CONSTRUCTION DRAWINGS FOR

FORCE MAIN R/R DEERFIELD BOULEVARD FORCE MAIN

DISTRICT 4



VICINITY MAP

ATTENTION IS DIRECTED TO THE FACT THAT THESE PLANS MAY HAVE BEEN REDUCED IN SIZE BY REPRODUCTION. THIS MUST BE CONSIDERED WHEN OBTAINING SCALED DATA. DIMENSION INFORMATION SHOULD NOT BE OBTAINED BY SCALING THE PLANS.



FEBRUARY 2018



BID SET

PREPARED BY:



Barnes, Ferland and Associates, Inc. 1230 E. Hillcrest Street, Orlando, FL, 32803 PH: (407) 895-8508 FM: (407) 895-852 ENGINEERING BUSINESS No. 6899 CAPITAL PR

ORANGE COUNTY MAYOR TERESA JACOBS

BOARD OF COUNTY COMMISSIONERS

DISTRICT 1: COMMISSIONER BETSY VANDERLEY DISTRICT 2: COMMISSIONER BRYAN NELSON DISTRICT 3: COMMISSIONER PETE CLARKE DISTRICT 4: COMMISSIONER JENNIFER THOMPSON DISTRICT 5: COMMISSIONER EMILY BONILLA DISTRICT 6: COMMISSIONER VICTORIA P. SIPLIN

COUNTY ADMINISTRATOR: AJIT LALCHANDANI

UTILITIES DIRECTOR: RAYMOND E. HANSON, P.E.

ORANGE COUNTY UTILITIES 9150 CURRY FORD ROAD ORLANDO, FLORIDA 32825

CAPITAL PROJECT No. 1539-40

PROJECT SEQUENCE No. 93106

ENGINEER OF RECORD GEOFFREY J. HENNESSY, P.E.

FLORIDA REGISTRATION No. 58637

	LEGEND					
	RIGHT OF WAY LINE					
	LOT LINE					
	EASEMENT LINE					
	— X — EXISTING FENCE					
			-			
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	FMFM EXISTING FORCE MA					
	GG EXISTING GAS					
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	BTBTBT EXISTING BURRIED T		NE			
	REMOVE AND REPLACE EXISTING CONCRETE SURFACE		ILL AND RESURFACE SPHALT PAVEMENT			
	REMOVE AND REPLACE EXISTING ASPHALT SURFACE					
×	EXISTING PIPE TO BE REMOVED					
///	EXISTING PIPE TO BE ABANDONED IN PLACE (GROUT FILLED)	600	TREE - MAGNOLIA			
Тн	TAPPING SLEEVE AND VALVE	6	TREE - MAPLE			
ш. Ш	TEE	-				
нон I	LINE STOP ASSEMBLY	6	TREE - CRAPE MYRTLE			
HQH		89	TREE - OAK			
M	VALVE (TYP)	•	TREE - OAK			
Ħ	SLEEVE	Ċ.P	LIGHT POLE			
þ	HDPE / DI ADAPTER	Фрр	POWER POLE			
1	CAP	*				
- N	REDUCER	đ	MAIL BOX (TYP)			
F Q		Ф тн-	# TEST HOLE (TH-1)			
● ♥	AIR RELEASE VALVE ASSEMBLY # UNKNOWN ELEVATION OF FIRE HYDRANT ASSEMBLY EXISTING UTILITY AS INDICATED ON PROFILE SHEETS ON PROFILE SHEETS					
UTILITY PIPE D	ESIGNATION					
SIZE MATL 8" CLAY S	AN (C)					
NOTE: THIS DRAWING WAS PREPARED IN CONFORMANCE WITH ASCE STANDARD CE/ASCE 38-02 "AMERICAN SOCIETY OF CIVIL ENGINEERS STANDARD GUIDELINE FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA"						
<u>CI/ASCE 3802 S</u>	SUBSURFACE UTILITY QUALITY LEVEL IND	EX				
(BOTH HORIZON	A (QLA): UTILITY INFORMATION WHICH HAS BEEN VIS VTALLY AND VERTICALLY) AND ACCURATELY REDUC WN AS A HV VERIFICATION EXCAVATION HOLE.	SUALLY V ED ONTO	/Erified, survey located) The drawings. This is			

- 2. QUALITY LEVEL B (QLB): UTILITY INFORMATION DERIVED BY MARKING THE APPROXIMATE SURFACE URLING THE LOCATION OF UTILITY USING ELECTRONIC METHODS BY THE UTILITY OWNER. MARKINGS BY UTILITY OWNERS ARE ASSUMED TO BE LOCATED BY ELECTRONIC METHODS AND SEPARATE LOCATES WILL NOT BE PERFORMED BY THE ENGINEER. MARKING IS SUBSEQUENTLY FIELD SURVEY LOCATED AND ACCURATELY REDUCED ONTO THE DRAWINGS.
- 3. QUALITY LEVEL C (QLC): UTILITY INFORMATION OBTAINED AS BELOW FOR QUALITY LEVEL D. PLOTTED TO CORRELATE WITH SURFACE UTILITY FEATURES WHICH HAVE BEEN FIELD VERIFIED, SURVEY LOCATED AND ACCURATELY REDUCED ONTO THE DRAWINGS. INCLUDED IN THIS CATEGORY ARE AERIAL UTILITY INFORMATION AND UTILITY DEPICTIONS, WHICH IN THE PROFESSIONAL OPINION OF THE SUBSURFACE UTILITY ENGINEER, REPRESENT THE MOST PROBABLE APPROXIMATE HORIZONTAL LOCATION, TYPE AND / OR EXISTENCE OF A UTILITY.
- 4. QUALITY LEVEL D (QLD): UTILITY INFORMATION PLOTTED ON THE DRAWING BASED SOLELY ON RECORD UNFORMATION, INDIVIDUAL RECOLLECTIONS OR THE EXISTENCE OF UTILITY SERVICE. IT SHALL BE NOTED THAT ALL INFORMATION SHOWN (OTHER THAN AT TEST HOLE LOCATIONS, SEE QLA ABOVE) WITH REFERENCE TO A UTILITIES SIZE, CAPACITY, MATERIAL COMPOSITION, CONDITION OR SERVICE STATUS SHALL BE CONSIDERED QLD EVEN THOUGH THE UTILITY MAY BE PLOTTED AND LABELED QLC OR QLB.

REF:NNNNN REFERENCE MADE TO AN APPLICABLE SECTION(S) OF THE TECHNICAL SPECIFICATIONS FOR THIS PROJECT.

