



SABAL TRAIL PROJECT

DRAFT RESOURCE REPORT 10 *Alternatives*

FERC Docket No. PF14-1-000

June 2014

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Proposed Pipeline - Sabal Trail Project Collocation Map

Alternative Routes - Sabal Trail Project Collocation Map

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RESOURCE REPORT 10—ALTERNATIVES	
Filing Requirement	Location in Environmental Report
<input checked="" type="checkbox"/> Address the “no action” alternative. For large projects, address the effect of energy conservation or energy alternatives to the project.	Section 10.3
<input checked="" type="checkbox"/> Identify system alternatives considered during the identification of the project and provide the rationale for rejecting each alternative.	Section 10.4
<input checked="" type="checkbox"/> Identify major and minor route alternatives considered to avoid impact on sensitive environmental areas (e.g., wetlands, parks, or residences) and provide sufficient comparative data to justify the selection of the proposed route.	Section 10.5
<input checked="" type="checkbox"/> Identify alternative sites considered for the location of major new aboveground facilities and provide sufficient comparative data to justify the selection of the proposed site.	Section 10.6

FERC COMMENTS ON INITIAL PRE-FILING DRAFT RESOURCE REPORT 10	LOCATION IN DRAFT RESOURCE REPORT 10 OR RESPONSE TO COMMENT
Resource Report 10 - Alternatives	
FEBRUARY 12, 2014 COMMENTS	
1. Include a comparative analysis of using the existing Southern Natural Gas Company transmission system as a system alternative.	Section 10.4.3.
2. Regarding the analysis of major route alternatives and variations:	
a. explain the purpose behind each route alternative and variation considered;	Sections 10.5.1 and 10.5.2.
b. include the MP of the planned route where each route alternative or variation would depart from and rejoin the planned route;	Sections 10.5.1 and 10.5.2.
c. compare the environmental impacts of each route alternative and variation only to the correlative segment of the planned route that would be avoided if the route alternative or variation were selected;	Sections 10.5.1 and 10.5.2 and Tables Section.
d. utilize the same type of data to compare individual environmental factors (i.e., compare desktop information to desktop information, or survey data to survey data);	Sections 10.5.1 and 10.5.2 and Tables Section.
e. identify the source of the data used in the comparison (e.g., National Wetland Inventory, field survey, aerial photographic review); and	Tables Section.
f. identify any assumptions used in calculating potential impacts (e.g., construction right-of-way width).	Tables Section.
3. Include revised route alternatives tables to clearly indicate construction and operational impacts (acreage/feet).	Tables Section.
4. Ensure the text, tables, and figures presented throughout the resource report are consistent. Confirm the terminology used and clearly discern the planned route (also variously described as the preferred route, original primary route, primary route, proposed alignment, original project alignment, etc.) and alternatives.	Sections 10.5.1, 10.5.2 and 10.6.1.
5. Include a re-evaluation of the Station 85 Route Alternative comparing the impacts of the proposed Mainline between MPs 0 and 262 plus the impacts of the Hillabee Expansion Project proposed by Transcontinental Gas Pipe Line Company, LLC (Transco) in Docket No. PF14-6, to the impacts of the 370-mile-	Section 10.5.1 – Station 85 Route Alternative.

FERC COMMENTS ON INITIAL PRE-FILING DRAFT RESOURCE REPORT 10	LOCATION IN DRAFT RESOURCE REPORT 10 OR RESPONSE TO COMMENT
long Station 85 Route Alternative (from Transco Station 85 to MP 262 of the proposed Mainline) plus the impacts of any expansion that Transco would have to implement upstream of Station 85 if the Station 85 Route Alternative were to be adopted.	
6. Include in table format the locations of Live Oak communities crossed by the pipeline and describe alternative routes Sabal considered to avoid crossing these lands.	Sabal Trail has not identified Live Oak communities that warranted an alternative route analysis. However, Sabal Trail did evaluate a reroute between MPs 348.2 – 348.6, at the request of a landowner to avoid wooded lands that included Live Oaks, and incorporated the reroute into its pipeline route (Tables Section, Table 10.5.3-1 - Reroute 52).
7. Include analyses of the following route alternatives/variations identified by staff, in comments filed with the Commission, and received by staff at the Sabal Trail Open Houses:	
a. Beginning at approximately MP 188 heading south and then turning east along Wilburn Murphy Road and rejoining the proposed route at approximately MP 192.	Section 10.5.2 – Moultrie Deviations 1 through 4.
b. Beginning at approximately MP 189 heading south and then turning east around Dunn Road and rejoining the proposed route at approximately MP 190.	Section 10.5.2 – Moultrie Deviations 1 through 4.
c. Beginning at approximately MP 190.5 heading east for approximately 2 miles and then turning south to rejoin the proposed route at approximately MP 193.5.	Section 10.5.2 – Moultrie Deviations 1 through 4.
d. Beginning at approximately MP 306 heading south and west of the proposed route through the Waccasassa Flats in Gilchrest County and rejoining the proposed route at approximately MP 332.	Section 10.5.1- Waccasassa Flats Route Alternative.
e. All locations/route alternatives considered for the crossing of the Sante Fe River and all construction methods considered including the “direct-pipe crossing method”.	Section 10.5.1 – Gilchrist Westerly Alternatives, Waccasassa Flats Route Alternative.
f. Route north and east of Lake Panasoffkee to avoid the Half Moon Wildlife Management Area and the community of Lake Panasoffkee;	Section 10.5.1 – Gum Slough Route Alternative.
g. Route to avoid a landfill with contamination issues near MP 238.5;	The Sabal Trail pipeline does not cross a landfill at this location. However, Sabal Trail evaluated a reroute between MPs 240.8 – 241.2 at the request of a landowner but eliminated it from further consideration due the greater environmental impacts it would create (Tables Section, Table 10.5.3-3 - Reroute 76).
h. Beginning at approximately MP 341.5 in Levy County, FL continuing south adjacent to the existing utility right-of-way and west of the Goethe State Forest to a point south of the state forest and then returning east to Dunnellon, FL.	Section 10.5.2 - Goethe Deviation.
i. Beginning at approximately MP 344 heading directly east, avoiding the wooded lands located at MP 346 and rejoining the proposed route at approximately MP 348.	Sabal Trail evaluated a reroute between MPs 348.2 – 348.6 at the request of a landowner and incorporated the reroute into its pipeline route (Tables Section, Table 10.5.3-1 - Reroute 52).
j. Beginning at approximately MP 344 heading directly south and then east, avoiding the wooded lands located at MP 346 and rejoining the proposed route at approximately MP 348.	Sabal Trail evaluated a reroute between MPs 348.2 – 348.6 at the request of a landowner and incorporated the reroute into its pipeline route (Tables Section, Table 10.5.3-1 - Reroute 52).
k. Beginning at approximately MP 349.5 heading south, avoiding wooded lands at MP 350, and rejoining the proposed route at approximately MP 350.75.	Sabal Trail evaluated a reroute between MPs 351.9 – 353.4 at the request of a landowner and incorporated the reroute into its pipeline route (Tables Section, Table 10.5.3-1 - Reroute 23).
l. Route through open field to avoid a wetland, pond, and sink hole on the Ryder property in Brooks County, Georgia;	Section 10.5.2 – Spain Road Deviation 1 and 2.

FERC COMMENTS ON INITIAL PRE-FILING DRAFT RESOURCE REPORT 10	LOCATION IN DRAFT RESOURCE REPORT 10 OR RESPONSE TO COMMENT
m. Route to follow a powerline to avoid wetlands and two residences in Sumter County, Florida; and	Section 10.5.2 – Reroute 71.
n. Route to follow a powerline and bike path through the Green Swamp district in Polk County, Florida.	Section 10.5.1 – Rails to Trails Route Alternative.
o. Route on the opposite side of a field to avoid farm access points near MP 301.	Sabal Trail evaluated a reroute between MPs 329.5 – 329.85 at the request of a landowner and incorporated the reroute into its pipeline route (Tables Section, Table 10.5.3-1 - Reroute 55). In addition, Sabal Trail is further evaluating a reroute between MPs 331.55 – 332.1 to further address the landowners request (Tables Section, Table 10.5.3-2 - Reroute 91).
p. Alternatives considered in response to Ms. Dinorah Hall’s comments filed with the Secretary of the Commission.	Section 10.5.2 – Sasser Deviations 1 and 2.
8. Include all aboveground facility alternatives identified in comments filed with the Secretary of the Commission.	Section 10.6.1 – Reunion Compressor Station Alternative B.
APRIL 2, 2014 COMMENTS	
1. Include additional discussion and supporting information on how geographic separation of the Sabal Trail Project from the existing Florida Gas Transmission Company, LLC (FGT) and Gulfstream Natural Gas System, LLC (Gulfstream) systems would enhance the reliability of the natural gas distribution system in Florida.	Filed with FERC on May 2, 2014 (Accession No. 20140502-5187).
2. Include a comparison of the potential impacts of the Sabal Trail Project between milepost (MP) 0 and approximate MP 293.5 (the point where the proposed route would intersect the existing FGT system in Suwannee County, Florida) plus the impacts associated with Transcontinental Gas Pipe Line Company’s (Transco) Hillabee Expansion Project (FERC Docket No. PF14-6), to the impacts of a route alternative that would begin at Transco Compressor Station 85 in Choctaw County, Alabama, extending south along existing pipeline rights-of-way to the intersection with the FGT system in northwestern Mobile County, Alabama, and would then be largely collocated with the existing FGT system to its intersection with the Sabal Trail Project at approximate MP 293.5. Include in this comparison the impacts of any expansion that Transco may have to implement on its system if the alternative were to be adopted, or clarify if no expansion of the Transco system would be required.	Filed with FERC on May 2, 2014 (Accession No. 20140502-5187). Section 10.5.1 – FGT Onshore Route Alternative.
3. Include a comparison of the impacts of the Sabal Trail Project plus the Hillabee Expansion Project to a route alternative that would begin at Transco Compressor Station 85 in Choctaw County, Alabama and that would minimize onshore impacts by crossing the Gulf of Mexico from the vicinity of Mobile Bay to a point near the terminus of the proposed Citrus County Line. Include in this comparison the impacts of any expansion that Transco may have to implement on its system if the alternative were to be adopted, or clarify if no expansion of the Transco system would be required.	Filed with FERC on May 2, 2014 (Accession No. 20140502-5187). Section 10.5.1 – Gulf of Mexico Route Alternative.
4. Include a comparison of the potential impacts of the Sabal Trail Project between approximate MP 293.5 (the point where the mainline would cross the FGT mainline) and the proposed Central Florida Hub, to a route alternative beginning at approximate MP 293.5 and that would be largely collocated with the western Florida branch of the FGT system, ending at or near the proposed Central Florida Hub. Also consider the alignment and impacts of the Citrus County Line and Hunters Creek Line in both the proposed case and FGT western collocation alternative.	Section 10.5.1 – FGT – Central Florida Hub Route Alternative.
5. Include a comparison of the potential impacts of the mainline route between approximate MP 247 (near the Florida - Georgia border)	Section 10.5.1 – Interstate 75 Route Alternative.

FERC COMMENTS ON INITIAL PRE-FILING DRAFT RESOURCE REPORT 10	LOCATION IN DRAFT RESOURCE REPORT 10 OR RESPONSE TO COMMENT
and MP 405 (the point where the mainline crosses Interstate 75 in Sumter County, Florida), to a route alternative that would be largely adjacent to Interstate 75 between those points. This analysis should include, but not be limited to, a comparison of potential impacts associated with karstic terrain and water resources.	
6. Regarding the Hillabee Route Alternative:	
a. describe the environmental benefits of avoiding the installation of 180 miles of alternating current mitigation in the proposed segment and incorporate this information into the comparative analysis;	Section 10.5.1 – Hillabee Route Alternative.
b. describe the extent to which construction workspace could be overlapped with existing rights-of-way and incorporate this information into the comparative analysis; and	Section 10.5.1 – Hillabee Route Alternative.
c. provide a supplemental comparison of environmental factors associated with the greenfield portion(s) of the proposed route and the greenfield portion(s) of the Hillabee Route Alternative.	Section 10.5.1 – Hillabee Route Alternative. Tables Section – Table 10.5.1-4.
7. Include descriptions and analyses of route alternatives and/or deviations that were considered for the Citrus County Line and the Hunters Creek Line.	Section 10.5.3. Sabal Trail evaluated four route variations along the Hunters Creek Line and incorporated these reroutes into its proposed pipeline route (Tables Section, Table 10.5.3-1). Sabal Trail is currently evaluating three route variations along the Hunters Creek Line and one along the Citrus County Line (Tables Section, Table 10.5.3-2).
8. Include a description of the factors that were considered in selecting the proposed location of the Central Florida Hub. Include a discussion of alternative locations that were considered.	In Florida Power & Light Company (“FPL”) Request for Proposals for new natural gas transportation service, it requested, among other things, proposals for a new pipeline extending from Transco’s Station 85 in Alabama to the “Central Florida Hub” to be located in Osceola County, Florida. A requirement of FPL was that the new natural gas transportation service will interconnect with the existing Gulfstream Natural Gas System, LLC (“Gulfstream”) and Florida Gas Transmission Company, LLC (“FGT”) pipeline systems, which currently serve central and southern Florida, and provide a wheeling service at the “hub.” Sabal Trail did not evaluate an alternative location for the new Central Florida Hub because of the following factors: (1) FPL’s requirement for a new “hub” at the proposed location; (2) the new Central Florida Hub’s proximity to the existing Gulfstream and FGT pipeline systems; and (3) the starting point of the Florida Southeast Connection Project, a downstream pipeline currently being proposed by Florida Southeast Connection, LLC (FERC Docket No. PF14-2-000) that will service FPL’s Martin Clean Energy Center.
9. Include supplemental figures that depict the major utility corridors that the Sabal Trail Project, route alternatives, and route variations would follow or be collocated with.	Figures 10.7-1 to 10.7-3 (<i>see</i> Figures Section).

ACRONYMS AND ABBREVIATIONS

AC	alternating current
Application	Certificate Application
Bcf/d	billion cubic feet per day
Certificate	Certificate of Public Convenience and Necessity
CR	County Road
DEF	Duke Energy Florida, Inc.
EERS	Energy Efficiency Resource Standards
EFH	essential fish habitat
FERC	Federal Energy Regulatory Commission
FGS	Floridian Natural Gas Storage Company LLC
FGT Alternative	FGT Onshore Route Alternative
FGT	Florida Gas Transmission Company, LLC
FPL	Florida Power & Light Company
FSC	Florida Southeast Connection, LLC
GIS	Geographic Information Systems
Gulf Alternative	Gulf of Mexico Route Alternative
Gulfstream	Gulfstream Natural Gas System, LLC
HCA's	high consequence areas
HDD	horizontal directional drill
hp	horsepower
I-75	Interstate 75
LNG	Liquefied Natural Gas
M&R	meter and regulating
MAOP	maximum allowable operating pressure
MP	milepost
MW	megawatt
MWh	megawatt hours
NLCD	National Land Cover Data
NSAs	noise sensitive areas
NWI	National Wetland Inventory
OD	outside diameter
Project	Sabal Trail Project
RFP	Request for Proposal
ROW	right-of-way
RPS	renewable portfolio standards
Sabal Trail	Sabal Trail Transmission, LLC
SONAT	Southern Natural Gas Company
SR	State Road
ST-HE Pipeline	Sabal Trail – Hillabee Expansion Project Pipelines
TCP	Traditional Cultural Properties
Transco	Transcontinental Gas Pipe Line Company, LLC
USGS	U.S. Geological Service

10.0 RESOURCE REPORT 10 – ALTERNATIVES

10.1 Introduction

Sabal Trail Transmission, LLC (“Sabal Trail”), a joint venture between affiliates of Spectra Energy Partners, LP and NextEra Energy, Inc., is seeking a Certificate of Public Convenience and Necessity (“certificate”) from the Federal Energy Regulatory Commission (“FERC”) pursuant to Section 7 (c) of the Natural Gas Act authorizing the construction and operation of the Sabal Trail Project (“Project”).

The Project is a new natural gas transmission pipeline that will be constructed, owned and operated by Sabal Trail, extending from Tallapoosa County, Alabama to a new interconnection hub (“the Central Florida Hub”) in Osceola County, Florida. At the Central Florida Hub, the Project will connect with the Florida Southeast Connection Pipeline Project, currently being proposed by Florida Southeast Connection, LLC (“FSC”) (FERC Docket No. PF14-2-000). In addition, at or near the Central Florida Hub, the Project will interconnect with Gulfstream Natural Gas System, LLC (“Gulfstream”) and Florida Gas Transmission Company, LLC (“FGT”). Sabal Trail will also lease capacity from Transcontinental Gas Pipe Line Company, LLC (“Transco”) on facilities Transco is proposing to construct for its Hillabee Expansion Project (FERC Docket No. PF14-6-000). The Project will have an initial capacity of 800,000 dekatherms per day with a proposed in-service date of May 1, 2017. Through a series of phased compressor station expansions to meet the future capacity needs of Sabal Trail’s customers, the Project capacity will increase to approximately 1,100,000 dekatherms per day by 2021.

The proposed Project consists of the following facilities:

Pipeline Facilities

The Project includes construction of approximately 462.9 miles of new 36-inch diameter natural gas transmission pipeline (the “Mainline Route”), approximately 13.3 miles of new 36-inch diameter natural gas pipeline (“Hunters Creek Line”), and approximately 22.3 miles of new 24-inch diameter natural gas pipeline (the “Citrus County Line”). A summary of the Project pipeline facilities is provided in Table 1.2-1 (*see* Tables section of Resource Report 1). A location map of the Project pipeline facilities is provided as Figure 1.1-1 (*see* Figures section of Resource Report 1).

- Mainline Route – Originates in Tallapoosa County, Alabama near Transco milepost (“MP”) 944 and ends at an interconnection with the Florida Southeast Connection Pipeline Project at the Central Florida Hub in Osceola County, Florida;
- Hunters Creek Line – Connects at the proposed Reunion Compressor Station located at approximately MP 462.9 to FGT’s existing 30-inch diameter mainline natural gas pipeline in Orange County, Florida; and
- Citrus County Line – Located in Marion and Citrus Counties, Florida, extending from Sabal Trail’s facilities at approximately MP 384.2 to a new electric generation plant proposed by Duke Energy Florida, Inc. (“DEF”) to be located in Citrus County, Florida.

Aboveground Facilities

Five new compressor stations are proposed to be constructed along the Mainline Route. Three compressor stations would have a 2017 in-service date, followed by two additional compressor stations with a 2020 in-service date. Expansion work (*i.e.*, additional compression) at two of these five new compressor stations would then be completed with an in-service date of 2021. Natural gas will be the proposed fuel source for the facilities within each compressor station. A summary of the Project aboveground facilities is provided in Table 1.2-2 of Resource Report 1. Aboveground facility plot plans are provided in Appendix 1A, Volume II-B of Resource Report 1. United States (“U.S.”) Geological

Survey (“USGS”) topographic location excerpts and aerial photography are provided as Figures 1.1-2 and 1.1-3 of Resource Report 1.

- Compressor Stations

- Alexander City Compressor Station (approximate MP 0.0) – In service 2017. Construction of a compressor station near Alexander City in Tallapoosa County, Alabama. The compressor station will include two Solar Titan 130 and one Solar Titan 250 compressor units;
- Albany Compressor Station (approximate MP 157.7) – In service 2020. Construction of a compressor station near Albany in Dougherty County, Georgia after the initial Project in-service date. The compressor station will include one Solar Titan 130 compressor unit. An additional Solar Titan 130 compressor unit will be constructed in a later phase of the Project with an in-service date of 2021;
- Hildreth Compressor Station (approximate MP 292.7) – In service 2017. Construction of a compressor station near Lake City in Suwannee County, Florida, consisting of one Solar Titan 130 compressor unit. An additional Solar Titan 130 compressor unit will be constructed in a later phase of the Project with an in-service date of 2021;
- Dunnellon Compressor Station (approximate MP 384.2) – In service 2020. Construction of a compressor station near Ocala in Marion County, Florida after the initial in-service date. The compressor station will include one Solar Titan 130 compressor unit; and
- Reunion Compressor Station (approximate MP 462.9) – In service 2017. Construction of a compressor station near Intercession City in Osceola County, Florida, consisting of one Titan 130 compressor unit and one Solar Mars 100 compressor unit.

In addition, six meter and regulating (“M&R”) stations are proposed for the Project.

- M&R Stations

- Mainline Route M&R Stations
 - Transco Hillabee M&R Station in Tallapoosa County, Alabama (MP 0.0)
 - FGT Suwannee M&R Station in Suwannee County, Florida (MP 296.2)
 - FSC M&R Station in Osceola County, Florida (MP 462.9)
 - Gulfstream M&R Station in Osceola County, Florida (MP 462.9)
- Hunters Creek Line M&R Station
 - FGT Hunters Creek M&R Station in Orange County, Florida (MP 13.3)
- Citrus County Line M&R Station
 - Duke Energy Citrus County M&R Station in Citrus County, Florida (MP 22.3)

Proposed Mainline Capacity Lease

Transco Lease – Mainline capacity lease on Transco’s existing pipeline facilities extending from Transco’s Zone 4 Pool and Transco’s interconnections with Midcontinent Express Pipeline, LLC and Gulf South Pipeline Company, LP, all located near Transco MP 784 in Choctaw County, Alabama to the point of interconnection with the proposed Sabal Trail facilities to be located near Transco MP 944 in Tallapoosa County, Alabama.

As part of the development process for the Project, Sabal Trail evaluated pipeline routing and compressor station site options based on regional topography, potential adverse environmental impacts, population density, existing land use, and construction safety and feasibility considerations. Sabal Trail also took into account early Stakeholder Outreach responses as well as public comments received during the scoping process. Sabal Trail has endeavored to locate the pipeline within, adjacent to, or parallel to existing utility corridors where practicable, feasible, and in compliance with existing regulatory requirements. In evaluating the pipeline routing and compressor station siting, Sabal Trail also considered route and site alternatives, respectively, in conjunction with the Commission's guidelines, as set forth in 18 Code of Federal Regulations Section 380.15. This draft Resource Report 10 describes the alternatives that have been considered in developing the Project. Tables and Figures for this resource report are provided in the Tables and Figures section appended to this report.

Refer to Resource Report 1, Appendix 1A for the Project drawings, maps, alignment sheets, and aerials.

10.2 Purpose and Need

The purpose of the Project is to (i) meet existing and growing natural gas fuel supply needs of electric generators and other natural gas users in Florida and the Southeast, including Alabama and Georgia; (ii) add a third independent natural gas transmission pipeline into Florida with access to multiple upstream supply sources at Transco's existing Compressor Station 85; (iii) add reliability to the natural gas transmission grid in the Southeast; and (iv) provide deliveries to a new Central Florida Hub that will interconnect with the two existing natural gas transmission pipelines currently serving central and southern Florida. The Project will allow natural gas users in the Southeast region to diversify access to growing natural gas supplies, increase the overall reliability of the region's natural gas transmission grid, reduce reliance on offshore natural gas supply sources and lessen the region's vulnerability to supply disruptions that can result from severe weather in the Gulf of Mexico.

The two existing natural gas pipelines that serve central and southern Florida, Gulfstream and FGT are at or near capacity. By accessing Transco's Station 85, Sabal Trail's shippers will have access to multiple, growing supply areas including the Barnett, Haynesville, Fayetteville, Woodford/Carney, Eagle Ford and Marcellus production areas as well as conventional onshore and offshore supplies. The Central Florida Hub will interconnect with the existing Gulfstream and FGT systems thereby allowing deliveries into either of the systems providing needed reliability to the existing natural gas transmission grid in Florida.

In addition to providing increased gas deliverability to meet the region's growing natural gas needs, the Project will also provide the following:

- Significant reliability and deliverability enhancements to the existing pipeline system serving Florida through the various Project interconnections, including the Central Florida Hub;
- Increased competition for gas transportation needs;
- Continued diversification of the gas supplies with direct access to supply from midcontinent and other onshore shale gas reserves available to Florida and the Southeast, including Alabama and Georgia; and
- Economic benefits.

Sabal Trail's primary objective in performing this alternatives analysis was to develop a constructible Project that would meet the purpose and need of the Project while avoiding or minimizing potential adverse environmental impacts to the greatest extent practicable.

10.3 No-Action Alternative

The “no-action” alternative for the Project would avoid the temporary and permanent environmental impacts associated with construction and operation of the proposed Project. However, by not constructing the proposed Project there would be no ability to provide the natural gas transportation service requested by the public (as evidenced by customers to meet their electric demands beginning in 2017 that subscribed to the majority of the Project’s projected capacity). Given the need to transmit large quantities of natural gas to central and southern Florida, other natural gas transmission companies would be required to increase their capacity on existing systems and construct new facilities. Such actions likely would result in the transfer of environmental impacts from one location to another, but would not likely eliminate or significantly reduce total environmental impacts altogether. Moreover, a simple expansion of existing systems would not meet the other purposes of the Project such as constructing a new independent pipeline into the region, accessing new gas supplies, improving connectivity with existing pipelines as well as the associated reliability and economic benefits. If the No-Action Alternative were to be selected, Florida Power & Light Company (“FPL”) and DEF would be required to find another natural gas transmission source or sources to transport the necessary volume to meet the market demand proposed to be supplied by the Project.

Without an increase in the capacity to transport abundantly available natural gas to the region, markets in need of additional supplies of natural gas will need to: 1) seek other sources of fuel or energy; 2) forego meeting their natural gas demand needs until energy conservation measures stabilize or decrease demand, possibly limiting their growth and the growth of the local economies they serve; and, 3) depend on the future development of other projects with unpredictable schedules and likely equivalent or greater environmental impacts.

Implementing the No-Action Alternative would not afford access to stable and reliable natural gas supplies in the United States to meet projected increases in demand in the Southeast. If existing natural gas transmission systems are not created or expanded, energy shortages in times of peak demand may ensue, or users may revert to permitting for use of alternative fuels, which may include oil and coal. Utilization of natural gas as the primary source of fuel offers the best alternative in terms of environmental impact of available energy sources, particularly with regard to air quality impacts. Expanding natural gas delivery infrastructure, as proposed by the Project, is the most efficient way to meet increased demand with minimized impact to the environment. For these reasons, the no-action alternative was not found to be a feasible alternative for the Project since that alternative would not satisfy the purpose and need for the Project.

10.3.1 Energy Demand Projections

Florida’s net energy load for electric generation is expected to grow by approximately 13 percent between 2013 and 2022 (FRCC, 2013). The load profile of Florida is heavily influenced by residential customers, and as such, Florida’s generation capacity must be sufficient to meet the increasing needs of the residential, industrial, and commercial consumers. Florida currently has 56,725 megawatt (“MW”) (winter ratings) of installed electric generating capacity (FRCC, 2013).

Florida’s installed electric generating capacity is based on a variety of different fuel sources: 64 percent natural gas, 20 percent coal, 8 percent nuclear, one percent non-utility generator, one percent renewables, 4 percent from inter-regional interchange, and 2 percent from other sources (FRCC, 2013). The last Florida Energy Plan (2006) forecasted natural gas fired generation capacity would reach 80 percent of net generation. Actual growth in natural gas fired generation increased to 64 percent from 25 percent of net generation between 2002 and 2012 (PUSC, 2013). As a result, it appears likely that natural gas will represent an even larger percentage of the future electric generation fuel source.

