



**Federal Energy
Regulatory
Commission**

**Office of
Energy Projects**

March 2018

Florida Southeast Connection, LLC

Docket No. CP17-463-000

Okeechobee Lateral Pipeline Project

Environmental Assessment

Washington DC, 20426

FEDERAL ENERGY REGULATORY COMMISSION
WASHINGTON, D.C. 20426

OFFICE OF ENERGY PROJECTS

In Reply Refer To:
OEP/DG2E/Gas Branch 3
Florida Southeast Connection,
LLC
Okeechobee Lateral Project
Docket No. CP17-463-000

TO THE PARTY ADDRESSED:

The staff of the Federal Energy Regulatory Commission (FERC or Commission) has prepared an environmental assessment (EA) for the Okeechobee Lateral Pipeline Project (Project) proposed by Florida Southeast Connection, LLC (FSC). FSC proposes to construct and operate approximately 5.2 miles of 20-inch-diameter natural gas transmission pipeline and associated facilities in Okeechobee County, Florida. This pipeline would connect FSC's mainline system with the Florida Power & Light Company's Okeechobee Clean Energy Center (currently under construction) and would be capable of providing 400 million cubic feet per day of natural gas to this facility.

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

The FERC staff mailed copies of the EA to federal, state, and local government representatives and agencies; elected officials; and interested individuals and groups. In addition, the EA is available for public viewing on the FERC's website (www.ferc.gov) using the eLibrary link. A limited number of copies of the EA are available for distribution and public inspection at:

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

Any person wishing to comment on the EA may do so. Your comments should focus on potential environmental impacts, reasonable alternatives, and measures to avoid or lessen impacts. The more specific your comments, the more useful they will be. To ensure that the Commission has the opportunity to consider your comments prior to making a decision, it is important that we receive your comments in Washington, DC on or before **April 16, 2018**.

For your convenience, there are three methods you can use to file your comments with the Commission. In all instances, please reference the project docket number (CP17-463-000) with your submission. The Commission encourages electronic filing of comments and has expert staff available to assist you at (202) 502-8258 or FercOnlineSupport@ferc.gov.

- (1) You can file your comments electronically using the [eComment](#) feature located on the Commission's website (www.ferc.gov) under the link to [Documents and Filings](#). This is an easy method for submitting brief, text-only comments on a project;
- (2) You can also file your comments electronically using the [eFiling](#) feature on the Commission's website (www.ferc.gov) under the link to [Documents and Filings](#). With eFiling, you can provide comments in a variety of formats by attaching them as a file with your submission. New eFiling users must first create an account by clicking on "[eRegister](#)." You must select the type of filing you are making. If you are filing a comment on a particular project, please select "Comment on a Filing"; or
- (3) You can file a paper copy of your comments by mailing them to the following address:

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

Any person seeking to become a party to the proceeding must file a motion to intervene pursuant to Rule 214 of the Commission's Rules of Practice and Procedures (18 CFR 385.214).¹ Only intervenors have the right to seek rehearing of the Commission's decision. The Commission grants affected landowners and others with environmental concerns intervenor status upon showing good cause by stating that they have a clear and direct interest in this proceeding that no other party can adequately represent. **Simply filing environmental comments will not give you intervenor status, but you do not need intervenor status to have your comments considered.**

¹ See the previous discussion on the methods for filing comments.

Additional information about the project is available from the Commission's Office of External Affairs, at **(866) 208-FERC**, or on the FERC website (www.ferc.gov) using the eLibrary link. Click on the eLibrary link, click on “General Search,” and enter the docket number excluding the last three digits in the Docket Number field (i.e., CP17-463). Be sure you have selected an appropriate date range. For assistance, please contact FERC Online Support at FercOnlineSupport@ferc.gov or toll free at (866) 208-3676, or for TTY, contact (202) 502-8659. The eLibrary link also provides access to the texts of formal documents issued by the Commission, such as orders, notices, and rulemakings.

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

Okeechobee Lateral Pipeline Project
FERC Docket No. CP17-463-000

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TECHNICAL ACRONYMS AND ABBREVIATIONS

CFR	Code of Federal Regulations
CO ₂	Carbon dioxide
Commission	Federal Energy Regulatory Commission
EA	Environmental Assessment
EI	Environmental inspector
EPA	U.S. Environmental Protection Agency
FAS	Floridan Aquifer System
FERC	Federal Energy Regulatory Commission
FSC	Florida Southeast Connection, LLC
GHG	Greenhouse gas
HDD	Horizontal directional drill
HUC	Hydrologic Unit Code
LNG	Liquefied Natural Gas
NO _x	Nitrous oxide
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NGA	Natural Gas Act
NOI	<i>Notice of Intent to Prepare an Environmental Assessment for the Proposed Okeechobee Lateral Pipeline Project and Request for Comments on Environmental Issues</i>
OCEC	Okeechobee Clean Energy Center
Plan	<i>FSC's Upland Erosion, Control, Revegetation, and Maintenance Plan</i>
PM _{2.5}	particulate matter less than 2.5 microns in diameter
PM ₁₀	particulate matter less than 10 microns in diameter
Procedures	<i>FSC's Wetland and Waterbody Construction and Mitigation Procedures</i>
Project	Okeechobee Lateral Pipeline Project
SHPO	State Historic Preservation Office
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
VOC	Volatile organic compound

A. PROPOSED ACTION

1.0 Introduction

Pursuant to Section 7(c) of the Natural Gas Act (NGA), Florida Southeast Connection, LLC (FSC) requests authorization from the Federal Energy Regulatory Commission (FERC or Commission) to site, construct, operate, and maintain certain natural gas transmission facilities in Okeechobee County, Florida. These facilities are referred to as the Okeechobee Lateral Pipeline Project (Project).

This environmental assessment (EA) describes the environment that would be affected by the Project; assesses the potential impacts on the environment that would likely result from implementation of the proposed action; assesses reasonable alternatives to the proposed action; and as necessary, includes recommendations to avoid, minimize, or mitigate potential adverse impacts. We¹ have prepared this EA in compliance with the requirements of the National Environmental Policy Act (NEPA) (40 Code of Federal Regulations, Parts 1500-1508 [40 CFR 1500-1508]), and the Commission's implementing regulations (18 CFR 380).

The EA will be used by the Commission in its decision-making process to determine whether to authorize FSC's proposal.

2.0 Purpose and Need for the Project

The Project would connect FSC's mainline natural gas transmission system with the non-jurisdictional, Florida Power & Light Company's Okeechobee Clean Energy Center (OCEC). The purpose of the Project is to provide the OCEC with 400 million cubic feet per day of natural gas service.

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

3.0 Proposed Facilities

FSC proposes to construct and operate approximately 5.2 miles of 20-inch-diameter natural gas transmission pipeline and associated facilities in Okeechobee County, Florida. Associated facilities include an inspection tool launcher/receiver and a meter station. Figure 1 illustrates the general location of the proposed pipeline.

¹ "We," "us," and "our" refer to the environmental staff of the FERC's Office of Energy Projects.

FLORIDA SOUTHEAST CONNECTION, LLC
OKEECHOBEE
20" LATERAL PIPELINE
OKEECHOBEE, FL
2017



Figure 1. General Location of the Proposed Okeechobee Lateral Pipeline Project

4.0 Related and Non-jurisdictional Facilities

Under the NGA, and as part of its decision regarding whether or not to approve the facilities under its jurisdiction, the Commission is required to consider all factors bearing on the public convenience and necessity. Occasionally, proposed projects have associated facilities that do not come under the jurisdiction of the Commission. These non-jurisdictional facilities may be integral to a project (for instance, a natural gas-fueled power plant at the end of a jurisdictional pipeline) or they may be minor, non-integral components of the jurisdictional facilities that would be constructed and operated because of a project.

The non-jurisdictional OCEC is a 1,600-megawatt, natural gas-fired, combined cycle generating station currently under construction in Okeechobee County, Florida. When completed, the approximately 220-acre OCEC plant site will consist of three combustion turbine/electric generators, three heat recovery steam generators, one steam turbine-electrical generator, on-site support facilities, a transmission line interconnection, associated facilities, and access roads. Additionally, adjacent to the OCEC site is an approximately 376-acre mitigation site and 1,600 acres of land available for future development. The OCEC is expected to enter into service in the second quarter of 2019. The OCEC is not subject to the Commission's jurisdiction. However, available information regarding the impacts of this facility is disclosed and considered in the cumulative impacts section of this assessment.

5.0 Public Review and Comments

The Commission's administrative record, Docket No. CP17-463-000, includes FSC filings, staff issuances, public comments, and other project-related documents. These documents are accessible to the public thru the Commission's eLibrary.²

On June 23, 2017, in response to a prior notice application filed by FSC in Docket No. CP14-554-000, the Commission issued a Notice of Request under Blanket Authorization. Among other things, that notice informed individuals about how to protest the application and that if a protest (to the prior notice application) was filed and not withdrawn within 30 days after the allowed time for filing a protest, the instant request shall be treated as an application for authorization pursuant to section 7 of the NGA. The prior notice application was protested by the Sierra Club. On August 22, 2017, pursuant to FERC regulations, the prior notice application converted to a section 7(c) application in Docket No. CP17-463-000. Accordingly, on October 24, 2017, the Commission issued a *Notice of Intent to Prepare an Environmental Assessment for the Proposed Okeechobee Lateral Pipeline Project and Request for Comments on Environmental Issues* (NOI). The NOI was sent to affected landowners; federal, state, and local government agencies; elected officials; environmental and public interest groups; Native American tribes; other interested parties; and local libraries and newspapers. In response to the NOI, the Commission received comments from the Treasure Coast Democratic Environmental Caucus, Seminole Tribe of Florida, Sierra Club, the Economic Council of Okeechobee County, and Guy Yudin & Foster LLP on behalf of Treasure Coast Democratic Environmental Caucus. The primary issues raised by the commentors concern air quality, cumulative impacts, potential future projects and connected actions, cultural resources, project need, alternatives, and greenhouse gas and upstream emissions. We considered these comments, and as appropriate, they are addressed in our environmental analysis.

Regarding the Sierra Club's comments on the need for the Project; specifically, the claimed lack of evidence supporting the need for the OCEC and evidence supporting the value of solar power, we note that the Commission will address the Project's need in any subsequent Order. The OCEC is a non-jurisdictional project and was authorized pursuant to the applicable Florida state regulations. Therefore, it is not part of the proposed action considered by the Commission.

Also, regarding Guy Yudin & Foster LLP's comments on potential future projects and connected actions; specifically, liquefied natural gas (LNG) projects, we note that FSC is requesting authorization to construct and operate a natural gas (not LNG) transmission pipeline subject to section 7(c) of the NGA. Any planned or proposed LNG import or export terminal subject to the Commission's jurisdiction must request authorization under section 3 of the NGA. LNG projects requesting this authorization are subject to the applicable environmental review processes. Therefore, speculative LNG projects are not addressed further in this EA.

² The Commission's eLibrary is accessible at www.ferc.gov. To review Project documents, select "General Search" from the eLibrary menu, enter docket number CP17-463 in the "Docket Number" field, and select an appropriate date range.

6.0 Land Requirements

Installing the pipeline and associated facilities would require the temporary use of approximately 120 acres of land. The pipeline would be installed within an 80-foot-wide construction right-of-way supplemented by numerous additional temporary workspaces. Access to the construction right-of-way and workspaces would come from six existing roads. A 20-acre contractor yard (and staging area) located at the OCEC site would also be required. Following construction, approximately 70 acres of land would be returned to pre-existing condition and use, to the extent practical. Operating and maintaining the Project would require the permanent use of approximately 30 acres of land (50-foot-wide permanent easement).

7.0 Construction Procedures

The pipeline facilities would be primarily installed using industry standard “open-cut” construction methods. Standard open-cut construction generally occurs in a linear sequence: survey, staking, clearing, grading, trenching, stringing, lowering in, backfilling, testing, clean-up, and restoration. Erosion control devices and other environmental and safety measures would be installed (and maintained) as necessary. These methods would also be used to cross waterbodies and wetlands.

Upon completion of construction activities and after backfill, the pipeline would be hydrostatically tested to ensure its integrity. Hydrostatic test water would be acquired from and returned to the OCEC site.

A conventional bore and a horizontal directional drill (HDD) would be used to cross US 441 and the Florida Turnpike, respectively. A conventional bore is completed by excavating pits on both sides of the crossed feature (in this case, a road). An auger/bore machine is placed in one of the pits; it then bores underneath the crossed feature, and the pipeline segment is pulled through the bore hole. An HDD allows for a trenchless installation across an area, typically a sensitive or difficult crossing, such as a highway, waterbody, or wetland. An HDD involves drilling a pilot hole below the crossed feature and then enlarging the hole until it is large enough for pipe installation. Pipe sections are prefabricated along the right-of way then pulled through the hole. In its application, FSC provided site-specific bore and HDD drawings/plans. We have reviewed these plans and find them to be acceptable.

FSC would construct and hydrostatically test the Project in accordance with applicable federal and state permits, regulations, guidelines, and plans including its *Upland Erosion Control, Revegetation and Maintenance Plan* (Plan) and *Wetland and Waterbody Construction and Mitigation Procedures* (Procedures). We have reviewed FSC’s Plan and Procedures and find they are consistent with the Commission’s versions of these documents³.

³ The FERC Plan and Procedures are a set of construction and mitigation measures that were developed to minimize the potential environmental impacts of the construction of pipeline projects in general. Copies may be accessed on our web site (www.ferc.gov/industries/gas/enviro/guidelines.asp) or obtained through our Office of External Affairs (1-866-208-3372).

FSC anticipates beginning construction in mid-2018 and has stated that construction and restoration would require approximately four to five months to complete.

8.0 Operation and Maintenance

FSC would operate and maintain the proposed facilities in accordance with federal and state safety regulations including 49 CFR 192, Transportation of Natural and Other Gas by Pipeline: Minimum Safety Standards; and 18 CFR 380.15, Siting and Maintenance Requirements.

9.0 Environmental Compliance

To ensure compliance with all environmental measures during construction, FSC would adhere to all applicable regulations, permits, and approvals including any Commission Order. FSC would also employ an environmental inspector (EI) who will have the authority to enforce the implementation of environmental measures, and if necessary, stop work.

10.0 Permits, Approvals, and Regulatory Consultations

FSC would obtain all necessary permits, licenses, clearances, and approvals related to construction and operation of the Project. Table 1 lists federal and state permits related to construction and operation of the Project. FSC would be responsible for obtaining all applicable permits for its Project regardless of whether the required permit appears in the table or not.

Table 1 Permits, Approvals, and Regulatory Consultations			
Agency/Organization	Permit/Approval or Consultation	Date Submitted	Date Received
Federal Energy Regulatory Commission	NGA Section 7(c)	June 2017	Pending
U.S. Army Corps of Engineers	Authorization under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act under Nationwide Permit 12	April 2017	June 2017
U.S. Fish and Wildlife Service	Endangered Species Act, Section 7 Consultation	April 2017	June 2017
Florida Department of Environmental Protection	Environmental Resource Permit		March 2017

Table 1
Permits, Approvals, and Regulatory Consultations

Agency/Organization	Permit/Approval or Consultation	Date Submitted	Date Received
Florida Department of State, Division of Historic Resources	National Historic Preservation Act, Section 106 Compliance		Pending
Florida Fish and Wildlife Conservation Commission	State listed species consultation		Pending

B. ENVIRONMENTAL ANALYSIS

This analysis describes the condition of the existing natural and human environment and the potential impacts on it resulting from installation and operation of the Project. In the following discussion, we address soils, groundwater, surface water, wetlands, vegetation, wildlife, special status species, land use, cultural resources, air quality, noise, and reliability and safety. Additionally, based on our review of FSC's application and supplemental information, we have determined that installing and operating the proposed facilities would not affect geology and fisheries; therefore these resource are not addressed further. Additionally, FSC's use of existing roads to access workspace would not measurably affect the environment and as a result, these roads are not considered further in this analysis. This analysis also addresses alternatives to the proposed Project and cumulative impacts that may result when the Project's impacts are added to the impacts of past, present, and reasonable foreseeable future projects.

This analysis generally describes the following categories of impacts and effects: temporary, short-term, long-term, and permanent. A temporary effect generally occurs during construction with the resource returning to pre-construction condition immediately after restoration or within a few months. A short-term effect could continue for up to 3 years following construction. Long-term effects would last more than 3 years, but the affected resource would eventually recover to pre-construction conditions. A permanent effect would result from an activity that modifies a resource to the extent that it would not return to pre-construction conditions. For each resource, our analysis collectively addresses the direct and indirect effects of the proposed action.

1.0 Soils

The facilities would cross a variety of sandy soils including Immokalee Fine Sand and Myakka Fine Sand which are the two most common soil types in Okeechobee County. These soils are considered limited for agricultural and other uses, and have been generally characterized as poorly drained.