ABBREVIATIONS ASBESTOS CEMENT. AIR CONDITIONER AC ADAPTER ADPT ALT ALUM ALUMINUM APPROX ARV ASPH APPROXIMATELY AIR RELEASE VALVE ASSEMBLY ASPHALT ASSEM AUX B BFO BFP BLV BLDG BM BO BOT BRKT ASSEMBLY BURIED FIBER OPTIC BACKFLOW PREVENTER BUTTERFLY VALVE BASE LINE BUILDING BENCHMAR BLOW OFF BOTTOM BRACKET BALL VALVE CATCH BASIN CENTER LINE TO CENTER LINE CUBIC FEET PER SECOND CURB AND GUTTER CAST IRON PIPE CUT IN SLEEVE CENTER LINE CHAIN LINK FENCE CONCRETE MONUMENT CORRUGATED METAL PIPE CLEAN OUT CONCRETE CONNECT CONSTRUCT CORPORATION COUPLING CHECK VALVE CUBIC YARD DITCH BOTTOM INVERT DOUBLE DEFLECTION DESIGN HIGH WATER DIAMETER DIMENSION DUCTILE IRON PIPE DOWELS DRAWING DRIVEWAY ELECTRIC EACH ELEVATION EMBED OR EMBEDDED EDGE OF PAVEMENT EASEMENT EACH WAY EXISTING EXPANSION JOINT FLOOR DRAIN EXP JT FD FDEP FDOT FA FG FL FT FTG GAL GALV GEN GRD GSP GM GPM FLORIDA DEPT OF ENVIRON PROTECTION FLORIDA DEPT OF TRANSPORTATION FLANGED ADAPTER FINISH FLOOR FLANGED COUPLING ADAPTER FIRE HYDRANT ASSEMBLY FIGURE FLANGE FLOW LINE FORCE MAIN FEET FOOTING GAUGE GALLON GALVANIZED GENERATOR GROUND GALVANIZED STEEL PIPE GAS MAIN GALLONS PER MINUTE GV HB GATE VALVE HOSE BIBB HEADWALL HARNESSED FLANGE COUPLING ADAPTER HEIGHT HDWL HFCA ht HP HORSE POWER HORIZ HWL IE HORIZONTAL HIGH WATER LEVEL INVERT ELEVATION INSIDE DIAMETER INCHES INVERT IRON PIPE JUNCTION BOX JUNC LAT LF JUNCTION LATERAL LINEAR FEET LS LIFT STATION LEFT LOW WATER LEVEL LWL

MATI MATERIAL MCC MOTOR CONTRC MCC MOTOR CONTRC MCC MOTOR CONTRC MFR MAUPACTURER MCD MILLION CALLO MFR MAUPACTURER MCD MOLIFED MCT MAUPACTURER MINIMUM MJ MECHANICAL JC MOD MODIFIED MCT MAUNTERANCE C MTD MOUNTED MCT MAUNTERANCE C MTD MOUNTING NG NATURAL GROU NIC NOT IN CONTR NOM NOMINAL PFT NATURAL PIPE NPW NON-POTABLE NSP NON-POTABLE NSP NON-SLIP PAD NTS NOT TO SCALE OCU ORANGE COUNT OD OUTSIDE DIAME OLU OVERHEAD UTIL OVE OR EQUAL OVE POOR SI OUNDS PERS SPSM PROFESSIONAL OVE POOR OVER ONLE PROP PROPOSED PS PUMP STATION PSI POUNDS PERS PSI POUNDS PARS PSI POUNDS PERS PSI POUNDS P MOTOR CONTROL CENTER MITERED END SECTION MANUFACTURER MILLION GALLONS PER DAY MECHANICAL JOINT MAINTENANCE OF TRAFFIC NATURAL GROUND NOT IN CONTRACT NOMINAL NATIONAL PIPE THREAD NON-POTABLE WATER NON-SLIP PAD NOT TO SCALE ORANGE COUNTY UTILITIES OUTSIDE DIAMETER OVERHEAD UTILITY OUTSIDE TO OUTSIDE OPENING ORLANDO UTILITIES COMMISSION PAVEMENT POINT OF INTERSECTION PHASE PROPERTY LINE PROFESSIONAL LAND SURVEYOR POLYETHYLENE POWER POLE POUNDS PER SQUARE INCH PROFESSIONAL SURVEYOR & MAPPER PERMANENT UTILITY EASEMENT POLYVINYL CHLORIDE PIPE QUANTITY RADIUS RESTRAINED JOINT REINFORCED CONCRETE PIPE REDUCED PRESSURE ZONE RIGHT RECLAIMED WATER RIGHT OF WAY SANITARY SEWER SLEEVE SPECIFICATIONS STAINLESS STEEL STATION STANDARD STEEL SQUARE YARDS TOP AND BOTTOM TEMPORARY BENCHMARK TEMPORARY CONSTRUCTION EASEMENT THREADED THICK TOP OF BANK TOP OF SLAB TOP OF WALL TAPPING SLEEVE AND VALVE UNDERGROUND VOLTAGE ALTERNATING CURRENT VITRIFIED CLAY PIPE VOLTAGE DIRECT CURRENT VERTICAL VERIFIED VERTICALLY & HORIZONTALLY WALL PIPE WATER RECLAMATION FACILITY WATER SERVICE WATER SURFACE WELDED WIRE FABRIC

SHT No	DWG No	INDEX OF DRAWINGS
1	-	COVER SHEET
2		LEGEND, ABBREVIATIONS, UTILITY CONTACTS AND INDEX OF DRAWINGS
3		GENERAL NOTES
4		GENERAL NOTES
5		TOPOGRAPHIC SURVEY
6	V-101	TOPOGRAPHIC SURVEY
7	V-102	TOPOGRAPHIC SURVEY
8	V-103	TOPOGRAPHIC SURVEY
9	V-104	TOPOGRAPHIC SURVEY
10	V-105	TOPOGRAPHIC SURVEY
11	V-106	TOPOGRAPHIC SURVEY
12	V-107	TOPOGRAPHIC SURVEY
13	V-108	TOPOGRAPHIC SURVEY
14	U-100	KEY MAP
15	U-101	DEERFIELD BLVD PLAN AND PROFILE STA 10+00 TO STA 14+60
16	U-102	DEERFIELD BLVD PLAN AND PROFILE STA 14+60 TO STA 20+50
17		DEERFIELD BLVD PLAN AND PROFILE STA 20+50 TO STA 26+20
18		DEERFIELD BLVD PLAN AND PROFILE STA 26+20 TO STA 32+20
19		DEERFIELD BLVD PLAN AND PROFILE STA 32+20 TO STA 38+00
20	U-106	DEERFIELD BLVD PLAN AND PROFILE STA 38+00 TO STA 43+30
21		DEERFIELD BLVD PLAN AND PROFILE STA 43+30 TO STA 49+00
22		DEERFIELD BLVD PLAN AND PROFILE STA 49+00 TO STA 55+00
23		CONSTRUCTION DETAILS
24		CONSTRUCTION DETAILS
25		CONSTRUCTION DETAILS
26		COORDINATE ATTRIBUTE TABLES
27	X-101	COORDINATE ATTRIBUTE TABLES