10.3.2 Energy Conservation

Reducing the need for additional energy usage is the preferred option for meeting growth in energy demand, whenever practicable. Conservation of energy reduces the demand for the limited and over-utilized reserves of fossil fuel. Energy conservation is also advocated by both federal and state authorities. Programs are in place to encourage large-scale energy conservation. Several states that would potentially receive an increase in natural gas capacity as a result of this Project have renewable portfolio standards (“RPS”) and/or Energy Efficiency Resource Standards (“EERS”) that set long-term goals for renewable energy development. An RPS requires states to determine long-term renewable energy targets. An EERS is analogous to an RPS in some cases and is both a state and federal policy that sets binding, long-term annual energy efficiency targets. Thirty states have passed a RPS, 24 states have passed an EERS, and four states have pending rules requiring utilities selling electricity to save a certain percentage of annual sales through energy efficiency. The Florida Public Service Commission prepared draft RPS rules in 2009, proposing a 20 percent renewable energy requirement by 2020 (Florida Public Service Commission, 2009). These rules were not adopted by the Florida legislature; therefore Florida currently does not have an RPS.

Energy conservation reduces the demand or growth in demand for natural gas and other energy sources. It is possible that the development and implementation of additional cost-effective conservation measures could have some effect on the demand for natural gas. However, substantial new development in technology would be needed before the magnitude of such energy conservation measures necessary to equal the electric generation fueled by proposed Project could be implemented. Energy conservation may provide an alternative in the long-term, but it is not a viable alternative to meet the medium to short-term energy demands of the market.

10.3.3 Non-Gas Energy Alternatives

Use of alternative fuels to supply the needs of the market could potentially result in adverse environmental impacts, due to increased air emissions and impacts to other natural resources that otherwise would be minimized through the use of natural gas. In general, alternative energy sources to the natural gas transported on the Project include oil, coal, biomass, and nuclear fuels. State and federal air pollution control regulations indirectly promote the use of clean fuels to minimize adverse air quality impacts. These regulations were instituted to improve both air quality and the quality of life. Use of these alternative hydrocarbon energy sources would result in adverse air quality impacts, and these adverse impacts may conflict with federal and state long-term energy environmental policies aimed toward improving air quality in non-attainment areas. Moreover, the Project will transport natural gas to meet the increasing demands by existing natural gas fired generation plants, where the only alternative fuel for such plants is oil. Therefore, these other non-gas energy alternatives would need to displace existing and proposed natural gas fired generation no later than 2017.

In 2010, renewable energy sources contributed 8,049 trillion British thermal units to the United States’ power supply (EIA, 2011c). This amount accounted for an 8 percent share of the total energy consumption in the United States (EIA, 2011c). However, none of these renewable energy sources have been fully developed in the United States or in the Project area for large-scale application or to the point where they would be viable energy alternatives to the proposed Project (ACEEE, 2003). Conversely, smaller-scale, or individual, renewable energy sources may be combined to meet the energy needs for the proposed Project; however, the number of such individual projects would need to be very numerous, and land requirements will likely increase. Because the combination of these resources would require development of coordinated efforts, which would take time and would not provide the energy in time to meet the market needs, it is evident that these energy alternatives are not viable options when compared to natural gas for the Project.

Wind

Wind power currently is not an option for meeting the existing or projected power needs of the market. Wind energy is not available in the vicinity of the Project presently nor is it likely to be so consistent with the Project timeframe. Wind power also cannot be precisely scheduled based on demand. The proposed Project, upon completion, would provide 1,100,000 dekatherms per day of additional energy, which, when converted to megawatt hours (“MWh”) is approximately 322,580 MWh. To compare the energy provided by the proposed Project to that of other renewable energy sources, such as wind or solar, a unit of power must be calculated. The equivalent of 322,580 MWh is 26,882 MW of power, assuming 12 hours of operation. Based on the fact that individual wind turbine capacity can range from 1.8 MW to 5.0 MW (AWEA, 2012) a total of 8,960 turbines (using an estimated 3.0 MW/turbine) would be needed to produce the same amount of energy as the proposed Project. Therefore, it is projected that wind energy would not provide the reliable quantity of energy that could be provided by natural gas due to the vast number of wind turbines needed. Wind turbines would also require permanent access roads and electric transmission facilities to be constructed which will likely cause significant impacts to the visual resources and aesthetics of the region. Therefore, wind power will not be a viable option when compared to natural gas and does not meet the Project’s purpose and need.

Hydroelectric

The region where the Project is located does not have a high potential for hydroelectric power generation, even using low head/low power technologies. As a result, hydroelectric power would not be available for development in the region as an alternative to the natural gas supplied by the Project.

Solar Power

Solar power is not a viable alternative to meet the existing and future natural gas fuel supply needs of electric generators by May 2017 and other natural gas users in Florida. In addition solar may be less practical due to climactic conditions, developmental costs, reliability issues, the need for large expanses of land and the uncertainty of solar power availability at times of peak demand. Some of the largest completed solar photovoltaic power plants, also called solar parks or fields, have area efficiency of about 4.5 to 13.5 acres per MW (Solar by the Watt, 2009). Therefore, it is estimated that the land requirements for a solar project that could produce 26,882 MW of power would range between 1,991 and 5,974 acres of permanent disturbance. As a result of these extensive land requirements, solar power is not being developed at a pace that would provide for the projected energy needs of the market. The proposed Project may cause initial or temporary earth disturbance greater than that required for the development of a similar MW of solar power; however, unlike solar parks or fields, the majority of the area will be restored and allowed to revert to original conditions. In addition, the permanent ROW will be maintained in an herbaceous condition (rather than an impervious or shaded surface that would be found in a solar park or field) that can provide habitat for flora and fauna in the long term. While some solar development is underway in Florida, the land requirements needed by the solar power to generate the amount of energy equivalent to that to satisfy the purpose and need of the proposed Project would be cost prohibitive. As such, due to the relative ground impacts required for solar power compared to natural gas, solar power is not a viable option.

Geothermal Power

Geothermal energy is available only at tectonic plate boundaries or at volcanic hotspots. Due to a lack of these features in the Project area, geothermal energy would not be available for development as an alternative to natural gas.

Coal

Coal, although a viable alternative to natural gas for power generation, is not as clean-burning as natural gas. Coal emits greater regulated pollutants (e.g., sulfur dioxide and nitrogen dioxide), greenhouse gases (e.g., carbon dioxide), and particulate matter, which require the installation of costly air pollution controls. Coal is associated with significant mine pollution control problems and reclamation issues, as well as storage problems, and costly pollution controls at the burner (such as storage of fly ash). Coal consumption in the United States totaled 1,048.3 million short tons for 2009 (EIA, 2011b). This amounts to 21 percent of the total energy used in the United States (EIA, 2011c). The release of chemicals into the air as a result of burning coal to generate power is considered a major contributor to acid rain, which continues to be an international ecological and economic problem. Coal also contributes more greenhouse gas emissions than natural gas and petroleum sources. Further, emissions from coal-burning power plants are the primary source of airborne mercury deposition in the United States, accounting for over 50 percent of all domestic human-caused mercury emissions (USEPA, 2005). The mining and transportation of coal to end users have additional and more complex adverse environmental impacts. While coal remains a viable option for serving the energy needs of certain customers, it may result in greater environmental impacts than the production and transport of natural gas via transmission pipelines. The relative environmental benefits and efficiency of natural gas make the fuel an attractive alternative to oil and coal-fired generation. Compared to the average air emissions from coal-fired power generation, natural gas produces half as much carbon dioxide, less than a third as much nitrogen oxides, and 1 percent as much sulfur dioxides at the power plant, thereby reducing global warming impacts relative to coal-based sources (USEPA, 2007). Therefore, coal does not represent a preferred alternative for replacing the natural gas to be supplied by the proposed Project.

Oil

Oil is a poor alternative energy source for meeting future power generation needs in the market. The use of oil supplies to meet existing or future energy demands could further increase reliance on foreign or crude petroleum and petroleum products. Though the construction of a natural gas transmission pipeline has no advantage over an oil pipeline transmission with regards to area requirements, oil use creates the potential for increased adverse environmental impacts, including the increased risk of oil spills, air quality degradation, and potential impacts associated with land use development required for the construction of new, or expansion of existing, refineries to process the oil. Florida utilities have increasingly converted power plants from oil to natural gas because oil is more expensive than natural gas and produces more emissions than natural gas. Therefore, oil does not represent a viable alternative for replacing the natural gas to be supplied by the proposed Project.

Nuclear

Nuclear energy development is an option that is considered environmentally viable, especially in terms of limiting pollutant air emissions. Extensive regulatory requirements need to be met in the planning and building of new nuclear facilities, as well as significant public concern. There is significant uncertainty as to the timing and cost of bringing new nuclear facilities into service. Moreover, the time required to design, permit, and construct a nuclear generation facility is measured in years and would be significantly greater than the amount of time required to design, permit, and construct a pipeline to natural gas fired generation plants. Since the nuclear energy alternative would not be available to meet the required short-term energy demands by the market, use of nuclear energy is not a viable alternative to the proposed Project.

Fuel Cells

Fuel cells are a developing alternative for generating electricity more directly and cleanly than from fossil fuels or hydrogen. Small-scale fuel cell research and development is active, but reliable fuel cell systems

representing a magnitude of energy supply equivalent to the proposed Project are not expected to be available or cost-effective in the near term.

10.4 Existing Natural Gas Transportation System Alternatives

System alternatives are alternatives to the proposed action that would make use of other existing, modified, or proposed natural gas pipeline systems or existing compression to meet the stated purpose and need for a proposed project. System alternatives involve the transportation of the equivalent amount of incremental natural gas volumes by the expansion of existing pipeline systems or by the construction and operation of other new pipeline systems.

Sabal Trail considered several system alternatives to the Project as follows:

10.4.1 Florida Gas Transmission

The FGT pipeline is an approximately 5,500-mile gas pipeline system that transports natural gas from south Texas to south Florida. The pipeline has a capacity of nearly 3 billion cubic feet per day (“Bcf/d”) of natural gas, which is delivered to a diverse customer base in Florida including electric utilities, independent power producers, industrial clients, and local distribution companies. The pipeline services over 250 delivery points with connections to over 50 natural gas fired electric generation plants. Although the FGT pipeline route passes along the east coast of Florida and provides a connection to the FPL’s Martin Clean Energy Center from the portion of its route that passes along the west coast of Florida, it currently does not have sufficient capacity to meet the Project requirements without construction of substantial additional gas delivery infrastructure. FGT also would not provide a new pipeline system that increases the reliability and route diversity of the existing pipeline system and introduces competition into the southeast market. As this alternative is not available at present, it does not meet the purpose and need of the Project.

10.4.2 Gulfstream Pipeline

The Gulfstream pipeline is approximately 745 miles long (294 miles in Florida; 15 miles in Alabama & Mississippi; 17 miles offshore processing; 419 miles offshore to Florida) and delivers 1.3 Bcf/d of natural gas from the Mobile Bay, East Louisiana & Mississippi supply areas across the Gulf of Mexico to delivery points in Hardee, Polk, Osceola, Manatee, Pinellas, Martin and Palm Beach Counties in Florida (Gulfstream, 2013). The diameter of the pipeline ranges from 16 to 36 inches. The Gulfstream pipeline currently has contracts with nine different entities that account for Gulfstream’s entire capacity. While the Gulfstream pipeline provides a connection point to Martin Clean Energy Center, it has no unsubscribed capacity (Gulfstream, 2013) and is not able to transport additional gas without the addition of new capacity through a larger diameter line or looping. Gulfstream also would not provide a new pipeline system that increases the reliability and route diversity of the existing pipeline system and introduces competition into the southeast market. As this alternative is not available at this time, it does not meet the purpose and need of the Project.

While expanding existing facilities on other natural gas transmission systems is conceptually possible, these alternatives do not provide the benefits inherent in the Project in terms of a new pipeline into Florida, access to new supplies, connectivity of existing pipelines and added reliability in the Southeast. In that regard, the customers under the Project have each executed long-term, binding agreements for all of the firm transportation capacity under the Project. As discussed in Resource Report 1, Sabal Trail cannot provide this firm transportation service without the construction and operation of the Project.

10.4.3 Southern Natural Gas

Southern Natural Gas Company (“SONAT”), wholly owned by El Paso Pipeline Partners, has a 7,600 mile pipeline system that extends from natural gas supply basins in Texas, Louisiana, Mississippi,

Alabama and the Gulf of Mexico to market areas in Louisiana, Mississippi, Alabama, Florida, Georgia, South Carolina and Tennessee. SONAT is the principal natural gas transporter to southeastern markets in Alabama, Georgia and South Carolina (Kinder Morgan, 2014). Following an expansion of the Elba Island LNG Terminal in 2006, SONAT extended its system into Florida with the Cypress Pipeline system. The Cypress Pipeline system links Elba Island supplies in Georgia to interconnections with FGT in northeastern Florida. The 167-mile Cypress Pipeline system was itself expanded in 2008 and is capable of transporting up to 0.4 Bcf/d between Georgia and Florida (EIA, 2014).

The SONAT system would not be a suitable system alternative as it cannot provide the capacity objective of the Project without significant additional pipeline infrastructure. Even if SONAT's Cypress Pipeline had the capacity, the point that the gas would be received to reach Sabal Trail's shippers is limited by the current pipeline system. While expanding SONAT's existing facilities is conceptually possible, the alternative does not provide the benefits inherent in the Project in terms of a new pipeline into Florida, access to new supplies, connectivity of existing pipelines and added reliability. Because this system alternative is not available at present, it does not meet the purpose and need of the Project.

10.4.4 Use of Storage Systems or LNG Import Facilities

Sabal Trail evaluated whether the proposed Floridian Natural Gas Storage facility (FERC Docket No. CP13-541-000) or the proposed Port Dolphin LNG facility (FERC Docket No. CP07-191-000) could meet FPL's natural gas needs and avoid the need for the proposed Sabal Trail pipeline.

Floridian Natural Gas Storage Company LLC ("FGS") proposes to provide storage facilities in Florida for LNG. FGS plans to build an above-ground natural gas storage tank and related liquefaction facilities in an industrial area northwest of Indiantown, Florida in Martin County on a 145-acre Florida Steel Superfund site. The Floridian Natural Gas Storage facility will interconnect with the FGT and Gulfstream systems to receive natural gas for liquefaction, storage, vaporization and redelivery into both pipeline systems by vaporization or via trucks in liquid form. The proposed in-service date is 2016 (FGS, 2014).

Port Dolphin LLC, a wholly owned subsidiary of Höegh LNG AS, proposes to construct and operate a LNG deepwater port 28 miles off the coast of Tampa, Florida, subsea pipeline to connect the facility to shore, and an approximate 4 mile onshore pipeline in Manatee County, Florida to transport LNG from the deepwater LNG port to interconnects with Gulfstream and TECO Energy Inc.'s intrastate system operated by subsidiary People's Gas System (NGI, 2014).

The Floridian Natural Gas Storage facility would not add new transportation capacity or supply into the state of Florida. It is designed to take gas from the existing pipeline infrastructure and store it for use at a later date or during peak demand periods. The Port Dolphin LNG facility could provide new transportation capacity into Florida. However, with its current planned design and offshore location, it would not possess the sufficient amount of storage capability required to compensate for disruptions in LNG ship delivery to the offshore port caused by tropical storms and hurricanes in the Gulf of Mexico. Consequently this is not a viable option for providing the required volumes of natural gas in a reliable manner. If either of these projects were considered feasible to proceed with as a viable option, new pipeline infrastructure would still be required to connect the facilities to Sabal Trail's customers. These alternatives do not meet the purpose and need of the Project.

10.5 Route Alternatives

Several alternatives to the proposed pipeline alignment were evaluated as part of the planning and design process for the Project. The analysis for the alternative pipeline routes was based on environmental and land use impacts, as well as permanent easement acquisitions and overall Project costs.

The selection of the major route alternatives discussed in Section 10.5.1 was determined by several factors including:

- Development of routing criteria;
- Identification of potential routing alternatives;
- Collection of data relative to each alternative;
- Evaluation of potential environmental and land use impacts;
- Evaluation of routing alternatives against routing criteria; and
- Determination of the most cost-effective technical solution.

Sources of existing information, such as field reconnaissance, aerial photography, topographic maps from the USGS, National Land Cover Data (“NLCD”), and National Wetland Inventory (“NWI”) maps, were used during the route identification and evaluation processes.

In evaluating the routing options for the Project, Sabal Trail attempted to collocate with existing utility corridors and ROW to the maximum extent practicable. The use of collocation as a principal design element by Sabal Trail was necessitated not only by Commission guidelines, which stress the corridor concept, but also due to the existing land use characteristics in the Project area. Siting pipeline facilities along existing corridors and ROWs reduce the establishment of new corridors in previously undisturbed areas, while limiting the number of affected landowners.

Section 10.5.1 examines the major route alternatives that were identified during the planning stage of the Project and how they compare to the corresponding segment of the proposed route. The main determinants used to select the proposed route over the other alternative routes focused on minimizing adverse environmental impacts, minimizing the number of affected landowners, ensuring constructability, and meeting Sabal Trail’s desire to limit the extent of disruption on the communities potentially being affected during construction. Sabal Trail also took into account public comments received during the scoping process. Existing information sources were used to identify and evaluate the proposed routing of the Project. Data sources include observations during field reconnaissance; Google Earth™; Geographic Information Systems (“GIS”) databases from county, state and federal sources; recently flown aerial photography; USGS topographic maps; NLCD, NWI maps; and, state natural resource and land use data layers. To ensure consistency across the evaluations, field data collected for the proposed route was not included in these evaluations since equivalent field data was not collected for the alternative routes.

10.5.1 Major Route Alternatives

A Major Route Alternative is an alignment that has the potential to meet the Project objective but would deviate significantly from the proposed route.

Station 85 Route Alternative (MP 0.0 to MP 266.2)

The Station 85 Route Alternative was originally investigated by Sabal Trail as part of its initial response to the FPL RFP for a new transmission pipeline into Florida. The alignment commenced at Transco’s Station 85 in Choctaw County, Alabama and extended southeast roughly paralleling the Florida state boundary prior to a tie-in with the current proposed alignment at approximate MP 266.2. From Transco’s Station 85, the Station 85 Route Alternative would cross nine counties in Alabama, three counties in Georgia, and five counties in Florida.

Sabal Trail conducted a re-evaluation of the Station 85 Route Alternative to address FERC’s request, which includes the Project segment between MP 0.0 and 266.2 plus Transco’s Hillabee Expansion Project as compared to the Station 85 Route Alternative (*see* Figure 10.5.1-1). As a result, the proposed route would include approximately 43.66 miles of pipeline loop associated with Transco’s Hillabee Expansion Project in Choctaw, Autauga, Chilton, Coosa, and Tallapoosa Counties, Alabama plus approximately

266.2 miles of Sabal Trail’s proposed pipeline route. Between MP 0.0 and MP 266.2 of the proposed route, the pipeline extends in a southeasterly direction crossing four counties in eastern Alabama, nine counties in west-southwest Georgia, and two counties in north Florida.

As shown in Table 10.5.1-1, the primary advantage of the Station 85 Route Alternative is that it would cross 97 fewer roads, and two fewer railroads than the corresponding segment of the proposed route. The primary disadvantages of this alternative are that it would be 60.07 miles longer and affect 728.37 more acres during construction and 361.14 more acres during operation than the corresponding segment of the proposed route. During construction and operation, the Station 85 Route Alternative would also affect 293.86 and 143.74 more acres of forest and 267.97 and 178.85 more acres of wetlands; respectively. The Station 85 Route Alternative would cross 88.23 more miles of karst features, 63 more waterbodies, 67.27 more miles of recreation and special interest areas, and be within 50 feet of 76 more residences than the corresponding segment of the proposed route. In addition, the Station 85 Route Alternative decreases the extent of collocation with existing utility infrastructure by 71.14 miles or 33 percent. Because the disadvantages associated with the Station 85 Route Alternative are greater than its advantages, it was not considered to be a reasonable alternative.

FGT Onshore Route Alternative (MP 0.0 to MP 296.0)

The FERC requested that Sabal Trail evaluate the FGT Onshore Route Alternative (“FGT Alternative”), which includes a comparison of the potential impacts of the Project between MP 0.0 and the point where the Sabal Trail pipeline route intersects the existing FGT pipeline system in Suwannee County, Florida (at approximate MP 296.0) plus the impacts associated with Transco’s Hillabee Expansion Project. This route is compared to a route that begins at Transco Station 85 in Choctaw County, Alabama, and extends south along existing pipeline right-of-way (“ROW”) to the intersection with the FGT pipeline system in northwestern Mobile County, Alabama. From that point of intersection, this route is largely adjacent to the existing FGT pipeline system and ends at its intersection with the Project at approximate MP 296.0, in Suwannee County, Florida (see Figure 10.5.1-2).

Alternative Description

From Transco Station 85 (MP 0.0) to FGT’s pipeline system, the FGT Alternative would head south, paralleling approximately 72.0 miles of the Transco pipeline system before it intersects with the FGT pipeline system. Once parallel with the FGT pipeline system, to its intersection with the Project, the FGT Alternative would encounter various notable features as follows. Between approximate MP 94.0 and MP 102.0, the FGT Alternative would cross the Tombigbee/Mobile River Bottom, which consists of 8.0 miles of extreme saturated soil and numerous waterbody crossings and would require specialized construction techniques including the horizontal directional drill (“HDD”) method. Near Flomaton, Alabama; just west of Alabama/Florida State Line at approximate MP 143, the existing FGT corridor is restricted by terrain, adjacent obstructions, waterbodies, and sand/gravel pits. Between approximate MP 160 to MP 175, the FGT Alternative route would cross the Black River State Forest and the Florida National Scenic Trail; a 1,000-mile-long federally-designated, non-motorized, recreation trail.

Near Defuniak Springs, Florida at approximate MP 204.5, the existing corridor contains four FGT pipelines and crosses a heavily congested section of Defuniak Springs. The FGT Alternative would deviate from the FGT pipeline system corridor on the northwest side of Defuniak Springs and be collocated with Gulf Power/Power South Energy High Voltage Lines for approximately 12.5 miles to MP 217.0. Between approximate MP 222.0 and MP 226, the FGT Alternative would be adjacent to the FGT pipeline system just south of the Ponce DeLeon Springs State Recreational Area and then head east to the Choctawhatchee River and surrounding timbered river bottom/wetland areas.

Beginning at MP 292.0 to MP 300.0, the FGT Alternative route would cross the Robert Brent Wildlife Management Area in Liberty County, a Type 1 Wildlife Management Area. The Joe Budd Wildlife

Management Area in Gadsden County would be crossed between MP 311.0 to MP 313.0. Between MP 328 and MP 329, the FGT Alternative route would cross the northern tip of the Apalachicola National Forest and from MP 380 to MP 395, it would cross the San Pedro Bay Area, which contains numerous wetlands, extreme saturated soil conditions, and limited upland areas. From MP 395 to MP 428 to its intersection with the Project at approximate MP 296.0, no significant notable features were identified on the FGT Alternative Route.

Environmental and Engineering Comparison

As shown in Table 10.5.1-2a, from an environmental perspective, the primary advantages of the FGT Alternative as compared to the corresponding segment of the Sabal Trail – Hillabee Expansion Project Pipelines (“ST-HE Pipeline”) are that it would cross 149 fewer tracts/parcels, require one less HDD, and be within 50 feet of 27 fewer residences. The primary environmental disadvantages of the FGT Alternative are that it would be 88.0 miles longer than the corresponding segment of the ST-HE Pipeline, thereby affecting more land being cleared and disturbed during construction and operation of the pipeline. The FGT Alternative would also cross 55.7 miles more forested wetlands, 1.7 miles more non-forested wetlands (e.g., herbaceous and scrub-shrub), 323 more waterbodies, and an additional 5.1 miles of environmental justice communities than the corresponding segment of the ST-HE Pipeline.

From an engineering perspective, the primary advantage of the FGT Alternative as compared to the corresponding segment of the ST-HE Pipeline is that it would cross 7 less railroads. While the FGT Alternative would be longer than the corresponding segment of the ST-HE Pipeline the maximum allowable operating pressure (“MAOP”) of the pipeline would be less than the corresponding segment of the ST-HE Pipeline. The FGT Alternative would also cross 1.5 miles less high consequence areas (“HCA’s”). In addition, a combined Sabal Trail-Hillabee Expansion Project would require nine compressor stations, of which six would be new compressor stations (one for the Hillabee Expansion Project and five for the Project) and three would involve existing station upgrades along Transco’s existing pipeline system. The total horsepower (“hp”) required for a combined Sabal Trail-Hillabee Expansion Project would be 298,000 hp. The FGT Alternative would require eight new compressor stations with a total 230,500 hp. If the FGT Alternative were adopted as Sabal Trail’s preferred route, no expansion of the Transco system would be required. The primary engineering disadvantages of the FGT Alternative are that it would cross 172 more utility infrastructures (e.g., natural gas, oil, electric lines), traverse 3.0 miles more congested ROW, and cross 37 more roadways. It would also cross 3.7 miles more Class Location 3 areas (see Table 10.5.1-2a). In addition, as shown in Table 10.5.1-2b, the FGT Alternative would deviate from the existing FGT pipeline system at five locations to avoid existing residential obstructions.

Schedule and Cost

The Project’s proposed scheduled in-service date is May 1, 2017. The FGT Alternative’s in-service date would be in August 2018. The in-service date delay is due to several factors including a complete reengineering of the Project facilities; new stakeholder and landowner outreach; initiation of new federal, state, and local consultation; additional field surveys; additional public open houses and scoping meetings; and a rework of the current resource reports and application filings. Sabal Trail has executed precedent agreements with FPL and DEF for the majority of the Project’s capacity. These customer are depending upon Sabal Trail to provide incremental natural gas transmission services beginning in 2017 in order for them to meet their increasing electric generation demands. Use of the FGT Alternative as Sabal Trail’s preferred route would greatly jeopardize FPL’s ability to meet its power generation needs starting in early 2017 and DEF’s ability to rely upon the Sabal Trail pipeline to meet its power generation needs starting in late 2017.

The total cost associated with the FGT Alternative would be approximately \$4.6 billion, which is approximately \$0.9 billion more than the corresponding segment of the ST-HE Pipeline. In addition, depending on which of the Project milestones are missed because of the delays, starting with filing the Project Certificate Application (“Application”) with the FERC, liquidated damages could eventually reach \$575,000,000 because Sabal Trail would not be able to meet its contractual in service date.

Lastly, the purpose and need of the project includes the ability to meet the growing natural gas supply needs to other natural gas users in the Southeast. Sabal Trail has been in commercial discussions with other end-users along the route in Alabama, Georgia and northern Florida. Adopting the FGT Alternative would preclude Sabal Trail the ability to serve a majority of these potential markets.

Conclusion

Because the environmental and engineering disadvantages associated with the FGT Alternative involve a longer pipeline length, greater overall impact on the environment during pipeline construction and operation, crossing of significantly more forested wetlands and waterbodies, and greater effects on environmental justice communities, utility infrastructure, congested ROWs, and roadways, this alternative was not considered to be a reasonable alternative. Other factors leading to this determination include the fact that the in-service date would be delayed for over a year and not meet the needs of Sabal Trail’s customers (FPL and DEF) and the increased construction costs and liquidated damages associated with Sabal Trail not being able to meet its contractual in service date.

