

This document prepared by: Manny R. Vilaret, Esq.
Return to: Duke Energy Florida, LLC
Attn: Real Estate Document Center
3300 Exchange Place, NP4A
Lake Mary, FL 32746

Seminole County
STR DWS-93 through STR DWS-94
Property Tax ID #19-20-30-300-001G-0000

ENCROACHMENT AGREEMENT

THIS ENCROACHMENT AGREEMENT, issued this ____ day of _____, 2020, between **Duke Energy Florida, LLC, a Florida limited liability company d/b/a Duke Energy.**, 3300 Exchange Place, Lake Mary, FL 32746, ("**DUKE ENERGY**" herein), to **Seminole County**, a political subdivision of the State of Florida, whose mailing address is **1101 East First Street, Sanford, FL 32771**, ("**COUNTY**" herein);

W I T N E S S E T H

WHEREAS, DUKE ENERGY is owner, possessor and user of a right-of-way, easements, or some combination of them (collectively "Easements") recorded in Deed Book 149 Pages 365-367 and Official Records Book 117 at Page 100, of the public records of Seminole County, Florida, being generally located in Section 19, Township 20 South, Range 30 East, and

WHEREAS, COUNTY and COUNTY's representatives and agents now have or will have some right, title or interest in the lands encumbered by the aforementioned Easements and desires to occupy and utilize a portion of said lands limited to purposes of constructing, operating, and maintaining a proposed underground wastewater transmission sewer main and related improvements, including existing underground pipeline(s) and drainage facilities, as located and depicted on the construction plans dated February 2020, which were approved by Duke Energy on 3/12/20 and are incorporated herein as **Exhibit "A"** and as indicated in Specific Requirements attached as **Exhibit "B"** (sometimes referred to as "COUNTY's Utilization").

NOW, THEREFORE, for and in consideration of the benefits herein provided, the receipt and sufficiency of which is hereby acknowledged, the parties hereby agree as follows:

- A. DUKE ENERGY shall interpose no objection to COUNTY's Utilization of the designated portion of the aforementioned lands on the basis of any other rights or restriction pursuant to DUKE ENERGY's Easements for so long as COUNTY's Utilization strictly complies with and conforms to the locations specified on **Exhibit "A"** and the conditions and requirements set forth in **Exhibit "B"** attached hereto and by this reference incorporated herein and made a part hereof.

- B. The conditions specified on said **Exhibits "A" and "B"** are consistent with the safe and efficient operation and maintenance of DUKE ENERGY'S existing and future high voltage electric transmission and distribution lines located thereon, and, therefore, COUNTY's failure to comply with any of said locations and conditions shall constitute an infringement upon the rights and restrictions secured to DUKE ENERGY.
 - C. All of COUNTY's operations, activities and equipment used within DUKE ENERGY's Easements beneath or in proximity to any of DUKE ENERGY's electrical facilities shall, at all times, be in strict compliance with applicable provisions of the National Electrical Safety Code ("NESC"), the Occupational Safety and Health Act of 1971 ("OSHA"), and OSHA Crane Construction Standards For Power Line Safety, Sections 1926.1408 & .1409. COUNTY is further notified and hereby agrees to so notify any of COUNTY's employees, agents, contractors, representatives, or other persons engaging in COUNTY's activities upon said Easements with COUNTY's knowledge and under COUNTY's supervision or control, that extreme caution is necessary around all of DUKE ENERGY's electrical facilities, supporting structures, anchor guys or related appurtenances, and in the event of any damages or injuries, COUNTY shall immediately report the nature and extent thereof to DUKE ENERGY's nearest local office.
 - D. The validity of this Encroachment Agreement is contingent upon COUNTY first obtaining all proper zoning approval and permits from the appropriate governmental body or public agency having jurisdiction over such utilization at this location, if required. If such proper zoning approval and permits are not secured, this ENCROACHMENT AGREEMENT will be null and void.
 - E. DUKE ENERGY agrees to design any future electrical systems which are to be constructed within the Utilization Area so as to preclude any damage to COUNTY's facilities and to avoid any unreasonable interference with COUNTY facilities. COUNTY agrees that any underground facilities shall be designed to withstand 80,000 pound vehicles traversing said facilities and above ground markers shall be installed locating said facilities.
 - F. DUKE ENERGY's Transmission Asset Protection Management or the Area Transmission Asset Protection Specialist (currently Justin Garber at 407-942-9282) shall be notified by COUNTY at least fourteen (14) days prior to COUNTY's commencement of initial construction activities within DUKE ENERGY's Easements.
 - G. DUKE ENERGY'S pre-existing access way within the subject Utilization Area shall be retained by COUNTY. Access to all transmission and distribution structures shall be preserved and not interfered with by COUNTY'S facilities.
 - H. COUNTY shall not use any equipment capable of extending over twelve (12') feet in height above natural ground within DUKE ENERGY's Easements without prior written approval unless a DUKE ENERGY approved Inspector is on site. COUNTY is responsible for the payment of all reasonable costs for said Inspector.
 - I. COUNTY shall adhere to provisions in NESC regarding clearances between ground level and electric conductors. If necessary clearances cannot be maintained, DUKE ENERGY'S facilities shall be adjusted as necessary at COUNTY'S cost and expense.
-

- J. If the Utilization Area is fenced, COUNTY shall install a sixteen (16') foot wide gate along each fenced boundary within the Easements making that portion of the right-of-way easement accessible to DUKE ENERGY. COUNTY shall ground each gate and fence in accordance with the National Electric Safety Code. COUNTY may secure each gate with a chain and lock and DUKE ENERGY shall install an additional lock creating an interlocking padlock system.
 - K. COUNTY shall assume the sole duty, responsibility and obligation of maintaining the surface of the portion of DUKE ENERGY's Easements upon and across in a condition compatible with COUNTY'S maintenance standards to ensure the performance of DUKE ENERGY'S operational requirements.
 - L. The entire disturbed area within DUKE ENERGY's Easements, including DUKE ENERGY's patrol road, shall promptly be restored by COUNTY as depicted in **Exhibits A and B**. DUKE ENERGY'S Easements must have 24/7 access at all times maintained during COUNTY'S initial construction.
 - M. Upon completion of construction, COUNTY shall notify DUKE ENERGY's Transmission Asset Protection Management or the Area Transmission Asset Protection Specialist (currently Justin Garber at 407-942-9282) for inspection of DUKE ENERGY's Easements.
 - N. COUNTY shall furnish DUKE ENERGY's Transmission Asset Protection Management or the Area Transmission Asset Protection Specialist (currently Justin Garber at 407-942-9282) with a set of as-built drawings of the Utilization Area within thirty (30) days of completion of construction, sealed by a registered surveyor, noting the location of COUNTY's improvements within DUKE ENERGY's Easements and DUKE ENERGY's nearest structures.
 - O. DUKE ENERGY does not guarantee that COUNTY's Utilization will be completely compatible with the safe and efficient operation and maintenance of DUKE ENERGY's existing and future high voltage electric transmission and distribution lines within DUKE ENERGY's Easements. In the event that COUNTY's Utilization interferes with DUKE ENERGY's present or future use of the subject real property, COUNTY agrees to relocate or adjust all of DUKE ENERGY'S affected facilities or improvements at COUNTY's sole cost and expense. COUNTY further agrees to reimburse DUKE ENERGY for all expenses associated with a) the relocation of any existing DUKE ENERGY facilities necessitated by COUNTY's Utilization and b) all costs associated with any DUKE ENERGY safety inspectors DUKE ENERGY deems reasonably necessary during the construction, operation, or maintenance of COUNTY's facilities or improvements. COUNTY agrees to provide DUKE ENERGY with replacement easements with a width identical to the previous width at no cost to Duke Energy, if COUNTY'S Utilization precludes DUKE ENERGY from installing additional electric facilities within the Utilization Area.
 - P. To the extent provided by law, COUNTY shall indemnify, defend and hold harmless DUKE ENERGY against any actions, claims, or damages arising out of, relating to, or resulting from negligent or wrongful act(s) of COUNTY, or any of its officers, agents or employees, acting within the scope of their office or employment, in connection with the rights granted to or exercised by COUNTY hereunder, to the extent and within the limitations of Section 768.28,
-

Florida Statutes. The foregoing indemnification shall not constitute a waiver of sovereign immunity beyond the limits set forth in Florida Statutes, Section 768.28, nor shall the same be construed to constitute agreement by COUNTY to indemnify DUKE ENERGY for the negligent acts or omissions of DUKE ENERGY, its officers, agents or employees, or for the acts of third parties. Nothing in this Encroachment Agreement may be construed as consent by COUNTY to be sued by third parties in any manner arising out of this agreement.