Installing the facilities would temporarily and permanently affect soils. Specifically, the aboveground facilities would result in the permanent loss of soil use, whereas the pipeline, in most cases, would only temporarily affect soils. Temporary effects include the disturbance of soil structure and other soil characteristics including a soil's ability to retain moisture. A reduction in moisture retention could result in increased erosion and fugitive dust. In addition to the temporary effects of construction, short-term effects on soils from construction could result in ponding, uneven grade, increased erosion potential, and poor revegetation.

To avoid and minimize potential effects on soils, FSC would implement measures described in its Plan. These measures include installing erosion control devices, segregating topsoil, restoring grades, and addressing potential compaction.

Based on the scope of the Project, the characteristics of the soils underlying the facilities, and FSC's implementation of impact minimization measures, we have determined that installing and operating the facilities would not significantly affect soils.

2.0 Water Resources

Groundwater

The facilities would overlie the Floridan Aquifer System (FAS). As a whole, the FAS is one of the most productive aquifers in the world, extending for more than 100,000 square miles and providing drinking water to approximately 10 million people. In 2005, about 60 percent of the 2.5 billion gallons per day of groundwater used in Florida was obtained from the FAS. Of the groundwater used, public supply accounted for 52 percent, followed by agriculture (31 percent) and commercial-industrial-mining (8.5 percent). The pipeline would be located within 1,000 feet of a public water supply well and within 2,500 feet of six private water supply wells. No wellhead protection areas would be crossed by the pipeline.

Installing the facilities could affect groundwater quality and flow. Shallow groundwater, requiring trench dewatering, is reasonably likely to be present. If shallow groundwater encountered, construction could increase groundwater turbidity, resulting in a temporary and localized adverse effect on water quality. Additionally, an inadvertent release of construction equipment fluid(s) or HDD drilling fluid(s) could adversely affect groundwater quality. Construction could also affect infiltration rates, groundwater recharge, and local groundwater flow. It is unlikely, based on the distance to the identified wells that installation of the pipeline would affect these wells; however, if affected, FSC would remediate the effect or compensate the affected party for damages.

To avoid and minimize effects on groundwater, FSC would implement measures described in its Plan and Procedures and its other construction plans including its Spill Prevention, Control, and Countermeasures Plan. Therefore, based on FSC's proposed construction procedures and its impact avoidance and minimization measures, we conclude that potential impacts on groundwater would be temporary, minor, and localized and that installing and operating the facilities would not significantly affect groundwater.

Surface Waters

Installing the pipeline would require the crossing of eight small roadside and agricultural ditches, stock ponds, and other water conveyance features, none of which are considered sensitive, special, or unique. No named streams, river, tributaries, or lakes would be affected by the Project. As described previously, these waterbodies would be crossed using standard, open-cut methods in accordance with FSC's Procedures, and impacts on these waterbodies would be minor and temporary. Based on the size and nature of these features, we have determined that installing and operating the Project facilities would not significantly affect surface waters.

Wetlands

Installing the Project facilities would require crossing nine wetlands, including palustrine emergent, scrub-shrub, forested, and mixed emergent/forested types. Many of these are in agricultural/pasture areas and are currently subject to cattle disturbance. Affected wetlands range in size from 0.3 acre to 1.3 acres each; about 4 acres of wetland habitat would be affected overall.

Installing and operating the Project would temporarily and permanently affect wetlands. In general, effects on wetlands would be temporary except for about 2 acres of forested wetland that would be permanently converted to emergent wetlands due to the presence of the operational right-of-way. Additionally, wetland soils would be disturbed and the hydrological characteristics of the affected wetlands could be altered. However, these effects should be temporary as soils and grades would be restored.

To avoid and minimize impacts on wetlands, FSC would implement measures described in its Procedures, which include reducing workspace through wetlands such that the construction right-of-way would not exceed 75 feet in width. FSC, in agreement with the Florida Department of Environmental Protection and the U.S. Army Corps of Engineers (USACE) has also committed to mitigate wetland impacts. Therefore, we have determined that installing and operating the facilities would not significantly affect wetlands.

3.0 Vegetation and Wildlife

The pipeline would cross several vegetation types including managed and unmanaged upland grasses (pasture), upland shrub (palmetto prairie), mixed-woods/forest (pine flatwoods), and wetlands. These vegetation types provide habitat for a variety of commonly found wildlife including small mammals, reptiles, birds, and amphibians. A majority of the vegetation that would be crossed, approximately 44 acres, has been characterized as pasture. Only 8 acres of mixed-woods/forest would be crossed.

Installing and operating the pipeline would require the temporary and permanent clearing of vegetation. As noted above, the Project would result in a long-term effect on mixed-woods/forest. Approximately, 6 acres of mixed-woods/forest would be permanently converted to upland grass; and 2 acres of this would be allowed to revert to previous use. The loss of vegetation could temporarily affect soils, surface water flow, groundwater, and increase the potential for the introduction of exotic and invasive species. The loss of vegetation would also reduce the amount of habitat available to wildlife and would result in the creation of forested edges. Furthermore, the general use of construction equipment could alter wildlife behavior, resulting in avoidance and/or displacement. Affected wildlife could experience increased rates of mortality, injury, and stress.

Once installation of the facilities is complete, FSC would revegetate affected lands in accordance with the measures identified in its Plan (or, in the case of wetlands and riparian areas,

with the Procedures) and would periodically perform vegetation maintenance on the permanent easement. Operating the pipeline could affect vegetation and wildlife in a manner similar to that described for installation; however, because there would typically be no ground disturbance during operation, these impacts would be relatively minor. Therefore, we have determined that installing and operating the facilities would not significantly affect vegetation and wildlife.

Migratory Birds

Migratory birds are protected by the Migratory Bird Treaty Act (16 U.S. Code 703-711). This Act governs and prohibits the take and certain other impacts on migratory birds and their nests. Executive Order (EO) 13186 was issued, in part, to ensure that environmental analyses of federal actions assess the impacts on migratory birds. EO 13186 also states that emphasis should be placed on species of concern, priority habitats, and key risk factors; and prohibits the take of any migratory bird without authorization from the U.S. Fish and Wildlife Service (USFWS). The Commission and the USFWS have entered into a Memorandum of Understanding that focuses on avoiding or minimizing adverse impacts on migratory birds and strengthening migratory bird conservation through enhanced collaboration between the Commission and the USFWS by identifying areas of cooperation. This voluntary memorandum does not waive legal requirements under any other statutes and does not authorize the take of migratory birds.

A variety of migratory birds and birds of conservation concern use or could use the grassland and forested vegetation and habitat affected by the Project. These birds use these habitats for resting (stopover), sheltering, foraging, breeding, and/or nesting. Consistent with EO 13186 which emphasizes a focus on species of concern and priority habitats, the Project would be located within the North American Bird Conservation Initiative - Bird Conservation Region 31. Forty-nine birds of conservation concern occurring or potentially occurring in the Project area have been identified in the USFWS publication *Birds of Conservation Concern 2008*.⁵

The temporary and permanent loss of wildlife habitat and the general disruption created by the use of construction equipment could result in the displacement of migratory birds and their avoidance of affected lands. Displacement and avoidance could impact bird migration, nesting, foraging, and mating behaviors. Behavior changes combined with the loss of habitat could increase the rates of mortality, injury, and stress experienced by migratory birds.

Based on the scope of the Project, the characteristics and habitat requirements of the birds of conservation concern and migratory birds occurring or potentially occurring in the Project area, the presence of similar habitats adjacent to and in the vicinity of the Project, and the relatively short duration of construction activities, we have determined that installing and

⁵ Birds of Conservation Concern 2008 is available for review at <http://www.fws.gov/migratorybirds/NewReportsPublications/SpecialTopics/BCC2008/BCC2008.pdf>

operating the pipeline would not result in population-level impacts or significant measurable negative impacts on birds of conservation concern or migratory birds.

4.0 Protected Species and Habitats

The Commission is required by Section 7 of the Endangered Species Act to ensure that the Project would not jeopardize the continued existence of a federally listed threatened or endangered species, or result in the destruction or adverse modification of the designated critical habitat of a federally listed species.

The pipeline would be located within the range of several federally listed and state-protected species. The federally listed species are: Florida grasshopper sparrow (*Ammodramus savannarum floridanus*); Florida scrub-jay (*Aphelocoma coerulescens*); Eastern indigo snake (*Drymarchon couperi*); Gopher tortoise (*Gopherus polyphemus* [candidate]); Wood stork (*Mycteria americana*); Red-cockaded woodpecker (*Picoides borealis*); Audubon's crested caracara (*Polyborus plancus audubonii*); Everglade snail kite (*Rostrhamus sociabilis plumbeus*); and Carter's mustard (*Warea carteri*). No designated critical habitat for any species would be affected by the Project.

Based on our review of the Project and the habitat requirements of the identified federally listed species, we have determined that the Project would not affect Florida grasshopper sparrow, red-cockaded woodpecker, and Carter's mustard. As part of the environmental review of the OCEC, the USFWS' South Florida Ecological Services Office considered the construction and operation of the FSC pipeline and associated facilities as a connected action. In a Biological Opinion dated December 2, 2016, the USFWS concurred that the OCEC and associated FSC pipeline is not likely to adversely affect the Audubon's crested caracara, Everglade snail kite, Florida scrub-jay, and wood stork; and that the Project is likely to adversely affect, but is not likely to jeopardize the continued existence of the eastern indigo snake. FSC would adhere to the USFWS' *Standard Protection Measures for the Eastern Indigo Snake*. Additionally, 12 gopher tortoise burrows were identified on lands crossed by FSC's proposed lateral. In accordance with Florida Wildlife Conservation Commission permits, prior to construction, FSC would inspect burrows encountered and, as appropriate, excavate and relocate tortoises outside of construction workspaces. Installing and operating the Project would not significantly affect gopher tortoises. Prior to constructing the facilities, FSC would implement numerous measures (surveys and protective actions) to ensure potential effects on threatened and endangered species are appropriately avoided and minimized.

State-listed Species

All of the federally listed species addressed above are also protected by the State of Florida. In addition to these species, several other state-protected species occur or potentially occur in Okeechobee County. These species are: Florida burrowing owl (*Athene cunicularia floridana*); little blue heron (*Egretta caerulea*); tricolored heron (*Egretta tricolor*); Southeastern American kestrel (*Falco sparverius paulus*); Florida sandhill crane (*Grus canadensis pratensis*); Florida pine snake (*Pituophis melanoleucus mugitus*); Sherman's fox squirrel (*Sciurus niger*

shermani); many-flowered grass-pink (*Calopogon multiflorus*); hartwrightia (*Hartwrightia floridana*); Celestial lily (*Nemastylis floridana*); Cutthroat grass (*Panicum abscissum*); Giant orchid (*Pteroglossaspis ecristata*); and Florida willow (*Salix floridana*).

These species occur or potentially occur in wetland, grassland, and forested habitats. As described previously, these types of habitats would be affected by installing and operating the pipeline. We conclude, based on our review of the life and habitat requirements of the aforementioned Florida protected species, the expected effects on wildlife habitats, and FSC's implementation of measures to avoid and minimize impacts on the environment, that installing and operating the Project would not significantly affect these species.

5.0 Land Use

The pipeline would cross pasture, residential, citrus orchard, and industrial (roadways) lands. Approximately 54 percent of lands that would be crossed are classified as improved or unimproved pasture. The Project would also cross lands that are not actively managed, including wetlands, wooded/forested, and other uplands. In general, the Project area can be described as rural and agricultural, and does not contain lands supporting specially managed federal, state, or other uses. Only a small amount of citrus orchard would be crossed on the OCEC site. This orchard will eventually be cleared as part of the OCEC activities.

Installing and operating the facilities would temporarily and permanently affect land uses. With the exception of wooded/forested lands and forested wetlands, the impacts would be temporary. During installation of the pipelines, existing land uses would be prevented/suspended, but would be allowed to resume once the Project is complete. The temporary suspension of land uses could affect agricultural production and grazing patterns. Additionally, the installation of the pipeline would result in a long-term impact on wooded/forested lands not permanently maintained during operation. However, these lands would be allowed to return to their previous use following construction. Operating the pipeline would result in the permanent conversion of wooded/forested lands and forested wetlands to industrial/commercial use (permanent easement). Forested lands permanently affected would be restricted such that trees would no longer be planted or allowed to mature.

As described previously, the pipeline would cross under US 441 and the Florida Turnpike. The use and crossing of these and other roads could temporarily affect local traffic patterns, and heavy construction equipment could affect road wear/conditions. The use of the trenchless crossing techniques would minimize the effects of the Project on US 441 and the Florida Turnpike.

Based on the location of the pipeline and the amount of land necessary to install and operate the facilities, we have determined that installing and operating the facilities would not significantly affect land use. Additionally, as provided in the Florida Department of Environmental Protection, Environmental Resource Permit, the Project would also be consistent with Florida's Coastal Zone Management Program.

6.0 Cultural Resources

Section 106 of the National Historic Preservation Act, as amended, requires the FERC to take into account the effects of its undertakings on properties listed in or eligible for listing in the National Register of Historic Places and afford the Advisory Council on Historic Preservation an opportunity to comment on the undertaking. FSC, as a non-federal party, is assisting the Commission in meeting these obligations under Section 106 and the implementing regulations at 36 CFR 800 by preparing the necessary information, analyses, and recommendations, as authorized by 36 CFR 800.2(a)(3).

FSC conducted a cultural resources survey of the 5.2-mile-long Okeechobee Lateral within a 300-foot-wide survey corridor. The survey identified two previously recorded historic resources, a vernacular frame house and a railroad, both previously determined to be not eligible for listing in the National Register. The survey did not identify any archaeological sites within the Project area, and there would be no effect on historic properties. On October 13, 2016, the Florida State Historic Preservation Officer (SHPO) concurred. We also concur. The Project will use six existing roads to access the construction work areas. The contractor staging and storage yard, and the receiver and meter station for the Project are located on the OCEC site and have already been permitted by the USACE. The USACE determined that the permitted OCEC project (which incorporates the FSC Project) would have no effect to historic properties, and we concur.

The FERC sent its NOI to the Seminole Tribe of Florida to notify them of the Project and solicit comments. The Tribe responded that so long as FSC adheres to the permit conditions set forth by the USACE Jacksonville District, the Tribe had no objections to the Project. The USACE permit specified that FSC conduct additional testing and provide a tribal monitoring plan. FSC has provided a tribal monitoring plan but not the results of the additional testing. We have not received comments from the USACE or the Tribe regarding the monitoring plan.

FSC previously prepared a plan in the event any unanticipated historic properties or human remains were encountered during construction, which the Commission reviewed and approved in Docket No. CP14-554-000. FSC has updated that plan for this docket. We find the updated plan to be acceptable.

Since consultation and testing for the Project is not yet complete, in order to ensure the FERC's responsibilities under Section 106 of the National Historic Preservation Act and implementing regulations are met, **we recommend that:**

- **FSC should not begin construction of facilities and/or use of any staging, storage, or temporary work areas and new or to-be-improved access roads until:**
 - a. **FSC files with the Secretary:**
 - (1) **remaining cultural resources survey report(s);**
 - (2) **site evaluation report(s) and avoidance/treatment plan(s), as required; and**
 - (3) **comments on the cultural resources reports and plans from the Florida SHPO, the USACE, and Seminole Tribe of Florida;**
 - b. **the Advisory Council on Historic Preservation is afforded an opportunity to comment if historic properties would be adversely affected; and**
 - c. **the FERC staff reviews and the Director of OEP approves the cultural resources reports and plans, and notifies FSC in writing that treatment plans/mitigation measures (including archaeological data recovery) may be implemented and/or construction may proceed.**

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

7.0 Air Quality and Noise

Air Quality

Federal and state air quality standards are designed to protect human health. The U.S. Environmental Protection Agency (EPA) has developed National Ambient Air Quality Standards (NAAQS) for criteria air pollutants such as oxides of nitrogen (NO_x), carbon monoxide (CO), sulfur dioxide (SO₂), and inhalable particulate matter (PM_{2.5} and PM₁₀). PM_{2.5} includes particles with an aerodynamic diameter less than or equal to 2.5 micrometers, and PM₁₀ includes particles with an aerodynamic diameter less than or equal to 10 micrometers. The NAAQS were set at levels the EPA believes are necessary to protect human health and welfare. Volatile organic compounds (VOC) are regulated by the EPA mostly to prevent the formation of ozone, a constituent of photochemical smog. Many VOCs form ground-level ozone by reacting with sources of oxygen molecules such as NO_x in the atmosphere in the presence of sunlight. NO_x and VOCs are referred to as ozone precursors. Hazardous air pollutants are also emitted during fossil fuel combustion and are suspected or known to cause cancer or other serious health effects, such as reproductive effects or birth defects; or adverse environmental effects.

