FINAL – Utility Assessment Package

for

Project Development and Environment (PD&E) Study
Poinciana Parkway Extension (CR 538)
from Poinciana Parkway to CR 532

Osceola and Polk Counties, Florida

CFX Project Number: 599-224

Prepared for:

CENTRAL FLORIDA EXPRESSWAY AUTHORITY

Prepared By:

Inwood Consulting Engineers, Inc.

July 2019

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1.0 INTRODUCTION

The Poinciana Parkway Extension is a proposed tolled expressway improvement project that includes extending Poinciana Parkway, from the northern end of the existing bridge over the Reedy Creek Mitigation Bank to CR 532 (Osceola Polk Line Road). The study area of this Project Development and Environment (PD&E) Study includes portions of Osceola County and Polk County, Florida. Regional location map is provided on **Figure 1.** The Poinciana Parkway Extension is approximately 3 miles in length.

1.1 Purpose of Utilities Assessment Package

This utilities assessment package has been assembled to provide information on existing and planned utilities along potential Poinciana Parkway Extension alignments within the limits described above. Identifying major utility facilities and the impacts to these facilities with the alternatives evaluated is the focus of this package. This package contains information on the names of utility companies, aerials denoting the location of major existing and proposed facilities, descriptions of the identified utilities, project coordination efforts, potential impacts, and information on the cost of relocation.

1.2 Project Description

Previous studies have been conducted by the former Osceola County Expressway Authority (OCX), Florida Department of Transportation (FDOT), and by the Central Florida Expressway Authority (CFX). Most recently, CFX conducted a Concept, Feasibility & Mobility Study for the Poinciana Parkway Extension/ I-4 Connector. From this study, the CFX Board determined that a phased implementation of an expressway from the Poinciana Parkway to CR 532 was viable and authorized to move to the PD&E Study phase. Three corridors from the Concept, Feasibility & Mobility Study were advanced for further study as described in in the Project Preliminary Engineering Report.

The Poinciana Parkway Extension PD&E Study includes an evaluation of alternatives to extend the existing Poinciana Parkway (SR 538) from the existing bridge over the Reedy Creek Mitigation Bank to CR 532. The project is a proposed tolled 4-lane expressway within approximately 330 feet of right-of-way (ROW). This ROW width provides for future expansion for additional lanes and/or other multi-modal travel options if needed in the future. The project also includes interchanges with other county and state roads, bridges over wetlands in the Reedy Creek Mitigation Bank and South Florida Water Management District (SFWMD) owned/managed Upper Lakes Basin Watershed habitat, as well as bridges over local roads and railroads. Stormwater management facilities are also being considered.

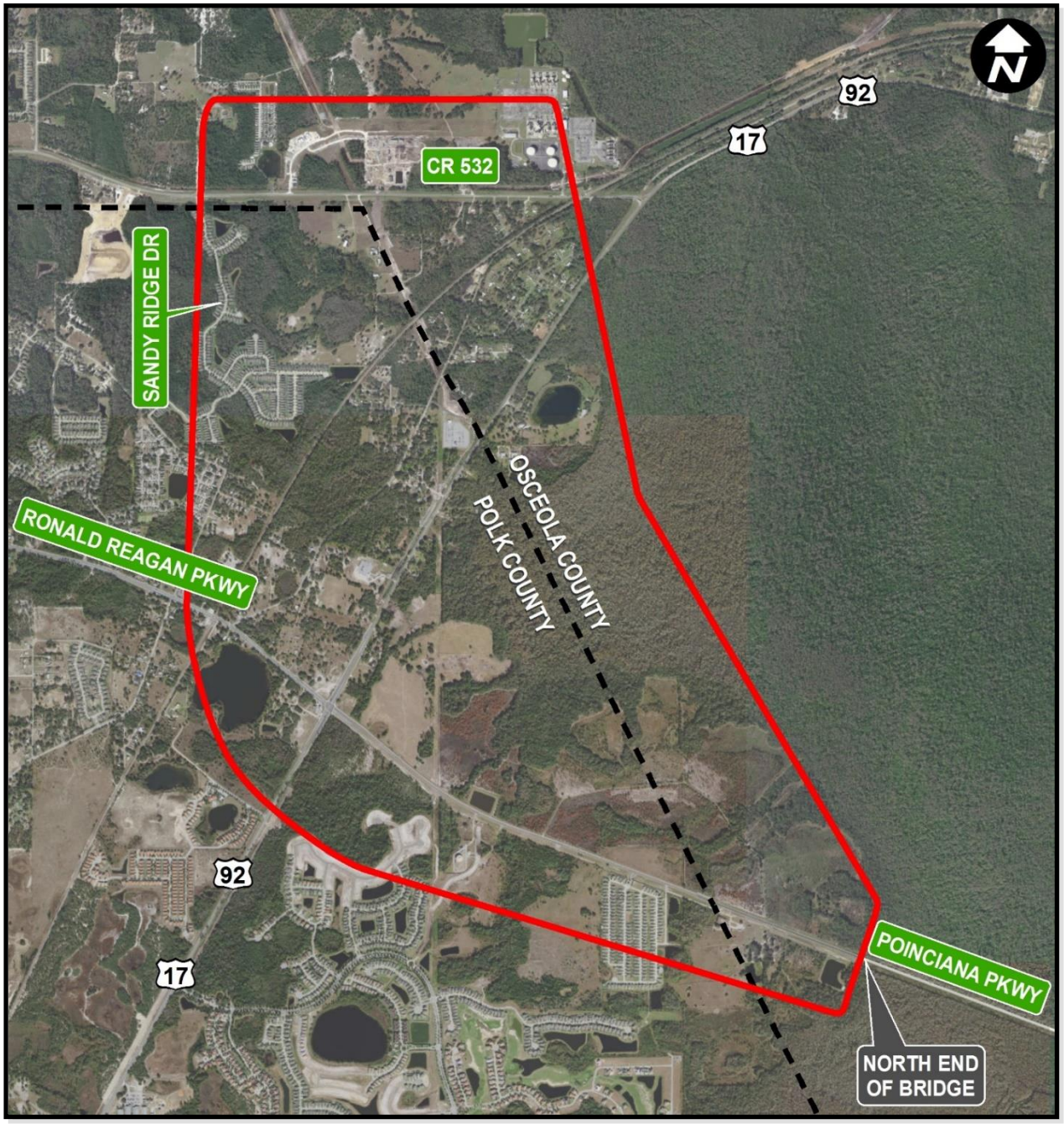

Figure 1: Regional Location Map

1.3 Proposed Build Alternatives

Several studies have been conducted to date to define corridors and potential build alternatives for this project. For this PD&E Study, the build alternatives have been refined based on input from the public, the Project Advisory Group (PAG), the Environmental Advisory Group (EAG), and other local stakeholders. The three build alternatives being evaluated are illustrated on **Figure 2**.

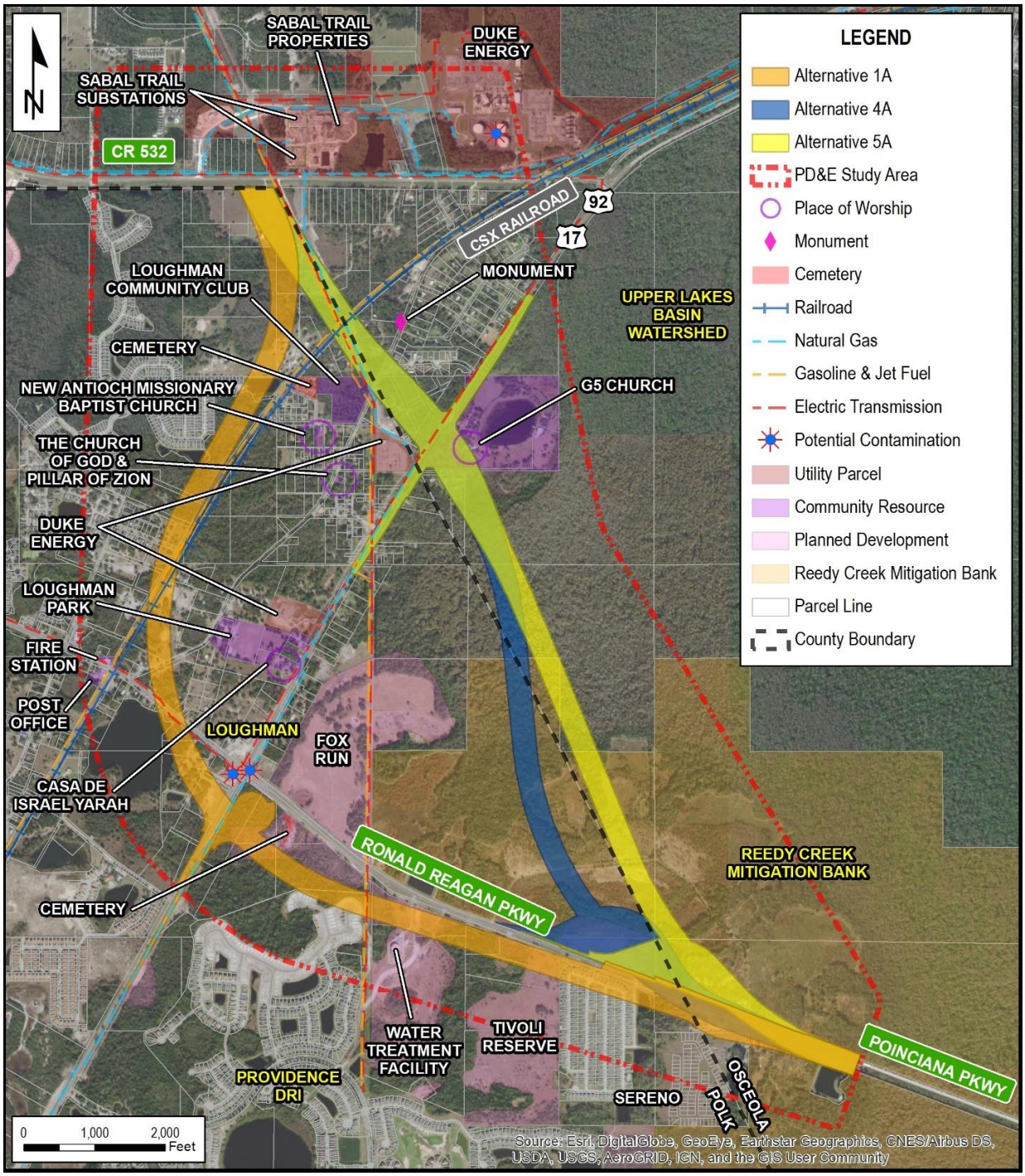

Figure 2: Build Alternatives

Of the three alternatives evaluated, 5A without slip ramps to Ronald Reagan was identified as the preferred alternative for the Poinciana Parkway Extension.

Alternative 5A travels northwesterly through the Reedy Creek Mitigation Bank in Osceola County and the SFWMD's Upper Lakes Basin Watershed before crossing over US 17/92 approximately one mile north of its intersection with Ronald Reagan Parkway. The alternative continues northward crossing over Old Tampa Highway and the CSX railroad before connecting with CR 532 just west of the Polk County/Osceola County line. This alternative requires utility relocations from along the Polk County/Osceola County line to just west of the expressway alignment.

This alternative includes bridging over the wetlands within the Reedy Creek Mitigation Bank and the Upper Lakes Basin Watershed.

A single point urban interchange is provided with US 17/92. An at-grade intersection is provided with CR 532.

The proposed typical section, as illustrated on **Figure 3**, is 330 feet wide consisting of two 12-foot lanes in each direction with a 92-foot median (that can accommodate additional lanes and/or a potential multimodal corridor) and 95-foot borders on each side.

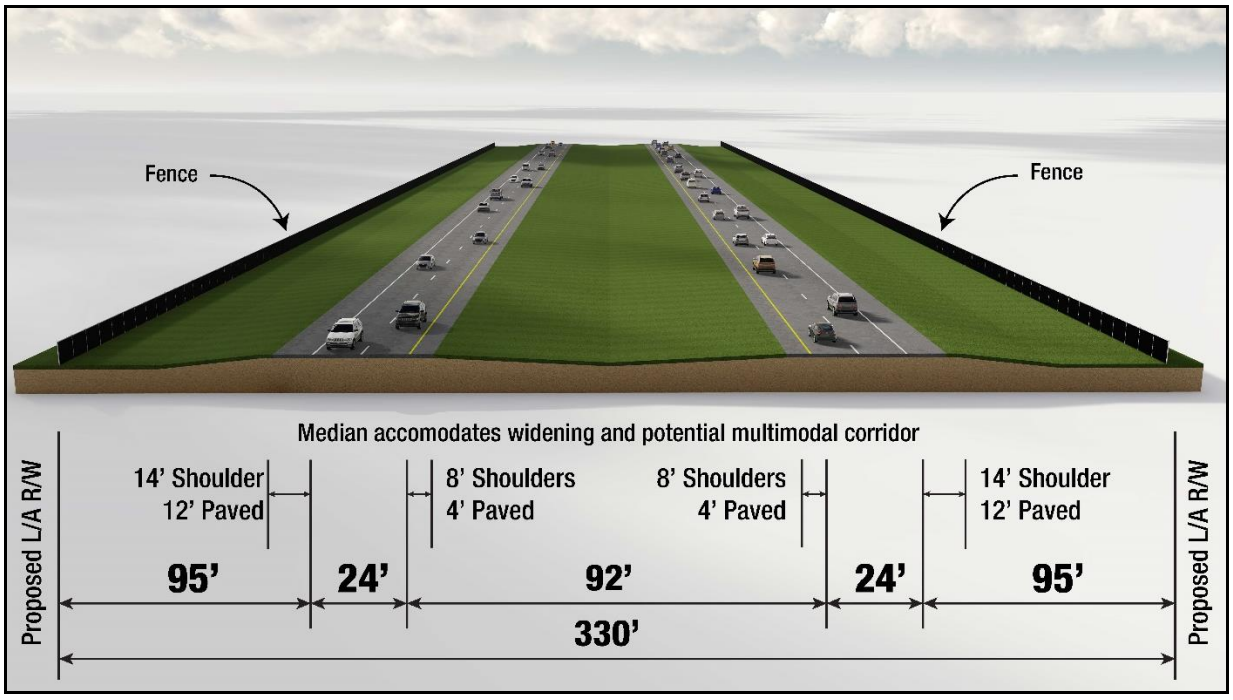

Figure 3: Proposed Poinciana Parkway Extension Typical Section

2.0 EXISTING UTILITIES

The Utility Agency/Owners (UAOs) in the study area were determined using a variety of sources. First, a Sunshine 811 Design Ticket was created for Osceola and Polk Counties to identify the utility providers and operators registered with the locate service. The Sunshine 811 Design Tickets for the project are included in **Appendix 1**. Next, the project was visited, and field investigations and observations were made. All above ground utility features, including poles, hydrants, valve boxes, and manholes, were noted and verified with the utility providers and operators during the coordination process for the project. The final source of data collection was from past FDOT and/or County plans along or adjacent to the Poinciana Parkway Extension study area. The UAOs identified on the project, description of their existing facilities, and estimate of relocation cost of major facilities based on Alternative 5A without slip ramps are summarized in **Table 1**.

2.1 Utility Owners/Providers

Major utility providers and operators were contacted in September of 2018 and were provided conceptual plans and alternatives for review. Copy of this coordination meeting can be found in **Appendix 2**. Based on the conceptual plans, they were asked to assist in locating and identifying their existing and planned facilities within the area of study. They were also asked to provide an estimated cost for relocation of their facilities. Through mark-ups and/or verbal descriptions, most utility providers or operators provided information on the location and type of existing facilities and information on the planned facilities anticipated in the future. At the time of utility contact efforts, none of the UAOs indicated any future planned facilities or upgrades to existing facilities within the project limits. The information regarding the major utilities from the utility providers is found in **Appendix 3**.

Table 1: Existing Utilities and Estimated Relocation Costs of Major Facilities

Company	Description	Relocation Cost
CenturyLink	• Fiber and phone facilities within the study corridor. Phone facilities are primarily aerial and attached to existing power company pole lines with buried fiber throughout the study area.	TBD
Charter Communications	• Aerial cable and phone attached to existing power company pole lines with buried service drops to customers.	TBD
Comcast Communications	• Cable within the study corridor. Facilities are primarily aerial and attached to existing power company pole lines with buried service drops to customers.	TBD
Duke Energy-Distribution	• Electric distribution service throughout the project.	TBD
Duke Energy-Transmission	• Intercession City Power Plant on the north side of CR 532 just west of US 17-92. • Transmission substation located along the south side of Osceola Polk Line Rd just west of Reunion Blvd. • Transmission substation located along the west side of US 17-92 approximately 0.9 mile south of CR 532. • Transmission substation located along the west side of US 17-92 approximately 1.4 miles south of CR 532. • Transmission lines along the south side of I-4 in dedicated easements from SR 429 heading east. • Transmission lines along the north side of I-4 in dedicated easements from SR 429 heading west. • Transmission lines in dedicated easements connecting Intercession City Power Plant and substations, heading south.	**$6,000,000** **(Eligible for reimbursement)**
Florida Public Utilities	• Distribution gas services for Polk and Osceola Counties within the project corridor.	TBD
Florida Southeast Connection	• 36-inch natural gas pipeline starting from north side of Osceola Polk Line Rd heading south in an easement adjacent to Duke Energy's transmission lines to Orange Blossom Trail. • 36-inch natural gas pipeline continues south on Orange Blossom Trail, transitioning from the east and west side of the road, and exits the project study area in Polk County.	**$14,200,000** **(Eligible for reimbursement)**
Frontier Communications	• Cable, fiber, and phone facilities within the study corridor. Phone facilities are primarily aerial and attached to existing power company pole lines with buried cable/fiber throughout the study area.	TBD

Table 1 Cont.: Existing Utilities and Estimated Relocation Costs of Major Facilities

Company	Description	Relocation Cost
Gulfstream Natural Gas	• 16-inch natural gas pipeline coming from interconnect with FGT booster/metering station. • 16-inch natural gas pipeline continues south down east side of Old Lake Wilson Rd in an easement, then transitions to a 24-inch pipeline and continues east along north side of Osceola Polk Line Rd to serve Duke Energy Intercession City Power Plant. • 24-inch natural gas pipeline along the north side of Osceola Polk Line Rd from Old Wilson Rd to east of I-4 where the pipeline turns and heads south in an easement adjacent to a OUC transmission power easement.	$0
Kinder Morgan	• 16-inch Gasoline with batch ethanol pipeline along the south side of I-4 to SR 429, where the pipeline turns southeast along Reedy Creek District parcels and then an easement running adjacent to Duke Energy's transmission easement existing the project to the south. • 10-inch jet fuel pipeline along the north side to CSX's railroad for the limits of the project. The pipeline (Tampa to Taft) that runs from Tampa to Orlando International Airport for aviation fueling.	**$7,500,000 (Eligible for reimbursement)**
KUA	• 30" Natural gas pipeline along Osceola Polk Line Rd from FGT booster/metering Station east to KUA Cane Island Power Plant.	**$9,880,000 (Eligible for reimbursement)**
MCI	• Buried fiber throughout the study area.	TBD
Orlando Telephone Company	• Phone facilities within the study corridor. Phone facilities are primarily aerial and attached to existing power company pole lines.	TBD
Polk County Utilities	• Water and wastewater facilities throughout project study areas located within Polk County.	TBD
Spectra Energy-Sabal Trail	• 36-inch natural gas pipeline along the north side of Osceola Polk Line Rd from just west of Duke Energy's power plant to Orange Blossom Trail, where the pipeline continues east along the north side of CSX's right-of-way.	$0
TECO Peoples Gas	• Gas distribution services for local business and residential areas throughout the project study area.	TBD
TOHO Water Authority	• Water and sewer facilities throughout project for all of Osceola County and northern portions of Polk County. • WTP and storage tank located on the north side of Osceola Polk Line Rd just east of Old Lake Wilson Rd. • WWTP located along the east side of Poinciana Parkway just north of Cypress Parkway.	TBD
Wiltel Communications	• Buried fiber throughout the study area.	TBD

3.0 UTILITY MITIGATION AND COST

Due to the nature of the existing conditions throughout the project corridor, it is anticipated that the Poinciana Parkway Extension will impact a number of the existing major utility facilities on the project. Major utility facilities potentially impacted include natural gas pipelines owned and operated by Florida Southeast Connection, Gulfstream Natural Gas, and Sabal Trail. Kinder Morgan also maintains petroleum and jet fuel pipelines in the area. In addition, Duke Energy maintains their Intercession City Power Plant, three transmission substations, and various high voltage transmission lines throughout the project study area. The project's extents, anticipated right-of-way acquisition, and related improvements are shown on the preferred alternative conceptual plans included in **Appendix 4**. Since survey was not performed as a part of this evaluation study, UAOs could not provide an estimated schedule for performing their relocations without knowing the extent of the actual impacts.