- Q. COUNTY will cause all of its contractors to carry policies of insurance that are compliant with COUNTY'S standard specifications. DUKE ENERGY shall be an additional insured on such insurance policies. Prior to commencing initial construction activities within the Easements, COUNTY will furnish DUKE ENERGY with a fully completed certificate of insurance, in duplicate, evidencing insurance coverage for COUNTY's contractors as required herein. In the event that the COUNTY sells, conveys, assigns or transfers ownership of the COUNTY Utilization to a third party, except for a conveyance, assignment, or transfer of ownership in connection with another governmental entity, hereinafter called the Third Party, said Third Party shall provide a policy of insurance acceptable to Duke energy with respect to General Liability insuring against all risks to all persons or entities which may sustain property damage or personal injury as a result of the combined acts and omissions of the Third party or Duke energy which may be related in any way to the Third Party's Utilization with Bodily Injury limits of not less than \$2,000,000 each person and \$5,000,000 each occurrence with Property Damage limits not less than \$500,000 each occurrence and \$1,000,000 aggregate. Duke Energy shall be named as an additional insured on such insurance policies.
- R. If COUNTY is not the current owner of the fee simple title to the lands underlying DUKE ENERGY'S Easements, COUNTY shall obtain a legally sufficient easements or license from the present owner(s) of the fee simple title to the lands underlying DUKE ENERGY'S right-of-way easement strip signifying the permission of such owner(s) for COUNTY'S Utilization of said lands, and COUNTY shall furnish to DUKE ENERGY'S Asset Protection Management Florida Transmission Area Encroachment Agent a copy of such easement or license prior to COUNTY commencing activities within DUKE ENERGY'S Easements.
- S. COUNTY shall be responsible for clean-up of any and all COUNTY's spills which may occur due to COUNTY'S activities within DUKE ENERGY's Easements to the extent permitted under Florida Statutes, Section 768.28. If a spill occurs within DUKE ENERGY'S Easements, COUNTY shall immediately report the nature and extent of the spill to DUKE ENERGY's nearest local office.
- T. COUNTY agrees to pay for damages to DUKE ENERGY'S property or facilities caused by COUNTY'S negligent acts up to limits of sovereign immunity.
- U. COUNTY shall not plant any trees or shrubbery within DUKE ENERGY's Easements without prior written approval.
- V. COUNTY agrees that DUKE ENERGY's Easements shall not be used to satisfy wetland mitigation requirements.

- W. All covenants, terms, provisions and conditions herein contained shall run with the land and shall be binding upon and shall inure and extend to and be obligatory upon the COUNTY's heirs, successors, lessees, and assigns.
- X. COUNTY agrees that no refueling operations or storage/stockpiling of materials shall take place within the easement area and no parking shall occur within twenty-five feet (25') of DUKE ENERGY'S structures. All parked vehicles within the right-of-way or easement shall be motor vehicles of an operative and transient nature and mobile homes, office trailers or carriers of explosive materials are prohibited within the Utilization Area.
- Y. Except as approved and authorized by **Exhibits A and B**, COUNTY agrees that no lakes, ponds or retention and detention facilities shall be constructed by COUNTY within the Utilization Area.
- Z. COUNTY agrees that if construction does not commence within **twelve (12) months** of the date of this Encroachment Agreement, COUNTY must resubmit its plans to DUKE ENERGY for review and obtain from DUKE ENERGY written concurrence that said plans comply with Duke Energy's Electric Transmission Right-of-Way Guidelines/Restrictions in effect at that time. A copy of the Guidelines/Restrictions currently in effect is attached hereto as **Exhibit "C"**.
- AA. COUNTY agrees that if any portion of the Utilization is to be abandoned by COUNTY, these facilities may be abandoned in place as located. The entire portion of the abandoned facilities shall be filled in by COUNTY with flowable fill, at COUNTY's sole cost and expense, with the COUNTY being obligated to provide a means to prove a 100% success rate of fill as being achieved in all voids, both inside and outside of the abandoned pipeline, at COUNTY's sole cost and expense.
- BB. This Encroachment Agreement may be executed in identical counterparts, which, when taken together, shall constitute the single and same agreement concerning this subject matter. This document may be executed by electronic facsimile signatures, which shall be deemed original signatures for all purposes hereof.

[THE REMAINDER OF THIS PAGE WAS INTENTIONALLY LEFT BLANK]

IN WITNESS WHEREOF, the parties have caused this Utilization Agreement to be executed as of the day and year first above written.

Duke Energy Florida, LLC, A Florida
Limited Liability Company d/b/a
Duke Energy
(AS DUKE ENERGY)

Karen Adams

By: Karen Adams- Manager, Land
Services- Florida Region

WITNESSED BY:

Scott Garner

Signature of First Witness

SCOTT GARNER

Print Name of First Witness

State of Florida)

County of Volusia)

ss

Kalen D. Mason

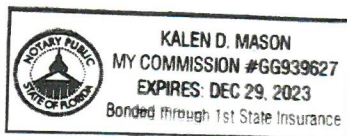
Signature of Second Witness

Kalen D. Mason

Print Name of Second Witness

The foregoing instrument was acknowledged before me by means of ☒ physical presence or
☐ online notarization, this 7 day of APRIL, 2020, by Karen Adams as
Manager, Land Services-Florida Region of Duke Energy Florida, LLC, a Florida Limited Liability
Company d/b/a Duke Energy. She personally appeared before me at the time of notarization, and is
personally known to me.

NOTARY SEAL



Kalen D. Mason

Print Name:

Notary Public

Serial Number:

My Commission Expires:

ATTEST:

BOARD OF COUNTY COMMISSIONERS
SEMINOLE COUNTY, FLORIDA

GRANT MALOY
Clerk to the Board of
County Commissioners of
Seminole County, Florida.

By: _____
JAY ZEMBOWER, Chairman

Date: _____

For the use and reliance of
Seminole County only.

Approved as to form and
legal sufficiency.

As authorized for execution by the Board of
County Commissioners at its _____,
2020, regular meeting.

County Attorney

CONSTRUCTION DRAWINGS
FOR THE

NE WW TRANSMISSION SYSTEM IMPROVEMENTS

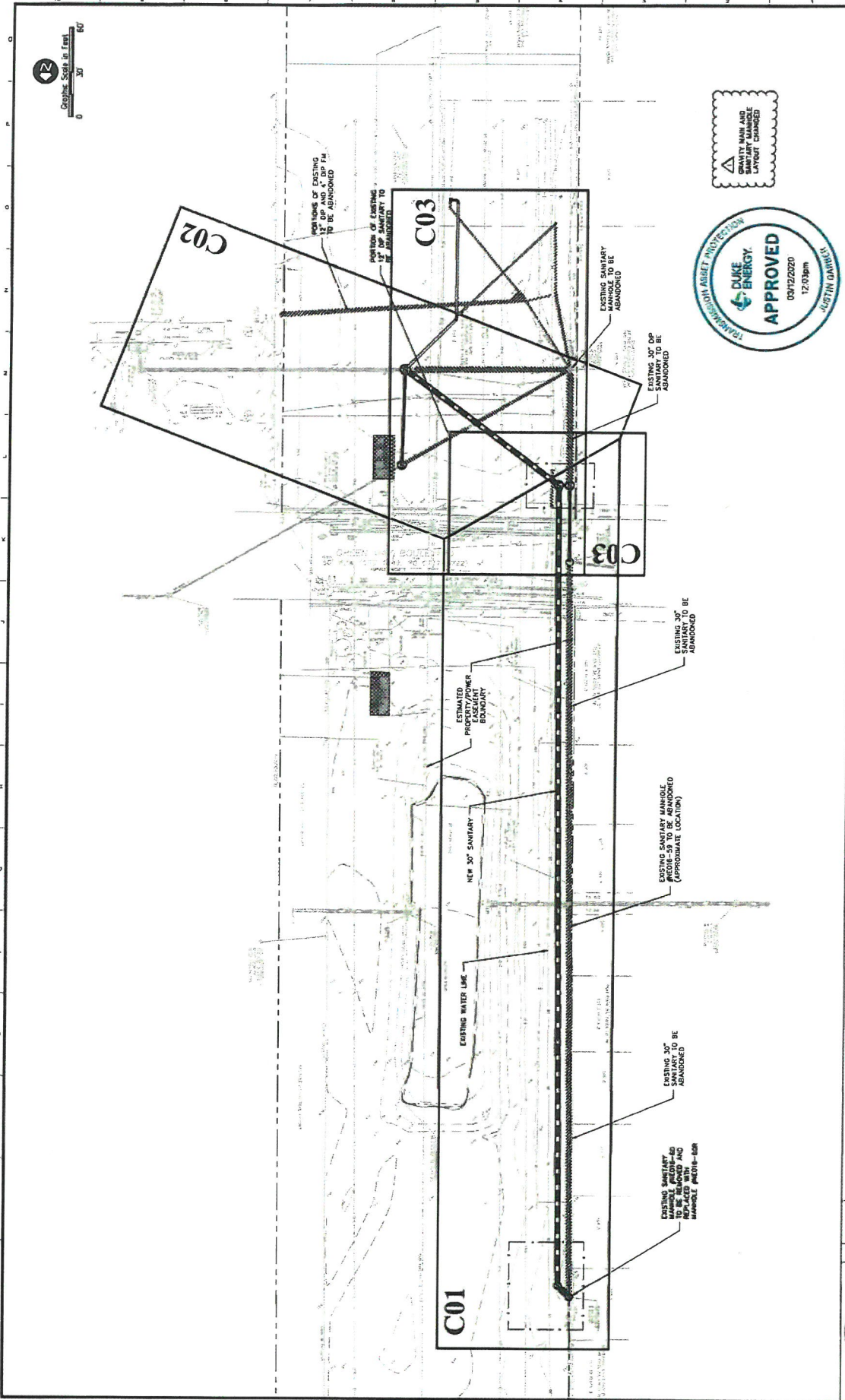
SECTION 26, TOWNSHIP 21 SOUTH, RANGE 30 EAST
SEMINOLE COUNTY, FLORIDA

PREPARED FOR:

SEMINOLE COUNTY
ENVIRONMENTAL SERVICES
DEPARTMENT
500 WEST LAKE MARY BLVD.,
SANFORD, FL 32773REISS ENGINEERING, INC.
CONSULTING ENGINEER
1016 SPRING VILLAS POINT
WINTER SPRINGS, FLORIDA 32708
TEL: (407) 679-5358
FAX: (407) 679-5003Jesse S. Reiss, P.E.
Florida Professional Engineer No. 0181
Adam L. Reiss, P.E.
Florida Professional Engineer No. 0181
1016 Spring Villas Pt.
Winter Springs, FL 32708REI Project No. 1255
CIP No. 0082916

