



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
POST OFFICE BOX 4970
JACKSONVILLE, FLORIDA 32232

May 9, 2016

Regulatory Division
North Permits Branch
Jacksonville Permits Section
SAJ-2013-03030

Marion County Board of County Commissioners
Attn: Ms. Kathy Bryant, Chairman
601 Southeast 25th Avenue
Ocala, Florida 34471

Dear Ms. Bryant:

Please accept this correspondences as acknowledgement of your letter to the U.S. Army Corps of Engineers (Corps) dated May 3, 2016. Please also accept this correspondence as a response to your request for additional information regarding the Southeast Markets Pipeline and, more specifically, the work proposed by Sabal Trail, LLC, within Marion County.

The Corps is still evaluating the material submitted to our agency for the Southeast Markets Pipeline project, including the Sabal Trail, LLC, proposal. However, in response to your concerns, the Corps coordinated your letter with the applicant; and, received the enclosed submittal and attachments. The Corps hopes that this information adequately addresses your concerns.

If you have any questions or need additional information, please contact me.

Sincerely,

A handwritten signature in blue ink that reads "Mark R. Evans".

Mark R. Evans
Senior Project Manager

May 6, 2016

Mark R. Evans
Senior Project Manager
Department of the Army
Jacksonville District Corps of Engineers
Post Office Box 4970
Jacksonville, Florida 32232-0019

**RE: Response to Questions from the Marion County Board of Commissioners,
Letter dated May 3, 2016**

Dear Mr. Evans:

Please find responses to questions raised by Ms. Kathy Bryant, Chairman of the Marion County Board of Commissioners in a letter to you dated May 3, 2016. Supporting documentation is provided under separate cover.

Project Description in Marion County, FL

The Sabal Trail mainline pipeline enters Marion County at approximate milepost (MP) 372.8 and exits the county at approximate MP 406.1, a total distance of approximately 33.2 miles. The pipeline route crosses agricultural fields, open land areas, upland forests, and planted pine areas for a majority of its length in Marion County. A short portion of Sabal Trail Citrus County Line pipeline is also located in Marion County. The Citrus County Line originates at the Dunnellon Compressor Station and the portion of the Citrus County Line within Marion County ends at the Withlacoochee River and county boundary with Citrus County. The approximate distance in Marion County of the Citrus County Line is 1.3 miles. The Citrus County Line runs parallel to an existing Duke Electric Transmission Line right-of-way.

Geotechnical Investigations in Marion County

Sabal Trail conducted geophysical and geotechnical investigations at the proposed site of the compressor station (Dunnellon Station) in Marion County. The investigations consisted of ground penetrating radar and geotechnical borings. Geotechnical borings were conducted at the HDD crossing location of the Withlacoochee River Crossing on the border of Marion and Citrus Counties. The results from these investigations indicated that the proposed pipeline construction, compressor station construction, and the HDD crossing of the Withlacoochee River are not high risk activities.

In addition, investigations were conducted northwest of Marion County, in Levy County. The investigations at this location consisted of a Karst evaluation of several small sinkholes and anomalies identified just off line from the pipeline alignment, as well as some visual evaluation of potential sinkholes. The results of these investigations in adjoining Levy County indicated that while there is a potential for sinkhole development in this area, the depth, type and relatively

small diameter of sinkholes do not pose a threat to the pipeline and can be remediated. Sabal Trail's remediation activities are provided in the Karst Mitigation Plan.

Springs in Marion County

Karst conditions are prevalent not only in Marion County but in a very large portion of central and north Florida. In the Marion County area, the Sabal Trail route crosses the western third of the Rainbow Springs spring shed (the area where water that feeds the spring originates). Sabal Trail is located approximately 1.8 miles from the Rainbow Springs head spring.

Sabal Trail employed expert geologists and engineers who have extensively evaluated and studied the potential impacts to springs associated with construction and operation of the pipeline and above ground facilities. Upon completion of these efforts, Sabal Trail concluded that the construction and operation of the pipeline will not adversely impact the water quality or water flow of the major springs, including Rainbow Springs, in its vicinity.

The research has been documented in several key documents including the Best Drilling Practices Plan, Karst Mitigation Plan, and Karst Characterization Study for Florida which have been submitted to various state and federal agencies such as FERC, the Environmental Protection Agency, the Florida Department of Environmental Protection, and the Suwannee River and Southwest Florida Water Management Districts for review and consideration. All of these agencies have agreed with the conclusion that construction and operation of the pipeline will not adversely impact Rainbow Springs or other major springs in the vicinity of the pipeline route in Florida. Copies of these plans are provided in Attachment A.

Closed Topographic Depressions & Risk of Sinkhole Collapse

Sabal Trail conducted an analysis of closed topographic depressions within 0.25 miles of the pipeline center line in Marion County. The results of this analysis are presented graphically in Attachment B.