Gulf of Mexico Route Alternative (MP 0.0 to MP 384.0)

The FERC requested that Sabal Trail evaluate the Gulf of Mexico Route Alternative (“Gulf Alternative”), which includes a comparison of the potential impacts of the Project between MP 0.0 to a point near the terminus of Sabal Trail’s proposed Citrus County Line (at approximate MP 384.0) plus Transco’s Hillabee Expansion Project to a route alternative that begins at Transco Station 85 in Choctaw County, Alabama, extends south along existing pipeline ROW and crosses the Gulf of Mexico from the vicinity of Mobile Bay to a point near the terminus of Sabal Trail’s proposed Citrus County Line. The offshore portion of this route is largely adjacent to the existing Gulfstream pipeline system (*see* Figure 10.5.1-3).

Alternative Description

The Gulf Alternative begins at the Transco Station 85 (MP 0.0) and heads south to the Mobile Bay, Alabama area for approximately 131.0 miles (MP 131.0 of the Gulf Alternative). From this point the Gulf Alternative would cross the Gulf of Mexico in a southeasterly direction to approximate MP 400.0 and then turn northeasterly to approximate MP 535.0 where it would make landfall in Citrus County, Florida. Once on land, the Gulf Alternative would cross Citrus County for an additional 30 miles to its end point at MP 560.0 at a point near the terminus of Sabal Trail’s proposed Citrus County Line at approximate MP 384.0 of Sabal Trail’s current proposed alignment.

The Gulf Alternative would encounter various notable features as follows. Beginning at the Coden, Alabama shoreline, the Gulf Alternative would cross the Bayou Coden Channel via the HDD method. From the exit hole southward paralleling Gulfstream’s pipeline system there is limited space adjacent to the Bayou La Batre Channel. Once in the waters of the Gulf of Mexico, the Gulf Alternative would encounter manmade and significant natural features including: Gulfstream 060 segment to Pascagoula (36-inch-diameter pipeline); Intracoastal Waterway; disposal areas; Unocal pipe and cable lines; numerous other pipelines; Mississippi River Gulf Outlet; Mobile, Pensacola, and Panama City Fairways; artificial reefs; unexploded ordnance areas; Florida Middle Grounds coral reef; shipwrecks; essential fish habitat (“EFH”); and seagrass habitat.

Approximately 117.0 miles of the Gulf Alternative would be in waters that are less than 200 feet deep and would be required to be buried with at least 3 feet of cover. Within this 117.0 mile stretch, the Gulf

Alternative would cross the Florida Middle Grounds coral reef for approximately 15.5 miles, which is considered a Habitat Area of Particular Concern. A State Manatee Protection Area is located along the existing access channel, approximately 3.0 miles offshore from the Citrus Power Plant. The Gulf Alternative would approach the Citrus Power Plant via an approximate 8.0-mile-long existing canal. Approximately 5.0 miles of this canal nearest to shore are dredge-maintained to a 200 foot width. The Gulf Alternative would require either pre-dredging or post jetting to achieve the proper burial depth following a route at or near the canal center. Alternatively, a new channel could be dredged for lay of the pipeline which would add significantly to the environmental impacts, especially to the dense seagrass beds near shore in this location.

Environmental and Engineering Comparison

As shown in Table 10.5.1-3, from an environmental perspective, the primary advantage of the Gulf Alternative as compared to the corresponding segment of the ST-HE Pipeline is that it would affect 272.0 miles less land during construction and operation of the pipeline. The Gulf Alternative would also affect 4.31 miles less non-forested wetlands (e.g., herbaceous and scrub-shrub), cross 264 less waterbodies, and require 14 less HDDs. It would be within 50 feet of 48 fewer residences and cross 48.56 miles less environmental justice communities. The primary environmental disadvantages of the Gulf Alternative are that it would be 132.0 miles longer (total length) than the corresponding segment of the ST-HE Pipeline and cross approximately 404 miles of the Gulf of Mexico thereby affecting 394.2 and 7.8 miles more soft and hard bottom habitat, respectively; and crossing 332 miles more EFH and 2.84 miles more seagrass beds. It would also cross 9.39 miles more forested wetlands and 5.64 more miles of critical habitat.

From an engineering perspective, the primary advantages of the Gulf Alternative as compared to the corresponding segment of the ST-HE Pipeline are that it would cross 200 less utility infrastructure, 16.2 miles less congested ROW, and 406 and 29 less roadways and railroads, respectively. It would also cross 1.3 miles less Class Location 3 areas and 7.9 miles less HCA's. In addition, a combined Sabal Trail-Hillabee Expansion Project would require nine compressor stations, of which six would be new compressor stations (one for the Hillabee Expansion Project and five for the Project) and three would involve existing station upgrades along Transco's existing pipeline system. The total hp required for a combined Sabal Trail-Hillabee Expansion Project would be 298,000 hp. The Gulf Alternative would require three new compressor stations with a total 169,000 hp. If the Gulf Alternative were adopted as Sabal Trail's preferred route, no expansion of the Transco system would be required. The primary engineering disadvantages of the Gulf Alternative is that MAOP of the pipeline would be greater than the corresponding segment of the ST-HE Pipeline (see Table 10.5.1-3).

Schedule and Cost

As stated above, the Project's proposed scheduled in-service date is May 1, 2017. The Gulf Alternative's in-service date would be in October 2019. The in-service date delay is due to several factors including a complete reengineering of the Project facilities; new stakeholder and landowner outreach; initiation of new federal, state, and local consultation; additional field surveys; additional public open houses and scoping meetings; and a rework of the current resource reports and application filings. The Gulf Alternative would involve an additional federal agency, the Bureau of Ocean Energy Management, Regulation and Enforcement (formerly the Minerals Management Service), which would add to the overall duration of the permitting process for the Project. Sabal Trail has executed precedent agreements with FPL and DEF for the majority of the Project's capacity. These customers are depending upon Sabal Trail to provide incremental natural gas transmission services beginning in 2017 in order for them to meet their increasing electric generation demands. Use of the Gulf Alternative as Sabal Trail's preferred route would greatly jeopardize FPL's ability to meet its power generation needs starting in early 2017 and DEF's ability to rely upon the Sabal Trail pipeline to meet its power generation needs starting in late 2017.

The total cost associated with the Gulf Alternative would be approximately \$5.9 billion, which is approximately \$2.2 billion more than the corresponding segment of the ST-HE Pipeline. In addition, depending on which of the Project milestones are missed because of the delays, starting with filing the Project Application with the FERC, liquidated damages could eventually reach \$575,000,000 because Sabal Trail would not be able to meet its contractual in service date.

Lastly, the purpose and need of the project includes the ability to meet the growing natural gas supply needs to other natural gas users in the Southeast. Sabal Trail has been in commercial discussions with other end-users along the route in Alabama, Georgia and northern Florida. Adopting the FGT Alternative would preclude Sabal Trail the ability to serve a majority of these potential markets.

Conclusion

Because the environmental and engineering disadvantages associated with the Gulf of Mexico Route Alternative would involve longer overall length; greater overall impact on the environment during pipeline construction and operation; crossing of more forested wetlands and critical habitats; greater effects on the marine environment including soft/hard bottom habitat, EFH, and seagrass beds; greater MAOP for operation, and a more involved permitting process, this alternative was not considered to be a reasonable alternative. Other factors leading to this determination include the fact that the in-service date would be delayed for over two years and not meet the needs of Sabal Trail's customers (FPL and DEF) and the increased construction costs and liquidated damages associated with Sabal Trail not being able to meet its contractual in service date.

Hillabee Route Alternative (MP 42.1 to MP 249.3)

During initial development of the Project alignment, Sabal Trail evaluated collocating its proposed pipeline route with existing electric transmission infrastructure to the greatest extent practicable. Sabal Trail evaluated the Hillabee Route Alternative as it would follow an existing 345-kV transmission ROW starting in Alabama, across Georgia, and into northern Florida. The Hillabee Route Alternative would deviate from the corresponding segment of the proposed route at MP 42.1, extend southeast for approximately 214.19 miles, and rejoin the proposed route at MP 249.3 (*see* Figure 10.5.1-4). Subsequent to the development of this route alternative, Sabal Trail continued to evaluate other potential utility corridors such as the SONAT pipeline ROW, which the proposed route currently follows.

As shown in Table 10.5.1-4, the primary advantages of the Hillabee Route Alternative are that it would be collocated with existing ROWs for its entire length and affect 48.41 and 18.91 less acres of forest during construction and operation, respectively, and cross one less railroad than the corresponding segment of the proposed route. The primary disadvantages of this alternative are that it would be 7.04 miles longer and affect 85.41 more acres during construction and 42.66 more acres during operation than the corresponding segment of the proposed route. During construction and operation, the Hillabee Route Alternative would also affect 70.51 and 46.84 more acres of wetlands, respectively; and cross 13.03 more miles of karst features and 65 more waterbodies. While this alternative would cross one less recreation and special interest area, the overall total crossing length of these areas would be 0.47 mile greater. In addition, this alternative would be within 50 feet of 33 additional residences, affect 488 more tracts of land, and cross 20 additional roads.

While it is not uncommon for natural gas pipelines to share ROWs with electric transmission and other utilities, Sabal Trail would be required to design and install a significant alternating current (“AC”) mitigation system along the Hillabee Route Alternative. Since the pipeline and electric transmission line would share a ROW using this alternative, Sabal Trail would have to ground the pipeline to dissipate electrical interference. In these situations, AC voltages are transmitted to the pipeline by conductive or inductive interference. Magnetic induction acts along the pipeline or pipeline segment that is approximately parallel to the powerline and can cause significant pipeline potentials even at relatively

large separation distances. Consideration must be given to safety of personnel and the public who may come into contact with aboveground portions of the pipeline such as valves and test stations as these exposed structures can be a potential shock hazard when touched while the soil is at a significantly different potential. Typically zinc ribbon is used to mitigate AC voltages to industry acceptable levels. The control method consists of one or more bare zinc conductors buried parallel to and near the pipeline and are regularly connected to it through decoupling devices. The zinc ribbon used in this way is very effective in mitigating excessive pipeline potentials due to both inductive and conductive interference. By paralleling the existing SONAT pipeline system, as with the corresponding segment of the proposed route, these potential hazards would be eliminated.

Because the disadvantages associated with the Hillabee Route Alternative are greater than its advantages (e.g., longer length and greater effect on lands, wetlands, karst features, and waterbodies; and proximity to more residences) and because a significant AC mitigation system would be required that would also result additional costs, it was not considered to be a reasonable alternative.

Hugley to Lumpkin Route Alternative (MP 62.4 to MP 94.3)

Sabal Trail evaluated the Hugley to Lumpkin Alternative to address the request of a landowner to utilize the existing Dixie pipeline corridor to the east-northeast as opposed to SONAT's corridor. The Hugley to Lumpkin Alternative would deviate from the corresponding segment of the proposed route at MP 62.4 in Russell County, Alabama; extend in a southeasterly direction for approximately 31.24 miles where it rejoins the corresponding segment of the proposed route at MP 94.3 in Stewart County, Georgia (see Figure 10.5.1-5a-b). As with the corresponding segment of the proposed route, this alternative would cross varied terrain and roadways, Uchee Creek in Alabama, and Hannapatchee Creek in Georgia.

As shown in Table 10.5.1-5, the primary advantages of the Hugley to Lumpkin Alternative are that it would be 0.62 miles shorter, affect 7.55 and 3.79 less acres of land during construction and operation; respectively, and affect 16 fewer tracts of land,. It would be within 50 feet of one less residences, and cross three fewer roads. While this alternative would affect 1.61 more acres of wetlands during construction the operational impacts would be 0.48 acre less than the corresponding segment of the proposed route. The primary disadvantages of this alternative are that it would affect 43.97 and 22.34 more forest acres during construction and operation, respectively; cross 0.04 more mile of karst features and 20 more waterbodies. Because the Hugley to Lumpkin Alternative does not offer a significant advantage over the corresponding segment of the proposed route (e.g., greater effects on wetlands during construction, forest, and waterbodies), it was not considered to be a reasonable alternative.

Interstate 75 Route Alternative (MP 249.3 to MP 407.9)

The FERC requested that Sabal Trail evaluate an alternative route between approximate MP 249.3, near the Georgia/Florida state line, and approximate MP 407.9 where the proposed pipeline route would cross Interstate 75 ("I-75"). The Interstate 75 Route Alternative would deviate from the Sabal Trail pipeline route at MP 249.3 in Hamilton County, Florida, head in a southerly direction parallel to Interstate 75 for approximately 170.83 miles before it rejoins the proposed pipeline at MP 407.9 in Sumter County, Florida. The Interstate 75 Route Alternative would be located to the east of the corresponding segment of the proposed route and includes the impacts associated with an approximate 14.5 mile interconnect from the alternative to the proposed Citrus County Lateral (see Figure 10.5.1-6).

As shown in Table 10.5.1-6, the primary advantages of the Interstate 75 Route Alternative is that it would be located adjacent to an existing ROW for its entire length and affect four fewer (8.25 miles less) recreation and special interest areas. The primary disadvantages of this alternative are that it would be 26.74 miles longer and affect 323.38 more acres during construction and 161.9 more acres during operation than the corresponding segment of the proposed route. During construction and operation, the Interstate 75 Route Alternative would also affect 174.71 and 88.03 more acres of forest and 75.2 and

49.95 more acres of wetlands; respectively. The Interstate 75 Route Alternative would cross 26.74 more miles of karst features, be within 50 feet of 107 more residences, affect 31 more tracts of land, and cross 57 more roads and one more railroad than the corresponding segment of the proposed route.

I-75 is the main north-south transportation and traffic corridor in central Florida. It is a major multilane highway that connects most of the larger cities located in central Florida, including Alachua, Gainesville, and Ocala. The alternative route along I-75 would pass through or around existing interchanges and it would require routing around existing highway bridges for local roadways and railroads that cross the Interstate. In addition, the Interstate 75 Route Alternative would require that Sabal Trail construct an approximate 14.5-mile-long interconnect from the alternative to the west to connect to the proposed Citrus County Line. Because the disadvantages associated with the Interstate 75 Route Alternative are greater than its advantages (e.g., longer length and greater effects on land, forest, wetlands, karst features, residences, and roads), it was not considered to be a reasonable alternative.

FGT – Central Florida Hub Route Alternative (MP 296.2 to MP 462.9)

The FERC requested that Sabal Trail evaluate an alternative route in Florida between approximate MP 296.2, the point where the proposed pipeline route would cross FGT's mainline, and approximate MP 407.9, the Central Florida Hub, which would be largely collocated with the western branch of FGT's pipeline system. The FGT – Central Florida Hub Route Alternative would deviate from the Sabal Trail pipeline route at MP 296.2 in Suwannee County, extends in a southerly direction towards Sumter County, and then turns east to MP 462.9 where it would rejoin the proposed route in Polk County. The FGT – Central Florida Hub Route Alternative would be located to the west of the corresponding segment of the proposed route and includes the impacts associated with an approximate 3.1 mile extension of the Citrus County Lateral from the intersection of the alternative, west to the Citrus M & R Station (see Figure 10.5.1-7).

As shown in Table 10.5.1-7, the primary advantages of the FGT – Central Florida Hub Route Alternative are that it would be located adjacent to an existing ROW for 119.55 more miles, cross one less waterbody, and affect 382 fewer tracts of land than the corresponding segment of the proposed route. The primary disadvantages of this alternative are that it would be 53.39 miles longer and affect 645.52 more acres during construction and 323.25 more acres during operation than the corresponding segment of the proposed route. During construction and operation, the FGT – Central Florida Hub Route Alternative would affect 233.04 and 119.08 more acres of forest and 13.33 and 9.25 more acres of wetlands, respectively. It would cross 53.39 more miles of karst features and be within 50 feet of 152 more residences than the corresponding segment of the proposed route. While the proposed and alternative routes would cross the same number of recreation and special interest areas the alternative route would affect an additional 3.25 more miles of these areas. The route alternative would also cross 187 more roads and 13 more railroads. In addition, the FGT – Central Florida Hub Route Alternative would require that Sabal Trail construct an approximate 3.1-mile-long extension of the Citrus County Lateral from the intersection of the alternative, west to the Citrus M & R Station. Because the disadvantages associated with the FGT – Central Florida Hub Route Alternative are greater than its advantages (e.g., longer length, greater effects on land, forest, wetlands, karst features, residences, and roads and railroads), it was not considered to be a reasonable alternative.

Gilchrist Westerly Route Alternative (MP 295.9 to MP 314.1)

The Sabal Trail pipeline alignment was originally proposed to be collocated with an existing electric transmission easement with a crossing of the Ichetucknee River in Suwannee County, Florida. Based on public and stakeholder outreach efforts, the Ichetucknee River Deviation described in Sabal Trail's *November 2013 Initial Pre-Filing Draft of Resource Report 10 – Alternatives*, was proposed to eliminate the crossing of the Ichetucknee River and, in turn, cross the Santa Fe River below its confluence with the

Ichetucknee River in Suwannee and Gilchrist Counties and further to the west of the originally proposed route. The Ichetucknee River Deviation was incorporated into Sabal Trail's pipeline route because of its avoidance of the Ichetucknee River and state lands and conservation areas; use of more pine plantations, field crop areas, pasture lands; and less potential to affect cultural resource sites.

As described in the *November 2013 Initial Pre-Filing Draft of Resource Report 10 – Alternatives*, additional outreach efforts indicated that the proposed crossing location of the Santa Fe River may not be optimal from an environmental perspective, and that the Ichetucknee River Deviation was located in proximity to the Ginnie Springs recreational area. Concern was also raised by stakeholders that the deviation could potentially have an adverse effect on a spring that was used by the Seven Springs Water Company. The water bottling plant was originally owned by Coca Cola but has been closed since March 2011. In an effort to avoid potential Project-related impacts on the Ginnie Springs recreational area and cross the Santa Fe River at a more suitable location, Sabal Trail evaluated the Gilchrist Westerly Alternative described herein and shown on Figure 10.5.1-8. This alternative route would shift the pipeline alignment further to the west from MP 295.9, extends south and then east where it would rejoin the Sabal Trail pipeline at MP 314.1.

As shown in Table 10.5-1-8, the primary advantages of the Gilchrist Westerly Alternative are that during construction and operation it would affect 25.12 and 12.41 less acres of forest and 13.99 and 9.39 less acres of wetlands, respectively. It would also be located adjacent to an existing ROW for 15.19 more miles and cross two less waterbodies. The primary disadvantages of this alternative are that it would be 1.76 miles longer and affect 21.3 more acres during construction and 10.66 more acres during operation than the corresponding segment of the proposed route. Both the proposed and alternative routes are entirely within terrain that contains karst features. The alternative route would cross 9 more roads than the corresponding segment of the proposed route.

Since the submittal of the *November 2013 Initial Pre-Filing Draft of Resource Report 10 – Alternatives*, Sabal Trail has conducted additional field work and outreach efforts regarding the proposed pipeline route across the Santa Fe River and Gilchrist County and has determined that a route that crosses the Santa Fe River adjacent to an existing pipeline corridor is proving to be more favorable in this area because it would reduce landowner, forest, and wetland impacts; reduce potential impacts on sandhill crane (*Grus canadensis*), gopher tortoise (*Gopherus polyphemus*), and sand skink (*Neoseps reynoldsi*) habitat; and increase collocation with existing utilities (from 20 percent to 95 percent). Sabal Trail has also extensively reviewed the karst geology and potential impacts to the aquifers and water supply in this area and while Sabal Trail has determined no significant difference in crossing location of the Santa Fe River, an alignment that parallels an existing FGT pipeline would be collocated where two pipelines have already successfully crossed the Santa Fe River using the HDD method. In addition, the Gilchrist Westerly Alternative would place the proposed pipeline further west of the Ginnie Springs recreational area.

Sabal Trail has determined that the Gilchrist Westerly Alternative warrants adoption and incorporation into its preferred pipeline route. However, because of timing constraints, it is not incorporated into these draft Resource Reports, but will be fully incorporated as part of Sabal Trail's preferred pipeline route and will be analyzed in the resource reports to be filed with the Project Application.

Waccasassa Flats Route Alternative (MP 305.0 to MP 334.0)

The Waccasassa Flats Route Alternative was identified by the Gilchrist Pipeline Committee, a committee formed by residents of Gilchrist County, Florida to address the Sabal Trail pipeline route through their county. After crossing the Santa Fe River west of Columbia County, the Waccasassa Flats Route Alternative deviates from the proposed route at MP 305.0 and extends southeast to relocate the pipeline alignment approximately one mile east of the proposed pipeline route. It continues in a southerly

direction crossing County Road (“CR”) 138, CR 340, and CR 232 before turning southeast to cross State Road (“SR”) 47 and SR 26. After the alternative crosses SR 26, it turns south again for approximately three miles, then angles east-southeast, crossing Levy County and rejoining the proposed route in Alachua County at MP 334.0 (*see* Figure 10.5.1-9 which shows the location of the Waccasassa Flats Route Alternative).

As shown in Table 10.5.1-9, the primary advantage of the Waccasassa Flats Route Alternative is that it would cross 18 less roads than the corresponding segment of the proposed route. The primary disadvantages of this alternative are that it would not be collocated with existing ROWs, be 0.5 miles longer, and affect 6.15 more acres during construction and 3.06 more acres during operation than the corresponding segment of the proposed route. During construction and operation, the Waccasassa Flats Route Alternative would affect 139.61 and 69.88 more acres of forest and 53.34 and 35.55 more acres of wetlands, respectively. It would cross 0.5 more miles of karst features and six additional waterbodies and affect 34 more tracts of land than the corresponding segment of the proposed route. However, Sabal Trail has determined that the Waccasassa Flats Route Alternative warrants further evaluation and will file its determination as to whether it will be adopted as its preferred pipeline route in the in the resource reports to be filed with the Project Application.

Gulf Hammock Route Alternative (MP 343.8 to MP 377.8)

Sabal Trail evaluated the Gulf Hammock Route Alternative to determine if relocating the pipeline route west of developed areas to undeveloped areas in Levy and Marion Counties, Florida would reduce overall environmental impacts. The Gulf Hammock Route Alternative would deviate from the proposed route at MP 343.8, extend due south for approximately 23 miles, and then extend east-southeast to rejoin the proposed route at MP 377.8 (*see* Figure 10.5.1-10).

As shown in Table 10.5.1-10, the primary advantage of the Gulf Hammock Route Alternative is that it would be within 50 feet of 11 fewer residences and affect 53 fewer tracts of land than the corresponding segment of the proposed route. The primary disadvantages of this alternative are that it would be 4.92 miles longer and be collocated with existing ROWs for 9.02 fewer miles than the corresponding segment of the proposed route. It would affect 59.61 more acres during construction and 29.8 more acres during operation than the corresponding segment of the proposed route. During construction and operation, the Gulf Hammock Route Alternative would affect 227.04 and 114.29 more acres of forest and 45.94 and 30.41 more acres of wetlands, respectively. It would also cross 4.92 more miles of karst features, nine more waterbodies, and seven more roads than the corresponding segment of the proposed route. Because the disadvantages associated with the Gulf Hammock Route Alternative are greater than its advantages (*e.g.*, longer length, greater effects on land, forest, wetlands, karst features, waterbodies, and roads), it was not considered to be a reasonable alternative.

Gum Slough Route Alternative (MP 386.0 to MP 420.7)

Sabal Trail evaluated the Gum Slough Route Alternative because it was raised by stakeholders who requested that proposed pipeline alignment be routed so that it follows existing ROWs and avoid environmentally sensitive areas. The proposed route would cross several rivers and creeks, lakes, conservation lands, and a wildlife management areas including the Gum Slough and the Half Moon Wildlife Management Area, both environmentally sensitive areas located between approximate MP 389.0 and MP 397.0. In addition the proposed route would affect the Panasoffkee/Outlet tract, which is comprised of the Outlet River and Marsh Bend Outlet Park located between approximate MP 401.0 and MP 403.0.

This Gum Slough Route Alternative would deviate from the proposed route at MP 386.0, extend in an east-southeast direction avoiding the origin of the Gum Slough, to the Marion and Sumter county line. From the county line, the alternative continues in an east-southeast direction and to an intersection with

an existing Duke Energy powerline ROW, which it would parallel and cross Highway 75, SR 44, and the Florida Turnpike. It then turns southeast and parallels the Florida Turnpike towards the Sumter and Lake county line where it extends due south to rejoin the proposed route at MP 420.7 (see Figures 10.5.1-11a).

As shown in Table 10.5.1-11, the primary advantages of the Gum Slough Route Alternative are that it would be adjacent to existing ROWs for an additional 24.42 miles, affect 2.99 and 1.87 fewer acres of wetlands during construction and operation, respectively; cross 25 fewer waterbodies and 3 (8.59 miles) less recreation and special interest areas; and affect 49 fewer tracts of land. The primary disadvantages of this alternative are that it would be 2.34 miles longer and affect 28.33 more acres during construction and 14.17 more acres during operation than the corresponding segment of the proposed route. During construction and operation, the Gum Slough Route Alternative would affect 13.72 and 6.86 more acres of forest and it would cross 2.34 more miles of karst features. It would also be within 50 feet of seven additional residences and cross 14 more roads than the corresponding segment of the proposed route.

Since the submittal of the *November 2013 Initial Pre-Filing Draft of Resource Report 10 – Alternatives*, Sabal Trail has conducted additional field work and outreach efforts regarding the proposed pipeline route near the Gum Slough and Half Moon Wildlife Management Area and the Panasoffkee/Outlet tract, Outlet River, and Marsh Bend Outlet Park. After additional evaluation of these areas in Marion and Sumter Counties, Sabal Trail has determined that this alternative route that follows the existing Duke Energy powerline ROW is proving to be favorable because it would reduce potential impact to two landfills, avoid future Florida Department of Transportation plans, increase collocation with existing ROWs (from nearly all greenfield to 66 percent), decrease wetland and waterbody impacts, and avoid of environmentally sensitive lands, state owned and managed lands, and potentially sensitive cultural resource sites.

Sabal Trail has determined that the Gum Slough Alternative warrants adoption and incorporation into its preferred pipeline route. However, because of timing constraints, it is not incorporated into these draft Resource Reports, but will be fully incorporated as part of Sabal Trail's preferred pipeline route and will be analyzed in the resource reports to be filed with the Project Application.

Rails to Trails Alternative (MP 425.7 to MP 445.9)

The Rails to Trails Route Alternative would relocate the pipeline alignment to the west of the proposed route in an attempt to increase collocation along existing ROWs. The Rails to Trails Route Alternative deviates from the proposed route at MP 425.7, extends due south along the Sumter and Lake county line until it reaches an existing abandoned railroad corridor and the General James A. Van Fleet State Trail. This trail is part of Florida's Statewide System of Greenways and Trails; one of the state's most rural, paved rail-trails; designated as a National Recreation Trail; and crosses the Green Swamp Area (Florida State Parks, 2014). It would follow this corridor and trail in a southeasterly direction for approximately 12 miles and then turn east for approximately 3 miles along the Lake and Polk county lines and rejoin the proposed route at MP 445.9 (see Figures 10.5.1-12).