REV	DATE	DESCRIPTION	PTH	BY
A	1/2020	90% REVISED DRAWINGS		



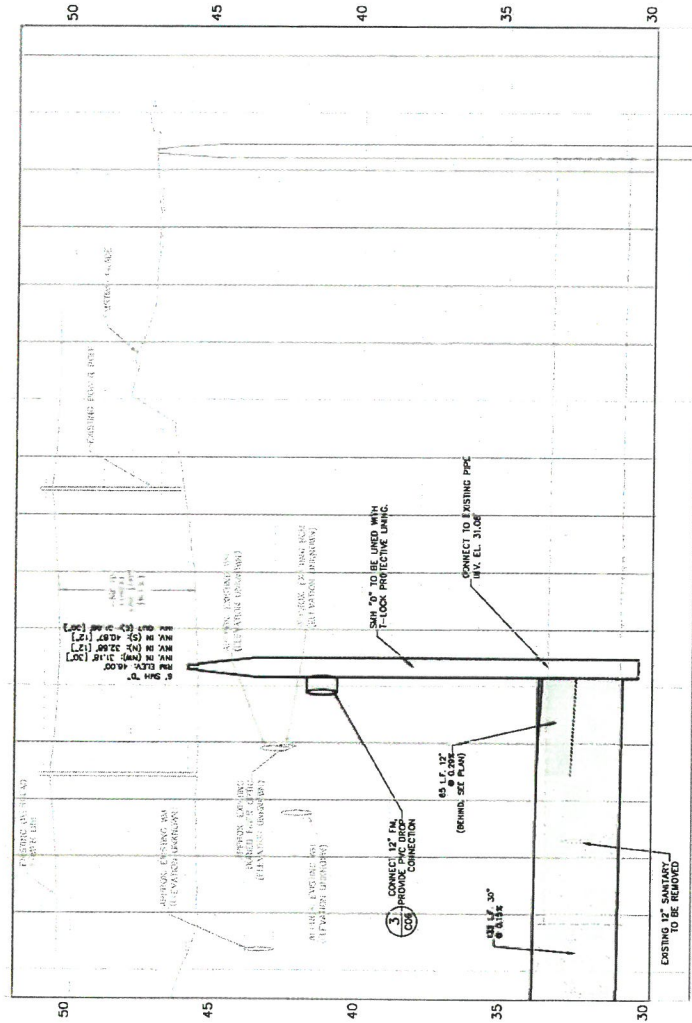
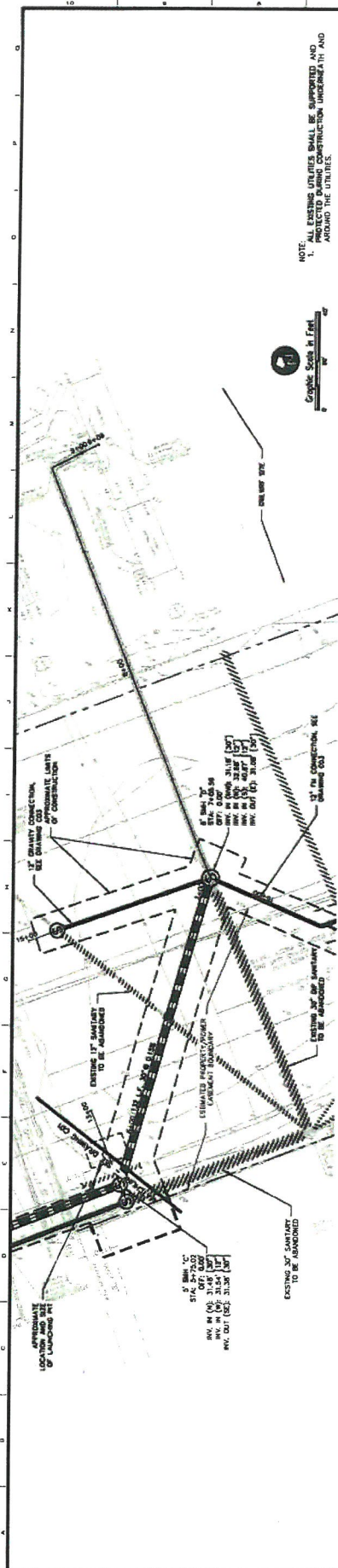


Graphic Scale in Feet
0 30 60

GRANTY MAIN AND
SANITARY MAIN
LAYOUT CHANGED



PROJECT NO. 1255 SCALE: NOTED REVISION: A SHEET NO. 04 13 C04 CF		SEMINOLE COUNTY ENVIRONMENTAL SERVICES DEPARTMENT NE WW TRANSMISSION SYSTEM IMPROVEMENTS GENERAL OVERALL DRAWING KEY MAP	
DESIGN: JBL CHECKED: JBL REVISION: JC APPROVED: JBL	DATE: 1/23/20 BY: JBL	PROJECT NO. 1255 SCALE: NOTED REVISION: A SHEET NO. 04 13 C04 CF	REVISION: JC APPROVED: JBL



TRANSMISSION AND DISTRIBUTION
DUKE ENERGY
APPROVED
03/12/2020
12:03pm
JULIEN GANDY



REISS ENGINEERING, INC.
1016 SPRING VILLAS PT
WINTER SPRINGS, FL 32708
(407) 679-5358
CERTIFICATE OF AUTH. B1B1

PROJECT NO.:	1255
SCALE:	NOTED
REVISION:	A
DRAWING NO	C02
SHEET NO.:	06 OF 13

SEMINOLE COUNTY ENVIRONMENTAL SERVICES DEPARTMENT
NE WW TRANSMISSION SYSTEM IMPROVEMENTS

30 INCH PLAN & PROFILE - STA 6+00 TO 9+20

Designed <u>MW</u>	<u>DATE</u>
Drawn <u>BLL</u>	<u>DATE</u>
Checked <u>MW</u>	
Reviewed <u>EG</u>	
Approved <u>MW</u>	