Greenhouse Gases (GHG) produced by fossil-fuel combustion are carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O). GHGs are non-toxic and non-hazardous at normal ambient concentrations, and there are no applicable ambient standards or emission limits for GHGs under the Clean Air Act. Emissions of GHGs are typically expressed in terms of CO₂ equivalents (CO₂e).

If measured ambient air pollutant concentrations for a subject area remain below the NAAQS criteria, the area is considered to be in attainment with the NAAQS. The Project area is designated as “attainment” for all criteria pollutants under the NAAQS.

The Clean Air Act is the basic federal statute governing air pollution in the United States. We have reviewed the following federal requirements and determined that they are not applicable to the proposed Project:

- New Source Review;
- Title V;
- National Emissions Standards for Hazardous Air Pollutants;
- New Source Performance Standards;
- Greenhouse Gas Reporting Rule; and
- General Conformity.

During construction, a temporary reduction in ambient air quality may result from criteria pollutant emissions and fugitive dust generated by construction equipment. The quantity of fugitive dust emissions would depend on the moisture content and texture of the soils that would be disturbed. Fugitive dust and other emissions from construction activities generally do not pose a significant increase in regional pollutant levels; however, local pollutant levels could increase. Dust suppression techniques, such as watering the right-of-way may be used as necessary in construction zones near residential and commercial areas to minimize the impacts of fugitive dust on these areas. The emissions of criteria pollutants, VOCs, defined hazardous air pollutants, and GHG emissions from construction of the short pipeline lateral would be very small and would have no impact on regional air quality. Depending on weather conditions during the five month construction period, fugitive dust may occur within close proximity to the construction right-of-way; however, these emissions would be small and temporary.

The pipeline would also have very minor fugitive methane emissions during operations. These emissions are very small (estimated at less than 1 metric ton per year). The Project would transport up to 400 million cubic feet of natural gas per day to the OCEC. The end use of this natural gas volume and associated GHG emissions were accounted for within the Southeast Market Pipelines Project final supplemental environmental impact statement.⁶

We received a comment from the Sierra Club requesting that we provide the upstream GHG emissions from induced gas production due to the Project. That is outside the scope of this environmental review, as the upstream emissions are nowhere near the Project area, and in any event, are not an indirect effect of the Project.

⁶ FERC accession number 20180205-3021 at p. 8.

Based on the short duration of construction activities; the scope of pipeline construction, and limited emissions from operation of the proposed Project, we conclude that there would not be significant impacts on air quality due to construction or operation of the Project.

Noise

Noise associated with construction would occur along the Project route. It would be highly localized to active construction locations and would not be sustained over long periods of time. Individuals traveling near construction activities may experience a temporary noise increase, though the impact of the environmental noise level at any specific location during construction would be short-term. FSC would comply with applicable Okeechobee County noise ordinances. No noise emissions are anticipated from operation of this Project.

The nearest noise-sensitive area; i.e., residences, schools, hospitals, churches, playgrounds, etc., is the Vision Quest Correctional Facility located approximately 1,000 feet south of the Project. There are also less than a dozen farms/residences located within 500 feet of the Project, all toward the western end.

Nighttime noise levels would be unaffected, as construction is anticipated to be limited to daylight hours with the exception of the HDD and hydrostatic testing operations. There are no noise-sensitive areas within 0.5 mile of the proposed HDD. However, there is a small, infrequently used, “off-grid” hunting cabin within 0.5 mile of the HDD location. The planned hours of HDD operation are 7 am to 7 pm, 12 hours/day, 6 days/week for the entire period except the pullback stage. Pipe pullback is expected to be a 24-hour, continuous operation, barring unforeseen circumstances. HDD activity over federal holidays is not anticipated.

FSC prepared an HDD complaint mitigation plan to address possible concerns raised by nearby landowners. In the event of a noise complaint, FSC has committed to evaluate noise levels and implement mitigation measures as necessary to meet the 55-A-weighted-decibel (dBA) day-night average sound level guideline at the complaint. These mitigation measures would include evaluating the level of noise, implementing mitigation measures that could include use of various temporary noise barriers, use of exhaust silencers, relocation of equipment, or offer of temporary housing or other compensation. FSC estimates implementation of onsite mitigation measures could reduce the level of HDD-related noise at any nearby noise-sensitive area by 10 to 15 dBA. In addition to noise mitigation measures, FSC would notify the Commission and nearby residents prior to beginning HDD operations and whether 24-hour HDD operations would occur.

Based on the analyses conducted and mitigation measures proposed, we have determined that installing and operating the pipeline would not result in significant noise impacts.

8.0 Reliability and Safety

The transportation of natural gas by pipeline involves some risk to the public in the event of an accident and subsequent release of gas. The greatest hazard is a fire or explosion following a major pipeline rupture. Methane, the primary component of natural gas, is colorless, odorless,

and tasteless. It is not toxic, but is classified as a simple asphyxiate, possessing a slight inhalation hazard. If breathed in high concentration, oxygen deficiency can result in serious injury or death.

The pipeline associated with the project must be designed, constructed, operated, and maintained in accordance with the U.S. Department of Transportation Minimum Federal Safety Standards in 49 CFR 192. The regulations are intended to ensure adequate protection for the public and to prevent natural gas facility accidents and failures.

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

The operator must also establish a continuing education program to enable customers, the public, government officials, and those engaged in excavation activities to recognize a gas pipeline emergency and report it to appropriate public officials.

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

9.0 Cumulative Impacts

In accordance with NEPA, we analyzed the impacts of the Project along with the known impacts of other past, present, and reasonably foreseeable future projects (and actions) to determine the potential for cumulative impacts. Cumulative impacts occur when the incremental impacts of an action are added to the impacts of other past, present, or reasonably foreseeable future projects.

The Council of Environmental Quality states that an adequate cumulative effects analysis may be conducted by focusing on the current aggregate effects of past actions without delving into the historical details of individual past actions. In this analysis, we consider the impacts of past projects as part of the affected environment (environmental baseline) which was described and evaluated in the preceding environmental analysis. However, present effects of past actions that are relevant and useful are also considered.

As described in the environmental analysis section of this EA, installing and operating the Project would temporarily and permanently impact the environment. The Project would affect soils, water resources, vegetation and wildlife, protected species and habitats, land use, cultural resources, air quality, and noise. However, we conclude that these impacts would not be significant.

Consistent with Council of Environmental Quality guidance and to determine if potential cumulative impacts exist, we reviewed other projects located or whose impacts would be located in the areas affected by the Project. We refer to an area affected by the Project and subject to this cumulative impacts analysis as a “geographic scope.” Other projects and actions located within a geographic scope or whose impacts occur within a geographic scope may contribute to a cumulative impact. Projects and actions located outside a geographic scope are generally not considered because their potential to contribute to a cumulative impact diminishes with increasing distance from the Project. We have determined the appropriate geographic scopes for this analysis and summarize them below

Based on our review of the Project, we conclude that many of the Project-related impacts would be contained within or adjacent to the temporary construction workspaces. Therefore, we have determined that Project impacts would generally be localized and their contribution to cumulative impacts would be minor. As a result and as described below, the scope of our analysis is correlated to the magnitude of the aforementioned environmental impacts.

- Impacts on soils and land use would be largely contained within construction workspaces; and therefore, we evaluated other projects/actions with the same construction footprint as the Project.
- Impacts on water resources, vegetation and wildlife, and protected species and habitats would be contained to a relatively small area. Additionally, impacts on these resources are traditionally assessed on a watershed level because a watershed is a commonly defined ecological unit. Therefore, for these resources, we evaluated other projects/actions within the three Hydrologic Unit Code (HUC) 12-digit watersheds crossed by the Project.
- Impacts on cultural resources would be largely contained within or adjacent to construction workspaces. Therefore, we evaluated other projects/actions that overlapped with known cultural features potentially within the Area of Potential Effect, or within 0.5 mile for an historic architectural structure.
- Impacts on air quality, including fugitive dust, would be largely limited to areas within 0.25 mile of active construction. The range was increased to 0.5 mile for HDD operations.

Projects/Actions Considered

We consider the existing FSC mainline as a past project, acknowledging that previous impacts on wetland and mixed-woods/forest habitat are still manifested to some extent. The FSC mainline was completed and placed into service in June 2017. Its temporary and permanent impacts as described in the Southeast Market Pipeline Project final environmental impact statement have mostly stabilized. The OCEC (currently under construction) is within the geographic scope of the Project. Additionally, we expect several minor road

maintenance/improvement projects and residential development to occur within the HUC-12 watersheds crossed by the Project.

Okeechobee Clean Energy Center

As described previously, the 220-acre, non-jurisdictional, Florida Power & Light OCEC is a natural gas-fired, combined cycle generating station currently under construction in Okeechobee County, Florida. Adjacent to the OCEC site is an approximately 376-acre wetland mitigation site and 1,600 acres of land available for future development.

Construction and operation of the OCEC would result in the loss of 4.7 acres of wetlands; the clearing and permanent conversion of 220 acres of pasture, upland, mixed-woods/forested, and agricultural land to industrial use; and the long-term contribution to the environment of noise and generation station emissions. The OCEC would also affect soils, water resources (permanent filling of agricultural irrigation ditches), wildlife, protected species, and land use.

Impacts

The impacts resulting from the construction and operation the Project (as described in this EA) when combined with the impacts of the OCEC and the FSC mainline would result in cumulative impacts on the environment. However, as described below these cumulative impacts would be minor and the Project's contribution to these impacts would be negligible. Cultural resources would not be cumulatively affected.

At the interconnection of the Project and the OCEC, soils would be disturbed by both projects and would be permanently converted to industrial use. Both projects would permanently encumber lands for their respective operations. A total of approximately, 250 acres of land (and soil) would be permanently converted to industrial use by the projects. The HUC-12 watersheds crossed encompass approximately 160,000 acres of land. The cumulative impact on soils and land use represents 0.16 percent of land within the geographic scope. In addition to the impacts on soils and land use, vegetation (pasture, wetlands, uplands, and mixed-woods/forest) would also be affected. The FSC mainline also impacts wetlands and mixed-woods/forest vegetation. In total, the FSC mainline affected 300 acres of vegetation within the geographic scope. Combined, the three projects would result in the loss and permanent conversion of approximately 550 acres of vegetation and would represent approximately 0.34 percent of land within the geographic scope.

The modification of 220 acres of land for the OCEC would affect infiltration rates and could affect groundwater quality and flow in a manner similar to the described for the Project. Given the size of the FAS, the approximate 250 acres of ground disturbance would not result in a significant cumulative impact on groundwater. The filling of agricultural irrigation ditches within the OCEC site when combined with the crossing of several ditches and other minor surface waters by the Project would not result in a significant cumulative impact. Similarly, the permanent filling of 4.7 acres of wetlands within the OCEC when combined with the Project's impacts (permanent conversion) on wetlands (about 4 acres) would not result in a significant cumulative impact.

The temporary impact on air quality resulting from construction of the Project would not contribute significantly to the impact on air resulting from the OCEC. The Project would not affect air quality during operation.

C. ALTERNATIVES

In accordance with NEPA and Commission policy, we identified and evaluated alternatives to the Project to determine whether they would be reasonable and environmentally preferable to the proposed action. Alternatives considered include the no-action alternative and system alternatives.

When evaluating alternatives, our evaluation criteria are: 1) ability to meet the Project's stated objectives; 2) technical and economic feasibility and practicality; and 3) significant environmental advantage over the proposed action. Our evaluation of alternatives is based on Project-specific information provided by the applicant; input from stakeholders; publicly available information; and our expertise and experience regarding the siting, construction, and operation of natural gas transmission facilities and their potential impact on the environment.

Based on environmental comparison and application of professional judgement, each alternative is considered to a point where it becomes clear that the alternative could or could not meet the three evaluation criteria. To ensure a consistent environmental comparison and to normalize the comparison factors, we generally use desktop sources of information (e.g., publicly available data, geographic information system data, and aerial imagery) and assume the same right-of-way widths and general workspace requirements. Where appropriate, we also use site-specific information (e.g. field surveys or detailed designs).

Our environmental analysis and this evaluation consider quantitative data (e.g., acreage or mileage) and uses common comparative factors such as total length, amount of collocation, and land requirements. Our evaluation also considers impacts on both the natural and human environments as described in the Environmental Analysis section of this EA. In recognition of competing interests and the differing nature of impacts resulting from the implementation of an alternative (i.e., impacts on the natural environment versus impacts on the human environment), we also consider other factors that are relevant to a particular alternative and discount or eliminate factors that are not relevant or may have less weight or significance.

The first consideration for including an alternative in our analysis is whether or not it could satisfy the stated objective of the Project. An alternative that cannot achieve the objectives of a Project cannot be considered as an acceptable replacement for the Project.

Many alternatives are technically and economically feasible. Technically practical alternatives, with exceptions, would generally require the use of common construction methods. An alternative that would require the use of new, unique, or experimental construction method may not be technically practical because the required technology is not yet available or is unproven. Economically practical alternatives would result in an action that generally maintains the price competitive nature of the proposed action. Generally, we do not consider the cost of an alternative as a critical factor unless the added cost to design, permit, and construct the alternative would render the project economically impractical.

Determining if an alternative provides a significant environmental advantage requires a comparison of the impacts on each resource as well as an analysis of impacts on resources that are not common to the alternatives being considered. The determination must then balance the overall impacts and all other relevant considerations. In comparing the impact between resources, we also consider the degree of impact anticipated on each resource. Ultimately, an alternative that results in equal or minor advantages in terms of environmental impact would not compel us to shift the impacts from the current set of landowners to a new set of landowners.

One of the goals of an alternatives analysis is to identify alternatives that avoid significant impacts. As described previously, we evaluated each environmental resource potentially affected by the Project and concluded that installing and operating the Project would not significantly impact these resources. Consistent with our conclusions, the value gained by further reducing the (not significant) impacts of the Project when considered against the cost of relocating the route/facility to a new set of landowners was also factored into our evaluation.

Based on our review of the information provided by FSC, including alternatives it considered, the scope of the Project, and the potential impacts on the environment resulting from installation and operation of the proposed pipeline, we did not identify any pipeline route alternatives that would provide a significant environmental advantage to the proposed action. No significant aboveground facilities are proposed.

No-Action Alternative

If the Commission were to deny FSC's application, the Project would not be built and the environmental impacts identified in this EA would not occur. Under this alternative, FSC would not provide natural gas to the OCEC. If the no-action alternative is selected, other natural gas transmission companies could propose to construct similar facilities to meet the demand for new service at the OCEC, such actions could result in impacts similar to, less than, or greater than the Project. Therefore, because the implementation of this alternative would not meet the stated objectives of the Project and, further, would not likely result in a significant reduction in environmental impacts, it is not considered further.

System Alternatives

System alternatives to the proposed action would make use of existing or other proposed natural gas transmission systems/facilities to meet the stated objectives of the Project. Implementing a system alternative would make it unnecessary to construct all or part of the Project, although some modifications or additions to an existing transmission system/facility or other proposed transmission system/facility may be necessary.

In addition to the FSC mainline system (and associated Sabal Trail Project), two interstate natural gas transmission pipeline systems provide service to Florida; Florida Gas Transmission, LLC and Gulfstream Natural Gas System, LLC. Based on our analysis of these systems, the closest takeoff points on these systems to connect with the OCEC are approximately 18 miles (Okeechobee County) and 25 miles (Indian River County), respectively. Constructing lateral pipelines from these systems would meet the stated objectives of the Project, would likely

be technically feasible, but given the comparative distance to the OCEC (only 5.2 miles for the proposed Project), would not provide a significant environmental advantage to the proposed action, and would likely be considerably greater. Therefore, we have eliminated the identified system alternatives from consideration.

D. CONCLUSIONS AND RECOMMENDATIONS

Based on our analysis as described in this EA and FSC's implementation of our recommendations, we conclude that approval of this Project would not constitute a major federal action significantly affecting the quality of the human environment. Therefore, we recommend that the Commission Order contain a finding of no significant impact and include the measures listed below as conditions to any authorization the Commission may issue.

1. FSC shall follow the construction procedures and mitigation measures described in its application and supplements, including responses to staff data requests, as identified in the EA, unless modified by the Order. FSC must:
 - a. request any modification to these procedures, measures, or conditions in a filing with the Secretary;
 - b. justify each modification relative to site-specific conditions;
 - c. explain how that modification provides an equal or greater level of environmental protection than the original measure; and
 - d. receive approval in writing from the Director of the Office of Energy Projects (OEP) **before using that modification.**
2. The Director of OEP, or the Director's Designee, has delegated authority to address any requests for approvals or authorizations necessary to carry out the conditions of the Order, and take whatever steps are necessary to ensure the protection of all environmental resources during construction and operation of the Project. This authority shall allow:
 - a. The modification of conditions of the Order;
 - b. stop work authority; and
 - c. the imposition of any additional measures deemed necessary to assure continued compliance with the intent of the conditions of the Order as well as the avoidance or mitigation of unforeseen adverse environmental impact resulting from Project construction and operation.
3. **Prior to any construction**, FSC shall file an affirmative statement with the Secretary, certified by a senior company official, that all company personnel, EIs, and contractor personnel will be informed of the EI's authority and have been or will be trained on the implementation of the environmental mitigation measures appropriate to their jobs **before** becoming involved with construction and restoration activities.
4. The authorized facility locations shall be as shown in the EA, as supplemented by filed alignment sheets. **As soon as they are available, and before the start of construction**, FSC shall file with the Secretary any revised detailed survey alignment maps/sheets at a scale not smaller than 1:6,000 with station positions for all facilities approved by the Order. All requests for modifications of environmental conditions of the Order or site-

specific clearances must be written and must reference locations designated on these alignment maps/sheets.