Mitigation measures should be taken during the design phase of the project to minimize impacts to the existing utilities to the fullest extent possible. If impacts are unavoidable, design alternatives should be reviewed to allow for relocation of impacted facilities in a manner that minimizes cost to the UAO and disruption to their customers.

Since relocations of facilities located in easements and on private property would likely be eligible for reimbursement, all measures will be taken to avoid impacting the existing utility facilities identified in easements or privately-owned parcels. Though relocation of other facilities within the existing right-of-way are anticipated, all efforts will be made during the design phase to minimize impacts to existing pipelines, power plants, substations, and transmission facilities, to the greatest extent possible.

Appendix 1
Sunshine 811 Design Tickets

Osceola County Design Ticket

UTILITY DESIGN TICKET - NO FIELD MARKING REQUIRED
Ticket : 103802335 Rev:000 Taken: 04/13/18 09:23ET

State: FL Cnty: OSCEOLA GeoPlace: DAVENPORT
CallerPlace: DAVENPORT
Subdivision:

Address :
Street : COUNTY ROAD 532
Cross 1 : S ORANGE BLOSSOM
Within 1/4 mile: Y

Locat: LOCATE 1.5 MILES IN EACH DIRECTION FROM THE INTERSECTION OF SOUTH ORANGE BLOSSOM TRAIL AND COUNTY ROAD 532.
:
Remarks : UTILITY DESIGN TICKET - NO FIELD MARKING REQUIRED
IN RESPONSE TO RECEIPT OF A DESIGN TICKET, SSOCOF PROVIDES THE ORIGINATOR OF THE DESIGN TICKET WITH A LIST OF SSOCOF MEMBERS IN THE VICINITY OF THE DESIGN PROJECT. SSOCOF DOES NOT NOTIFY SSOCOF MEMBERS OF THE RECEIPT BY SSOCOF OF A DESIGN TICKET. IT IS THE SOLE RESPONSIBILITY OF THE DESIGN ENGINEER TO CONTACT SSOCOF MEMBERS TO REQUEST INFORMATION ABOUT THE LOCATION OF SSOCOF MEMBERS' UNDERGROUND FACILITIES. SUBMISSION OF A DESIGN TICKET WILL NOT SATISFY THE REQUIREMENT OF CHAPTER 556, FLORIDA STATUTES, TO NOTIFY SSOCOF OF AN INTENT TO EXCAVATE OR DEMOLISH. THAT INTENT MUST BE MADE KNOWN SPECIFICALLY TO SSOCOF IN THE MANNER REQUIRED BY LAW. IN AN EFFORT TO SAVE TIME ON FUTURE CALLS, SAVE YOUR DESIGN TICKET NUMBER IF YOU INTEND TO BEGIN EXCAVATION WITHIN 90 DAYS OF YOUR DESIGN REQUEST. THE DESIGN TICKET CAN BE REFERENCED , AND THE INFORMATION ON IT CAN BE USED TO SAVE TIME WHEN YOU CALL IN THE EXCAVATION REQUEST.
*** LOOKUP BY MANUAL ***
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Grids : 2814A8132A 2814A8133D 2814B8132A 2814B8132B 2814C8132A
Grids : 2814C8132B 2814D8132B 2814D8132C 2815B8132A 2815B8133D
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Work type: UNDERGROUND CONSTRUCTION Boring: N White-lined: N
Ug/Oh/Both: U Machinery: N Depth: 15 FT Permits: N N/A
Done for : FDOT

Company : INWOOD CONSULTING ENGINEERS Type: CONT
Co addr : 3000 DOVERA DR
Co addr2: SUITE 200
City : OVIEDO State: FL Zip: 32765
Caller : DAVID LEDGERWOOD Phone: 407-971-8850
BestTime: 7:30-5:30

Mobile : 407-625-9808
Fax : 407-971-8955
Email : DLEDGERWOOD@INWOODINC.COM

Submitted: 04/13/18 09:23ET Oper: DAV Chan: WEB
Mbrs : CFPIPL FPC313 FPC322 FWS701 GN1133 GT1722 HW1474 L3C900 LS1104 MCIU01
Mbrs : PE1741 PGSORL POLKNE SE2188 TI1322 TLMD03 UTI297

Service Area Code	Service Area Name	Contact	Phone Numbers	Utility Type
CFPIPL	KINDER MORGAN / CENTRAL FLORIDA PIPELINE	MARK CLARK	Day: (813) 781 - 1718 Alt: (727) 271 - 0024	GAS PIPELINE
FPC313	DUKE ENERGY	SHARON DEAR	Day: (407) 850 - 2762	ELECTRIC
FPC322	DUKE ENERGY	SHARON DEAR	Day: (407) 850 - 2762	ELECTRIC
FWS701	TOHO WATER AUTHORITY - ZONE 1	JEFFREY JIMENEZ**	Day: (407) 572 - 7472	WASTEWATER/RECLAIM WATER
GN1133	GULFSTREAM NATURAL GAS SYSTEM	FRED DELOACH	Day: (941) 723 - 7108 Alt: (941) 232 - 2424	
GT1722	FRONTIER COMMUNICATIONS	TONI CANNON	Day: (813) 875 - 1014	CABLE/FIBER/PHONE
HW1474	WILTEL COMMUNICATIONS, LLC	TECH ON DUTY	Day: (877) 366 - 8344	
L3C900	LEVEL 3 COMMUNICATIONS	NETWORK RELATIONS	Day: (877) 366 - 8344 x2	FIBER OPTIC
MCIU01	MCI	DEAN BOYERS	Day: (469) 886 - 4238	COMMUNICATIONS / FIBER OPTIC
PE1741	DUKE ENERGY	SHARON DEAR	Day: (407) 850 - 2762 Emerg: (888) 333 - 8251	FIBER

PGSORL	TECO PEOPLES GAS- ORLANDO	JOAN DOMNING	Day: (813) 275 - 3783	GAS
POLKNE	POLK COUNTY UTILITIES - NE REGION	TOM HOLLINGTON**	Day: (863) 559 - 1102	WATER/SEWER
SE2188	SPECTRA ENERGY- SABAL TRAIL	Paul Lanius	Day: (501) 920 - 6698	GAS
TI1322	TRANSTATE INDUSTRIAL PIPELINE SYSTEMS INC	TOM ULMER**	Day: (772) 778 - 2255 Alt: (561) 315 - 9078	GAS
TLMD03	COMCAST COMMUNICATIONS	WADE MATHEWS	Day: (352) 516 - 3824	CATV
UTI297	CENTURYLINK WINTER GARDEN	TY LESLIE	Day: (407) 814 - 5293	PHONE & FIBER OPTIC

Polk County Design Ticket

UTILITY DESIGN TICKET - NO FIELD MARKING REQUIRED
Ticket : 103802239 Rev:000 Taken: 04/13/18 09:11ET

State: FL Cnty: POLK GeoPlace: DAVENPORT
CallerPlace: DAVENPORT
Subdivision:

Address :
Street : COUNTY ROAD 532
Cross 1 : S ORANGE BLOSSOM
Within 1/4 mile: Y

Locat: LOCATE 1.5 MILES IN EACH DIRECTION FROM THE INTERSECTION OF SOUTH ORANGE BLOSSOM TRAIL AND RONALD REAGAN PARKWAY.
:
Remarks : UTILITY DESIGN TICKET - NO FIELD MARKING REQUIRED
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Ug/Oh/Both: U Machinery: N Depth: 15 FT Permits: N N/A
Done for : FDOT

Company : INWOOD CONSULTING ENGINEERS Type: CONT
Co addr : 3000 DOVERA DR
Co addr2: SUITE 200
City : OVIEDO State: FL Zip: 32765
Caller : DAVID LEDGERWOOD Phone: 407-971-8850

BestTime: 7:30-5:30
Mobile : 407-625-9808
Fax : 407-971-8955
Email : DLEDGERWOOD@INWOODINC.COM

Submitted: 04/13/18 09:11ET Oper: DAV Chan: WEB
Mbrs : BE1782 CFLGAS CFPIPL FPC313 FS2216 GN1133 GT1722 HW1474 L3C900 LS1104
Mbrs : MCIU01 OTC811 PGSORL POLKNE SE2188 TI1322 TLMD03 UTI297

Service Area Code	Service Area Name	Contact	Phone Numbers	Utility Type
BE1782	CHARTER COMMUNICATIONS	TOM SANSING*	Day: (863) 288 - 2340 x84264 Alt: (863) 286 - 2440	
CFLGAS	FLORIDA PUBLIC UTILITIES	GARY HARDY	Day: (863) 224 - 3786	GAS
CFPIPL	KINDER MORGAN / CENTRAL FLORIDA PIPELINE	MARK CLARK	Day: (813) 781 - 1718 Alt: (727) 271 - 0024	GAS PIPELINE
FPC313	DUKE ENERGY	SHARON DEAR	Day: (407) 850 - 2762	ELECTRIC
FS2216	FLORIDA SOUTHEAST CONNECTION LLC	SEGUN OJETAYO	Day: (713) 951 - 5379 Alt: (281) 610 - 2275 Emerg: (941) 729 - 5766	GAS
GN1133	GULFSTREAM NATURAL GAS SYSTEM	FRED DELOACH	Day: (941) 723 - 7108 Alt: (941) 232 - 2424	
GT1722	FRONTIER COMMUNICATIONS	TONI CANNON	Day: (813) 875 - 1014	CABLE/FIBER/PHONE
HW1474	WILTEL COMMUNICATIONS, LLC	TECH ON DUTY	Day: (877) 366 - 8344	
L3C900	LEVEL 3 COMMUNICATIONS	NETWORK RELATIONS	Day: (877) 366 - 8344 x2	FIBER OPTIC

MCIU01	MCI	DEAN BOYERS	Day: (469) 886 - 4238	COMMUNICATIONS / FIBER OPTIC
OTC811	ORLANDO TELEPHONE COMPANY INC	JACK LEOPARD	Day: (407) 996 - 6297	FIBER AND TELEPHONE
PGSORL	TECO PEOPLES GAS- ORLANDO	JOAN DOMNING	Day: (813) 275 - 3783	GAS
POLKNE	POLK COUNTY UTILITIES - NE REGION	TOM HOLLINGTON**	Day: (863) 559 - 1102	WATER/SEWER
SE2188	SPECTRA ENERGY- SABAL TRAIL	Paul Lanius	Day: (501) 920 - 6698	GAS
TI1322	TRANSTATE INDUSTRIAL PIPELINE SYSTEMS INC	TOM ULMER**	Day: (772) 778 - 2255 Alt: (561) 315 - 9078	GAS
TLMD03	COMCAST COMMUNICATIONS	WADE MATHEWS	Day: (352) 516 - 3824	CATV
UTI297	CENTURYLINK WINTER GARDEN	TY LESLIE	Day: (407) 814 - 5293	PHONE & FIBER OPTIC

Appendix 2
Utility Coordination

Kimley»Horn

Meeting Minutes

3660 Maguire Blvd., Suite 200, Orlando, FL 32803 I P: 407-898-1511 I www.kimley-horn.com

Date: July 12, 2017

To: All Attendees

From: David Ledgerwood, PE – Inwood Consulting Engineers

Re: CFX Poinciana/I-4 Connector Concept and Feasibility Study – Gulfstream NG Conference Call held on 7/5/17

CC: File

The purpose of the meeting was to discuss the project including the existing Gulfstream Natural Gas (Gulfstream) facilities and easements, current corridor alternatives considered, and potential issues/requirements relating to the CFX Poinciana/I-4 Connector Planning Corridor Assessment. The following outlines the items discussed:

Existing Conditions

- Gulfstream has an interconnect with Florida Gas Transmission (FGT), TECO Peoples Gas, and Kissimmee Utility Authority located along the southeast corner of the I-4/SR 429 interchange, adjacent to FGT's booster station.
    - The Gulfstream site includes one microwave tower
    - Property limits are generally 1 foot outside of existing fencing
    - Osceola County Property Appraiser graphic is included with these minutes for reference
- Gulfstream maintains a 16-inch and high pressure natural gas pipeline that comes from the interconnect site and travels down the east side of Old Lake Wilson Road to CR 532
    - Existing 16-inch pipeline is located in an easement
- Gulf Stream maintains a 24-inch natural gas pipeline from Duke Energy's Intercession Power Plant to just east of Kemp Road, where the pipeline turns and heads south in an easement
- Operating pressure on Gulfstream pipelines is 1,400 psi.
- Fred provided GIS information of Gulfstream facilities within the project area for review when developing future alternative concepts
- Other than roadway crossings, all Gulfstream pipelines are located in easements
    - Relocation of facilities in easements would be eligible for reimbursement

Potential Issues/Concerns

Preliminary I-4/SR 429 Interchange concepts were review with Fred and the following were major points of the discussion:

- I-4/SR 429 interchange extension alternatives with ramps to the south of the Gulfstream interconnect site would likely require elevated ramps near Gulfstream's access road
    - Aerial encroachment of Gulfstream property is not acceptable and will not be permitted
    - Ramps to the south of Gulfstream property will likely impact the existing 16-inch pipeline
- I-4/SR 429 interchange extension alternatives with ramps that go to the north of the Gulfstream interconnect site are preferred by Fred
- Gulfstream venting activities should not be an issue for the alternatives reviewed
    - Venting activities are performed as a part of normal operation and not to the extent of FGT booster system venting
- Shorter stretches of impacts to Gulfstream pipelines may result in the need to relocate much longer portions of the pipeline to return the serviceability of the pipeline
- Rough estimate of $12-15 million per mile for relocation of the 24-inch gas pipeline
- Rough estimate of $8-10 million per mile for relocation of the 16-inch gas pipeline

- Rough estimate of $2-3 million per “hot-tap” connection
- Fred requested that Gulfstream stay informed of the project and any future alternatives evaluated

END OF CONFERENCE CALL

Action Items

- **Kimley Horn/Inwood** to continue to coordinate with Gulfstream on new alternatives developed for the project study.

Note: The information above reflects the author’s understanding of the contents of the meeting. If any is interpretations or inaccuracies are included, please contact David Ledgerwood (407-971-8850) as soon as possible for resolution and revisions.

Kimley»Horn

Meeting Minutes

3660 Maguire Blvd., Suite 200, Orlando, FL 32803 I P: 407-898-1511 I www.kimley-horn.com

Date: September 20, 2018

To: All Attendees

From: David Ledgerwood, PE – Inwood Consulting Engineers

Re: CFX Poinciana Parkway PD&E Study – Utility Meeting held on 9/13/18 at Sabal Trail's Office on Osceola Polk Line Rd. (CR 532)

CC: File

The purpose of the meeting was to discuss the scope of the project including current corridor alternatives considered, potential impacts to existing utilities, and other utility concerns/requirements relating to the CFX Poinciana Parkway Extension PD&E Study. Following an overview of the project history and current scope, the utilities provided feedback on the current alternatives being evaluated, as well as their extension north of CR 532. The following outlines the items discussed:

Sabal Trail Transmission

- The Sabal Trail headquarters has two main pipelines. One pipeline feeds from the west, which is a main trunk line that feeds numerous customers. The other pipeline exits the facility to the east and is the Hunter's Creek lateral with only one major customer (FGT).
- Sabal Trail preferred CR 532 interchange options that were located along the east side of the Headquarters located at 6781 Osceola Polk Line Rd., Davenport, FL 33896 (Alternative 4 & 5).
    - This option would likely only impact the Hunter's Creek lateral and would cause fewer disruptions to customers.
- Sabal Trail prefers perpendicular roadway crossings over pipelines.
- Vertical clearances required for bridges over pipelines would need to be reviewed individually by Sabal Trail for acceptance.
- Design and construction specifications near Sabal Trail facilities is outlined in the Sabal Trail Transmission Developer Guidebook, which was provided at the meeting.

Gulfstream Natural Gas

- CR 532 interchange alternatives cross the end of Gulfstream's pipeline that feeds the Duke Energy Intercession City Power Plant.
- Gulfstream does not like to relocate existing pipelines unless necessary.
- Gulfstream also preferred CR 532 interchange options that were located along the east side of the Sabal Trail Headquarters located at 6781 Osceola Polk Line Rd., Davenport, FL 33896 (Alternative 4 & 5).
    - These alternatives provide perpendicular roadway crossings for the pipeline.
    - Alternatives to the west side of Sabal Trail's Headquarters included future ramp crossing Gulfstream's pipeline at an angle and longitudinal pavement over their pipeline.
- Gulfstream does not allow longitudinal pavement over their pipeline. Only perpendicular roadway crossings are acceptable.
- Fred DeLoach (Williams) believes that Gulfstream's pipeline within the CR 532 interchange alternatives was constructed with Class 2 pipe. This may need to be replaced with Class 3 pipe based on proposed roadway crossings. Gulfstream would need to evaluate the level of improvements proposed over pipeline to confirm upgrade requirements.
- Design and construction specifications near Gulfstream's facilities is outlined in the Williams Developers' handbook, which was provided via email after the meeting.

Duke Energy-Transmission

- The intercession City Power Plant is a major plant in Florida's statewide power reliability.
- Duke maintains 230 kV lines out of the power plant.
    - Impacts to Duke's transmission electric lines or Gulfstream's pipeline feeding the plant could negatively affect Florida's electrical grid.
- Any relocations of Duke's transmission facilities or Gulfstream's pipeline would need to occur during non-peak times of year.
- In general, Duke requires 25-foot setback from their property line.
    - This is for safety and security requirements.
    - Duke will need to review additional Federal guidelines for separation requirements from critical plant features such as natural gas stations and fuel storage tanks.
    - Duke Asset Protection will also need to review alternatives near the plant prior to acceptance.
- Duke Energy preferred CR 532 interchange options that were located along the west side of the Sabal Trail Headquarters located at 6781 Osceola Polk Line Rd., Davenport, FL 33896 (Alternative 1).
    - Alternatives to the east side of Sabal Trail headquarters may not allow for enough vertical clearance for overhead transmission facilities to cross over elevated structures so close to the plant.