ORANGE COUNTY DISPATCH
OCU WATER RECLAMATION DIVISION
ORLANDO UTILITIES COMMISSION
ORANGE COUNTY UTILITIES
ORANGE COUNTY PUBLIC WORKS
DUKE ENERGY (TRANSMISSION)
DUKE ENERGY (DISTRIBUTION)
TECO PEOPLES GAS - ORLANDO
COMCAST CABLE COMMUNICATIONS (
CHARTER COMMUNICATIONS
ORLANDO TELEPHONE COMPANY INC
AT&T DISTRIBUTION

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ORANGE COUNTY UTILITIES 9150 CURRY FORD ROAD ORLANDO, FLORIDA 32825

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COUNTY

BFA ntal Consultant . Inc 1230 F. F ndo FL 32 ENGINEERING BUSINESS No. 6899

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FEBRUARY	2018 -	BID	SET

407-836-2777 (24 HOUR ASSISTANCE)

407-254-9680

407-434-2572

407-836-6869

407-836-7804

813-909-1241

352-459-4671

407-420-6609

CATV COMCAST CABLE COMMUNICATIONS (ORLANDO) 407-849-3611 CATV, PHONE LINES - FIBER CHARTER COMMUNICATIONS 407-532-8509 FIBER AND TELEPHONE ORLANDO TELEPHONE COMPANY INC 407-996-6297 TELEPHONE AT&T DISTRIBUTION 407-351-8180 DEERFIELD BLVD FORCE MAIN R/R DESIGN ENGINEER GEOFFREY J. HENNESSY, P.E. PROJECT DATE: FEB 2018 DRAWNING NO. AND. INDEX OF DRAWNINCS							
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<u>58637</u> DRAWING FILE: SEE MARGIN <u>2</u> OF <u>27</u>	LEG		S, UTILITY CONTACTS	GEOFFREY J. HENNESSY	, P.E. PROJECT DA DESIGNED B DRAWN BY:	TE: FEB 2018 Y: GJH JED	G-101

UTILITY OWNER CONTACTS

*ALL WORK AND REQUIREMENTS FROM THE NOTES IN THIS PAGE SHALL BE A REQUIREMENT OF THE CONTRACT AND EXECUTED BY THE CONTRACTOR AT NO ADDITIONAL COST TO ORANGE COUNTY.

OCU STANDARD GENERAL NOTES

- THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHEN EXCAVATING IN PROXIMITY OF WATER MAINS, WASTEWATER FORCE MAINS, GRAVITY MAINS AND RECLAIMED WATER MAINS. MAIN LOCATIONS SHOWN ON PLANS MAY NOT BE EXACT. THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING EXISTING UTILITY LOCATIONS.
- SHOULD A PIPE EMERGENCY OCCUR. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OCU DISPATCH OPERATOR (407-836-2777) AND THE OCU INSPECTOR.
- THE CONTRACTOR SHALL NOTIFY THE OCU CONSTRUCTION DIVISION AT LEAST SEVEN DAYS PRIOR TO COMMENCEMENT OF THE CONSTRUCTION PROJECT BY CALLING (407) 254-9798.
- 4. THE CONTRACTOR SHALL NOTIFY THE OCU CONSTRUCTION DIVISION AT LEAST 48 HOURS PRIOR TO ANY UTILITIES CONSTRUCTION BY CALLING (407) 254-9798.
- THE MATERIALS, PRODUCTS, AND CONSTRUCTION OF ALL UTILITIES CONNECTING TO THE OCU SYSTEM SHALL BE IN CONFORMANCE WITH THE ORANGE COUNTY UTILITIES STANDARDS AND CONSTRUCTION SPECIFICATIONS MANUAL.
- ALL OCU MAINS AND FACILITIES WITHIN THE LIMITS OF THE PROJECT SHALL BE SUPPORTED AND PROTECTED AGAINST DAMAGE DURING CONSTRUCTION.
- THE CONTRACTOR, AT THE CONTRACTOR'S EXPENSE, SHALL IMMEDIATELY REPAIR ALL DAMAGES TO OCU MAINS AND FACILITIES. IF THE REPAIR IS NOT MADE IN A TIMELY MANNER, AS DETERMINED BY OCU, OCU MAY PERFORM REQUIRED REPAIRS AND CLEANUP. THE CONTRACTOR WILL BE CHARGED FOR ALL EXPENSES ASSOCIATED WITH THE REPAIR.
- THE CONTRACTOR SHALL ADJUST ALL EXISTING OCU MAINS AND FACILITIES IN CONFLICT WITH NEW GRADE, NEW OR ALTERED ROADWAYS, SIDEWALKS, DRIVEWAYS, OR STORM WATER IMPROVEMENTS. OCU FACILITIES TO BE ADJUSTED INCLUDE, BUT ARE NOT LIMITED TO PIPELINES. PUMP STATIONS, VALVE BOXES, AIR RELEASE VALVES, FIRE HYDRANTS, MANHOLE COVERS, AND METERS.
- ONLY OCU SHALL OPERATE OCU WATER, WASTEWATER, AND RECLAIMED WATER VALVES. THE CONTRACTOR SHALL COORDINATE VALVE OPERATION WITH THE OCU INSPECTOR. FOR OPERATION OF MAINS NOT OWNED BY OCU. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE WITH THE APPROPRIATE UTILITY REPRESENTATIVE.
- 10. CONSTRUCTION ACTIVITIES SHALL NOT CAUSE INTERRUPTIONS IN WATER, WASTEWATER, OR RECLAIMED WATER SERVICE. THE CONTRACTOR SHALL COORDINATE PRE-APPROVED INTERRUPTIONS OF SERVICE WITH THE OCU INSPECTOR 7 WORKING DAYS IN ADVANCE.
- 11. THE CONTRACTOR SHALL PROVIDE FOR BYPASSING AND/OR HAULING WASTEWATER DURING APPROVED INTERRUPTIONS OF WASTEWATER FLOWS AND CONNECTIONS. THE CONTRACTOR SHALL SUBMIT A BYPASS PLAN SIGNED AND SEALED BY A PROFESSIONAL ENGINEER TO OCU DEVELOPMENT ENGINEERING FOR APPROVAL PRIOR TO IMPLEMENTATION BY CONTRACTOR.
- 12. ALL VALVES INSTALLED AS PART OF THIS CONSTRUCTION PROJECT SHALL REMAIN CLOSED DURING CONSTRUCTION. KEEP VALVES ON ALL WET TAPS CLOSED UNTIL CLEARED BY FDEP. DO NOT CONNECT NEWLY CONSTRUCTED WATER MAINS TO ANY EXISTING WATER MAINS UNLESS CLEARED BY FDEP AND OCU
- 13. THE CONTRACTOR SHALL PROVIDE A JUMPER ASSEMBLY WITH A BACKFLOW PREVENTER FOR MAKING TEMPORARY CONNECTIONS TO AN EXISTING POTABLE WATER SOURCE IN ORDER TO CHI ORINATE AND FLUSH NEW WATER MAINS WITH POTABLE WATER ANY TEMPORARY POTABLE WATER CONNECTIONS TO RECLAIMED WATER OR FORCEMAIN SHALL ALSO BE EQUIPPED WITH A BACKELOW PREVENTER
- 14. FOR PVC PIPE THAT WILL BE OWNED AND MAINTAINED BY OCU, NO PIPE BENDING IS ALLOWED. THE MAXIMUM ALLOWABLE TOLERANCE FOR JOINT DEFLECTION IS 0.75 DEGREES (3-INCHES PER JOINT PER 20 FT STICK OF PIPE.) ALIGNMENT CHANGE SHALL BE MADE ONLY WITH SLEEVES AND FITTINGS.
- 15. FOR NON-PVC PIPE THAT WILL BE OWNED AND MAINTAINED BY OCU, LONG RADIUS CURVES, EITHER HORIZONTAL OR VERTICAL, MAY BE INSTALLED WITH STANDARD PIPE BY DEFLECTIONS AT THE JOINTS. MAXIMUM DEFLECTIONS AT PIPE JOINTS, FITTINGS AND LAYING RADIUS FOR THE VARIOUS PIPE LENGTHS SHALL NOT EXCEED 75 PERCENT OF THE PIPE MANUFACTURER'S RECOMMENDATION.