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

5. FSC shall file with the Secretary detailed alignment maps/sheets and aerial photographs at a scale not smaller than 1:6,000 identifying all route realignments or facility relocations, and staging areas, pipe storage yards, new access roads, and other areas that would be used or disturbed and have not been previously identified in filings with the Secretary. Approval for each of these areas must be explicitly requested in writing. For each area, the request must include a description of the existing land use/cover type, documentation of landowner approval, whether any cultural resources or federally listed threatened or endangered species would be affected, and whether any other environmentally sensitive areas are within or abutting the area. All areas shall be clearly identified on the maps/sheets/aerial photographs. Each area must be approved in writing by the Director of OEP **before construction in or near that area.**

This requirement does not apply to extra workspace allowed by the FERC *Upland Erosion Control, Revegetation, and Maintenance Plan*, minor field realignments per landowner needs, and requirements that do not affect other landowners or sensitive environmental areas such as wetlands.

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

- a. implementation of cultural resources mitigation measures;
 - b. implementation of endangered, threatened, or special concern species mitigation measures;
 - c. recommendations by state regulatory authorities; and
 - d. agreements with individual landowners that affect other landowners or could adversely affect sensitive environmental areas.
6. **Within 60 days of the acceptance of the Certificate and before construction begins,** FSC shall file an Implementation Plan with the Secretary for review and written approval by the Director of OEP. FSC must file revisions to the plan as schedules change. The plan shall identify:
 - a. how FSC will implement the construction procedures and mitigation measures described in its application and supplements (including responses to staff environmental information requests), identified in the EA, and required by the Order;

- b. how FSC will incorporate these requirements into the contract bid documents, construction contracts (especially penalty clauses and specifications), and construction drawings so that the mitigation required at each site is clear to onsite construction and inspection personnel;
 - c. company personnel, including EIs and contractors, who will receive copies of the appropriate material;
 - d. the location and dates of the environmental compliance training and instructions FSC will give to all personnel involved with construction and restoration (initial and refresher training as the project progresses and personnel change),
 - e. the company personnel (if known) and specific portion of FSC's organization having responsibility for compliance;
 - f. the procedures (including use of contract penalties) FSC will follow if noncompliance occurs; and
 - g. for each discrete facility, a Gantt or PERT chart (or similar project scheduling diagram), and dates for:
 - (1) the completion of all required surveys and reports;
 - (2) the environmental compliance training of onsite personnel;
 - (3) the start of construction; and
 - (4) the start and completion of restoration.
7. FSC shall employ at least one EI for the Project. The EI shall be:
- a. responsible for monitoring and ensuring compliance with all mitigation measures required by the Order and other grants, permits, certificates, or other authorizing documents;
 - b. responsible for evaluating the construction contractor's implementation of the environmental mitigation measures required in the contract (see condition 6 above) and any other authorizing document;
 - c. empowered to order correction of acts that violate the environmental conditions of the Order, and any other authorizing document;
 - d. a full-time position, separate from all other activity inspectors;
 - e. responsible for documenting compliance with the environmental conditions of the Order, as well as any environmental conditions/permit requirements imposed by other federal, state, or local agencies; and
 - f. responsible for maintaining status reports.

8. Beginning with the filing of its Implementation Plan, FSC shall file updated status reports with the Secretary on a **biweekly** basis until all construction and restoration activities are complete. On request, these status reports will also be provided to other federal and state agencies with permitting responsibilities. Status reports shall include:
 - a. an update on FSC's efforts to obtain the necessary federal authorizations;
 - b. the construction status of the project, work planned for the following reporting period, and any schedule changes for stream crossings or work in other environmentally-sensitive areas;
 - c. a listing of all problems encountered and each instance of noncompliance observed by the EI during the reporting period (both for the conditions imposed by the Commission and any environmental conditions/permit requirements imposed by other federal, state, or local agencies);
 - d. a description of the corrective actions implemented in response to all instances of noncompliance, and their cost.
 - e. the effectiveness of all corrective actions implemented;
 - f. a description of any landowner/resident complaints that may relate to compliance with the requirements of the Order, and the measures taken to satisfy their concerns; and
 - g. copies of any correspondence received by FSC from other federal, state, or local permitting agencies concerning instances of noncompliance, and FSC's response.
9. **Prior to receiving written authorization from the Director of OEP to commence construction of any Project facilities**, FSC shall file with the Secretary documentation that it has received all applicable authorizations required under federal law (or evidence of waiver thereof).
10. FSC must receive written authorization from the Director of OEP **before placing the Project into service**. Such authorization will only be granted following a determination that rehabilitation and restoration of the right-of-way and other areas affected by the Project are proceeding satisfactorily.
11. **Within 30 days of placing the authorized facilities in service**, FSC shall file an affirmative statement with the Secretary, certified by a senior company official:
 - a. that the facilities have been constructed and installed in compliance with all applicable conditions, and that continuing activities will be consistent with all applicable conditions; or
 - b. identifying which of the conditions in the Order FSC has complied with or will comply with. This statement shall also identify any areas affected by the Project

where compliance measures were not properly implemented, if not previously identified in filed status reports, and the reason for noncompliance.

13. FSC shall **not begin construction of facilities** and/or use of any staging, storage, or temporary work areas and new or to-be-improved access roads until:
 - a. FSC files with the Secretary:
 - (1) remaining cultural resources survey report(s);
 - (2) site evaluation report(s) and avoidance/treatment plan(s), as required; and
 - (3) comments on the cultural resources reports and plans from the Florida SHPO, the Corps, and Seminole Tribe of Florida;
 - b. the Advisory Council on Historic Preservation is afforded an opportunity to comment if historic properties would be adversely affected; and
 - c. the FERC staff reviews and the Director of OEP approves the cultural resources reports and plans, and notifies FSC in writing that treatment plans/mitigation measures (including archaeological data recovery) may be implemented and/or construction may proceed.

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

E. LIST OF PREPARERS

Peconom, John – Project Manager; Proposed Action, Environmental Analysis, and Alternatives
B.S. Environmental Biology & Management, University of California at Davis

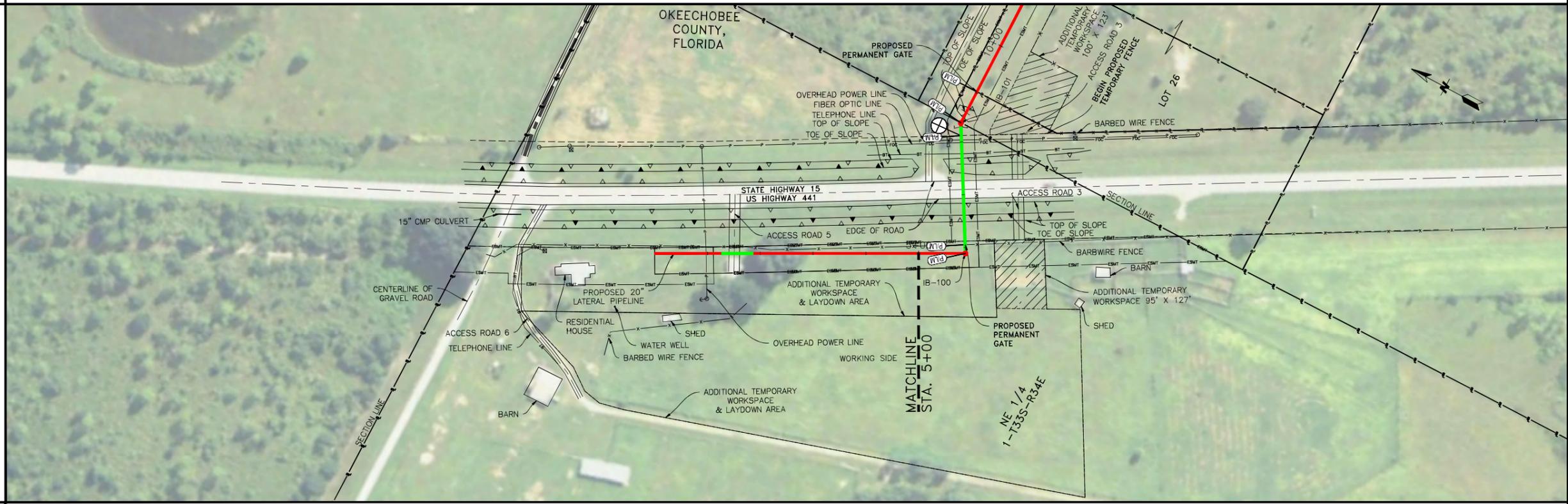
Anis, Shahid – Air Quality and Noise, Safety and Reliability
M.S. Energy, Resources & Environment, George Washington University
B.S. Mechanical Engineering, University of Maryland

Armbruster, Ellen – Cultural Resources
M.A. Anthropology, University of Pennsylvania
M.A. Anthropology, Bryn Mawr College

Appendix A

Printed 4/20/2017 09:45:38 AM
Path: K:\160320-010\CAD\PIPELINE ALIGNMENT
Saved by tcalabrese 4/21/2017

(PARCEL 1)
DURANDO OKEECHOBEE PARTNERS LLC
902' OR 54 RODS



NOTES
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LEGEND

●	INDUCTION BEND	—	MAINLINE PIPE
○	FIELD BEND	—	HEAVY WALL PIPE
⊥	LINE MARKER	⊥	AERIAL MARKER
⊕	TEST STATION	⊗	ROCK SHIELD
⊥	PIPE WEIGHT	⊥	TRENCH BREAKER
⊥	MILE POST	▨	EXTRA WORKSPACE (ATWS)
		- - -	ENVIRONMENTAL AREA

MATERIAL SUMMARY

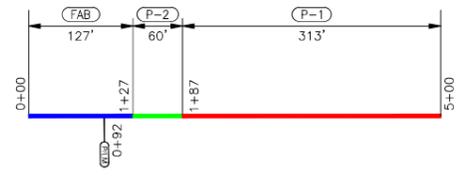
ITEM	DESCRIPTION	QTY.
P-1	20" O.D. x 0.375" W.T. x API-5L X-60, ERW, FBE	313
P-2	20" O.D. x 0.500" W.T. x API-5L X-60, ERW, ARO	60
FAB	FABRICATION	127
LM	LINE MARKER(S)	1

SURVEY STATIONING

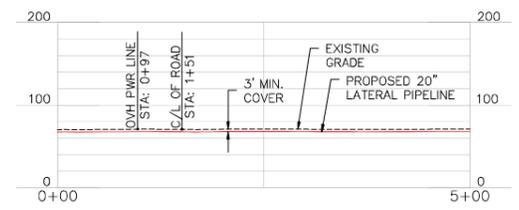
0+00 BEGIN STA.
0+89 PWR. POLE 203' LT.
0+97 OVH PWR LINE
0+99 PWR. POLE 86' RT.
1+41 EDGE OF DIRT RD.
1+51 C/L OF ROAD
1+61 EDGE OF DIRT RD.
2+03 MONUMENT 114' LT.

ENVIRONMENTAL	
DESIGN FACTOR	
CLASS	CLASS 1
MAOP	1440 PSIG

PIPE MATERIALS



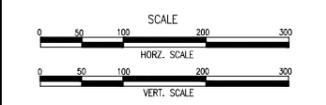
PROFILE



REVISIONS

REV.	DESCRIPTION	DRAWN	DATE	APP.

DATE	DRAWN BY	CHECKED BY	SKW JOB NO.
10/20/16	AFG - SKW	TRC - SKW	160320-010



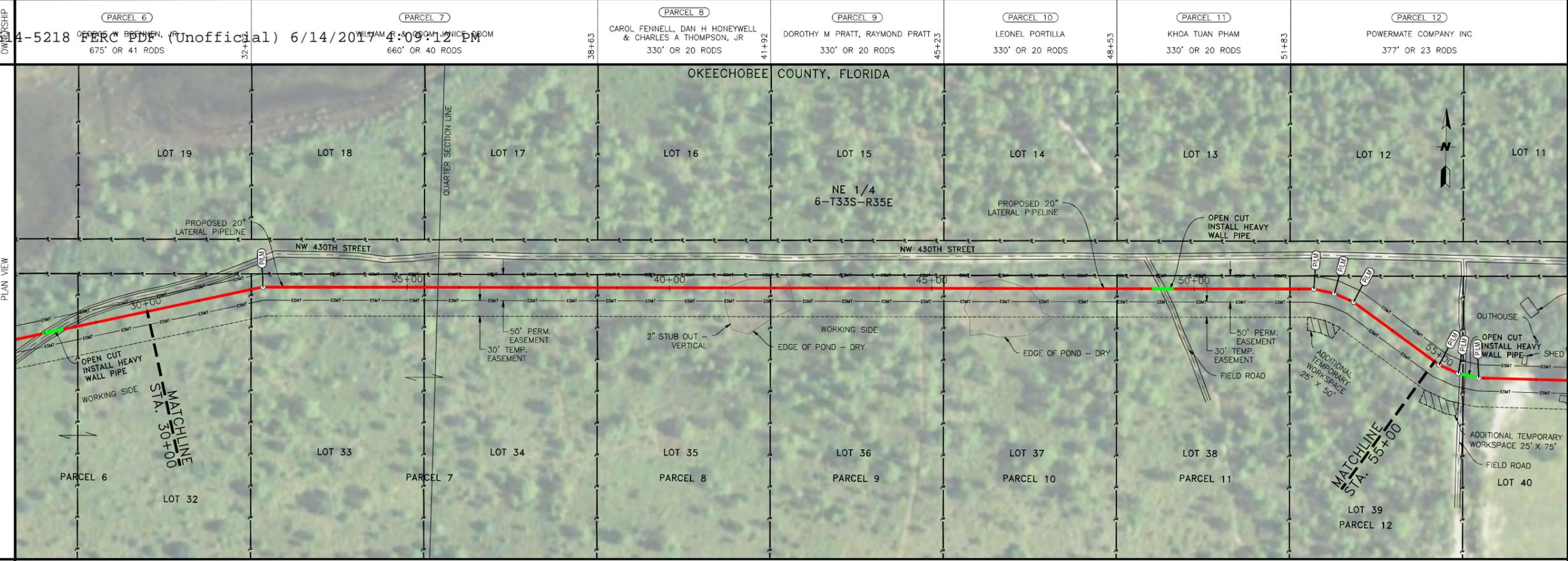
ISSUED FOR BID
DATE: 04/21/17

FLORIDA SOUTHEAST CONNECTION, LLC
OKEECHOBEE 20" LATERAL PIPELINE

FROM: 0+00	TO: 5+00
FROM: MP 0.0	TO: MP 0.1

DRAWING	SHEET
FSC-OKL-A-0201	01

Printed 4/21/2017
Path: K:\160320-010_CAD\PIPELINE ALIGNMENT
Saved by tcalabrese 4/21/2017



NOTES

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LEGEND

- INDUCTION BEND
- FIELD BEND
- LINE MARKER
- ⊕ TEST STATION
- PIPE WEIGHT
- MILE POST
- MAINLINE PIPE
- HEAVY WALL PIPE
- AERIAL MARKER
- ⊗ ROCK SHIELD
- TRENCH BREAKER
- EXTRA WORKSPACE (ATWS)
- ENVIRONMENTAL AREA

SURVEY STATIONING

30+05 BEGIN PIPE WEIGHTS	32+02 PROPERTY LINE 32+25 P.I. ?12'01"58" RT.	35+00 END PIPE WEIGHTS 35+33 PROPERTY LINE 35+59 QUARTER CORNER/TYPE	38+63 PROPERTY LINE	41+07 EDGE OF POND - DRY 41+93 PROPERTY LINE 42+31 EDGE OF POND - DRY	45+23 PROPERTY LINE 45+79 EDGE OF POND - DRY	46+80 EDGE OF POND - DRY	48+53 PROPERTY LINE 49+35 EDGE OF DIRT RD. 49+41 FIELD ROAD 49+46 EDGE OF DIRT RD.	51+83 PROPERTY LINE 52+28 P.I. ?12'00"00" RT. 52+68 P.I. ?12'00"00" RT.	53+08 P.I. ?12'07"55" RT.
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MATERIAL SUMMARY