General Discussion

- Florida Southeast Connection pipeline construction is complete, and the pipeline is in service.
    - Per design plans, FSC appears to show new pipeline in an easement adjacent to US 92 right-of-way.
- TECO recently installed a 6-inch or 8-inch gas main along the south side of CR 532 and will need to be coordinated with.
- All UAOs were invited to the PAG meetings for the project. Let Clif know if you were not invited to this meeting and would like to be involved with future PAG meetings.
    - Qwest is on the PD&E team and performing all the Public Involvement activities.

End of Meeting

Note: The information above reflects the author's understanding of the contents of the meeting. If any is interpretations or inaccuracies are included, please contact David Ledgerwood (407-971-8850) as soon as possible for resolution and revisions.

CENTRAL FLORIDA EXPRESSWAY AUTHORITY

Meeting Sign-in Sheet

Poinciana Parkway Extension
Project Development & Environment Study

Thursday, September 13, 2018, 1:00 PM
Utilities

Kimley»Horn

Name - Please Print	Initials	Organization	Email
Perry Turnbull	PT	Enbridge / Sabal Trail	Perry.Turnbull@enbridge.com
John Harris		Enbridge / Sabal Trail	John.C.Harris@enbridge.com
Peter Kerrigan		Enbridge / Sabal Trail	Peter.Kerrigan@enbridge.com
Paul Lanius	PL	Enbridge / Sabal Trail	Paul.Lanius@enbridge.com
Cliff Vickers		NextEra Energy	Cliff.Vickers@nexteraenergy.com
Jacob Hickey		NextEra Energy	Jacob.Hickey@nexteraenergy.com
Matthew Reis	MR	Duke Energy	Matthew.Reis@duke-energy.com
Ralph Mears / Craig Wilson	CW	Kinder Morgan	ralph_mears@kindermorgan.com
~~Tim Yelverton~~ James Terry		Kissimmee Utility Authority	jterry ~~tyelvert~~@kua.com
James Villarreal		Williams / Gulfstream Natural Gas	James.P.Villarreal@Williams.com
Shawn Deutscher		Williams / Gulfstream Natural Gas	Shawn.Deutscher@Williams.com
Tom Ulmer		Transtate Industrial Pipeline Systems	tom@transtate.us
~~jennifer Williams~~ Scott Vanlaker		Pike Engineering (Duke Transmission)	~~JEWilliams@pike.com~~ svanlaker@pike.com
Merissa Evans	ME	Dewberry	mevans@Dewberry.com
David Ledgerwood		Inwood	dledgerwood@inwoodinc.com
Fred Burkett		Kimley-Horn	fred.burkett@kimley-horn.com
Clif Tate		Kimley-Horn	clif.tate@kimley-horn.com

Additional Sign-In Space on Back

Name - Please Print	Initials	Organization	Email
Doug Peterson	D	KUA	wpeterso@KUA
Fred DeLoach		Gulfstream	fred.deloach@williams.com

POINCIANA PARKWAY EXTENSION PD&E MEETING SUMMARY

Utilities Coordination Meeting

Date: Thursday, December 13, 2018

Time: 1:00 PM to 2:30 PM

Location: Sabal Trail Office – 6781 Osceola Polk Line Rd, Davenport, FL 33896

Attendees:
Matthew Reis, Duke Energy
John Harris, Enbridge – Sabal Trail
Peter Kerrigan, Enbridge – Sabal Trail
Paul Lanius, Enbridge – Sabal Trail
Perry Turnbull, Enbridge – Sabal Trail
Tom Bickel, Kinder Morgan
Jacob Hickey, NextEra Energy – Florida Southeast Connection
Loren Brown, NextEra Energy – Florida Southeast Connection
Fred DeLoach, Williams - Gulfstream
James Villarreal, Williams – Gulfstream
Jonathan Williamson, CFX / Dewberry
Fred Burkett, Kimley-Horn
Clif Tate, Kimley-Horn
David Ledgerwood, Inwood

This meeting was held to discuss the CFX Poinciana Parkway Extension Project Development and Environment (PD&E) Study and solicit feedback from utility companies within the study area regarding impacts and proposed relocations. Clif Tate presented a summary of the project history, previous study alternatives and the study schedule (see attached).

Clif used Google Earth to present the various alternatives and their relationship to known utilities in the study area.

Alternative 1A (see DRAFT 1a.kmz file)

Alternative 1A travels along the south side of Ronald Reagan Parkway (previously designated as Kinney Harmon Road), bridges over US 17/92 (south of Ronald Reagan Parkway), bridges over Ronald Reagan Parkway (west of US 17/92), bridges over the railroad tracks, and travels along the west side of the railroad tracks before intersecting with CR 532 (west of the Sabal Trail facility).

Alternative 1A intersects with the following utilities (see Utilities.kmz file):

- Duke Energy Transmission line, south of Ronald Reagan Pkwy. and approximately 0.4 mile east of US 17/92
- Kinder-Morgan pipeline, south of Ronald Reagan Pkwy. and approximately 0.4 mile east of US 17/92
- Florida Southeast Connection pipeline located on the east side of US 17/92, south of Ronald Reagan Pkwy. (the on-ramp from US 17/92 crosses over the pipeline)
- Duke Energy Transmission line running along Ronald Reagan Pkwy., west of US 17/92
- Kinder-Morgan pipeline which travels along the railroad tracks

Other than adjustments where the expressway intersects with utilities, no utility relocations are proposed with Alternative 1A.

Alternative 4A and Alternative 5A (see DRAFT 4a.kmz file and DRAFT 5a.kmz file)

Alternatives 4A and 5A travel north of Ronald Reagan Parkway on different alignments to south of US 17/92. Alternatives 4A and 5A have the same alignment from south of US 17/92 to CR 532 and have the same interaction with utilities.

Alternatives 4A and 5A intersect with the following utilities (see Utilities.kmz file) (utilities proposed to be relocated are identified):

- Duke Energy Transmission line running along the northern side of US 17/92 near the Osceola/Polk County line
- Duke Energy Transmission line traveling along the western side of the Osceola/Polk County line (to be relocated)
- Kinder-Morgan pipeline traveling along the western side of the Osceola/Polk County line (to be relocated)
- Florida Southeast Connection pipeline traveling along the Osceola/Polk County line (to be relocated)
- Kinder-Morgan pipeline which travels along the northern side of the railroad tracks

The following relocations are proposed for Alternatives 4A and 5A: (see 4a-5a Relocations.kmz file)

- The Duke Energy Transmission line running west from the power plant would be extended approximately 600' west before traveling south approximately 5,000' to tie into the existing transmission line just south of Old Tampa Hwy.
- The Kinder-Morgan pipeline would turn west, just north of CR 532, for approximately 650', then travel south approximately 4,000 feet to tie into the existing pipeline at Old Tampa Hwy.
- Approximately 600' south of CR 532, the Florida Southeast Connection pipeline would travel southwest approximately 600', then travel south approximately 2,700 feet to tie into the existing pipeline just south of Old Tampa Hwy.

It is anticipated that existing utility easements will be replaced with new easements. (see New Easement.kmz file) The Poinciana Parkway Extension project team will prepare cost estimates for relocating the utilities and obtaining the new easements. The team will coordinate with the applicable utilities in an effort to develop accurate cost estimates.

Additional Coordination

It was agreed that Kimley-Horn will provide the impacted utility owners with KMZ files of draft alternatives (which are subject to change) and the utility owners will provide Kimley-Horn with KMZ files of their facilities, right-of-way and easements within the area of the alternatives.

END OF MEETING SUMMARY

This meeting summary was prepared by Clif Tate of Kimley-Horn. It is not verbatim, but is a summary of the meeting activities and overall discussion. If anyone wishes to modify or append to this account, please contact Clif Tate either by phone at 407-898-1511 or by email at clif.tate@kimley-horn.com

Appendix 3
Utility Responses/Information

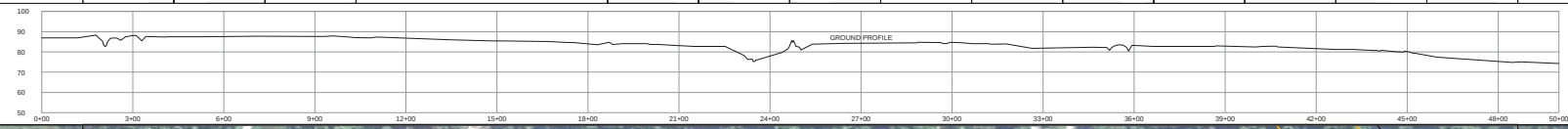
Duke Energy Transmission


Intercession City Power Plant
5 - 230-kV & 1 - 69-kV in easement
69-kV in easement
230-kV in easement
2-69-kV in easement
69-kV
Substation
69-kV in easement
2 - 230-kV in easement
Duke Energy - Transmission GIS Map

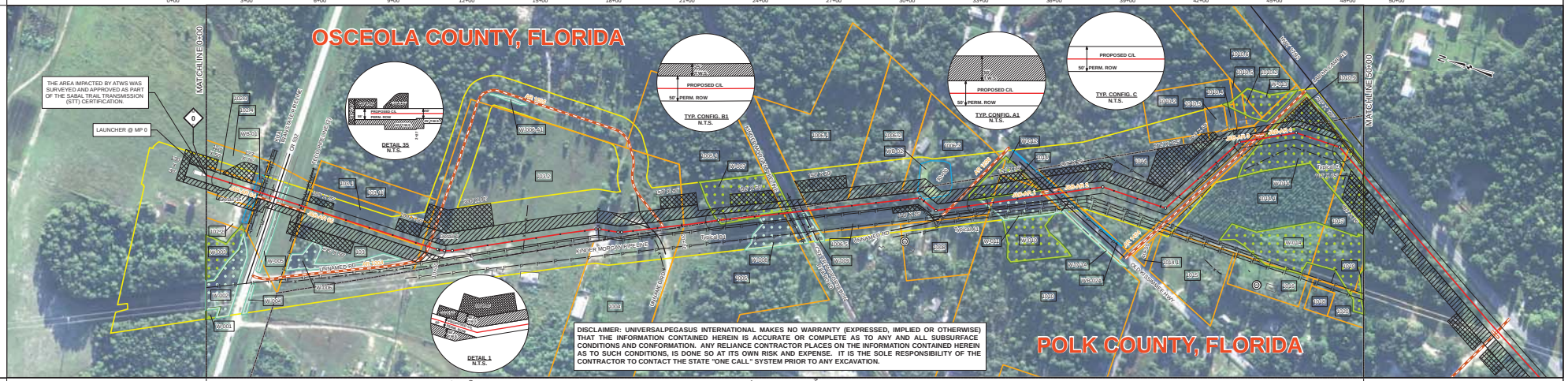
Florida Southeast Connection Pipeline

TRACT	MATCHLINE 0+00	102.3 SABAL TRAIL TRANSMISSION, LLC 22 FT 0+00 TO 2+27	CR 532 OSCEOLA COUNTY 200 FT 2+27 TO 4+27	103.1 LUIS MARCELIN, SR., ET AL 500 FT 4+27 TO 9+27	103.2 DIAMONDBACK LAND COMPANY, LLC 1082 FT 9+27 TO 20+09	1005.1 JOSTAM PROPERTY INC. 190 FT 20+09 TO 21+99	1005 WILLIAM A. WORRELL AND RICHARD A. BRUNO 219 FT 21+99 TO 24+18	CSX TRANSPORTATION RAILROAD 107 FT 24+18 TO 25+25	1006.5 CAROL GRIMES 768 FT 25+25 TO 32+93	1010 LOUGHMAN COMMUNITY ASSOCIATION, INC. 219 FT 32+93 TO 35+12	OLD KISSIMMEE HWY POLK COUNTY 76 FT 35+12 TO 35+90	1014 US92-49 LAND TRUST, C/O W. T. PAUL LIAU, TRUSTEE 875 FT 35+90 TO 44+65	LABOR CAMP RD POLK COUNTY 52 FT 44+65 TO 45+17	1014.1 DUKE ENERGY FLORIDA, INC. 375 FT 45+17 TO 48+92	1017 DUKE ENERGY FLORIDA, INC. 108 FT 48+92 TO 50+00	MATCHLINE 50+00

GROUND PROFILE
HORIZ: 1" = 200'
VERT: 1" = 30'



SCALE: 1" = 200'



SURVEY DATA

STATIONING

ENGINEERING DATA

MATERIAL

REFERENCE DRAWING	21040-505-LRW-00030	21040-440-PMW-00001	21040-440-PMW-10001	21040-440-PMW-00002	21040-440-PMW-00003
CLASS LOCATION	Class III				
MINIMUM DEPTH OF COVER	3'	SEE REF DWG	3'	SEE REF DWG	3'
AC MITIGATION / CATHODIC PROTECTION	DCP1	DCP2	DCP3	DCP4	
WATERBODY/WETLAND CROSSINGS	WB 001	W-005	W-007	W-009	W-011
WATERBODY/WETLAND LENGTH	23'	23'	172'	23'	23'

ENVIRONMENTAL DATA

STATIONS

PERMANENT EROSION CONTROL	EROSION CONTROL CODE
	SLOPE BREAKER CODE
	TOPSOIL SALVAGE
THREATENED AND ENDANGERED SPECIES	
	TIMING CONSTRAINT
SPECIAL CONDITIONS	CONSTRAINT 2
	CONSTRAINT 3
	CONSTRAINT 4

THIS BAND NOT UTILIZED

BILL OF MATERIALS

ITEM NO.	QTY	UOM	REQ'N NUMBER	MATERIAL NUMBER	DESCRIPTION
4	580	FT			36" O.D. x 0.750" W.T., API 5L, X70, PSL2, DSAW, 14-16 MILS FBE & 24-30 MILS ARO
8	4420	FT			36" O.D. x 0.750" W.T., API 5L, X70, PSL2, DSAW, 14-16 MILS FBE

MISCELLANEOUS MATERIALS

QTY	UOM	REQ'N NUMBER	MATERIAL NUMBER	DESCRIPTION
82	EA			SET ON WEIGHTS
11	EA			PIPELINE MARKERS
10	EA			WARNING SIGNS
0	EA			CP TEST STATION TYPE 1
5	EA			CP TEST STATION TYPE 2
0	EA			AERIAL MARKERS
0	EA			ANODE BED DEEP WELL

FITTINGS SUMMARY

ITEM NO.	QTY	UOM	REQ'N NUMBER	MATERIAL NUMBER	DESCRIPTION
	2	EA			45° 3R HORIZONTAL FITTING

CONTINUOUS CONCRETE COATING

QTY	UOM	REQ'N NUMBER	MATERIAL NUMBER	DESCRIPTION

PIPE ASSEMBLIES

QTY	UOM	DESCRIPTION
1	EA	LAUNCHER

PIPE COATING DATA

PIPE COATING: 14 MIL MINIMUM FBE AND 24 MIL MINIMUM ARO
GIRTH WELD COATING: 2 PART EPOXY
INTERNAL COATING (YES/NO): NO

TYPICAL DRAWINGS

DWG/FIELD BOOK NO.	TITLE
21040-510-TYP-20001	CATHODIC PROTECTION STD. SINGLE POINT TEST STATION, TYPE 1
21040-510-TYP-20002	CATHODIC PROTECTION STD. FOREIGN PIPELINE CROSSING TEST STATION, TYPE 2
21040-510-TYP-20028 21040-510-TYP-20029	TYPICAL OPEN CUT / BORE
21040-510-TYP-20112	CONTINUOUS CONCRETE COATING STANDARD FOR 36" / 30" PIPELINE
21040-510-TYP-20113	TYPICAL SADDLE BAG WEIGHTS
21040-510-TYP-20114	WARNING SIGN DETAIL
21040-510-TYP-20115	AERIAL MARKER INSTALLATION DETAIL
21040-510-TYP-20116	AERIAL MARKER DETAIL
21040-510-TYP-20117	TYPICAL PIPELINE MARKER ASSEMBLY
21040-510-TYP-20118	PIPELINE MARKER "WARNING" DECAL

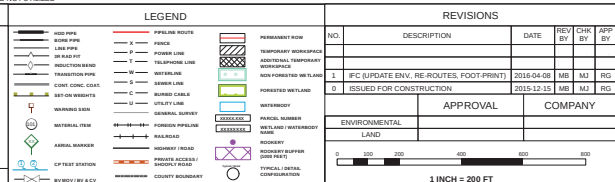
GENERAL INFORMATION

1. THE MINIMUM DEPTH OF COVER FOR THE PROJECT IS 36 INCHES. ADDITIONAL DEPTH OF COVER IS REQUIRED FOR ROAD AND WATERBODY CROSSINGS, AND IS TO BE IN ACCORDANCE WITH REFERENCED PERMIT DRAWINGS, SITE SPECIFIC DRAWINGS, OR CONSTRUCTION SPECIFICATIONS, WHICHEVER IS MORE STRINGENT.
2. THE BOUNDARIES OF ALL WORK AREAS WILL BE CLEARLY MARKED AND ALL WORK SHALL REMAIN WITHIN THE DESIGNATED WORK AREA.
3. THE REQUIRED STATE ONE CALL NOTIFICATION IS THE RESPONSIBILITY OF THE CONSTRUCTION CONTRACTOR.
4. THE CONTRACTOR SHALL ACCESS THE WORK AREA USING ONLY PUBLIC ROADS AND APPROVED ACCESS ROADS.
5. ADDITIONAL WARNING SIGNS MAY BE REQUIRED AS DICTATED BY CONSTRUCTION CONTRACT.
6. MAP PROJECTION: NAD 1983 HARN STATE PLANE FLORIDA EAST FIPS 0901 FEET. VERTICAL DATUM: NAVD 88.

SPECIAL NOTES

1. INDUCTION BEND QUANTITIES ALONG WITH THEIR DESCRIPTIONS ARE LOCATED ON DRAWING 21040-505-FBW-00001.
2. SEE ARK DRAWING PACKAGE FOR ANODE BED DEEP WELL.