Within the karst sensitive areas in Florida there are literally millions upon millions of small, subsidence-type sinkholes. The vast majority of these sinkholes are of the subsidence type that tends to be slow forming, relatively small, and shallow. If they should form during construction, they can be quickly and easily remediated so that the movement of sediments into the flow system can be avoided or minimized.

Sabal Trail has also developed contingency and best management plans for addressing construction and operation activities which FERC has approved and determined acceptable. The culmination of Sabal Trail's research is encompassed within several key documents prepared by Sabal Trail and submitted to various state and federal agencies for review and consideration, including the Best Drilling Practices Plan (attached as part of Appendix E of the FEIS); Karst Mitigation Plan (attached as part of Appendix F of the FEIS); and Karst Characterization Study for Florida (attached as part of Appendix H of the FEIS). These plans are provided in Attachment A to this response for your information.

Moreover, the pipeline is not susceptible to damage due to a sinkhole collapse underneath it in this area of Florida. The pipeline will be designed, built and operated in accordance with the safety requirements of the US Code of Federal Regulations Title 49 Part 192, which apply to interstate gas pipelines. Sabal Trail uses a higher design factor of safety for the pipeline than

often required under federal or state rules. Sabal Trail also demands higher material quality standards than regulatory requirements, and institutes other factors of safety, such as using higher test pressures, closer valve spacing along the pipeline, and enhanced pipeline patrols.

During construction, the pipelines will be installed by companies that specialize in pipeline construction, with many years of experience. Sabal Trail will have dozens of inspectors monitoring the installation to ensure the work meets federal quality standards, as well as Sabal Trail's specifications which have dozens of additional requirements to ensure a safe installation. After the pipeline is placed into service, aerial patrol pilots will fly along the pipeline weekly and have a long list of items to be watching for to help them identify potential threats to the pipeline. Any issues are reported immediately to local operations personnel on the ground. Gas leakage surveys will be conducted twice each year in populated areas. The state one-call system will be monitored daily for potential excavations near the pipeline, and personnel will be dispatched to mark the pipelines and monitor any excavation. Sabal Trail will continuously monitor the pipeline through a complex monitoring system.

As explained above, Sabal Trail is well aware of the karst terrain and the potential for sinkholes. After carefully considering the geology of the area in light of the design factors for the proposed pipeline, Sabal Trail is confident that there are no likely conditions related to karst or sinkholes that would cause a pipeline failure. If any karst cavities are encountered during construction, they will be filled and a liner will then be used to stop water from penetrating and creating karst growth in that area.

The installation of the pipeline will not likely trigger dangerous sinkhole formation as the installation does not change the overall permeability of the area. Nonetheless, should a sinkhole develop, the ductile strength of the pipe can withstand spanning the void created. This knowledge is based on previous experience constructing pipelines through karst terrain and engineering stress testing calculations. Modern ductile high-strength steel pipe is very resilient and can span voids exceeding 100 feet. No voids are anticipated to exceed that span.

Construction Techniques

To provide some perspective to some stated concerns for constructing a pipeline in karst areas, large infrastructure projects such as interstate highways, railroads, natural gas pipelines, water mains, and cities are routinely constructed, maintained and are in use by the public every day. Comparatively, a gas pipeline has a relatively small corridor through which a narrow trench is excavated to a depth that does not exceed 6 feet. For most of the area where the pipeline will cross the spring shed of Rainbow Springs, it will be well above the limestone that contains the groundwater flow system that feeds the spring.

In contrast, with the large infrastructure projects the construction of highways and railroads involves a long process of clearing a wide corridor and the transport and deposit of millions of tons of road base, asphalt, and rails by heavy equipment along the entire corridor over a period likely to exceed six months. Once completed and used daily, heavy trucks and trains continue to cause vibration and weight impacts in these karst areas, unlike a natural gas pipeline.

Furthermore, in the unlikely event that the pipeline is breached during operation, because the product in the pipeline is in a gaseous phase, it would vent into the atmosphere rather than drain downward into the groundwater flow system.

Wetlands Affected and Potential Impacts and Mitigation

In routing the pipeline through Marion County, Sabal Trail avoided to the extent possible, the direct crossing of wetlands and minimized potential effects by routing around major wetland systems. If a wetland crossing could not be avoided, the wetland was crossed in areas that had been previously disturbed or in an area of the wetland that was predominantly emergent wetland (PEM). Forested wetlands (PFO) were avoided to the extent practicable.

Within the mainline pipeline route in Marion County, no wetlands are crossed from approximate mile post 372.8 to 385.8 approximately 13 miles. The route crosses primarily Palustrine emergent (PEM) wetlands from MP 386.15 to 386.4. This portion of the route is on private land and parallels the northern boundary of the Halpata Tasthanaki Preserve. At approximate MP 387.9 the route crosses into Halpata until approximate MP 388.75, at which point, the route enters the Board of Trustees of the Internal Improvement Trust Fund parcels which also contain the Marjorie Harris Carr Cross Florida Greenway. The pipeline route is approximately 1,400 feet to the south of the remaining scars from the Cross Florida Barge Canal project. The Citrus County Line in Marion County crosses short spans of PFO and PEM wetlands.