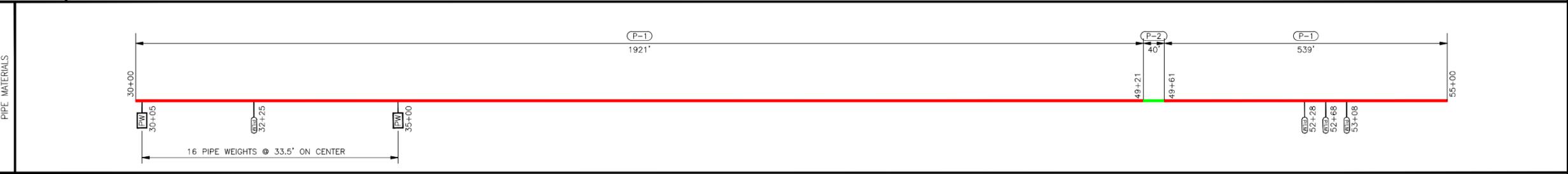
ITEM	DESCRIPTION	QTY.
P-1	20" O.D. x 0.375" W.T. x API-5L X-60, ERW, FBE	2460
P-2	20" O.D. x 0.500" W.T. x API-5L X-60, ERW, ARO	40
LM	LINE MARKER(S)	4
PW	PIPE WEIGHT(S)	16

ENVIRONMENTAL

DESIGN FACTOR

CLASS CLASS 1

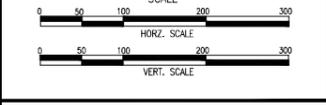
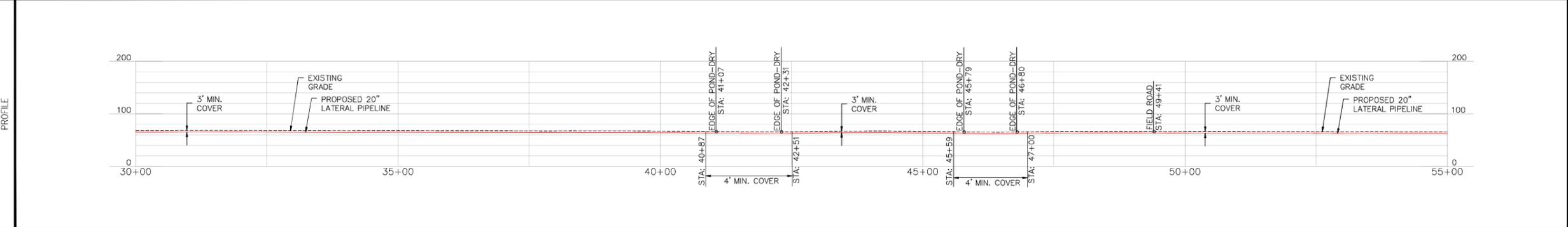
MAOP 1440 PSIG



REVISIONS

REV.	DESCRIPTION	DRAWN	DATE	APP.

DATE	DRAWN BY	CHECKED BY	SKW JOB NO.
10/20/16	AFG - SKW	TRC - SKW	160320-010



ISSUED FOR BID

DATE: 04/21/17

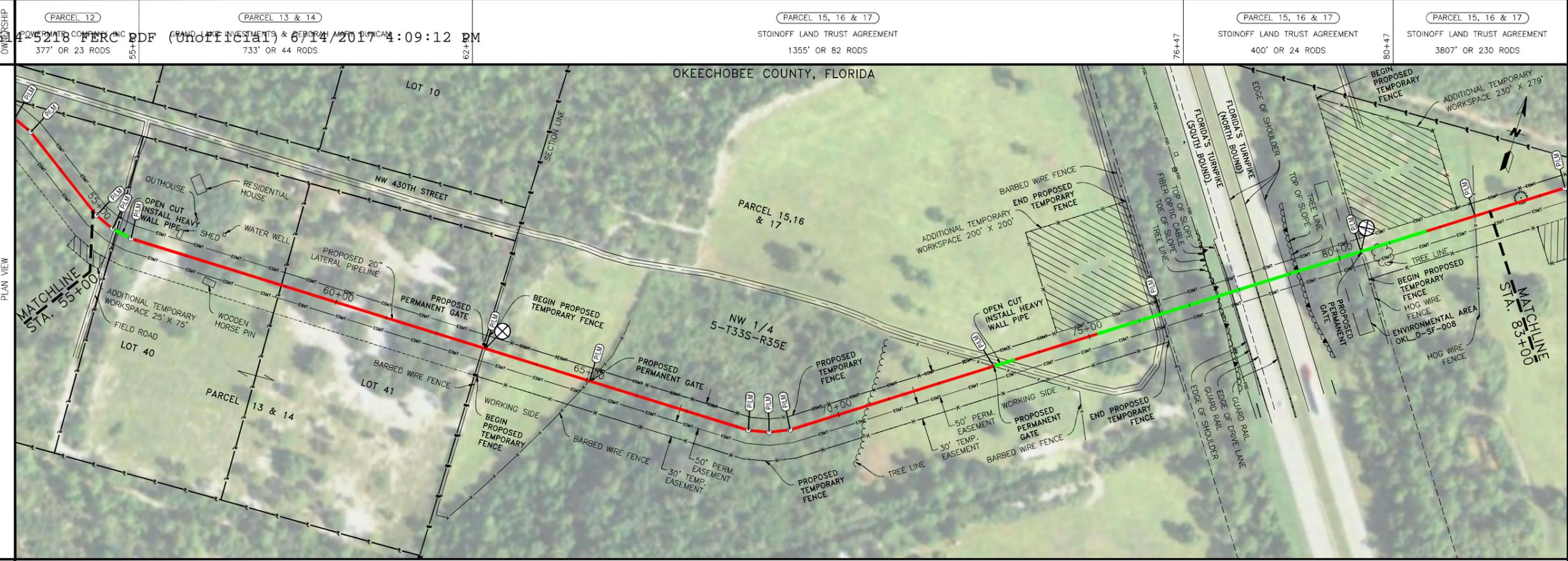
FLORIDA SOUTHEAST CONNECTION, LLC

OKEECHOBEE 20" LATERAL PIPELINE

FROM: 30+00	TO: 55+00
FROM: MP 0.6	TO: MP 1.0

DRAWING: FSC-OKL-A-0203 SHEET: 03

Printed 4/21/2017
 Path: K:\160320-010_CAD\PIPELINE ALIGNMENT
 Saved by tcalabrese 4/21/2017



SURVEY STATIONING

55+11 P.L. 212'00"00" LT.	62+93 SECTION LINE	68+23 P.L. 212'00"26" LT.	76+27 EDGE OF DIRT RD.	82+70 HOG WIRE FENCE
55+51 PROPOSED P/L	62+94 MONUMENT 213' LT.	68+63 P.L. 212'00"00" LT.	76+33 ACCESS ROAD	82+70 PIPELINE MARKER
55+51 P.L. 212'00"00" LT.	62+98 BARBED WIRE FENCE	69+03 P.L. 210'34"57" LT.	76+39 EDGE OF DIRT RD.	
55+54 EDGE OF DIRT RD.	62+98 PERMANENT GATE	70+62 TREE LINE	76+42 FENCE 42' RT.	
55+59 C/L OF ROAD	62+98 TEST STATION	71+37 FENCE 113' LT.	76+42 BARBED WIRE FENCE	
55+60 PROPERTY LINE	62+98 PIPELINE MARKER	72+00 END PIPE WEIGHTS	76+42 BARBED WIRE FENCE	
55+64 EDGE OF DIRT RD.	64+00 BEGIN PIPE WEIGHTS		76+47 R/W	
55+91 PROPOSED P/L	65+06 PERMANENT GATE		77+52 TREE LINE	
55+91 P.L. 210'32"45" LT.	65+06 BARBED WIRE FENCE		77+55 BUR. FIBER OPTIC	
56+87 HOUSE 117' LT.	65+06 PIPELINE MARKER		77+60 TOE BANK	
			77+60 TOP DITCH	
			77+83 EDGE OF FLORIDA TURNPIKE (SOUTH BOUND)	
			78+31 GUARDRAIL?	
			78+32 EDGE OF FLORIDA TURNPIKE (SOUTH BOUND)	
			78+33 GUARDRAIL?	
			78+88 EDGE OF FLORIDA TURNPIKE (NORTH BOUND)	
			78+96 EDGE OF FLORIDA TURNPIKE (NORTH BOUND)	
			79+16 TOE BANK	
			79+16 TREE LINE	
			80+42 FENCE 17' RT.	
			80+42 FENCE - BARB WIRE	
			80+43 PIPELINE MARKER	
			80+43 PERMANENT GATE	
			80+43 TEST STATION	
			80+47 R/W	

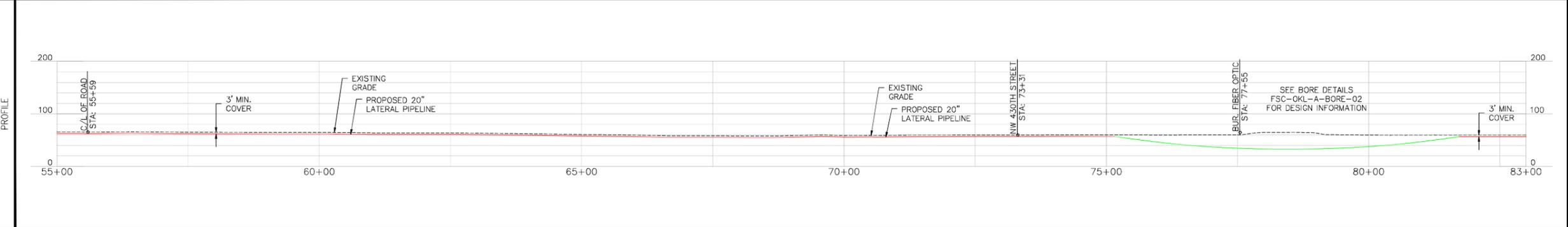
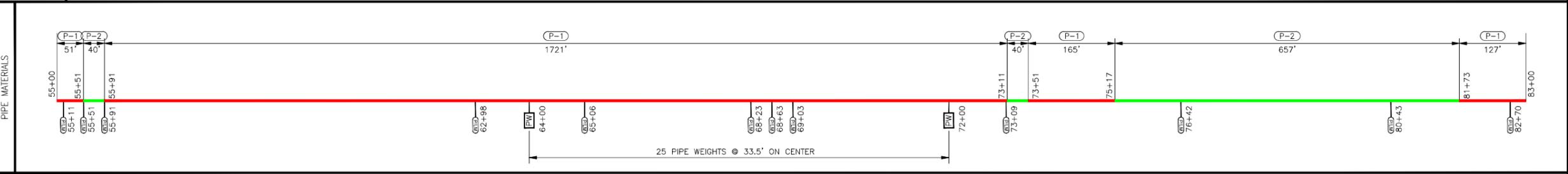
ENVIRONMENTAL

DESIGN FACTOR

CLASS CLASS 1

MAOP 1440 PSIG

ENV. AREA OKL_D_SF_008



NOTES

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LEGEND

- INDUCTION BEND
- FIELD BEND
- LINE MARKER
- TEST STATION
- PIPE WEIGHT
- MP
- MAINLINE PIPE
- HEAVY WALL PIPE
- AERIAL MARKER
- ROCK SHIELD
- TRENCH BREAKER
- EXTRA WORKSPACE (ATWS)
- ENVIRONMENTAL AREA

MATERIAL SUMMARY

ITEM	DESCRIPTION	QTY.
P-1	20" O.D. x 0.375" W.T. x API-5L X-60, ERW, FBE	2064
P-2	20" O.D. x 0.500" W.T. x API-5L X-60, ERW, ARO	737
LM	LINE MARKER(S)	12
TS	TEST STATION(S)	2
PW	PIPE WEIGHT(S)	25
PG	PERMANENT GATE	4
TF	TEMPORARY BARBED WIRE FENCE	3609

REVISIONS

REV.	DESCRIPTION	DRAWN	DATE	APP.

DATE	DRAWN BY	CHECKED BY	SKW JOB NO.
10/20/16	AFG - SKW	TRC - SKW	160320-010

ISSUED FOR BID

DATE: 04/21/17

FLORIDA SOUTHEAST CONNECTION, LLC

OKEECHOBEE 20" LATERAL PIPELINE

FROM: 55+00 TO: 83+00
 FROM: MP 1.0 TO: MP 1.6

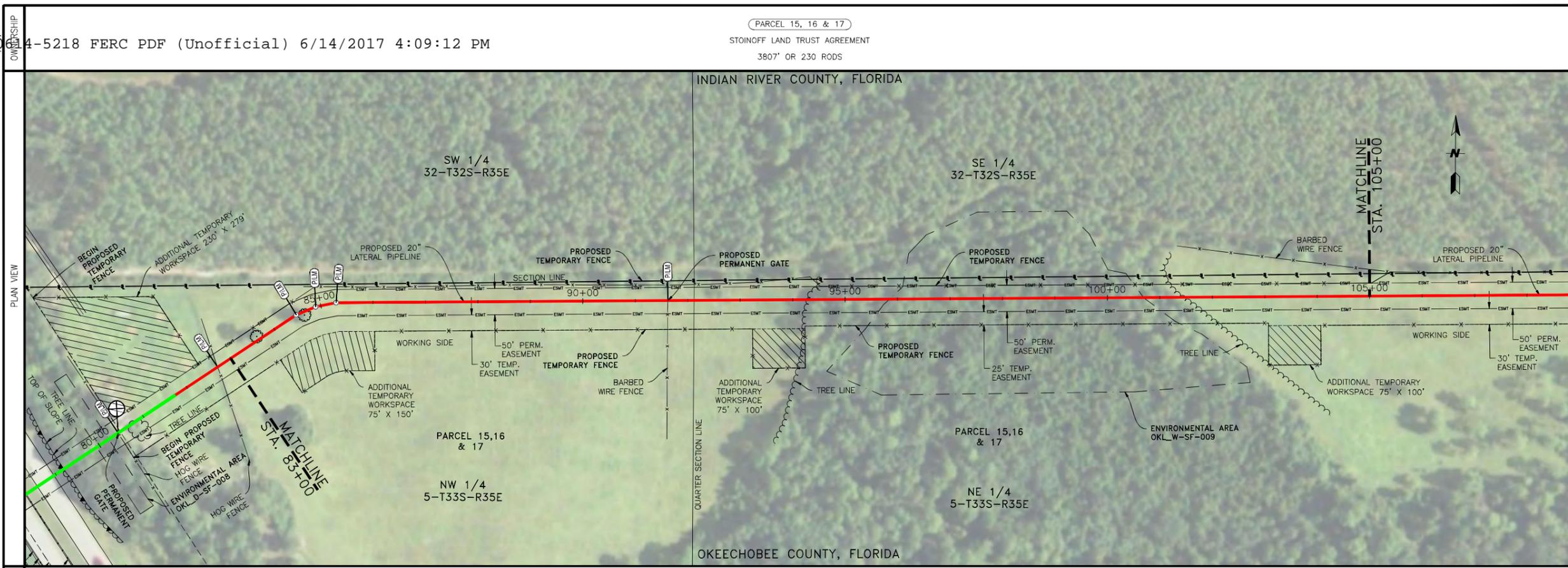
DRAWING: FSC-OKL-A-0204 SHEET: 04

PARCEL 15, 16 & 17
 STOINOFF LAND TRUST AGREEMENT
 3807' OR 230 RODS

INDIAN RIVER COUNTY, FLORIDA
 OKEECHOBEE COUNTY, FLORIDA



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LEGEND

●	INDUCTION BEND	—	MAINLINE PIPE
○	FIELD BEND	—	HEAVY WALL PIPE
⊙	LINE MARKER	⊙	AERIAL MARKER
⊕	TEST STATION	⊗	ROCK SHIELD
⊖	PIPE WEIGHT	⚡	TRENCH BREAKER
⊙	MILE POST	▨	EXTRA WORKSPACE (ATWS)
		- - -	ENVIRONMENTAL AREA

MATERIAL SUMMARY

ITEM	DESCRIPTION	QTY.
P-1	20" O.D. x 0.375" W.T. x API-5L X-60, ERW, FBE	2200
LM	LINE MARKER(S)	4
PW	PIPE WEIGHT(S)	31
PG	PERMANENT GATE	1
TF	TEMPORARY BARBED WIRE FENCE	3868

SURVEY STATIONING

84+50 P.I. 211'00"00" RT.	91+62 PERMANENT GATE	93+00 BEGIN PIPE WEIGHTS	101+39 TREE LINE	103+00 END PIPE WEIGHTS
84+84 FENCE 44' LT.	91+62 PIPELINE MARKER	94+32 TREE LINE		
84+90 P.I. 211'00"00" RT.	91+62 BARBED WIRE FENCE			
85+30 P.I. 211'09"52" RT.	91+63 FENCE 28' LT.			
	92+12 QUARTER CORNER/TYPE			