LEGEND



REVISIONS

NO.	DESCRIPTION	DATE	REV BY	CHK BY	APP BY
1	IFC (UPDATE ENV., RE-ROUTES, FOOT-PRINT)	2016-04-08	MB	MJ	RG
0	ISSUED FOR CONSTRUCTION	2015-12-15	MB	MJ	RG

APPROVAL	COMPANY
ENVIRONMENTAL	
LAND	

1 INCH = 200 FT

APPROVALS

DRAWN BY:	MB	CONSTRUCTION PERMIT NO.	
CHECKED BY:	MJ	MAINTENANCE OPERATION REGION	
PROJECT MANAGER	RG	MIN. TEST PRESSURE	1816 PSI
PROJECT DEF. NO.		DESIGN PRESSURE	1440 PSI

UniversalPegasus INTERNATIONAL
A Subsidiary of Huntington Ingalls Industries

FLORIDA SOUTHEAST CONNECTION

FLORIDA SOUTHEAST CONNECTION PROJECT

STA: 0+00 TO 50+00	DISCIPLINE#: 03

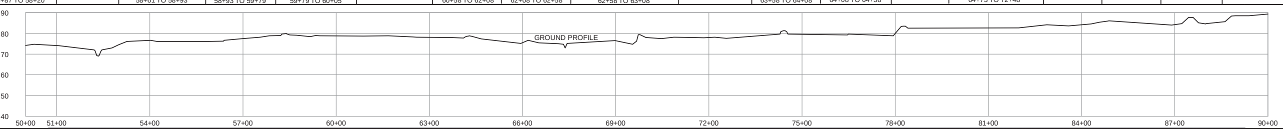
FLORIDA SOUTHEAST CONNECTION
ALIGNMENT SHEET
OSCEOLA AND POLK COUNTIES, FLORIDA

SCALE: 1" = 200'	21040-510-ALS-00001	REV. 1

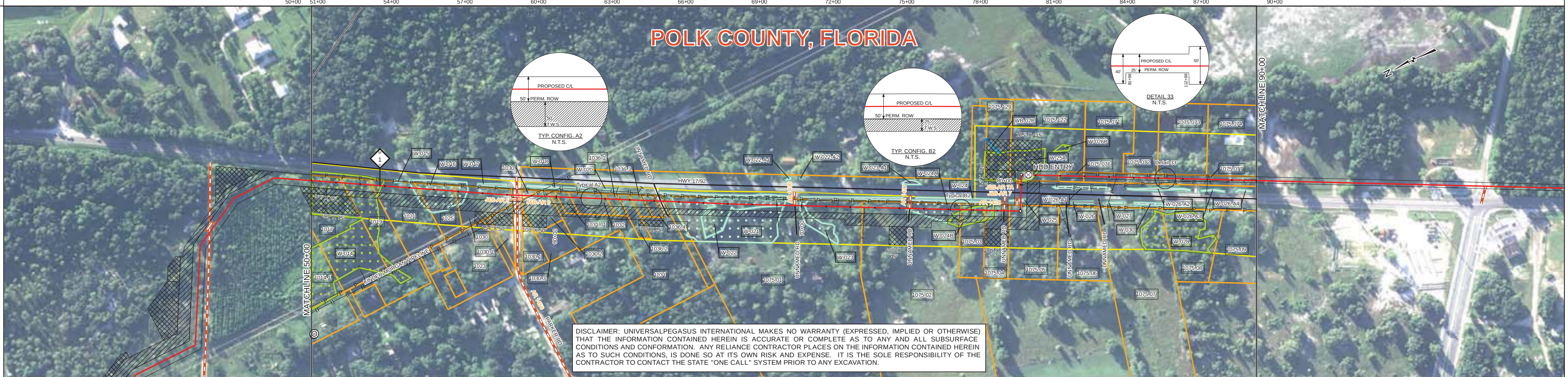
SHEET 1

TRACT	MATCHLINE 50+00	1017 DUKE ENERGY FLORIDA, INC. 127 FT 50+00 TO 51+27	1019 ROGER VICKERS 118 FT 51+27 TO 52+45	1021 W.T. PAUL LIAU, TRUSTEE 189 FT 52+45 TO 54+34	1025 JO ANN HOWARD, AND FREDERICK LAMAR HOWARD, SR. 153 FT 54+34 TO 55+87	1030 JEFFREY T. GRANT AND MARIE GRANT MACKEY 233 FT 55+87 TO 58+20	PARKER ROAD POLK COUNTY, FLORIDA 41 FT 58+20 TO 58+61	1030 JEFFREY T. GRANT AND MARIE GRANT MACKEY 32 FT 58+61 TO 58+93	1030.2 GLADYS JONES AND ERIC JONES 86 FT 58+93 TO 59+79	1031 RAYMOND WILSON AND CYNTHIA WILSON 26 FT 59+79 TO 60+05	1031.01 CORINE W. ALLEN 53 FT 60+05 TO 60+58	1032 HENRY BELL AND BERNICE BELL 150 FT 60+58 TO 62+08	1036.1 HELEN P.BODDIE AND COREY P. BODDIE 50 FT 62+08 TO 62+58	1036.2 RAYMOND KENNETH WILSON AND CYNTHIA JEAN WILSON 50 FT 62+58 TO 63+08	1036.3 LORINE DIRCKSON 50 FT 63+08 TO 63+58	1036.4 EDDIE LEE SCOTT AND JANIE LEE SCOTT 50 FT 63+58 TO 64+08	1031 RAYMOND WILSON AND CYNTHIA WILSON 30 FT 64+08 TO 64+38	POLK COUNTY ROW 35 FT 64+38 TO 64+73	1075.01 BIBI ALLI, MOHAMED ALLI, LELAUTIE ALLII 775 FT 64+73 TO 72+48	1075.02 DUKE ENERGY FLORIDA, INC. 400 FT 72+48 TO 76+48	1075.03 POLK COUNTY 100 FT 76+48 TO 77+48	1075.04 POLK COUNTY 100 FT 77+48 TO 78+48	1075.05 S & R INVESTMENTS USA, INC. 70 FT 78+48 TO 79+18	U.S. HIGHWAY 17/92 STATE ROAD 600 FDOT 100 FT 79+18 TO 80+18	1075.122 POLYAK DEVELOPMENT, INC. 178 FT 80+18 TO 81+96	1075.076 FLORIDA DEPARTMENT OF TRANSPORTATION 100 FT 81+96 TO 82+96	1075.077 FLORIDA DEPARTMENT OF TRANSPORTATION 704 FT 82+96 TO 90+00	MATCHLINE 90+00

GROUND PROFILE HORIZ: 1" = 200' VERT: 1" = 30'



SCALE: 1" = 200'



SURVEY DATA — STATIONING

ENGINEERING DATA — MATERIAL

26-9K# SBW 13.5 CC — 810' — 25-9K# SBW 13.5 CC — 160' — 436' — 40' — 47-9K# SBW 13.5 CC — 1462' — 35-9K# SBW 13.5 CC — 120' — 43' — 4-9K# SBW 13.5 CC — 929'

REFERENCE DRAWING	21040-440-PMW-00004; 21040-440-PMW-00005; 21040-505-HDW-21022
CLASS LOCATION	Class III
MINIMUM DEPTH OF COVER	3' / 4' / 3' / SEE REF DWG / 3' / 5' / 3' / 4' / 3' / SEE REF DWG / SEE REF DWG
AC MITIGATION / CATHODIC PROTECTION	
WATERBODY/WETLAND CROSSINGS	W-014; W-016; W-021; W-022; W-023; W-024B; W-025; W-25A
WATERBODY/WETLAND LENGTH	296'; 223'; 150'; 200'; 16'; 241'; 110'; 80'

ENVIRONMENTAL DATA

STATIONS

PERMANENT EROSION CONTROL	EROSION CONTROL CODE	THIS BAND NOT UTILIZED
	SLOPE BREAKER CODE	THIS BAND NOT UTILIZED
	TOPSOIL SALVAGE	THIS BAND NOT UTILIZED
THREATENED AND ENDANGERED SPECIES		
SPECIAL CONDITIONS	TIMING CONSTRAINT	THIS BAND NOT UTILIZED
	CONSTRAINT 2	THIS BAND NOT UTILIZED
	CONSTRAINT 3	THIS BAND NOT UTILIZED
	CONSTRAINT 4	THIS BAND NOT UTILIZED

BILL OF MATERIALS

ITEM NO.	QTY	UOM	REQ'N NUMBER	MATERIAL NUMBER	DESCRIPTION
4	1249	FT			36" O.D. x 0.750" W.T., API 5L, X70, PSL2, DSAW, 14-16 MILS FBE & 24-30 MILS ARO
6	2751	FT			36" O.D. x 0.750" W.T., API 5L, X70, PSL2, DSAW, 14-16 MILS FBE

FITTINGS SUMMARY

ITEM NO.	QTY	UOM	REQ'N NUMBER	MATERIAL NUMBER	DESCRIPTION
	1	EA			8° 3R VERTICAL FITTING
	2	EA			90° 3R HORIZONTAL FITTING

PIPE ASSEMBLIES

QTY	UOM	DESCRIPTION

MISCELLANEOUS MATERIALS

QTY	UOM	REQ'N NUMBER	MATERIAL NUMBER	DESCRIPTION
137	EA			SET ON WEIGHTS
2	EA			PIPELINE MARKERS
7	EA			WARNING SIGNS
0	EA			CP TEST STATION TYPE 1
1	EA			CP TEST STATION TYPE 2
0	EA			AERIAL MARKERS
0	EA			ANODE BED DEEP WELL

CONTINUOUS CONCRETE COATING

QTY	UOM	REQ'N NUMBER	MATERIAL NUMBER	DESCRIPTION

PIPE COATING DATA

PIPE COATING: 14 MIL MINIMUM FBE AND 24 MIL MINIMUM ARO
GIRTH WELD COATING: 2 PART EPOXY
INTERNAL COATING (YES/NO): NO

TYPICAL DRAWINGS

DWG/FIELD BOOK NO.	TITLE
21040-510-TYP-20001	CATHODIC PROTECTION STD. SINGLE POINT TEST STATION, TYPE 1
21040-510-TYP-20002	CATHODIC PROTECTION STD. FOREIGN PIPELINE CROSSING TEST STATION, TYPE 2
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21040-510-TYP-20112	CONTINUOUS CONCRETE COATING STANDARD FOR 36" / 30" PIPELINE
21040-510-TYP-20113	TYPICAL SADDLE BAG WEIGHTS
21040-510-TYP-20114	WARNING SIGN DETAIL
21040-510-TYP-20115	AERIAL MARKER INSTALLATION DETAIL
21040-510-TYP-20116	AERIAL MARKER DETAIL
21040-510-TYP-20117	TYPICAL PIPELINE MARKER ASSEMBLY
21040-510-TYP-20118	PIPELINE MARKER "WARNING" DECAL

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SPECIAL NOTES

1. INDUCTION BEND QUANTITIES ALONG WITH THEIR DESCRIPTIONS ARE LOCATED ON DRAWING 21040-505-FBW-00001.
2. Ⓐ - SEE ARK DRAWING PACKAGE FOR ANODE BED DEEP WELL.

LEGEND

HDD PIPE; BORE PIPE; LINE PIPE; 3R RAD FIT; INDUCTION BEND; TRANSITION PIPE; CONT. CONC. COAT.; SET-ON WEIGHTS; WARNING SIGN; MATERIAL ITEM; AERIAL MARKER; CP TEST STATION; BV MOV / BV & CV; PIPELINE MARKER; PIPELINE MILEPOST; ANODE BED DEEP WELL; PIPELINE ROUTE; FENCE; POWER LINE; TELEPHONE LINE; WATERLINE; SEWER LINE; BURIED CABLE; UTILITY LINE; GENERAL SURVEY; FOREIGN PIPELINE; RAILROAD; HIGHWAY / ROAD; PRIVATE ACCESS / SHOOFLY ROAD; COUNTY BOUNDARY; ROW PARCEL; PLSS SECTION LINE; TRAP; WATER WELL; HDD ENTRY / EXIT; PERMANENT ROW; TEMPORARY WORKSPACE; ADDITIONAL TEMPORARY WORKSPACE; NON FORESTED WETLAND; FORESTED WETLAND; WATERBODY; PARCEL NUMBER; WETLAND / WATERBODY NAME; ROOKERY; ROOKERY BUFFER (1000 FEET); TYPICAL / DETAIL CONFIGURATION; POINT OF INTERSECTION (PI); VERTICAL FITTING; SPREAD BREAK; ENVIRONMENTAL SURVEY AREA

REVISIONS

NO.	DESCRIPTION	DATE	REV BY	CHK BY	APP BY
1	IFC (UPDATE ENV., RE-ROUTES, FOOT-PRINT)	2016-04-08	MB	MJ	RG
0	ISSUED FOR CONSTRUCTION	2015-12-15	MB	MJ	RG

	APPROVAL	COMPANY
ENVIRONMENTAL		
LAND		

0 100 200 400 600 800

1 INCH = 200 FT

APPROVALS

DRAWN BY:	MB	CONSTRUCTION PERMIT NO.
CHECKED BY:	MJ	MAINTENANCE OPERATION REGION
PROJECT MANAGER	RG	MIN. TEST PRESSURE 1816 PSI
PROJECT DEF. NO.		DESIGN PRESSURE 1440 PSI

UniversalPegasus INTERNATIONAL A Subsidiary of Huntington Ingalls Industries

FLORIDA SOUTHEAST CONNECTION

FLORIDA SOUTHEAST CONNECTION PROJECT

STA: 50+00 TO 90+00 | DISCIPLINE#: 03

FLORIDA SOUTHEAST CONNECTION ALIGNMENT SHEET POLK COUNTY, FLORIDA

SCALE: 1" = 200' | 21040-510-ALS-00002 | REV. 1

SHEET 2

TRACT

1075.077
FLORIDA DEPARTMENT OF TRANSPORTATION
2298 FT
90+00 TO 112+98

1075.21
POLK INVESTMENT, LLC
1101 FT
112+98 TO 123+99

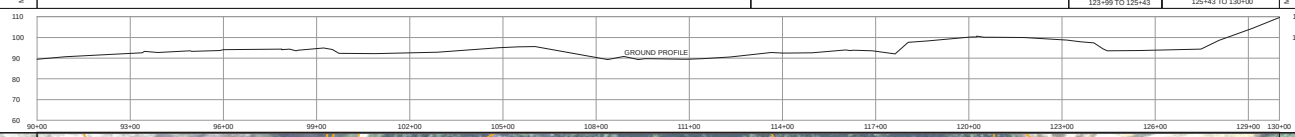
1075.22
APPLIED BUILDING DEVELOPMENT COMPANY-OAKHILLS, INC.
144 FT
123+99 TO 125+43

1075.24
APPLIED BUILDING DEVELOPMENT COMPANY-OAKHILLS, INC.
457 FT
125+43 TO 130+00

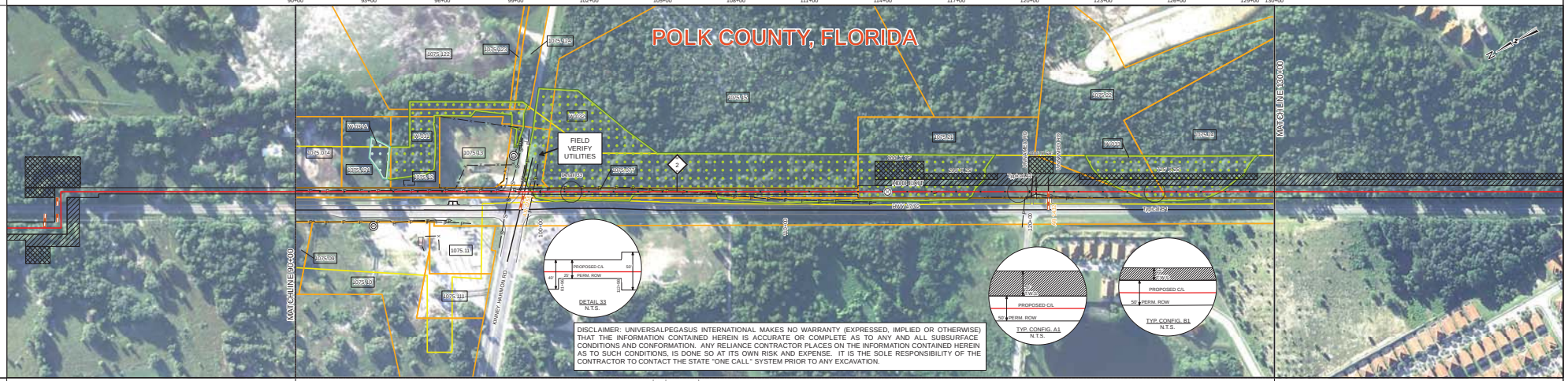
MATCHLINE 90+00

MATCHLINE 130+00

GROUND PROFILE
HORIZ: 1" = 200'
VERT: 1" = 30'



SCALE: 1" = 200'



DISCLAIMER: UNIVERSALPEGASUS INTERNATIONAL MAKES NO WARRANTY (EXPRESSED, IMPLIED OR OTHERWISE) THAT THE INFORMATION CONTAINED HEREIN IS ACCURATE OR COMPLETE AS TO ANY AND ALL SUBSURFACE CONDITIONS AND CONFORMATION. ANY RELIANCE CONTRACTOR PLACES ON THE INFORMATION CONTAINED HEREIN AS TO SUCH CONDITIONS, IS DONE SO AT ITS OWN RISK AND EXPENSE. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO CONTACT THE STATE "ONE CALL" SYSTEM PRIOR TO ANY EXCAVATION.

SURVEY DATA

STATIONING

MATCHLINE 90+00

90+00 POWER POLE LT 12'
90+56 POWER POLE LT 4'
90+99 ROAD EDGE
91+31 ROAD EDGE
91+61 POWER POLE LT 4'
92+48 POWER POLE LT 4'
92+64 ROAD EDGE
93+00 ROAD EDGE
93+44 POWER POLE LT 4'
93+86 POWER POLE LT 4'
93+98 BEGIN 3 STA. LT 9'
93+98 OVERHEAD POWER LINES
94+06 ROAD EDGE
94+36 ROAD EDGE
94+62 POWER POLE LT 4'
95+74 POWER POLE RT 7'
95+81 POWER POLE LT 4'
95+88 FENCE CORNER LT 30'
95+88 BEGIN ROD LT 15'
96+52 DRIVE WAY RT 6'
96+53 FENCE POST
96+70 ROAD EDGE
96+82 DRIVE WAY RT 6'
98+14 FENCE CORNER LT 35'
99+10 POWER POLE LT 4'
99+39 ROAD EDGE
99+53 ROAD EDGE
99+72 WATER LINE
99+89 ROAD EDGE
99+91 ROAD EDGE
99+93 SEWER LINE
99+93 SKINNY H MANHOLE
99+93 ROAD EDGE
99+95 WATER LINE
100+01 RETAINING WALL LT 6'
100+22 DRAIN LT 5'
100+44 RETAINING WALL LT 6'
100+44 RET WALL END
101+05 DRAIN LT 6'
103+05 DRAIN LT 6'
103+54 SIDEWALK LT 11'
103+54 RET WALL END
103+48 ROAD EDGE
104+22 POWER POLE LT 4'
104+22 DRAIN RT 7'
104+45 POWER POLE LT 4'
105+53 SIDEWALK RT 1'
105+53 SIDEWALK RT 3'
105+53 SIDEWALK LT 3'
105+53 GUY ANCHOR RT 17'
105+99 POWER LINE
106+14 IRON ROD LT 14'
107+07 POWER POLE RT 9'
109+47 CL DITCH
112+98 MONUMENT RT 25'
114+20 HDD EXIT
115+16 FENCE CORNER LT 30'
116+27 FENCE
119+61 GUY ANCHOR RT 17'
119+62 GUY ANCHOR RT 13'
120+03 ROAD EDGE
120+03 OVERHEAD POWER LINES
120+03 OVERHEAD
120+14 ROAD EDGE
120+28 POWER POLE LT 4'
120+35 POWER LINE
120+35 POWER POLE
120+38 POWER POLE LT 10'
120+38 POWER LINE
120+38 POWER POLE LT 60'
120+77 CL AIR 1432
120+77 OVERHEAD POWER LINE RT 18'
114+46 WATER EDGE
125+99 IRON ROD RT 25'
127+9' WATER EDGE

MATCHLINE 130+00

ENGINEERING DATA

MATERIAL

MATCHLINE 90+00

4
2420'

6
1580'
1573'-7" CCC

MATCHLINE 130+00

REFERENCE DRAWING	21040-440-PMW-20073 21040-505-HDW-21022
CLASS LOCATION	Class III
MINIMUM DEPTH OF COVER	SEE REF DWG 3'
AC MITIGATION / CATHODIC PROTECTION	3/4" of flowable fill/sand (two 381' sections either side of pipeline) DCI-1A 1,369' of double critbed (two 1,141' sections either side of pipeline)
WATERBODY/WETLAND CROSSINGS	W-032 W-032 W-033
WATERBODY/WETLAND LENGTH	465' 1053' 379'