As shown in Table 10.5.1-12, the primary advantages of the Rails to Trails Route Alternative are that it would be adjacent to existing ROWs for an additional 14.37 miles, cross three fewer waterbodies and nine less roads, affect three fewer tracts of land, and would not be located within 50 feet of residences. The primary disadvantages of this alternative are that it would be 1.96 miles longer and affect 23.84 more acres during construction and 11.92 more acres during operation than the corresponding segment of the proposed route. During construction and operation, the Rails to Trails Route Alternative would affect 3.42 and 1.69 more acres of forest and 63.03 and 42.36 more acres of wetlands, respectively. It would cross 1.96 more miles of karst features and three (or 9.52 miles) more recreation and special interest areas, including the Green Swamp Area. Sabal Trail evaluated the feasibility of pipeline construction along the General James A. Van Fleet State Trail and determined that because of its configuration (up to

35-foot wide including side ditches) pipeline construction would be constrained and require a 75-foot wide construction ROW alongside the trail. Because the disadvantages associated with the Rails to Trails Route Alternative are greater than its advantages (e.g., longer length and greater effects on land, forest, wetlands, karst features and recreation and special interest areas), it was not considered to be a reasonable alternative.

10.5.2 Route Deviations

The proposed route optimizes Project constructability and economics, while minimizing impacts to the environment. Following the evaluation of route deviations, no particular route or deviation changed, avoided, or minimized environmental conditions or potential impacts over the preferred alignments (i.e., the few available corridors considered for alternative route deviations impacted similar communities or existing conditions in the region). In several instances along the alignment, the pipeline and associated workspace were moved east or west of the original alignment to avoid sensitive resources, residential areas, or construction constraints. Additionally, any minor alternative routes/minor deviations would add additional length to the proposed pipeline, thus leading to potential increases in environmental and landowner impacts as well as costs for the Project.

Sasser Deviation (MP 137.7 to MP 149.5)

Sabal Trail evaluated the Sasser Deviation at the request of landowners and as a result of comments received during the FERC scoping period. This deviation begins at MP 137.7 and proceeds south-southwest in Terrell County, Georgia and then extends southeast before it crosses the county line with Dougherty County. From this point the Sasser Deviation continues south until it intersects with SR 234 due west of the Town of Albany. At SR 234, this deviation turns east and parallels SR 234 for about 1.0 mile and rejoins proposed route at MP 149.5 (see Figure 10.5.2-1).

As shown in Table 10.5.2-1, the primary advantages of the Sasser Deviation are that it would be located adjacent to existing ROWs for an additional 3.08 miles, affect 29.42 and 14.42 acres less forest during construction and operation, respectively; and cross one less road than the corresponding segment of the proposed route. The primary disadvantages of this deviation are that it would be 1.09 miles longer and affect 13.27 more acres during construction and 6.63 more acres during operation than the corresponding segment of the proposed route. During construction and operation, the Sasser Deviation would affect 13.88 and 9.07 more acres of wetlands. It would cross 1.09 more miles of karst features, 13 more waterbodies, and one more recreation and special interest areas. It would also be within 50 feet of two residences whereas the corresponding segment of the proposed would not be within 50 feet of any residences. Because the disadvantages associated with the Sasser Deviation are greater than its advantages and would affect more land during construction and operation than the corresponding segment of the proposed route, it was not considered to be a reasonable alternative.

Moultrie Deviations 1 through 4

At the request of a landowner, Sabal Trail evaluated four separate deviations (Moultrie Deviation 1, 2, 3, and 4) in Colquitt County, Georgia between MPs 189.7 and 204.3. Figures 10.5.2-2a through 10.5.2-2d show each of the deviations and Table 10.5.2-2 provides a summary comparison of each deviation with the corresponding segment of the proposed route.

Moultrie Deviation 1 (MP 189.7 to MP 191.8)

Moultrie Deviation 1 leaves the proposed route at MP 189.7 and extends slightly south-southwest until it crosses Dunn Road. Just south of Dunn Road, the deviation turns east and rejoins the proposed route at MP 191.8 (see Figure 10.5.2-2a).

As shown in Table 10.5.2-2, the primary disadvantages of the Moultrie Deviation 1 are that it would be 1.08 miles longer, not be collocated with existing ROWs, and would affect 13.02 and 6.52 more acres during construction and operation than the corresponding segment of the proposed route. It would affect 7.21 and 3.73 more acres of forest and 2.2 and 1.3 more acres of wetlands during construction and operation, respectively; and cross seven more waterbodies than the corresponding segment of the proposed route. It would cross 1.08 more miles of karst features, be within 50 feet of one residences whereas the corresponding segment of the proposed would not be within 50 of any residences and cross two more roads. Because the disadvantages associated with the Moultrie Deviation 1 are greater than its advantages, it was not considered to be a reasonable alternative.

Moultrie Deviation 2 (MP 189.7 to MP 193.3)

Moultrie Deviation 2 leaves the proposed route at the same point (MP 189.7) as Moultrie Deviation 1, but continues further south and then extends due east just north of Wilburn Murphy Road until it rejoins the proposed route at MP 193.3 (*see* Figure 10.5.2-2b).

As shown in Table 10.5.2-2, the primary advantage of the Moultrie Deviation 2 is that it would cross two less roads than the corresponding segment of the proposed route. The primary disadvantages of the Moultrie Deviation 2 are that it would be 1.24 miles longer, not be collocated with existing ROWs, and would affect 15.12 and 7.55 more acres during construction and operation than the corresponding segment of the proposed route. It would affect 9.29 and 4.85 more acres of forest and 6.31 and 4.15 more acres of wetlands during construction and operation, respectively; and cross seven more waterbodies than the corresponding segment of the proposed route. It would cross 1.24 more miles of karst features. Because the disadvantages associated with the Moultrie Deviation 2 are greater than its advantages, it was not considered to be a reasonable alternative.

Moultrie Deviation 3 (MP 189.7 to MP 197.6)

Moultrie Deviation 3 initially follows the same route as Moultrie Deviation 2, but rather than rejoin the proposed route at MP 193.3, it turns due south and follows an existing ROW until it reaches Paul Murphy Road. At Paul Murphy Road, Moultrie Deviation 3 turns due east and follows the road for about 1.0 mile to Tree Farm Road where it turns and extends southeast, paralleling the proposed route. It then turns northeast and rejoins with the proposed at MP 197.6 (*see* Figure 10.5.2-2c).

As shown in Table 10.5.2-2, the primary advantage of the Moultrie Deviation 3 is that it would cross three less roads than the corresponding segment of the proposed route. The primary disadvantages of the Moultrie Deviation 3 are that it would be 1.93 miles longer, be collocated with existing ROWs for 2.78 miles less, and would affect 23.29 and 11.64 more acres during construction and operation than the corresponding segment of the proposed route. It would affect 4.21 and 2.23 more acres of forest and 8.08 and 5.37 more acres of wetlands during construction and operation, respectively; and cross 10 more waterbodies than the corresponding segment of the proposed route. It would cross 1.93 more miles of karst features and be within 50 feet of one more residence. Because the disadvantages associated with the Moultrie Deviation 3 are greater than its advantages, it was not considered to be a reasonable alternative.

Moultrie Deviation 4 (MP 189.7 to MP 204.3)

Moultrie Deviation 4 is the longest of the four Moultrie deviations. It also starts at MP 189.7 and extends south-southwest along the same alignment as the previous three deviations, but at Dunn Road it turns slightly south-southeast crossing CR 111 and Lower Miegs Road. Moultrie Deviation 4 then turns southeast for about 3.0 miles crossing Pine Street (Route 35) and Airline Road and then turns slightly east-northeast to rejoin the proposed route at MP 204.3 (*see* Figure 10.5.2-2d).

As shown in Table 10.5.2-2, the primary disadvantages of the Moultrie Deviation 4 are that it would be 3.24 miles longer, not be collocated with existing ROWs, and would affect 39.34 and 19.67 more acres

during construction and operation than the corresponding segment of the proposed route. It would affect 38.38 and 19.48 more acres of forest and 17.74 and 11.75 more acres of wetlands during construction and operation, respectively; and cross 12 more waterbodies than the corresponding segment of the proposed route. It would cross 3.24 more miles of karst features and three more roads than the corresponding segment of the proposed route. Because the disadvantages associated with the Moultrie Deviation 4 are greater than its advantages, it was not considered to be a reasonable alternative.

Spain Road Deviations 1 and 2

At the request of a landowner, Sabal Trail evaluated two separate deviations (Spain Road Deviation 1 and 2) in Brooks County, Georgia between MPs 222.0 and 222.9. Figures 10.5.2-3a and 10.5.2-3b show each of the deviations and Table 10.5.2-3 provides a summary comparison of each deviation with the corresponding segment of the proposed route.

Spain Road Deviation 1 (MP 222.0 to MP 222.9)

Spain Road Deviation 1 leaves the proposed route at MP 222.0 and extends south for approximately 4.0 miles before it turns east and rejoins the proposed route at MP 222.9 (*see* Figure 10.5.2-3a).

As shown in Table 10.5.2-3, the primary advantages of the Spain Road Deviation 1 are that it would affect 0.55 and 0.14 less acres of forest and 0.16 and 0.18 less acres of wetlands during construction and operation, respectively. It would also cross one less road. The disadvantages of the Spain Road Deviation 1 are that it would be 0.32 miles longer, not be collocated with existing ROWs, and would affect 3.77 and 1.89 more acres during construction and operation than the corresponding segment of the proposed route. It would also cross 0.32 more miles of karst features. This deviation is also noted in Table 10.5.3-3 as Reroute 88. Because the disadvantages associated with the Spain Road Deviation 1 are greater than its advantages and would affect more land during construction and operation than the corresponding segment of the proposed route, it was not considered to be a reasonable alternative.

Spain Road Deviation 2 (MP 222.1 to MP 222.3)

Spain Road Deviation 2 would deviate from the proposed route at MP 222.0 and extend due south for about 1,000 feet, at which point it turns southeast to rejoin the proposed route at about MP 222.3 (*see* Figure 10.5.2-3b).

As shown in Table 10.5.2-3, the primary advantages of the Spain Road Deviation 2 are that it would affect 0.07 and 0.02 less acres of forest during construction and operation, respectively. The disadvantages of the Spain Road Deviation 2 are that it would be 0.05 mile longer, not be collocated with existing ROWs, and would affect 0.57 and 0.29 more acres during construction and operation than the corresponding segment of the proposed route. It would also cross 0.05 more mile of karst features. This deviation is also noted in Table 10.5.3-3 as part of Reroute 88. Because the Spain Road Deviation 2 does not offer significant advantages and would affect more land during construction and operation than the corresponding segment of the proposed route, it was not considered to be a reasonable alternative.

Rocky Ford Road Deviation (MP 234.6 to MP 235.5)

Sabal Trail evaluated the Rocky Ford Road Deviation to minimize impacts on residences in Lowndes County, Georgia. The Rocky Ford Road Deviation leaves the proposed route at MP 234.6 and extends in a southeasterly direction for approximately 2,500 feet where it turns more east-southeast, crosses Rocky Ford Road, and rejoins the proposed route at MP 235.5 (*see* Figure 10.5.2-4).

As shown in Table 10.5.2-4, the primary advantages of the Rocky Ford Road Deviation are that it would affect 0.13 and 0.07 less acres of forest during construction and operation, respectively; not be within 50 feet of residences, and cross one less road. The disadvantages of the Rocky Ford Road Deviation are that it would be 0.1 mile longer, not be collocated with existing ROWs, and affect 1.26 and 0.62 more acres

during construction and operation than the corresponding segment of the proposed route. It would also cross 0.1 more mile of karst features. This deviation is also noted in Table 10.5.3-3 as part of Reroute 77. Because the Rocky Ford Road Deviation does not offer significant advantages over the proposed route, would not be located adjacent to existing ROWs, as does the corresponding segment of the proposed route, and would affect more land during construction and operation than the corresponding segment of the proposed route, it was not considered to be a reasonable alternative.

Ginnie Springs Deviation (MP 308.4 to MP 321.1)

Sabal Trail evaluated and compared the Ginnie Springs Deviation (currently proposed route) to its original route to avoid construction near the Ginnie Springs recreational area in Gilchrist County, Florida. This deviation (currently proposed route) diverges from Sabal Trail's original route at MP 308.4 and extends in a southerly direction for approximately 6.5 miles before extending southeast and rejoining the original route at MP 321.1 (*see* Figure 10.5.2-5).

As shown in Table 10.5.2-5, the primary advantages of the original route were that it would be adjacent to existing ROWs for an additional 0.89 mile, affect 16.62 and 8.24 less acres of forest and 16.88 and 11.37 less acres of wetlands during construction and operation, respectively; and cross 1 less waterbody and 3 fewer roads than the corresponding segment of the proposed route. The disadvantages of the original route were that it would be 0.46 mile longer, and affect 5.53 and 2.76 more acres during construction and operation than the corresponding segment of the proposed route. It would also cross 0.46 more mile of karst features and be within 50 feet of 4 more residence than the corresponding segment of the proposed route. Because the original route did not offer significant advantages, would affect more land during construction and operation, be within 50 feet of four more residences, and be nearer the Ginnie Springs recreational area than the corresponding segment of the proposed route, it was eliminated from Sabal Trail's proposed pipeline route and the Ginnie Springs Deviation was incorporated as the preferred, and currently proposed, pipeline route. This deviation is also noted in Table 10.5.3-1 as Reroute 47. As described above, Sabal Trail has determined that the Gilchrist Westerly Alternative (MP 295.9 to MP 314.1) warrants adoption and incorporation into its preferred pipeline route because it would, among other things, place the proposed pipeline further west of the Ginnie Springs recreational area. Because the Gilchrist Westerly Alternative encompasses the Ginnie Springs Deviation the concerns associated with the Ginnie Springs recreational area would be avoided. However, because of timing constraints, the Gilchrist Westerly Alternative is not incorporated into these draft Resource Reports, but will be fully incorporated as part of Sabal Trail's preferred pipeline route and will be analyzed in the resource reports to be filed with the Project Application.

Goethe Deviation (MP 345.8 to MP 347.8)

Sabal Trail evaluated and compared the Goethe Deviation (currently proposed route) to its original route at the request of a landowner in Levy County, Florida. It deviates from Sabal Trail's original route at MP 345.8 and extends in a south then easterly direction to rejoin the original route at MP 347.8 (*see* Figure 10.5.2-6).

As shown in Table 10.5.2-6, the primary advantages of the original route were that it would be 0.2 mile shorter, affect 2.38 and 1.19 acres less land and 1.25 and 0.73 less acres of forest during construction and operation, respectively; and cross 0.2 mile less karst features than the corresponding segment of the proposed route. The primary disadvantages of the original route were that it would not be located adjacent to existing ROWs, affect 3.42 and 2.31 more acres of wetland during construction and operation than the corresponding segment of the proposed route. It would also cross one more road. Because the original route did not offer significant advantages, would affect more wetlands than the corresponding segment of the proposed route, not be located adjacent to existing ROWs, and not minimize property impacts as requested by the landowner, it was eliminated from Sabal Trail's proposed pipeline route and

the Goethe Deviation was incorporated as the preferred, and currently proposed, pipeline route. This deviation is also noted in Table 10.5.3-1 as Reroute 51.

Dunnellon Railroad Deviation (MP 370.4 to MP 372.2)

Sabal Trail evaluated the Dunnellon Railroad Deviation in Marion County, Florida to determine if overall environmental impacts could be minimized. The Dunnellon Railroad Deviation deviates from the proposed route at MP 370.4 and extends southwest and then south, paralleling the Seaboard Coast Line Railroad corridor to a point just south of CR 40 where it turns east and leave the railroad corridor to rejoin the proposed route at MP 372.2 (*see* Figure 10.5.2-7).

As shown in Table 10.5.2-7, the primary advantages of the Dunnellon Railroad Deviation are that it would be located adjacent to existing ROWs for an additional 1.88 miles, and affect 1.5 and 0.99 acres less wetland during construction and operation, respectively. The primary disadvantages are that it would be 0.45 mile longer, affect 5.52 and 2.77 more acres land and 4.41 and 2.04 more acres of forest during construction and operation, respectively; and cross 0.45 mile more karst features than the corresponding segment of the proposed route. It would also be located within 50 feet of two more residences and cross one more road. Because the Dunnellon Railroad Deviation does not offer significant advantages, would affect more land during construction and operation, and be within 50 feet of two more residences than the corresponding segment of the proposed route, it was not considered to be a reasonable alternative.

Reroute 71 (MP 403.0 to MP 403.8)

Sabal Trail evaluated Reroute 71 at the request of a landowner in Sumter County, Florida. The Reroute 71 would deviate from the proposed route at MP 403.0 and extend due south for approximately 0.50 mile before turning east for another approximate 0.50 mile to rejoin the proposed route at MP 403.8 (*see* Figure 10.5.2-8).

As shown in Table 10.5.2-8, the primary advantages of Reroute 71 are that it would be located adjacent to existing ROWs for 79 percent of its length. The primary disadvantages are that it would be 0.28 mile longer, affect 3.46 and 1.73 more acres land and 1.11 and 0.75 more acres of wetlands during construction and operation, respectively. This deviation is also noted in Table 10.5.3-2 as Reroute 71. Sabal Trail has determined that Reroute 71 warrants further evaluation and will file its determination as to whether it will be adopted as its preferred pipeline route in the resource reports to be filed with the Project Application.

Seminole Land Deviations 1 and 2

Sabal Trail evaluated two separate deviations (Seminole Land Deviation 1 and 2) in Sumter and Lake Counties, Florida between MPs 413.4 and 424.1. Figures 10.5.2-9a and 10.5.2-9b show each of the deviations and Table 10.5.2-9 provides a summary comparison of each deviation with the corresponding segment of the proposed route. The original pipeline alignment in this area crossed close to lands identified as Traditional Cultural Properties (“TCP”) by the Seminole Indian Tribe. TCPs are not necessarily restrictive to crossing; however significant tribal consultation would be required. Therefore, Sabal Trail evaluated two route deviations to avoid the identified TCP lands.

Seminole Land Deviation 1 (MP 413.4 to MP 424.1)

Seminole Deviation 1 (currently proposed route) would deviate from Sabal Trail’s original route at MP 413.4 and extend southeast then south direction along the Sumter and Lake county lines to rejoin the original route at MP 424.1 (*see* Figure 10.5.2-9a).

As shown in Table 10.5.2-9, the primary advantages of the original route were that it would be 0.16 mile shorter, affect 1.96 and 0.98 acres less land during construction and operation, and cross 0.16 mile less karst features, seven fewer waterbodies and two less roads than the corresponding segment of the proposed route. The primary disadvantages of the original route were that it would be located adjacent to

existing ROWs for 0.67 fewer miles and affect 16.24 and 10.96 acres more wetlands during construction and operation. It would also be within 50 feet of one more residences. Because the Seminole Deviation 1 (currently proposed route) would avoid TCP lands, it was incorporated into Sabal Trail's proposed pipeline route. This deviation is also noted in Table 10.5.3-1 as part of Reroute 4.

Seminole Land Deviation 2 (MP 413.4 to MP 424.1)

Seminole Land Deviation 2 initially follows the same corridor as Seminole Land Deviation 1, but changes course when it crosses Route 48 just west of Center Hill. At this point Seminole Land Deviation 2 extends due south for about 3.0 miles and then turns east and southeast to rejoin the proposed route at MP 424.1 (see Figure 10.5.2-9b).

As shown in Table 10.5.2-9, the primary advantage of this deviation is that it would cross five fewer waterbodies than the corresponding segment of the proposed route. The primary disadvantages of the Seminole Deviation 2 are that it would be 0.78 mile longer, not be located adjacent to existing ROWs, affect 9.45 and 4.72 acres more land during construction and operation and 6.41 and 4.42 acres more wetlands, respectively. It would also cross 0.78 mile more karst features and be within 50 feet of two more residences. This deviation is also noted in Table 10.5.3-3 as part of Reroutes 3 and 4A. Because the Seminole Deviation 2 would affect more land during construction and operation even though it also and avoids TCP lands, it was not considered to be a reasonable alternative.

Audubon Deviations 1 through 3

Sabal Trail evaluated three separate deviations (Audubon Deviation 1, 2 and 3) in Marion, Lake and Polk Counties, Florida to avoid state owned lands (including the Halpata Tastanaki Preserve). Figures 10.5.2-10a through 10.5.2-10c shows each of the deviations and Table 10.5.2-10 provides a summary comparison of each deviation with the corresponding segment of the proposed route.

Audubon Deviation 1 (MP 377.2 to MP 384.0)

Audubon Deviation 1 would deviate from the Proposed Route at MP 377.2 and extend in an easterly direction where it would be north of and parallel to CR 484 for approximately 7.5 miles. At Highway 200, it turns southwest and parallels this highway for approximately 4.2 miles until it rejoins the corresponding segment of the preferred route at MP 384.0 (see Figure 10.5.2-10a).

As shown in Table 10.5.2-10, the primary advantages of this deviation are that it would be located adjacent to existing ROWs for 11.19 more miles than the corresponding segment of the proposed route and affect 10.03 and 6.68 acres less wetlands during construction and operation. The primary disadvantages of the Audubon Deviation 1 are that it would be 4.99 miles longer, affect 60.34 and 30.17 acres more land during construction and operation and 21.38 and 10.94 acres more forest, respectively. It would also cross 4.97 miles more karst features, be within 50 feet of 36 more residences, and cross 19 more roads. Because the Audubon Deviation 1 would affect more land, forest, and karst features during construction and operation; be within 50 feet of more residences, and require more road crossings than the corresponding segment of the proposed route, it was not considered to be a reasonable alternative.

Audubon Deviation 2 (MP 428.7 to MP 441.4)

Audubon Deviation 2 would deviate from the Proposed Route at MP 428.7 and extend in a southeasterly direction until it reaches CR 33 and then turns south, paralleling this road until it rejoins the proposed route at MP 441.4 (see Figure 10.5.2-10b).

As shown in Table 10.5.2-10, the primary advantages of this deviation are that it would be located adjacent to existing ROWs for 5.59 more miles than the corresponding segment of the proposed route and affect 0.67 and 0.35 acres less forest during construction and operation. The primary disadvantages of the Audubon Deviation 2 are that it would be 0.14 mile longer, affect 1.73 and 0.86 acres more land during

construction and operation and 6.67 and 5.0 acres more wetlands, respectively. It would also cross 0.14 mile more karst features and six more waterbodies and be within 50 feet of nine more residences. Because the Audubon Deviation 2 would affect more land and wetlands during construction and operation, cross more waterbodies and be within 50 feet of more residences than the corresponding segment of the proposed route, it was not considered to be a reasonable alternative.

Audubon Deviation 3 (MP 443.2 to MP 453.5)

Audubon Deviation 3 would leave the proposed route at MP 443.2 and extend east paralleling CR 474 for about 7.0 miles and crossing the Green Swamp Area and Hilochee Wildlife Management Area until it intersects with U.S. Route 27. From this point, it turns south-southeast paralleling this road until it rejoins the proposed route at MP 453.5 (*see* Figure 10.5.2-10c).

As shown in Table 10.5.2-10, the primary advantages of this deviation are that it would be located adjacent to existing ROWs for an additional 8.83 miles than the corresponding segment of the proposed route and affect 38.6 and 25.11 acres less wetlands during construction and operation, and cross 9 fewer waterbodies. It would also cross one (or 1.81 miles) fewer recreation and special interest areas. The primary disadvantages of the Audubon Deviation 3 are that it would be 0.95 mile longer, affect 11.48 and 0.74 acres more land during construction and operation and 1.54 and 0.81 acres more forest, respectively. It would also cross 0.95 mile more karst features, be within 50 feet of 18 more residences, and cross 18 more roads. Because the Audubon Deviation 3 would affect more land and forest during construction and operation and be within 50 feet of more residences than the corresponding segment of the proposed route, it was not considered to be a reasonable alternative.

Celebration Deviation (MP 459.6 to MP 461.8)

Between MPs 459.6 and MP 461.8 in Osceola County, Florida, there are a series of properties owned by the Celebration Company (a Disney subsidiary) where future development plans are in process. Sabal Trail and Celebration Company representatives met in October 2013 to discuss the Project and potential alternative pipeline alignments through the parcels to minimize potential impacts on the future development of the land. The original pipeline alignment in this area extends across the approximate center of the parcels and may result in development constraints associated with the permanent easement given the current development plans of the Celebration Company. Therefore, a route deviation was developed to site the pipeline closer to the western property boundary. The Celebration Deviation (currently proposed route) would leave Sabal Trail's original route at MP 459.6 and extend generally southeast and east until it rejoins the original route at MP 461.8 (*see* Figure 10.5.2-11).

As shown in Table 10.5.2-11, the primary advantages of the original route were that it would be 0.2 mile shorter, be located adjacent to existing ROWs for 0.75 more mile than the corresponding segment of the proposed route and affect 2.35 and 1.17 acres less land and 4.93 and 3.25 acres less wetlands during construction and operation. It would cross four fewer waterbodies and 0.2 mile less karst features. However, because the Celebration Deviation (currently proposed route) would have less overall environmental impacts and preserve the use of the property and significantly decrease the potential conflict with future development plans, it was incorporated into Sabal Trail's proposed pipeline route. This deviation is also noted in Table 10.5.3-1 as Reroute 17.

Hunters Creek Lateral Reroutes 53 and 42

Sabal Trail evaluated the two reroutes along the Hunters Creek Line in Osceola County, Florida to determine if overall environmental impacts could be minimized. Figures 10.5.2-12a and 10.5.2-12b show each of the reroutes and Table 10.5.2-12 provides a summary comparison of each deviation with the corresponding segment of the proposed route.

Hunters Creek Lateral Reroute 53 (MP 1.6 to MP 6.7)

Sabal Trail evaluated and compared the Hunters Creek Lateral Reroute 53 (currently proposed route) to its original route. It deviates from the original route at MP 1.6 and extends northeast for about 3.5 miles before turning east and then north and rejoins the original route at MP 6.7 (see Figure 10.5.2-12a).

As shown in Table 10.5.2-12, the primary advantages of the original route were that it would be located adjacent to existing ROWs for an additional 4.06 miles and be within 50 feet of 13 fewer residence than the corresponding segment of the proposed lateral. The primary disadvantages of the original route were that it would be 1.28 miles longer and affect 15.51 and 7.75 acres more land and 3.96 and 2.87 acres more wetlands during construction and operation. It would cross three more waterbodies, 1.28 miles more karst features, and five more roads. Because the original route would be longer in length and affect more land and wetlands during construction and operation and cross more waterbodies and karst features than the corresponding segment of the proposed route, it was eliminated from Sabal Trail's proposed pipeline route and the Hunters Creek Lateral Reroute 53 was incorporated as the preferred, and currently proposed, pipeline route. In addition the currently proposed pipeline route would avoid two major theme parks that are proposed along the original route. This deviation is also noted in Table 10.5.3-1 as Reroute 53.

Hunters Creek Lateral Reroute 42 (MP 7.4 to MP 8.6)

Sabal Trail evaluated and compared the Hunters Creek Lateral Reroute 42 (currently proposed route) to its original route. It would deviate from the original route at MP 7.4 and generally parallel this route to the point it rejoins the original route at MP 8.6 (see Figure 10.5.2-12a).

As shown in Table 10.5.2-12, the primary advantages of the original route are relatively minor when compared to the corresponding segment of the proposed route. It would be 0.05 mile shorter and affect 0.54 and 0.28 acres less land and 0.51 and 0.33 acres less wetlands during construction and operation. It would cross two fewer waterbodies, 0.05 miles less karst features, and be within 50 feet of five less residences. However the original route presented constructability challenges due to insufficient room for a bore across Highway 192 and it affected new and existing residential development. Therefore, Sabal Trail eliminated the original route from its proposed pipeline route and the Hunters Creek Lateral Reroute 42 was incorporated as the preferred, and currently proposed, pipeline route. This deviation is also noted in Table 10.5.3-1 as Reroute 42.