Mark K. Worham, P.E.	Florida P.E. No. 63729
CFH	
BY	

	PFH
	BY

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AWARDS

OPTION

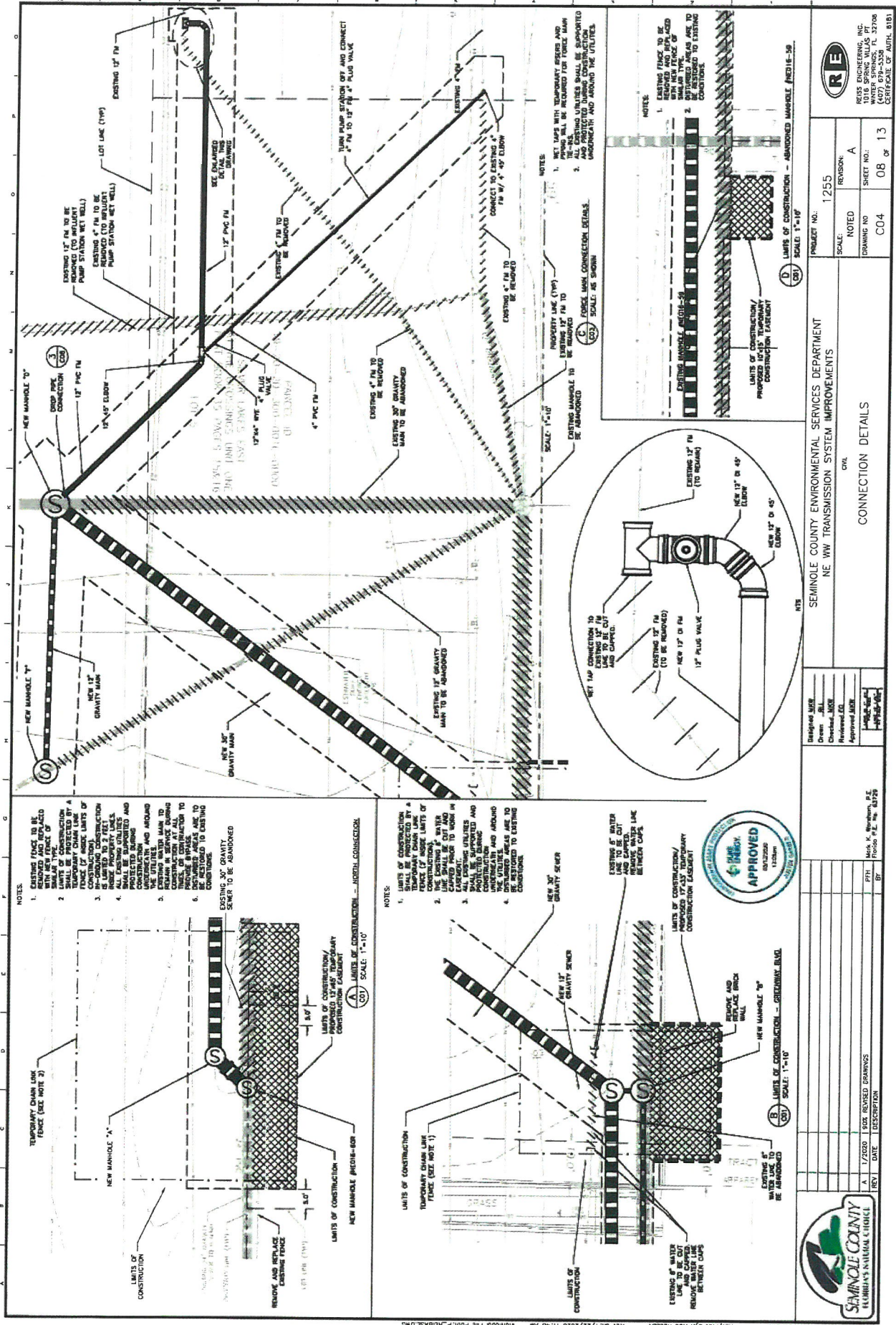
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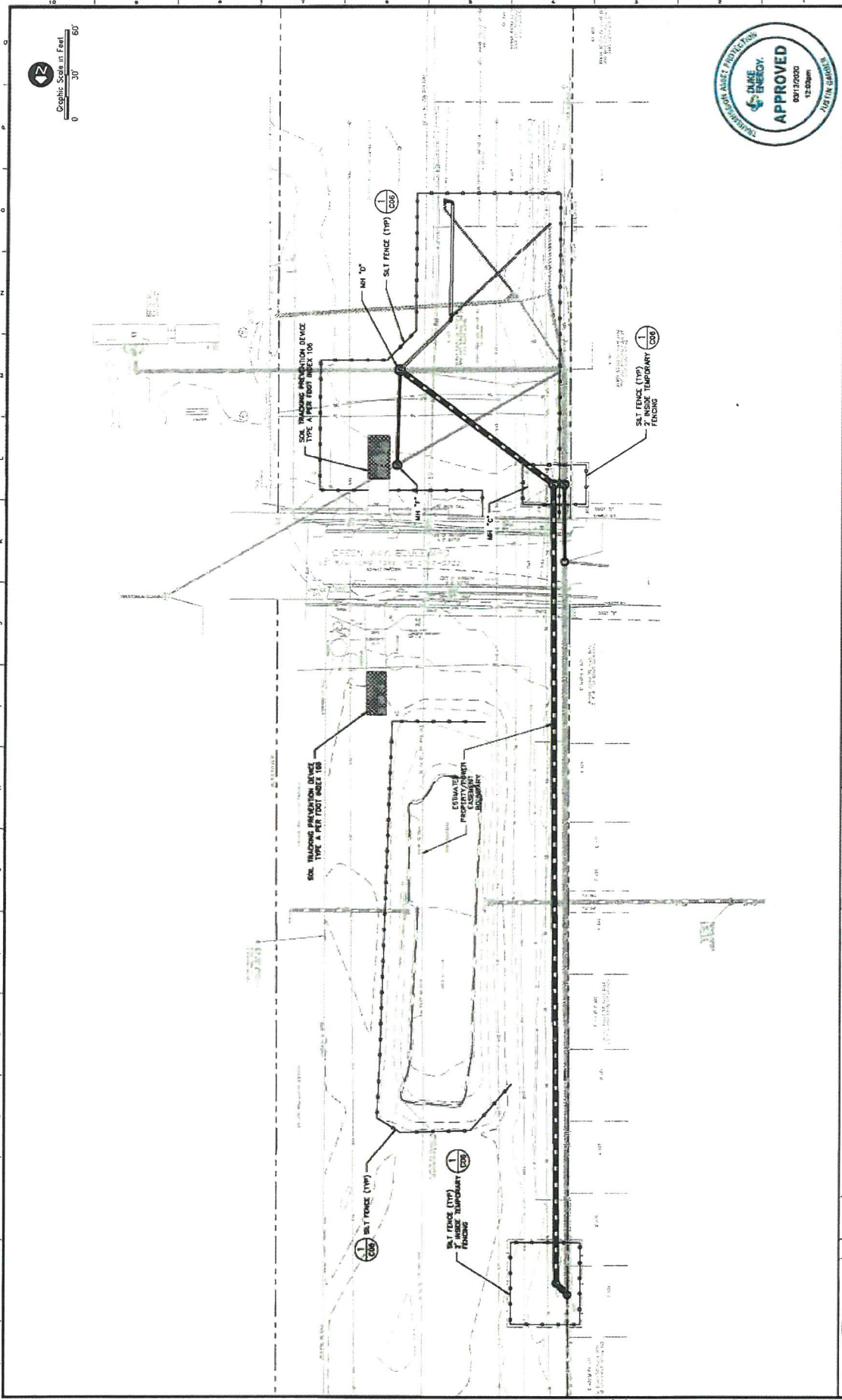
1/2020	DATE
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					A	REV
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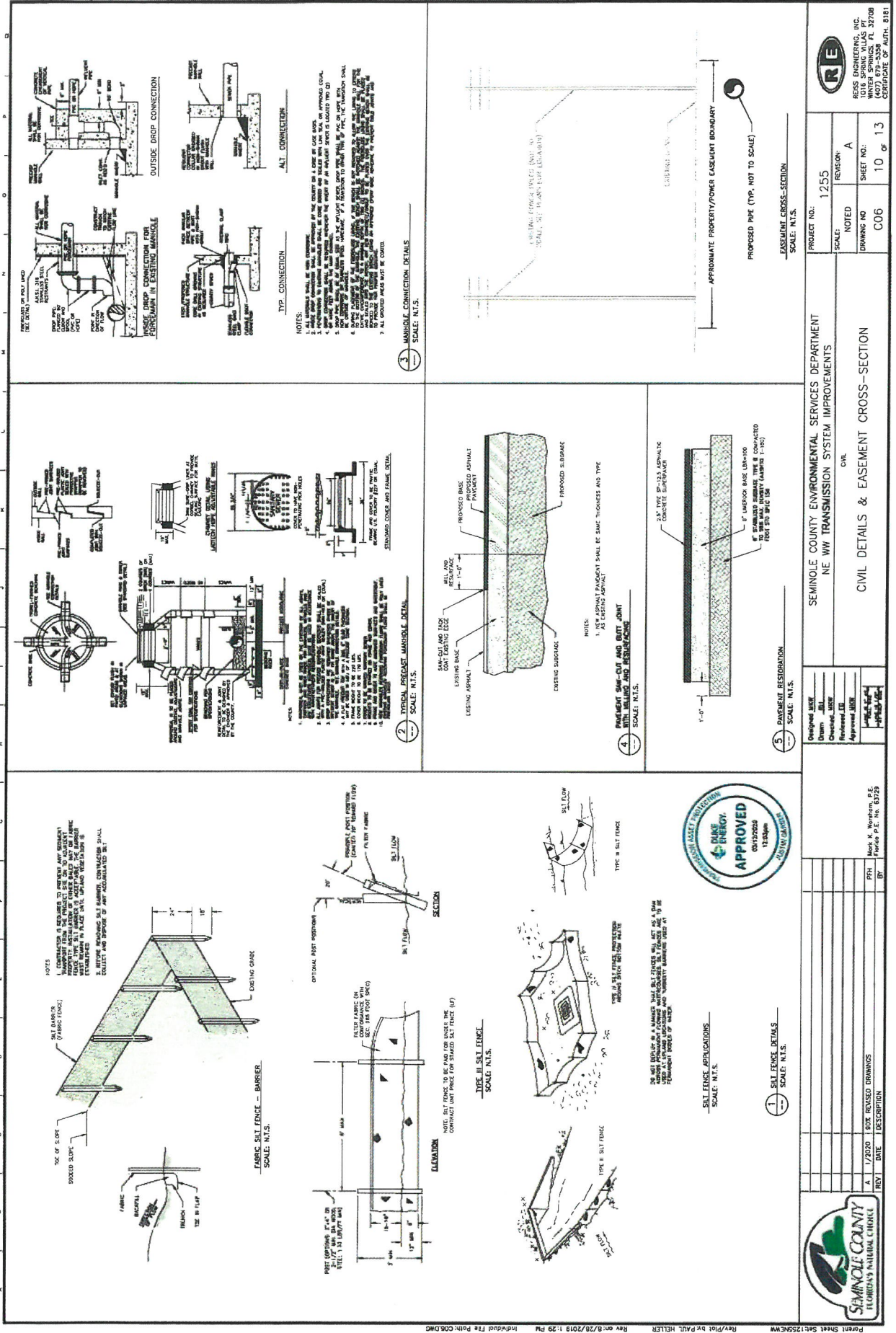


Parent Sheet Set





		PROJECT NO: 1255	
		SCALE: NOTED	
REVISION: 0		SHEET NO: 09 of 13	
DRAWING NO: C05		C05	
SEMINOLE COUNTY ENVIRONMENTAL SERVICES DEPARTMENT NE WW TRANSMISSION SYSTEM IMPROVEMENTS EROSION AND SEDIMENTATION CONTROL PLAN			
DESIGNED BY: [Blank] CHECKED BY: [Blank] REVIEWED BY: [Blank]		DATE: 1/20/20 BY: [Blank]	
PROJECT NO: 1255 PROJECT NAME: NE WW TRANSMISSION SYSTEM IMPROVEMENTS PROJECT LOCATION: [Blank]		PROJECT NO: 1255 PROJECT NAME: NE WW TRANSMISSION SYSTEM IMPROVEMENTS PROJECT LOCATION: [Blank]	