ENVIRONMENTAL DATA

STATIONS

MATCHLINE 90+00

99+68 104+33 107+18 114+20 114+20 117+71 118+07 123+97 127+76 127+76

MATCHLINE 130+00

PERMANENT EROSION CONTROL	EROSION CONTROL CODE	
	SLOPE BREAKER CODE	
	TOPSOIL SALVAGE	
THREATENED AND ENDANGERED SPECIES		
SPECIAL CONDITIONS	TIMING CONSTRAINT	
	CONSTRAINT 2	
	CONSTRAINT 3	
	CONSTRAINT 4	

THIS BAND NOT UTILIZED
THIS BAND NOT UTILIZED
THIS BAND NOT UTILIZED
Potential Sand Skink Habitat
THIS BAND NOT UTILIZED
THIS BAND NOT UTILIZED
THIS BAND NOT UTILIZED
THIS BAND NOT UTILIZED

BILL OF MATERIALS

ITEM NO.	QTY	UOM	REQ'N NUMBER	MATERIAL NUMBER	DESCRIPTION
4	2420	FT			36" O.D. x 0.750" W.T., API 5L, X70, PSL2, DSAW, 14-16 MILS FBE & 24-30 MILS ARO
6	1580	FT			36" O.D. x 0.750" W.T., API 5L, X70, PSL2, DSAW, 14-16 MILS FBE

MISCELLANEOUS MATERIALS

QTY	UOM	REQ'N NUMBER	MATERIAL NUMBER	DESCRIPTION
0	EA			SET ON WEIGHTS
2	EA			PIPELINE MARKERS
2	EA			WARNING SIGNS
0	EA			CP TEST STATION TYPE 1
0	EA			CP TEST STATION TYPE 2
0	EA			AERIAL MARKERS
0	EA			ANODE BED DEEP WELL

FITTINGS SUMMARY

ITEM NO.	QTY	UOM	REQ'N NUMBER	MATERIAL NUMBER	DESCRIPTION
	1	EA			8" 3R VERTICAL FITTING

CONTINUOUS CONCRETE COATING

QTY	UOM	REQ'N NUMBER	MATERIAL NUMBER	DESCRIPTION
1573	FT			7" OF CONTINUOUS CONCRETE COATING (140 PCF DENSITY CONCRETE)

PIPE ASSEMBLIES

QTY	UOM	DESCRIPTION

PIPE COATING DATA

PIPE COATING: 14 MIL MINIMUM FBE AND 24 MIL MINIMUM ARO
GIRTH WELD COATING: 2 PART EPOXY
INTERNAL COATING (YES/NO): NO

TYPICAL DRAWINGS

DWG/FIELD BOOK NO.	TITLE
21040-510-TYP-20001	CATHODIC PROTECTION STD. SINGLE POINT TEST STATION, TYPE 1
21040-510-TYP-20002	CATHODIC PROTECTION STD. FOREIGN PIPELINE CROSSING TEST STATION, TYPE 2
21040-510-TYP-20028 21040-510-TYP-20029	TYPICAL OPEN CUT / BORE
21040-510-TYP-20112	CONTINUOUS CONCRETE COATING STANDARD FOR 36" / 30" PIPELINE
21040-510-TYP-20113	TYPICAL SADDLE BAG WEIGHTS
21040-510-TYP-20114	WARNING SIGN DETAIL
21040-510-TYP-20115	AERIAL MARKER INSTALLATION DETAIL
21040-510-TYP-20116	AERIAL MARKER DETAIL
21040-510-TYP-20117	TYPICAL PIPELINE MARKER ASSEMBLY
21040-510-TYP-20118	PIPELINE MARKER "WARNING" DECAL

GENERAL INFORMATION

1. THE MINIMUM DEPTH OF COVER FOR THE PROJECT IS 36 INCHES. ADDITIONAL DEPTH OF COVER IS REQUIRED FOR ROAD AND WATERBODY CROSSINGS, AND IS TO BE IN ACCORDANCE WITH REFERENCED PERMIT DRAWINGS, SITE SPECIFIC DRAWINGS, OR CONSTRUCTION SPECIFICATIONS, WHICHEVER IS MORE STRINGENT.
2. THE BOUNDARIES OF ALL WORK AREAS WILL BE CLEARLY MARKED AND ALL WORK SHALL REMAIN WITHIN THE DESIGNATED WORK AREA.
3. THE REQUIRED STATE ONE CALL NOTIFICATION IS THE RESPONSIBILITY OF THE CONSTRUCTION CONTRACTOR.
4. THE CONTRACTOR SHALL ACCESS THE WORK AREA USING ONLY PUBLIC ROADS AND APPROVED ACCESS ROADS.
5. ADDITIONAL WARNING SIGNS MAY BE REQUIRED AS DICTATED BY CONSTRUCTION CONTRACT.
6. MAP PROJECTION: NAD 1983 HARN STATE PLANE FLORIDA EAST FIPS 0901 FEET. VERTICAL DATUM: NAVD 88.

SPECIAL NOTES

1. INDUCTION BEND QUANTITIES ALONG WITH THEIR DESCRIPTIONS ARE LOCATED ON DRAWING 21040-505-FBW-00001.
2. A - SEE ARK DRAWING PACKAGE FOR ANODE BED DEEP WELL.

LEGEND

HDD PIPE
BORE PIPE
LINE PIPE
IR ROD FIT
INDUCTION BEND
TRANSITION PIPE
CONT. CONC. COAT.
SET-ON WEIGHTS
WARNING SIGN
MATERIAL ITEM
AERIAL MARKER
CP TEST STATION
BV MOV / BV & CV
PIPELINE MARKER
PIPELINE MILEPOST
ANODE BED DEEP WELL
PIPELINE ROUTE
FENCE
POWER LINE
TELEPHONE LINE
WATERLINE
SEWER LINE
BURIED CABLE
UTILITY LINE
GENERAL SURVEY
FOREIGN PIPELINE
RAILROAD
HIGHWAY / ROAD
PRIVATE ACCESS / SHIDOFF ROAD
COUNTY BOUNDARY
ROW PARCEL
PLSS SECTION LINE
TRAP
WATER WELL
HDD ENTRY / E-XIT
PERMANENT ROW
TEMPORARY WORKSPACE
ADDITIONAL TEMPORARY WORKSPACE
NON FORESTED WETLAND
FORESTED WETLAND
WATERBODY
PARCEL NUMBER
WETLAND / WATERBODY NAME
ROOKERY
ROOKERY BUFFER (1000 FEET)
TYPICAL / DETAIL CONFIGURATION
POINT OF INTERSECTION (PI)
VERTICAL FITTING
SPREAD BREAK
ENVIRONMENTAL SURVEY AREA

REVISIONS

NO.	DESCRIPTION	DATE	REV BY	CHK BY	APP BY
1	IFC (UPDATE ENV., RE-ROUTES, FOOT-PRINT)	2016-04-08	MB	MJ	RG
0	ISSUED FOR CONSTRUCTION	2015-12-15	MB	MJ	RG

	APPROVAL	COMPANY
ENVIRONMENTAL		
LAND		

0 100 200 400 600 800
1 INCH = 200 FT

APPROVALS

DRAWN BY:	MB	CONSTRUCTION PERMIT NO.	
CHECKED BY:	MJ	MAINTENANCE OPERATION REGION	
PROJECT MANAGER	RG	MIN. TEST PRESSURE	1816 PSI
PROJECT DEF. NO.		DESIGN PRESSURE	1440 PSI

UniversalPegasus INTERNATIONAL
A Subsidiary of Huntington Ingalls Industries

FLORIDA SOUTHEAST CONNECTION

FLORIDA SOUTHEAST CONNECTION PROJECT

STA: 90+00 TO 130+00 | DISCIPLINE#: 03

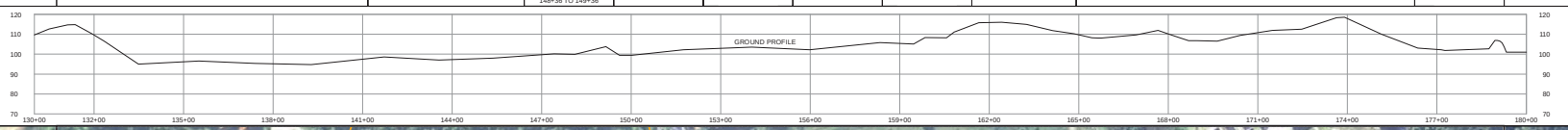
FLORIDA SOUTHEAST CONNECTION
ALIGNMENT SHEET
POLK COUNTY, FLORIDA

SCALE: 1" = 200' | 21040-510-ALS-00003 | REV. 1

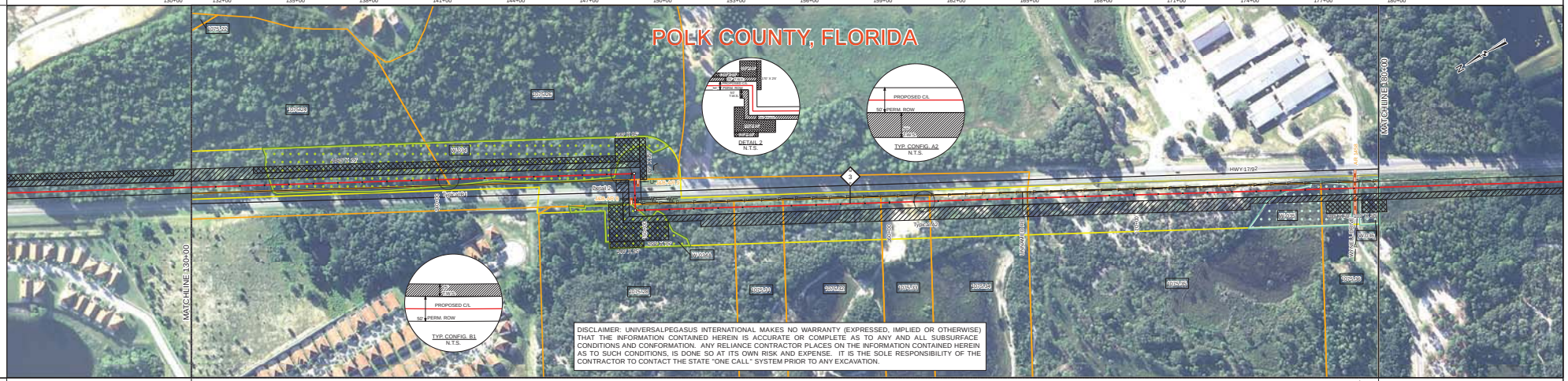
SHEET 3

TRACT		1075.24 APPLIED BUILDING DEVELOPMENT COMPANY-OAKHILLS, INC. 1044 FT 130+00 TO 140+44	1075.26 APPLIED BUILDING DEVELOPMENT COMPANY-OAKHILLS, INC. 792 FT 140+44 TO 148+36	U.S. HIGHWAY 17/92 / STATE ROAD 600 FDOT 100 FT 148+36 TO 149+36	1075.28 VIVEK INVESTMENT CORPORATION 429 FT 149+36 TO 153+65	1075.31 N.D. HOWARD 200 FT 153+65 TO 155+65	1075.32 VIVEK INVESTMENT CORPORATION 400 FT 155+65 TO 159+65	1075.33 AHILYA MATTOW AND CHANDRAWATI MARAJ 200 FT 159+65 TO 161+65	1075.34 VIVEK INVESTMENT CORPORATION 399 FT 161+65 TO 165+64	1075.35 STANDARD SAND & SILICA COMPANY 1200 FT 165+64 TO 177+64	1075.36 MARY GRESSETT-CHAPPIN 236 FT 177+64 TO 180+00
MATCHLINE 130+00										MATCHLINE 180+00	

GROUND PROFILE HORIZ: 1" = 200' VERT: 1" = 30'



SCALE: 1" = 200'



SURVEY DATA

STATIONING

MATCHLINE 130+00

147+50 ENDBERGROUND PIPELINE BEGINS 148+11 FLOWAY ST 148+45 ROAD EDGE 148+56 ROAD EDGE 148+57 HWY 17/92 149+13 WATERLINE 149+13 POWER LINE 149+29 POWER LINE 149+61 21' WIDTH L

153+65 IRON ROD LT 25'

155+65 IRON ROD LT 25'

159+64 IRON ROD LT 25'

160+57 TOE OF SLOPE 160+93 TOP OF BANK

165+44 UNNAMED RD 165+54 FENCE 165+66 FENCE CORNER LT 24'

169+69 GUY ANCHOR LT 17'

177+12 WATER EDGE 177+44 ROADWAY LT 25'

178+79 WATER EDGE 178+90 ROAD EDGE 179+03 GYWELL DRIVE 179+08 ROAD EDGE 179+11 ROAD EDGE 179+18 POWER LINE 179+18 POWER POLE BOX FT 13'

179+18 POWER LINE 15' 179+22 GUY ANCHOR LT 9' 179+24 LIGHTPOLE LT 1' 179+26 WATER EDGE

MATCHLINE 180+00

ENGINEERING DATA

MATERIAL

MATCHLINE 130+00

6 1828' 1801'-7" CCC

4 120'

6-9K# SBW 13.5 CC

6 2925'

264'-7" CCC

4 60' 6 67' 61'-7" CCC

MATCHLINE 180+00

REFERENCE DRAWING: 21040-440-PMW-00007

CLASS LOCATION: Class III

MINIMUM DEPTH OF COVER: 3' | SEE REF DWG | 3' | 4' | 3'

AC MITIGATION / CATHODIC PROTECTION: With 6 of double stranded zinc ribbon and 3/4" anodes on either side of the pipeline; AGO-AC; 1,374 ft of double stranded zinc ribbon (two 687' sections on either side of the pipeline)

ENVIRONMENTAL DATA

WATERBODY/WETLAND CROSSINGS: W-034 | W-034A | W-034A | W-034A

WATERBODY/WETLAND LENGTH: 1405 | 22' | 72' | 72'

STATIONS

132+63 132+99 133+27 139+60 147+32 148+28 149+48 149+51 149+73 158+72 176+31 176+62 179+73 179+82 179+93 179+93

PERMANENT EROSION CONTROL: EROSION CONTROL CODE; SLOPE BREAKER CODE; TOPSOIL SALVAGE

THREATENED AND ENDANGERED SPECIES: TIMING CONSTRAINT

SPECIAL CONDITIONS: CONSTRAINT 2; CONSTRAINT 3; CONSTRAINT 4

THIS BAND NOT UTILIZED

Potential Sand Skink Habitat

THIS BAND NOT UTILIZED

BILL OF MATERIALS

ITEM NO.	QTY	UOM	REQ'N NUMBER	MATERIAL NUMBER	DESCRIPTION
4	180	FT			36" O.D. x 0.750" W.T., API 5L, X70, PSL2, DSAW, 14-16 MILS FBE & 24-30 MILS ARO
8	4820	FT			36" O.D. x 0.750" W.T., API 5L, X70, PSL2, DSAW, 14-16 MILS FBE

FITTINGS SUMMARY

ITEM NO.	QTY	UOM	REQ'N NUMBER	MATERIAL NUMBER	DESCRIPTION
	2	EA			90° 3R HORIZONTAL FITTING

PIPE ASSEMBLIES

QTY	UOM	DESCRIPTION

MISCELLANEOUS MATERIALS

QTY	UOM	REQ'N NUMBER	MATERIAL NUMBER	DESCRIPTION
6	EA			SET ON WEIGHTS
4	EA			PIPELINE MARKERS
5	EA			WARNING SIGNS
1	EA			CP TEST STATION TYPE 1
0	EA			CP TEST STATION TYPE 2
0	EA			AERIAL MARKERS
0	EA			ANODE BED DEEP WELL

CONTINUOUS CONCRETE COATING

QTY	UOM	REQ'N NUMBER	MATERIAL NUMBER	DESCRIPTION
2126	FT			7" OF CONTINUOUS CONCRETE COATING (140 PCF DENSITY CONCRETE)

PIPE COATING DATA

PIPE COATING: 14 MIL MINIMUM FBE AND 24 MIL MINIMUM ARO

GIRTH WELD COATING: 2 PART EPOXY

INTERNAL COATING (YES/NO): NO

TYPICAL DRAWINGS

DWG/FIELD BOOK NO.	TITLE
21040-510-TYP-20001	CATHODIC PROTECTION STD. SINGLE POINT TEST STATION, TYPE 1
21040-510-TYP-20002	CATHODIC PROTECTION STD. FOREIGN PIPELINE CROSSING TEST STATION, TYPE 2
21040-510-TYP-20028 21040-510-TYP-20029	TYPICAL OPEN CUT / BORE
21040-510-TYP-20112	CONTINUOUS CONCRETE COATING STANDARD FOR 36" / 30" PIPELINE
21040-510-TYP-20113	TYPICAL SADDLE BAG WEIGHTS
21040-510-TYP-20114	WARNING SIGN DETAIL
21040-510-TYP-20115	AERIAL MARKER INSTALLATION DETAIL
21040-510-TYP-20116	AERIAL MARKER DETAIL
21040-510-TYP-20117	TYPICAL PIPELINE MARKER ASSEMBLY
21040-510-TYP-20118	PIPELINE MARKER "WARNING" DECAL

GENERAL INFORMATION

1. THE MINIMUM DEPTH OF COVER FOR THE PROJECT IS 36 INCHES. ADDITIONAL DEPTH OF COVER IS REQUIRED FOR ROAD AND WATERBODY CROSSINGS, AND IS TO BE IN ACCORDANCE WITH REFERENCED PERMIT DRAWINGS, SITE SPECIFIC DRAWINGS, OR CONSTRUCTION SPECIFICATIONS, WHICHEVER IS MORE STRINGENT.
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4. THE CONTRACTOR SHALL ACCESS THE WORK AREA USING ONLY PUBLIC ROADS AND APPROVED ACCESS ROADS.
5. ADDITIONAL WARNING SIGNS MAY BE REQUIRED AS DICTATED BY CONSTRUCTION CONTRACT.
6. MAP PROJECTION: NAD 1983 HARN STATE PLANE FLORIDA EAST FIPS 0901 FEET. VERTICAL DATUM: NAVD 88.

SPECIAL NOTES

1. INDUCTION BEND QUANTITIES ALONG WITH THEIR DESCRIPTIONS ARE LOCATED ON DRAWING 21040-505-FBW-00001.
2. A - SEE ARK DRAWING PACKAGE FOR ANODE BED DEEP WELL.