PROJECT GENERAL NOTES

- 1. ALL UTILITIES FACILITIES CONSTRUCTION CONNECTING TO THE ORANGE COUNTY PUBLIC UTILITIES SYSTEM SHALL CONFORM TO THE ORANGE COUNTY UTILITIES STANDARDS AND CONSTRUCTION SPECIFICATIONS MANUAL, AND BE ONE OF THE APPROVED PRODUCTS LISTED IN APPENDIX 'D' OF THE MANUAI
- 2. COORDINATION AND COMMUNICATIONS WITH ORANGE COUNTY STAFF SHALL BE MADE THROUGH THE ORANGE COUNTY UTILITIES CONSTRUCTION DIVISION INSPECTOR.
- 3. ORANGE COUNTY UTILITIES DEPARTMENT TELEPHONE NUMBERS:

407-836-2777 ORANGE COUNTY UTILITIES DISPATCH 407-254-9798 ORANGE COUNTY UTILITIES CONSTRUCTION DIVISION 407-254-9680 ORANGE COUNTY UTILITIES WATER RECLAMATION DIVISION 407-254-9850 ORANGE COUNTY UTILITIES WATER DIVISION 407-254-9900 ORANGE COUNTY UTILITIES ENGINEERING DIVISION

- SUPPORT AND PROTECT ALL EXISTING UTILITIES. CONTRACTOR SHALL CONTACT UTILITY OWNERS FOR LOCATION OF ALL EXISTING FACILITIES. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH UTILITY OWNERS AND FOR PROVIDING TEMPORARY SUPPORT FOR THE UTILITY POLES, ANCHOR GUYS, AND ALL OTHER UTILITIES DURING CONSTRUCTION.
- 5. IMMEDIATELY AT ONSET OF CONSTRUCTION, CONTRACTOR SHALL FIELD VERIFY HORIZONTAL AND VERTICAL LOCATIONS OF ALL EXISTING UTILITIES CRITICAL TO COMPLETING THE PROJECT (INCLUDING WATER, SEWER, RECLAIMED WATER, POWER, TELEPHONE, GAS, FIBER OPTIC AND CABLE TV) AND SHALL EVALUATE POTENTIAL CONFLICTS IN A WRITTEN REPORT. ANY CONFLICTS SHALL BE REPORTED TO ENGINEER/OWNER IMMEDIATELY UPON DISCOVERY AND DETAILED IN THE REPORT
- CONTRACTOR SHALL COORDINATE WITH ALL OTHER UTILITY OWNERS FOR RESOLUTION OF CONFLICTS. CONTRACTOR SHALL HAVE 48 HOURS TO DETERMINE THE RESOLUTION OF ANY UNKNOWN OR UNFORESEEN CONFLICTS. COSTS INCURRED SHALL BE BORNE BY THE UTILITY OWNER AND/OR CONTRACTOR AND NO CLAIMS MAY BE MADE AGAINST ORANGE COUNTY OR THE ENGINEER FOR THESE CONFLICTS. NO ADDITIONAL COMPENSATION SHALL BE MADE FOR THE PERIOD OF TIME TO RESOLVE ANY CONFLICTS.
- USE EXTREME CAUTION WHEN EXCAVATING OR CONNECTING TO ASBESTOS CEMENT PIPE. THE 7 CONTRACTOR WILL BE REQUIRED TO SUPPLY TRUCKS CAPABLE OF PUMPING OUT THE PUMP STATION UPSTREAM FROM BREAKS OR CONNECTION POINT. WHEN CONNECTING TO ASBESTOS CEMENT WATER MAIN OR FORCE MAIN THE CONTRACTOR IS REQUIRED TO REPLACE ANY DAMAGED LENGTHS OF PIPE. THE AMOUNT OF REPLACED PIPE WILL BE DETERMINED BY THE ORANGE COUNTY UTILITIES INSPECTOR.
- ALL EXISTING AND NEW OCU WATER AND SEWER VALVES, VALVE BOXES, AND MANHOLES SHALL BE 8. PROTECTED AND ADJUSTED TO FINISHED GRADE AS SHOWN ON THE DRAWINGS. VALVE AND VALVE BOXES SHALL REMAIN ACCESSIBLE AT ALL TIMES. ANY VALVES THAT MIGHT BE COVERED DURING CONSTRUCTION SHALL BE MARKED WITH A MARKER (GREEN FOR SEWER, BLUE FOR WATER, AND PURPLE FOR RECLAIMED WATER MAIN), A MINIMUM OF FOUR (4) FEET ABOVE GRADE. ALL VALVES UNDER CONSTRUCTION ARE TO REMAIN CLOSED DURING CONSTRUCTION.
- 9. ALL PVC WATER AND SEWER MAIN AND RECLAIMED WATER MAIN SHALL CONFORM TO AWWA C900, DR 18, OR C905, DR 25. ALL DUCTILE IRON WATER MAIN PIPE SHALL CONFORM TO ANSI/AWWA A21.51/C151. ALL PVC PRESSURE PIPE SHALL USE DUCTILE IRON FITTINGS.
- 10. ALL PROPOSED DUCTILE IRON MECHANICAL JOINT FITTINGS, PIPES, OR PIPE RESTRAINTS WITHIN FORTY (40) FEET OF EXISTING GAS MAINS SHALL BE POLYETHYLENE ENCASED.
- 11. ALL BACKFILL SHALL BE COMPACTED TO NOT LESS THAN 95% OF MAXIMUM DRY DENSITY AS MEASURED BY AASHTO T-180 METHOD 'D' TEST (MODIFIED PROCTOR) IN OPEN AREAS AND TO NOT LESS THAN 98% MAXIMUM DRY DENSITY AS MEASURED BY AASHTO T-180 METHOD 'D' TEST (MODIFIED PROCTOR) UNDER ASPHALT OR CONCRETE PAVEMENT AND WITHIN 3-FT OF PAVEMENT. ALL SOIL TESTING TO BE CONDUCTED BY THE COUNTY. THE CONTRACTOR SHALL PROVIDE ALL REASONABLE ASSISTANCE DURING SOIL TESTING.
- 12. PIPE LENGTHS SHOWN ON PLANS ARE APPROXIMATE. ACTUAL LENGTHS ARE TO BE DETERMINED DURING CONSTRUCTION.
- 13. ALL NORTHING AND EASTING COORDINATES ARE BASED ON THE STATE PLANE COORDINATE SYSTEM, STATIONING IS FOR REFERENCE ONLY.

