond Beach, FL
JEN Florida XIII, LLC, Oviedo, FL
Brenda A Solomon & Levi A Solomon, Oxford, FL
William A Orr, Oxford, FL
Gail Hankinson, Assistant General Counsel, SJRWMD, Palatka, FL
Gary B. Lott, Palatka, FL
Hanz Tanzler, SJRWMD, Palatka, FL
Michael Register, Director, SJRWMD, FL Park Service, Palatka, FL
Dannie L. Dempster & Pauline A. Dempster, Palm Bay, FL
Michelle Reiber, Bureau Director Environmental Regulation, SJRWMD, Palm Bay, FL
Danielle Moore, Palm Beach, FL
Jean Bouvier Gelin, Palm Beach Gardens, FL
Junior Louis Ranch LLC, Palm Beach Gardens, FL
M&D Realty, Palm Beach Gardens, FL
Yeehaw Ranch, LLC, Palm Beach Shores, FL
John Santagata and Gail Santagata, Palm City, FL
Long Term Investment Holdings, LLC, Palm City, FL

Medora Reading & Todd Reading, Palm City, FL
Turnpike Dairy, Inc., Palm City, FL
Anthony Russon & Raquel Russon, Palm Coast, FL
LRA Orlando, LLC, Palm Coast, FL
Manuel Gomes & Mavilde Gomes, Palm Coast, FL
Artho E Staley, Palm Harbor, FL
Kara Sue Colecchia, Palm Harbor, FL
Salvatore Palazzolo, Palm Harbor, FL
Timothy E. Taylor, Palmetto, FL
Edward Keith Spell, Palmetto Bay, FL
Howard Henry c/o Jan Simon Simon, Panama City, FL
Frederick R. Gilliam, Parkland, FL
Hamilton Energy Resources Opportunities, LLC, Parkland, FL
Robert J Pina, Parkland, FL
C & E Landholdings/Citrus, LLC, Parrish, FL
Leonardo Mercedes, Pembroke Pines, FL
Luis A Quiceno & Nancy Quiceno, Pembroke Pines, FL
Maria Davidovics, Pembroke Pines, FL
New Living Stones, Inc., Pembroke Pines, FL
PCF Ventures, Inc., Pembroke Pines, FL
Warren McDonald, Pembroke Pines, FL
Florida Department of Transportation, Perry, FL
Apollo Beach Investments Limited Partnership, Pineland, FL
Noel Andress, Apollo Beach Investment Limited Partnership, Pineland, FL
Jasmin A. Geyser, Pinellas Park, FL
Richard Kelley & Shirley Kelley, Pinetta, FL
Frances Hardee, Plant City, FL
Armoine Poliard & Lourdes L. Cupidon & Patrick Morreau, Jr., Plantation, FL
Carol Loftman & Seymour Loftman, Plantation, FL
Christopher Mustian & Lorraine Mustian, Plantation, FL
Jinda Lwin & Nyunt Lwin, Plantation, FL
Kenel Cazeau and Bernadette Cazeau, Plantation, FL
Nery Gainor, Plantation, FL
Steven Michael Smith, Pompano, FL
Heinz Warich & Zoila Warich, Pompano Beach, FL
J & K Growers, LLC, Pompano Beach, FL
Michael Zhushan Xiong & Xinglin Xiong, Pompano Beach, FL
Timothy B. Mather Trust and Sandra A. Mather Trust, Pompano Beach, FL
CFH Dairy Real Estate Florida II, LLC, Ponte Vedra, FL
E. Chester Stokes, Jr. and Lynda F. Stokes, Ponte Vedra Beach, FL
Harry D. Francis & Patrica L Francis, Ponte Vedra Beach, FL
Brian Hopkins, Port Orange, FL
Kathleen Fitzpatrick, Port Orange, FL
Stephanie Rees, Port Orange, FL
Patrick Wilson & Pamela Law, Port Saint Lucie, FL
Winston Gordon and Shirley Gordon, Port Saint Lucie, FL
Angela Marotta & Joseph Marotta, Port St. Lucie, FL
James C. McNally & John F. McNally & Evelyne Piard, Port St. Lucie, FL
Margate Shopping Center, Inc., Port St. Lucie, FL
Timothy Murray, Port St. Lucie, FL
Deborah S. Griffis & Johnnie L Griffis, Raiford, FL
Eric Casey, Reddick, FL
Tolentino Family Limited Partnership, Reunion, FL
Harold Augustin & Margareth M. Augustin, Rockledge, FL
Estilia Louis & Jacquelin Louis, Royal Palm Beach, FL
Joyce Sibble, Royal Palm Beach, FL
Scott Fitzpatrick, Ruskin, FL
Gertrude C. Dickinson, Rutland, FL
SR 544 LLC., Safety Harbor, FL
David Lee Hazelwood, Saint Cloud, FL
Lola C. Smith c / o Steve Smith, Saint Cloud, FL
Maury J Davis, Saint Cloud, FL
Orie N. Lee and Louise H. Lee, husband and wife, Saint Cloud, FL
Florida Power Corp., Tax Dept-Pef-131, Saint Petersburg, FL
Florida Power Corporation d/b/a Progress Energy Florida, Inc., Saint Petersburg, FL
Heitman - Ellis Properties, Inc., Saint Petersburg, FL
Myreon A. Moss, Donyale Samika Moss & Sonya D. Simmons, Saint Petersburg, FL
Ouxay Rintharamy and Vilayphone Rintharamy, Sanford, FL

Viraphanh Ratanavong and Chindavone Ratanavong, Sanford, FL
1224 Corp., Sarasota, FL
David J. Brown, P.G., Progressive Water Resources, Sarasota, FL
Gardinier Florida Citrus, Inc., Sarasota, FL
Gylar Holdings, LLC, Sarasota, FL
Main St. USA Corp., Sarasota, FL
Okeechobee Ag. Land Trust c/o Alan E. Jones, Trustee, Sarasota, FL
SR 44 LC, Sarasota, FL
Curtis H Edwards & Lillie Edwards, South Bay, FL
Lillie M. Edwards & Fannie Mae Jones, South Bay, FL
Alan R Searle, Southwest Ranches, FL
Debra Diane Ellison & Randy Carl Ellison, Southwest Ranches, FL
Sun Coast Investors, LLC, Spring Hills, FL
Logan Family Investments LLP, St. Augustine, FL
Debra Schiefelbein & Robert D. Schiefelbein III & Robert D. Schiefelbein Jr., St. Cloud, FL
John Taaffe & Mildred S. Taaffe, St. Petersbburg, FL
Cons Chair, Sierra Club, St. Petersburg, FL
Ballard D. Browning & Patricia A. Browning, St. Petersburg, FL
Branch Banking & Trust Company (BB&T) c/o Diane Flannery, St. Petersburg, FL
Daniel J. Chechele, St. Petersburg, FL
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Duke Energy Florida, Inc., St. Petersburg, FL
Irene Johnson, St. Petersburg, FL
James Lambert & Kristina L Lambert, St. Petersburg, FL
Larry Hascall, St. Petersburg, FL
Lucien Campillo, St. Petersburg, FL
Marion Lawrence & Wesley R Lawrence, St. Petersburg, FL
Minnie B. Bell, St. Petersburg, FL
Paul M. Stees, Jr. Revocable Living Trust, St. Petersburg, FL
Rita J. Coleman & Wayne L. Coleman, St. Petersburg, FL
Ronald Holehouse, St. Petersburg, FL
Secret Promise Ltd., St. Petersburg, FL
Sierra Club FL, St. Petersburg, FL
Towns of Legacy Park Homeowners Association Inc, St.Peterburg, FL
David Powers, Chairman, Martin County Enterprise Zone Dev Ag, Stuart, FL
Enrique Mora, Stuart, FL
Juan Escobar, Stuart, FL
Michael Busha, Executive Director, Treasure Coast Regional Planning Council, Stuart, FL
Peter Merritt, Assistant Director, Treasure Coast Regional Planning Council, Stuart, FL
South Florida Water Management District (C-23 Canal ROW), Stuart, FL
South Florida Water Management District and Martin County, Stuart, FL
B & B Sumter LLP, Sumterville, FL
Bexley Sumter, Inc., Sumterville, FL
Ambrosio Revocable Trust Agreement, Sunrise, FL
Builders Property Group, LLC, Sunrise, FL
Gabrielle Saint-Preux & Victor Saint-Preux, Sunrise, FL
Lois Marino, Lorraine Genova, Joann Calabrese & Rosemarie Ambrosio, Sunrise, FL
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American International Properties, Inc., Tampa, FL
Andrew Diaz, Tampa, FL
Appleby Revocable Trust of April 2007, Tampa, FL
Arnold Groves & Ranch, Ltd. c/o Andrew Diaz of Gaylord, Merlin, Ludovici, and Diaz, Tampa, FL
Arnold Groves & Ranch, Ltd. c/o Andrew Diaz of Gaylord, Merlin, Ludovici, and Diaz, Tampa, FL
Ashinat Satar & Hasnadeen Satar, Tampa, FL
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Better Properties of Central Florida Inc., Tampa, FL
Brian J. Dupont, Tampa, FL
Cara V. Good & Joshua J. Good, Tampa, FL
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Carol Phillips-Khan, Tampa, FL
Carroll Ray Anderson Revocable Trust, Tampa, FL
CFH Dairy Real Estate Florida II, LLC, Tampa, FL
Charles T. Fletcher, Tampa, FL
Chinquapin Farm, LLC, Tampa, FL
Christine C. Thompson, Tampa, FL
Christine S. Hardee, Tampa, FL
Clara H Nogueira, Tampa, FL
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Donna F. McCullers & James F. McCullers, Tampa, FL
Estes Groves, Inc. c/o Paul D. Bain, Trenam, Kemker, Scharf, Barkin, Frye, O'Neill, & Mullis, P.A., Tampa, FL
Eva Gonzalez & Maynor E Gonzalez, Tampa, FL
Evans Properties, Inc. c/o Cary Gaylord of Gaylord, Merlin, Ludovici, and Diaz, Tampa, FL
Farrior Investments, Ltd., Tampa, FL
Frank A. Duque, Tampa, FL
Frank D. Churchwell, Tampa, FL
Franklin Danser & Dorinda Brownnell, Tampa, FL
G. Calvin Hayes & Vickie F. Hayes, Tampa, FL
George L. Southworth Revocable Trust, Tampa, FL
Georgia D. Anderson, Tampa, FL
Gloria Dicairano-Haire, Tampa, FL
Gloria J. Rauner & Joseph R. Rauner, Tampa, FL
Jack R. Gay, Tampa, FL
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Jean E Styles, c/o Jay J. Bartlett, Tampa, FL
John A. Paulton, Tampa, FL
Joyce Sibble, c/o Jay J. Bartlett/Jeff L. Hinds, Tampa, FL
Judith Lynne Wilson, Tampa, FL
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Kathleen M. Murphy & Stanley A. Murphy, Tampa, FL
Kevin R. Mercer & Patricia A. Mercer, Tampa, FL
Kurtis T. Bauerle, c/o Calvin HaYes, Tampa, FL
Lauren U. Melo, Tampa, FL
Majid Esmaeili, Tampa, FL
Marcel Djulvez, Tampa, FL
Martha L Meshensky & Paul D Meshensky, Tampa, FL
Mary Katherine White & Mike Floyd White, Tampa, FL