Revised: 1/2020 1:20 PM
 Project: 1255
 Drawing: 10 of 13
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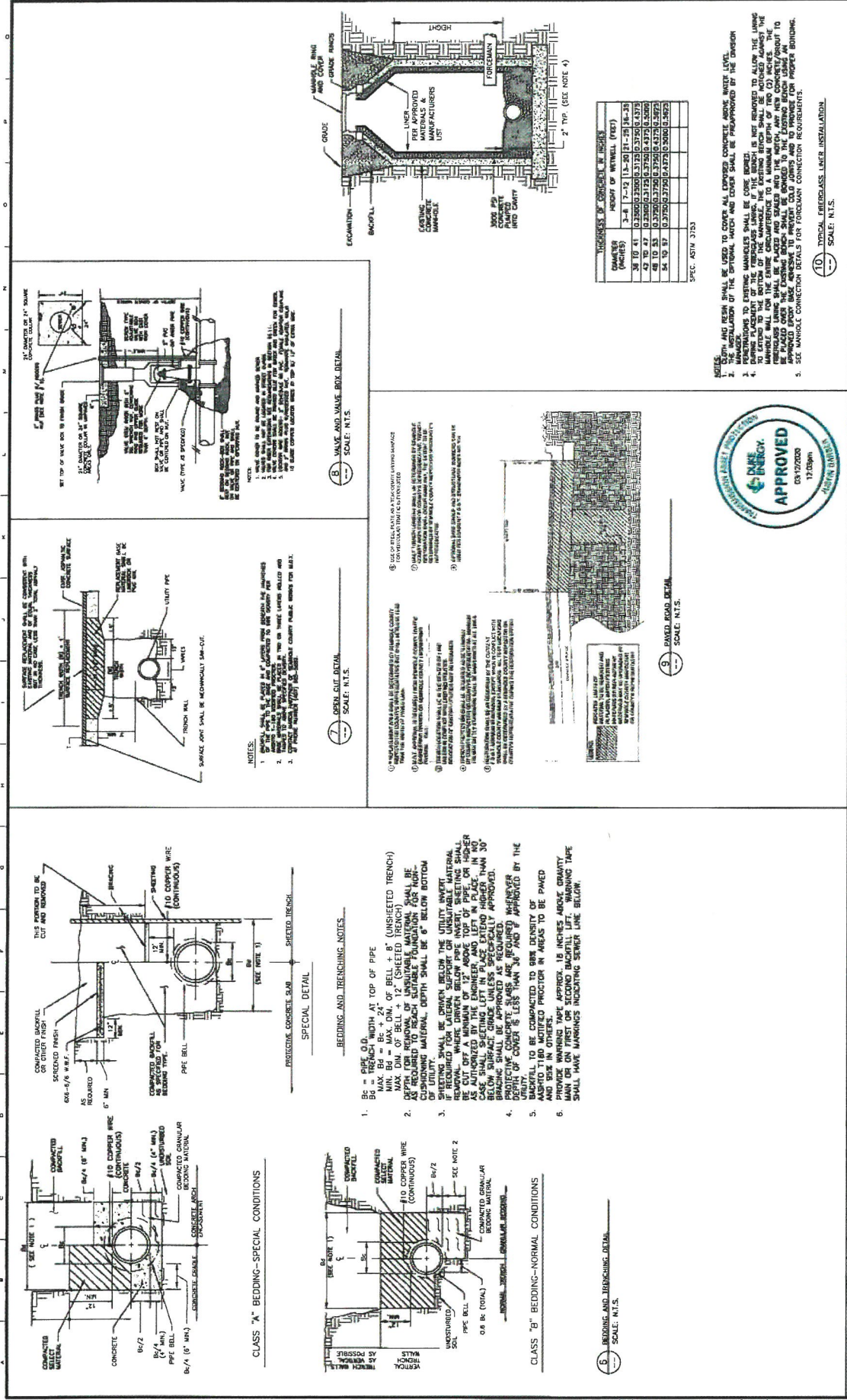
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 Project: 1255
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 Drawing: 10 of 13



SEMINOLE COUNTY ENVIRONMENTAL SERVICES DEPARTMENT NE WW TRANSMISSION SYSTEM IMPROVEMENTS		PROJECT NO: 1255 SCALE: NOTED REVISION: A	
CIVIL		DRAWING NO: C07 SHEET NO: 11 OF 13	
DESIGNED BY: [Signature] DRAWN BY: [Signature] CHECKED BY: [Signature] APPROVED BY: [Signature]		CIVIL DETAILS	
DATE: 1/2/2010 BY: [Signature]		REVISION: 1 DATE: 1/2/2010 BY: [Signature]	



REV	DATE	DESCRIPTION
A	1/2020	ISSUED FOR CONSTRUCTION

Designed by: JML
Checked by: JML
Reviewed by: JML
Approved by: JML

SEMINOLE COUNTY ENVIRONMENTAL SERVICES DEPARTMENT
NE WW TRANSMISSION SYSTEM IMPROVEMENTS
CIVIL DETAILS

PROJECT NO: 1255
SCALE: NOTED
REVISION: A
DRAWING NO: C08
SHEET NO: 12 OF 13



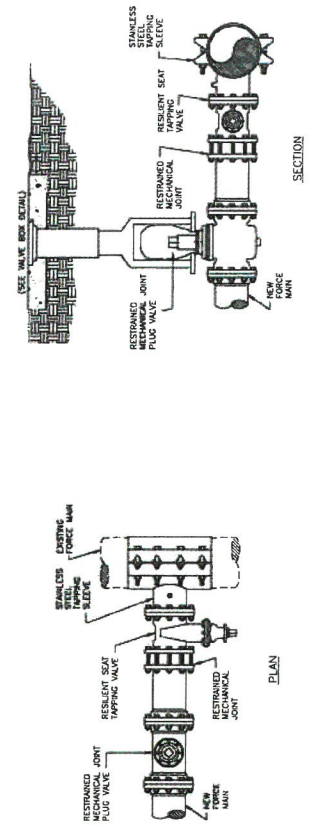
RESTRAINED JOINT TABLE
SCALE: N.T.S.

TYPE OF PIPE: N/A
WORKING PRESSURE: 100 PSI
SOIL DESIGNATION: SM (SAND, SILT)
DEPTH OF COVER: 3 FT
LAYING CONDITION: 3
FACTOR OF SAFETY: 1.5

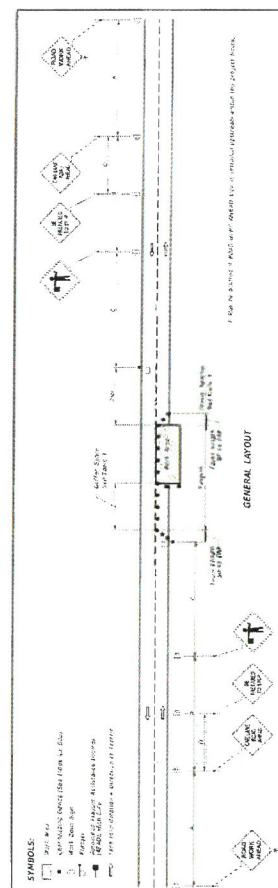
- NOTES:
1. INSTALL FULL LENGTH JOINTS WITH TOTAL NUMBER OF JOINTS EQUAL TO OR GREATER THAN SHOWN IN THE TABLE AND FOR THE TOTAL EQUIVALENT LENGTH REQUIRED.
 2. WHERE TWO OR MORE FITTINGS ARE TOGETHER USE FITTINGS WHICH YIELD THE GREATEST NUMBER OF RESTRAINED JOINTS.
 3. CONTRACTOR SHALL SUBMIT FOR REVIEW AND COMMENT, DRAWINGS FOR RESTRAINED JOINT SYSTEM. ENGINEER APPROVED SHOP DRAWINGS TO BE SUBMITTED TO THE COUNTY.
 4. RESTRAINING SEWER AND WATER MAIN SCHEDULES SHALL BE COMPLETED BY THE ENGINEER BASED ON ALL DESIGN CONSIDERATIONS INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
TYPE OF PIPE: N/A
WORKING PRESSURE: 100 PSI
SOIL DESIGNATION: SM (SAND, SILT)
DEPTH OF COVER: 3 FT
LAYING CONDITION: 3
FACTOR OF SAFETY: 1.5
 5. FOR HDPE, PVC OR PIPE ENCASED IN POLYETHYLENE, INCREASE THE GIVEN VALUE BY A FACTOR OF 1.25.

FITTINGS	PIPE DIAMETER (INCHES)									
	4	6	8	10	12	16	20	24	30	36
90° BEND	18	24	31	38	43	55	75	95	115	135
45° BEND	8	10	13	15	18	23	31	38	46	54
22 1/2° BEND	4	5	6	8	9	11	15	18	22	26
11 1/4° BEND	2	3	4	5	6	8	10	12	15	18
PLUG OR BRANCH OF TEE	38	50	65	78	90	117	163	209	271	333
DEAD ENDS	38	53	69	83	97	123	173	223	283	343

REDUCER	REDUCED PIPE DIAMETER (INCHES)									
	4	6	8	10	12	16	20	24	30	36
REDUCER	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A



2. STANDARD FORCE MAIN WEL TAP
SCALE: N.T.S.



GENERAL NOTES:

1. Refer to the project manual for details regarding the design and construction of the transmission system.
2. The design is based on the following assumptions:
 - a. The system is designed for a design life of 100 years.
 - b. The system is designed for a design velocity of 4.0 ft/s.
 - c. The system is designed for a design depth of cover of 3.0 ft.
 - d. The system is designed for a design soil strength of 1.5 ft/s.
 - e. The system is designed for a design factor of safety of 1.5.
3. The design is based on the following standards:
 - a. AASHTO M 288-90 for pipe material.
 - b. AASHTO M 294-90 for joint material.
 - c. AASHTO M 295-90 for bedding material.
 - d. AASHTO M 296-90 for backfill material.
 - e. AASHTO M 297-90 for compaction.
4. The design is based on the following conditions:
 - a. The system is designed for a design temperature of 70°F.
 - b. The system is designed for a design humidity of 70%.
 - c. The system is designed for a design wind speed of 100 mph.
 - d. The system is designed for a design seismicity of 0.2 g.
 - e. The system is designed for a design flood risk of 1.0 ft/s.
5. The design is based on the following materials:
 - a. HDPE pipe for the mainline.
 - b. HDPE pipe for the branch.
 - c. HDPE pipe for the tapping sleeve.
 - d. HDPE pipe for the tapping valve.
 - e. HDPE pipe for the resilient seat.
6. The design is based on the following construction methods:
 - a. The system is designed for a design construction method of trench and pipe.
 - b. The system is designed for a design construction method of trench and pipe.
 - c. The system is designed for a design construction method of trench and pipe.
 - d. The system is designed for a design construction method of trench and pipe.
 - e. The system is designed for a design construction method of trench and pipe.