- DRIVEWAY CLOSURE.

18. ALL PIPES SHALL BE RESTRAINED IN ACCORDANCE WITH THE RESTRAINT TABLES SHOWN ON THE DETAIL SHEETS. IN ADDITION, ALL FITTINGS SHALL BE MECHANICAL JOINT RESTRAINED. NO THRUST BLOCKS SHALL BE PERMITTED. RESTRAIN EXISTING PIPE WHERE REQUIRED IN ACCORDANCE WITH THE RESTRAINT TABLES AND THRUST COLLAR DETAIL.

20. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DE-WATERING REQUIRED DURING CONSTRUCTION AND TO OBTAIN AND PAY FOR ALL PERMITS REQUIRED FOR THE TEMPORARY DE-WATERING.

- INSTALLATION.

DISINFECTION AND VERIFICATION OF RESTRAINT ON EXISTING PIPE. B. ESTIMATED CONSTRUCTION TIME FOR THE CONNECTIONS. THE OWNER SHALL REVIEW THE SUBMITTAL WITHIN FIVE (5) WORKING DAYS AFTER RECEIVING IT AND INFORM THE CONTRACTOR REGARDING APPROVAL OR DENIAL OF THE REQUEST. IF THE OWNER REJECTS THE REQUEST. THE CONTRACTOR SHALL RESUBMIT THE REQUEST MODIFYING IT IN A MANNER ACCEPTABLE TO THE OWNER. ALL CONNECTIONS SHALL ONLY BE MADE ON THE AGREED UPON DATE AND TIME. SHOULD THE CONTRACTOR NOT INITIATE AND COMPLETE THE CONNECTION WORK IN THE AGREED UPON MANNER, HE SHALL BE REQUIRED TO RESCHEDULE THE CONNECTION BY FOLLOWING THE PROCEDURE OUTLINED ABOVE. THE CONTRACTOR SHALL NOT OPERATE ANY VALVES IN THE SYSTEM. MAINS SHALL

- CHLORINATION.

 - OR BETTER CONDITION.

No.	REVISIONS	BY	DATE	
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				AT FULL SIZE = 11X17
				(IF NOT SCALE ACCORDINGLY)
	BID SET	GJH	FEB-2018	SCALE: AS NOTED

BFA Environmental Consultants ndo FL 38 ENGINEERING BUSINESS No. 6899

GENERAL

DEERFIELD BLVD FO

COUNTY

riday, February 16, 2018 9:02:55 AM F:\CIVIL/PROJECTS\2014\2014-28 OCU Cont Eng Services\14-28.21 Deerfield Force Main\5.0 Drawings\2014-28-21 Deerfield G-102 dwg

14. MAINTAIN EMERGENCY VEHICLE ACCESS TO ALL BUSINESSES AND RESIDENCES AT ALL TIMES.

15. IN AREAS WHERE CONSTRUCTION ACTIVITIES RESTRICT NORMAL ACCESS TO PROPERTIES. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN ALTERNATE ACCESS ROUTES WHICH ARE SUBJECT TO APPROVAL BY THE ENGINEER, AS PART OF THE M.O.T. PLAN.

16. LOCAL RESIDENTIAL ACCESS SHALL BE MAINTAINED AT ALL TIMES. PROVIDE WRITTEN NOTIFICATION TO RESIDENTS SEVEN (7) DAYS PRIOR TO IMPLEMENTING ANY ROADWAY OR

17. ALL EXCAVATIONS SHALL BE BACK FILLED AT THE END OF EACH WORK DAY.

19. PIPE SIZES SHOWN ON PLANS ARE NOMINAL DIAMETER.

21. REPLACEMENT WATER SERVICE CONNECTIONS SHALL INCLUDE THE REPLACEMENT OF THE EXISTING WATER METER BOXES WHICH ARE TO BE PROVIDED BY ORANGE COUNTY UTILITIES AND INSTALLED BY THE CONTRACTOR. THE CONTRACTOR SHALL COORDINATE WITH COUNTY FOR THE SPECIFIC INSTALLATION LOCATION OF METER BOXES. FOR REROUTING WATER SERVICE ON PRIVATE PROPERTY THE CONTRACTOR SHALL RELOCATE EXISTING METERS TO NEW METER BOXES WHERE INDICATED ON THE DRAWINGS.