MHC Three Flags Resort LLC, Tampa, FL
Pamela M Robb, Tampa, FL
Pankor Investment, Inc., Tampa, FL
Patrice Allen & Timothy Allen, Tampa, FL
Patricio Fernandez, Tampa, FL
Paul Bain, Trenam Kemker, Tampa, FL
Quality Petroleum Corporation, Tampa, FL
Robert A Stern c/o Blake H. Gaylord, Tampa, FL
Robert Kelley, Jr., Hill Ward Henderson, Tampa, FL
Robert William Urban & William Joseph Urban & Julie Ann Lehan, Tampa, FL
Rodger B. King, Tampa, FL
S Cary Gaylord, Gaylord Merlin Ludovici & Diaz, Tampa, FL
Sandy Klaus, Tampa, FL
Sharon Morgan Vollrath, Tampa, FL
Shasta Garrison Lee, Tampa, FL
SLV Legacy Park, LLC, c/o Stephen Kussner, Tampa, FL
The Princess Resort Homes, LLC, c/o Paul D. Bain, Tampa, FL
The Villas at Seven Dwarfs Lane, Tampa, FL
THR Florida LLC, Tampa, FL
Triple S Ranch, Inc. and Harris W. Hudson, LLC c/o S. Cary Gaylord and Blake H. Gaylord of Gaylord, Merlin, Ludovici & Diaz, Tampa, FL
Triple S Ranch, Inc.c/o S. Cary Gaylord and Blake H. Gaylord of Gaylord, Merlin, Ludovici & Diaz, Tampa, FL
Valmont Industries, Inc., c/o John Mueller, Tampa, FL
Westside CDD Holdings, Inc. c/o Paul D. Bain, Trenam, Tampa, FL
William M O'Neal & Pete Head & Jackie B Jones, Tampa, FL
Yu Chik Ku Fan, Tampa, FL
J. K. Timber, LLC, Tarpon Springs, FL
H. John Feldman, Esq, Cauthen & Feldman, P.A., Tavares, FL
Lake County, Tavares, FL
Miriam Koenke Trust, Tavares, FL
Oklawaha Basin Recreation & Water Conservation & Control Authority/Lake County Water Authority, Tavares, FL
Rodney Weekley, Tavares, FL
The Donald Koenke Trust, Tavares, FL
United Signs & Signals, Inc., Tavares, FL
Osceola Development Trust, Tequesta, FL
The Villages of Lake Sumter, The Villages, FL
Deborah Kobakof & Kosta Kobakof, Tierra Verde, FL
James L. Anderson & Sylvia E Anderson, Titusville, FL
Stephanie A Weaver & Thomas J Weaver, Titusville, FL
Alliance Dairies, Trenton, FL
Arlena A. Gay & Danny C. Gay, Trenton, FL
Barbara Jean Polete & Charles M Polete, Trenton, FL
Bennett Family Revocable Trust, Trenton, FL
Betty A. Horne & David F. Horne, Trenton, FL
Brenda Thomas & Donald A. Thomas & Horace Thomas & Jarrett K. Thomas & Kevin Thomas, Trenton, FL
Brian L. Crawford & Janis D. Crawford, Trenton, FL
Charles Evans Langford & Barbara Ann Rain, Trenton, FL
Constance Lindsay & Danny L. Lindsay, Trenton, FL
Crystal A. Jones & Grady Jones Jr., Trenton, FL
Daryl A Snodgrass, Trenton, FL
Edwin Langford & Gary Langford & Terrell Langford, Trenton, FL
Eric L. White & Laura D. White, Trenton, FL
Garry Dean Crosby, Trenton, FL
Gilchrist County, Board of County Commissioners, Trenton, FL
Henry L. Huling & Martha J. Huling, Trenton, FL
Herbert Brown Jr., Trenton, FL
Jan Viola White, Trenton, FL
Jane Hatker, Trenton, FL
Jean Harriet Wonser, Trenton, FL
Jeffrey K. Beach & Marilyn F. Beach, Trenton, FL
Joann Lackey, Trenton, FL
Kenneth S. Tucker, Trenton, FL
Kevin Lomax Whitaker, Trenton, FL
Lynn R. Hatker, Trenton, FL
Michael Langford, Trenton, FL
Nancy M Rogers, Trenton, FL
Ricky A Rose, Trenton, FL
Scott Tucker, Trenton, FL
Steve Gladin, Trenton, FL
Timothy Odom, Trenton, FL
Townsend Family Revocable Living Trust, Trenton, FL
Carol Ann Lavenia Life Estate, Umatilla, FL

First Berkshire Business Trust, University Park, FL
Reid Family Partnership, LP, Valdosta, FL
Tobie A. Albritton, Valrico, FL
Daniel I Preuss & Joan M Preuss, Vero Beach, FL
Earth Acquisitions Inc., Vero Beach, FL
Estes Groves, Inc. c/o Cody Estes., Vero Beach, FL
Evans Properties, Inc., Vero Beach, FL
Norma H Whittum & Ronald Whittum, Vero Beach, FL
South Florida Water Management District (Perpetual Easement) Evans Properties, Inc. (Fee Owner), Vero Beach, FL
Evadne Loshusan & Yvonne Loshusan, Village Palmetto Bay, FL
Freddie B. Alvaro, Virginia Beach, FL
Durando Okeechobee Partners, LLC, Wauchula, FL
Debra Johnson, Wellborn, FL
William H. Hartsuff, Wellborn, FL
Erich Koch, Wellington, FL
Lionel Francois and Enoline Francois, Wellington, FL
Rebecca D. Miller, Wellington, FL
Serge Thys and Maryse Thys, Wellington, FL
Bruce Hall, Senior Real Property Manager, SFWMD, West Palm Beach, FL
Camille D'Angelo, West Palm Beach, FL
Castaway Ranch, LLC, West Palm Beach, FL
Cemex Construction Materials Florida, LLC, West Palm Beach, FL
Charles R. Griffin Living Trust and Annette Griffin Living Trust, West Palm Beach, FL
Edmund F. Paul, West Palm Beach, FL
Edna Exy, West Palm Beach, FL
Fort Drum Investments, Inc. c/o Max J. Kolshak, Inc., West Palm Beach, FL
Fort Drum Land Holdings, LLC, West Palm Beach, FL
Gladys Jones and Eric Jones, wife and husband, West Palm Beach, FL
Glenn & Maria Rhodes, West Palm Beach, FL
Hay String Farm, LLC, West Palm Beach, FL
Jeff Kivett, Director, Everglades Engineering Dept., SFWMD, West Palm Beach, FL
Jennifer Goff, Biologist, Florida Fish and Wildlife Conservation Commission, West Palm Beach, FL
John Morgan, Lead Policy & Planning Analyst, SFWMD, West Palm Beach, FL
Jorge Patino, Section Administrator Right-of-Way, SFWMD, West Palm Beach, FL
Ramuth Wilks & Dianna James, West Palm Beach, FL
Real Property Holding - Polk County, FL, LLC, West Palm Beach, FL
Roy D. Griffin and Janis K. Griffin, West Palm Beach, FL
Roy Griffin, West Palm Beach, FL
Sandra E Garza, West Palm Beach, FL
Sharon Trost, Director Regulation Division, Suwannee River WMD, West Palm Beach, FL
Siboney Ranch, LLC, West Palm Beach, FL
South Florida Water Management District, West Palm Beach, FL
South Florida Water Management District (1/2) / Polk County, Florida (1/2), West Palm Beach, FL
Terrie Bates, Division Director-Water Resources, SFWMD, West Palm Beach, FL
Tommy Strowd, Director of Operations, Maintenance & Construction, SFWMD, West Palm Beach, FL
Willie Henry Jackson, West Palm Beach, FL
Mary Barty, West Park, FL
Diego Fernandez, Weston, FL
Juan Emilio B Geara, Weston, FL
Luis Alberto Zuniga Garcia, Weston, FL
Maria Andrea Zuniga Daulton and Alberta Zuniga, Weston, FL
Alice Andrews, Wildwood, FL
Audrey E Feldt & Gene A Feldt, Wildwood, FL
Brad D Martin, Wildwood, FL
Caruthers Brothers, LLLP, Wildwood, FL
Charles T Jerome & Anne S Jerome, Wildwood, FL
Charlie D Tarver & Margaret Tarver, Wildwood, FL
Corey Allen Lewis & Kimberly Koenig Lewis & Mary F Lewis, Wildwood, FL
Daniel G Sands, Wildwood, FL
Deborah Sigler & Terry R Sigler, Wildwood, FL
Debra A Vanderhoof, Wildwood, FL
Dixie L Ruzzo & Elviro W Ruzzo, Wildwood, FL
Efrain Martinez & Ana E Martinez, Wildwood, FL
Estate of Barbara Elizabeth Orr, Wildwood, FL

Frank J Fox & Martha E McDowell, Wildwood, FL
Gloria Dicairano-Haire, Wildwood, FL
Glynnis S Kendall, Wildwood, FL
H & H Enterprises, Inc., Wildwood, FL
Harold Meyers, Wildwood, FL
Heidi McKinney & Jeremy S McKinney, Wildwood, FL
Jay-ne L Collins, Wildwood, FL
John C Shoup & Lucille J Shoup, Wildwood, FL
Joseph Dean Graham & Susie Ann Steele, Wildwood, FL
Julie A Redding & Robert W Redding, Wildwood, FL
Kenneth Underhill, Wildwood, FL
Louise Solomon & Cozette Sesler, Wildwood, FL
Michael Edward Quirion, Wildwood, FL
Michael G Hauptkorn, Wildwood, FL
Michael S Riley & Kathy Rankin, Wildwood, FL
Michael Scott Cornell & Donald H Cornell, Wildwood, FL
Ottis Collins, Wildwood, FL
Paul N Morrot & Majorie J Morrot, Wildwood, FL
Rebecca Partridge, Wildwood, FL
Sarah Parker, Wildwood, FL
Tanya C Mills, Wildwood, FL
Teresa Gail Uhlenhake, Wildwood, FL
The Betty M. Caruthers Family Trust, Wildwood, FL
Wesley W Werle, Wildwood, FL
William Farkus Revocable Living Trust, Wildwood, FL
William G Yoemans, Wildwood, FL
Adrienne Bell, Williston, FL
Alexander Cochrane & Pamela Cochrane, Williston, FL
Anton W. Joseph & Karen A Joseph, Williston, FL
B & G Family Partnership, LLLP, Williston, FL
Beth Melissa Gordon, Williston, FL
BGH Farms, Williston, FL
Bruce John Micek & Mary Elizabeth Micek, Williston, FL
Charles L. Stoel & Sarah E Stoel, Williston, FL
Damon W. Sandlin & Sharon A Sandlin, Williston, FL
Eileen K. Wynne, Williston, FL
Fred Shasteen, Williston, FL
GDG Holdings, LLC, Williston, FL
Herbert I. Grossberg, Williston, FL
Janice F. Pedone, Williston, FL
Joseph K. McCoy, Williston, FL
Lynne M. Arruda Ciano, Williston, FL
Marvia L. Jefferson & Victoria Jackson & Robert R Buggs & Richard L Miller & Moses Buggs Jr., Williston, FL
Michael DeCora & Eileen R. DeCora Revocable Living Trust, Williston, FL
Moses Buggs Jr., Williston, FL
Redbird Revocable Trust, Williston, FL
Ronald M Jones & Laura K. Jones, Williston, FL
Ryan B Thomas, Williston, FL
Scott W Evans & Terry J. Evans, Williston, FL
Seroy Burgman, Williston, FL
Sylvester, Sr., Arnold Raymond & Samuel David Burgman, Williston, FL
The Fred B. Hale Revocable Living Trust, Williston, FL
Trust Agreement for Lee A. Thomas & Trust Agreement for Beverly J. Thomas, Williston, FL
Victoria Ann Jackson & Thomas Jackson, Sr. & Michelle Jefferson, Williston, FL
Willie G Monroe & Janice Young, Williston, FL
Williston Peanuts, Inc., Williston, FL
Ashinat Satar & Hasnadeen Satar, Wilton Manors, FL
Andrew Hanzlik & Margaret Hanzlik, Windermere, FL
Brenda Dykgraaf, Windermere, FL
KMP Land Corp, Windermere, FL
Syed Tariq Mumtaz and Ghazala Tariq Mumtaz, Windermere, FL
Barbara Heaney & John Heaney & Scott Heaney, Winter Garden, FL
Gertrude C. Dickinson, Winter Garden, FL
VPS Property Management, Inc., Winter Garden, FL
B & D, LLC, Winter Haven, FL
BK Properties 1, LLC, Winter Haven, FL
Daniel John Adams, Winter Haven, FL
Dole Berry Company, LLC, Winter Haven, FL
George Pousa, Winter Haven, FL
Gwendolyn Newell (life estate) and Steven T. Newell and Gary S. Newell, Winter Haven, FL
Habitat for Humanity of East Polk County, Inc., Winter Haven, FL

James L. Langford, Winter Haven, FL
Jeffrey T. Grant and Marie Grant Mackey, Winter Haven, FL
John G. Wood and Associates, Inc., Winter Haven, FL
Kenneth B. Tucker and Lynne A. Tucker, his wife, Winter Haven, FL
Margaret F. Allen, Winter Haven, FL
Marvin L. Outler and Linda J. Outler, Winter Haven, FL
MFF Florida Properties, LLC, Winter Haven, FL
Morris Family Trust, David A. Morris, Jr., and Allan L. Casey, Trustees, Winter Haven, FL
Polk Lots, LLC, Winter Haven, FL
Preservation of Natural Florida, Inc., Winter Haven, FL
Sylva Jean Bilbrey, Winter Haven, FL
Tea Groves, Winter Haven, FL
Thanh H. Tran and Ngoc T. Bui, husband and wife, Winter Haven, FL
The John Clay Henderson Trust, John Clay Henderson, Trustee, Winter Haven, FL
William G. Vegter, Winter Haven, FL
William T. Bice, Jr. and Darlene M. Bice, Winter Haven, FL
Ann Louis Drake, Winter Park, FL
Florida Lots, LLC, Winter Park, FL
James B Dobbins, Jennifer T Harris, Tuyet Hoa Carlin, Cindi Hong Doana & Linda N Botts, Winter Park, FL
Richard L. Ashton Revoc Trust, Winter Park, FL
Suzanne S. Markel, Winter Park, FL
Arnt Vagle, Westmont Home Owners Assoc Inc, Winter Springs, FL
John Ryan, Winterhaven, FL
George W Hanna Sr. & Ruth C Hanna, Jeffery Blaine Williams, Timothy Blake Williams & Huley Roy Williams, Yalaha, FL
James W Hobgood & Tiffany J Hobgood, Yalaha, FL
Gina Santelices Dennis, Yulee, FL
Barbara E Shelley & James D Shelley Jr., Zellwood, FL
Samuel K. Walden, Adel, GA
Dr. Curtis Beaird, Ailey, GA
A Holt, Albany, GA
A. Kimberly Johnson, Albany, GA
Aaron Muhammad, Albany, GA
Albany Farm, LLC, Albany, GA
Alberta Martin, Albany, GA
Alberta Wilson, Albany, GA
Alex Jackson, Albany, GA
Alex LaPierre, Albany, GA
Alexandria Bolden, Albany, GA
Alice Moultrie, Albany, GA
Alicia Neumann, Doug Neumann, Albany, GA
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Alsylvia Smith, Albany, GA
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Andrew Wiggins, Albany, GA
Angela Hines, Albany, GA
Angela Jones, Albany, GA
Ann Anderson, Albany, GA
Anne Benefield Henderson & Byron L. Henderson, Albany, GA
Annie Kate Walker, Albany, GA
Annie McCray, Albany, GA
Annie Owens, Albany, GA
Asha Johnson, Albany, GA
Ashley Henry, Albany, GA
Ashley Ross, Albany, GA
BAM Group, LLC, A Georgia Limited Liability Company, Albany, GA
Barbara B. Pippin, Albany, GA
Barbara Gray, Albany, GA
Barbara Lee, Albany, GA
Barbara Walthall, Albany, GA
Bays Tree Farm Inc, Albany, GA
Beacon Missionary Baptist Church, Albany, GA
Benjamin D. Hatcher Sr. & Carolyn J. S. Hatcher, Albany, GA
Bennie Jones, Albany, GA
Bernice Glaze, Albany, GA
Bessie Gaines Smith, Albany, GA
Bessie Graper, Albany, GA
Betty Frazier, Albany, GA
Betty Hancock, Albany, GA
Betty New, Albany, GA
Beverly Reid, Albany, GA
Billy Adams, Albany, GA
Bobby B. Hall & Brenda J. Hall, Albany, GA
Bonnie J. Felton, Albany, GA
Brandy Grice, Albany, GA
Brenda Clark, Albany, GA
Brenda Covin, Albany, GA
Brenda Forrester, Albany, GA
Brenda Griffin, Albany, GA
Brenda Jenkins, Albany, GA