All wetland boundaries have been delineated through field surveys and the boundaries identified have been verified by representatives of the Florida Department of Environmental Protection, Central District, as part of the Environmental Resources Permit process. Potential effects to wetlands due to permanent conversion of forested (PFO) wetlands to emergent wetlands (PEM) has been mitigated through the purchase of wetland credits from wetland mitigation banks as approved by FDEP and submitted to the US Army Corps of Engineers. Maps depicting the location of wetlands along the pipeline route in Marion County are provided in Attachment C.

The potential impact on wetlands during construction is minimized by reducing the construction footprint to a width of 75 feet in wetlands. Prior to the start of construction, each of the wetlands will be surveyed and the extent of the construction area will be marked to ensure that the potential effects will be minimal. Silt fencing and other erosion control best management practices will be employed to keep the potential construction related effects within the construction work area and not affect adjacent wetlands. The wetland impacts will be minimized to the digging of the trench to install the pipeline. Wood mats will be laid down for travel across wetlands. Specific construction methods will be used to keep the organic soil segregated from the sub soil layers over the trench line in order to replace organic soil on top. These specific activities and mitigated impacts are more thoroughly described in the FEIS in the section entitled “3.4 Wetlands” beginning on page 3-69. The applicable text from this section of the FEIS is as follows:

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

- **segregating topsoil excavated from the trench in non-saturated wetlands and returning it to the appropriate horizon upon backfill of the trench;**
- **generally using a reduced, 75-foot-wide, nominal construction right-of-way through wetlands;**

- **restoring preconstruction contours to the extent practicable;**
- **storing all hazardous materials, including fuels, chemicals, and lubricating fluids, a minimum of 100 feet from any wetland boundary; installing erosion and sediment control devices; and**
- **prohibiting parking or refueling of vehicles within 100 feet of a wetland unless the onsite EI determines that there is no practicable alternative; and**
- **preventing the introduction and spread of invasive species.**

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

Proposed wetland impacts in Marion County are associated with the mainline pipeline and the Citrus County Line. These impacts are either from conversion of forested wetlands to non-forested wetlands within the permanent right-of-way or temporary impacts to forested and non-forested wetlands and waterbodies for temporary work space or laydown areas. There are no wetland impacts associated with above ground facilities and there are no permanent impacts proposed to resources under a regulatory or proprietary easement within Marion County.

For the mainline pipeline, there are 0.58 acres of conversion impacts, 9.43 acres of temporary wetland impacts, and 0.72 acres of temporary waterbody impacts within Marion County. For the portion of the Citrus County Line within Marion County, there are 0.42 acres of conversion impacts, 2.29 acres of temporary wetland impacts, and 0.02 acres of temporary waterbody impacts.

The Sabal Trail Mainline traverses the Marjorie Harris Carr Cross Florida Greenway State Recreation and Conservation Area in Marion County. The pipeline enters near MP 386.1 and exits the Greenway near MP 392.5. Wetland impacts within the Greenway are limited to 4.42 acres of temporary impacts to non-forested wetlands.

Mitigation is being provided for the conversion impacts to forested wetlands and temporary impacts to forested wetlands. It is not being provided for the impacts to non-forested wetlands. Sabal Trail is purchasing 0.45 mitigation credits for the conversion and temporary impacts to forested wetlands. Credits for the impacts within the Withlacoochee Basin are being purchased from the Green Swamp and Withlacoochee Mitigation Banks.

A summary of the wetlands affected in Marion County, including the type, type of effect, area affected, UMAM scores current and with the project, and the functional loss calculation is provided in the table RAI-6 which was provided to the FDEP as part of the ERP process and included herein as Attachment D.

Please let us know if you require additional information to respond to the questions of the Marion County Board of Commissioners. Please let us know if you require additional information to respond to the questions of the Marion County Board of Commissioners. Please note that on May 4, 2016, Sabal Trail has also provided a response to a letter received directly

from the Marion County Board of Commissioners. A copy of that letter is provided as Attachment E.

Sincerely,

Sabal Trail Transmission, LLC
By: Sabal Trail Management, LLC,
its Operator

Patrick J. Hester
Vice President and Deputy General Counsel

List of Attachments

Attachment A - Best Drilling Practices Plan, Karst Mitigation Plan, and Karst Characterization Study for Florida

Attachment B – Figures Showing the Location of Closed Depressions within 0.25 miles of the Sabal Trail Pipeline Route in Marion County

Attachment C – Wetland Maps of the Sabal Trail Project in Marion County

Attachment D – Tabulation of Wetlands Affected by the Sabal Trail Project in Marion County

Attachment E – Letter Dated May 4, 2016 Response to Questions from the Marion County Board of Commissioners