TABLE 1: MINIMUM LENGTH OF RESTRAINED PIPE TO BE INSTALLED ON EACH SIDE OF FITTING

PIPE DIAMETER (INCHES)	4	6	8	10	12	16	20	24	30	36
90° BEND	18	24	31	38	43	55	75	95	115	135
45° BEND	8	10	13	15	18	23	31	38	46	54
22 1/2° BEND	4	5	6	8	9	11	15	18	22	26
11 1/4° BEND	2	3	4	5	6	8	10	12	15	18
PLUG OR BRANCH OF TEE	38	50	65	78	90	117	163	209	271	333
DEAD ENDS	38	53	69	83	97	123	173	223	283	343

TABLE 2: MINIMUM LENGTH OF RESTRAINED PIPE TO BE INSTALLED ON LARGE SIDE OF REDUCER

REDUCED PIPE DIAMETER (INCHES)	4	6	8	10	12	16	20	24	30	36
REDUCER	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

TABLE 3: MINIMUM LENGTH OF RESTRAINED PIPE TO BE INSTALLED ON SMALL SIDE OF REDUCER

REDUCED PIPE DIAMETER (INCHES)	4	6	8	10	12	16	20	24	30	36
REDUCER	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

TABLE 4: MINIMUM LENGTH OF RESTRAINED PIPE TO BE INSTALLED ON EACH SIDE OF FITTING

PIPE DIAMETER (INCHES)	4	6	8	10	12	16	20	24	30	36
90° BEND	18	24	31	38	43	55	75	95	115	135
45° BEND	8	10	13	15	18	23	31	38	46	54
22 1/2° BEND	4	5	6	8	9	11	15	18	22	26
11 1/4° BEND	2	3	4	5	6	8	10	12	15	18
PLUG OR BRANCH OF TEE	38	50	65	78	90	117	163	209	271	333
DEAD ENDS	38	53	69	83	97	123	173	223	283	343

TABLE 5: MINIMUM LENGTH OF RESTRAINED PIPE TO BE INSTALLED ON LARGE SIDE OF REDUCER

REDUCED PIPE DIAMETER (INCHES)	4	6	8	10	12	16	20	24	30	36
REDUCER	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

TABLE 6: MINIMUM LENGTH OF RESTRAINED PIPE TO BE INSTALLED ON SMALL SIDE OF REDUCER

REDUCED PIPE DIAMETER (INCHES)	4	6	8	10	12	16	20	24	30	36
REDUCER	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

TABLE 7: MINIMUM LENGTH OF RESTRAINED PIPE TO BE INSTALLED ON EACH SIDE OF FITTING

PIPE DIAMETER (INCHES)	4	6	8	10	12	16	20	24	30	36
90° BEND	18	24	31	38	43	55	75	95	115	135
45° BEND	8	10	13	15	18	23	31	38	46	54
22 1/2° BEND	4	5	6	8	9	11	15	18	22	26
11 1/4° BEND	2	3	4	5	6	8	10	12	15	18
PLUG OR BRANCH OF TEE	38	50	65	78	90	117	163	209	271	333
DEAD ENDS	38	53	69	83	97	123	173	223	283	343

TABLE 8: MINIMUM LENGTH OF RESTRAINED PIPE TO BE INSTALLED ON LARGE SIDE OF REDUCER

REDUCED PIPE DIAMETER (INCHES)	4	6	8	10	12	16	20	24	30	36
REDUCER	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

TABLE 9: MINIMUM LENGTH OF RESTRAINED PIPE TO BE INSTALLED ON SMALL SIDE OF REDUCER

REDUCED PIPE DIAMETER (INCHES)	4	6	8	10	12	16	20	24	30	36
REDUCER	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

TABLE 10: MINIMUM LENGTH OF RESTRAINED PIPE TO BE INSTALLED ON EACH SIDE OF FITTING

PIPE DIAMETER (INCHES)	4	6	8	10	12	16	20	24	30	36
90° BEND	18	24	31	38	43	55	75	95	115	135
45° BEND	8	10	13	15	18	23	31	38	46	54
22 1/2° BEND	4	5	6	8	9	11	15	18	22	26
11 1/4° BEND	2	3	4	5	6	8	10	12	15	18
PLUG OR BRANCH OF TEE	38	50	65	78	90	117	163	209	271	333
DEAD ENDS	38	53	69	83	97	123	173	223	283	343

TABLE 11: MINIMUM LENGTH OF RESTRAINED PIPE TO BE INSTALLED ON LARGE SIDE OF REDUCER

REDUCED PIPE DIAMETER (INCHES)	4	6	8	10	12	16	20	24	30	36
REDUCER	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

TABLE 12: MINIMUM LENGTH OF RESTRAINED PIPE TO BE INSTALLED ON SMALL SIDE OF REDUCER

REDUCED PIPE DIAMETER (INCHES)	4	6	8	10	12	16	20	24	30	36
REDUCER	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

TABLE 13: MINIMUM LENGTH OF RESTRAINED PIPE TO BE INSTALLED ON EACH SIDE OF FITTING

PIPE DIAMETER (INCHES)	4	6	8	10	12	16	20	24	30	36
90° BEND	18	24	31	38	43	55	75	95	115	135
45° BEND	8	10	13	15	18	23	31	38	46	54
22 1/2° BEND	4	5	6	8	9	11	15	18	22	26
11 1/4° BEND	2	3	4	5	6	8	10	12	15	18
PLUG OR BRANCH OF TEE	38	50	65	78	90	117	163	209	271	333
DEAD ENDS	38	53	69	83	97	123	173	223	283	343

TABLE 14: MINIMUM LENGTH OF RESTRAINED PIPE TO BE INSTALLED ON LARGE SIDE OF REDUCER

REDUCED PIPE DIAMETER (INCHES)	4	6	8	10	12	16	20	24	30	36
REDUCER	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

TABLE 15: MINIMUM LENGTH OF RESTRAINED PIPE TO BE INSTALLED ON SMALL SIDE OF REDUCER

REDUCED PIPE DIAMETER (INCHES)	4	6	8	10	12	16	20	24	30	36
REDUCER	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

TABLE 16: MINIMUM LENGTH OF RESTRAINED PIPE TO BE INSTALLED ON EACH SIDE OF FITTING

PIPE DIAMETER (INCHES)	4	6	8	10	12	16	20	24	30	36
90° BEND	18	24	31	38	43	55	75	95	115	135
45° BEND	8	10	13	15	18	23	31	38	46	54
22 1/2° BEND	4	5	6	8	9	11	15	18	22	26
11 1/4° BEND	2	3	4	5	6	8	10	12	15	18
PLUG OR BRANCH OF TEE	38	50	65	78	90	117	163	209	271	333
DEAD ENDS	38	53	69	83	97	123	173	223	283	343

TABLE 17: MINIMUM LENGTH OF RESTRAINED PIPE TO BE INSTALLED ON LARGE SIDE OF REDUCER

REDUCED PIPE DIAMETER (INCHES)	4	6	8	10	12	16	20	24	30	36
REDUCER	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

TABLE 18: MINIMUM LENGTH OF RESTRAINED PIPE TO BE INSTALLED ON SMALL SIDE OF REDUCER

REDUCED PIPE DIAMETER (INCHES)	4	6	8	10	12	16	20	24	30	36
REDUCER	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

TABLE 19: MINIMUM LENGTH OF RESTRAINED PIPE TO BE INSTALLED ON EACH SIDE OF FITTING

PIPE DIAMETER (INCHES)	4	6	8	10	12	16	20	24	30	36
90° BEND	18	24	31	38	43	55	75	95	115	135
45° BEND	8	10	13	15	18	23	31	38	46	54
22 1/2° BEND	4	5	6	8	9	11	15	18	22	26
11 1/4° BEND	2	3	4	5	6	8	10	12	15	18
PLUG OR BRANCH OF TEE	38	50	65	78	90	117	163	209	271	333
DEAD ENDS	38	53	69	83	97	123	173	223	283	343

TABLE 20: MINIMUM LENGTH OF RESTRAINED PIPE TO BE INSTALLED ON LARGE SIDE OF REDUCER

REDUCED PIPE DIAMETER (INCHES)	4	6	8	10	12	16	20	24	30	36
REDUCER	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

TABLE 21: MINIMUM LENGTH OF RESTRAINED PIPE TO BE INSTALLED ON SMALL SIDE OF REDUCER

REDUCED PIPE DIAMETER (INCHES)	4	6	8	10	12	16	20	24	30	36
REDUCER	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

TABLE 22: MINIMUM LENGTH OF RESTRAINED PIPE TO BE INSTALLED ON EACH SIDE OF FITTING

PIPE DIAMETER (INCHES)	4	6	8	10	12	16	20	24	30	36
90° BEND	18	24	31	38	43	55	75	95	115	135
45° BEND	8	10	13	15	18	23	31	38	46	54
22 1/2° BEND	4	5	6	8	9	11	15	18	22	26
11 1/4° BEND	2	3	4	5	6	8	10	12	15	18
PLUG OR BRANCH OF TEE	38	50	65	78	90	117	163	209	271	333
DEAD ENDS	38	53	69	83	97	123	173	223	283	343

TABLE 23: MINIMUM LENGTH OF RESTRAINED PIPE TO BE INSTALLED ON LARGE SIDE OF REDUCER

REDUCED PIPE DIAMETER (INCHES)	4	6	8	10	12	16	20	24	30	36
REDUCER	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

TABLE 24: MINIMUM LENGTH OF RESTRAINED PIPE TO BE INSTALLED ON SMALL SIDE OF REDUCER

REDUCED PIPE DIAMETER (INCHES)	4	6	8	10	12	16	20	24	30	36
REDUCER	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