10.5.3 Route Variations Incorporated, Under Evaluation, or Eliminated

Sabal Trail identified 114 route variations during preliminary routing investigations and stakeholder outreach efforts. Of these, Sabal Trail evaluated and incorporated 56 route variations into the proposed Sabal Trail pipeline route, which are shown in Table 10.5.3-1. Thirty-one route variations are currently under evaluation by Sabal Trail and are shown in Table 10.5.3-2. Sabal Trail will provide the results and determination as to whether these variations will be adopted as its preferred pipeline route in the resource reports to be filed with the Project Application. Twenty-seven route variations have been eliminated from further consideration due to site-specific engineering, construction, and/or environmental constraints and are shown in Table 10.5.3-3.

10.6 Aboveground Facility Alternatives

10.6.1 Compressor Station Alternatives

Sabal Trail conducted a hydraulic analysis to determine the optimum horsepower and compression to provide the increased volumes of natural gas necessary to meet market demand. As a result, Sabal Trail identified the need for five new compressor stations to meet the compression needs for the increased delivery volume (three new compressor stations in 2017 and two in 2020 with expansion at two of the

five compressor stations in 2021, as the transportation volumes increase). While the availability of land for purchase was the initial limiting factor in the compressor station site selection process, the following considerations also influenced property suitability for siting the new compressor stations:

- Engineering Design and Construction: Several engineering design and construction issues were evaluated for selection of a preferred site, including facility and workspace requirements, site elevation, road access, and noise sensitive receptors.
- Pipeline design limitations: Properties potentially available were assessed. Compressor station sites were initially selected to be as evenly spaced as practical, taking into account system hydraulics, air emissions restrictions if any, and site availability and suitability.
- Land/workspace requirements: Sabal Trail undertook a detailed analysis to select a 25-acre or larger property for a site to install the new compressor stations.
- Site elevation: Sabal Trail sought out land parcels featuring topography that minimizes the extent of fill or excavation of soil required during construction of the new facilities, including workspace needs.
- Road access: Sabal Trail sought to maximize proximity of the new compressor station to the nearest public road, thereby minimizing the need for a new access road, as well as minimizing the need for modifications or improvements to existing roads.
- Interconnecting pipe: To minimize the impact on the surrounding community, Sabal Trail favored siting the new compressor stations on available properties closest to the proposed ROW so that it would not require or minimize a pipeline extension for the suction and discharge piping. This approach also minimizes the land requirements for the Project, thereby minimizing the number of impacted property owners.
- Land Availability: The proposed compressor station sites are within rural settings. The landowners within this area typically own multiple properties or large tracts of land.
- Environmental Impacts: Environmental impact parameters for the alternative sites were evaluated, based on desktop resources, such as 7.5-minute USGS topographic maps, aerial photography, and available literature on environmental resources. Several environmental characteristics were evaluated using these resources, including:
 - Agricultural Areas;
 - Wetlands and waterbodies;
 - Subsurface geology including presence of karst terrain;
 - Federal and state-listed threatened and endangered species; and
 - Cultural resource sites listed or eligible for listing on the National Register of Historic Places.

Sabal Trail evaluated alternative sites for four of its proposed compressor station sites, as described below. An alternative site for the Alexander City Compressor Station, located at MP 0.0 in Tallapoosa County, Alabama, was not evaluated because of the hydraulic demands located at the origin of the Project and an interconnection with the Transco's pipeline system as described in its mainline capacity lease agreement.

Albany Compressor Station Site Alternatives

Four sites, a proposed site and three alternative sites, were considered for the location of the Albany Compressor Station in Dougherty County, Georgia. The proposed site is located at approximate MP 157.7 on the pipeline alignment north of the intersection of Leary Road and CR 62. Existing land use within the proposed site consists of a combination of cultivated cropland, developed land, forest, and grassland. The three alternative sites are also in Dougherty County and adjacent to the proposed pipeline alignment. Table 10.6-1 provides a summary comparison of the proposed Albany Compressor Station site with each of the alternative sites. Figure 10.6-1 shows the location of the proposed Albany Compressor Station site and the three alternative sites.

Albany Compressor Station Alternative A

Alternative A is located at approximate MP 152.5 and adjacent to a railroad ROW. Land use on the Alternative A site consists of a combination of forest, grassland, pasture, scrub shrub vegetation, wetland, and cultivated cropland. Approximately 79.26 acres would be required for construction and 70.84 acres would be required for operation of Alternative A, which is 36.75 acres more than would be required for operation the proposed site. Alternative A would affect 1.89 less acres of forest land during construction and 0.75 acre less for operation than the proposed site. While no wetlands would be impacted by construction of the compressor station at the proposed site, construction at the Alternative A site would affect 46.23 acres of wetlands, of which 41.50 acres would be permanently affected for operation. Alternative A would be within 0.5 mile of 37 more noise sensitive areas (“NSAs”) with the nearest NSA being approximately 240 feet. Alternative A would be located on the pipeline corridor; therefore, no suction/discharge pipelines would be required to connect to the pipeline. Because the Alternative A site would affect more land and wetlands for construction and operation and be within 0.5 mile of more NSAs than the proposed site, it was not considered to be a reasonable alternative.

Albany Compressor Station Alternative B

Alternative B is located at approximate MP 156.5 and adjacent to Denson Road. Land use within the Alternative B site consists of a combination of cultivated cropland, pasture, hay, grassland, and forest land. Approximately 38.97 acres would be required for construction and 33.13 acres would be required for operation of Alternative B, which is 0.96 acre less than would be required for operation the proposed site. Alternative B would affect 5.44 less acres of forest land during construction and 4.96 acres less for operation than the proposed site. It would not affect wetlands. Alternative B would be within 0.5 mile of 15 fewer NSAs with the nearest NSA being approximately 200 feet. Alternative B would be located on the pipeline corridor; therefore, no suction/discharge pipelines would be required to connect to the pipeline. Because the Alternative B site does not offer a significant advantage over the proposed site, it was not considered to be a reasonable alternative.

Albany Compressor Station Alternative C

Alternative C is located at approximate MP 158.0 on the southeast side of CR 62 and opposite proposed Albany Compressor Station site. Land use within the Alternative C site consists of a combination of forest, developed land, grassland, cultivated cropland, and scrub-shrub vegetation. Approximately 59.84 acres would be required for construction and 52.03 acres would be required for operation of Alternative C, which is 17.94 acres more than would be required for operation the proposed site. Alternative C would affect 38.95 more acres of forest land during construction and 38.03 acre more for operation than the proposed site. No wetlands would be affected. Alternative C would be within 0.5 mile of 6 fewer NSAs with the nearest NSA being approximately 80 feet. Alternative C would be located on the pipeline corridor; therefore, no suction/discharge pipelines would be required to connect to the pipeline. Because the Alternative C site would affect more land and forest land for construction and operation than the proposed site, it was not considered to be a reasonable alternative.

Hildreth Compressor Station Site Alternatives

Hildreth Compressor Station Alternative A

Alternative A is located at approximate MP 300.0 approximately 0.49 mile east of the pipeline route and 7.0 miles south of the proposed Hildreth Compressor Station site in Suwanee County, Florida (*see* Figure 10.6-2). As shown on Table 10.6-2 land use within the Alternative A site consists of a combination of cultivated cropland, forest, grassland, scrub shrub vegetation, and developed land. Approximately 45.51 acres would be required for construction and 39.36 acres would be required for operation of Alternative A, which is 6.33 acres more than would be required for operation the proposed site. Alternative A would affect 21.7 more acres of forest land during construction and 20.52 acres more for operation than the proposed site. No wetlands would be affected. Alternative A would be within 0.5 mile of two more NSAs with the nearest NSA being approximately 1,350 feet. Alternative A would be located approximately 0.49 mile east the pipeline corridor and would require suction/discharge pipelines to connect to the pipeline, which would result additional land impacts that would not otherwise be required for the proposed Hildreth Compressor Station site (*see* Table 10.6-2). Because the Alternative A site would affect more land and forest land for construction and operation than the proposed site, it was not considered to be a reasonable alternative.

Dunnellon Compressor Station Site Alternatives

Three sites, a proposed site and two alternative sites, were considered for the location of the Dunnellon Compressor Station in Marion County, Florida. The proposed Dunnellon compressor Station site is located at approximately MP 384.2 and is bounded by the proposed pipeline, the proposed Citrus County Lateral ROW, and CR 200. Land use within the proposed site consists of a combination of developed land, hay pasture, and wetlands. The location of the proposed Dunnellon Compressor Station site and the alternative sites are shown on Figure 10.6-3.

Dunnellon Compressor Station Alternative A

Alternative A is located at approximate MP 384.6 and approximately 0.58 mile southwest of the pipeline route and the proposed Dunnellon Compressor Station site and is bounded by a transmission and Citrus County Lateral ROWs and CR 200 (*see* Figure 10.6-3). As shown on Table 10.6-3, land use within the Alternative A site consists of a combination of wetlands, developed land, grassland, pasture, and hay. Approximately 61.25 acres of land would be required for construction and 53.28 acres would be required for operation of Alternative A, which is 25.62 acres more than would be required for operation the proposed site. While Alternative A would not affect forest land it would affect 41.07 more acres of wetlands during construction and 35.95 acres more for operation than the proposed site. Alternative A would be within 0.5 mile of eight fewer NSAs with the nearest NSA being approximately 960 feet. Alternative A would be located approximately 0.58 mile southeast the pipeline corridor and would require suction/discharge pipelines to connect to the pipeline, which would result in additional land impacts that would not otherwise be required for the proposed Dunnellon Compressor Station site (*see* Table 10.6-3). Because the Alternative A site would affect more land and wetlands for construction and operation than the proposed site, it was not considered to be a reasonable alternative.

Dunnellon Compressor Station Alternative B

Alternative B is located at approximate MP 384.8 and approximately 0.84 mile southwest of the pipeline route and the proposed Dunnellon Compressor Station site and is bounded on the northeast by CR 200 and on the east by SW 130th Avenue (*see* Figure 10.6-3). Land use within the Alternative B site consists of a combination of developed land, grassland, hay pasture and wetlands. As shown on Table 10.6-3 approximately 37.24 acres would be required for construction and 31.63 acres would be required for operation of Alternative B, which is 3.97 acres less than would be required for operation the proposed

site. While Alternative B would not affect forest it would affect 16.1 less acres of wetlands during construction and 15.04 acres less for operation than the proposed site. Alternative B would be within 0.5 mile of nine fewer NSAs with the nearest NSA being approximately 2,000 feet. Alternative B would be located approximately 0.84 mile southeast the pipeline corridor and would require suction/discharge pipelines to connect to the pipeline, which would result in additional land impacts that would not otherwise be required for the proposed Dunnellon Compressor Station site (*see* Table 10.6-3). Because the Alternative B site would affect more land for construction and operation than the proposed site, it was not considered to be a reasonable alternative.

Reunion Compressor Station Site Alternatives

Three sites, a proposed site and two alternative sites, were considered for the location of the Reunion Compressor Station in Marion County, Florida. The proposed Reunion Compressor Station site is located at approximate MP 462.9 of the Sabal Trail pipeline and MP 0.0 of the Hunters Creek Line (*see* Figure 10.6-4). Land use at the proposed compressor station site consists of a combination of developed land, hay pasture and wetlands.

Reunion Compressor Station Alternative A

Alternative A is located at located approximately 0.14 mile north of the proposed compressor station site (*see* Figure 10.6-4). As shown on Table 10.6-4, land use within the Alternative A site consists of a combination of developed land, grassland, hay, pasture, wetlands, and scrub shrub vegetation. Approximately 55.47 acres would be required for construction and 48.66 acres would be required for operation of Alternative A, which is 27.66 acres more than would be required for operation the proposed site. While Alternative A would not affect forest land, it would affect 29.61 more acres of wetlands during construction and 29.50 acres more for operation than the proposed site. Alternative A would be within 0.5 mile of 59 fewer NSAs with the nearest NSA being approximately 1,375 feet. Alternative A would be located approximately 0.14 mile southeast the pipeline corridor and would require suction/discharge pipelines to connect to the pipeline, which would result in additional land impacts that would not otherwise be required for the proposed Reunion Compressor Station site (*see* Table 10.6-4). Because the Alternative A would affect more land and wetlands for construction and operation than the proposed site, it was not considered to be a reasonable alternative.

Reunion Compressor Station Alternative B

Alternative B is located at located approximately 0.72 mile northeast of the proposed compressor station site (*see* Figure 10.6-4). As shown on Table 10.6-4, land use on the Alternative B site consists of a combination of grassland, scrub shrub vegetation and wetlands. Approximately 47.05 acres would be required for construction and 40.85 acres would be required for operation of Alternative B, which is 19.85 acres more than would be required for operation the proposed site. While Alternative B would not affect forest land it would affect 35.65 more acres of wetlands during construction and 32.43 acres more for operation than the proposed site. Alternative B would not be within 0.5 mile of NSAs, the nearest NSA is approximately 3,200 feet. Alternative B would be located approximately 0.72 mile northeast of the pipeline corridor and would require suction/discharge pipelines to connect to the pipeline, which would result in additional land impacts that would not otherwise be required for the proposed Reunion Compressor Station site (*see* Table 10.6-4). Because the Alternative B would affect more land and wetlands for construction and operation than the proposed site, it was not considered to be a reasonable alternative.

10.6.2 Waste Heat Recovery for Proposed Compressor Stations

Sabal Trail is currently evaluating the technical feasibility and commercial viability of installing and operating waste heat recovery in conjunction with the proposed compressor stations for the Project.

Several considerations are required to determine feasibility including evaluation of horsepower, and ambient temperature variation. Additional information and the results of the evaluations will be provided in the final version of Resource Report 10 to be filed with the Project Application.

10.7 Alternatives Summary

If the proposed Project is not constructed (*i.e.*, the No-Action Alternative), Sabal Trail would have no ability to provide the natural gas transportation service contracted by FPL and DEF to serve their electric demand. In addition, FPL would also be required to find a different source of natural gas transmission to supply the proposed FSC Project. The attempted use of alternative fuel supply would greatly jeopardize FPL's ability to meet its power generation needs starting in early 2017. Sabal Trail has executed precedent agreements with FPL and DEF for the majority of the Project's capacity. These customers are depending upon Sabal Trail to provide incremental natural gas transmission services beginning in 2017 in order for them to meet their existing and increasing electric generation demands. Reliance on alternative fuels to supply the energy needs of natural gas customers is not the best practicable alternative when compared to the use of cleaner-burning natural gas. In addition, although energy conservation is a valuable part of an overall energy supply plan, energy conservation alone will not meet the immediate energy demand for the market to be served by the Project.

As discussed herein, Sabal Trail conducted this extensive alternatives analysis to assess various routes to avoid and minimize impacts to environmental, socioeconomic, and cultural/archeological resources, while ensuring that a constructible Project design could be achieved. Sabal Trail also attempted to locate its Project pipeline facilities within or adjacent to existing ROW, consisting of pipeline ROW, public roadways, and electric transmission line corridors (*see* Figures 10.7-1 through 10.7-3). This alternatives analysis used existing information sources as well as initial stakeholder requests to evaluate alternative routes. The facility alternatives were evaluated objectively relative to the corresponding segment of the proposed route to assess their viability. Although several of the potential alternative fuel sources may be viable from a conceptual perspective, they were not considered to be a reasonable alternative to the Project.

10.8 References

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TABLES

TABLE 10.5.1-1

Comparison of Station 85 Route Alternative

Factor	Proposed Route <u>a/</u>	Station 85 Route Alternative	Information Sources
Length (miles)	309.91	369.98	GIS
Pipeline diameter (inches)	36	36	Engineering
Length adjacent to existing right-of-way (miles/percent)	280.38 / 90%	209.24 / 57%	Desktop
Nominal construction right-of-way width (feet)	100	100	GIS
Construction right-of-way (acres)	3755.88	4484.25	GIS
Permanent right-of-way (acres)	1878.06	2242.20	GIS
Construction impact on forest (acres)	1453.90	1747.76	NLCD
Operation impact on forest (acres)	729.27	873.01	NLCD
Construction impact on wetlands (acres)	162.46	430.43	NLCD
Operation impact on wetlands (acres)	108.49	287.34	NLCD
Karst features crossed (miles)	172.27	260.50	USGS
Waterbody crossings (minor-intermediate/major) (no.)	330	393	NHD
Critical habitat crossed (miles)	0.00	0.00	USFWS
Recreation and special interest areas crossed (no./miles)	6 / 5.15	13 / 72.42	Protected Area Database (USGS)
Previously recorded cultural resources affected (no.)	0	0	NRHP
Tracts affected (no.)	2764	1519	Doyle Parcels
Residences within 50 feet of the construction right-of-way (no.)	22	98	Desktop
Road crossings (no.)	541	444	Census/FLDOT
Railroad crossings (no.)	16	14	National Atlas

a/ Includes the loops for the Hillabee Expansion Project (FERC Docket No. PF14-6).

Notes:

- Construction right-of-way or impacts based on a 100-foot-wide ROW.
- Construction impact on wetlands based on a 75-foot-wide ROW.
- Permanent right-of-way or Operation impacts based on a 50-foot-wide ROW.

Information Sources:

- GIS – Analysis based on Geodatabase layers and shapefiles.
- NLCD – 2006 National Land Cover Data - <http://www.epa.gov/mrlc/nlcd-2006.html>
- USGS – U.S. Geological Survey - <http://www.usgs.gov/>
- NHD – National Hydrography Dataset - <http://nhd.usgs.gov/>
- USFWS – U.S. Fish and Wildlife Service - <http://www.fws.gov/>
- NRHP – National Register of Historic Places - <http://www.nps.gov/nr/>
- Doyle Parcels – Doyle Land Services, Inc. <https://www.doyleland.com/> (Does not include Decatur and Grady Counties, Georgia)
- Census/FLDOT – U.S. Census Bureau/Florida Department of Transportation - <http://www.census.gov/#/> <http://www.dot.state.fl.us/>
- National Atlas – National Atlas of the United States - <http://nationalatlas.gov/>
- TBD – To Be Determined

TABLE 10.5.1-2a

Comparison of FGT Onshore Route Alternative

Environmental Factor	Sabal Trail – Hillabee Expansion Project Pipelines (MP 0.0 to MP 296)	FGT Onshore Route Alternative
Total length (miles)	---	---
Onshore	340	428
Offshore	0.0	0.0
Length adjacent to existing rights-of-way (miles)	---	---
Onshore	297.5	373
Offshore	0.0	0.0
Construction ROW	---	---
Onshore (acres, based on a 100-foot-wide ROW and ATWS) <u>a/</u>	5,291.9	6,753.3
Offshore (acres, based on variable width of trench during construction)	0.0	0.0
Permanent ROW	---	---
Onshore (acres, based on a 50-foot-wide ROW) <u>b/</u>	2,060	2,593
Offshore (acres, based on 4-feet-wide)	0.0	0.0
Land Use Crossed (miles) (National Land Cover Database)	---	---
Open Water on Land	0.40	0.84
Gulf of Mexico	0.0	0.0
Developed Land	16.36	20.55
Barren Land	0.42	0.04
Forest Land	124.22	139.57
Shrub Land	33.26	103.60
Herbaceous Land	39.42	41.85
Agricultural Land	108.72	46.46
National Wetlands Inventory (“NWI”)Wetland - Forested	14.9	70.6
NWI Wetland - Non-forested	2.3	4.0
Length NWI Wetlands adjacent to existing rights-of-way (miles)	12.78	65.77
Waterbodies Crossed on Land (number)	375	698
Major Waterbodies Crossed on Land (number)	1	2
Canals Crossed (number)	3	3
Number of HDDs/ATWS (acres)	14 / 56.1	13 / 40.3
Tracts/Parcels Crossed	2,035	1,886
State Lands	0.00	152.15
Parks/Recreation Areas	0.00	3.45
Residences (within 50 Feet of construction area)	53	26
Environmental Justice Areas (miles)	58.58	63.66
Critical Habitat (no. crossings/miles)	0.00	0.00
Soft Bottom Habitat (miles)	0.00	0.00
Hard Bottom Habitat (miles)	0.00	0.00
Essential Fish Habitat (miles)	0.00	0.00

TABLE 10.5.1-2a

Comparison of FGT Onshore Route Alternative

Environmental Factor	Sabal Trail – Hillabee Expansion Project Pipelines (MP 0.0 to MP 296)	FGT Onshore Route Alternative
Seagrass Beds (miles)	0.00	0.00
U.S. Department of Defense Land Crossed (miles)	---	---
Onshore	0	0
Offshore	0	0
Engineering Factor		
Existing Infrastructure Crossed (approximate number)	---	---
Natural Gas	261	487
Oil	0	3
Products	1	0
Electric	142	86
Telecommunication	NA	NA
Congested Rights-of-Way (miles)	10.7	13.7
Roads Crossed (number)/ATWS (acres)	463 / 307.1	500 / 353.0
Railroads Crossed (number)	27	20
Hydraulic Studies:	---	---
Pipeline Length (miles)	339.9	428
Pipeline Diameter (inches)	36"/42"/48"	36"
Pipeline Pressure (psig)	(42"/48") 800 (36") 1450	1,450
MAOP	(42"/48") 800 (36") 1457	1,457
Population Density (high, medium, low)	---	---
High (miles)	0	0
Medium (miles)	51.2	52.2
Low (miles)	288.7	375.8
USDOT Class Locations (miles)	---	---
Class 1	299.1	377.8
Class 2	38.3	43.9
Class 3	2.5	6.2
Class 4	0.0	0.0
High Consequence Areas (miles)	10.1	8.6
<p><u>a/</u> The reflected ATWS acreage disturbance for onshore were based on the typical additional temporary workspace ("ATWS") acreage(s) to be utilized for the Sabal Trail Transmission, based on construction methodology applied to crossing type.</p> <p><u>b/</u> Permanent ROW (onshore) is based on the 50 feet typical.</p>		

TABLE 10.5.1-2b

Deviations from the FGT Pipeline System Along the FGT Onshore Route Alternative

System State	Deviation Number	County/ Municipality	Mileposts	Length (miles)	Reason for Deviation
Florida					
	FGT-FL-1	Okaloosa	183.46 – 186.28	2.82	Existing Residential Obstructions
	FGT-FL-2	Gadsden	307.78 – 310.41	2.63	Existing Residential Obstructions
	FGT-FL-3	Gadsden	312.62 – 318.72	6.10	Existing Residential Obstructions
	FGT-FL-4	Taylor	375.63- 385.02	9.38	Existing Residential Obstructions
	FGT-FL-5	Lafayette	406.68-408.78	2.10	Existing Residential Obstructions

TABLE 10.5.1-3

Comparison of Sabal Trail/Hillabee Gulf of Mexico Route Alternative

Environmental Factor	Sabal Trail – Hillabee Expansion Project Pipelines (MP 0.0 to MP 384)	Gulf of Mexico Route Alternative
Total length (miles)	---	---
Onshore	428	156
Offshore	0.0	404
Length adjacent to existing rights-of-way (miles)	---	---
Onshore	347.7	138.0
Offshore	0.0	266
Construction ROW	---	---
Onshore (acres, based on a 100-foot-wide ROW and ATWS) <u>a/</u>	6,776.3	2,402.8
Offshore (acres, based on variable width of trench during construction)	0.0	1,497
Permanent ROW	---	---
Onshore (acres, based on a 50-foot-wide ROW) <u>b/</u>	2,593	946
Offshore (acres, based on 4-foot-wide)	0.0	195
Land Use Crossed (miles) (National Land Cover Database)	---	---
Open Water on Land	0.46	0.08
Gulf of Mexico	0.0	404
Developed Land	20.16	13.96
Barren Land	0.82	0.00
Forest Land	138.81	61.67
Shrub Land	54.33	20.82
Herbaceous Land	49.82	9.99
Agricultural Land	137.07	17.88
National Wetlands Inventory (“NWI”)Wetland - Forested	19.26	28.65
NWI Wetland - Non-forested	7.26	2.95
Length NWI Wetlands adjacent to existing rights-of-way (miles)	16.96	27.74
Waterbodies Crossed on Land (number)	487	223
Major Waterbodies Crossed on Land (number)	1	0
Canals Crossed (number)	0	2
Number of HDDs/ATWS (acres)	15 / 67.1	Onshore 1 / 5.7 Offshore 1 / 1
Tracts/Parcels Crossed	2,687	871
State Lands	4.41	2.36
Parks/Recreation Areas	2.90	0.03
Residences (within 50 Feet of construction area)	83	35
Environmental Justice Areas (miles)	58.58	10.02
Critical Habitat (no. crossings/miles)	0.00	1 crossing / 5.64 miles
Soft Bottom Habitat (miles)	0.00	394.2
Hard Bottom Habitat (miles)	0.00	7.8
Essential Fish Habitat (miles)	0.00	332
Seagrass Beds (miles)	0.00	2.84

TABLE 10.5.1-3

Comparison of Sabal Trail/Hillabee Gulf of Mexico Route Alternative

Environmental Factor	Sabal Trail – Hillabee Expansion Project Pipelines (MP 0.0 to MP 384)	Gulf of Mexico Route Alternative
U.S. Department of Defense Land Crossed (miles)	---	---
Onshore	0	0
Offshore	0	0
Engineering Factor		
Existing Infrastructure Crossed (approximate number)	---	---
Natural Gas	266	Onshore - 159 Offshore – 8
Oil	0	Onshore - 4 Offshore – 5
Products	1	Onshore - 0 Offshore – 0
Electric	166	Onshore - 0 Offshore – 0
Telecommunication	NA	Onshore - 56 Offshore - 1
Congested Rights-of-Way (miles)	29.4	13.2
Roads Crossed (number)/ATWS (acres)	588 / 397.5	182 / 114.9
Railroads Crossed (number)	36	7
Hydraulic Studies:	---	---
Pipeline Length (miles)	428	558.1
Pipeline Diameter (inches)	36"/42"/48"	36"
Pipeline Pressure (psig)	(42"/48") 800 (36") 1457	1,450 onshore 2,180 offshore
MAOP	(42"/48") 800 (36") 1457	1,457 onshore 2,180 offshore
Population Density (high, medium, low)	---	---
High (miles)	0	0
Medium (miles)	76.5	35.4
Low (miles)	373.7	120.7
USDOT Class Locations (miles)	---	---
Class 1	374.1	127.3
Class 2	51.3	27.6
Class 3	2.5	1.2
Class 4	0.0	0.0
High Consequence Areas (miles)	13.0	5.1
<p><u>a/</u> The reflected ATWS acreage disturbance for onshore were based on the typical additional temporary workspace ("ATWS") acreage(s) to be utilized for the Sabal Trail Transmission, based on construction methodology applied to crossing type.</p> <p><u>b/</u> Permanent ROW (onshore) is based on the 50 feet typical.</p>		

TABLE 10.5.1-4

Comparison of Hillabee Route Alternative

Factor	Proposed Route	Hillabee Route Alternative	Information Sources
Length (miles)	207.15	214.19	GIS
Pipeline diameter (inches)	36	36	Engineering
Length adjacent to existing right-of-way (miles/percent)	177.50 / 86%	214.19 / 100%	Desktop
Nominal construction right-of-way width (feet)	100	100	GIS
Construction right-of-way (acres)	2510.62	2596.03	GIS
Permanent right-of-way (acres)	1255.39	1298.05	GIS
Construction impact on forest (acres)	921.66	873.25	NLCD
Operation impact on forest (acres)	459.88	440.97	NLCD
Construction impact on wetlands (acres)	128.15	198.66	NLCD
Operation impact on wetlands (acres)	85.43	132.27	NLCD
Karst features crossed (miles)	155.29	168.32	USGS
Waterbody crossings (minor-intermediate/major) (no.)	200	265	NHD
Critical habitat crossed (miles)	0.00	0.00	USFWS
Recreation and special interest areas crossed (no./miles)	4 / 1.58	3 / 2.05	Protected Area Database (USGS)
Previously recorded cultural resources affected (no.)	0	0	NRHP
Tracts affected (no.)	1067	1555	Doyle Parcels
Residences within 50 feet of the construction right-of-way (no.)	16	49	Desktop
Road crossings (no.)	261	281	Census/FLDOT
Railroad crossings (no.)	12	11	National Atlas

Notes:

Construction right-of-way or impacts based on a 100-foot-wide ROW.