LEGEND

HDD PIPE; BORE PIPE; LINE PIPE; 3R XHD PIT; INDUCTION BEND; TRANSITION PIPE; CONT. CONC. COAT; SET-ON WEIGHTS; WARNING SIGN; MATERIAL ITEM; AERIAL MARKER; CP TEST STATION; BV MOV / BV & CV; PIPELINE MARKER; PIPELINE MILEPOST; ANODE BED DEEP WELL

PIPELINE ROUTE; FENCE; POWER LINE; TELEPHONE LINE; WATERLINE; SEWER LINE; BURIED CABLE; UTILITY LINE; GENERAL SURVEY; FOREIGN PIPELINE; RAILROAD; HIGHWAY / ROAD; PRIVATE ACCESS / SHEDFLY ROAD; COUNTY BOUNDARY; ROW PARCEL; PLSS SECTION LINE; TRAP; WATER WELL; HDD ENTRY / EXIT

PERMANENT ROW; TEMPORARY WORKSPACE; ADDITIONAL TEMPORARY WORKSPACE; NON FORESTED WETLAND; FORESTED WETLAND; WATERBODY; PARCEL NUMBER; WETLAND / WATERBODY NAME; ROOKERY; ROOKERY BUFFER (1000 FEET); TYPICAL / DETAIL CONFIGURATION; POINT OF INTERSECTION (PI); VERTICAL FITTING; SPREAD BREAK; ENVIRONMENTAL SURVEY AREA

REVISIONS

NO.	DESCRIPTION	DATE	REV BY	CHK BY	APP BY
1	IFC (UPDATE ENV., RE-ROUTES, FOOT-PRINT)	2016-04-08	MB	MJ	RG
0	ISSUED FOR CONSTRUCTION	2015-12-15	MB	MJ	RG

	APPROVAL	COMPANY
ENVIRONMENTAL		
LAND		

0 100 200 400 600 800

1 INCH = 200 FT

APPROVALS

DRAWN BY:	MB	CONSTRUCTION PERMIT NO.	
CHECKED BY:	MJ	MAINTENANCE OPERATION REGION	
PROJECT MANAGER	RG	MIN. TEST PRESSURE	1816 PSI
PROJECT DEF. NO.		DESIGN PRESSURE	1440 PSI

UniversalPegasus INTERNATIONAL — A Subsidiary of Huntington Ingalls Industries

FLORIDA SOUTHEAST CONNECTION

FLORIDA SOUTHEAST CONNECTION PROJECT

STA: 130+00 TO 180+00 | DISCIPLINE#: 03

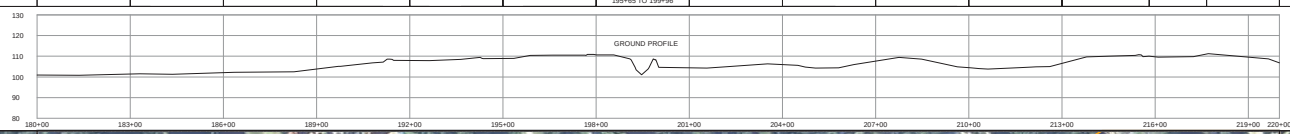
FLORIDA SOUTHEAST CONNECTION ALIGNMENT SHEET POLK COUNTY, FLORIDA

SCALE: 1" = 200' | 21040-510-ALS-00004 | REV. 1

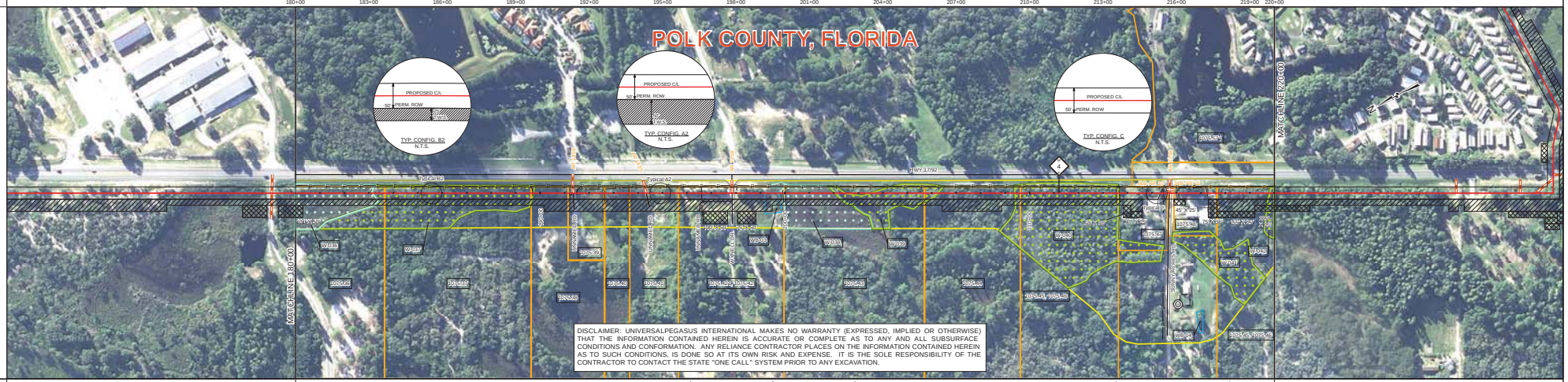
SHEET 4

TRACT	MATCHLINE 180+00	1075.36 MARY GRESSETT-CHAPPIN 364 FT 180+00 TO 183+64	1075.37 RTR II, LLC 599 FT 183+64 TO 189+63	1075.38 RTR II, LLC 151 FT 189+63 TO 191+14	1075.39 RTR II, LLC 149 FT 191+14 TO 192+63	1075.40 SAFWAT ISSA 102 FT 192+63 TO 193+65	1075.41 BEATRICE GALLOZA 200 FT 193+65 TO 195+65	1075.421, 1075.42 THE TOLENTINO FAMILY LIMITED PARTNERSHIP 431 FT 195+65 TO 199+96	1075.43 LORENE B. SHELL TRUST 575 FT 199+96 TO 205+71	1075.44 WORTHY P. STEWART 392 FT 205+71 TO 209+63	1075.45, 1075.46 DANPOL INVESTMENTS, INC. 400 FT 209+63 TO 213+63	1075.47 JEAN PARKER 202 FT 213+63 TO 215+65	SUNNY ACRES RD POLK COUNTY 25 FT 215+65 TO 215+90	1075.48 ALLEN FERRELL, JR. 175 FT 215+90 TO 217+65	1075.45, 1075.46 DANPOL INVESTMENTS, INC. 235 FT 217+65 TO 220+00	MATCHLINE 220+00

GROUND PROFILE
HORIZ: 1" = 200'
VERT: 1" = 30'



SCALE: 1" = 200'



SURVEY DATA — STATIONING

MATCHLINE 180+00

189+70 POWER LINE
189+71 POWER POLE LT
189+71 GUY ANCHOR LT
190+73 GUY ANCHOR LT
191+14 POWER POLE LT 25'
191+27 FENCE
191+27 FENCE POST RT
191+28 FENCE POST RT
191+35 UNNAMED RD
191+35 CL OF 14SI
191+44 FENCE CORNER
191+44 FENCE
191+47 FENCE
191+49 GUY ANCHOR LT
191+90 POWER POLE LT
191+93 POWER LINE
191+93 FENCE CORNER
191+97 FENCE
191+97 FENCE CORNER
192+63 FENCE
192+63 FENCE CORNER
193+65 POWER POLE RT
193+65 POWER LINE
194+37 ROAD EDGE
194+37 ROAD EDGE
194+44 CL OF 1433
194+44 CL OF 1433
194+50 FENCE CORNER
195+65 FENCE
195+65 FENCE CORNER
197+75 FENCE CORNER LT 25'
197+84 CL OF 2258
197+84 CL OF 2258
197+99 ROAD EDGE
197+99 ROAD EDGE
198+03 GUY ANCHOR LT
198+03 GUY ANCHOR LT
198+04 18" PIPE CORNER
198+04 18" PIPE CORNER LT 25'
198+18 CONCRETE
198+18 CONCRETE
198+18 WELL PUMP
198+18 WELL PUMP
198+30 POWER POLE RT
198+47 OVERHEAD POWER LT 1
199+00 POWER POLE RT
199+24 WATER EDGE
199+24 TOP OF BANK
199+43 OVERHEAD
199+43 POWER LT 1
199+60 TELEPHONE
200+02 TOE OF SLOPE
201+00 TOE OF SLOPE
201+00 GUY ANCHOR LT 14'
205+49 GUY ANCHOR LT 17'
213+66 POWER LINE
213+70 POWER POLE RT
214+08 POWER LINE
214+08 POWER POLE RT
215+21 GUY ANCHOR LT
215+61 ROAD EDGE
215+63 MONUMENT LT
215+71 SUNNY ACRES RD
215+71 CL OF 2259
215+90 ROAD EDGE
215+90 FENCE CORNER
216+17 LT 21'
216+17 POWER LINE
216+17 SIGN, SHOP RT 25'
217+22 POWER POLE RT 12'
MATCHLINE 220+00

ENGINEERING DATA — MATERIAL

MATCHLINE 180+00

1023'-7" CCC
6
174'
4
80'
776'-7" CCC
6
159'
524'-7" CCC
4
300'
6
279'
70'-7" CCC
MATCHLINE 220+00

183+15 | 190+23 | 192+63 | 193+65 | 194+44 | 195+24 | 196+00 | 202+44 | 206+76 | 209+90 | 209+40 | 215+39 | 215+90 | 217+21 | 217+25 | 219+30 | 219+90

REFERENCE DRAWING: 21040-440-PMW-00008
CLASS LOCATION: Class III
MINIMUM DEPTH OF COVER: 3' | 4' | 3' | 5' | 3' | SEE REF DWG | 3'
AC MITIGATION / CATHODIC PROTECTION:

ENVIRONMENTAL DATA

WATERBODY/WETLAND CROSSINGS: W-036 | W-037 | WB-038 | W-039 | W-039 | W-040 | W-042
WATERBODY/WETLAND LENGTH: 125' | 657' | 52' | 39' | 274' | 424' | 20'

STATIONS

MATCHLINE 180+00

183+15 | 183+15 | 189+72 | 197+44 | 198+24 | 199+05 | 199+24 | 199+ 76 | 199+96 | 199+96 | 202+05 | 202+05 | 202+44 | 203+62 | 206+26 | 209+40 | 213+64 | 214+21 | 217+21 | 219+90

PERMANENT EROSION CONTROL: EROSION CONTROL CODE | SLOPE BREAKER CODE | TOPSOIL SALVAGE
THREATENED AND ENDANGERED SPECIES: TIMING CONSTRAINT
SPECIAL CONDITIONS: CONSTRAINT 2 | CONSTRAINT 3 | CONSTRAINT 4

THIS BAND NOT UTILIZED
THIS BAND NOT UTILIZED
THIS BAND NOT UTILIZED
THIS BAND NOT UTILIZED
THIS BAND NOT UTILIZED
THIS BAND NOT UTILIZED
THIS BAND NOT UTILIZED
THIS BAND NOT UTILIZED

MATCHLINE 220+00

BILL OF MATERIALS

ITEM NO.	QTY	UOM	REQ'N NUMBER	MATERIAL NUMBER	DESCRIPTION
4	380	FT			36" O.D. x 0.750" W.T., API 5L, X70, PSL2, DSAW, 14-16 MILS FBE & 24-30 MILS ARO
8	3620	FT			36" O.D. x 0.750" W.T., API 5L, X70, PSL2, DSAW, 14-16 MILS FBE

MISCELLANEOUS MATERIALS

QTY	UOM	REQ'N NUMBER	MATERIAL NUMBER	DESCRIPTION
0	EA			SET ON WEIGHTS
5	EA			PIPELINE MARKERS
3	EA			WARNING SIGNS
1	EA			CP TEST STATION TYPE 1
0	EA			CP TEST STATION TYPE 2
0	EA			AERIAL MARKERS
0	EA			ANODE BED DEEP WELL

FITTINGS SUMMARY

ITEM NO.	QTY	UOM	REQ'N NUMBER	MATERIAL NUMBER	DESCRIPTION

PIPE ASSEMBLIES

QTY	UOM	DESCRIPTION

CONTINUOUS CONCRETE COATING

QTY	UOM	REQ'N NUMBER	MATERIAL NUMBER	DESCRIPTION
2393	FT			7" OF CONTINUOUS CONCRETE COATING (140 PCF DENSITY CONCRETE)

PIPE COATING DATA

PIPE COATING: 14 MIL MINIMUM FBE AND 24 MIL MINIMUM ARO
GIRTH WELD COATING: 2 PART EPOXY
INTERNAL COATING (YES/NO): NO

TYPICAL DRAWINGS

DWG/FIELD BOOK NO.	TITLE
21040-510-TYP-20001	CATHODIC PROTECTION STD. SINGLE POINT TEST STATION, TYPE 1
21040-510-TYP-20002	CATHODIC PROTECTION STD. FOREIGN PIPELINE CROSSING TEST STATION, TYPE 2
21040-510-TYP-20028 21040-510-TYP-20029	TYPICAL OPEN CUT / BORE
21040-510-TYP-20112	CONTINUOUS CONCRETE COATING STANDARD FOR 36" / 30" PIPELINE
21040-510-TYP-20113	TYPICAL SADDLE BAG WEIGHTS
21040-510-TYP-20114	WARNING SIGN DETAIL
21040-510-TYP-20116	AERIAL MARKER DETAIL
21040-510-TYP-20117	AERIAL MARKER INSTALLATION DETAIL TYPICAL PIPELINE MARKER ASSEMBLY
21040-510-TYP-20118	PIPELINE MARKER "WARNING" DECAL

GENERAL INFORMATION

1. THE MINIMUM DEPTH OF COVER FOR THE PROJECT IS 36 INCHES. ADDITIONAL DEPTH OF COVER IS REQUIRED FOR ROAD AND WATERBODY CROSSINGS, AND IS TO BE IN ACCORDANCE WITH REFERENCED PERMIT DRAWINGS, SITE SPECIFIC DRAWINGS, OR CONSTRUCTION SPECIFICATIONS, WHICHEVER IS MORE STRINGENT.
2. THE BOUNDARIES OF ALL WORK AREAS WILL BE CLEARLY MARKED AND ALL WORK SHALL REMAIN WITHIN THE DESIGNATED WORK AREA.
3. THE REQUIRED STATE ONE CALL NOTIFICATION IS THE RESPONSIBILITY OF THE CONSTRUCTION CONTRACTOR.
4. THE CONTRACTOR SHALL ACCESS THE WORK AREA USING ONLY PUBLIC ROADS AND APPROVED ACCESS ROADS.
5. ADDITIONAL WARNING SIGNS MAY BE REQUIRED AS DICTATED BY CONSTRUCTION CONTRACT.
6. MAP PROJECTION: NAD 1983 HARN STATE PLANE FLORIDA EAST FIPS 0901 FEET. VERTICAL DATUM: NAVD 88.

SPECIAL NOTES

1. INDUCTION BEND QUANTITIES ALONG WITH THEIR DESCRIPTIONS ARE LOCATED ON DRAWING 21040-505-FBW-00001.
2. A - SEE ARK DRAWING PACKAGE FOR ANODE BED DEEP WELL.

LEGEND

HDD PIPE
BORE PIPE
LINE PIPE
IR WAD FIT
INDUCTION BEND
TRANSITION PIPE
CONT. CONC. COAT
SET-ON WEIGHTS
WARNING SIGN
MATERIAL ITEM
AERIAL MARKER
CP TEST STATION
BV MOV / BV & CV
PIPELINE MARKER
PIPELINE MILEPOST
ANODE BED DEEP WELL

PIPELINE ROUTE
FENCE
POWER LINE
TELEPHONE LINE
WATERLINE
SEWER LINE
BURIED CABLE
UTILITY LINE
GENERAL SURVEY
FOREIGN PIPELINE
RAILROAD
HIGHWAY / ROAD
PRIVATE ACCESS / SHEDFLY ROAD
COUNTY BOUNDARY
ROW PARCEL
PLSS SECTION LINE
TRAP
WATER WELL
HDD ENTRY / EXIT

PERMANENT ROW
TEMPORARY WORKSPACE
ADDITIONAL TEMPORARY WORKSPACE
NON FORESTED WETLAND
FORESTED WETLAND
WATERBODY
PARCEL NUMBER
WETLAND / WATERBODY NAME
ROOKERY
ROOKERY BUFFER (1000 FEET)
TYPICAL / DETAIL CONFIGURATION
POINT OF INTERSECTION (PI)
VERTICAL FITTING
SPREAD BREAK
ENVIRONMENTAL SURVEY AREA

REVISIONS

NO.	DESCRIPTION	DATE	REV BY	CHK BY	APP BY
1	IFC (UPDATE ENV., RE-ROUTES, FOOT-PRINT)	2016-04-08	MB	MJ	RG
0	ISSUED FOR CONSTRUCTION	2015-12-15	MB	MJ	RG

	APPROVAL	COMPANY
ENVIRONMENTAL		
LAND		

0 100 200 400 600 800
1 INCH = 200 FT

APPROVALS

DRAWN BY:	MB	CONSTRUCTION PERMIT NO.	
CHECKED BY:	MJ	MAINTENANCE OPERATION REGION	
PROJECT MANAGER	RG	MIN. TEST PRESSURE	1816 PSI
PROJECT DEF. NO.		DESIGN PRESSURE	1440 PSI