Brianna Alexander, Albany, GA
Bridget Brown, Albany, GA
Brigitte Robinson, Albany, GA
Brittney Price, Albany, GA
Bronwyn Hinton, Albany, GA
Bruce Deriso, Albany, GA
Bruce Jones, Albany, GA
Byron L. Henderson, Albany, GA
Cal Crutchfield, Albany, GA
Calvin Cheevers, Albany, GA
Calvin Gilbert, Albany, GA
Calvin Wheeler, Albany, GA
Cameron V, Albany, GA
Candace Griffin, Albany, GA
Carl Garrett, Albany, GA
Carol Gene Ray, Albany, GA
Carol Thomas, Albany, GA
Carter Christian, Albany, GA
Cartrice Coven, Albany, GA
Cassandra Harris & James A. Harris, Albany, GA
Cathy Clemons, Albany, GA
Cathy Rush, Albany, GA
Cecelia D. Holton, Albany, GA
Cecilia Holton, Albany, GA
Charlene Jackson, Albany, GA
Charles Hutchison, Albany, GA
Charles Ochie, Albany, GA
Charles R. Katz, Albany, GA
Charlie Carr, Albany, GA
Charlie Williams, Albany, GA
Charlotte Stone & Jack Stone Sr., Albany, GA
Chase Vanzant, Albany, GA
Chasity Williams, Albany, GA
Cheryl Abell, Albany, GA
Christina Vanzant, Albany, GA
Christine Riggin, Albany, GA
Christopher Jewell, Albany, GA
Christopher Railey, Albany, GA
City of Albany, Albany, GA
City of Albany, Board of WG & Light Comm., Albany, GA
Clinton Miles, Albany, GA
Coldwell Banker Walden & Kirkland, Albany, GA
Coley Musgrove, LLP, Albany, GA
Commissioner Harry James, Albany, GA
Craid Muhammad, Albany, GA
Craig Sanchez & Detrich Sanchez, Albany, GA
Crystal M. Morris & Hugh O. Morris Jr., Albany, GA
Curnell Ward, Albany, GA
Curtis Luckey & Debra A. Luckey, Albany, GA
D & J Land Holdings, LLC, Albany, GA
Dakota Johnson, Albany, GA
Dale C. Gamble, Albany, GA
Daniel Wiggins, Kiokee Creek Farms, Albany, GA
Daphnie Miller, Albany, GA
Darryl G. Taylor, Sr. & Velma W. Taylor, Albany, GA
Darsey C. Herschel, Albany, GA
Daryl Driskall, Albany, GA
David A. Cotton, Albany, GA
David McKinney, Albany, GA
David Sevier, Albany, GA
David Taylor, Albany, GA
David Wright, Albany, GA
Davis Family Properties, Albany, GA
Debi Caulder, Albany, GA
Debra S. Wilder, Albany, GA
Debra Taylor, Albany, GA
Delores Butts, Albany, GA
Deloris Bolden, Albany, GA
Delta Partners, Inc., Albany, GA
Denise Classon & Francis X. Classon, Albany, GA
Derick Thomas, Albany, GA
Desheka Johnson, Albany, GA
Dexter Watson, Albany, GA
Dianne Wright, Albany, GA
Dinorah Hall, Kiokee-Flint Group, Albany, GA
Dixie Johnson, Albany, GA
Dominique James, Albany, GA
Dominique McGriff, Albany, GA
Don Roth, Albany, GA
Donald Bouie, Albany, GA
Donald Butts, Albany, GA
Donald Green, Albany, GA
Donnie L. Garner & Dorothy J. Garner, Albany, GA
Doris Glover, Albany, GA
Doris Hayes, Albany, GA
Doug Fazendin, Albany, GA
Dougherty County, Albany, GA
Dougherty County Public Works-Dougherty County, Georgia, Albany, GA
Down Home Plantation, LLC, Albany, GA
Dr. Alma Noble, Albany, GA
Dr. Steven D. Whatley, Albany, GA
Drico Jones, Albany, GA
Earl Johnson, Albany, GA

Earl Spurlock, Albany, GA
Earnestine Taylor Jones, Albany, GA
Eddie Walker, Albany, GA
Eddy Dale and Karen D. Henderson, Albany, GA
Edward and Mary Simmons, Albany, GA
Elecie Shead, Albany, GA
Elizabeth Elliott, James M. Elliott, III, Albany, GA
Elizabeth Villalta & Sigifredo Villalta, Albany, GA
Ernest R. Chapman & Flo Chapman, Albany, GA
Ernestine McNeil, Albany, GA
Essie Green, Albany, GA
Ethel Vickers, Albany, GA
Eva T. Holliday, Albany, GA
Fannie Fletcher, Louis Fletcher, Albany, GA
Flint Riverkeeper, Albany, GA
Franklin Cole, Albany, GA
Freddie Daniels III, Albany, GA
Freddie Davis & Naydene M. Davis, Albany, GA
Frederick Warren Carter, Albany, GA
Gail Campbell, Kerry Campbell, Albany, GA
Galexisya Mobley, Albany, GA
Gary Jeffries Jr, Albany, GA
Geneva Wease & Jimmy D. Wease, Albany, GA
Geoffery and George Stewart, Albany, GA
Georgia Department of Transportation, Albany, GA
Geraldine P. & James C. Gleaton, Albany, GA
Geraldine Williams, Albany, GA
Geri Wallace, Albany, GA
Gerry W. and Dinorah Hall, Albany, GA
Gill Farms, LLC, Albany, GA
Glenda French, Albany, GA
Gloria Gaines, Albany, GA
Gloria Williams, Albany, GA
Gordon Gibbs, Albany, GA
Grace Ellerson, Albany, GA
Graham Angus Farm, Albany, GA
Greene Family Properties, LLC, Albany, GA
Greg Gibson, Albany, GA
Gregory and Sonya Acree, Albany, GA
Gwen George, Albany, GA
Harry James, Albany, GA
Helen Bryant, Albany, GA
Henry Hamlett, Albany, GA
Henry Thomas, Albany, GA
Hiteshkumar Patel, Albany, GA
Hugh and Lela Phillips, Albany, GA
Idus D. Blackwell, Albany, GA
Industry Service & Development, Albany, GA
Jack G. Williford, Albany, GA
Jamelia Alexander, Albany, GA
James A. Stalvey, Albany, GA
James Hill, Albany, GA
James Jones, Albany, GA
James R. Williams & Juanita M. Williams, Albany, GA
James Reynolds, Albany, GA
James W. Burgess & Jane C. Burgess, Albany, GA
Janet Bryant, Albany, GA
Janet Miller, Albany, GA
Janey Matthews, Albany, GA
Janice Riggins, Albany, GA
Jaquaras Brooks, Albany, GA
Jared Goff, Albany, GA
Jasmine Riggins, Albany, GA
Jason Goodner, Albany, GA
Jennifer Lynn Maloney, Albany, GA
Jerome Williams III, Albany, GA
Jerry Glover, Albany, GA
Jessica Carter, Albany, GA
Jessica Harper, Albany, GA
Jessie Parrish, Albany, GA
Jimmy Rush, Albany, GA
Joanne Gates, Albany, GA
Joanne Jasper, Albany, GA
Joanne Marietta, Albany, GA
Joe Welch, Albany, GA
John Bolden Jr, Albany, GA
John Bolden Sr, Albany, GA
John D. Baldwin, Albany, GA
John Favors, Albany, GA
John H. Wimbush & Lloyd Irene Wimbush, Albany, GA
John Ladd Jordan & Ladd Jordan, Albany, GA
John Quinn, Albany, GA
John T. Phillips, Albany, GA
John T. Phillips, III, Albany, GA
Johny Leviston, Albany, GA
Jonathan Matthews, Albany, GA
Jordan Thomas, Albany, GA
Joseph B. Wright & Peggy Jeanne Wright; Kimberly Wright, Albany, GA
Joseph Hicks, Albany, GA
Joseph Smith, Albany, GA
Joseph Wright, Albany, GA
Josephine Raybon, Albany, GA

Joshua Williams, Albany, GA
Joyce Anighero, Albany, GA
Joyce Evans, Albany, GA
Juan and Sonia Lopez, Albany, GA
Juby A. Phillips, Albany, GA
Juby F. Phillips, Albany, GA
Judy Jones, Albany, GA
Jules Ellerson, Albany, GA
Julia Dyer, Albany, GA
Juraka Palmer, Albany, GA
K. C. Farms, Inc., Albany, GA
Karen Baldwin, Albany, GA
Karen Brown, Albany, GA
Karen Goff, Albany, GA
Katherine Daniels, Albany, GA
Kathleen Culbreth, Albany, GA
Kathleen Marie Richardson Blackwell, Albany, GA
Kathy Elizabeth Hatcher, Albany, GA
Kelsea Wallace, Albany, GA
Kentrayl Harris, Albany, GA
Kevin and Sherry Reynolds, Albany, GA
Kimberly Fuderbach, Albany, GA
Kiokee-Flint Group, Albany, GA
L and M Colquitt, Albany, GA
LaDaisha Watson, Albany, GA
Ladda Strozier, Albany, GA
LaPortia Young, Albany, GA
Larry Blakely Jr, Albany, GA
Larry Johnson, Albany, GA
Latoria Robinson, Albany, GA
Lawrence Jones, Albany, GA
Lee Harris, Albany, GA
Leroy Bryant, Albany, GA
LeRoy Covin, Albany, GA
Leslie Charles, Albany, GA
Lester Quimby, Albany, GA
Lewis Wayne Hall, Albany, GA
Lillian T. Sheffield & Ronald Sheffield, Albany, GA
Linda Swain, Albany, GA
Linda Vance, Albany, GA
Lindberg Gaines, Albany, GA
Lori Ross, Albany, GA
Lorraine and Monroe Gaines, Albany, GA
Louella Warner, Albany, GA
Louis Jefferson, Albany, GA
Louise Terry, Albany, GA
Louye W. Cochran, Albany, GA
Lucious Hall, Albany, GA
Luther Jewell, Albany, GA
M Cook, Albany, GA
Marcus Harvey, Albany, GA
Margaret C. Lasseter, Albany, GA
Marie Welch, Albany, GA
Marilyn Ray, Albany, GA
Marjorie L. Robinson, Albany, GA
Mark Andrew Clark, Albany, GA
Mark Bouchette, Albany, GA
Mark S. Wiederkehr & Judith D. Wiederkehr, Albany, GA
Mark T. Podowski & Shirley E. Podowski, Albany, GA
Martha Edwards, Albany, GA
Martha Fulmore, Albany, GA
Martina Rollins, Albany, GA
Marvin Lowe, Albany, GA
Mary Elizabeth Conley, Albany, GA
Mary Johnson, Albany, GA
Mary L. Edwards, Albany, GA
Mary Robinson, Albany, GA
Mary Yandell, Albany, GA
Mattie Range Reddick, Albany, GA
Megan Johnson, Albany, GA
Melinda Patterson, Albany, GA
Melvin Jimmerson, Albany, GA
Melvin Nix, Albany, GA
Merlin Bragg & Dora Bragg, Albany, GA
Michael D. Griswold, Albany, GA
Michael Jones, Albany, GA
Michael Roberts, Albany, GA
Michael V. Fleming, Albany, GA
Michealle Hutchison, Albany, GA
Miesha Clark, Albany, GA
Millicent Paul, Albany, GA
Minnie Jackson, Albany, GA
Minnie Johnson, Albany, GA
Miriam Young, Albany, GA
Mockingbird Hill Properties, LLC, Albany, GA
Morris Meadows, Albany, GA
N McDonald, Albany, GA
Nanart Properties, Albany, GA
Nanart Properties, Albany, GA
Nanart Properties, LP, Albany, GA
Nancy Barclay, Albany, GA
Nancy Merritt, Albany, GA
Nancy Wright, Albany, GA
Neesha Knight, Albany, GA
Nellie Anderson, Albany, GA
New Communities at Cypress Pond, LLC, Albany, GA