22. THE CONTRACTOR SHALL INSTALL LONG WATER SERVICE CONNECTION PIPING UNDER PAVEMENT USING TRENCHLESS CONSTRUCTION METHODS. WATER SERVICE CONNECTIONS CROSSING UNDER ANY PART OR ALL OF ROADS SHALL BE INSTALLED IN A PVC CASING PIPE.

23. WHERE SHOWN ON THE PLANS, LINE STOPS WILL BE USED TO ISOLATE PORTIONS OF THE EXISTING MAINS. THE ORANGE COUNTY INSPECTOR SHALL BE NOTIFIED 5 DAYS IN ADVANCE OF LINE STOP

24. ALL CONNECTIONS TO EXISTING MAINS SHALL BE MADE BY THE CONTRACTOR ONLY AFTER THE PROPOSED CONNECTION PROCEDURE AND WORK SCHEDULE HAVE BEEN REVIEWED AND ACCEPTED BY THE OWNER. THE CONTRACTOR SHALL SUBMIT A WRITTEN REQUEST TO THE OWNER A MINIMUM OF SEVEN (7) WORKING DAYS PRIOR TO SCHEDULING ANY CONNECTIONS. THE REQUEST SHALL REFERENCE THE PROFESSIONAL LAND SURVEYOR CERTIFIED COMPLETED AS-BUILT RECORD DRAWINGS PREVIOUSLY SUBMITTED AND SHALL OUTLINE THE FOLLOWING: A. POINTS OF CONNECTION, FITTINGS TO BE USED, METHODS OF FLUSHING AND

NOT BE PLACED IN SERVICE UNTIL CLEARANCE IS RECEIVED FROM FDEP. AS-BUILT DRAWINGS MUST BE COMPLETED AND SUBMITTED PRIOR TO WATER MAIN

25. ALL EXISTING VALVES, VALVE BOXES, ARV'S AND VAULTS, AND FIRE HYDRANTS LOCATED ON PIPE DESIGNATED TO BE ABANDONED (OR RETIRED IN PLACE) SHALL BE REMOVED AND DISPOSED OF OR SALVAGED IN ACCORDANCE WITH THE SPECIFICATIONS.

26. PROTECT EXISTING IMPROVEMENTS TO THE MAXIMUM EXTENT POSSIBLE. RESTORE ALL EXISTING IMPROVEMENTS AND DISTURBED AREAS TO ORIGINAL CONDITION. PAVEMENT TO BE RESTORED IN ACCORDANCE WITH THE PAVEMENT RESTORATION DETAILS SHOWN ON THE CONSTRUCTION DETAIL SHEETS. ALL DAMAGED MAILBOXES, IRRIGATION SYSTEMS, SOD, LANDSCAPING, FENCING, SIDEWALK, ROADWAY PAVEMENT AND OTHER IMPROVEMENTS SHALL BE RESTORED TO ORIGINAL

DESIGN ENGINEER	PROJECT No.: 2014-28-21	DRAWING No.
GEOFFREY J. HENNESSY, P.E.	PROJECT DATE: FEB 2018	
	DESIGNED BY: GJH	G-102
	DRAWN BY: JED	0 102
FLORIDA REGISTRATION NO.	CHECKED BY: CKM	SHEET
58637	DRAWING FILE: SEE MARGIN	<u>3</u> OF <u>27</u>
	GEOFFREY J. HENNESSY, P.E.	GEOFFREY J. HENNESSY, P.E. PROJECT DATE: FEB 2018 DESIGNED BY: GJH DRAWN BY: JED FLORIDA REGISTRATION NO. CHECKED BY: CKM

*ALL WORK AND REQUIREMENTS FROM THE NOTES IN THIS PAGE SHALL BE A REQUIREMENT OF THE CONTRACT AND EXECUTED BY THE CONTRACTOR AT NO ADDITIONAL COST TO ORANGE COUNTY.