Construction impact on wetlands based on a 75-foot-wide ROW.

Permanent right-of-way or Operation impacts based on a 50-foot-wide ROW.

Information Sources:

GIS – Analysis based on Geodatabase layers and shapefiles.

NLCD – 2006 National Land Cover Data - <http://www.epa.gov/mrlc/nlcd-2006.html>

USGS – U.S. Geological Survey - <http://www.usgs.gov/>

NHD – National Hydrography Dataset - <http://nhd.usgs.gov/>

USFWS – U.S. Fish and Wildlife Service - <http://www.fws.gov/>

NRHP – National Register of Historic Places - <http://www.nps.gov/nr/>

Doyle Parcels – Doyle Land Services, Inc. <https://www.doyleland.com/>

Census/FLDOT – U.S. Census Bureau/Florida Department of Transportation - <http://www.census.gov/#/> / <http://www.dot.state.fl.us/>

National Atlas – National Atlas of the United States - <http://nationalatlas.gov/>

TBD – To Be Determined

TABLE 10.5.1-5

Comparison of Hugley to Lumpkin Route Alternative

Factor	Proposed Route	Hugley to Lumpkin Route Alternative	Information Sources
Length (miles)	31.86	31.24	GIS
Pipeline diameter (inches)	36	36	Engineering
Length adjacent to existing right-of-way (miles/percent)	31.86 / 100%	31.24 / 100%	Desktop
Nominal construction right-of-way width (feet)	100	100	GIS
Construction right-of-way (acres)	386.16	378.61	GIS
Permanent right-of-way (acres)	193.10	189.31	GIS
Construction impact on forest (acres)	118.62	162.59	NLCD
Operation impact on forest (acres)	58.12	80.46	NLCD
Construction impact on wetlands (acres)	8.56	10.17	NLCD
Operation impact on wetlands (acres)	5.61	5.13	NLCD
Karst features crossed (miles)	0.33	0.37	USGS
Waterbody crossings (minor-intermediate/major) (no.)	46	66	NHD
Critical habitat crossed (miles)	0.00	0.00	USFWS
Recreation and special interest areas crossed (no./miles)	0 / 0.00	0 / 0.00	Protected Area Database (USGS)
Previously recorded cultural resources affected (no.)	0	0	NRHP
Tracts affected (no.)	185	169	Doyle Parcels
Residences within 50 feet of the construction right-of-way (no.)	2	1	Desktop
Road crossings (no.)	39	36	Census/FLDOT
Railroad crossings (no.)	3	3	National Atlas

Notes:

- Construction right-of-way or impacts based on a 100-foot-wide ROW.
- Construction impact on wetlands based on a 75-foot-wide ROW.
- Permanent right-of-way or Operation impacts based on a 50-foot-wide ROW.

Information Sources:

- GIS – Analysis based on Geodatabase layers and shapefiles.
- NLCD – 2006 National Land Cover Data - <http://www.epa.gov/mlrc/nlcd-2006.html>
- USGS – U.S. Geological Survey - <http://www.usgs.gov/>
- NHD – National Hydrography Dataset - <http://nhd.usgs.gov/>
- USFWS – U.S. Fish and Wildlife Service - <http://www.fws.gov/>
- NRHP – National Register of Historic Places - <http://www.nps.gov/nr/>
- Doyle Parcels – Doyle Land Services, Inc. <https://www.doyleland.com/>
- Census/FLDOT – U.S. Census Bureau/Florida Department of Transportation - <http://www.census.gov/#/> / <http://www.dot.state.fl.us/>
- National Atlas – National Atlas of the United States - <http://nationalatlas.gov/>
- TBD – To Be Determined

TABLE 10.5.1-6

Comparison of Interstate 75 Route Alternative

Factor	Proposed Route	Interstate 75 Route Alternative ^{a/}	Information Sources
Length (miles)	158.64	185.38	GIS
Pipeline diameter (inches)	36 Mainline 24 Lateral	36 Mainline 24 Lateral	Engineering
Length adjacent to existing right-of-way (miles/percent)	68.55 / 43%	185.38 / 100%	Desktop
Nominal construction right-of-way width (feet)	100	100	GIS
Construction right-of-way (acres)	1922.63	2246.01	GIS
Permanent right-of-way (acres)	961.37	1123.27	GIS
Construction impact on forest (acres)	284.62	459.33	NLCD
Operation impact on forest (acres)	142.64	230.67	NLCD
Construction impact on wetlands (acres)	182.04	257.24	NLCD
Operation impact on wetlands (acres)	121.42	171.37	NLCD
Karst features crossed (miles)	158.64	185.38	USGS
Waterbody crossings (minor-intermediate/major) (no.)	43	43	NHD
Critical habitat crossed (miles)	0.00	0.00	USFWS
Recreation and special interest areas crossed (no./miles)	12 / 19.65	8 / 11.4	Protected Area Database (USGS)
Previously recorded cultural resources affected (no.)	0	0	NRHP
Tracts affected (no.)	1067	1098	FL Parcels/ Doyle Parcels
Residences within 50 feet of the construction right-of-way (no.)	13	120	Desktop
Road crossings (no.)	218	275	Census/FLDOT
Railroad crossings (no.)	3	4	National Atlas

^{a/} Includes an interconnect from the Interstate 75 Route Alternative route to the Citrus County Lateral.

Notes:

- Construction right-of-way or impacts based on a 100-foot-wide ROW.
- Construction impact on wetlands based on a 75-foot-wide ROW.
- Permanent right-of-way or Operation impacts based on a 50-foot-wide ROW.

Information Sources:

- GIS – Analysis based on Geodatabase layers and shapefiles.
- NLCD – 2006 National Land Cover Data - <http://www.epa.gov/mrlc/nlcd-2006.html>
- USGS – U.S. Geological Survey - <http://www.usgs.gov/>
- NHD – National Hydrography Dataset - <http://nhd.usgs.gov/>
- USFWS – U.S. Fish and Wildlife Service - <http://www.fws.gov/>
- NRHP – National Register of Historic Places - <http://www.nps.gov/nr/>
- FL Parcels – Florida Parcel Data–2012 - . http://www.fgdl.org/metadata/fgdc.html/parcels_2012.fgdc.htm
- Doyle Parcels – Doyle Land Services, Inc. <https://www.doyleland.com/>
- Census/FLDOT – U.S. Census Bureau/Florida Department of Transportation - <http://www.census.gov/#/> / <http://www.dot.state.fl.us/>
- National Atlas – National Atlas of the United States - <http://nationalatlas.gov/>
- TBD – To Be Determined

TABLE 10.5.1-7

Comparison of FGT Central Florida Hub Route Alternative

Factor	Proposed Route	FGT Central Florida Hub Route Alternative ^{a/}	Information Sources
Length (miles)	166.99	220.38	GIS
Pipeline diameter (inches)	36 Mainline 24 Lateral	36 Mainline 24 Lateral	Engineering
Length adjacent to existing right-of-way (miles/percent)	48.68 / 29%	168.23 / 76%	Desktop
Nominal construction right-of-way width (feet)	100	100	GIS
Construction right-of-way (acres)	2023.84	2669.76	GIS
Permanent right-of-way (acres)	1011.99	1335.24	GIS
Construction impact on forest (acres)	186.78	419.82	NLCD
Operation impact on forest (acres)	93.45	212.53	NLCD
Construction impact on wetlands (acres)	396.37	409.70	NLCD
Operation impact on wetlands (acres)	263.94	273.18	NLCD
Karst features crossed (miles)	166.99	220.38	USGS
Waterbody crossings (minor-intermediate/major) (no.)	90	89	NHD
Critical habitat crossed (miles)	0	0	USFWS
Recreation and special interest areas crossed (no./miles)	14 / 20.14	14 / 23.39	Protected Area Database (USGS)
Previously recorded cultural resources affected (no.)	0	0	NRHP
Tracts affected (no.)	1126	744	FL Parcels/ Doyle Parcels
Residences within 50 feet of the construction right-of-way (no.)	71	223	Desktop
Road crossings (no.)	186	373	Census/FLDOT
Railroad crossings (no.)	3	16	National Atlas

^{a/} Includes an interconnect from the FGT Central Florida Hub Route Alternative route to the Citrus County Lateral.

Notes:

- Construction right-of-way or impacts based on a 100-foot-wide ROW.
- Construction impact on wetlands based on a 75-foot-wide ROW.
- Permanent right-of-way or Operation impacts based on a 50-foot-wide ROW.

Information Sources:

- GIS – Analysis based on Geodatabase layers and shapefiles.
- NLCD – 2006 National Land Cover Data - <http://www.epa.gov/mrlc/nlcd-2006.html>
- USGS – U.S. Geological Survey - <http://www.usgs.gov/>
- NHD – National Hydrography Dataset - <http://nhd.usgs.gov/>
- USFWS – U.S. Fish and Wildlife Service - <http://www.fws.gov/>
- NRHP – National Register of Historic Places - <http://www.nps.gov/nr/>
- FL Parcels – Florida Parcel Data–2012 - . http://www.fgdl.org/metadata/fgdc.html/parcels_2012.fgdc.htm
- Doyle Parcels – Doyle Land Services, Inc. <https://www.doyleland.com/>
- Census/FLDOT – U.S. Census Bureau/Florida Department of Transportation - <http://www.census.gov/#> / <http://www.dot.state.fl.us/>
- National Atlas – National Atlas of the United States - <http://nationalatlas.gov/>
- TBD – To Be Determined

TABLE 10.5.1-8

Comparison of Gilchrist Westerly Route Alternative

Factor	Proposed Route	Gilchrist Westerly Route Alternative	Information Sources
Length (miles)	18.13	19.89	GIS
Pipeline diameter (inches)	36	36	Engineering
Length adjacent to existing right-of-way (miles/percent)	3.62 / 20%	18.81 / 95%	Desktop
Nominal construction right-of-way width (feet)	100	100	GIS
Construction right-of-way (acres)	219.72	241.02	GIS
Permanent right-of-way (acres)	109.87	120.53	GIS
Construction impact on forest (acres)	55.75	30.63	NLCD
Operation impact on forest (acres)	27.76	15.35	NLCD
Construction impact on wetlands (acres)	20.86	6.87	NLCD
Operation impact on wetlands (acres)	13.93	4.54	NLCD
Karst features crossed (miles)	18.13	19.89	USGS
Waterbody crossings (minor-intermediate/major) (no.)	4	2	NHD
Critical habitat crossed (miles)	0.00	0.00	USFWS
Recreation and special interest areas crossed (no./miles)	0 / 0.00	0 / 0.00	Protected Area Database (USGS)
Previously recorded cultural resources affected (no.)	0	0	NRHP
Tracts affected (no.)	92	96	Doyle Parcels
Residences within 50 feet of the construction right-of-way (no.)	0	0	Desktop
Road crossings (no.)	21	30	Census/FLDOT
Railroad crossings (no.)	0	0	National Atlas

Notes:

- Construction right-of-way or impacts based on a 100-foot-wide ROW.
- Construction impact on wetlands based on a 75-foot-wide ROW.
- Permanent right-of-way or Operation impacts based on a 50-foot-wide ROW.

Information Sources:

- GIS – Analysis based on Geodatabase layers and shapefiles.
- NLCD – 2006 National Land Cover Data - <http://www.epa.gov/mrlc/nlcd-2006.html>
- USGS – U.S. Geological Survey - <http://www.usgs.gov/>
- NHD – National Hydrography Dataset - <http://nhd.usgs.gov/>
- USFWS – U.S. Fish and Wildlife Service - <http://www.fws.gov/>
- NRHP – National Register of Historic Places - <http://www.nps.gov/nr/>
- Doyle Parcels – Doyle Land Services, Inc. <https://www.doyleland.com/>
- Census/FLDOT – U.S. Census Bureau/Florida Department of Transportation - <http://www.census.gov/#/> / <http://www.dot.state.fl.us/>
- National Atlas – National Atlas of the United States - <http://nationalatlas.gov/>
- TBD – To Be Determined

TABLE 10.5.1-9

Comparison of Waccasassa Flats Route Alternative

Factor	Proposed Route	Waccasassa Flats Route Alternative	Information Sources
Length (miles)	29.00	29.50	GIS
Pipeline diameter (inches)	36	36	Engineering
Length adjacent to existing right-of-way (miles/percent)	27.36 / 94%	0.00 / 0%	Desktop
Nominal construction right-of-way width (feet)	100	100	GIS
Construction right-of-way (acres)	351.46	357.61	GIS
Permanent right-of-way (acres)	175.74	178.80	GIS
Construction impact on forest (acres)	81.06	220.67	NLCD
Operation impact on forest (acres)	40.37	110.25	NLCD
Construction impact on wetlands (acres)	24.73	78.07	NLCD
Operation impact on wetlands (acres)	16.51	52.06	NLCD
Karst features crossed (miles)	29.00	29.50	USGS
Waterbody crossings (minor-intermediate/major) (no.)	5	11	NHD
Critical habitat crossed (miles)	0.00	0.00	USFWS
Recreation and special interest areas crossed (no./miles)	2 / 0.44	2 / 0.32	Protected Area Database (USGS)
Previously recorded cultural resources affected (no.)	0	0	NRHP
Tracts affected (no.)	52	86	Doyle Parcels
Residences within 50 feet of the construction right-of-way (no.)	0	0	Desktop
Road crossings (no.)	43	25	Census/FLDOT
Railroad crossings (no.)	1	1	National Atlas

Notes:

- Construction right-of-way or impacts based on a 100-foot-wide ROW.
- Construction impact on wetlands based on a 75-foot-wide ROW.
- Permanent right-of-way or Operation impacts based on a 50-foot-wide ROW.

Information Sources:

- GIS – Analysis based on Geodatabase layers and shapefiles.
- NLCD – 2006 National Land Cover Data - <http://www.epa.gov/mlrc/nlcd-2006.html>
- USGS – U.S. Geological Survey - <http://www.usgs.gov/>
- NHD – National Hydrography Dataset - <http://nhd.usgs.gov/>
- USFWS – U.S. Fish and Wildlife Service - <http://www.fws.gov/>
- NRHP – National Register of Historic Places - <http://www.nps.gov/nr/>
- Doyle Parcels – Doyle Land Services, Inc. <https://www.doyleland.com/>
- Census/FLDOT – U.S. Census Bureau/Florida Department of Transportation - <http://www.census.gov/#> / <http://www.dot.state.fl.us/>
- National Atlas – National Atlas of the United States - <http://nationalatlas.gov/>
- TBD – To Be Determined

TABLE 10.5.1-10

Comparison of Gulf Hammock Route Alternative

Factor	Proposed Route	Gulf Hammock Route Alternative	Information Sources
Length (miles)	34.06	38.98	GIS
Pipeline diameter (inches)	36	36	Engineering
Length adjacent to existing right-of-way (miles/percent)	31.95 / 94%	22.93 / 59%	Desktop
Nominal construction right-of-way width (feet)	100	100	GIS
Construction right-of-way (acres)	412.85	472.46	GIS
Permanent right-of-way (acres)	206.43	236.23	GIS
Construction impact on forest (acres)	38.68	265.72	NLCD
Operation impact on forest (acres)	19.42	133.71	NLCD
Construction impact on wetlands (acres)	8.95	54.89	NLCD
Operation impact on wetlands (acres)	5.86	36.27	NLCD
Karst features crossed (miles)	34.06	38.98	USGS
Waterbody crossings (minor-intermediate/major) (no.)	1	10	NHD
Critical habitat crossed (miles)	0.00	0.00	USFWS
Recreation and special interest areas crossed (no./miles)	1 / 0.10	4 / 8.64	Protected Area Database (USGS)
Previously recorded cultural resources affected (no.)	0	0	NRHP
Tracts affected (no.)	137	84	Doyle Parcels
Residences within 50 feet of the construction right-of-way (no.)	13	2	Desktop
Road crossings (no.)	34	41	Census/FLDOT
Railroad crossings (no.)	1	1	National Atlas

Notes:

- Construction right-of-way or impacts based on a 100-foot-wide ROW.
- Construction impact on wetlands based on a 75-foot-wide ROW.
- Permanent right-of-way or Operation impacts based on a 50-foot-wide ROW.

Information Sources:

- GIS – Analysis based on Geodatabase layers and shapefiles.
- NLCD – 2006 National Land Cover Data - <http://www.epa.gov/mrlc/nlcd-2006.html>
- USGS – U.S. Geological Survey - <http://www.usgs.gov/>
- NHD – National Hydrography Dataset - <http://nhd.usgs.gov/>
- USFWS – U.S. Fish and Wildlife Service - <http://www.fws.gov/>
- NRHP – National Register of Historic Places - <http://www.nps.gov/nr/>
- Doyle Parcels – Doyle Land Services, Inc. <https://www.doyleland.com/>
- Census/FLDOT – U.S. Census Bureau/Florida Department of Transportation - <http://www.census.gov/#/> / <http://www.dot.state.fl.us/>
- National Atlas – National Atlas of the United States - <http://nationalatlas.gov/>
- TBD – To Be Determined

TABLE 10.5.1-11

Comparison of Gum Slough Route Alternative

Factor	Proposed Route	Gum Slough Route Alternative	Information Sources
Length (miles)	34.72	37.06	GIS
Pipeline diameter (inches)	36	36	Engineering
Length adjacent to existing right-of-way (miles/percent)	0.00 / 0%	24.42 / 66%	Desktop
Nominal construction right-of-way width (feet)	100	100	GIS
Construction right-of-way (acres)	420.84	449.17	GIS
Permanent right-of-way (acres)	210.43	224.60	GIS
Construction impact on forest (acres)	3.39	17.11	NLCD
Operation impact on forest (acres)	1.79	8.65	NLCD
Construction impact on wetlands (acres)	124.99	122.00	NLCD
Operation impact on wetlands (acres)	83.19	81.32	NLCD
Karst features crossed (miles)	34.72	37.06	USGS
Waterbody crossings (minor-intermediate/major) (no.)	39	14	NHD
Critical habitat crossed (miles)	0.00	0.00	USFWS
Recreation and special interest areas crossed (no./miles)	4 / 9.26	1 / 0.67	Protected Area Database (USGS)
Previously recorded cultural resources affected (no.)	0	0	NRHP
Tracts affected (no.)	157	108	Doyle Parcels
Residences within 50 feet of the construction right-of-way (no.)	0	7	Desktop
Road crossings (no.)	35	49	Census/FLDOT
Railroad crossings (no.)	1	1	National Atlas

Notes:

- Construction right-of-way or impacts based on a 100-foot-wide ROW.
- Construction impact on wetlands based on a 75-foot-wide ROW.
- Permanent right-of-way or Operation impacts based on a 50-foot-wide ROW.

Information Sources:

- GIS – Analysis based on Geodatabase layers and shapefiles.
- NLCD – 2006 National Land Cover Data - <http://www.epa.gov/mrlc/nlcd-2006.html>
- USGS – U.S. Geological Survey - <http://www.usgs.gov/>
- NHD – National Hydrography Dataset - <http://nhd.usgs.gov/>
- USFWS – U.S. Fish and Wildlife Service - <http://www.fws.gov/>
- NRHP – National Register of Historic Places - <http://www.nps.gov/nr/>
- Doyle Parcels – Doyle Land Services, Inc. <https://www.doyleland.com/>
- Census/FLDOT – U.S. Census Bureau/Florida Department of Transportation - <http://www.census.gov/#/> / <http://www.dot.state.fl.us/>
- National Atlas – National Atlas of the United States - <http://nationalatlas.gov/>
- TBD – To Be Determined

TABLE 10.5.1-12

Comparison of Rails to Trails Route Alternative

Factor	Proposed Route	Rails to Trails Route Alternative	Information Sources
Length (miles)	20.14	22.10	GIS
Pipeline diameter (inches)	36	36	Engineering
Length adjacent to existing right-of-way (miles/percent)	0.77 / 4%	15.14 / 69 %	Desktop
Nominal construction right-of-way width (feet)	100	100	GIS
Construction right-of-way (acres)	244.07	267.91	GIS
Permanent right-of-way (acres)	122.04	133.96	GIS
Construction impact on forest (acres)	0.67	4.09	NLCD
Operation impact on forest (acres)	0.35	2.04	NLCD
Construction impact on wetlands (acres)	80.08	143.11	NLCD
Operation impact on wetlands (acres)	53.15	95.51	NLCD
Karst features crossed (miles)	20.14	22.10	USGS
Waterbody crossings (minor-intermediate/major) (no.)	17	14	NHD
Critical habitat crossed (miles)	0.00	0.00	USFWS
Recreation and special interest areas crossed (no./miles)	1 / 0.93	4 / 10.45	Protected Area Database (USGS)
Previously recorded cultural resources affected (no.)	0	0	NRHP
Tracts affected (no.)	6	3	Doyle Parcels
Residences within 50 feet of the construction right-of-way (no.)	1	0	Desktop
Road crossings (no.)	15	6	Census/FLDOT
Railroad crossings (no.)	0	0	National Atlas

Notes:

- Construction right-of-way or impacts based on a 100-foot-wide ROW.
- Construction impact on wetlands based on a 75-foot-wide ROW.
- Permanent right-of-way or Operation impacts based on a 50-foot-wide ROW.

Information Sources:

- GIS – Analysis based on Geodatabase layers and shapefiles.
- NLCD – 2006 National Land Cover Data - <http://www.epa.gov/mrlc/nlcd-2006.html>
- USGS – U.S. Geological Survey - <http://www.usgs.gov/>
- NHD – National Hydrography Dataset - <http://nhd.usgs.gov/>
- USFWS – U.S. Fish and Wildlife Service - <http://www.fws.gov/>
- NRHP – National Register of Historic Places - <http://www.nps.gov/nr/>
- Doyle Parcels – Doyle Land Services, Inc. <https://www.doyleland.com/>
- Census/FLDOT – U.S. Census Bureau/Florida Department of Transportation - <http://www.census.gov/#/> / <http://www.dot.state.fl.us/>
- National Atlas – National Atlas of the United States - <http://nationalatlas.gov/>
- TBD – To Be Determined

TABLE 10.5.2-1

Comparison of Sasser Deviation

Factor	Proposed Route	Sasser Deviation	Information Sources
Length (miles)	11.78	12.87	GIS
Pipeline diameter (inches)	36	36	Engineering
Length adjacent to existing right-of-way (miles/percent)	3.37 / 29%	6.45 / 50%	Desktop
Nominal construction right-of-way width (feet)	100	100	GIS
Construction right-of-way (acres)	142.72	155.99	GIS
Permanent right-of-way (acres)	71.36	77.99	GIS
Construction impact on forest (acres)	90.44	61.02	NLCD
Operation impact on forest (acres)	45.35	30.93	NLCD
Construction impact on wetlands (acres)	11.69	25.57	NLCD
Operation impact on wetlands (acres)	7.83	16.90	NLCD
Karst features crossed (miles)	11.78	12.87	USGS
Waterbody crossings (minor-intermediate/major) (no.)	6	19	NHD
Critical habitat crossed (miles)	0.00	0.00	USFWS
Recreation and special interest areas crossed (no./miles)	0 / 0.00	1 / 0.34	Protected Area Database (USGS)
Previously recorded cultural resources affected (no.)	0	0	NRHP
Tracts affected (no.)	48	20	Doyle Parcels
Residences within 50 feet of the construction right-of-way (no.)	0	2	Desktop
Road crossings (no.)	13	12	Census/FLDOT
Railroad crossings (no.)	0	0	National Atlas

Notes:

- Construction right-of-way or impacts based on a 100-foot-wide ROW.
- Construction impact on wetlands based on a 75-foot-wide ROW.
- Permanent right-of-way or Operation impacts based on a 50-foot-wide ROW.

Information Sources:

- GIS – Analysis based on Geodatabase layers and shapefiles.
- NLCD – 2006 National Land Cover Data - <http://www.epa.gov/mrlc/nlcd-2006.html>
- USGS – U.S. Geological Survey - <http://www.usgs.gov/>
- NHD – National Hydrography Dataset - <http://nhd.usgs.gov/>
- USFWS – U.S. Fish and Wildlife Service - <http://www.fws.gov/>
- NRHP – National Register of Historic Places - <http://www.nps.gov/nr/>
- Doyle Parcels – Doyle Land Services, Inc. <https://www.doyleland.com/> (Does not include Terrell County County, Georgia)
- Census/FLDOT – U.S. Census Bureau/Florida Department of Transportation - <http://www.census.gov/#/> / <http://www.dot.state.fl.us/>
- National Atlas – National Atlas of the United States - <http://nationalatlas.gov/>
- TBD – To Be Determined

TABLE 10.5.2-2

Comparison of Moultrie Deviations

Factor	Proposed Route	Deviation 1	Proposed Route	Deviation 2	Proposed Route	Deviation 3	Proposed Route	Deviation 4	Information Sources
Length (miles)	2.06	3.14	3.58	4.82	7.90	9.83	14.53	17.77	GIS
Pipeline diameter (inches)	36	36	36	36	36	36	36	36	Engineering
Length adjacent to existing right-of-way (miles/percent)	2.06 / 100%	0.00 / 0%	3.58 / 100%	0.00 / 0%	7.90 / 100%	5.12 / 52%	14.53 / 100%	0.00 / 0%	Desktop
Nominal construction right-of-way width (feet)	100	100	100	100	100	100	100	100	GIS
Construction right-of-way (acres)	25.01	38.03	43.33	58.45	95.78	119.07	176.05	215.39	GIS
Permanent right-of-way (acres)	12.50	19.02	21.67	29.22	47.90	59.54	88.03	107.70	GIS
Construction impact on forest (acres)	7.40	14.61	16.90	26.19	48.68	52.89	80.95	119.33	NLCD
Operation impact on forest (acres)	3.68	7.41	8.48	13.33	24.42	26.65	40.70	60.18	NLCD
Construction impact on wetlands (acres)	0.77	2.97	1.02	7.33	5.97	14.05	9.26	27.00	NLCD
Operation impact on wetlands (acres)	0.51	1.94	0.66	4.81	3.94	9.31	6.12	17.87	NLCD
Karst features crossed (miles)	2.06	3.14	3.58	4.82	7.90	9.83	14.53	17.77	USGS
Waterbody crossings (minor-intermediate/major) (no.)	3	10	5	12	10	20	19	31	NHD
Critical habitat crossed (miles)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	USFWS
Recreation and special interest areas crossed (no./miles)	0 / 0.00	0 / 0.00	0 / 0.00	0 / 0.00	1 / 0.56	1 / 0.73	1 / 0.56	0 / 0.00	Protected Area Database (USGS)
Previously recorded cultural resources affected (no.)	0	0	0	0	0	0	0	0	NRHP
Tracts affected (no.)	12	Unavailable	36	Unavailable	66	Unavailable	110	Unavailable	Doyle Parcels
Residences within 50 feet of the construction right-of-way (no.)	0	1	1	1	1	2	3	3	Desktop

TABLE 10.5.2-2

Comparison of Moultrie Deviations

Factor	Proposed Route	Deviation 1	Proposed Route	Deviation 2	Proposed Route	Deviation 3	Proposed Route	Deviation 4	Information Sources
Road crossings (no.)	6	8	10	8	17	14	26	29	Census/FLDOT
Railroad crossings (no.)	0	0	0	0	0	0	0	0	National Atlas

Notes:
 Construction right-of-way or impacts based on a 100-foot-wide ROW.
 Construction impact on wetlands based on a 75-foot-wide ROW.
 Permanent right-of-way or Operation impacts based on a 50-foot-wide ROW.