New Zion Hill Missionary Baptist Church, Albany, GA
Nicole Miller, Albany, GA
Nigel Johnson, Albany, GA
Oliver Gaines c/o Bessie Gaines Smith, Albany, GA
Olivia Donnan, Albany, GA
Ophelia Winchester, Albany, GA
Oxford Construction Company, Albany, GA
Ozell U. and Joyce D. Barlow, Albany, GA
Ozell Williams, Albany, GA
P Harris, Albany, GA
Patricia Brookins & Warren D. Brookins, Albany, GA
Patricia Matthews, Albany, GA
Patricia Rich, Albany, GA
Patricia Simpson, Albany, GA
Patricia Swain, Albany, GA
Peggy Wright, Albany, GA
Phillip Washington, Albany, GA
Precynthia Collier, Albany, GA
R & B Properties of Southwest Georgia, Albany, GA
R. Rodney Fickel, Albany, GA
Raymond A. Breaux, Albany, GA
Raymond Polite, Albany, GA
Redrika Harris, Albany, GA
Resident, Albany, GA
Rev. Kendrick Barlow Sr, Albany, GA
Reva Wills Barge, Albany, GA
Richard Foreman, Albany, GA
Ricky Bell, Albany, GA
Rita Wingate, Albany, GA
Robert Gay, Albany, GA
Robert Jackson, Albany, GA
Robert Reynolds, Albany, GA
Robert V. Barkley, Albany, GA
Robert V., Jr. & Tammy T. Barkley, Albany, GA
Robert Wilson III, Albany, GA
Roger Marietta (Albany City Commissioner), Albany, GA
Rogers & Rogers Rentals, Inc., Albany, GA
Ronald James, Albany, GA
Ronald Simpson, Albany, GA
Ronnie Pruitt, Albany, GA
Ronnie Simpson, Albany, GA
Ronnie Wilkens, Albany, GA
Roosevelt Tucker, Albany, GA
Rosa Arterson, Albany, GA
Rosa T. Kelson, Albany, GA
Rosanne Lewis, Albany, GA
Rose Marie Matthew, Albany, GA
Roy K Simpson Jr., Albany, GA
Roy Simpson, Albany, GA
Royal Simpson, Albany, GA
Ruby Hagle, Albany, GA
Ruby Petterson, Albany, GA
Rudolph Jackson, Albany, GA
RuKiya Johnson, Albany, GA
Russia Malone, Albany, GA
S. Cecil Musgrove, Albany, GA
S. S., Albany, GA
Samuel Edwards, Jr., Albany, GA
Samuel J. Smith, Jr., Albany, GA
Sandra D. Meadows, Albany, GA
Sandra Fowler, Albany, GA
Seifert, Albany, GA
Shaniqua Roberts, Albany, GA
Sharon Cooper, Albany, GA
Sharon Withers, Albany, GA
Shay Meredith, Albany, GA
Shelia Butler, Albany, GA
Shera Carr, Albany, GA
Sherri Alexander, Albany, GA
Sherry Davis, Albany, GA
Shirley Smalls, Albany, GA
Shirley Williams, Albany, GA
Shomari Johnson, Albany, GA
Smith, Helen, Albany, GA
Spencer M, Albany, GA
Stephanie Redding, Albany, GA
Steve Griffin, Albany, GA
Steve Hinton, Albany, GA
Steven Devann Johnson, Albany, GA
Stevie Smith, Albany, GA
Straw Field Farm, LLLP, Albany, GA
Susie A. Seay, Albany, GA
Sylvia and Michael Szpak, Albany, GA
Sylvia Doss, Albany, GA
Takesha Campbell, Albany, GA
Tammie Holmes, Albany, GA
Tammy Thomas, Albany, GA
Tanya Jones, Albany, GA
Tanylia Jones, Albany, GA
Teresa Smith, Albany, GA
Terry and Lynda Greene, Albany, GA
Tervous Thomas, Albany, GA
Thomas Barclay, Albany, GA
Thomas Goff, Albany, GA
Thomas Lewis, Albany, GA
Thomas Swain, Albany, GA

Tiffany Scott, Albany, GA
Timothy N Coley, Albany, GA
Tina Reynolds, Albany, GA
Tom Childress, Albany, GA
Tommy Riggin, Albany, GA
Tonia M. Swift, Albany, GA
Tresser Johnson, Albany, GA
Tyron B. Morey & Patricia Ann S. Morey, Albany, GA
Valency Chase Hill, Albany, GA
Vanessa Thomas, Albany, GA
Vernon Jones, Albany, GA
Vincent Collier, Jr, Albany, GA
Vincent Valencik, Albany, GA
W. Dennis Wright, Albany, GA
W.B. Corbett, Albany, GA
Walter Merritt, Albany, GA
Walter Starling, Albany, GA
Water, Gas, & Light Commission, Albany, GA
Wayman Braswell, Albany, GA
Wayne Matthews, Albany, GA
Wendell Holt, Albany, GA
Wendy S. Newell, Albany, GA
Willard Jones, Albany, GA
Willi P. Wimberly, Albany, GA
William Tucker, Albany, GA
Willie J. Roberts & Gloria W. Roberts, Albany, GA
Willie Kirkland Jr, Albany, GA
Willie Mae Bogan, Albany, GA
Wilma Griffin, Albany, GA
Yvonne Griffin, Albany, GA
John Stephens, Alpharetta, GA
Jonathan Mark Bass, Americus, GA
Ruben Sims Jones, Americus, GA
Valerie Denise Edwards, Americus, GA
ATTN: Ginger Beshears, Headwaters Investments Corp % Forest Investment, Atlanta, GA
Barbara Dumas, Atlanta, GA
Central of Georgia Railway Company, Atlanta, GA
Chris Green, GA Dept of Agriculture, Atlanta, GA
Christine McCuin, Atlanta, GA
David Keenan, Atlanta, GA
David Pope, Director, Southern Environmental Law Center, Atlanta, GA
Ecila Plantation c/o Scott Hitch, Burr & Forman, LLP, Atlanta, GA
Elizabeth Story, Atlanta, GA
Georgia Power Company, Atlanta, GA
Georgia Southern & Florida Railway Company, Atlanta, GA
Harriette White & James O. White, Atlanta, GA
Headwaters Investments Corporation, Atlanta, GA
Juanita McRae, Atlanta, GA
Larry R. Kirkland, Atlanta, GA
LOR, Inc., Atlanta, GA
Mackay Drake, Atlanta, GA
MB REO-FL Land, LLC, Atlanta, GA
Nature Conservancy - Georgia, Atlanta, GA
Nonami Oglethorpe, LLC, Atlanta, GA
Norfolk Southern Corporation, Atlanta, GA
PH Citrus, LLC, Atlanta, GA
Reo Funding Solutions V, LLC, Atlanta, GA
Sally Bethea, Executive Director, Chattahoochee Riverkeeper, Atlanta, GA
Sierra Club GA, Atlanta, GA
Southern Farmland Corporation, Atlanta, GA
Steven Caley, GreenLaw, Atlanta, GA
TCP II Reedy Creek, LLC, Atlanta, GA
Timbervest Partners Stewart II, LLC, Atlanta, GA
Voor Jaar Ranch, LLC, Atlanta, GA
Willie Walker & Josephine Walker, Atlanta, GA
Barbara M. Blackburn, Baconton, GA
Dannie C. Morey, Baconton, GA
David K. Griffin & Jimmy Griffin, Baconton, GA
Four H. Properties LLC, Baconton, GA
Harrell Family Partnership, LP, Baconton, GA
Jennifer H. Good, Baconton, GA
Jimmy Griffin, Baconton, GA
Kathleen H. Tucker, Baconton, GA
Ronald T. Morey Jr., Baconton, GA
Roy Griffin & Sons Farms, INC., Baconton, GA
Terry M. Beck & Pamela J. Beck, Baconton, GA
Clara Watson (c/o Jane Jordan), Bainbridge, GA
Southwest GA Oil Co, Inc., Bainridge, GA
Colon J. Keel Jr. & Betty J. Keel, Barney, GA
Marcus Sapp, Barney, GA
Charles B. Browning Jr., Barnsville, GA
Lanell Maddox Rawlinson, Blakely, GA
Adela Farms, LLC, Bronwood, GA
Bronwood Investments, LP, Bronwood, GA
Lenora M. Andre & Louis R Andre Jr., Bronwood, GA
McCleskey Cotton Company, LLC, Bronwood, GA
Ronald C. Lee & Ronnie Lee, Bronwood, GA

Wesley Craft, Southpoint Services, Bronwood, GA
Charitie G Fuller & Thomas E Fuller, Buena Vista, GA
Vladimir Lukyan, Buford, GA
Billy Woodard, Calhoun, GA
Chickasawhatchee, LLC, Camilla, GA
Glass Farms, LLC, Camilla, GA
M. Miley Adams Sr. & Anna Clair R. Adams, Camilla, GA
Mitchell Electric Membership Corporation, Camilla, GA
Shady Three Groves, LLC, Camilla, GA
Donnell P. Ritchie & Edward J. Ritchie, Canton, GA
Apphia Woods, Columbus, GA
Calvin McCoy, Columbus, GA
Charles E. Fleming, Columbus, GA
Corine McCoy Estate, Columbus, GA
Dan Fletcher, WC Bradley Farms, Columbus, GA
Eddie James McCoy & Gladiola McCoy & Leo McCoy & Mason Deloria McCoy & Paris McCoy & Sammie Lee McCoy & Evelyn C. McCoy & Homer McCoy & Johnnie B. McCoy & Emma Lou McCoy, Columbus, GA
Ervin Flemming, Columbus, GA
Freddie Mae McCoy Givens, Columbus, GA
Georgia Department of Transportation, Columbus, GA
Ida Mae Green & Leo Green, Columbus, GA
James Larry Bass,Jr., Columbus, GA
Jimmy L. Garrett, Columbus, GA
Joe Baccus & Keiko Baccus, Columbus, GA
Lawrence Bradford Carroll, Columbus, GA
Marian Parkman Fletcher, Columbus, GA
Rebecca Oliver, Columbus, GA
Ridgeline Brook, LLC, Columbus, GA
Sylvia Harris, Columbus, GA
Timberlands III, LLC, Columbus, GA
Van Cleave Enterprises, Inc., Columbus, GA
Vivian Woodson, Columbus, GA
W.C. Bradley Farms, Inc., Columbus, GA
Walter McCoy Jr., Columbus, GA
William B. Singer, Columbus, GA
Burns, Alton, Coolidge, GA
Cleve Kilgore, Coolidge, GA
Evelyn Kilgore, Cuthbert, GA
Gayle S. Hill, Cuthbert, GA
Applis Goolsby & Brian K. Goolsby & Jason M. Goolsby, Dawson, GA
Clarence Wade Thurmond & Jerry Randolph Thurmond, Dawson, GA
D. Andrews, Dawson, GA
Dennis Scott, Dawson, GA
Dorothy Alston Coleman & Garfield Alston, Dawson, GA
Doyle Loren Lentz, Dawson, GA
Eloise L Salter & Dr. McTyier Salter, Dawson, GA
Estate of Johnnie Jackson Parks, Dawson, GA
Estate of Richard Alston & Bobbie Alston, Dawson, GA
Gary Edwards & Larry Edwards, Dawson, GA
Horace Keen & Carolyn Keen, Dawson, GA
J. J. Parks, Dawson, GA
Jackie M. Mainor, Dawson, GA
Jacqueline Griggs, Dawson, GA
Jesse Weston Estate, Inc., Dawson, GA
Jessie L. Mitchell, Dawson, GA
Jimmy L. Creamer, Dawson, GA
John Gatlin, Dawson, GA
Jon Eager Daniel, Dawson, GA
Joseph M. West, Dawson, GA
Lee Wall Geer, Dawson, GA
Leonard Marvin Deal, Dawson, GA
Mark Arnold Daniel & Helen Rhodes Daniel, Dawson, GA
Morris Taylor Childre Jr., Dawson, GA
Richard Barnhill, Dawson, GA
Robert Gardner & Jurutha Gardner, Dawson, GA
Roger Weathersby & Trisha Weathersby, Dawson, GA
Sadie Fillingame, Dawson, GA
Shenita James, Dawson, GA
Sheri L.Howard, Dawson, GA
Steve Wiley, Dawson, GA
Terrell County, Dawson, GA
Wilbur T Gamble Jr., Dawson, GA
William H. McMath Jr., Dawson, GA
Patti Niewoehner, Dixie, GA
Anthony C. Simmons, Doerun, GA
Clyde Hurst, Doerun, GA
Danny Hancock Wingate, Doerun, GA
David V. Riggs & Pennianne F. Riggs, Doerun, GA
Doyle W. Grantham, Doerun, GA
Gee Haw Farms, LLC, Doerun, GA
James A. Fillyaw, Doerun, GA