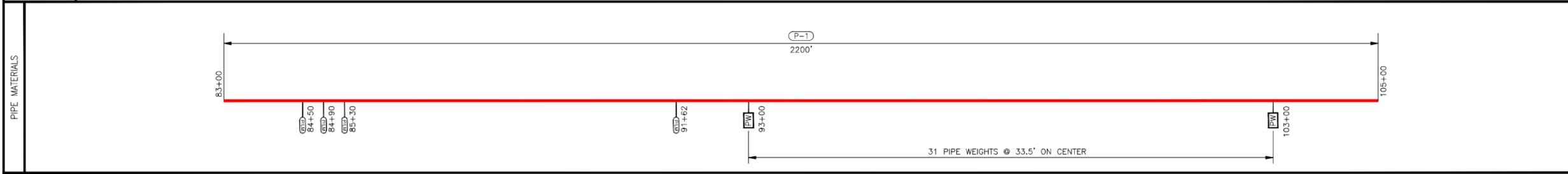
ENVIRONMENTAL

ENV. AREA OKL_W_SF_009

DESIGN FACTOR

CLASS

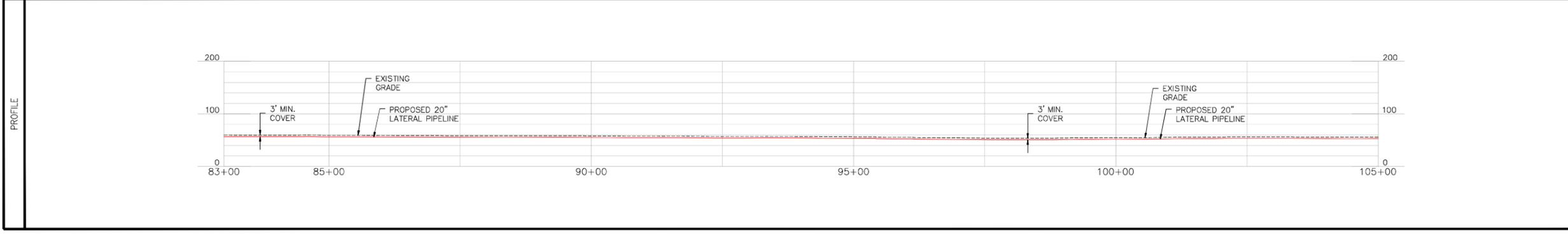
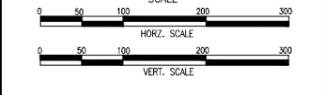
CLASS 1
1440 PSIG



REVISIONS

REV.	DESCRIPTION	DRAWN	DATE	APP.

DATE	DRAWN BY	CHECKED BY	SKW JOB NO.
10/20/16	AFG - SKW	TRC - SKW	160320-010



ISSUED FOR BID

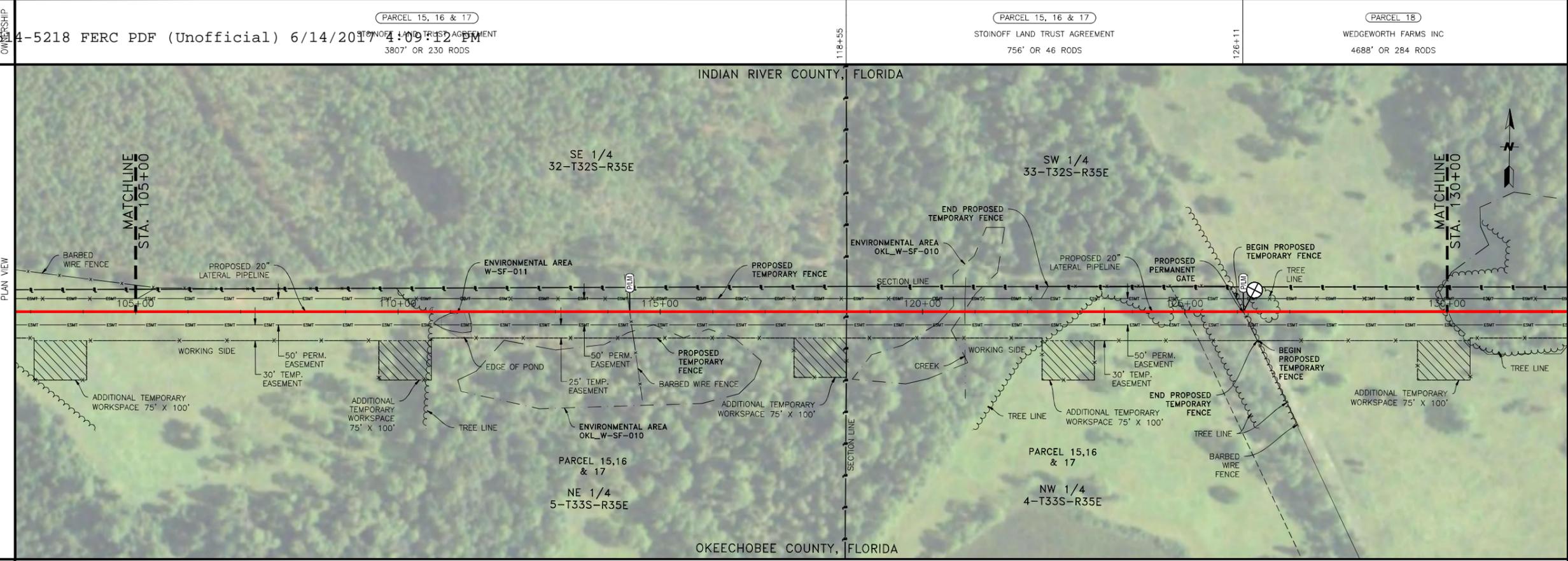
DATE: 04/21/17

FLORIDA SOUTHEAST CONNECTION, LLC
OKEECHOBEE 20" LATERAL PIPELINE

FROM: 83+00	TO: 105+00
FROM: MP 1.6	TO: MP 2.0

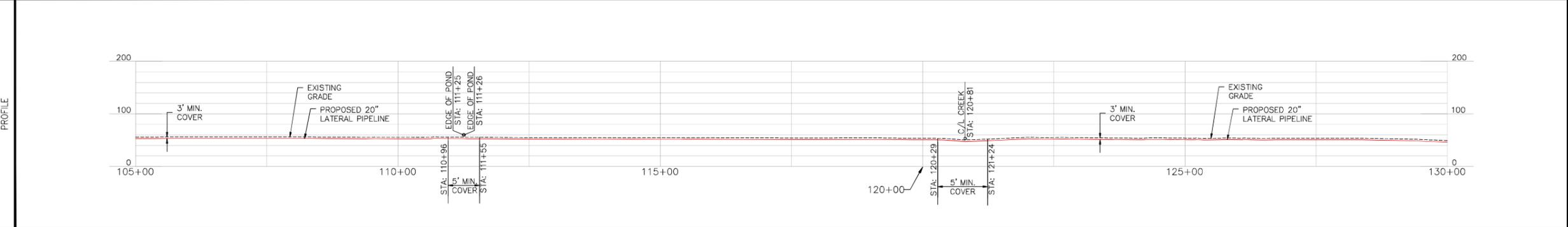
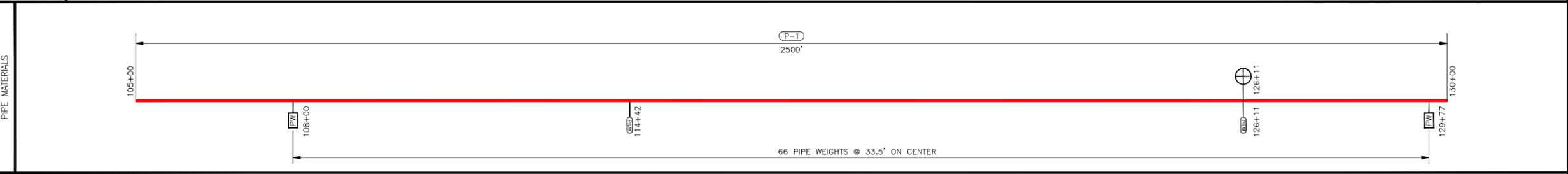
DRAWING	SHEET
FSC-OKL-A-0205	05

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 Saved by: tcalabrese 4/21/2017



STATIONING	DESCRIPTION
105+39	FENCE 46' LT.
108+00	BEGIN PIPE WEIGHTS
109+97	FENCE 45' LT.
110+67	TREE LINE
111+25	EDGE OF POND
111+26	EDGE OF POND
114+42	BARBED WIRE FENCE
114+42	PIPELINE MARKER
118+55	SECTION LINE
118+56	MONUMENT 48' LT.
120+81	C/L CREEK
122+97	TREE LINE
124+32	TREE LINE
124+72	TREE LINE
124+98	R/W
125+18	TREE LINE
126+86	FENCE 48' LT.
126+11	PROPERTY LINE
126+11	BARBED WIRE FENCE
126+11	PIPELINE MARKER
126+11	PERMANENT GATE
126+11	TEST STATION
126+12	TREE LINE
126+44	TREE LINE
126+74	TREE LINE
129+77	END PIPE WEIGHTS
129+97	TREE LINE

ENVIRONMENTAL	ENV. AREA OKL_W_SF_010
DESIGN FACTOR	
CLASS	CLASS 1
MAOP	1440 PSIG



NOTES

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LEGEND

	INDUCTION BEND		MAINLINE PIPE
	FIELD BEND		HEAVY WALL PIPE
	LINE MARKER		AERIAL MARKER
	TEST STATION		ROCK SHIELD
	PIPE WEIGHT		TRENCH BREAKER
	MILE POST		EXTRA WORKSPACE (ATWS)
			ENVIRONMENTAL AREA

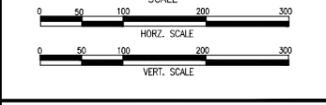
MATERIAL SUMMARY

ITEM	DESCRIPTION	QTY.
P-1	20" O.D. x 0.375" W.T. x API-5L X-60, ERW, FBE	2500
LM	LINE MARKER(S)	2
TS	TEST STATION(S)	1
PW	PIPE WEIGHT(S)	66
PG	PERMANENT GATE	1
TF	TEMPORARY BARBED WIRE FENCE	4748

REVISIONS

REV.	DESCRIPTION	DRAWN	DATE	APP.

DATE	DRAWN BY	CHECKED BY	SKW JOB NO.
10/20/16	AFG - SKW	TRC - SKW	160320-010



ISSUED FOR BID

DATE: 04/21/17

FLORIDA SOUTHEAST CONNECTION, LLC

OKEECHOBEE 20" LATERAL PIPELINE

FROM: 105+00	TO: 130+00
FROM: MP 2.0	TO: MP 2.5

DRAWING: FSC-OKL-A-0206 SHEET: 06

PARCEL 18
WEDGEWORTH FARMS INC
4688' OR 284 RODS

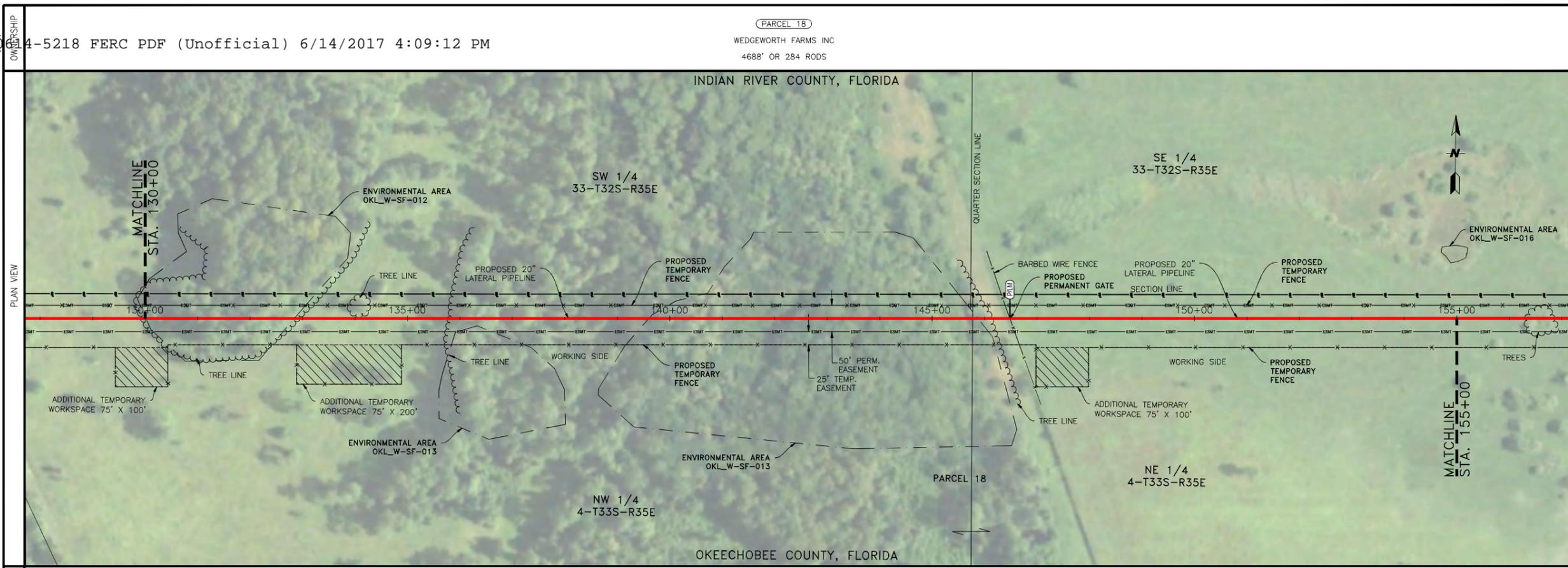
INDIAN RIVER COUNTY, FLORIDA



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LEGEND

●	INDUCTION BEND	—	MAINLINE PIPE
○	FIELD BEND	—	HEAVY WALL PIPE
⊙	LINE MARKER	⊙	AERIAL MARKER
⊕	TEST STATION	⊗	ROCK SHIELD
⊖	PIPE WEIGHT	▼	TRENCH BREAKER
⊙	MILE POST	▨	EXTRA WORKSPACE (ATWS)
		---	ENVIRONMENTAL AREA



SURVEY STATIONING

130+11	BEGIN PIPE WEIGHTS
132+89	TREE LINE
135+82	TREE LINE
145+77	QUARTER CORNER/TYPE
146+09	TREE LINE
146+48	BARBED WIRE FENCE
146+48	PERMANENT GATE
146+48	PIPELINE MARKER
150+00	END PIPE WEIGHTS

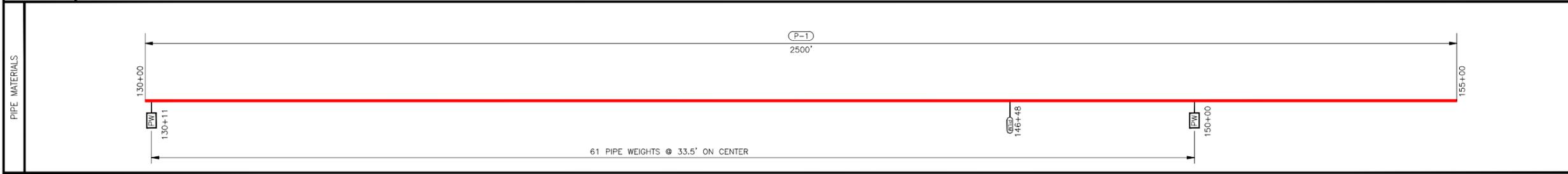
MATERIAL SUMMARY

ITEM	DESCRIPTION	QTY.
P-1	20" O.D. x 0.375" W.T. x API-5L X-60, ERW, FBE	2500
LM	LINE MARKER(S)	1
PW	PIPE WEIGHT(S)	61
PG	PERMANENT GATE	1
TF	TEMPORARY BARBED WIRE FENCE	5385

ENVIRONMENTAL	ENV. AREA OKL_W_SF_012	ENV. AREA OKL_W_SF_013
DESIGN FACTOR		
CLASS	CLASS 1	
MAOP	1440 PSIG	

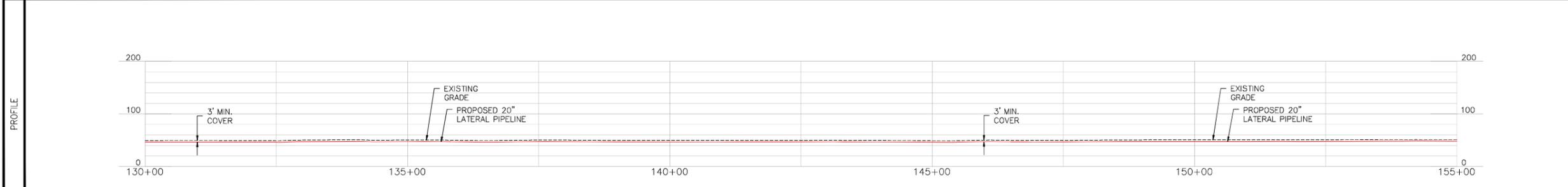
REVISIONS

REV.	DESCRIPTION	DRAWN	DATE	APP.