Information Sources:
 GIS – Analysis based on Geodatabase layers and shapefiles.
 NLCD – 2006 National Land Cover Data - <http://www.epa.gov/mlc/nlcd-2006.html>
 USGS – U.S. Geological Survey - <http://www.usgs.gov/>
 NHD – National Hydrography Dataset - <http://nhd.usgs.gov/>
 USFWS – U.S. Fish and Wildlife Service - <http://www.fws.gov/>
 NRHP – National Register of Historic Places - <http://www.nps.gov/nr/>
 Doyle Parcels – Doyle Land Services, Inc. <https://www.doyleland.com/> (Parcel data unavailable.)
 Census/FLDOT – U.S. Census Bureau/Florida Department of Transportation - <http://www.census.gov/#/> / <http://www.dot.state.fl.us/>
 National Atlas – National Atlas of the United States - <http://nationalatlas.gov/>
 TBD – To Be Determined

TABLE 10.5.2-3

Comparison of Spain Road Deviations

Factor	Proposed Route	Deviation 1	Proposed Route	Deviation 2	Information Sources
Length (miles)	0.87	1.19	0.24	0.29	GIS
Pipeline diameter (inches)	36	36	36	36	Engineering
Length adjacent to existing right-of-way (miles/percent)	0.87 / 100%	0.00 / 0%	0.24 / 100%	0.00 / 0%	Desktop
Nominal construction right-of-way width (feet)	100	100	100	100	GIS
Construction right-of-way (acres)	10.58	14.35	2.97	3.54	GIS
Permanent right-of-way (acres)	5.29	7.18	1.48	1.77	GIS
Construction impact on forest (acres)	3.74	3.19	0.51	0.44	NLCD
Operation impact on forest (acres)	1.79	1.65	0.25	0.23	NLCD
Construction impact on wetlands (acres)	0.89	0.73	0.00	0.00	NLCD
Operation impact on wetlands (acres)	0.61	0.43	0.00	0.00	NLCD
Karst features crossed (miles)	0.87	1.19	0.24	0.29	USGS
Waterbody crossings (minor-intermediate/major) (no.)	1	1	0	0	NHD
Critical habitat crossed (miles)	0.00	0.00	0.00	0.00	USFWS
Recreation and special interest areas crossed (no./miles)	0 / 0.00	0 / 0.00	0 / 0.00	0 / 0.00	Protected Area Database (USGS)
Previously recorded cultural resources affected (no.)	0	0	0	0	NRHP
Tracts affected (no.)	2	3	2	4	Doyle Parcels
Residences within 50 feet of the construction right-of-way (no.)	0	0	0	0	Desktop
Road crossings (no.)	2	1	1	1	Census/FLDOT
Railroad crossings (no.)	0	0	0	0	National Atlas

Notes:

Construction right-of-way or impacts based on a 100-foot-wide ROW.

Construction impact on wetlands based on a 75-foot-wide ROW.

Permanent right-of-way or Operation impacts based on a 50-foot-wide ROW.

Information Sources:

GIS – Analysis based on Geodatabase layers and shapefiles.

NLCD – 2006 National Land Cover Data - <http://www.epa.gov/mrlc/nlcd-2006.html>

USGS – U.S. Geological Survey - <http://www.usgs.gov/>

NHD – National Hydrography Dataset - <http://nhd.usgs.gov/>

USFWS – U.S. Fish and Wildlife Service - <http://www.fws.gov/>

NRHP – National Register of Historic Places - <http://www.nps.gov/nr/>

Doyle Parcels – Doyle Land Services, Inc. <https://www.doyleland.com/>

Census/FLDOT – U.S. Census Bureau/Florida Department of Transportation - <http://www.census.gov/#> / <http://www.dot.state.fl.us/>

National Atlas – National Atlas of the United States - <http://nationalatlas.gov/>

TBD – To Be Determined

TABLE 10.5.2-4

Comparison of Rocky Ford Road Deviation

Factor	Proposed Route	Rocky Ford Road Deviation	Information Sources
Length (miles)	0.87	0.97	GIS
Pipeline diameter (inches)	36	36	Engineering
Length adjacent to existing right-of-way (miles/percent)	0.87 / 100%	0.00 / 0%	Desktop
Nominal construction right-of-way width (feet)	100	100	GIS
Construction right-of-way (acres)	10.55	11.81	GIS
Permanent right-of-way (acres)	5.28	5.90	GIS
Construction impact on forest (acres)	5.32	5.19	NLCD
Operation impact on forest (acres)	2.66	2.59	NLCD
Construction impact on wetlands (acres)	0.00	0.00	NLCD
Operation impact on wetlands (acres)	0.00	0.00	NLCD
Karst features crossed (miles)	0.87	0.97	USGS
Waterbody crossings (minor-intermediate/major) (no.)	0	0	NHD
Critical habitat crossed (miles)	0.00	0.00	USFWS
Recreation and special interest areas crossed (no./miles)	0 / 0.00	0 / 0.00	Protected Area Database (USGS)
Previously recorded cultural resources affected (no.)	0	0	NRHP
Tracts affected (no.)	7	4	Doyle Parcels
Residences within 50 feet of the construction right-of-way (no.)	2	0	Desktop
Road crossings (no.)	2	1	Census/FLDOT
Railroad crossings (no.)	0	0	National Atlas

Notes:

- Construction right-of-way or impacts based on a 100-foot-wide ROW.
- Construction impact on wetlands based on a 75-foot-wide ROW.
- Permanent right-of-way or Operation impacts based on a 50-foot-wide ROW.

Information Sources:

- GIS – Analysis based on Geodatabase layers and shapefiles.
- NLCD – 2006 National Land Cover Data - <http://www.epa.gov/mrlc/nlcd-2006.html>
- USGS – U.S. Geological Survey - <http://www.usgs.gov/>
- NHD – National Hydrography Dataset - <http://nhd.usgs.gov/>
- USFWS – U.S. Fish and Wildlife Service - <http://www.fws.gov/>
- NRHP – National Register of Historic Places - <http://www.nps.gov/nr/>
- Doyle Parcels – Doyle Land Services, Inc. <https://www.doyleland.com/>
- Census/FLDOT – U.S. Census Bureau/Florida Department of Transportation - <http://www.census.gov/#/> / <http://www.dot.state.fl.us/>
- National Atlas – National Atlas of the United States - <http://nationalatlas.gov/>
- TBD – To Be Determined

TABLE 10.5.2-5

Comparison of Ginnie Springs Deviation

Factor	Proposed Route (Ginnie Springs Deviation)	Original Route	Information Sources
Length (miles)	12.73	13.19	GIS
Pipeline diameter (inches)	36	36	Engineering
Length adjacent to existing right-of-way (miles/percent)	5.46 / 43%	6.35 / 48%	Desktop
Nominal construction right-of-way width (feet)	100	100	GIS
Construction right-of-way (acres)	154.30	159.83	GIS
Permanent right-of-way (acres)	77.15	79.91	GIS
Construction impact on forest (acres)	51.29	34.67	NLCD
Operation impact on forest (acres)	25.27	17.03	NLCD
Construction impact on wetlands (acres)	24.00	7.12	NLCD
Operation impact on wetlands (acres)	16.06	4.69	NLCD
Karst features crossed (miles)	12.73	13.19	USGS
Waterbody crossings (minor-intermediate/major) (no.)	5	4	NHD
Critical habitat crossed (miles)	0.00	0.00	USFWS
Recreation and special interest areas crossed (no./miles)	0 / 0.00	0 / 0.00	Protected Area Database (USGS)
Previously recorded cultural resources affected (no.)	0	0	NRHP
Tracts affected (no.)	34	84	FL Parcels/ Doyle Parcels
Residences within 50 feet of the construction right-of- way (no.)	0	4	Desktop
Road crossings (no.)	16	13	Census/FLDOT
Railroad crossings (no.)	0	0	National Atlas

Notes:

- Construction right-of-way or impacts based on a 100-foot-wide ROW.
- Construction impact on wetlands based on a 75-foot-wide ROW.
- Permanent right-of-way or Operation impacts based on a 50-foot-wide ROW.

Information Sources:

- GIS – Analysis based on Geodatabase layers and shapefiles.
- NLCD – 2006 National Land Cover Data - <http://www.epa.gov/mrlc/nlcd-2006.html>
- USGS – U.S. Geological Survey - <http://www.usgs.gov/>
- NHD – National Hydrography Dataset - <http://nhd.usgs.gov/>
- USFWS – U.S. Fish and Wildlife Service - <http://www.fws.gov/>
- NRHP – National Register of Historic Places - <http://www.nps.gov/nr/>
- FL Parcels – Florida Parcel Data–2012 - . http://www.fgdl.org/metadata/fgdc.html/parcels_2012.fgdc.htm
- Doyle Parcels – Doyle Land Services, Inc. <https://www.doyleland.com/>
- Census/FLDOT – U.S. Census Bureau/Florida Department of Transportation - <http://www.census.gov/#/> / <http://www.dot.state.fl.us/>
- National Atlas – National Atlas of the United States - <http://nationalatlas.gov/>
- TBD – To Be Determined

TABLE 10.5.2-6

Comparison of Goethe Deviation

Factor	Proposed Route (Goethe Deviation)	Original Route	Information Sources
Length (miles)	1.93	1.73	GIS
Pipeline diameter (inches)	36	36	Engineering
Length adjacent to existing right-of-way (miles/percent)	0.78 / 40%	0.00 / 0%	Desktop
Nominal construction right-of-way width (feet)	100	100	GIS
Construction right-of-way (acres)	23.38	21.00	GIS
Permanent right-of-way (acres)	11.69	10.50	GIS
Construction impact on forest (acres)	5.63	4.38	NLCD
Operation impact on forest (acres)	2.92	2.19	NLCD
Construction impact on wetlands (acres)	1.86	5.28	NLCD
Operation impact on wetlands (acres)	1.22	3.53	NLCD
Karst features crossed (miles)	1.93	1.73	USGS
Waterbody crossings (minor-intermediate/major) (no.)	1	1	NHD
Critical habitat crossed (miles)	0.00	0.00	USFWS
Recreation and special interest areas crossed (no./miles)	0 / 0.00	0 / 0.00	Protected Area Database (USGS)
Previously recorded cultural resources affected (no.)	0	0	NRHP
Tracts affected (no.)	9	8	Doyle Parcels
Residences within 50 feet of the construction right-of-way (no.)	1	1	Desktop
Road crossings (no.)	2	3	Census/FLDOT
Railroad crossings (no.)	0	0	National Atlas

Notes:

- Construction right-of-way or impacts based on a 100-foot-wide ROW.
- Construction impact on wetlands based on a 75-foot-wide ROW.
- Permanent right-of-way or Operation impacts based on a 50-foot-wide ROW.

Information Sources:

- GIS – Analysis based on Geodatabase layers and shapefiles.
- NLCD – 2006 National Land Cover Data - <http://www.epa.gov/mrlc/nlcd-2006.html>
- USGS – U.S. Geological Survey - <http://www.usgs.gov/>
- NHD – National Hydrography Dataset - <http://nhd.usgs.gov/>
- USFWS – U.S. Fish and Wildlife Service - <http://www.fws.gov/>
- NRHP – National Register of Historic Places - <http://www.nps.gov/nr/>
- Doyle Parcels – Doyle Land Services, Inc. <https://www.doyleland.com/>
- Census/FLDOT – U.S. Census Bureau/Florida Department of Transportation - <http://www.census.gov/#/> / <http://www.dot.state.fl.us/>
- National Atlas – National Atlas of the United States - <http://nationalatlas.gov/>
- TBD – To Be Determined

TABLE 10.5.2-7

Comparison of Dunnellon Railroad Deviation

Factor	Proposed Route	Dunnellon Railroad Deviation	Information Sources
Length (miles)	1.79	2.24	GIS
Pipeline diameter (inches)	36	36	Engineering
Length adjacent to existing right-of-way (miles/percent)	0.00 / 0%	1.88 / 84%	Desktop
Nominal construction right-of-way width (feet)	100	100	GIS
Construction right-of-way (acres)	21.67	27.19	GIS
Permanent right-of-way (acres)	10.83	13.60	GIS
Construction impact on forest (acres)	2.53	6.94	NLCD
Operation impact on forest (acres)	1.34	3.38	NLCD
Construction impact on wetlands (acres)	1.50	0.00	NLCD
Operation impact on wetlands (acres)	0.99	0.00	NLCD
Karst features crossed (miles)	1.79	2.24	USGS
Waterbody crossings (minor-intermediate/major) (no.)	0	0	NHD
Critical habitat crossed (miles)	0.00	0.00	USFWS
Recreation and special interest areas crossed (no./miles)	0 / 0.00	0 / 0.00	Protected Area Database (USGS)
Previously recorded cultural resources affected (no.)	0	0	NRHP
Tracts affected (no.)	10	3	FL Parcels/ Doyle Parcels
Residences within 50 feet of the construction right-of-way (no.)	1	3	Desktop
Road crossings (no.)	2	3	Census/FLDOT
Railroad crossings (no.)	0	0	National Atlas

Notes:

- Construction right-of-way or impacts based on a 100-foot-wide ROW.
- Construction impact on wetlands based on a 75-foot-wide ROW.
- Permanent right-of-way or Operation impacts based on a 50-foot-wide ROW.

Information Sources:

- GIS – Analysis based on Geodatabase layers and shapefiles.
- NLCD – 2006 National Land Cover Data - <http://www.epa.gov/mrlc/nlcd-2006.html>
- USGS – U.S. Geological Survey - <http://www.usgs.gov/>
- NHD – National Hydrography Dataset - <http://nhd.usgs.gov/>
- USFWS – U.S. Fish and Wildlife Service - <http://www.fws.gov/>
- NRHP – National Register of Historic Places - <http://www.nps.gov/nr/>
- FL Parcels – Florida Parcel Data–2012 - . http://www.fgdl.org/metadata/fgdc.html/parcels_2012.fgdc.htm
- Doyle Parcels – Doyle Land Services, Inc. <https://www.doyleland.com/>
- Census/FLDOT – U.S. Census Bureau/Florida Department of Transportation - <http://www.census.gov/#> / <http://www.dot.state.fl.us/>
- National Atlas – National Atlas of the United States - <http://nationalatlas.gov/>
- TBD – To Be Determined

TABLE 10.5.2-8
Comparison of Reroute 71

Factor	Proposed Route	Reroute 71	Information Sources
Length (miles)	0.76	1.04	GIS
Pipeline diameter (inches)	36	36	Engineering
Length adjacent to existing right-of-way (miles/percent)	0.00 / 0%	0.82 / 79%	Desktop
Nominal construction right-of-way width (feet)	100	100	GIS
Construction right-of-way (acres)	9.20	12.66	GIS
Permanent right-of-way (acres)	4.60	6.33	GIS
Construction impact on forest (acres)	0.00	0.00	NLCD
Operation impact on forest (acres)	0.00	0.00	NLCD
Construction impact on wetlands (acres)	6.46	7.57	NLCD
Operation impact on wetlands (acres)	4.31	5.06	NLCD
Karst features crossed (miles)	0.76	1.04	USGS
Waterbody crossings (minor-intermediate/major) (no.)	1	1	NHD
Critical habitat crossed (miles)	0.00	0.00	USFWS
Recreation and special interest areas crossed (no./miles)	0 / 0.00	0 / 0.00	Protected Area Database (USGS)
Previously recorded cultural resources affected (no.)	0	0	NRHP
Tracts affected (no.)	5	6	Doyle Parcels
Residences within 50 feet of the construction right-of-way (no.)	0	0	Desktop
Road crossings (no.)	1	1	Census/FLDOT
Railroad crossings (no.)	0	0	National Atlas

Notes:

- Construction right-of-way or impacts based on a 100-foot-wide ROW.
- Construction impact on wetlands based on a 75-foot-wide ROW.
- Permanent right-of-way or Operation impacts based on a 50-foot-wide ROW.

Information Sources:

GIS – Analysis based on Geodatabase layers and shapefiles.
 NLCD – 2006 National Land Cover Data - <http://www.epa.gov/mrlc/nlcd-2006.html>
 USGS – U.S. Geological Survey - <http://www.usgs.gov/>
 NHD – National Hydrography Dataset - <http://nhd.usgs.gov/>
 USFWS – U.S. Fish and Wildlife Service - <http://www.fws.gov/>
 NRHP – National Register of Historic Places - <http://www.nps.gov/nr/>
 Doyle Parcels – Doyle Land Services, Inc. <https://www.doyleland.com/>
 Census/FLDOT – U.S. Census Bureau/Florida Department of Transportation - <http://www.census.gov/#> / <http://www.dot.state.fl.us/>
 National Atlas – National Atlas of the United States - <http://nationalatlas.gov/>
 TBD – To Be Determined

TABLE 10.5.2-9

Comparison of Seminole Land Deviations

Factor	Proposed Route (Deviation 1)	Original Route	Proposed Route	Deviation 2	Information Sources
Length (miles)	10.72	10.56	10.72	11.50	GIS
Pipeline diameter (inches)	36	36	36	36	Engineering
Length adjacent to existing right-of-way (miles/percent)	3.41 / 32%	2.74 / 26%	3.41 / 32%	0.00 / 0%	Desktop
Nominal construction right-of-way width (feet)	100	100	100	100	GIS
Construction right-of-way (acres)	129.89	127.93	129.89	139.34	GIS
Permanent right-of-way (acres)	64.95	63.97	64.95	69.67	GIS
Construction impact on forest (acres)	0.00	0.00	0.00	0.00	NLCD
Operation impact on forest (acres)	0.00	0.00	0.00	0.00	NLCD
Construction impact on wetlands (acres)	40.34	56.58	40.34	46.75	NLCD
Operation impact on wetlands (acres)	26.86	37.82	26.86	31.28	NLCD
Karst features crossed (miles)	10.72	10.56	10.72	11.50	USGS
Waterbody crossings (minor-intermediate/major) (no.)	14	7	14	9	NHD
Critical habitat crossed (miles)	0.00	0.00	0.00	0.00	USFWS
Recreation and special interest areas crossed (no./miles)	0 / 0.00	0 / 0.00	0 / 0.00	0 / 0.00	Protected Area Database (USGS)
Previously recorded cultural resources affected (no.)	0	0	0	0	NRHP
Tracts affected (no.)	48	54	48	52	Doyle Parcels
Residences within 50 feet of the construction right-of-way (no.)	0	1	0	2	Desktop
Road crossings (no.)	8	6	8	8	Census/FLDOT
Railroad crossings (no.)	0	0	0	0	National Atlas

Notes:

- Construction right-of-way or impacts based on a 100-foot-wide ROW.
- Construction impact on wetlands based on a 75-foot-wide ROW.
- Permanent right-of-way or Operation impacts based on a 50-foot-wide ROW.

Information Sources:

- GIS – Analysis based on Geodatabase layers and shapefiles.
- NLCD – 2006 National Land Cover Data - <http://www.epa.gov/mrlc/nlcd-2006.html>
- USGS – U.S. Geological Survey - <http://www.usgs.gov/>
- NHD – National Hydrography Dataset - <http://nhd.usgs.gov/>
- USFWS – U.S. Fish and Wildlife Service - <http://www.fws.gov/>
- NRHP – National Register of Historic Places - <http://www.nps.gov/nr/>
- Doyle Parcels – Doyle Land Services, Inc. <https://www.doyleland.com/>
- Census/FLDOT – U.S. Census Bureau/Florida Department of Transportation - <http://www.census.gov/#> / <http://www.dot.state.fl.us/>
- National Atlas – National Atlas of the United States - <http://nationalatlas.gov/>
- TBD – To Be Determined

TABLE 10.5.2-10

Comparison of Audubon Deviations

Factor	Proposed Route	Deviation 1	Proposed Route	Deviation 2	Proposed Route	Deviation 3	Information Sources
Length (miles)	6.80	11.77	12.73	12.87	10.35	11.30	GIS
Pipeline diameter (inches)	36	36	36	36	36	36	Engineering
Length adjacent to existing right-of-way (miles/percent)	0.58 / 9%	11.77 / 100%	0.77 / 6%	6.36 / 49%	2.47 / 24%	11.30 / 100%	Desktop
Nominal construction right-of-way width (feet)	100	100	100	100	100	100	GIS
Construction right-of-way (acres)	82.37	142.71	154.27	156.00	125.51	136.99	GIS
Permanent right-of-way (acres)	41.19	71.36	77.14	78.00	67.75	68.49	GIS
Construction impact on forest (acres)	2.13	23.51	0.67	0.00	0.18	1.72	NLCD
Operation impact on forest (acres)	1.05	11.99	0.35	0.00	0.12	0.93	NLCD
Construction impact on wetlands (acres)	23.95	13.92	41.21	47.88	67.62	29.02	NLCD
Operation impact on wetlands (acres)	15.95	9.27	27.28	32.28	45.02	19.91	NLCD
Karst features crossed (miles)	6.80	11.77	12.73	12.87	10.35	11.30	USGS
Waterbody crossings (minor-intermediate/major) (no.)	0	0	9	15	11	2	NHD
Critical habitat crossed (miles)	0.00	0.00	0.00	0.00	0.00	0.00	USFWS
Recreation and special interest areas crossed (no./miles)	2 / 6.02	2 / 1.66	1 / 0.93	0 / 0.00	2 / 2.89	1 / 1.08	Protected Area Database (USGS)
Previously recorded cultural resources affected (no.)	0	0	0	0	0	0	NRHP
Tracts affected (no.)	81	57	48	52	11	130	FL Parcels
Residences within 50 feet of the construction right-of-way (no.)	0	36	1	10	28	46	Desktop
Road crossings (no.)	3	22	9	23	7	25	Census/FLDOT
Railroad crossings (no.)	0	0	0	0	0	0	National Atlas

Notes:

Construction right-of-way or impacts based on a 100-foot-wide ROW.

Construction impact on wetlands based on a 75-foot-wide ROW.

Permanent right-of-way or Operation impacts based on a 50-foot-wide ROW.

Information Sources:

GIS – Analysis based on Geodatabase layers and shapefiles.

NLCD – 2006 National Land Cover Data - <http://www.epa.gov/mrlc/nlcd-2006.html>

USGS – U.S. Geological Survey - <http://www.usgs.gov/>

NHD – National Hydrography Dataset - <http://nhd.usgs.gov/>

USFWS – U.S. Fish and Wildlife Service - <http://www.fws.gov/>

NRHP – National Register of Historic Places - <http://www.nps.gov/nr/>

FL Parcels – Florida Parcel Data–2012 - . http://www.fgdl.org/metadata/fgdc_html/parcels_2012_fgdc.htm

Census/FLDOT – U.S. Census Bureau/Florida Department of Transportation - <http://www.census.gov/#/> / <http://www.dot.state.fl.us/>

National Atlas – National Atlas of the United States - <http://nationalatlas.gov/>

TBD – To Be Determined

TABLE 10.5.2-11

Comparison of Celebration Deviation

Factor	Proposed Route (Celebration Deviation)	Original Route	Information Sources
Length (miles)	2.20	2.00	GIS
Pipeline diameter (inches)	36	36	Engineering
Length adjacent to existing right-of-way (miles/percent)	0.00 / 0%	0.75 / 38%	Desktop
Nominal construction right-of-way width (feet)	100	100	GIS
Construction right-of-way (acres)	26.64	24.29	GIS
Permanent right-of-way (acres)	13.32	12.15	GIS
Construction impact on forest (acres)	0.00	0.00	NLCD
Operation impact on forest (acres)	0.00	0.00	NLCD
Construction impact on wetlands (acres)	14.22	9.29	NLCD
Operation impact on wetlands (acres)	9.47	6.22	NLCD
Karst features crossed (miles)	2.20	2.00	USGS
Waterbody crossings (minor-intermediate/major) (no.)	5	1	NHD
Critical habitat crossed (miles)	0.00	0.00	USFWS
Recreation and special interest areas crossed (no./miles)	0 / 0.00	0 / 0.00	Protected Area Database (USGS)
Previously recorded cultural resources affected (no.)	0	0	NRHP
Tracts affected (no.)	18	13	Doyle Parcels
Residences within 50 feet of the construction right-of-way (no.)	0	0	Desktop
Road crossings (no.)	4	4	Census/FLDOT
Railroad crossings (no.)	0	0	National Atlas

Notes:

- Construction right-of-way or impacts based on a 100-foot-wide ROW.
- Construction impact on wetlands based on a 75-foot-wide ROW.
- Permanent right-of-way or Operation impacts based on a 50-foot-wide ROW.

Information Sources:

- GIS – Analysis based on Geodatabase layers and shapefiles.
- NLCD – 2006 National Land Cover Data - <http://www.epa.gov/mrlc/nlcd-2006.html>
- USGS – U.S. Geological Survey - <http://www.usgs.gov/>
- NHD – National Hydrography Dataset - <http://nhd.usgs.gov/>
- USFWS – U.S. Fish and Wildlife Service - <http://www.fws.gov/>
- NRHP – National Register of Historic Places - <http://www.nps.gov/nr/>
- Doyle Parcels – Doyle Land Services, Inc. <https://www.doyleland.com/>
- Census/FLDOT – U.S. Census Bureau/Florida Department of Transportation - <http://www.census.gov/#/> / <http://www.dot.state.fl.us/>
- National Atlas – National Atlas of the United States - <http://nationalatlas.gov/>
- TBD – To Be Determined

TABLE 10.5.2-12

Comparison of Hunters Creek Lateral Reroutes

Factor	Proposed Route (Reroute 53)	Original Route	Proposed Route (Reroute 42)	Original Route	Information Sources
Length (miles)	5.10	6.38	1.27	1.22	GIS
Pipeline diameter (inches)	36	36	36	36	Engineering
Length adjacent to existing right-of-way (miles/percent)	0.00 / 0%	4.06 / 64%	0.00 / 0%	0.00 / 0%	Desktop
Nominal construction right-of-way width (feet)	100	100	100	100	GIS
Construction right-of-way (acres)	61.85	77.36	15.38	14.84	GIS
Permanent right-of-way (acres)	30.93	38.68	7.69	7.41	GIS
Construction impact on forest (acres)	0.00	0.00	0.00	0.00	NLCD
Operation impact on forest (acres)	0.00	0.00	0.00	0.00	NLCD
Construction impact on wetlands (acres)	30.48	34.44	8.53	8.02	NLCD
Operation impact on wetlands (acres)	20.29	23.16	5.69	5.36	NLCD
Karst features crossed (miles)	5.10	6.38	1.27	1.22	USGS
Waterbody crossings (minor-intermediate/major) (no.)	3	6	3	1	NHD
Critical habitat crossed (miles)	0.00	0.00	0.00	0.00	USFWS
Recreation and special interest areas crossed (no./miles)	0 / 0.00	0 / 0.00	0 / 0.00	0 / 0.00	Protected Area Database (USGS)
Previously recorded cultural resources affected (no.)	0	0	0	0	NRHP
Tracts affected (no.)	10	28	13	12	Doyle Parcels
Residences within 50 feet of the construction right-of-way (no.)	17	4	9	4	Desktop
Road crossings (no.)	9	14	4	4	Census/FLDOT
Railroad crossings (no.)	0	0	0	0	National Atlas

Notes:

- Construction right-of-way or impacts based on a 100-foot-wide ROW.
- Construction impact on wetlands based on a 75-foot-wide ROW.
- Permanent right-of-way or Operation impacts based on a 50-foot-wide ROW.