Jessie H. Beasley, Doerun, GA
Jimmy W. Hall, Doerun, GA
Kathy B. Hays, Doerun, GA
Mark Oliver, Doerun, GA
Melvin Perkins & Rosa Perkins, Doerun, GA
Moss Farms, Inc., Doerun, GA
Randall Clyde Taylor, Doerun, GA
Richard Beasley, Doerun, GA
Richard Beasley & Laura L. Beasley, Doerun, GA
Robert G. Grantham, Doerun, GA
Robert M. Wilson & Lynda B. Wilson Revocable Living Trust, Doerun, GA
Roselyn B. Bridges, Doerun, GA
Donald Simmons, Donaldsonville, GA
Kelnic Race Properties, LLC, Douglas, GA
Dr. Douglas Land, Duluth, GA
Frederick Preece, Duluth, GA
Grady Colson Barnhill & James E. Barnhill III, Duluth, GA
Frankie C. Ross Living Trust, Fitzgerald, GA
Athena Wadi Mullins, Ft. Valley, GA
Charles L. Boyd, Funston, GA
Greg Yarbrough, Funston, GA
James Hubert Powell Jr., Gainesville, GA
Michael S. O'Neal, Greensboro, GA
Plott Family Farms, LLC, Griffin, GA
Darryl Gore, Hampton, GA
Faye W. Settlemeyer, Hampton, GA
Eugene Buckner, Hartsfield, GA
George C. Perryman, Hartsfield, GA
Jedd A. Davis & Natalie N. Davis, Hartsfield, GA
Luther G., Jr Buckner, Hartsfield, GA
Robert L. Stephenson, Hartsfield, GA
Rockyford Farms LLLP, Hartsfield, GA
Tammy S. Clayton, Hartsfield, GA
Thomas L. Lamb, Hartsfield, GA
W. Kent Jordan & Jessica S. Jordan, Hartsfield, GA
Andy Edge, Hazlehurst, GA
Kay Bishop, Kennesaw, GA
Eric A. Morris, Lake PArk, GA
Ray O. Silcox, Lake Park, GA
Santa F. Deas, Lake Park, GA
Thomas Huckery & Dina Huckery, Lakeland, GA
Ann Chandler, Leesburg, GA
Ann Shamburger, Leesburg, GA
Ashley Pruetuz, Leesburg, GA
Bonnie M. Futch, Leesburg, GA
Calvin Richardson, Leesburg, GA
Carol Griffin Boyd, Leesburg, GA
Carr Investments, LLP, Leesburg, GA
Casandra Richardson, Leesburg, GA
Christy Walls, Leesburg, GA
Daniel & Son Farms, LLC, Leesburg, GA
Emma Hood, Leesburg, GA
Eric Shamburger, Leesburg, GA
Ernest Smith, Leesburg, GA
Glenda Golden, Leesburg, GA
Janice Hood, Leesburg, GA
Keith Hood, Leesburg, GA
Lavan A. Kennedy & Helen W. Kennedy, Leesburg, GA
Lee County, Leesburg, GA
Lee County Board of Commissioners, Leesburg, GA
Leslie S. Marshall & William F. Marshall, Leesburg, GA
Michael C. Elmore & Sandra P. Elmore, Leesburg, GA
Mike Zoellick, Leesburg, GA
Resident, Leesburg, GA
Richard A. Grebel, Jr., Leesburg, GA
Richard W. Ivey, Leesburg, GA
Robert Sheridan, Leesburg, GA
Sherry Shelton, Leesburg, GA
Walter Hasty & Sherry A. Hasty, Leesburg, GA
Doris Moore, Lithonia, GA
Louis J Tramontano & Mary E Tramontano, Locust Grove, GA
Ashley L. Babb, Lumpkin, GA
Frank S. Singer III, Lumpkin, GA
Judy Ann Lane Alger, Lumpkin, GA
Kay Kimmel, Lumpkin, GA
Mary Virginia Lane, Lumpkin, GA
Roy A. Perryman Jr., Lumpkin, GA
Stewart County, c/o Randy Drew, Lumpkin, GA
Tim P. Gahl, Timberlands II, LLC, c/o Forest Resource Consultants, Lumpkin, GA
Timberlands II, LLC, Lumpkin, GA
Roma V. Hanvey, Lyerly, GA
George H. Lee, Macon, GA
Lee Wall Geer et al, Macon, GA
Doris Marko, Marietta, GA
Lanna Gay, Marietta, GA
Pineknoll Pecan Properties LLC c/o Hallman & Wingate, Marietta, GA
Timothy Sanders, Marietta, GA
Ellen Gillis & Willie Tillman Gillis, Mcrae, GA

Clarence McCoy & Tommie Robinson, Midland, GA
James Ford Jr. & Kelvin C. Ford & Theresa Y. Ford, Midland, GA
Mary E. Belton, Midland, GA
Patricia Ann Williams, Midland, GA
Buddy G Thomas & Mary N Thomas, Midway, GA
Leslie Dickinson, Monroe, GA
Juanita W. Linch, Moreland, GA
Scott P. Armour, Moreland, GA
Wesley Trammell, Moreland, GA
Bradford Family Farms, LLLP, Morven, GA
John Thomas Marshall, Morven, GA
Brandon M. Rye, Mouiltrie, GA
Alicia Waller, Moultrie, GA
Andrew T. Johnson, Moultrie, GA
Barbara P. Hall, Moultrie, GA
Beckie S. McAllister, Moultrie, GA
Ben Summerlin, Moultrie, GA
Betty J. Weldon, Moultrie, GA
Billy C. Winn & Naomi D. Winn, Moultrie, GA
Bobby M. Lee, Moultrie, GA
Bobby R. Willis & Linda K. Willis, Moultrie, GA
Bradley Walls, Moultrie, GA
Brian T. Robinson, Moultrie, GA
C. Rick Layfield, Moultrie, GA
Carlton Farms, Inc., Moultrie, GA
Carolyn Allegood, Moultrie, GA
Cathy A. Suber, Moultrie, GA
Cathy W. Littleton, Moultrie, GA
Charles E. Sealy, Moultrie, GA
Charles Jimmy Dykes & Myra D. Dykes, Moultrie, GA
Clara Zapote, Moultrie, GA
Clifford A. Carlton & Mary A. Carlton, Moultrie, GA
Colt K. Hancock, Moultrie, GA
Daniel R. Parker, Moultrie, GA
Darrell K. Griffin, Moultrie, GA
Darren E. Bryant, Moultrie, GA
David R. Kilgore, Moultrie, GA
David S. Herndon, Moultrie, GA
Dean Arnett & Gene Arnett, Moultrie, GA
Deverne E. Marshall Jr. & Stacey B. Marshall, Moultrie, GA
Dewitt W. Allegood Estate, Moultrie, GA
Duncan C. Sinclair & Janice T. Sinclair, Moultrie, GA
E. Ray Sloan, Moultrie, GA
Eddie Summerlin, Moultrie, GA
Ellique Allegood, Moultrie, GA
Foxwood Farms, INC., Moultrie, GA
G. Lynn Taylor & G. Wayne Taylor & W. Glynn Taylor, Moultrie, GA
GBA Associates, LLC, Moultrie, GA
Gene C. Pilkey, Moultrie, GA
George M. Haymons, Moultrie, GA
Hazel G. Payne, Moultrie, GA
Herbert Allan Whitaker & Laura E. Whitaker, Moultrie, GA
Hoa T. Le, Moultrie, GA
Holly D. Beard, Moultrie, GA
Isidro Gallardo, Moultrie, GA
James H. Murphy, Moultrie, GA
James L. Johnson & William Keith Johnson, Moultrie, GA
Janice N. Barry, Moultrie, GA
Jennifer L. Gay, Moultrie, GA
Jennifer R. Law, Moultrie, GA
Jeremiah Hilton, Moultrie, GA
Jerry P. James, Moultrie, GA
Jimmy Clark, Moultrie, GA
Jimmy W. Tucker Jr., Moultrie, GA
JLT Engineering Services, Inc., Moultrie, GA
JLT Partners, LLP, Moultrie, GA
Joan Florence Ruis, Moultrie, GA
John C. Gibson & Sue W. Gibson, Moultrie, GA
John Edwards & Donna Edwards, Moultrie, GA
Joint Development Authority of Brooks Colquitt Grady Mitchell & Thomas Counties, Moultrie, GA
Jordan M. Purvis, Moultrie, GA
Joseph L. Burns III, Moultrie, GA
Joseph Randall Carlton & Vickie L. Carlton, Moultrie, GA
Joshua Hilton, Moultrie, GA
Joshua Seth Thompson, Moultrie, GA
Judy G. Greene, Moultrie, GA
Julian S. Thaggard, Moultrie, GA
K. Gregory Isaacs, Moultrie, GA
Kathryn Morris, Moultrie, GA
Keith Griner & Monika Griner, Moultrie, GA
Kelvin D. Ruis, Moultrie, GA
Kim F. Hordeman, Moultrie, GA
Kimberly Herrington, Moultrie, GA
Larry E. DeMott Jr., Moultrie, GA
Larry E. Rosencrantz, Moultrie, GA
Larry J. Willis, Moultrie, GA
Lavonna G. Cruz, Moultrie, GA
Leila A. Chambers, Moultrie, GA

Leray Layfield, Moultrie, GA
Linda C. Yarbrough, Moultrie, GA
Marie S. Johnson, Moultrie, GA
Marsha W. Gandy, Moultrie, GA
Mary E. Taylor Life Estate & Donna Lynn T. Humphries, Moultrie, GA
Melody N. Harrison, Moultrie, GA
Michael B. Morton, Moultrie, GA
Naideen G. Tucker, Moultrie, GA
Nancy S. Melton, Moultrie, GA
Nemorio Resendiz, Moultrie, GA
Osochi Timberland, LLC, Moultrie, GA
Positive Investment Enterprises, LLC, Moultrie, GA
Randy J. Cox & Darlene P. Cox, Moultrie, GA
Ren Summerlin, Moultrie, GA
Robert Cecil, Moultrie, GA
Robert Ryan Schofill & Jessica L. Schofill, Moultrie, GA
Rodney Stephenson, Moultrie, GA
Roger D. Ruis & Sherry W. Ruis, Moultrie, GA
Ronald E. Shields & Deborah A. Shields, Moultrie, GA
Ronald Reagin, Moultrie, GA
Ronnie C. Hancock & Sandra M. Hancock, Moultrie, GA
Russell E. Carr, Moultrie, GA
Sally B. Seay Trust, Moultrie, GA
Sandra G. Yarbrough Jones, Moultrie, GA
Sandra Jones, Moultrie, GA
Scotty Jarvis & Dafney Jarvis, Moultrie, GA
Sharon Summerlin, Moultrie, GA
Sheila R. Griner, Moultrie, GA
Simmie A. Spivey & Alice Spivey, Moultrie, GA
Solomon D. Daniels Jr. & Elaine J. Daniels, Moultrie, GA
Son Q. Nguyen, Moultrie, GA
Stephen M. Sanders & Deborah Z. Sanders, Moultrie, GA
Sue Allison Wincey, Moultrie, GA
Suellen Pitts, Moultrie, GA
Sunbelt Investments, Moultrie, GA
Thomas Cole, Moultrie, GA
Thuan T.B. Nguyen, Moultrie, GA
Triple Arrow Holdings, LLC, Moultrie, GA
W. Lynn Lasseter, Moultrie, GA
Walter L. Sloan, Moultrie, GA
Wanda Oliver, Moultrie, GA
Warrren E. Bozeman, Moultrie, GA
Wilbur L. Clifton III & Lita T. Clifton, Moultrie, GA
William C. Wilkins III, Moultrie, GA
William J. Sherrard & Heather Sherrard, Moultrie, GA
William K. Johnson, Moultrie, GA
Fourth Quarter Prop LVIII, LLC, Newnan, GA
Fourth Quarter Prop XLIV, LLC, Newnan, GA
Johnnie Lee Burton Jones Estate, c/o Yolanda Jones Colton, Newnan, GA
Tim Ulles, Cromalloy Georgia, Newnan, GA
Yolanda Jones, Newnan, GA
Wells Timberland HBU, LLC, Norcross, GA
Alan W. Howard, Norman Park, GA
Carolyn E. Polk, Omaha, GA
Donna Mae Sanders Life Estate, Omaha, GA
Joyce M. Fripp, Omaha, GA
Kathy D. Flatt, Omaha, GA
Kenneth E. Slay & Jeanne C. Slay, Omaha, GA
Brenda Kennedy, Parrott, GA
Carol G. Burrell & James T. Burrell, Parrott, GA
Danielle Nicole Bentley, Parrott, GA
Glenda W. Albritton, Parrott, GA
Jill Estelle Ballentine, Parrott, GA
Kathryn Arnold Wade, Parrott, GA
Lawrence Hudson, Parrott, GA
W. E Wade Jr., Parrott, GA
W. E. Leverett Jr. & Ruth Leverett, Parrott, GA
Bernice A. Robinson Estate, Pavo, GA
C. L. Mitchell III & Tommie W. Mitchell, Pavo, GA
C. L. Mitchell Jr., Pavo, GA
Denieen Norman Crosby, Pavo, GA
Diane Wilson, Pavo, GA
Estate of Bernice A. Robinson, Pavo, GA
Gabriel Mojica, Pavo, GA
Gary Randall Allen, Pavo, GA
H. R. Crosby, Pavo, GA
J. R. Lipsey, Pavo, GA
James B. Waters, Pavo, GA
Jimmy Q. Davis III & Tracy F. Davis, Pavo, GA
Kenneth A. Tyre & Judy C. Tyre, Pavo, GA
Nicolas Ochoa, Pavo, GA
T.L. Crosby Family Farms, LLC, a Georgia Domestic Limited Liability Company, Pavo, GA
Tim Crosby, Pavo, GA
Wavell Robinson & Darlene B. Robinson, Pavo, GA
Andrew J. McDaniel, Pelham, GA