TABLE 25: MINIMUM LENGTH OF RESTRAINED PIPE TO BE INSTALLED ON EACH SIDE OF FITTING

PIPE DIAMETER (INCHES)	4	6	8	10	12	16	20	24	30	36
90° BEND	18	24	31	38	43	55	75	95	115	135
45° BEND	8	10	13	15	18	23	31	38	46	54
22 1/2° BEND	4	5	6	8	9	11	15	18	22	26
11 1/4° BEND	2	3	4	5	6	8	10	12	15	18
PLUG OR BRANCH OF TEE	38	50	65	78	90	117	163	209	271	333
DEAD ENDS	38	53	69	83	97	123	173	223	283	343

TABLE 26: MINIMUM LENGTH OF RESTRAINED PIPE TO BE INSTALLED ON LARGE SIDE OF REDUCER

REDUCED PIPE DIAMETER (INCHES)	4	6	8	10	12	16	20	24	30	36
REDUCER	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

TABLE 27: MINIMUM LENGTH OF RESTRAINED PIPE TO BE INSTALLED ON SMALL SIDE OF REDUCER

REDUCED PIPE DIAMETER (INCHES)	4	6	8	10	12	16	20	24	30	36
REDUCER	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

TABLE 28: MINIMUM LENGTH OF RESTRAINED PIPE TO BE INSTALLED ON EACH SIDE OF FITTING

PIPE DIAMETER (INCHES)	4	6	8	10	12	16	20	24	30	36
90° BEND	18	24	31	38	43	55	75	95	115	135
45° BEND	8	10	13	15	18	23	31	38	46	54
22 1/2° BEND	4	5	6	8	9	11	15	18	22	26
11 1/4° BEND	2									

Exhibit "B"

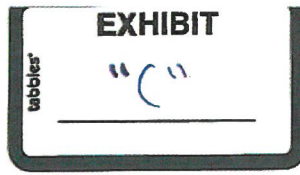
SPECIFIC REQUIREMENTS

for

Seminole County

1. Other than DUKE ENERGY's facilities, no overhead wires, poles, light standards, dumpsters, signs, trees, buildings, structures or obstacles may be located, constructed or installed within the right-of-way easement strip without written approval by DUKE ENERGY.
2. This area contains high voltage power lines. Extreme caution must be used when working within the Utilization Area.
3. A clear, level and easily passable thirty-foot (30') wide maintenance road be provided with no shrubs or trees planted in maintenance roadway.
4. A DUKE ENERGY approved Inspector will be assigned to verify that construction of the improvement(s) within DUKE ENERGY's easement strip is in compliance with the terms and conditions of the Agreement and the approved construction plans, which is shown herein as **Exhibit "A"**. The Inspector shall be present and on site at all times during construction. All costs of DUKE ENERGY's Inspector are to be paid by COUNTY. DUKE ENERGY's Inspector shall be notified fourteen (14) days prior to the commencement of construction within DUKE ENERGY's right-of-way. The COUNTY's Construction Manager (or designated representative) will make reports to DUKE ENERGY's Inspector regarding any damages to DUKE ENERGY's property, private property or other public facilities. COUNTY agrees to pay all expenses incurred in connection with the repair of such damages.
5. Prior to any work commencing in the transmission right of way, COUNTY or COUNTY's designee, shall attend an on-site safety meeting with DUKE ENERGY's Transmission Line Maintenance Supervisor. It shall be the COUNTY's responsibility to coordinate with DUKE ENERGY's Asset Protection Specialist with a minimum Fourteen (14) day notice to schedule the safety meeting. Applicant shall be obligated to perform any safety procedure or standard as determined by the Inspector.
6. All excavations for COUNTY's Utilization shall be a minimum of twenty-five feet (25') from the nearest edge of DUKE ENERGY's transmission structure and a minimum of thirty feet (30') from guying.

7. Any and all piping or culverts (cables) installed by COUNTY within DUKE ENERGY's right-of-way easement strip shall have sufficient earth cover (minimum of 36") to prevent breakage due to the operation of DUKE ENERGY's vehicles and heavy equipment within the easement strip.
 8. No below ground grade drainage or facilities may be installed by COUNTY within the right-of-way easement strip without DUKE ENERGY's approval.
 9. COUNTY agrees to furnish and install permanent markers showing the location of the underground facilities within the right-of-way easement strip. Said markers shall be the COUNTY's responsibility.
 10. COUNTY agrees that no refueling operations take place within the easement area.
 11. All parked vehicles within the right-of-way easement strip shall be motor vehicles of an operative and transient nature; mobile homes, office trailers or carriers of explosive materials are prohibited.
 12. COUNTY shall not install cathodic protective devices without first notifying DUKE ENERGY's Material Technology Engineer and prior approval.
 13. COUNTY understands that work must commence within twelve (12) months from the date of this signed Agreement or the Agreement becomes null and void.
-



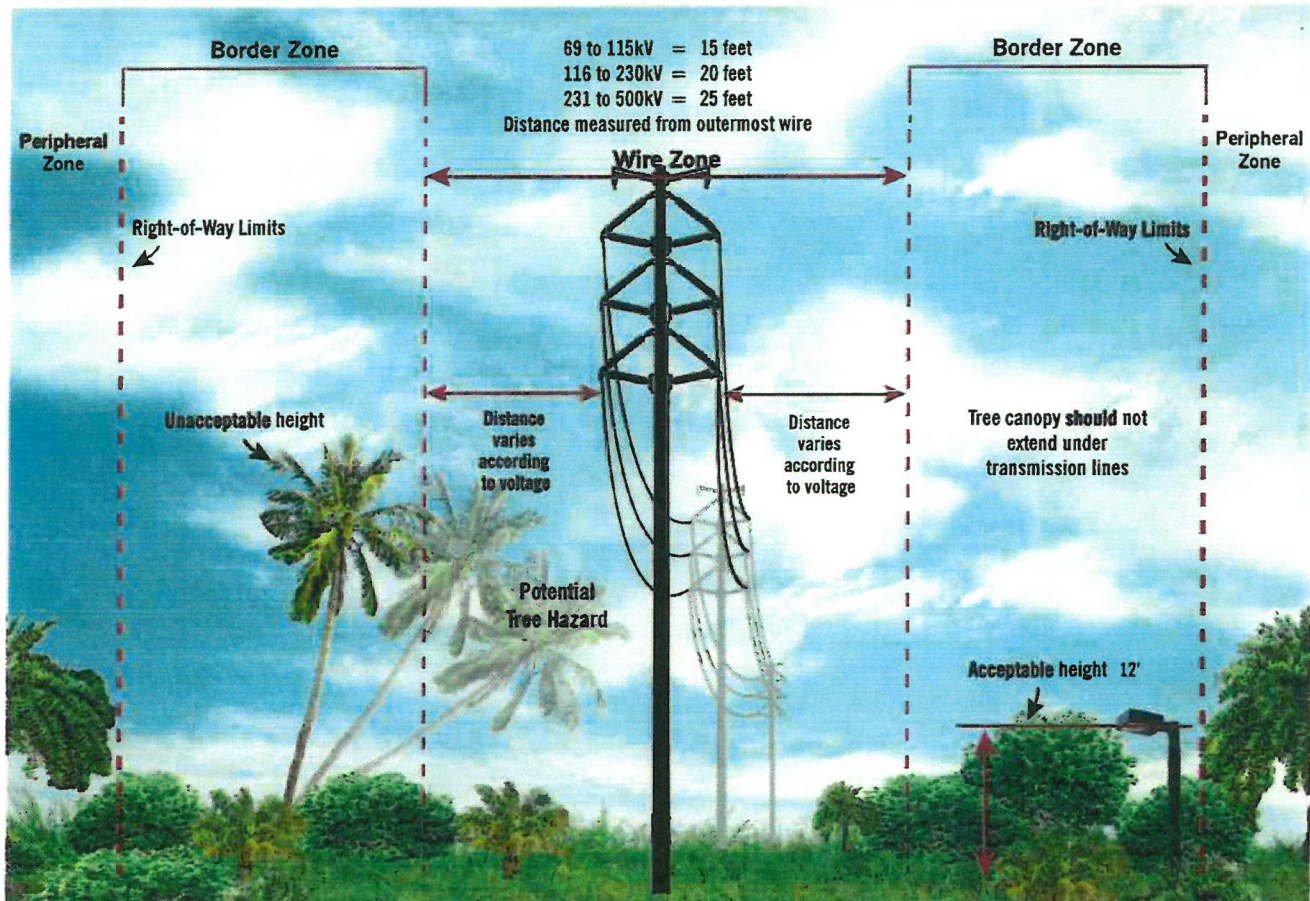
ELECTRIC TRANSMISSION RIGHT-OF-WAY GUIDELINES/RESTRICTIONS VALID FOR FLORIDA (Revised 12/05/17)

This list of right-of-way **restrictions** has been developed to answer the most frequently asked questions about property owner use of Duke Energy's electric transmission rights of way. This list does not cover all restrictions or all possible situations. You should contact the Asset Protection right-of-way specialist if you have additional concerns about the rights of way. This list of restrictions is subject to change at any time and without notice. Duke Energy reserves all rights conveyed to it by the right-of-way agreement applicable to the subject property. All activity within the rights of way shall be reviewed by an Asset Protection right-of-way specialist to obtain prior written approval. Engineering plans may be required. Compliance with the Duke Energy Right-of-Way Guidelines/Restrictions or approval of any plans by Duke Energy does not mean that the requirements of any local, county, state or federal government or other applicable agency with governing authority have been **satisfied**.