DATE	DRAWN BY	CHECKED BY	SKW JOB NO.
10/20/16	AFG - SKW	TRC - SKW	160320-010

SCALE
HORIZ. SCALE: 1" = 100'
VERT. SCALE: 1" = 20'



ISSUED FOR BID
DATE: 04/21/17
FLORIDA SOUTHEAST CONNECTION, LLC
OKEECHOBEE 20" LATERAL PIPELINE
FROM: 130+00 TO: 155+00
FROM: MP 2.5 TO: MP 2.9
DRAWING: FSC-OKL-A-0207 SHEET: 07

Printed 4/20/2017 4:09:12 PM
Saved by tcalabrese 4/21/2017
Path: K:\160320-010\CAD\PIPELINE ALIGNMENT

Printed 4/20/2017
OWB/RSHP

PLAN VIEW

SURVEY STATIONING

ENVIRONMENTAL
DESIGN FACTOR
CLASS
MAOP

PIPE MATERIALS

PROFILE

Path: K:\160320-010_CAD\PIPELINE ALIGNMENT
Saved by tcolabrese 4/21/2017

PARCEL 18 WEDGEWORTH FARMS INC 1798' OR 109 RODS
PARCEL 19 PADGETT CREEK LLC 5435' OR 329 RODS

INDIAN RIVER COUNTY, FLORIDA

OKEECHOBEE COUNTY, FLORIDA

SE 1/4 33-T32S-R35E

SW 1/4 34-T32S-R35E

PARCEL 18 NE 1/4 4-T33S-R35E

NW 1/4 3-T33S-R35E



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LEGEND

- INDUCTION BEND
- FIELD BEND
- LINE MARKER
- TEST STATION
- PIPE WEIGHT
- MP MILE POST
- MAINLINE PIPE
- HEAVY WALL PIPE
- ▲ AERIAL MARKER
- ⊗ ROCK SHIELD
- ▼ TRENCH BREAKER
- ▨ EXTRA WORKSPACE (ATWS)
- - - ENVIRONMENTAL AREA

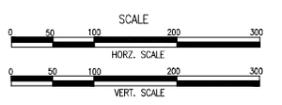
MATERIAL SUMMARY

ITEM	DESCRIPTION	QTY.
P-1	20" O.D. x 0.375" W.T. x API-5L X-60, ERW, FBE	2420
P-2	20" O.D. x 0.500" W.T. x API-5L X-60, ERW, ARO	80
LM	LINE MARKER(S)	3
TS	TEST STATION(S)	1
PW	PIPE WEIGHT(S)	42
PG	PERMANENT GATE	3
TF	TEMPORARY BARBED WIRE FENCE	4608

REVISIONS

REV.	DESCRIPTION	DRAWN	DATE	APP.

DATE	DRAWN BY	CHECKED BY	SKW JOB NO.
10/20/16	AFG - SKW	TRC - SKW	160320-010



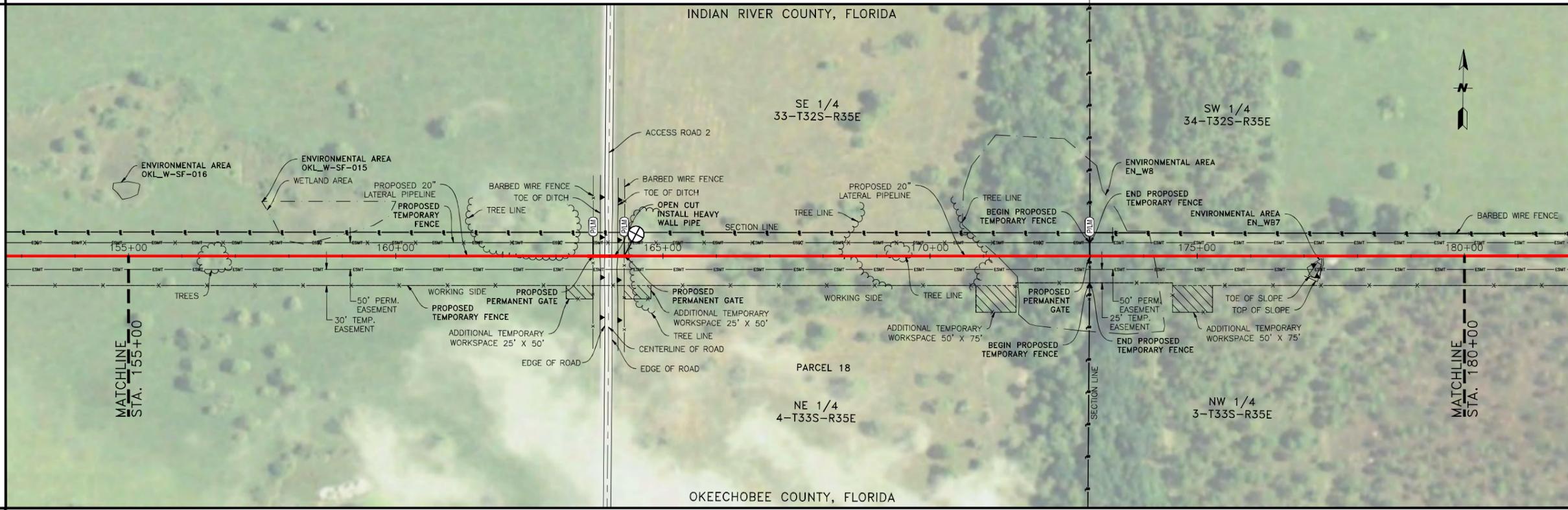
ISSUED FOR BID

DATE: 04/21/17

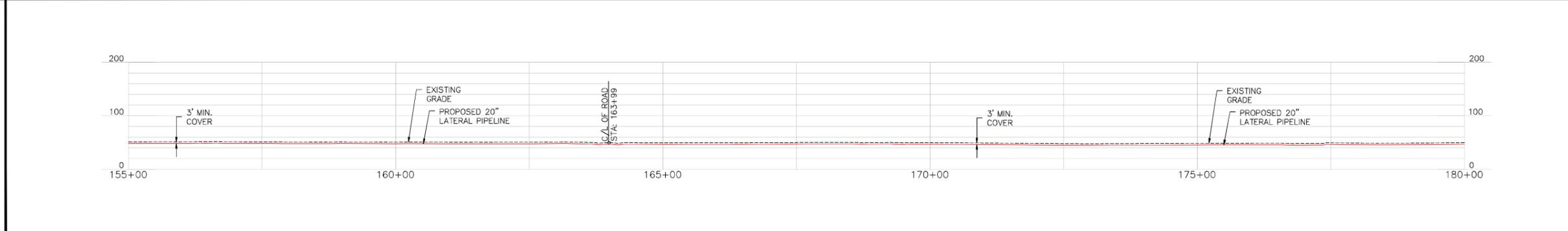
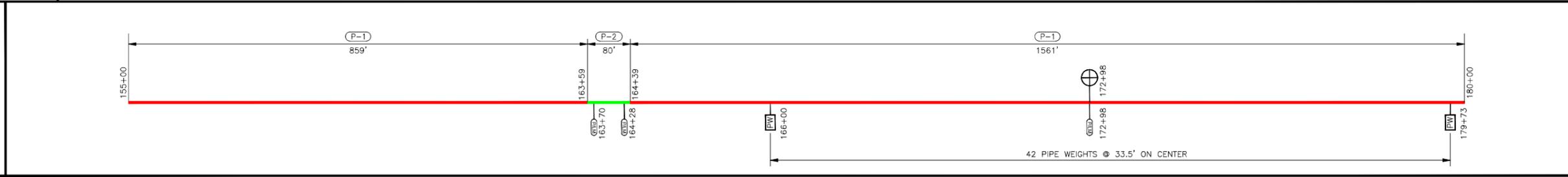
FLORIDA SOUTHEAST CONNECTION, LLC
OKEECHOBEE 20" LATERAL PIPELINE

FROM:	TO:
155+00	180+00
MP 2.9	MP 3.4

DRAWING SHEET
FSC-OKL-A-0208 08



STATION	DESCRIPTION
156+35	TREE LINE
156+81	TREE LINE
162+51	TREE LINE
163+15	TREE LINE
163+70	BARBED WIRE FENCE
163+70	PERMANENT GATE
163+70	PIPELINE MARKER
163+82	TOE OF DITCH
163+91	C/L OF ROAD
163+99	C/L OF ROAD
164+04	EDGE OF GRAVEL RD.
164+16	TOE OF DITCH
164+28	FENCE 79' RT.
164+28	PERMANENT GATE
164+28	TEST STATION
164+28	PIPELINE MARKER
164+28	BARBED WIRE FENCE
164+29	FENCE 84' LT.
164+42	TREE LINE
166+00	BEGIN PIPE WEIGHTS
168+31	TREE LINE
169+31	TREE LINE
169+56	TREE LINE
171+16	TREE LINE
172+98	PIPELINE MARKER
172+98	PERMANENT GATE
172+98	FENCE - BARB WIRE
172+99	SECTION LINE
172+99	MONUMENT 44' LT.
179+73	END PIPE WEIGHTS



PARCEL 19
PADGETT CREEK LLC
5435' OR 329 RODS

INDIAN RIVER COUNTY, FLORIDA

SW 1/4
34-T32S-R35E

PARCEL 19
NW 1/4
3-T33S-R35E

OKEECHOBEE COUNTY, FLORIDA



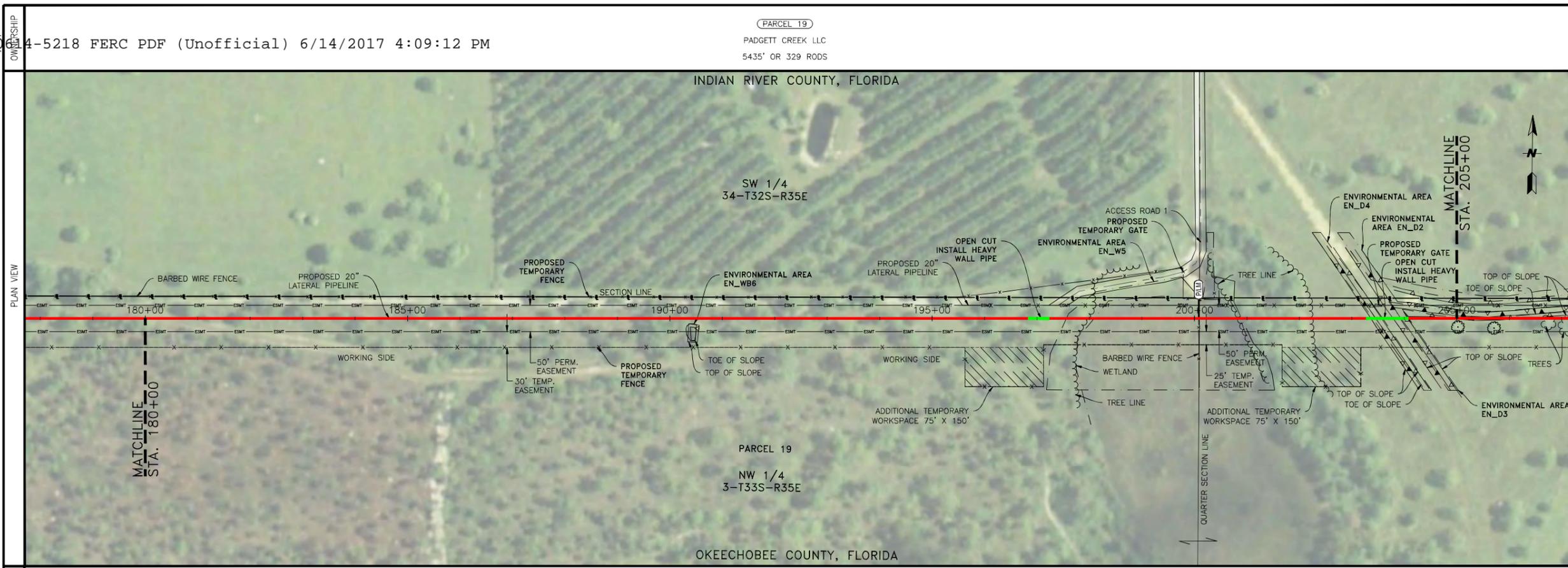
NOTES
THE UTILITIES SHOWN HEREIN ARE REPRESENTATIONAL ONLY AND ARE IN NO WAY INTENDED TO SHOW THEIR EXACT LOCATION, NOR IS THIS INFORMATION TO BE CONSTRUED AS A COMPLETE INVENTORY OF ALL UTILITIES AT THIS LOCATION. IT IS THE EXCAVATOR'S RESPONSIBILITY TO HAVE ANY UTILITIES LOCATED BEFORE DIGGING.

LEGEND

●	INDUCTION BEND	—	MAINLINE PIPE
○	FIELD BEND	—	HEAVY WALL PIPE
⊙	LINE MARKER	⊙	AERIAL MARKER
⊕	TEST STATION	⊗	ROCK SHIELD
⊖	PIPE WEIGHT	▾	TRENCH BREAKER
⊙	MP	▨	EXTRA WORKSPACE (ATWS)
⊙	MP	---	ENVIRONMENTAL AREA

MATERIAL SUMMARY

ITEM	DESCRIPTION	QTY.
P-1	20" O.D. x 0.375" W.T. x API-5L X-60, ERW, FBE	2380
P-2	20" O.D. x 0.500" W.T. x API-5L X-60, ERW, ARO	120
LM	LINE MARKER(S)	1
PW	PIPE WEIGHT(S)	75
TF	TEMPORARY BARBED WIRE FENCE	3771



SURVEY STATIONING

180+07	BEGIN PIPE WEIGHTS
195+47	FENCE 40' LT.
197+03	PROPOSED P/L
197+93	TREE LINE
199+78	FENCE 96' LT.
200+08	BARBED WIRE FENCE
200+08	PIPELINE MARKER
200+09	QUARTER CORNER /TYPE
200+87	TREE LINE
202+20	TREE LINE
203+36	TOP BANK
203+46	TOE BANK
203+57	TOP BANK
203+79	TOP BANK
203+94	TOE BANK
204+07	TOP BANK
204+86	END PIPE WEIGHTS
204+82	TOP BANK

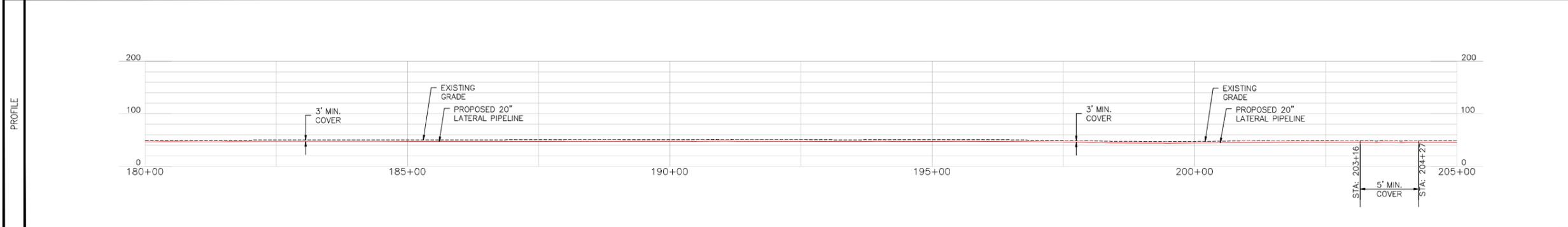
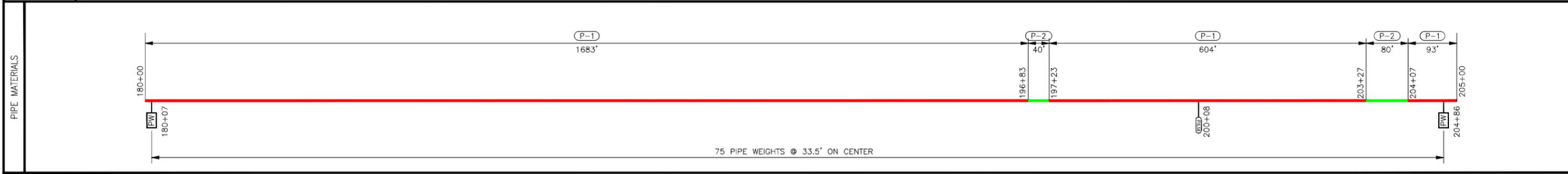
ENVIRONMENTAL

ENV. AREA EN_W5	ENV. AREA EN_D4	ENV. AREA EN_D3
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DESIGN FACTOR

CLASS CLASS 1

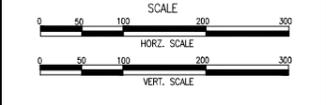
MAOP 1440 PSIG



REVISIONS

REV.	DESCRIPTION	DRAWN	DATE	APP.