Charles Phillip Jones & Kaye F. Jones, Preston, GA
Jeremy Kennedy, Preston, GA
Webster County, Preston, GA
John H. O'Brien & Alan O'Brien, Putney, GA
Anh T. Luong, Quitman, GA
BCT Gin Company, Inc., Quitman, GA
Billy Sutton, Quitman, GA
Brooksco Farms, Inc., Quitman, GA
Daisy Spencer, Quitman, GA
Dana Diane Olvera, Quitman, GA
Dustin C. Cain & Ernest C. Cain & Barbara J. Cain, Quitman, GA
Dustin C. Icard & Sheryl L. Icard, Quitman, GA
Gerald R Hunter Jr., Quitman, GA
Gladys Ellenberg, Quitman, GA
Harris Kimble, Quitman, GA
Henry E. Bentley III, Quitman, GA
James B. McAllister, Quitman, GA
James C. Exum, Quitman, GA
Jameshia N. Bartee, Quitman, GA
Jean Wheeler, Quitman, GA
Jimmy W. Griffin Jr., Quitman, GA
John Stalvey, Quitman, GA
Kenneth E. Spencer, Quitman, GA
Larry Lodge, Quitman, GA
Larry Spencer Clifford Williams, Quitman, GA
Lyman H. Cole & Donna H. Cole, Quitman, GA
Marilyn D. Willis & Thomas D. Lovett Lovett, Quitman, GA
Marvin W. Dixon & Ruth M. Dixon, Quitman, GA
New Macedonia Baptist Church, Quitman, GA
PLW Farms, LLC, Quitman, GA
Roger Price, Quitman, GA
Russell A. McBride & Rhonda E. McBride, Quitman, GA
Sharon P. Lodge, Quitman, GA
Wesley W. Robinson & Deborah Robinson, Quitman, GA
William Edmondson, Quitman, GA
Catherin S. Croxton, Richland, GA
Connie V. Adams & James W. Adams, Richland, GA
Edward G. Holloway Jr., Richland, GA
Estate of G.W. Jones, Sr., Richland, GA
Estate of Harold L. Westbrook, Richland, GA
Fox Town, Inc., Richland, GA
Gloria Jean Thornton, Richland, GA
Lucille J Irving, Richland, GA
Margaret McLendon, Richland, GA
Mark V Murrah, Richland, GA
Michael Edward Bass, Richland, GA
Ray Jackson & Walter Jackson Jr., Richland, GA
Sam L. Strickland, Richland, GA
Stephen P. Kimbrough & Kathy M. Kimbrough, Richland, GA
Thomas Butts, Richland, GA
Waylon Davenport (a/k/a: Fox Town, Inc.), Richland, GA
Jimmie Norris Properties, LLC, Richmond Hill, GA
Helen P. Boddie and Corey P. Boddie, Riverdale, GA
Brenda Elaine Curry & Robert Allen Curry, Roopville, GA
Charles Bush & Phyllis Bush, Sale City, GA
Cool Springs Baptist Church, Sale City, GA
Glenn D. Akridge & William J. Akridge, Sale City, GA
James E. Bell II & Robert A. Bell, Sale City, GA
Mary Branch Family, LLC, Sale City, GA
Vivian M. Morris Estate, Sale City, GA
Wynell C. Martin, Sale City, GA
Lois K. Murphy, Sasser, GA
Bear Creek Farms, Savannah, GA
Homer Jenkins (a/k/a/ Bear Creek Farms), Savannah, GA
John A. Dickinson, Jr., Senoia, GA
Cindy L. Cook Kanner, Sharpsburg, GA
James F. Cook Jr. & Stephen J. Cook, Sharpsburg, GA
Jones Brothers Farms, Smithville, GA
Little H Farms, LLC, Smithville, GA
Edith M. McPhail, Smyrna, GA
Terry Greene & Lydia Greene, Stockbridge, GA
Robert Clark & William Clark, Stone Mountain, GA
Twin Creek Farms, LLC, Stone Mountain, GA
Jesse Frank Murrah III, Sugar Hill, GA
C Tom Rowling, Sylvester, GA
Carl Manuel, Sylvester, GA
State of Georgia DOT- Stewart County, Thomaston, GA
Craig Bloch, Thomasville, GA
John M. Hall & Karen Hall, Thomasville, GA
Lathrop Rentals, LLC, Thomasville, GA
Mill Creek Holdings, LLP, Thomasville, GA
Georgia Department of Transportation, Tifton, GA

Todd Buckner Designs, Inc., Tifton, GA
Anson C. Johnson & Rebecca G. Johnson, Valdosta, GA
Bernardo Sifuentes & Barbara A. Sifuentes, Valdosta, GA
Billy J. Watkins, Valdosta, GA
Bobbie J. Wright & Gurney Wright Jr. & James Wright & Jimmy Wright & Marshall Wright & Mary L. Wright & Sylvester Wright, Valdosta, GA
Brendan S. Rigg & Kristi J. Rigg, Valdosta, GA
Callie Fletcher Dowdy, Valdosta, GA
Chadwick Odom, Valdosta, GA
Charles H. Wright & O. W. Wright, Valdosta, GA
Charles K. Busby & Renee P. Busby, Valdosta, GA
Coon Creek, LLC, Valdosta, GA
Cowart & Son Development Company, Inc., Valdosta, GA
David C. Watkins III & Sharen L. Watkins, Valdosta, GA
David Drummond & Kathy Drummond, Valdosta, GA
David Sanders, Valdosta, GA
Denise L. Jackson, Valdosta, GA
Derrick L. Dawson, Valdosta, GA
Earleen W. Thomas, Valdosta, GA
Eishnonia Jackson, Valdosta, GA
Elbert D. Cox & Margaret Frances P. Cox, Valdosta, GA
Eli F. Rainwater & Darlene Rainwater, Valdosta, GA
Eloise Cobb, Valdosta, GA
Eva M. Delk, Valdosta, GA
Farmers & Merchants Bank, Valdosta, GA
Gerald L. (Jerry) and Elaine Mercer, Valdosta, GA
Gilbert M. Brantley & Vicki M. Brantley, Valdosta, GA
Gregory D. Moore & Barbara C. Moore, Valdosta, GA
Gregory Wright, Valdosta, GA
Hattie Chachere, Valdosta, GA
Hattie Pearl Tillman, Valdosta, GA
Hattie Pearl Tillman & Perry D. Tillman Sr., Valdosta, GA
Henry Grady Jowers, Valdosta, GA
Iron Horse Ranch, LLC, Valdosta, GA
J. C. Cowart, Valdosta, GA
James F. Tyson Jr., Valdosta, GA
James J. Davis & Belinda G. Davis, Valdosta, GA
James P. Rankhorn & Laciania M. Rankhorn, Valdosta, GA
James R. Smith, Valdosta, GA
Janet D. Cothron, Valdosta, GA
Jimmy C. Hightower & Ginger E. Hightower, Valdosta, GA
John B. Elliott & Joan Elliott, Valdosta, GA
John Quarterman, WWALS Watershed Coalition, Valdosta, GA
John R. Turner & Beverly S. Turner, Valdosta, GA
Johnnie B. Wright & Leroy Wright & Mae B. Wright, Valdosta, GA
Johnny L. McKinnon Jr., Valdosta, GA
Joyce Gibson, Valdosta, GA
Keith A. Dimick & Donna J. Dimick, Valdosta, GA
Langdale Capital Assets Inc., Valdosta, GA
Larry Rodgers Investments, LLC, Valdosta, GA
Linda S. Hall, Valdosta, GA
Lowell W. Hammock, Valdosta, GA
Lowndes County, Valdosta, GA
Lynn G. Eager, Valdosta, GA
Marie Flossie, Valdosta, GA
Marilyn Dixon Willis, Valdosta, GA
Mary Booker, Valdosta, GA
Mary E. Anderson, Valdosta, GA
Michael Allen Clark, Valdosta, GA
Michael Raymond Hess & Barbara Ann Hess, Valdosta, GA
Minchew Family Limited Partnership, Valdosta, GA
Mona Lee Ann Kelley & Sandra P. Kelley, Valdosta, GA
Monique M. Delk Life Estate, Valdosta, GA
Nancy B. Elsberry, Valdosta, GA
Odessa G. Denton, Valdosta, GA
Packaging Corporation of America, Valdosta, GA
Phillip B. & Carol P. Singletary, Valdosta, GA
Pit 31 WMS, LLC, Valdosta, GA
Quinn Construction Group, Inc., Valdosta, GA
Rae Wentz-Odom, Valdosta, GA
Randall Dowdy, Valdosta, GA
Reames Family LP, Valdosta, GA
Reames Family LP, Valdosta, GA
Richard W. Dowling & Peggy W. Dowling, Valdosta, GA

Rick Hastings & Dina L. Hastings, Valdosta, GA
Robert J. & Nancy P. Lupinek, Valdosta, GA
Robert L. Dixon Jr. & Marcia L. Dixon, Valdosta, GA
Robert Lane, Valdosta, GA
Robert Scott & Dorothy A. Scott, Valdosta, GA
Robert T. Clark & Nicole C. Clark, Valdosta, GA
Ronald A. Kicklighter & Evelyn A. Kicklighter, Valdosta, GA
Russell G. Bland & Sharon E. Bland, Valdosta, GA
Ruthie M. Wright, Valdosta, GA
Scott E. Haner & Sheila Haner, Valdosta, GA
Stephen J. Gupton Jr. & Sue B. Gupton, Valdosta, GA
The Jackson Family Trust 1995, Valdosta, GA
The Langdale Company, Valdosta, GA
Timothy A. Phelps, Valdosta, GA
Wallace Farms, LLP, Valdosta, GA
William B. Horton III & Pamela P. Horton, Valdosta, GA
William C. Cothron Jr. & Elizabeth Cothron, Valdosta, GA
William D. Watkins, Valdosta, GA
William H. Giddens & Samantha D. Giddens, Valdosta, GA
William P. & Mary A. Spriggs, Valdosta, GA
William P. Kendall & Nanci D. Kendall, Valdosta, GA
William R. Bland, Valdosta, GA
William T. Sims Jr. & Cathy L. Sims, Valdosta, GA
William W. Broadfoot, DDS, Valdosta, GA
Robert E Daniell, Warner Robbins, GA
Roger Vickers, West Green, GA
Ashlind Farms, LLC, West Point, GA
Anna Moore, Weston, GA
Cathy Harmon, Weston, GA
George Jones Jr., Weston, GA
Goodwin Brothers Farm, LLC, Weston, GA
John Merritt, Trustee of Iva Merritt Revocable Trust, Weston, GA
Leslie M. Taylor Jr. & Dian Taylor, Weston, GA
Owen J. Stapleton Jr., Weston, GA
Paul H. Stapleton, Weston, GA
Richard Grimsley, Weston, GA
Susan Wiseman, Weston, GA
Angel Contreras, Willacoochee, GA
Herman F Tapler, Ewa Beach, HI
Happy Trails 114, LLC, Raymond, IA
Woodgrain Millwork Inc., Fruitland, ID
Adeline Dicks & George W Dicks, Chicago, IL
Alan Robert Dawson, Chicago, IL
Chambers Waste Systems of Florida, Chicago, IL
Dvorak Living Trust, Frank Dvorak and Annette Dvorak, Trustees, Chicago, IL
Goodman Grove Partnership, Chicago, IL
Hector Adelso De Leon Amezquita, Chicago, IL
J. David Vazquez, Chicago, IL
Jean N. Malary, Chicago, IL
Okeechobee Landfill, Inc., Chicago, IL
Betty L. Carr and Robert C. Blue, Clarendon Hills, IL
Mildred Peques-Cheeks, Evanston, IL
Clark B Davis Jr. & Karen M Hill-Davis, Holmer Glen, IL
LNV Corporation, c/o Dovenmuehle Mortgage Inc., Lake Zurich, IL
Marilynn Kaye Weems, Mount Vernon, IL
Arthyr Kirk & Halina Kirk, Naperville, IL
Lincolnshire Mammoth Grove, LLC, Northbrook, IL
Estate of Kenneth G. Smith, Olympia Fields, IL
Gussie Marie King, Park Forest, IL
Joyce Gaiter, Park Forest, IL
Zora Patricia Carter, Park Forest, IL
Tony C Zizzo, Grace Morella & Shirley Patricia Delassandro, Plainfield, IL
Walter Mae McCoy, Plainfield, IL
Lloyd Meredith, Reddick, Il
John Hancock Mutual Life Insurance, Savoy, IL
Rachel M. Gotanco Declaration of Trust, Springfield, IL
Estate of Bernard L. Miller, Streator, IL
Phillip E. Goodson & Sally D. Goodson, Waukegan, IL
David Jones, Wheaton, IL
John C Morgin & Barbara M Morgin, Roselawn, IN
Fred Velez & Jill Velez, Decatur, IN
AEG Associates III, LLC, Greenwood, IN
Bradley R. Sparks, Munice, IN
MLIC Asset Holdings, LLC c/o MetLife Agricultural Investment, Overland Park, KS
Autauga Northern Railroad, LLC-Mike Harland, Pittsburgh, KS
Malone Family Revocable Trust, Bellevue, KY
Shirley Tedder, Carlisle, KY
Sara B. Reid, Earlington, KY