UniversalPegasus INTERNATIONAL
A Subsidiary of Huntington Ingalls Industries

FLORIDA SOUTHEAST CONNECTION

FLORIDA SOUTHEAST CONNECTION PROJECT

STA: 180+00 TO 220+00 | DISCIPLINE#: 03

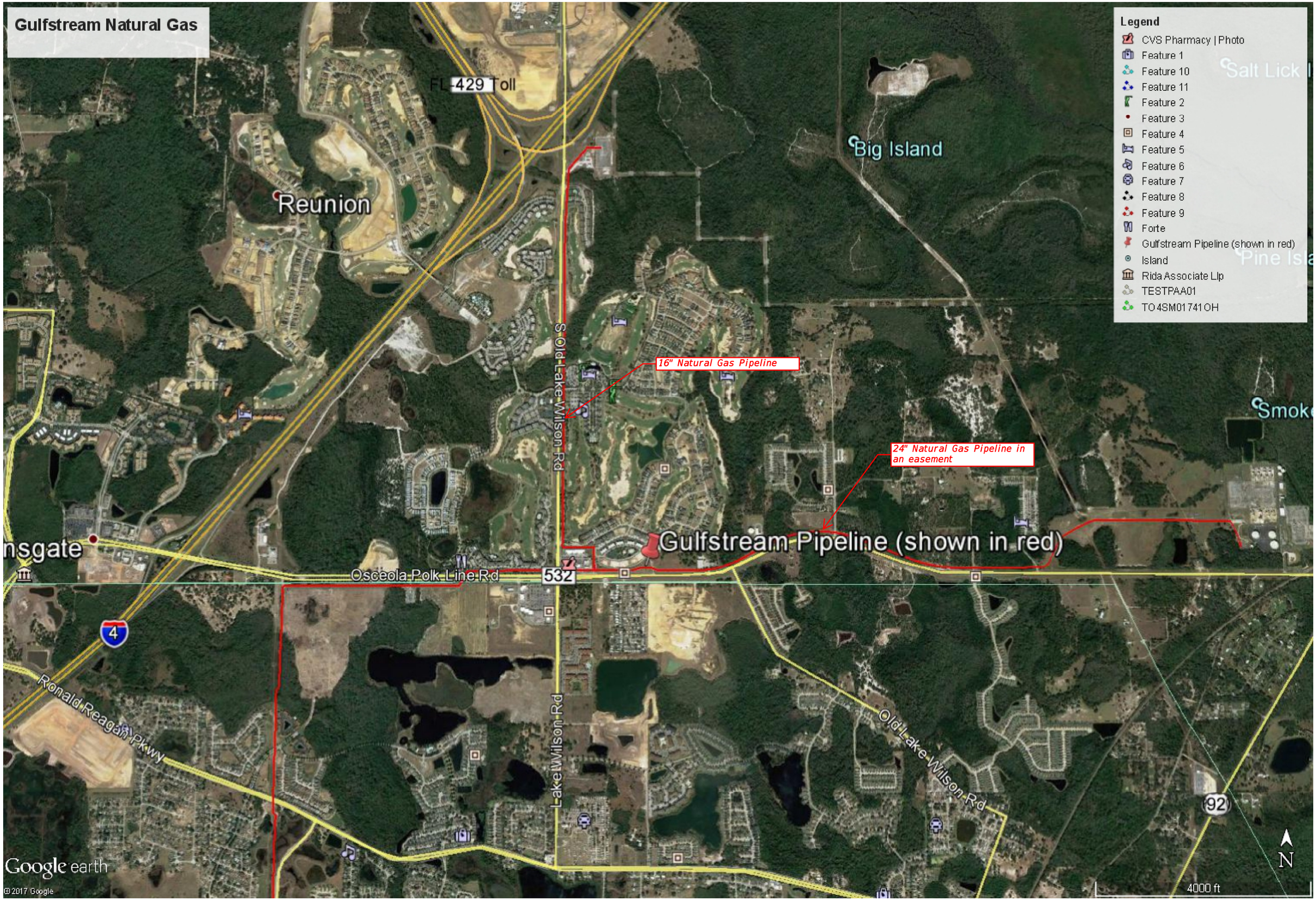
FLORIDA SOUTHEAST CONNECTION ALIGNMENT SHEET POLK COUNTY, FLORIDA

SCALE: 1" = 200' | 21040-510-ALS-00005 | REV. 1

SHEET 5

Gulfstream Natural Gas

Gulfstream Natural Gas

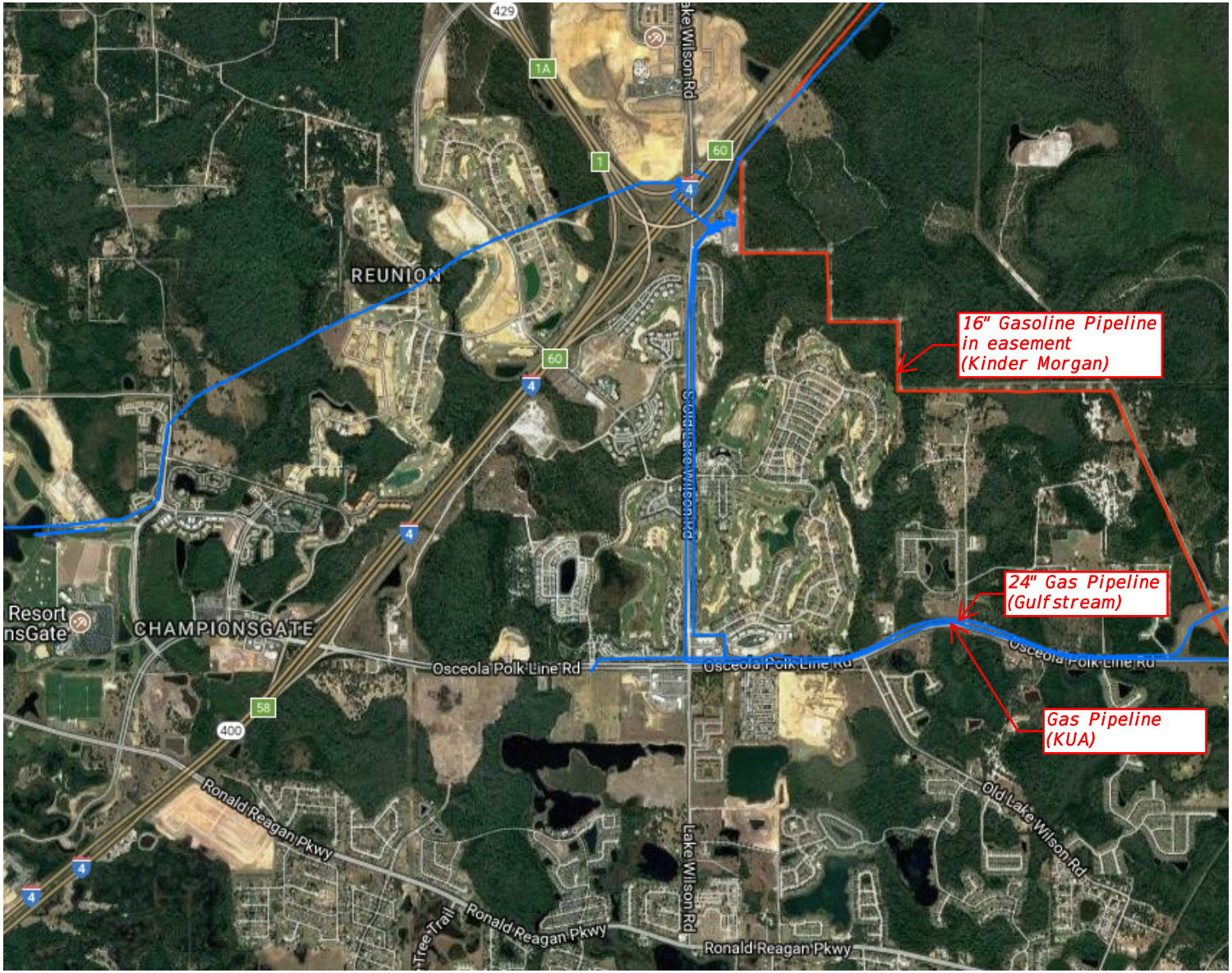


Legend

- CVS Pharmacy | Photo
- Feature 1
- Feature 10
- Feature 11
- Feature 2
- Feature 3
- Feature 4
- Feature 5
- Feature 6
- Feature 7
- Feature 8
- Feature 9
- Forte
- Gulfstream Pipeline (shown in red)
- Island
- Rida Associate Llp
- TESTPAA01
- TO4SM01741OH

Kinder Morgan

Osceola County



Legend

- Gas Transmission Pipelines
- Hazardous Liquid Pipelines

500 m
1000 ft

Pipelines depicted on this map represent gas transmission and hazardous liquid lines only. Gas gathering and gas distribution systems are not represented.

This map should never be used as a substitute for contacting a one-call center prior to excavation activities. Please call 811 before any digging occurs.

Questions regarding this map or its contents can be directed to npms@dot.gov.

Projection: Geographic

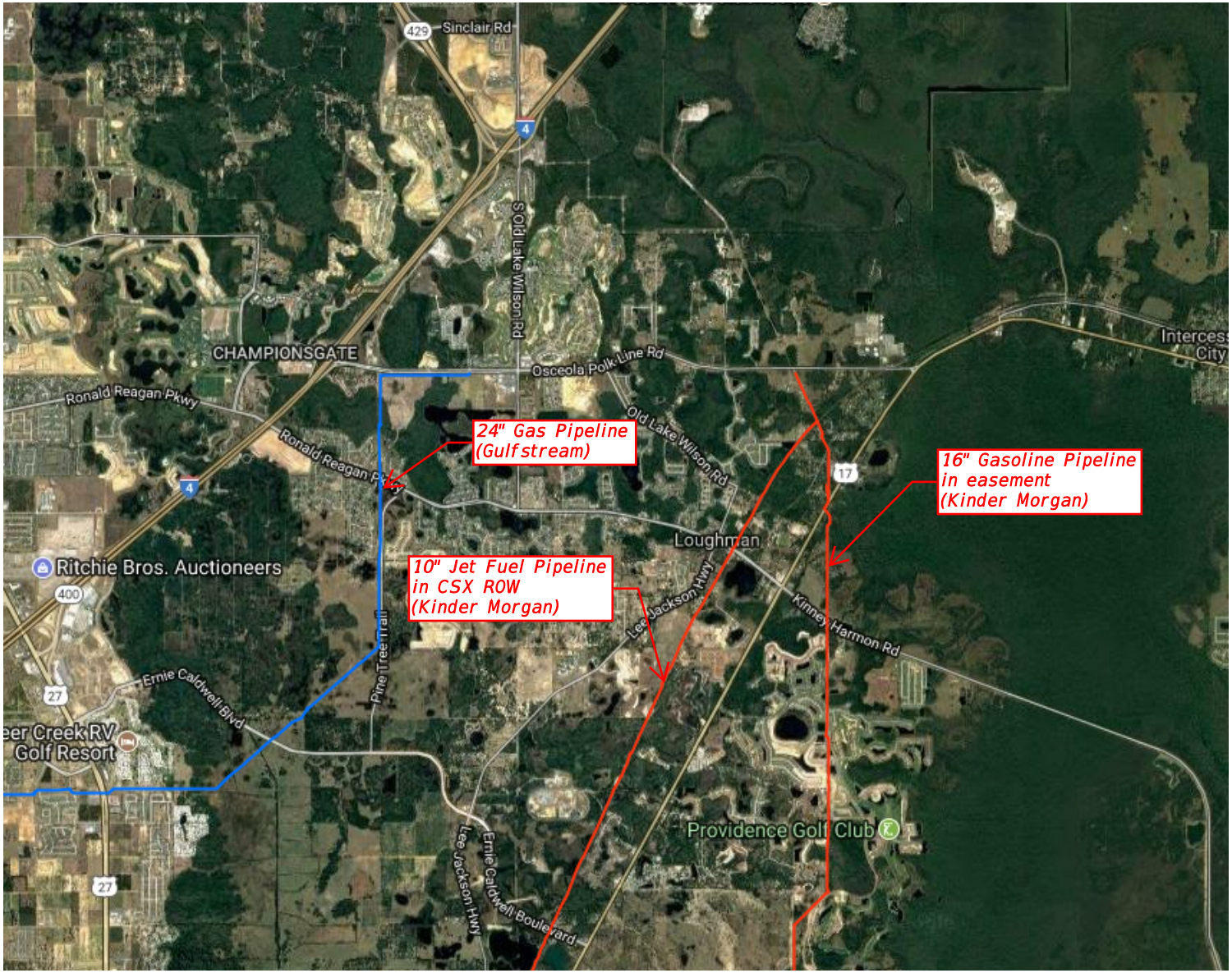
Datum: NAD83

Map produced by the Public Viewer application at www.npms.phmsa.dot.gov

Date Printed: Sep 06, 2017

811 Know what's below. Call before you dig.

Polk County



Legend

- Gas Transmission Pipelines
- Hazardous Liquid Pipelines

1000 m
2000 ft

Pipelines depicted on this map represent gas transmission and hazardous liquid lines only. Gas gathering and gas distribution systems are not represented.

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Projection: Geographic

Datum: NAD83

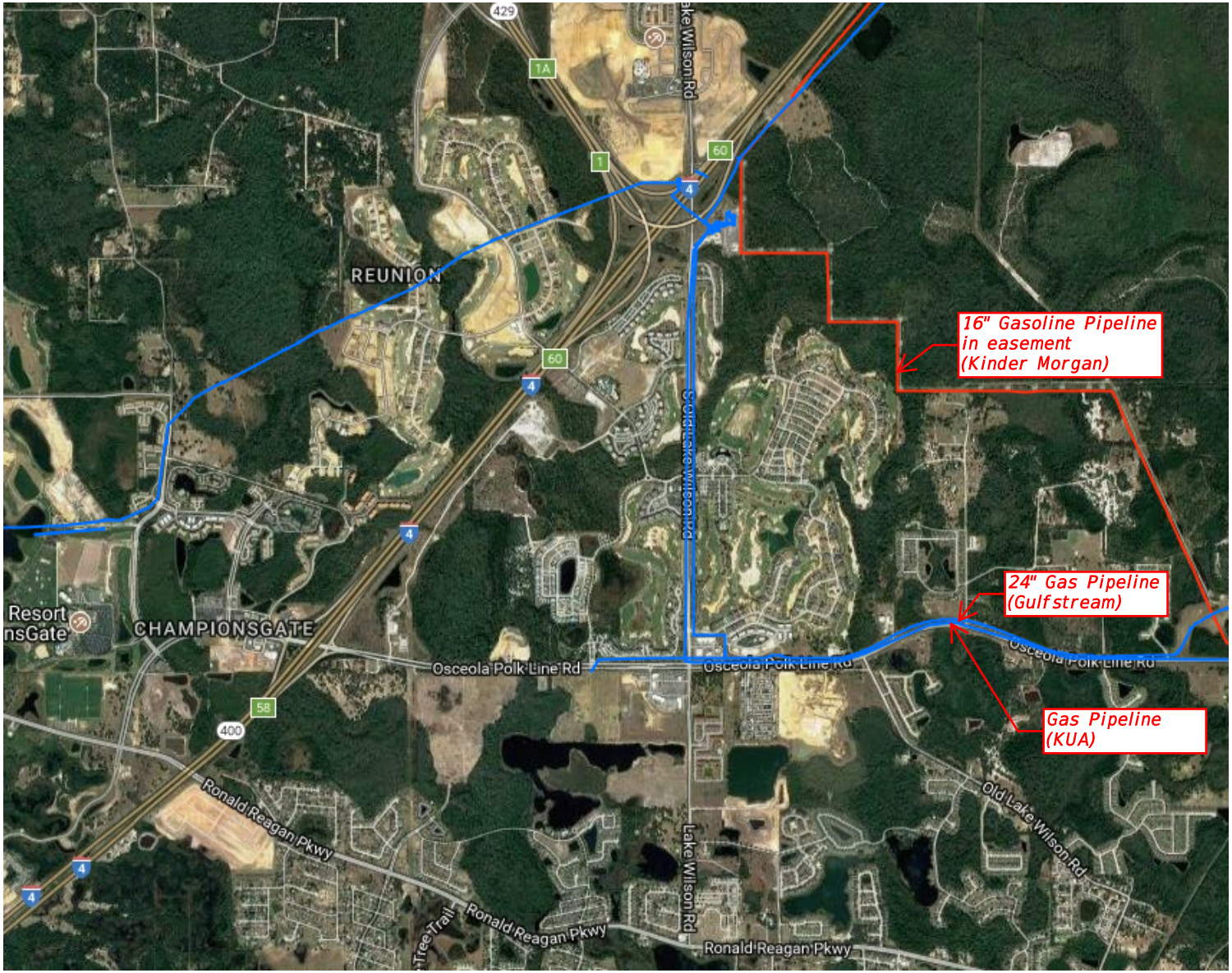
Map produced by the Public Viewer application at www.npms.phmsa.dot.gov

Date Printed: Sep 06, 2017

811 Know what's below. Call before you dig.

Kissimmee Utility Authority (Gas)

Osceola County



Legend

- Gas Transmission Pipelines
- Hazardous Liquid Pipelines

500 m
1000 ft

Pipelines depicted on this map represent gas transmission and hazardous liquid lines only. Gas gathering and gas distribution systems are not represented.

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Projection: Geographic

Datum: NAD83

Map produced by the Public Viewer application at www.npms.phmsa.dot.gov

Date Printed: Sep 06, 2017

811 Know what's below. Call before you dig.

Spectra Energy – Sabal Trail

RIGHT - OF - WAY

CROSSING

TRACT NUMBERS

Station	Tract	Roddage
25006+00	FL-OS-069.000	44.2
25013+29	FL-OS-071.000	3.5
25013+86	FL-OS-070.000	36.8
25019+92	FL-OS-072.000	22.0
25023+55	FL-OS-072.500.RC	4.0
25024+21	FL-OS-074.000	54.1
25033+15	FL-OS-074.001	7.9
25034+45	FL-OS-081.000	23.3
25038+30	FL-OS-082.000	18.1
25041+30	FL-OS-083.000	17.0
25044+10	FL-OS-084.000	6.1
25045+10	FL-OS-085.000	5.8
25046+06		

RODDAGE

SURVEY DATA

SURVEY COMPANY:

FIELD BOOK:

PAGES:

25021+57 EDGE OF ROAD
25021+65 CL FIELD ROAD
25021+73 EDGE OF ROAD
25023+80 EDGE OF ROAD
25023+86 CL FUTURE ROAD
25023+92 EDGE OF ROAD
25033+97 OVERHEAD POWERLINE (CFP POWER)
25034+82 OVERHEAD POWERLINE
25035+46 CL FIELD ROAD
25035+83 OVERHEAD POWERLINE
25036+87 GULFSTREAM PIPELINE
25041+90 P.I. < 65° 16' 30" LT.
25044+27 FENCE
25046+06 END 36" MAINLINE PIPELINE

CLASS LOCATION

CLASS 1

DESIGN FACTOR

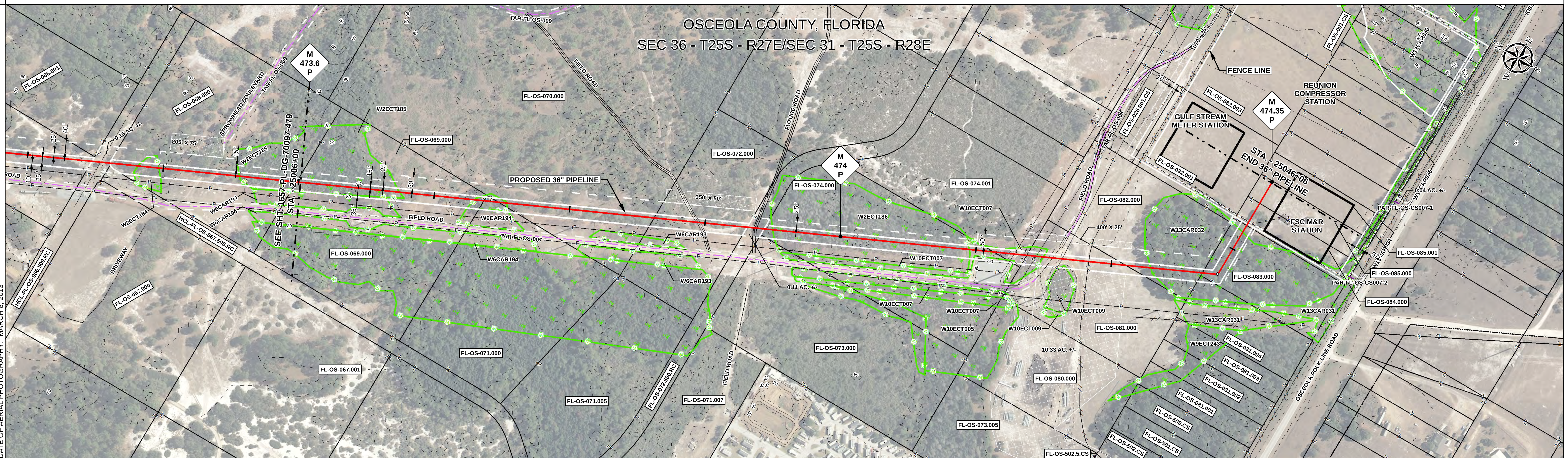
PIPE MATERIAL

ALIGNMENT DETAIL

Legend	Symbol
PROPOSED PIPELINE	
NO ENVIRONMENTAL SURVEY	
PROPOSED PERMANENT EASEMENT	
TEMP WORKSPACE	
ADD. TEMP. WORKSPACE	
CL STREAM/DRAIN/WATERBODY (ENV)	
CL CANAL/CREEK/DITCH (CIV)	
EDGE OF WATER	
CL LEVEE	
FIELD DELINEATED WETLAND	
NATIONAL WETLAND INVENTORY	
STREAM/DRAIN/WATERBODY BNDRY	
UNCONFIRMED WATERBODY	UW
MUNICIPAL BOUNDARY	
COUNTY BOUNDARY	
STATE BOUNDARY	
CL ROAD	
UNCONFIRMED ROAD	UR
EDGE OF ROAD	
CL RAILROAD	
UNCONFIRMED RAILROAD	UCRR
ACCESS ROAD (PAR)	PAR-ST-CO-000
ACCESS ROAD (TAR)	TAR-ST-CO-000
STRUCTURE	
CONTOUR MAJOR (EVERY 10')	600
CONTOUR MINOR (EVERY 2')	
PIPELINE MILEPOST	
PIPELINE MILEPOST 10TH	
PROPERTY LINE	
UNDERGROUND UTILITY	UG / U
UNCONFIRMED UNDG. UTILITY	U / UNC
OVERHEAD POWERLINE	P
UNCONFIRMED O.H. POWERLINE	P / UNC
OVERHEAD TELEPHONE	T
VERIFIED PIPELINE	
UNCONFIRMED PIPELINE	UNC
FENCE	
TOP / TOE	