GENERAL NOTES CONT'D

- 27. FOR ALL COUNTY ROADS TO BE OPEN CUT, THE CONTRACTOR SHALL SUBMIT A MAINTENANCE OF TRAFFIC (MOT) PLAN CONFORMING TO ORANGE COUNTY RIGHT-OF-WAY UTILIZATION REGULATIONS TO ORANGE COUNTY PUBLIC WORKS A MINIMUM OF FOURTEEN (14) DAYS PRIOR TO ANY WORK WITHIN COUNTY RIGHT-OF-WAY. A COPY OF THIS PLAN SHALL ALSO BE SUBMITTED TO THE ENGINEER AND UTILITY COUNTY INSPECTOR. NOTIFY THE COUNTY ENGINEER 48 HOURS PRIOR TO ANY OPEN CUT OF ROADWAYS WITHIN THE COUNTY RIGHT-OF-WAY. TWO WAY TRAFFIC MUST BE MAINTAINED AT ALL TIMES DURING THE COURSE OF CONSTRUCTION. MAINTAIN A SET OF COUNTY APPROVED CONSTRUCTION PLANS AND MOT PLANS AT THE CONSTRUCTION SITE AT ALL TIMES WHEN WORKING WITHIN THE COUNTY RIGHT-OF-WAY.
- 28. BENCHMARK LOCATIONS AND ELEVATIONS ARE SHOWN IN THE PLANS AS REPRESENTED BY THE SURVEYOR AT THE TIME OF SURVEY. CONTRACTOR SHALL VERIFY ITS CORRECTNESS AT THE TIME OF CONSTRUCTION AND INSTALL HIS OWN TEMPORARY BENCHMARKS. ANY DISCREPANCIES SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE OCU UTILITIES INSPECTOR.
- 29. NO VALVE BOXES, METERS, PORTIONS OF MANHOLES, OR OTHER APPURTENANCES OF ANY KIND RELATING TO ANY UNDERGROUND UTILITIES SHALL BE LOCATED IN ANY PORTION OF A CURB-AND-GUTTER SECTION. CONTRACTOR SHALL ADVISE ENGINEER IMMEDIATELY UPON DISCOVERY OF A POTENTIAL CONFLICT.
- 30. WHERE REQUIRED, AT NO ADDITIONAL COST TO THE COUNTY, THE CONTRACTOR SHALL USE TEMPORARY SHEETING OR TRENCH BOXES TO MINIMIZE THE SIZE OF EXCAVATIONS AND PROTECT EXISTING ROADWAYS, UTILITIES AND OTHER FACILITIES OR AS NEEDED TO REMAIN WITHIN THE LIMITS OF CONSTRUCTION. CONTRACTOR TO COMPLY WITH OSHA TRENCH SAFETY REQUIREMENTS AT ALL TIMES.
- 31. ALL EXISTING MAINS SHALL REMAIN IN SERVICE UNTIL THE PROPOSED MAIN(S) ARE ACCEPTED FOR SERVICE AND ALL SERVICES ARE TRANSFERRED TO THE MAIN(S).
- 32. CONTRACTOR SHALL APPLY FOR AND SECURE ALL NECESSARY PERMITS FROM STATE, COUNTY, AND LOCAL MUNICIPALITIES. PERMITS SHALL INCLUDE, BUT NOT BE LIMITED TO, RIGHT OF WAY USE, CONSTRUCTION, BUSINESS LICENSE, AND DEWATERING.
- 33. EXISTING SIDEWALKS AND CURB RAMPS SCHEDULED TO BE REMOVED AND REPLACED SHALL BE RECONSTRUCTED 5 FEET WIDE TO CURRENT ADA STANDARDS. SIDEWALKS SHALL BE CONSTRUCTED IN ACCORDANCE WITH FDOT INDEX 310, AND CURB RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE WITH FDOT INDEX 304.
- 34. THE DISPOSAL OF ANY EXCESS EARTH WORK MATERIAL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- 35. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER SALVAGE AND/OR DISPOSAL OF ALL MATERIALS AND EQUIPMENT IN ACCORDANCE WITH THE SPECIFICATIONS AND AS DIRECTED BY THE ORANGE COUNTY UTILITIES INSPECTOR.
- 36. EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED PRIOR TO, OR AS THE FIRST STEP IN CONSTRUCTION AND ARE THE MINIMUM REQUIRED. CONTRACTOR SHALL FURNISH ADDITIONAL CONTROLS AS NEEDED AT NO ADDITIONAL COST. MATERIALS FROM WORK ON THIS PROJECT SHALL BE CONTAINED AND NOT ALLOWED TO COLLECT ON ANY OFF PERIMETER AREAS OR IN WATERWAYS. SILK SCREENS, HAY BALES, AND TURBIDITY BARRIERS MUST REMAIN IN PLACE AND IN GOOD CONDITION AT ALL LOCATIONS IN PLANS OR AS REQUIRED UNTIL THE CONTRACT IS COMPLETED AND SOILS ARE STABILIZED AND VEGETATION IS ESTABLISHED. MEASURES SHOWN ON THE PLANS ARE MINIMUM REQUIRED, AND THE CONTRACTOR SHALL ENSURE THAT THERE IS NO DIRECT OR INDIRECT DISCHARGE OF CONSTRUCTION MATERIALS IN TURBID WATERS TO OFF SITE AREAS OR WATERWAYS.
- 37. THE CONTRACTOR SHALL BE AWARE THERE IS PRIVATELY OWNED IRRIGATION SYSTEMS OWNED AND MAINTAINED BY THE DEERFIELD COMMUNITY ASSOCIATION WITHIN THE RIGHT-OF-WAY AND UTILITY EASEMENTS ALONG THE NORTH SIDE OF DEERFIELD BOULEVARD. THE COST OF COORDINATING, PROTECTING, REPAIRING AND/OR REPLACING THESE IRRIGATION SYSTEMS SHALL BE INCLUDED IN THE APPLICABLE PAY ITEMS SPECIFIED IN SECTION 01025, MEASUREMENT AND PAYMENT.

38.	DEERFIELD COMMUNITY ASSOCIATION IS MANAGED BY:
	DON ASHER AND ASSOCIATES, INC.
	KAREN McCUMMIN
	1801 COOK AVENUE
	ORLANDO, FLORIDA 32806
	(407) 425-4561

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	BID SET	GJH	FEB-2018	, SC

- 39. ORANGE COUNTY PUMP STATION #3468 OPERATING CONDITION IS APPROXIMATELY 510 G.P.M. AT 73' T.D.H. CONTRACTOR SHALL PROVIDE TEMPORARY 8-INCH BY-PASS PIPING CAPABLE OF MAINTAINING A FLOW RATE OF 510 G.P.M. WITH PRESSURES THAT COULD RANGE FROM 20 P.S.I. TO 50 P.S.I.
- 40. BY PASS PIPING SHALL BE RESTRAINED JOINT PVC WITH DUCTILE IRON FITTINGS OR FUSED HDPE PIPE WITH FUSED HDPE FITTINGS. LAYFLAT HOSE IS NOT ACCEPTABLE.
- 41. THE CONTRACTOR SHALL BE AWARE THAT JOHN YOUNG ELEMENTARY SCHOOL IS LOCATED APPROXIMATELY 750 FEET NORTH OF THE INTERSECTION OF DEERFIELD BOULEVARD AND MARSFIELD AVENUE. THE SCHOOL IS ACCESSED VIA MARSFIELD AVENUE. IN ACCORDANCE WITH SPECIFICATION SECTION 01570 - MAINTENANCE OF TRAFFIC, THE CONTRACTOR SHALL BE REQUIRED TO UTILIZE UNIFORMED POLICE OFFICERS FOR ROAD CLOSURES AFFECTING SCHOOL TRAFFIC AND DURING ALL NIGHT WORK INVOLVING A ROAD CLOSURE OR CROSSING ON NONRESIDENTIAL ROADS.
- 42. ANY WORK IMPACTING MARSFIELD AVENUE, INCLUDING PAVEMENT REMOVAL AND REPLACEMENT, AND UTILITY CONSTRUCTION SHALL BE PERFORMED ON SATURDAYS ONLY BETWEEN THE HOURS OF 7:00 AM AND 4:00 PM. MARSFIELD AVENUE SHALL BE OPENED TO TRAFFIC BY 4:00 PM.
- 43. ANY WORK IMPACTING THE HOLY CROSS CATHOLIC CHURCH DRIVEWAY, INCLUDING PAVEMENT REMOVAL AND REPLACEMENT, AND UTILITY CONSTRUCTION SHALL NOT BE PERFORMED AFTER 4:00 PM ON SATURDAYS AND SHALL NOT BE PERFORMED AT ANY TIME ON SUNDAYS.



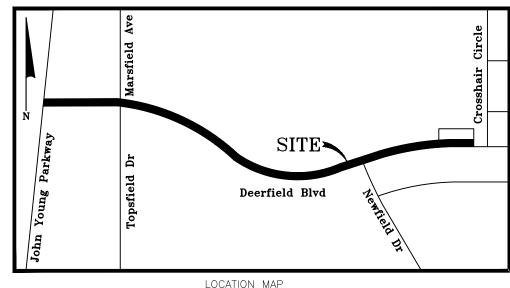
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Friday, February 16, 2018 9:02:55 AM F:(CIVIL)PROJECTS)2014/2014-28 OCU Cont Eng Services)14-28.21 Deerfield Force Main)5.0 Drawings)2014-28-21 Deerfield G-103.dwg

ORCE MAIN R/R	DESIGN ENGINEER	PROJECT No.: 2014-28-21	DRAWING No.
	GEOFFREY J. HENNESSY, P.E.	PROJECT DATE: FEB 2018	
		DESIGNED BY: GJH	G-103
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NOTEO	FLORIDA REGISTRATION NO.	CHECKED BY: CKM	SHEET
	58637	DRAWING FILE: SEE MARGIN	<u>4</u> OF <u>27</u>

TOPOGRAPHIC SURVEY

ORANGE COUNTY, FLORIDA.