Bonner Peacock Enterprises, LLLP & Jane Bonner Peacock, Louisville, KY
Elizabeth C. Lewman, Louisville, KY
Sam Manly Successor Trust, Louisville, KY
The Lucas Family Limited Partnership, Louisville, KY
Tyler Sims, Louisville, KY
Paul R. Eusner Trust, Olive Hill, KY
Gulf South Pipeline Company LP Boardwalk Pipelines, Owensboro, KY
Philip A. Patterson, Ownsboro, KY
Alcie H. Combs, Pikeville, KY
Thomas E. Callis & William G. Callis III, Deridder, LA
Beatrice Dorn, Kenner, LA
Jennings, Cory, Louisville, LA
Arthur Paine, Metairie, LA
Denslow, Julie, New Orleans, LA
Favre, Dan, New Orleans, LA
Alexander, Andrea, Prairieville, LA
Charles Kelm, Slidell, LA
Delia L. DiMarzo 1990 Trust, Chelmsford, MA
Richard E David & Donna M Scafidi David, Hudson, MA
Yekaterina Akkanen & Aleksandr Kravets, Sharon, MA
Sheila Bossons & Roy Bossons, Sudbury, MA
Lawrence E. Ronco Jr. & James R. Keating, Boston, MA
William Chimo and Mary Chimo and Mary G. Nicholas, Canton, MA
Robert T Bouchard, Carver, MA
Daniel P McLaughlin & Patricia Wallis, Douglas, MA
Michael C. Gendreau Trust, Fairhaven, MA
Libby Hamilton, Hamilton, MA
Robert Coyne, Manchester, MA
Gerald C Bass Jr., Marlborough, MA
Robert D English, Newton, MA
Kevin Vien, Quincy, MA
Arthur L Lupien, Southbridge, MA
HCR Limestone Inc. c/o Holcim Tax Dept, Waltham, MA
Ryna Alta Sneider, Wayland, MA
Eileen T Hurley & Patrick Hurley, Westfield, MA
GMC Broadway Realty Trust, Winchester, MA
CER Generation LLC, Balatimore, MD
CER Generation, LLC, Baltimore, MD
Allen Joseph McCoy & Michael McCoy, Bowie, MD
Christopher Apagwu & Kettline Apagwu, Bowie, MD
Karen Buchanan, Lincoln Buchanan, & Audrey Buchanan, Burtonsville, MD
Carole Pouyes & Jean T. Pouyes, Columbia, MD
Todd Austin Platt, Dunkirk, MD
John Porch, Easton, MD
John G Richardson, Ellicott City, MD
Carrie L McCoy, Montgomery Ville, MD
The Estate of Sophia W. Via, Olney, MD
David C. Iglehart, Owings Mills, MD
John Steven Justis, Severna Park, MD
Mohammad Ishaque & Saleha Islam, Silver Spring, MD
Myoung Kwon & So Young Kwon, Silver Spring, MD
Donna M Goff & William R Goff, Newport, ME
Annie M Heard, Southfield, MI
Donald M Harmon & Nancy J Harmon, Ada, MI
Denise Wieckhorst, Algonac, MI
Andrew J Szegi & Lynn B Szegi, Bay City, MI
Howard Vaughn, Boyne Falls, MI
Charles David Bearden, Brighton, MI
Ernest J. Brisson & Gerald C Brisson, Brighton, MI
Lutz Family Trust, Clarkston, MI
Curtis Moses, Concord, MI
Arlene McCoy, Detroit, MI
Evans Industries, Inc., a Florida Corporation, Detroit, MI
Walter Mae Dye, Detroit, MI
Siesta Lago, LLC, Farmington Hills, MI
Worthy P. Stewart, Port Huron, MI
Lois R. Fett and Bradley Fett, Spring Lake, MI
Emma Edith Barnett, Troy, MI
James Arthur Chamberlain, Waterford, MI
Benezra Yomtov, West Bloomfield, MI
Jason W Gatton & Laura A Kase, Wixom, MI
Martha A. Knisley Revocable Living Trust, Burnsville, MN
Gerald J Butler & Jeannine A Butler, Cedar, MN
Walter James & La Rae R Mills, Coon Rapids, MN
Betty Jo Fulgency, Edina, MN
Satnarayan Ramnarayan & Chanderwatti Kumar, Farmington, MN
Dennis W. Stokke & Monica R. Stokke, Hermantown, MN
Bill Braun, Merjent, Minneapolis, MN

Herminia M Torralba & Rogelio H Torralba, Minneapolis, MN
Jeff Mackenthun, Merjent, Minneapolis, MN
Mitch Shields, Merjent, Minneapolis, MN
Zeke Rice, Merjent, Minneapolis, MN
Walbon Partnership, Rosemount, MN
Ferrellgas, LP, Liberty, MO
Pettie J. Jones Estate, c/o Aaron Leonard, Saint Louis, MO
Aaron Leonard, St. Louis, MO
Robert Oliver and Easter Jones, Cleveland, MS
Weyerhaeuser Company, Columbus, MS
Allan A. et ux Theresa R. Hogan, Meridian, MS
Glenda M and Anthony Rank, Meridian, MS
Scott Family Limited Partnership, Meridian, MS
Melinda J. Soto, Ocean Springs, MS
Richard Wyane Gay & Jean Marie Gay, Three Forks, MT
Moises Urman, Fania Urman DeDrassinover, & Levia Urman, Newton, NC
Kenneth Coggins, Charlotte, NC
Marjorie V. Goff, Charlotte, NC
Carl Huzzen, High Point, NC
Christiane Kiandost & Korosh Kiandost, Jamestown, NC
James Ferguson and Oneida J. Ferguson, Lumber Bridge, NC
Jane Williams-Wilburn, Parkton, NC
L&M Three River Farms, LLC, Raleigh, NC
Norman Engle, Executor of the Will for Eileen Wynne, Sugar Grove, NC
Wilcohess LLC, Winston-Salem, NC
Precision Fund 3 LLLP, Fargo, ND
Chiyoko Ewing & Gordon L Ewing, Grand Forks, ND
Kenneth B. DeGraaf, North Platte, NE
Valmont Industries, Inc., Omaha, NE
Husker Builders, Inc., Plattsmouth, NE
Jerrie Ellen Teras & Markus Teras, Alstead, NH
Walter J Corbeil, Bristol, NH
Lyme Gilchrist Forest Company, LLC, Hanover, NH
James F McGrath, Hudson, NH
Alfred J. Landano and Diane M. Barry, North Conway, NH
Vincent Cammarano, Salem, NH
Nelson J. Rheaume, James A. Rheaume and Laura A. Rheaume, Sandown, NH
Thanarayan P Shivraj & Renuka Shivraj, South Plainfield, NJ
Richard Lawlor Jr. & Debra A Lawlor, Union, NJ
Donald J Rica, Basking Ridge, NJ
Anthony J Muscillo Jr. & Kathy A Sagona, Brick, NJ
Anthony J. Muscillo Jr. & Kathy A. Sagona Muscillo, Brick, NJ
Shin Shin Chiang, East Brunswick, NJ
Edward J. Sidders, Edison, NJ
Marco Valencia & Ruth Valencia, Elizabeth, NJ
Ann Thomas, Ewing, NJ
Etya Shoikhet & Alla Misandzhi, Fair Lawn, NJ
Leonor Arboleda & Tyrone Arboleda, Guttenberg, NJ
Kevin Khan, Howell, NJ
Hong Lu & Frank Yang, Jersey City, NJ
Indera Persaud & Telack Persaud, Jersey City, NJ
Rhonda L. Foy, Lawrenceville, NJ
Theresa Romano, Madison, NJ
Ylyana Shnitkin, Manalapan, NJ
Frances Anne Cooney, Maple Shade, NJ
Vincent Guerriera & Melina Guerriera, Monroe, NJ
Rabbi Horace & Doris Zemel Family Florida Investments, LLC, Newark, NJ
Rosemarie Marcus, Newfoundland, NJ
Gladiolus Givens, Orange, NJ
Richard Klein, South Brunswick, NJ
Donna Wermet & John J Wermet, Sparta, NJ
Courtney Goulding & Pearl Goulding, Teaneck, NJ
Derrick S. Lecque, Teaneck, NJ
SAVI Enterprises, LLC, and Chander P. Singh and Sooruj P. Singh, Teaneck, NJ
Richard A Guarino, Verona, NJ
Jack J Mikolon, West Long Branch, NJ
Merck Sharpe & Dohme Corp., Whitehouse Station, NJ
Jesus Najera & Alda Najera, Albuerque, NM
Alice M Laviolette & Mark R Laviolette, Rio Rancho, NM
Kuo-Cheng Kuo, Henderson, NV
David P Chiangi & Raquel M Reinhold, Las Vegas, NV
Forest L. & Guillerma C. Baxter, Las Vegas, NV
Mystic Dunes LLC, Las Vegas, NV
TBA, LLC., Las Vegas, NV
Brian Dennis, Reno, NV
Zhong IRA, LLC, Scarsdale, NY

Mangala Kamath & P. S Kamath, Bay Shore, NY
Ronald S Klein, Bellmore, NY
Ana Matos, Bronx, NY
Linda D Grafal & Milton Grafal, Bronx, NY
OEH, LLC. c/o Bennie Mehmetaj, Bronx, NY
Rosa Rodriguez, Bronx, NY
Sergio Cabrera, Bronx, NY
Sylvia D Miller, Bronx, NY
William Tong, Bronx, NY
Anand Jagnarine & Indranie Jagnarine, Brooklyn, NY
Beverley E Johnson, Brooklyn, NY
Citrus Star, Inc., Brooklyn, NY
Doris Gittens, Brooklyn, NY
Francisco Rivera & Gloria Rivera, Brooklyn, NY
Henry Ramlogan & Vashti Ramlogan, Brooklyn, NY
James R Stewart, Brooklyn, NY
Justin Boodhoo, Brooklyn, NY
Lisa Broyard, Brooklyn, NY
Macrina C Lucis, Brooklyn, NY
Pierre Magloire & Eve Magloire, Brooklyn, NY
Steven Locicero, Brooklyn, NY
Mohamed A. Alli, Brooklyn,, NY
Andrew Swatkovsky, Cazenovia, NY
Douglas A. Malette, Chateaugay, NY
Eloisa V Calabia, Congers, NY
Alice Hurd, Cuba, NY
Calbert McIntosh & Delores Watt, Far Rockaway, NY
Ming-Hua Yu, Flushing, NY
Anthony J Girone & Pauline Girone, Harrison, NY
Ann Moran & Gustavo Moran, Hicksville, NY
Anthony Cecco & Jane Cecco, Hicksville, NY
Steve Blair, Hollis Hills, NY
Edwin Gerig & Eileen Heerey, Howard Beach, NY
Pamela Parra, Island Park, NY
Clare Campbell & Colin Campbell, Jamaica, NY
Naida Singh, Jamaica, NY
Ann Marie Baumann & Christopher Baumann, Lindenhurst, NY
Lesley Z Chavez, Mahopac, NY
Armele Eugene & Fritz Eugene, Manorville, NY
Joanne D Naumann, Middle Village, NY
Marget Gormley-King, Mohegan Lake, NY
Oronzo J Giustino, Mt. Vernon, NY
Luz B Mariano, Nanuet, NY
Lileith Watson, New Rochelle, NY
Florence Keller, New York, NY
Hellmuth Wild & Liana Wild, New York, NY
Jack Trauring & Lily Trauring, New York, NY
John Ligas, New York, NY
Jose Muniz & Luz Delia Muniz, New York, NY
Miguel Grullon and Adriana Tejada, New York, NY
Rosa H. Mercado, New York, NY
Standard Carbon, LLC, New York, NY
Joseph Mellusi, North Salem, NY
J. Depalma LLC, Oceanside, NY
Elmer Abear and Imelda Abear, Ogdensburg, NY
Emily Iovine, Ossining, NY
Bibi Samaroo, Ozone Park, NY
Ian Sahai & Suidass Dennis Sahai, Ozone Park, NY
Watch Tower Bible Tract Society of Pennsylvania, Patterson, NY
Jill E. Cuthbertson Revocable Trust, Piseco, NY
Clarence Mosley, Rego Park, NY
Donald L Jeune, Roosevelt, NY
Mamzad Nazirbage, Rosedale, NY
Joseph Phang, Rosedale Queens, NY
Frank Vasile & Stella Vasile, Staten, NY
Bruno Bolusi & Frank Bolusi, Staten Island, NY
Mahmud Mustafa & Wajiha Mustafa, Staten Island, NY
Randi Low, Staten Island, NY
Lucky Living, Inc., Sunnyside, NY
Adib Denho and Gabriel Malas, Syosset, NY
Larry Taormina, Valley Stream, NY
Rogelio N. Alama and Nympha S. Alma, Valley Stream, NY
Raphael Ramos & Hermenegilda Lozano, Walden, NY
Barbara Ruggiero Revocable Lifetime Trust & August F. Ruggiero Revocable Life Trust, Warwick, NY
George Milhim, West Hempstead, NY
David A. Osebold & Joni Osebold, Woodhaven, NY
Kenneth D. Casey and Radha Casey c/o Chandrakali Roopnarine, Woodhaven, NY
Giacomo Lopez, Woodside, NY
Grace Lopez, Woodside, NY
Janet DeFrancis, Yonkers, NY
Thaddeus Faulkner, Yonkers, NY
Charcoal, LLC, Centerville, OH
Brad Kerwood & Julie Kerwood, Columbus, OH