GAS VALVE — WELL — SPREAD BREAK
GUY ANCHOR — SEPTIC — UTILITY POLE
HDD ENTRY/EXIT

DATE OF AERIAL PHOTOGRAPHY: MARCH 8, 2013



REFERENCE DRAWING

ENVIRONMENTAL SURVEY DATA

Station	Feature
25006+00	W2ECT185 PFO
25010+01	
25012+93	W6CAR194 PEM
25014+19	
25024+55	W2ECT186 PFO
25032+21	W10ECT007 PEM
25035+10	
25039+28	W13CAR032 PFO
25043+80	
25046+06	

SITE SPECIFIC E & S

SEE EROSION AND SEDIMENTATION CONTROL PLAN

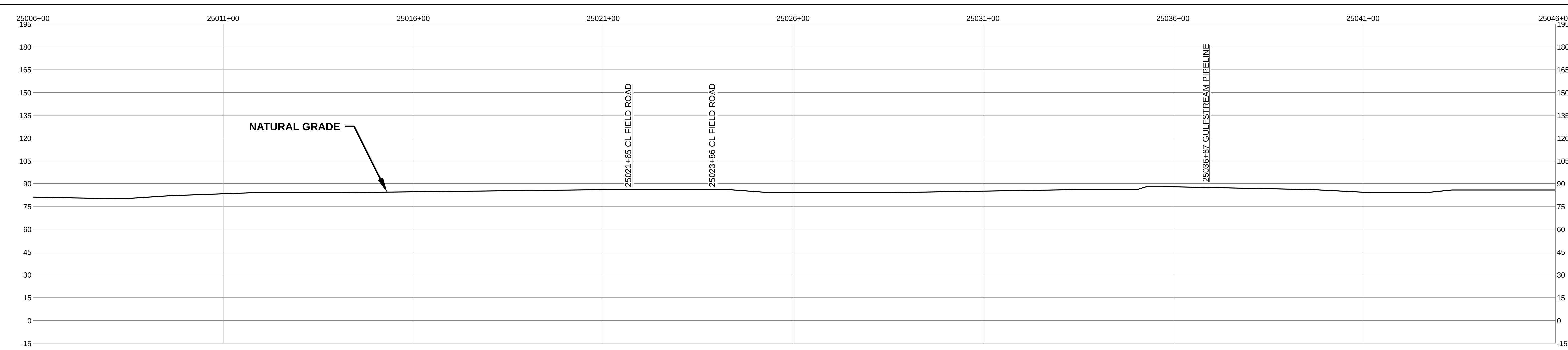
PROFILE

SCALE:
HORIZONTAL: 1" = 200'
VERTICAL: 1" = 50'

THE LOCATION OF TRENCH PLUGS AND SLOPE BREAKERS ARE INTENDED TO BE USED AS A GUIDELINE ONLY. EXACT LOCATION TO BE DETERMINED IN THE FIELD AS DIRECTED BY THE CHIEF INSPECTOR.

SLOPE BREAKERS/ARROW INDICATES DIRECTION

TRENCH PLUG



SLOPE BREAKER & TRENCH PLUG SPACING

CODE	% SLOPE	SPACING
A	< 5%	NO STRUCTURE
B	5 - 15%	300 FT
C	15 - 30%	200 FT
D	> 30%	100 FT

% SLOPE

REFERENCE DRAWINGS

DWG. NO.	DESCRIPTION
1657-PL-DG-32906	REUNION COMPRESSOR STATION (CS7), FSC & GULFSTREAM M&R

REVISIONS

REV	DRN	DATE	DESCRIPTION
1		02/16/2015	ISSUED FOR PERMITTING

MATERIALS

ITEM NO.	DESCRIPTION	LN. FT.

ENGINEERING APPROVALS

TITLE		BID SIGNATURE	BID DATE	CONSTRUCTION SIGNATURE	CONSTRUCTION DATE
DRAWN BY:	GIE				
DRN. DATE:	8/20/2014				
CHECKED BY:					
CHK. DATE:					

SABAL TRAIL PROJECT
PROPOSED 36" PIPELINE
STA. 25006+00 TO STA. 25046+06
ALIGNMENT SHEET

LOC. OSCEOLA COUNTY, FLORIDA

Sabal Trail TRANSMISSION SM

YEAR: 2015 | SHEET: 480 OF 480 | SCALE: 1" = 200' | DWG. 1657-PL-DG-70097-480 | REV. 1

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IG.#

RIGHT - OF - WAY

TRACT NUMBERS

RODDAGE

CROSSING

FL-OS-001.CS	FL-OS-096.CS	HCL-FL-OS-000.005	HCL-FL-OS-000.010	HCL-FL-OS-000.510.RC	HCL-FL-OS-002.000	HCL-FL-OS-003.000	HCL-FL-OS-003.500.RC	HCL-FL-OS-003.000
0+00	0+56	4+69	10+51	18+08	18+68	21+47	28+19	28+60	50+00
3.4	25.1	3.7	35.2	45.9	3.7	16.9	40.8	2.5	129.7

SURVEY DATA

SURVEY COMPANY:

FIELD BOOK:

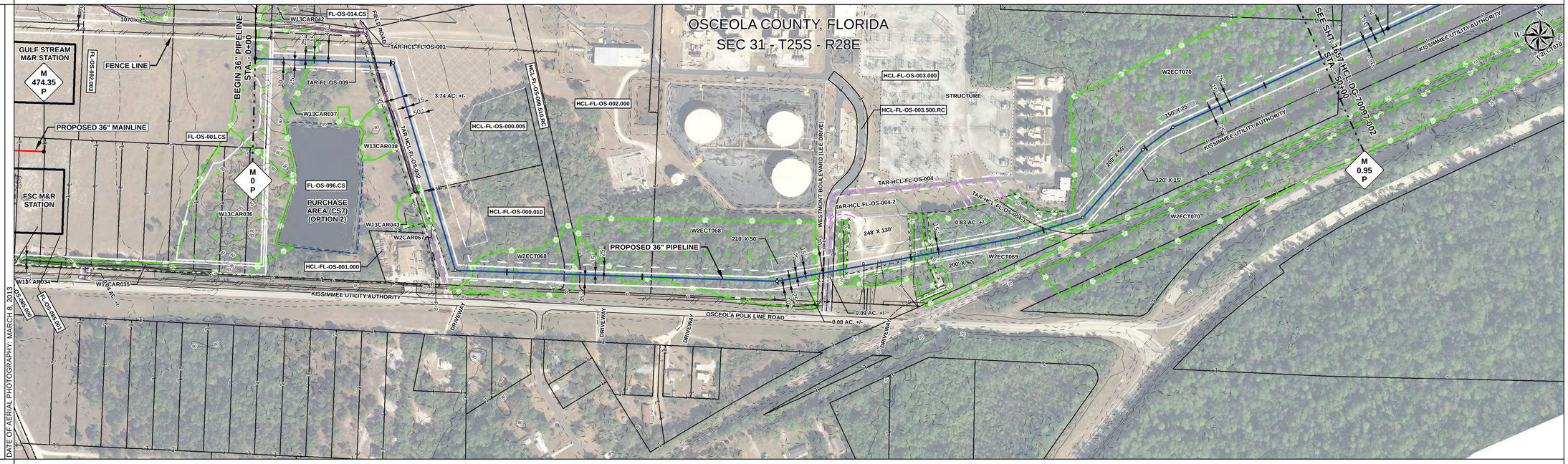
PAGES:

0+00 BEGIN 36" PIPELINE
4+41 FENCE, OF ROAD
4+61 CL EDGE OF ROAD
4+81 CL EDGE OF ROAD
5+38 P.I. = 71°26'44" RT.
10+55 FENCE
13+38 P.I. = 71°22'21" LT.
14+52 FENCE
18+37 FUTURE ROAD
26+38 P.I. = 12°12'11" LT.
28+06 PROGRESS ENERGY PIPELINE
28+41 CL WESTMONT BOULEVARD
28+55 P.I. = 0°00'00"
29+03 CL DRIVE
29+14 FENCE
29+53 OVERHEAD POWERLINE
30+37 OVERHEAD POWERLINE
30+50 OVERHEAD POWERLINE
31+20 OVERHEAD POWERLINE
31+71 FENCE
31+76 OVERHEAD POWERLINE
32+24 FENCE
32+50 FENCE
36+06 P.I. = 7°05'55" LT.
37+10 CL ABANDONED RAILROAD SPUR
38+57 P.I. = 31°09'55" LT.
42+12 P.I. = 11°32'37" RT.
45+57 P.I. = 12°08'26" RT.

CLASS LOCATION	CLASS 1	CLASS 2	CLASS 1
DESIGN FACTOR			
PIPE MATERIAL			

ALIGNMENT DETAIL

- PROPOSED PIPELINE
- PROPOSED PERMANENT EASEMENT
- TEMP WORKSPACE
- ADD. TEMP. WORKSPACE
- CL STREAM/DRAIN/WATERBODY (ENV)
- CL CANAL/CREEK/DITCH (CIV)
- EDGE OF WATER
- CL LEVEE
- FIELD DELINEATED WETLAND
- NATIONAL WETLAND INVENTORY
- STREAM/DRAIN/WATERBODY BNDRY
- UNCONFIRMED WATERBODY
- MUNICIPAL BOUNDARY
- COUNTY BOUNDARY
- STATE BOUNDARY
- CL ROAD
- UNCONFIRMED ROAD
- EDGE OF ROAD
- CL RAILROAD
- UNCONFIRMED RAILROAD
- ACCESS ROAD (PAR)
- ACCESS ROAD (TAR)
- STRUCTURE
- CONTOUR MAJOR (EVERY 10')
- CONTOUR MINOR (EVERY 2')
- PIPELINE MILEPOST
- PIPELINE MILEPOST 10TH
- PROPERTY LINE
- UNDERGROUND UTILITY
- UNCONFIRMED UNDG. UTILITY
- OVERHEAD POWERLINE
- UNCONFIRMED O.H. POWERLINE
- OVERHEAD TELEPHONE
- VERIFIED PIPELINE
- UNCONFIRMED PIPELINE
- FENCE
- TOP / TOE
- GAS VALVE
- WELL
- SPREAD BREAK
- GUY ANCHOR
- SEPTIC
- UTILITY POLE
- HDD ENTRY/EXIT



REFERENCE DRAWING

ENVIRONMENTAL SURVEY DATA

W13CAR037 PEM	W2ECT068 PFO	W2ECT068 PFO	W2ECT069 PFO	W2ECT069 PFO	W2ECT069 PFO	W2ECT070 PFO
0+00	0+25	2+18	14+50	18+46	20+20	27+89	28+03	29+93	31+78	32+21	32+51	36+84	37+45	50+00

SITE SPECIFIC E & S

SEE EROSION AND SEDIMENTATION CONTROL PLAN

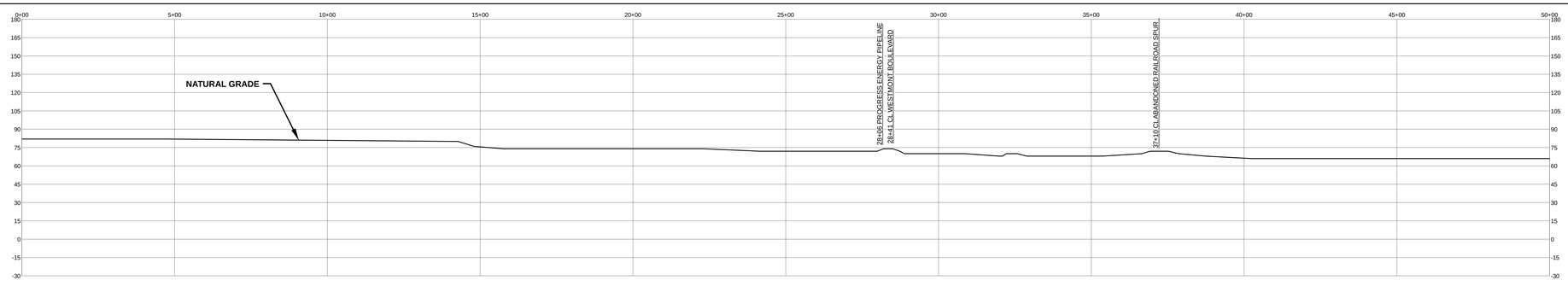
PROFILE

SCALE:
HORIZONTAL: 1" = 200'
VERTICAL: 1" = 50'

THE LOCATION OF TRENCH PLUGS AND SLOPE BREAKERS ARE INTENDED TO BE USED AS A GUIDELINE ONLY. EXACT LOCATION TO BE DETERMINED IN THE FIELD AS DIRECTED BY THE CHIEF INSPECTOR.

SLOPE BREAKERS/ARROW INDICATES DIRECTION

TRENCH PLUG ▲



SLOPE BREAKER & TRENCH PLUG SPACING

CODE	% SLOPE	SPACING
A	< 5%	NO STRUCTURE
B	5 - 15%	300 FT
C	15 - 30%	200 FT
D	> 30%	100 FT

% SLOPE

REFERENCE DRAWINGS		REVISIONS				MATERIALS		
DWG. NO.	DESCRIPTION	REV	DRN	DATE	DESCRIPTION	ITEM NO.	DESCRIPTION	LN. FT.
1657-PL-DG-32906	REUNION COMPRESSOR STATION (CS7), FSC & GULFSTREAM M&R	1		02/16/2015	ISSUED FOR PERMITTING			

	ENGINEERING APPROVALS			
	BID		CONSTRUCTION	
TITLE	SIGNATURE	DATE	SIGNATURE	DATE
DRAWN BY: GIE				
DRN. DATE: 8/20/2014				
CHECKED BY:				
CHK. DATE:				

SABAL TRAIL PROJECT
PROPOSED 36" HUNTERS CREEK PIPELINE
STA. 0+00 TO STA. 50+00
ALIGNMENT SHEET

Sabal Trail TRANSMISSION SM

LOC. OSCEOLA COUNTY, FLORIDA

YEAR: 2015 | **SHEET:** 1 OF 14 | **SCALE:** 1" = 200' | **DWG.** 1657-HCL-DG-70097-001 | **REV.** 1

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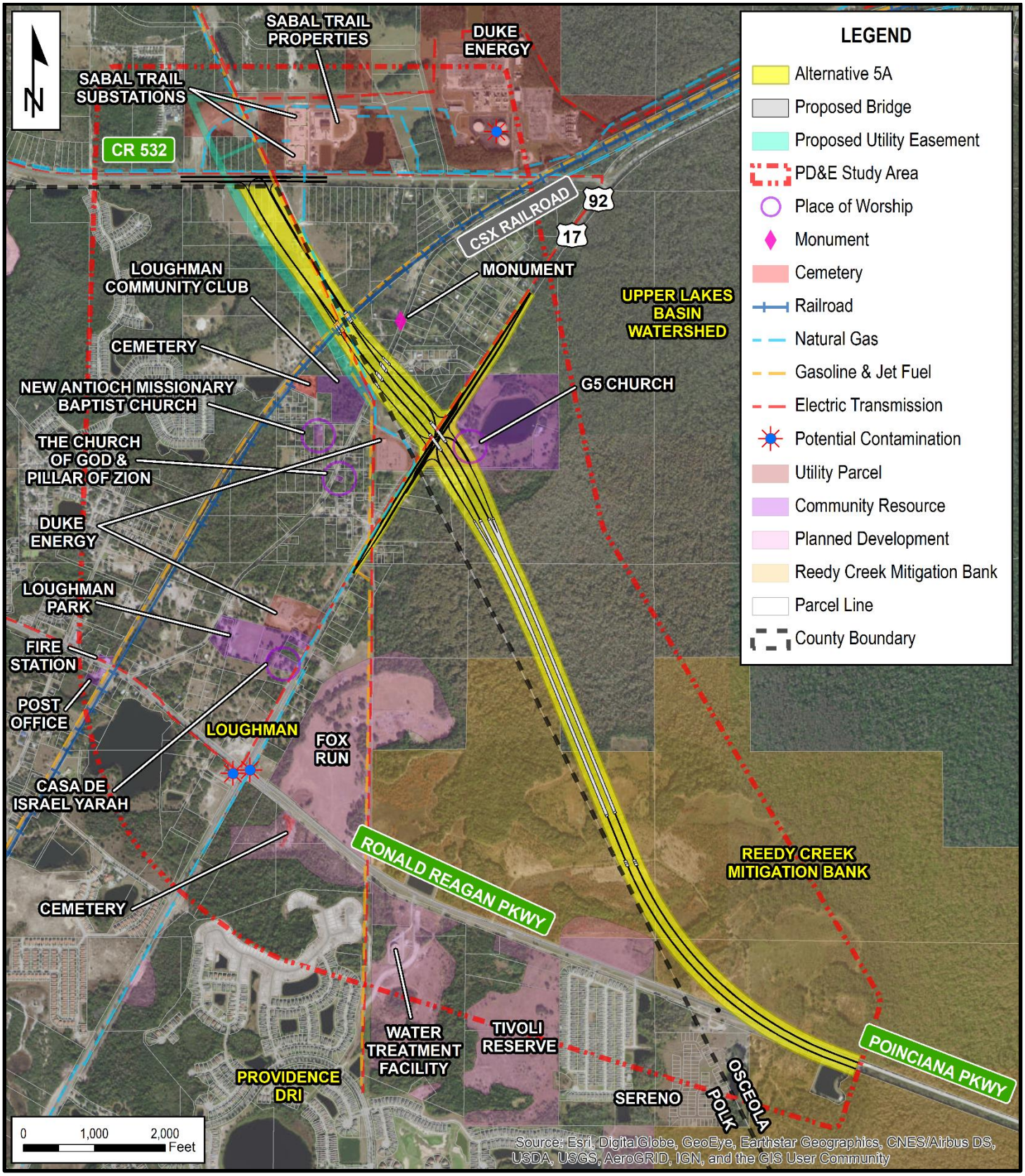
SS #

Appendix 4
PD&E Project Preferred Alternative Exhibit


SABAL TRAIL PROPERTIES
DUKE ENERGY
SABAL TRAIL SUBSTATIONS
CR 532
CSX RAILROAD
92
17
LOUGHMAN COMMUNITY CLUB
MONUMENT
UPPER LAKES BASIN WATERSHED
CEMETERY
NEW ANTIOCH MISSIONARY BAPTIST CHURCH
G5 CHURCH
THE CHURCH OF GOD & PILLAR OF ZION
DUKE ENERGY
LOUGHMAN PARK
FIRE STATION
POST OFFICE
LOUGHMAN
FOX RUN
CASA DE ISRAEL YARAH
RONALD REAGAN PKWY
REEDY CREEK MITIGATION BANK
CEMETERY
WATER TREATMENT FACILITY
TIVOLI RESERVE
POINCIANA PKWY
PROVIDENCE DRI
SERENO
OSCEOLA
POLK
0
1,000
2,000
Feet
LEGEND
Alternative 5A
Proposed Bridge
Proposed Utility Easement
PD&E Study Area
Place of Worship
Monument
Cemetery
Railroad
Natural Gas
Gasoline & Jet Fuel
Electric Transmission
Potential Contamination
Utility Parcel
Community Resource
Planned Development
Reedy Creek Mitigation Bank
Parcel Line
County Boundary
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community