Information Sources:

- GIS – Analysis based on Geodatabase layers and shapefiles.
- NLCD – 2006 National Land Cover Data - <http://www.epa.gov/mrlc/nlcd-2006.html>
- USGS – U.S. Geological Survey - <http://www.usgs.gov/>
- NHD – National Hydrography Dataset - <http://nhd.usgs.gov/>
- USFWS – U.S. Fish and Wildlife Service - <http://www.fws.gov/>
- NRHP – National Register of Historic Places - <http://www.nps.gov/nr/>
- Doyle Parcels – Doyle Land Services, Inc. <https://www.doyleland.com/>
- Census/FLDOT – U.S. Census Bureau/Florida Department of Transportation - <http://www.census.gov/#> / <http://www.dot.state.fl.us/>
- National Atlas – National Atlas of the United States - <http://nationalatlas.gov/>
- TBD – To Be Determined

TABLE 10.5.3-1

Route Variations Incorporated into the Proposed Sabal Trail Project Pipeline Route

Reroute Name	Milepost Range	Approximate Length (miles)	Variation Description	Justification
Reroute 4	410.00 - 420.20	10.20	Reroute proceeds in generally southeasterly direction for 7.3 miles and then continues to the intersection with the existing route for 3.5 miles.	Avoid Seminole Indians sites and surface mine.
Reroute 7	381.00 - 382.50	1.50	At PI near MP 381, angle directly back to existing route and eliminate PI at MP 382.5.	Avoid residential development and reduce route length.
Reroute 8	197.35 - 198.80	1.45	Reroute to avoid large residential development.	Avoid residential development.
Reroute 10	148.00 - 149.50	1.50	At MP 147.1 the reroute turns south to parallel property line to a point near MP 147.5, then the reroute turns southwest to intersect the original route at MP 147.7.	Avoid residential development.
Reroute 11	254.76 - 255.20	0.44	At MP 253.0 the reroute turns southeast and crosses the highway at a 60 degree angle. Then turns south and runs along the highway ROW line to intersect the original route at MP 253.3.	Avoid sinkhole area.
Reroute 12	146.00 - 146.90	0.90	At MP 146.0 the reroute turns southwest to go around first pond to a point near MP 146.5, then the reroute turns south to intersect the original route at MP 146.9.	Avoid residence and pond.
Reroute 13	244.30 - 246.00	1.70	Reroute around large forested wetlands to improve constructability.	Avoid large forested wetland.
Reroute 15	281.86 - 282.08	0.22	Reroute to avoid nearby residents.	Avoid residences.
Reroute 16	456.70 - 458.30	1.60	Reroute to avoid nearby residential development and extend tangent for HDD crossing of toll way.	Avoid residences/ extend tangent for HDD.
Reroute 17	460.01 - 461.80	1.79	Minimize impacts to development property.	Avoid development property.
Reroute 18	355.10 - 356.40	1.30	Reroute to avoid landowner property, underground utilities, and existing FGT gas line. Minimizes impact on future building plans.	Minimize impact to landowner property and avoid sand mine.
Reroute 19	347.20 - 347.73	0.53	Reroute to avoid landowner property, communications tower and underground utilities between tower and house.	Minimize impact to landowner property.
Reroute 20	339.25 - 341.17	1.92	Reroute to minimize landowner property. This land is an equestrian property and use powerline ROW for jumps.	Minimize impact to landowner property.

TABLE 10.5.3-1

Route Variations Incorporated into the Proposed Sabal Trail Project Pipeline Route

Reroute Name	Milepost Range	Approximate Length (miles)	Variation Description	Justification
Reroute 21	155.64 - 157.18	1.54	Reroute to minimize landowner property, avoid two churches, adds potential location for CS3.	Minimize impact to landowner property.
Reroute 22	157.20 - 159.75	2.55	Reroute avoids two churches and limits impacts to water treatment facility. Also provides new proposed site for CS-3.	Minimize impact to landowner property.
Reroute 23	351.90 - 353.40	1.50	Minimize impact to landowner property, avoid future housing development and water well.	Minimize impact to landowner property.
Reroute 25	377.30 - 379.79	2.49	Due south from MP 374.5 to southern edge of FL-MA-039.000; turn east to follow property line; intersect existing route at MP 377.4.	Avoid landowner property.
Reroute 26	299.55 - 302.15	2.60	At MP 296.8, turn south and continue to 3R-FL-SU-245; turn southeast back to MP 299.8.	Avoids route to old CS-5 option.
Reroute 27	362.30 - 353.55	8.75	From surveyed line near MP 359.2, continue southeast, turn south along western edge of property; turn south-southeast to intersect route at MP 360.8, continuing to surveyed line.	Minimize impact to landowner property.
Reroute 28	277.25 - 277.67	0.42	From surveyed line near MP 274.7, continue east for a short distance, turn southeast, cross eastern edge of FL-SU-095.005, turn south, and intersect the surveyed line near MP 275.1.	Avoids several homes along proposed centerline.
Reroute 31	353.40 - 354.07	0.67	Inverse of current proposed route.	Minimize impact to landowner property.
Reroute 32	332.25 - 332.96	0.71	Surveyed line continues south after crossing into Alachua County near MP 329.8; reroute continues south; turns southeast to intersect route and surveyed line near MP 331.1.	Minimize impact to landowner property.
Reroute 33	407.93 - 410.25	2.32	At MP 405.3, turn south to CR 475, parallel road until turn to east intersects route at MP 407.0.	Avoids unwilling landowners at landfill.
Reroute 35	98.95 - 99.85	0.90	From PI at 97.8, continue parallel to Hwy 27/1. Cross Hwy ~0.25 mi S/o James Lane Loop; continue easterly to intersect at MP 99.	Avoid business structure.
Reroute 36	83.79 - 84.48	0.69	Minimize impact to landowner property, septic system, and cemetery.	Minimize impact to landowner property.

TABLE 10.5.3-1

Route Variations Incorporated into the Proposed Sabal Trail Project Pipeline Route

Reroute Name	Milepost Range	Approximate Length (miles)	Variation Description	Justification
Reroute 38	11.74 - 12.38	0.64	Hunters Creek Line: Avoid work under powerline in restricted work space for major road crossing.	Avoid work under powerline.
Reroute 40	335.43 - 337.78	2.35	Avoids several homes, avoids large pond, and several other wetlands.	Avoid several homes.
Reroute 41	382.00 - 382.80	0.80	Reduces length of pipe and gets pipeline off unwanted tracts.	Reduces length of pipe.
Reroute 42	7.35 - 8.61	1.26	Hunters Creek Line: Clean approach (fewer obstacles) into HWY 192 crossing and less public impact.	Fewer construction issues and less public impact.
Reroute 43	343.78 - 344.90	1.12	Avoid home and large wetland	Avoid nearby residence.
Reroute 44	423.50 - 424.85	1.35	Avoids two crossovers, 45 degree bends and reduce length and cost.	Avoid crossovers.
Reroute 45	358.71 - 359.42	0.71	Avoid improvements on landowner property, two wells and a house.	Minimize impact to landowner property.
Reroute 46	263.50 - 265.57	2.07	Plant site property for Duke Energy. There are expansion plans in the area and the current route will interfere.	To avoid interference with Duke's expansion.
Reroute 47	308.41 - 321.15	12.74	Avoid Ginnie Springs and utilize existing corridor through commercial timber property.	Avoid Ginnie Springs.
Reroute 49	184.52 - 185.00	0.48	Reduces length and eliminates harsh bends.	Reduce cost and length.
Reroute 51	345.82 - 347.45	1.63	Avoids potential land development area.	Reduces impact to landowner property.
Reroute 52	348.20 - 348.60	0.40	Avoids large grouping of trees that landowner wants to keep.	Reduces impact to landowner property.
Reroute 53	1.60 - 6.12	4.52	Hunters Creek Line: Avoids major theme park development plan and shortens length by over 4500 feet.	Avoid 2 major theme parks planned for development.
Reroute 55	329.50 - 329.85	0.35	To minimize impact to landowner property.	Landowner request.
Reroute 56	61.90 - 62.30	0.40	Avoids congested area and a Dixie LP station	To avoid congested area.
Reroute 57	65.28 - 65.67	0.39	Avoids two ponds and several residences.	Avoids two ponds.
Reroute 58	179.65 - 180.40	0.75	Avoids wetlands with deep water and gives 90 degree crossing.	Avoids large, deep wetland.

TABLE 10.5.3-1

Route Variations Incorporated into the Proposed Sabal Trail Project Pipeline Route

Reroute Name	Milepost Range	Approximate Length (miles)	Variation Description	Justification
Reroute 59	0.20 - 0.50	0.30	Hunters Creek Line: To minimize impact to power plant.	To avoid power plant.
Reroute 60	113.20 - 113.85	0.65	Minimize impact to landowner property.	Minimize impact to landowner property.
Reroute 61	162.50 - 164.35	1.85	Avoids barn and business and also avoids tight area between two ponds.	Avoids new barn and business.
Reroute 63	186.45 - 187.10	0.65	To avoid close residence and water wells.	To avoid close residence and water wells.
Reroute 64	206.66 - 207.35	0.69	Eliminates 1 road crossing, avoids sheds and 2 pipeline crossings.	To avoid tight area.
Reroute 69	441.10 - 441.30	0.20	Landowner request from open house meeting, to minimize impact to landowner property.	Minimize impact to landowner property.
Reroute 70	454.19 - 454.93	0.74	Avoid close proximity to school at corner of Goodman Road and Florence Villa Grove Road.	To avoid close proximity to a school.
Reroute 72	366.32 - 366.85	0.53	To avoid potential Culture site.	To avoid potential agriculture site.
Reroute 73	382.95 - 383.40	0.45	To avoid potential Culture site.	To avoid potential agriculture site.
Reroute 80	445.90 - 449.15	3.25	Reroute avoids active mine and eliminates tract completely.	To avoid active mine.
Reroute 82	97.74 - 98.80	1.06	Avoids two crossovers and severe side slope.	Avoids two crossovers and severe side slope.
Reroute 83	99.20 - 98.50	0.70	Avoids severe vertical slope and side slopes and better road crossing.	Avoids severe vertical slope and side slopes and better road crossing.
Reroute 85	379.78 - 382.38	2.60	Avoids Trailhead, monument and canal area. Shortens route significantly.	Avoids Trailhead, monument and canal area.
Reroute 86	213.15 - 213.85	0.70	Avoid cultural site GA-FS118.	Avoid cultural site GA-FS118.

TABLE 10.5.3-2

Route Variations Under Evaluation for the Sabal Trail Project Pipeline Route

Reroute Name	Milepost Range	Length (feet)	Variation Description	Status of Evaluation
2	MP 296.0 to MP 314.0	104,976	GWA - Increases collocation; avoids Ginnie Springs recreation area.	Pending
21	MP 155.64 to MP 157.18	8,241	Reroute to minimize landowner property, avoid two churches, adds potential location for CS3.	Approved
48	MP 166.4 to MP 170.1	20,350	Landowner request to avoid organic sod farm.	Pending
50	MP 192.32 to MP 193.38	5,561	Avoids tight area and eliminates two crossovers for better constructability.	Approved
54	MP 386.0 – MP 420.7	192,179	Avoids the sensitive gum slough area, avoids two HDD river crossings and collocates with Duke power.	Pending
62	MP 231.1 – MP 232.25	8,872	Landowner request that does not want the pipeline on her property or even in her state.	Pending
67	MP 233.61 – MP 234.53	5,108	Landowner request to move further away from residence and avoids a deep cypress swamp.	Pending
71	MP 403.03 to MP 403.8	5,548	Landowner request to follow a distribution powerline around their property.	On Hold
74	MP 416.05 to MP 417.2	6,970	Landowner request to follow property lines around their property.	Pending
75	MP 230.05 to MP 231.1	6,531	Comply with landowner request, reduce cost and improve constructability.	Pending
84	MP 11.1 to MP 11.9	4,595	Better constructability, avoids severe side slope, a creek and a cemetery.	Approved
87	MP 225.15 to MP 229.87	24,574	Landowner request that avoids several tight areas with residences, a church, wetlands and a recharge area.	Pending
89	MP 462.73 to MP 462.92	1,024	To route pipeline into launcher/receiver in compressor station 7.	Approved
91	MP 331.55 to MP 332.1	2,730	To mitigate restricted intersection crossing and stay collocated with Duke Power.	Approved
92	MP 307.25 to MP 309.20	11,173	Landowner request submitted by commissioners of Gilchrist County to avoid tight area with residences.	On Hold
93	MP 208.04 to MP 208.98	5,236	Landowner wants reroute to cross his pond at a narrower point for better constructability. Avoids a tract with a residence on it and less impacts to wetlands.	Approved

TABLE 10.5.3-2

Route Variations Under Evaluation for the Sabal Trail Project Pipeline Route

Reroute Name	Milepost Range	Length (feet)	Variation Description	Status of Evaluation
95	MP 379.63 to MP 382.55	14,997	To avoid Florida state owned lands.	Pending
96	MP HCL 5.30 to MP HCL 6.7	7,752	Hunters Creek Line: Landowner request that wants us to avoid working cattle ranch and avoids future development.	Approved
97	MP 367.4 to MP 369.6	11,242	To avoid landowner's "mountain" and rifle range, avoids severe side slope for better constructability.	Approved
99	MP CCL 7.1 to MP CCL 7.35	1,006	Citrus County Line: Landowner request to avoid multiple parcels of land and reroute effects less landowners.	Pending
100	MP 75.5 to MP 76.7	6,007	To avoid sub-division that has multiple obstacles and two cross-overs.	Pending
101	MP 266.1 to MP 266.25	1,228	To change angle of crossing to be able to conventional bore of I-10 instead of HDD.	Approved
102	MP 22.78 to MP 23.25	2,889	Avoid being too close to house and septic system.	Approved
103	MP 349.85 to MP 350.05	917	Eliminates sharp bend and shortens length.	Approved
104	MP 246.72 to MP 247.55	3,371	Avoids cultural site.	Approved
105	MP 306.0 to MP 309.0	70,579	GWH - route between GWA alt and proposed center-line.	Pending
106	MP 443.2 to MP 450.65	44,728	Proposed route avoids E.R. Jahna permitted sand reserves as well as avoids Florida state owned lands.	Approved
107	MP 217.35 to MP 219.0	9,621	Reroute to miss Wood Stork habitat.	Pending
108	MP 459.4 to MP 460.5	4,495	Reroute avoids newly developed subdivision to give route across HWY 4.	Pending
109	MP HCL 9.2 to MP HCL 11.35	11,919	Hunters Creek Line: Reroute HDD's through newly developed subdivision and then follows property lines around two other tracts with high potential for development.	Approved
110	MP HCL 11.73 to MP HCL 12.36	3,085	Hunters Creek Line: Reroute avoids new development on Tupperware property and shortens route.	Pending

TABLE 10.5.3-3

Route Variations Eliminated from Further Consideration for the Sabal Trail Project Pipeline Route

Reroute Name	Milepost Range	Length (feet)	Variation Description	Reason for Elimination
1	MP 165.2 to MP 168.4	16,896	Landowner Request - Alternative to leave SoNat corridor to continue straight southerly for approx. 2.9 miles and then easterly for approx. 1.2 mile.	Canceled.
3	MP 414.7 to MP 418.7	21,120	Avoid Seminole Indians - Proposed reroute will proceed southerly for 2.8 miles and then continue to the east for 2.2 miles.	Canceled - Reroute was replaced by another reroute that took care of same concerns.
4A	MP 418.2 to MP 421.2	15,840	Avoid Seminole Indians site and surface mine - Route proceeds east for 0.8 miles, southeast for 1.8 miles and south for 0.6 miles.	Denied - Reroute was replaced by another reroute that took care of same concerns.
5	MP 380		Routing concern by SWFWMD.	Canceled - 10/02/13 per ROW no need to pursue a reroute at this time.
6	MP 400		Routing concern by SWFWMD.	Canceled - 10/02/13 per ROW no need to pursue a reroute at this time.
8A	MP 198.3 to MP 198.8	2,640	Avoid residential development - From PI near 197.2, extend towards road and parallel Pavo Rd for 0.3 miles, then turn east back to alignment.	Canceled - Reroute was replaced by another reroute that took care of same concerns.
9	MP 242.2 to MP 242.7	2,640	Avoid pond - route along north side of pond.	Canceled - Landowners allowing to drain shallow pond for construction.
14	MP 270.0 to MP 270.4	2,112	Avoid nearby residence.	Denied - original route was good with landowners.
24	MP 264.4 to MP 264.8	6,060	To avoid interference with Duke expansion.	Canceled - Reroute was replaced by another reroute that took care of same concerns.
29	MP 282.85 to MP 283.9	5,544	To avoid two powerline crossings and one road crossing.	Canceled - Because reroute lost collocation.
30	MP 312.20 to MP 313.15	6,801	To avoid entrance to Ginnie Springs.	Canceled - Reroute was replaced by another reroute that took care of same concerns.
32	MP 332.1 to 332.95	3,812	Minimize impact to landowner property.	Canceled - Reroute was not found not to be constructible while the reroute was being surveyed.
34	MP 112.9 to MP 114.2	7,000	Minimize impact to landowner's tree farm.	Canceled - Reroute was replaced by another reroute that the landowner preferred.

TABLE 10.5.3-3

Route Variations Eliminated from Further Consideration for the Sabal Trail Project Pipeline Route

Reroute Name	Milepost Range	Length (feet)	Variation Description	Reason for Elimination
35	MP 98.78 to MP 99.85	6,396	Minimize impact to a business structure.	Canceled - Reroute was replaced by another reroute that took care of same concerns.
37	MP 162.5 to MP 164.15	8,704	Avoid new structures and tight area between race track and pond.	Canceled - Reroute was replaced by another reroute that took care of same concerns.
39	MP 129.5 to MP 130.35	5,200	Avoid several bends and stay parallel to SoNat.	Canceled - Pond/Wetland was too deep to construct across.
41	MP 381.0 to MP 381.8	4,200	Reduce length of pipe and gets pipeline off unwanted tracts.	Canceled - Reroute was replaced by another reroute that took care of same concerns.
65	MP 222.1 to MP 222.33	1,558	Minimize impact to landowner's road frontage.	Canceled - Landowner rejected reroute and proposed larger reroute (Reroute 88).
66	MP 190.7 to MP 191.24	3,122	Minimize impact to landowner property.	Canceled - Reroute was rejected by landowner, has proposed larger reroutes.
68	MP 456.63 to MP 458.0	10,866	To avoid residences at Happy Trails.	Denied - Happy Trails community has proposed several reroutes that take the pipeline off unwanted landowners and put them on other unwanted landowners within the community. This reroute adds length, cost and environmental impacts to the pipeline.
76	MP 240.8 to MP 241.2	2,339	To avoid close proximity to unwanted landowner.	Denied - SoNat is between our proposed centerline and residence. Proposed reroute from LO avoids property completely and has a much larger environmental impact to wetlands.
77	MP 234.6 to MP 235.5	5,165	To avoid preventing landowner from future development of corner of property.	Denied - SoNat is between our proposed centerline and the residence. Add length, cost and environmental impacts. Proposed centerline is more constructible than the reroute.
78	MP 195.75 to MP 197.62	11,143	To avoid close proximity to landowner's house and eliminate landowner's tract as requested by landowner at FERC.	Denied - Proposed centerline is between SoNat and residence, large reroute is denied but will work with landowner further away from residence. This reroute adds length, cost and environmental impacts.
81	MP 165.9 to MP 166.45	2,981	To avoid close proximity to landowner's residence.	Denied - Proposed reroute puts us on a landowner that is already against the pipeline. We are collocated with SoNat on original

TABLE 10.5.3-3

Route Variations Eliminated from Further Consideration for the Sabal Trail Project Pipeline Route

Reroute Name	Milepost Range	Length (feet)	Variation Description	Reason for Elimination
				routing and approx. 215 feet away from residence.
88	MP 222.0 to MP 222.85	6,282	Landowner request to avoid his property entirely.	Denied – Adds substantial length, cost and impacts.
94	MP 445.35 to MP 450.5	29,239	To avoid active mine and Florida State owned lands.	Canceled - Reroute was replaced by another reroute that took care of same concerns.
98	MP 319.65 to MP 320.5	6,361	Landowner request to avoid bisecting property.	Denied - No good reason to adopt reroute adds significant length and bends to centerline.

TABLE 10.6-1

Comparison of Alternate Compressor Station Sites for the Albany Compressor Station

Factors	Proposed Location	Alternative A	Alternative B	Alternative C
Compressor Station Site				
Required horsepower	41,000	41,000	41,000	41,000
Total land to be acquired (acres)	44.87	79.26	38.97	59.84
Land availability (y/n)	TBD	Unknown	Unknown	Unknown
Construction workspace (acres)	44.87	79.26	38.97	59.84
Operation workspace (acres)	34.09	70.84	33.13	52.03
Existing land use (type)	Cultivated crops/Developed/Forest/Grassland	Forest/Grassland/Pasture Hay/Scrub Shrub/Wetland/Cultivated Crops	Cultivated crops/Pasture Hay/Grassland/Forest	Forest/Developed/Grassland/Cultivated Crops/Scrub-shrub
Construction impact on forest (acres)	6.20	4.31	0.76	45.15
Operation impact on forest (acres)	4.98	4.23	0.02	43.01
Construction impact on wetlands (acres)	0.00	46.23	0.00	0.00
Operation impact on wetlands (acres)	0.00	41.50	0.00	0.00
Karst features present (y/n)	Y	Y	Y	Y
NSAs within 0.5 mile (no.)	28	65	13	22
Nearest NSA (feet)	940	240	200	80
Suction/Discharge Pipelines				
Length (miles)	NA	NA	NA	NA
Nominal construction right-of-way width (feet)	NA	NA	NA	NA
Construction workspace (acres)	NA	NA	NA	NA
Operation workspace (acres)	NA	NA	NA	NA
Construction impact on forest (acres)	NA	NA	NA	NA
Operation impact on forest (acres)	NA	NA	NA	NA
Construction impact on wetlands (acres)	NA	NA	NA	NA
Operation impact on wetlands (acres)	NA	NA	NA	NA
<hr/> TBD – To Be Determined NA – Not Applicable				

TABLE 10.6-2

Comparison of Alternate Compressor Station Sites for the Hildreth Compressor Station

Factors	Proposed Location	Alternative A
Compressor Station Site		
Required horsepower	41,000	41,000
Total land to be acquired (acres)	42.07	45.51
Land availability (y/n)	TBD	Unknown
Construction workspace (acres)	42.07	45.51
Operation workspace (acres)	33.03	39.36
Existing land use (type)	Cultivated Crops/ Developed/Forest/Grassland/Scrub Shrub	Cultivated Crops/ Forest/Grassland/Scrub Shrub/Developed
Construction impact on forest (acres)	5.11	26.81
Operation impact on forest (acres)	5.11	25.63
Construction impact on wetlands (acres)	0.00	0.00
Operation impact on wetlands (acres)	0.00	0.00
Karst features present (y/n)	Y	Y
NSAs within 0.5 mile (no.)	6	8
Nearest NSA (feet)	1500	1350
Suction/Discharge Pipelines		
Length (miles)	NA	0.49
Nominal construction right-of-way width (feet)	NA	100
Construction workspace (acres)	NA	5.93
Operation workspace (acres)	NA	2.97
Construction impact on forest (acres)	NA	0.34
Operation impact on forest (acres)	NA	0.13
Construction impact on wetlands (acres)	NA	0.00
Operation impact on wetlands (acres)	NA	0.00
TBD – To Be Determined		
NA – Not Applicable		

TABLE 10.6-3

Comparison of Alternate Compressor Station Sites for the Dunnellon Compressor Station

Factors	Proposed Location	Alternative A	Alternative B
Compressor Station Site			
Required horsepower	20,500	20,500	20,500
Total land to be acquired (acres)	32.50	61.25	37.24
Land availability (y/n)	TBD	Unknown	Unknown
Construction workspace (acres)	32.50	61.25	37.24
Operation workspace (acres)	27.66	53.28	31.63
Existing land use (type)	Developed/Pasture Hay/Wetlands	Wetlands/Developed/Grassland/Pasture Hay	Developed/Grassland/Pasture Hay/Wetlands
Construction impact on forest (acres)	0.00	0.00	0.00
Operation impact on forest (acres)	0.00	0.00	0.00
Construction impact on wetlands (acres)	19.39	60.46	3.29
Operation impact on wetlands (acres)	17.12	53.07	2.08
Karst features present (y/n)	Y	Y	Y
NSAs within 0.5 mile (no.)	10	2	1
Nearest NSA (feet)	700	960	2000
Suction/Discharge Pipelines			
Length (miles)	NA	0.58	0.84
Nominal construction right-of-way width (feet)	NA	100	100
Construction workspace (acres)	NA	7.06	10.14
Operation workspace (acres)	NA	3.53	5.07
Construction impact on forest (acres)	NA	0.00	0.00
Operation impact on forest (acres)	NA	0.00	0.00
Construction impact on wetlands (acres)	NA	3.83	0.73
Operation impact on wetlands (acres)	NA	2.60	0.39
<hr/> TBD – To Be Determined NA – Not Applicable			

TABLE 10.6-4

Comparison of Alternate Compressor Station Sites for the Reunion Compressor Station

Factors	Proposed Location	Alternative A	Alternative B
Compressor Station Site			
Required horsepower	36,400	36,400	36,400
Total land to be acquired (acres)	36.51	55.47	47.05
Land availability (y/n)	TBD	Unknown	Unknown
Construction workspace (acres)	36.51	55.47	47.05
Operation workspace (acres)	21.00	48.66	40.85
Existing land use (type)	Developed/Pasture Hay/Wetlands	Developed/Grassland/Pasture Hay/Wetland/Scrub Shrubs	Grassland/Scrub Shrub/Wetlands
Construction impact on forest (acres)	0.00	0.00	0.00
Operation impact on forest (acres)	0.00	0.00	0.00
Construction impact on wetlands (acres)	4.51	34.12	40.16
Operation impact on wetlands (acres)	1.53	31.03	33.96
Karst features present (y/n)	Y	Y	Y
NSAs within 0.5 mile (no.)	211	152	0
Nearest NSA (feet)	700	1375	3200
Suction/Discharge Pipelines			
Length (miles)	NA	0.14	0.72
Nominal construction right-of-way width (feet)	NA	100	100
Construction workspace (acres)	NA	1.70	8.71
Operation workspace (acres)	NA	0.85	4.36
Construction impact on forest (acres)	NA	0.00	0.00
Operation impact on forest (acres)	NA	0.00	0.00
Construction impact on wetlands (acres)	NA	0.00	2.01
Operation impact on wetlands (acres)	NA	0.00	1.31
<hr/> TBD – To Be Determined NA – Not Applicable			

FIGURES