JP Morgan Chase Bank, N.A., sbm to Chase Home Finance LL, Columbus, OH
Quality Land Developers, LLC, Dayton, OH
Norman R. Boss Trust, c/o Norman R. Boss, Trustee., Massillon, OH
Pogo Five LLC, Massillon, OH
Claudia G Ryan & Kelly A Ryan, Mentor, OH
Ellen L Easterling, Roostown, OH
Nicholas J. Furillo & Phyllis Schubert & Roseann Wood, Seville, OH
The 6875 & 6885 N. Lime Dr. Land Trust, Broken Arrow, OK
Raymond Williams & Sheryl Williams, Chandler, OK
Big Creek Cattle Company, Collinsville, OK
ALI Investments, INC., National Loan Investors, L.P., & Westmount U.S.A., Inc., Oklahoma City, OK
The Tan Family Trust, Winchester, OR
Tseng Shiu-Lin & Mu Ching Chu, Carlisle, PA
John A Amend & Martha C Amend, Andalusia, PA
Gregory D Timmons, Bridgeville, PA
Corbin C Mendenhall Jr. & Elizabeth Mendenhall, Coatesville, PA
David G Szostek, Dauphin, PA
James L Gardner & Linda H Gardner & M.D. Gardner, Ellwood City, PA
Residential Asset Securities Corporation, Home Equity Mortgage Asset-Backed Pass-Through Certificates, Series 2006-KS1, Fort Washington, PA
Milton T Kuharske, Gettysburg, PA
Edna L Seachrist & Leonard M Seachrist, Harrisburg, PA
Donald R. Witman and Barbara L. Witman, Hershey, PA
Richard A Rosell, Lenhartsville, PA
Cable Holdco Exchange II, LLC, Philadelphia, PA
Kittie Hill Estate, LLC, Philadelphia, PA
Missionary Servants of the Most Blessed Trinity, Philadelphia, PA
Toshara K Odom, Philadelphia, PA
Theodore S. Jordan Revocable Trust, Radnor, PA
Clair W. Eshleman, Ronks, PA
Eleanor Strazzeri c/o Louis Strazzeri, Jr., Scranton, PA
Chad Anthony Digga and Jared Brooks, Uniontown, PA
Volodymyr Trubnikov, Warminster, PA
Ester Picone & Raymond Picone, Coventry, RI
Jerry Jones & Wilma Jones, Cranston, RI
Anevel Esteves and Mary Esteves, Cumberland, RI
Karen Palmer, Cumberland, RI
Michael J Carpenter & Julie Ann Doire, Cumberland, RI
Lillian L Francisco & Roy C Francisco, Johnston, RI
Robert E Martin, Johnston, RI
Therese R Mallette & Thomas D Mallette Sr., Johnston, RI
Raymond L Malone & Thomas R Malone, Little Compton, RI
Christine Mistowski & John S Mistowski, Narragansett, RI
Nelson Revocable Living Trust, Narragansett, RI
Michael Ricapito, North Providence, RI
Dickran Manoogian & Dorothea Manoogian, Providence, RI
Peter Matarese & Vincenza Matarese, Providence, RI
Linda S O'Neill & Mark R O'Neill, Wakefield, RI
Mary Der Manouelian & Oscar Manouelian, Warwick, RI
Paul J Goodwin & Peter K Goodwin, Warwick, RI
Joseph L Del Deo & Marie D Del Deo, West Warick, RI
Alden H. Richardson, Columbia, SC
William R McGowan, Easley, SC
Calvin Miller & Lynda Miller, Ledson, SC
Donald E. Perry, Carla Shannon Perry, Barbara P. Jones & Gail V. Perry, Myrtle Beach, SC
Donna Jo Bass, Summerville, SC
Thomas Porch, Taylors, SC
George M. Raines Living Trust & Sybil M. Raines Living Trust, Timmonsville, SC
Carolyn Janasik, Travelers Rest, SC
Esther Janasik, Travelers Rest, SC
Amy L Buechler & Jerold L Buechler, Warner, SD
Pine Belt Southern Railroad Company, Inc., Bell Buckle, TN
Mary Jones, Germantown, TN
Norma Evelyn W. & Kenneth Griffin, Jefferson City, TN

James J Comella & Janet K Comella, Knoxville, TN
Robin K. Waller, Knoxville, TN
Tommy Lee Koon, Portland, TN
Estate of Ross Virgil Lanier, Tellico Plains, TN
Gerald L Herrick & Linda L Herrick, Tellico Plains, TN
Donald G Hensel Jr. & Charla Hensel, Frisco, TX
Jeri Allen White, c/o George White, Argyle, TX
Judith Allen Chase & Jeri Allen White, Argyle, TX
Judith Allen Chase, c/o George White, Argyle, TX
Diane C. Jones & Michael E. Jones, Austin, TX
Federal Home Loan Mortgage Corporation, Carrollton, TX
HOM Groves Partners, Dallas, TX
HOM of Polk County, Inc., Dallas, TX
Leo Groves Partners, Dallas, TX
Richard D. Orrock, Dallas, TX
Paul Calcaterra, El Paso, TX
Claudine K. Jones (LE), c/o Monica U. Jones Mitchell, Fort Worth, TX
Harriet R Dickson, Gainesville, TX
Nash A. Kidd, Georgetown, TX
Jorge Nunez Cortes, Harker Heights, TX
Bobbie R Raska & Paul L Raska, Houston, TX
Diane Warren, Houston, TX
Diane, Larry & Jacqueline Warren, Houston, TX
Jacqueline Warren, c/o Diane Warren, Houston, TX
Larry Warren, c/o Diane Warren, Houston, TX
Midcontinent Express Pipeline Company, LLC, Houston, TX
Sabal Trail Transmission, LLC, Houston, TX
South Georgia Natural Gas Co, Houston, TX
Southern Natural Gas Company, Houston, TX
Pauline Greeson, Manor, TX
Dolly Pao-Chung Chen Hwang, Missouri City, TX
BAC Home Loans Servicing, LP, FKA Country Wide Home Loans Servicing, LP, Plano, TX
Larry W. & Jeanette C. Brown, San Antonio, TX
Cheryl A Hood, Spring, TX
Denise A Rainville & Sherry L Newton, Sugarland, TX
CITI Group Mortgage Loan Trust, Salt Lake City, UT
Cephas Reddick, Dumfries, VA
Robert Flanegan & Katherine Germani, Fairfax, VA
David N Jones, Haymarket, VA
Yvonne M. Wimberley, Newport news, VA
Scott Dickerson, Director Risk Management Norfolk Southern Corporation, Norfolk, VA
Keith T. West & Mary Jo West & Roosevelt West Jr. & Roosevelt West Sr. & Sheldon West, Portsmouth, VA
William Phillips, Portsmouth, VA
Steegmayer, Andrea, Richmond, VA
John Swanson & Lang Swanson, Southland, VA
Aaron Dowdell, Stafford, VA
Margarita R Vegas, Vienna, VA
RTR II, LLC, Virginia Beach, VA
Donald K. Teague, Williamsburg, VA
Arthur D. Klempel and Margie L. Klempel, Bellevue, WA
James G Dyer, Cle Elum, WA
Sunny Sundara, Khonevilay Sundara, and Ouraphone Somsanith, Everett, WA
Thomas Buchignani & Patrick M Buchignani, Fife, WA
Harry Riddle & Jean Riddle, Lakewood, WA
Andrew J Rodzinak & Lola M Rodzinak, Redmond, WA
Allen S Wolf & Tama Wolf, Seattle, WA
Ann M Mercurio, Seattle, WA
Robert L. Streett, Sequim, WA
Janeene Kohl & Russell Kohl, Appleton, WI
John A Thiel & Vicki L Thiel, Appleton, WI
Leonor Deguzman & Mariano Deguzman, Kenosha, WI
Ann L Vander Wyst & Guy J Vander Wyst & Nick R Vander Wyst, Menasha, WI
Carl M Zanden & Lisa K Vander Zanden & Tanner M Vander Zanden, Menasha, WI
Wells Florida Land Corporation c/o Robert L. Wells, Mequon, WI
Jerryl J. Jackson, Auburn, WV
Sandra D Sharp, Beckley, WV
Amelia Jane Smith, Charlotte, WV
Rita Porter Johnson & Walter M Johnson Jr., Hedgesville, WV
Allen Ferrell, Jr., Ripley, WV
Ethel Rabel, Cheyenne, WY
Mercer Bernard Lowery Jr., Cheyenne, WY
Deborah Ann Pilkington, Ascot 4007 Queensland, Australia
Francisco Jaks & Selma Jaks, Europa, Austria

Joseph Romer & Janita Romer, Nassau, Bahamas
Larry Maclean & Kimberly Maclean, Baden Ontario, Canada
Mark James & Colleen James, & Joe White, Baden Ontario, Canada
Edwin M. Zurrer, Foxboro, Ontario, Canada
Shayela Reaz, Gatineau Quebec, Canada
Suwannee American Cement, LLC, Ontario, Canada
Stacey Robinson Living Trust & Wayne Robinson Living Trust, South Mountain Ontario, Canada
Anthony F Ellis & Urma C Ellis, Toronto, Ontario, Canada
Kresimir Krnjevic, Westmount Quebec, Canada
Helena Gamboa De Urena and Carlos Angulo Galvis, Bogota 8 D E, Columbia
Georges Nisenbaum, Paris, France
Harold M Wild & Eleonore S Wild, Augsburg, Germany
Dermott Kidd, Glasnevin Dublin O, Ireland, United Kingdom
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The Deun Family Trust, Dieme 1111 KP, Netherlands
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Ramons Lopez Serrano c/o Carmen O. Rodriquez, Bayamon, Puerto Rico
Carmen L Roldan, Caguas, Puerto Rico
Francisco Torres, Caguas, Puerto Rico
Carlos Sau a/k/a Lao Kay Yu & Peng Keng Kuan, Coamo, Puerto Rico
Julio A Bermudez Perez, Dorado, Puerto Rico
Carmen M Morales, Guayama, Puerto Rico
Carmen Luz Rolon Pardo & Jose Antonio Colon Rolon Pardo, Luquillo, Puerto Rico
Marissa Diaz Perez, Mi Querido Dorado, Puerto Rico
Bethsaida Ocasio De Lugo, Ponce, Puerto Rico
Esteban Rivera Torres, Ponce, Puerto Rico
Alicia G Velazquez & Benjamin Nieves Velazquez, San Lorenzo, Puerto Rico
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Niklaus Baumann, Frauenfeld, Switzerland
Esther Kac, Trustee, Geneva2, Switzerland
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Michael Paul Collinson, Belgrave Heights Darwen Lancashire, United Kingdom
Mitchell Griffiths & Janice Griffiths, Blackpool Lancashire, United Kingdom
Stewart Paton & Anne Paton, Bredbury Stockport, United Kingdom
Timothy William Large & Alison Mary Large, Cheddar Somerset, United Kingdom
Michael Thompson & Karen Thompson, Chellaston Derby, United Kingdom
Gary Lansdowne, Daw Heath Benfleet Essex, United Kingdom
Brian Corbett, Denten Manchester, United Kingdom
Suzanne & Andrew Lewis Gumbrell & John & Karen Mooney, Fortrose Ross Shire, United Kingdom
Martin Thorneycroft & Amanda Thorneycroft, Geoffs Oaks Herts, United Kingdom
Andrew Menzies, Glasgow, United Kingdom
Elizabeth Cosgrove & David Cosgrove, Grange Park Swindon, United Kingdom
Sandra Barley & Albert J Barley, Hertferd Hefordshire, United Kingdom
Paula Elmore & David Hoyle, High Green Sheffield, United Kingdom
Ravinder Gidar & Jaskiran Gidar, Iver Bucks, United Kingdom
Alison McMainemie Taylor, Kirkcaldy Fife, United Kingdom
Enid May Wotherspoon & David Hamill Wotherspoon, Lanarkshire, United Kingdom
John Andrew Park & Elaine Park, Lanc, United Kingdom
Laura Shipley, Letchworth Herts, United Kingdom

David Alom Lione & Patricia Edith Lione, London, United Kingdom
Desmond Sheckleton, London, United Kingdom
Theresa Keohane, London, United Kingdom
Philip Else, Mansfield Woodhouse, Notts, United Kingdom
Mark Holland & Alison Holland, Meols Wirral, United Kingdom
Maura Lyons & Howard Lyons, Northwood Middlesex, United Kingdom
Roy Paul Tibble, Ocklendon Essex, United Kingdom
Tracy & Andrew Graham Smallwood & David & Jacqueline C. Griffiths, Priorslee Telsford Shopshire, United Kingdom
Karen Pemberton & Christopher Pemberton, Sale Cheshire, United Kingdom
John Rae, Scotland, United Kingdom
Ranbir Dhaliwala & Manmohan Gill, South Middlesex, United Kingdom
Victoria, Kristina, Patricia A & Raymond C Ledger, St. Margarets Bay Dove Kent, United Kingdom
Vickers Family Revocable Trust, Stone Staffordshire, United Kingdom
Lesley Michelle Gissing and Guy Charles Gissing, Tottington Bury Lanchashire, United Kingdom
Susan Reeve & David Reeve, Upchurch Kent, United Kingdom
Joanna Laing, Utkinton Chershire Tarporley, United Kingdom
Janet Ann Scott & Clive Anthony Scott, Wilwiecote Tamworth Staffs, United Kingdom
Clifford Floyd, Winterbourne Bristol, United Kingdom
Ophelia Torres, St. Thomas, Virgin Islands