DATE	DRAWN BY	CHECKED BY	SKW JOB NO.
10/20/16	AFG - SKW	TRC - SKW	160320-010



ISSUED FOR BID
DATE: 04/21/17

FLORIDA SOUTHEAST CONNECTION, LLC
OKEECHOBEE 20" LATERAL PIPELINE

FROM: 180+00	TO: 205+00
FROM: MP 3.4	TO: MP 3.9
DRAWING: FSC-OKL-A-0209	SHEET: 09

Path: K:\160320-010\CAD\PIPELINE ALIGNMENT
Saved by: tcolabrese 4/21/2017

PARCEL 19
PADGETT CREEK LLC
5435' OR 329 RODS

PARCEL 20
FLORIDA POWER & LIGHT COMPANY
4328' OR 262 RODS

INDIAN RIVER COUNTY, FLORIDA

SE 1/4
34-T32S-R35E

PARCEL 19
NE 1/4
3-T33S-R35E

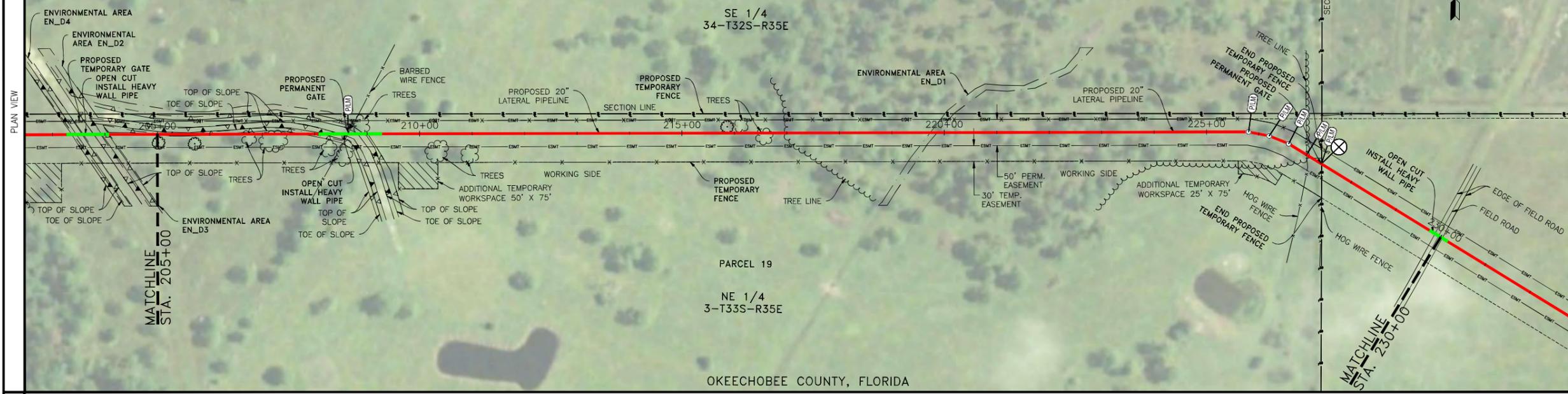
OKEECHOBEE COUNTY, FLORIDA



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LEGEND

●	INDUCTION BEND	—	MAINLINE PIPE
○	FIELD BEND	—	HEAVY WALL PIPE
⊙	LINE MARKER	⊙	AERIAL MARKER
⊕	TEST STATION	⊗	ROCK SHIELD
⊖	PIPE WEIGHT	⚡	TRENCH BREAKER
⊙	MP	▨	EXTRA WORKSPACE (ATWS)
⊙	MP	⋯	ENVIRONMENTAL AREA



SURVEY STATIONING

205+19	BEGIN PIPE WEIGHTS
206+24	TOP BANK
206+71	TREE LINE
206+77	TREE LINE
207+19	TREE LINE
207+37	TREE LINE
207+75	TOP BANK
208+15	TOE BANK
208+44	FENCE 36' RT.
208+48	TOP BANK
208+64	PERMANENT GATE
208+64	PIPELINE MARKER
208+64	BARBED WIRE FENCE
208+82	TOP BANK
208+93	TOE BANK
209+01	TOP BANK
216+50	TREE LINE
216+67	TREE LINE
217+01	TREE LINE
225+80	P.I. 211'00"00" RT.
226+20	P.I. 211'00"00" RT.
226+60	P.I. 79'40"45" RT.
226+84	MONUMENT 82' LT.
227+00	TREE LINE
227+00	PIPELINE MARKER
227+13	HOG WIRE FENCE
227+33	PERMANENT GATE
227+33	HOG WIRE FENCE
227+33	PIPELINE MARKER
227+33	TEST STATION
227+34	SECTION LINE
227+98	END PIPE WEIGHTS
229+88	EDGE OF DIRT RD.
229+96	C/L OF ROAD

MATERIAL SUMMARY

ITEM	DESCRIPTION	QTY.
P-1	20" O.D. x 0.375" W.T. x API-5L X-60, ERW, FBE	2356
P-2	20" O.D. x 0.500" W.T. x API-5L X-60, ERW, ARO	144
LM	LINE MARKER(S)	6
TS	TEST STATION(S)	1
PW	PIPE WEIGHT(S)	69
PG	PERMANENT GATE	2
TF	TEMPORARY BARBED WIRE FENCE	4606

ENVIRONMENTAL

ENV. AREA EN_D3	ENV. AREA EN_D1
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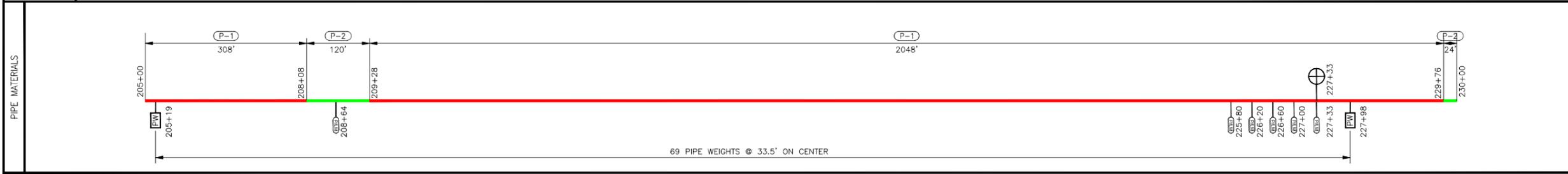
DESIGN FACTOR

CLASS CLASS 1

MAOP 1440 PSIG

REVISIONS

REV.	DESCRIPTION	DRAWN	DATE	APP.



DATE 10/20/16

DRAWN BY AFG - SKW

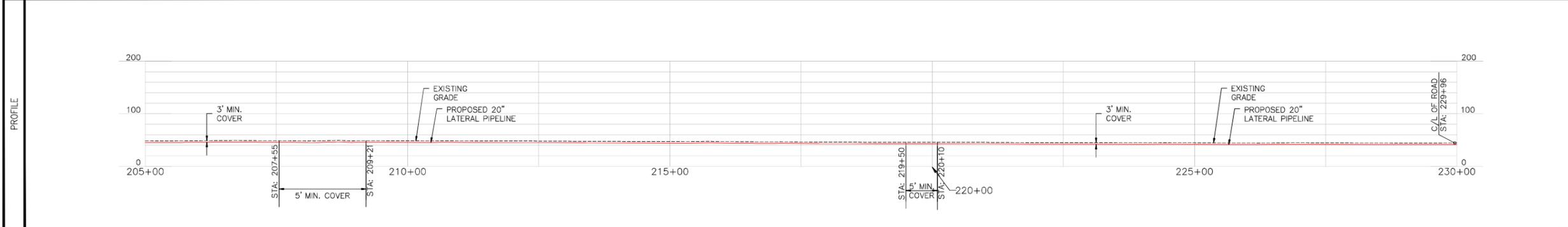
CHECKED BY TRC - SKW

SKW JOB NO. 160320-010

SCALE

HORZ. SCALE 1" = 100'

VERT. SCALE 1" = 20'



ISSUED FOR BID

DATE: 04/21/17

FLORIDA SOUTHEAST CONNECTION, LLC

OKEECHOBEE 20" LATERAL PIPELINE

FROM: 205+00 TO: 230+00

FROM: MP 3.9 TO: MP 4.4

DRAWING FSC-OKL-A-0210 SHEET 10

Printed 4/20/2017
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 Saved by tcolabrese 4/21/2017

OKEECHOBEE COUNTY, FLORIDA

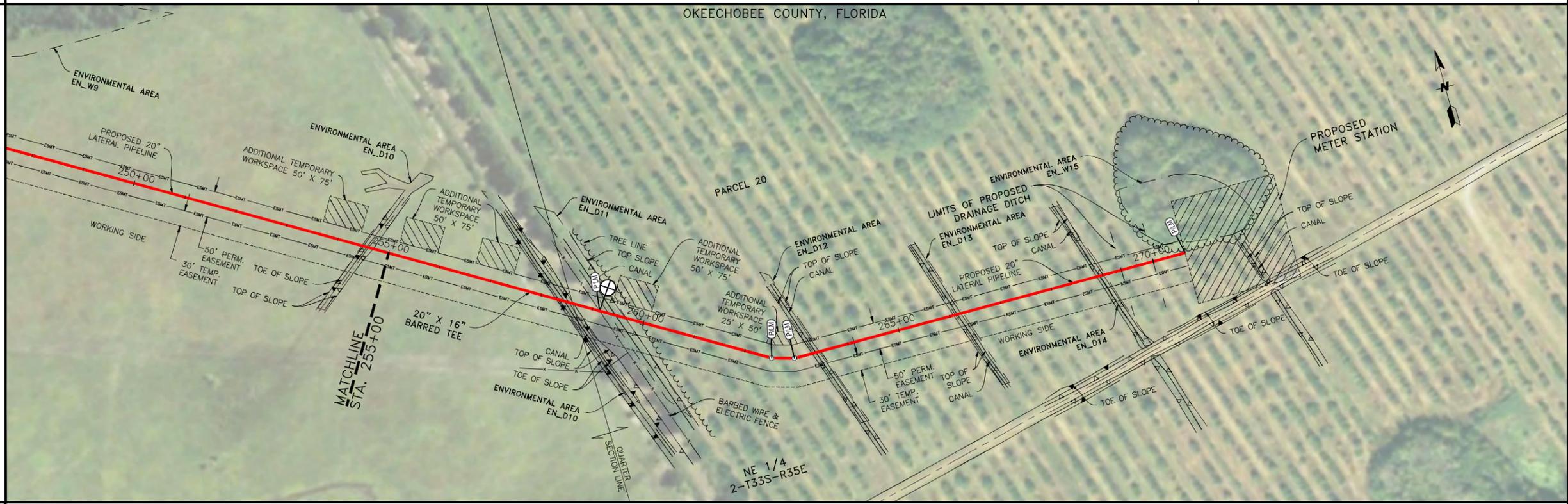


PLAN VIEW

SURVEY STATIONING

PIPE MATERIALS

PROFILE



NOTES
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LEGEND

●	INDUCTION BEND	—	MAINLINE PIPE
○	FIELD BEND	—	HEAVY WALL PIPE
⊥	LINE MARKER	⊥	AERIAL MARKER
⊕	TEST STATION	⊗	ROCK SHIELD
⊥	PIPE WEIGHT	▲	TRENCH BREAKER
⊥	MP	▨	EXTRA WORKSPACE (ATWS)
⊥	MP	---	ENVIRONMENTAL AREA

MATERIAL SUMMARY

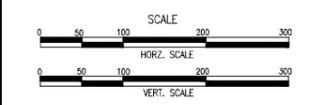
ITEM	DESCRIPTION	QTY.
P-1	20" O.D. x 0.375" W.T. x API-5L X-60, ERW, FBE	1538
P-2	20" O.D. x 0.500" W.T. x API-5L X-60, ERW, ARO	20
LM	LINE MARKER(S)	3
TS	TEST STATION(S)	1
TEE	20" X 16" BARRED TEE	1

ENVIRONMENTAL	ENV. AREA EN_D10	ENV. AREA EN_D11	ENV. AREA EN_D12	ENV. AREA EN_D13	ENV. AREA EN_D14
DESIGN FACTOR					
CLASS	CLASS 1				
MAOP	1440 PSIG				

REVISIONS

REV.	DESCRIPTION	DRAWN	DATE	APP.

DATE	DRAWN BY	CHECKED BY	SKW JOB NO.
10/26/16	AFG - SKW	TRC - SKW	160320-010

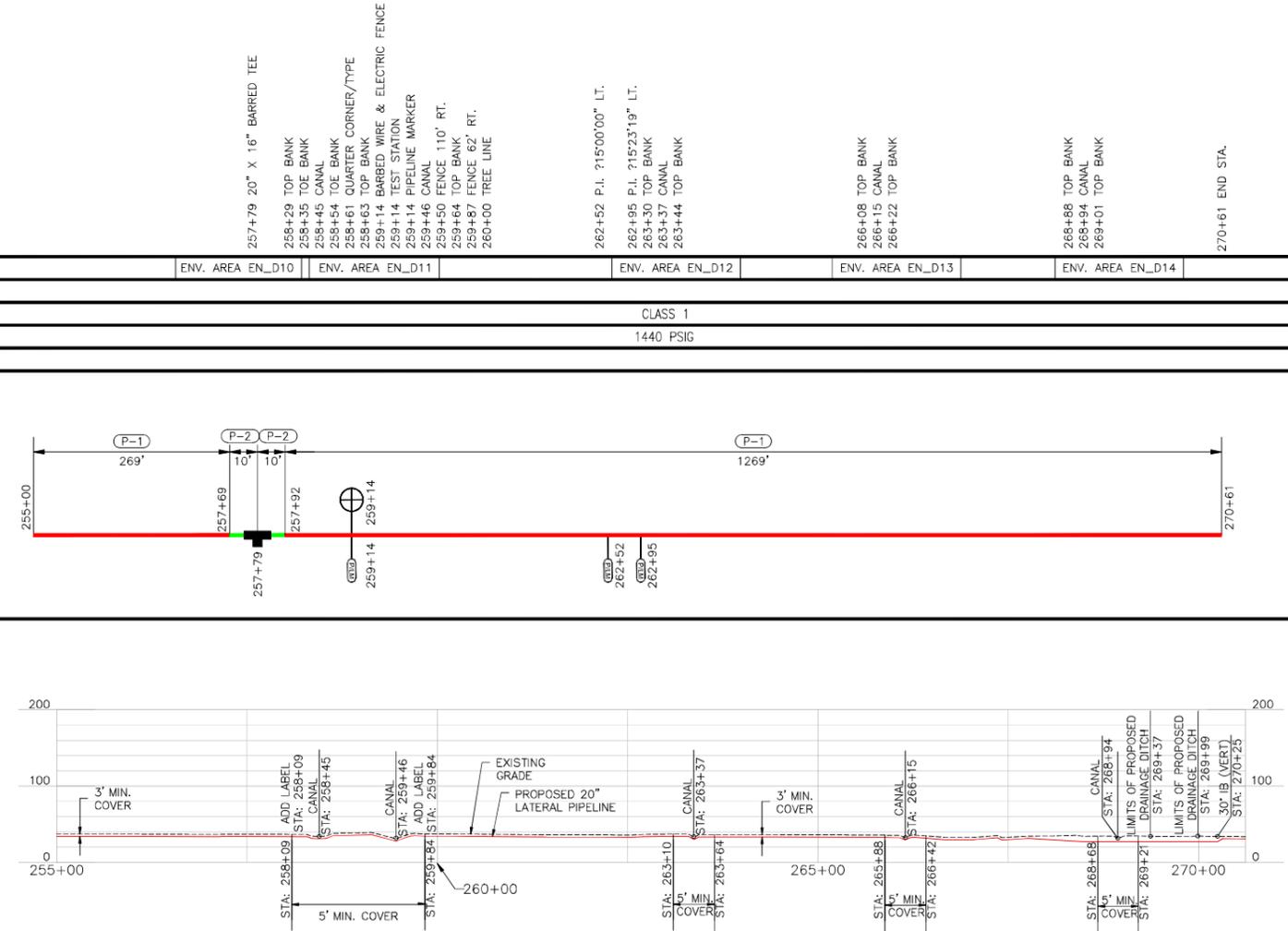


ISSUED FOR BID
DATE: 04/21/17

FLORIDA SOUTHEAST CONNECTION, LLC
OKEECHOBEE 20" LATERAL PIPELINE

FROM: 255+00	TO: 270+61
FROM: MP 4.8	TO: MP 5.1

DRAWING: FSC-OKL-A-0212 SHEET: 12



Printed 4/20/2017 4:09:12 PM
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