1. **Structures**, buildings, **manufactured/mobile** homes, satellite **systems**, swimming pools (and any associated equipment and **decking**), graves, billboards, dumpsters, signs, wells, deer stands, retaining walls, septic systems or tanks (whether above or below ground), debris of any type, flammable material, building material, wrecked or disabled vehicles and all other objects (whether above or below ground) which in Duke Energy's opinion interfere with the electric transmission right of way are not allowed within the right-of-way limits. Transformers, telephone/cable pedestals (and associated equipment) and fire hydrants are not allowed. Manholes, water valves, water meters, backflow preventers and **irrigation** heads are not permitted. Attachments to Duke Energy **structures** are prohibited.
2. Fences and gates shall not exceed 10 feet in height and shall be installed greater than 25 feet from poles, towers and guy anchors. Fences shall not parallel the centerline within the rights of way but may cross from one side to the other at any angle not less than 30 degrees with the centerline. If a fence crosses the right of way, a gate (16 feet wide at each **crossing**) shall be installed by the **property** owner, per Duke Energy's specifications. The property owner is required to install a Duke Energy lock on the gate to ensure access. Duke Energy will supply a lock.
3. **Grading** (cuts or fill) shall be no closer than 25 feet from poles, towers, guys and anchors (except for parking areas; see paragraph 7) and the slope shall not exceed 4:1. Grading or filling near Duke Energy facilities which will prevent free equipment access or create **ground-to-conductor** clearance violations will not be permitted. Storage or stockpiling of dirt or any other **material** is **prohibited**. Sedimentation control, including re-vegetation, is required per state regulations.
4. Streets, roads, **driveways**, sewer/water lines, other utility lines or any underground facilities shall not parallel the centerline within the right of way but may cross, from one side to the other, at any angle not less than 30 degrees with the centerline. No portion of such facility or **corresponding** easement shall be located within 25 feet of Duke Energy's facilities. **Roundabouts**, cul-de-sacs and **intersections** (such as roads, driveways and **alleyways**) are not permitted.
5. Any drainage feature that causes erosion, directs storm water toward the rights of way, or limits access to or around Duke Energy facilities is prohibited.
6. Lakes, ponds, retention or detention facilities, etc. are restricted and must be approved by Duke Energy prior to **construction**.
7. **Parking** may be permitted within the right of way, provided that:
 - a. Prior to grading, concrete barriers shall be installed at a minimum of 9 feet from the Duke Energy facilities. During construction, grading shall be no closer than 10 feet to any Duke Energy facility.
 - b. After grading/paving activity is complete, a Duke Energy-approved barrier sufficient to withstand a 15 mph vehicular impact shall be installed 9 feet from any Duke Energy facility.
 - c. Any access areas, entrances or exits shall cross (from one side to the other) the right of way at any angle not less than 30 degrees with the centerline and shall not pass within 25 feet of any structure. Parking lot entrances/exits cannot create an intersection within the right of way.
 - d. Lighting within the right-of-way limits must be approved by Duke Energy before installing. Due to engineering design standards, lighting is not allowed in the "Wire Zone." Where lighting is approved (**Border Zone**), the total height may not exceed 12 feet. **Contact** your Asset Protection right-of-way specialist as wire zones vary for the different lines.
8. Duke Energy will not object to certain **vegetation** plantings as long as:
 - a. It does not interfere with the access to or the safe, reliable operation and **maintenance** of Duke Energy facilities.
 - b. With prior written approval, Duke Energy does not object to low-growing shrubs and grasses within the "Wire Zone." Tree species are not allowed within the "Wire Zone." Trees that are approved in the "Border Zone" may not exceed, at maturity, 12 feet. Contact the Asset Protection Specialist for Wire Zone/Border Zone definitions.
 - c. For **compliant** mature height **species**, refer to <https://floridata.com/plantlist/> for reference.
 - d. Engineering drawings must indicate the **outermost** conductor.
 - e. **Vegetation** that is not in compliance is subject to removal without notice.
 - f. Duke Energy may exercise the rights to cut "danger trees" outside the right-of-way limits as required to properly **maintain** and operate the transmission line.

We hope this is useful **information**. If you have additional questions or plan any activity not **mentioned** above, please contact the Asset Protection **right-of-way** specialist for your area (see map).

Transmission Right-of-Way Zones – Florida



Wire Zone: Extends beyond the outermost conductor on both sides. (See diagram above.) Electrical structure type may vary from single pole to lattice tower or H frame.

Permitted within the Wire Zone: Low-growing plants, shrubs and grasses.

Not permitted within the Wire Zone: Tree species of any kind.

Border Zone: Extends from the edge of the Wire Zone to the outside edge of the Right of Way.

Permitted within the Border Zone: Lighting structures and plantings within the Right of Way that do not exceed a vertical height of 12 feet.

For compliant mature-height species, refer to <https://floridata.com/plantlist/>.

Not permitted within the Border Zone: Any object that exceeds vertical height restrictions. These restrictions are based on flat ground elevations. If the ground elevations differ, no object at any time may exceed the outermost conductor's ground elevation.

Peripheral Zone: Outside the Right of Way and adjacent to Border Zones.

Permitted within the Peripheral Zone: Trees may be planted in the Peripheral Zone. Duke Energy recommends customers exercise caution selecting and planting trees in this zone.

Not permitted in the Peripheral Zone: Trees with canopies are subject to routine trimming and possible removal.

In all zones:

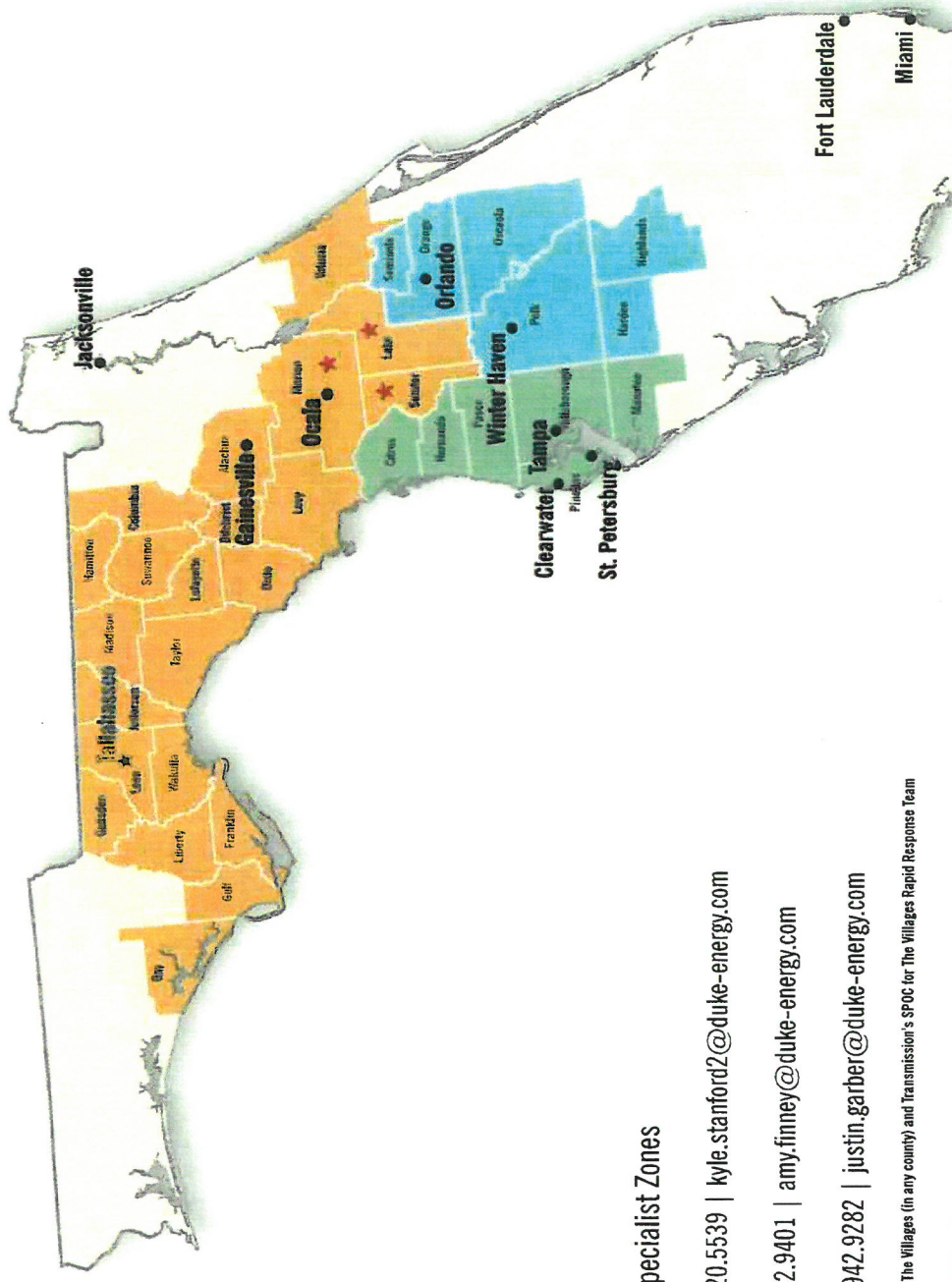
When an outage risk is identified, Duke Energy will attempt to notify the affected customer. However, the company may need to take immediate action if trees cannot be pruned to appropriate levels. This may include trees and shrubs that are within 20 feet of the power line at the maximum peak load or during weather conditions that create line sag and sway.

Written approvals by Duke Energy are required for all plans.

We hope this is useful information. If you have additional questions on line voltages or plan any activity not mentioned above, please contact the Asset Protection Specialist for your area (see map).

Right of Way is intended to reference the easement rights granted to Duke Energy. Actual zone size may vary based upon the particular Right of Way.

Duke Energy Florida Transmission Asset Protection Zones



Asset Protection Right-of-Way Specialist Zones

Coastal — Kyle Stanford 727.820.5539 | kyle.stanford2@duke-energy.com

Northern — Amy Finney 407.942.9401 | amy.finnney@duke-energy.com

Southern — Justin Garber 407.942.9282 | justin.garber@duke-energy.com

★ NOTE: Kyle Stanford is the SPOC for ALL requests for The Villages (in any county) and Transmission's SPOC for The Villages Rapid Response Team



BUILDING A SMARTER ENERGY FUTURE