Surveyor's Notes

1. This Topographic Survey is not valid unless signed and embossed with the raised seal of a Florida licensed Surveyor and Mapper.

NOT TO SCALE

- 2. Lands were not researched by this firm for matters such as ownership, easements, right of way or other matters in the public records that may affect these lands. A title report was not provided for this survey.
- 3. Coordinates are relative to the Florida State Plane Coordinate System, East Zone, North American Datum of 1983/1990 Adjustment.
- 4. Elevations shown hereon are relative to North American Vertical Datum of 1988 (NAVD 88) with direct ties to the following published Orange County benchmarks:

A1481009 - Elevation 91.294'

3 1/2"" Orange County alum disc in concrete curb inlet at North side of "T" intersection of Deerfield Drive. & Newfield Drive. +/-25 ft north of the c/l of Deerfield Dr. +/-25 ft west of the c/l of Newfield Dr. (West).

A1481011 - Elevation 90.444'

3 1/2"" Orange County alum disc in concrete curb inlet at Northwest corner of "T" intersection of Deerfield Dr. & Crosshair Cr. +/-25 ft North of the c/l Deerfield Drive +/-35 ft West of the c/l of Crosshair Cr.

- 5. Last day in the field: November 22, 2017.
- 6. Graphic symbols shown hereon may not be to scale.
- 7. This Topographic Survey is certified true and correct to: Orange County Utilities.
- 8. Apparent Right of Way line determination is based on public record documents and recovered monumentation in the area of this survey.
- 9. This Topographic Survey is intended to depict existing features from the centerline of Deerfield Boulevatd to at least ten feet beyond the northerly right of way.
- 10. Underground utilities were designate by this firm and depicted as Quality Level B. Excavated utilities are depicted by a test hole symbol that represents Quality Level A.



<u>LEGEND</u>

ASPH - ASPHALT

CONC - CONCRETE

INV - INVERT

FND - FOUND

EL – ELEVATION

PB – PLAT BOOK PG – PAGE

R/W - RIGHT OF WAY IRC - IRON ROD AND CAP IP - IRON PIPE

CPP - CORRUGATED PLASTIC PIPE

DE – DRAINAGE EASEMENT

LB – LICENSED BUSINESS

MES - MITERED END SECTION

 □
 WATER
 VALVE

 □
 WATER
 Meter

 □
 IRRIGATION
 VALVE

 □
 FIRE
 HYDRANT

 □
 ELECTRIC
 HAND
 HOLE

 □
 TELEPHONE
 HAND
 HOLE

 □
 COMMUNICATIONS
 BOX

 □
 COMMUNICATIONS
 BOX

- TRAFFIC SIGNAL BOX

PCP - PERMANENT CONTROL POINT

- RECLAIM WATER MARKER

● - SET NAIL & DISK LB#7774

- ELECTRIC TRANSFORMER

- SURVEY CONTROL POINT

◎ - SET 5/8" IRON ROD & CAP LB#7774

DUE - DRAINAGE AND UTILITY EASEMENT

PK – PARKER KALON NAIL

🖾 – CABLE TV PEDESTAL

ARV – AIR RELEASE VALVE RCW – RECLAIM WATER METER ₩ – RECLAIM WATER VALVE (R) – RECLAIM WATER MARKEI (P) – FIBER OPTIC MARKER

ID - IDENTIFICATION

🖏 – WATER VALVE

TRAFFIC SIGN

🌣 – LIGHT POLE

& - CLEANOUT

→ → METAL SIGN → → MAIL BOX → ELECTRIC T ■ → ELECTRIC N → → SURVEY CO

E

- METAL SIGN

- ELECTRIC BOX

- ELECTRIC METER

- DRAINAGE MANHOLE

- SANITARY MANHOLE

- FIBER OPTIC HAND HOLE

🛍 – DOGGIE STATION

они — – OVERHEAD UTILITY LINE

⊙6" OAK - TREE (SIZE, TYPE)

- RWM (B)- - RECLAIM WATER MAIN

-BT (B)- - BURIED TELEPHONE LINE

-BE (B)- BURIED ELECTRICAL LINE

🕱 TH9 – TEST ĤOLE

- UNK - - UNKNOWN

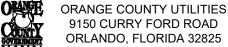
— wm (b)— – WATER MAIN

-FM (B)- - FORCE MAIN

ND - NAIL AND DISK

UE - UTILITY EASEMENT

RCP - REINFORCED CONCRETE PIPE



Inc do FL 32 ENGINEERING BUSINESS No. 689

Surveyor Certification

DEERFIELD BLVD FO

TOPOGRAPHI

TEST HOLE DATA					
Horizontal		(Presumed)			
Coordinates	Elevation (ft)	Utility Owner	Size, Material & Type		
N 1471625.61					
E 519471.74	79.45	OCU	10" PVC Force Main		
N 1471625.61					
E 519471.74	84.55	OCU	3/4" Direct Bury Fiber Optic Cable (2)		
N 1471614.03					
E 519473.05	85.60	AT&T	1" Direct Bury Fiber Optic Cable		
N 1471614.03					
E 519473.05	86.45	AT&T	3/4" Direct Bury Fiber Optic Cable		
N 1471614.03					
E 519473.05	84.90	AT&T	3/4" Direct Bury Fiber Optic Cable		
N 1471569.81					
E 520274.68	86.20	OUC WATER	12" Ductile Iron Water Line		
N 1471559.67					
E 520325.44	88.41	DUKE	2" Buried Electric		
N 1471559.67					
E 520325.44	87.68	AT&T	3/4" Direct Bury Fiber Optic Cable		
N 1470749.25					
E 521718.65	87.16	OCU	8" White PVC Force Main		
N 1470724.35					
E 521767.91	86.86	OCU	8" White PVC Force Main		
N 1470640.50					
E 522027.01	87.52	DUKE	2" Buried Electric (2) & 1" Buried Electric		
N 1470611.47					
E 522123.42	89.78	AT&T	2" Direct Bury Fiber Optic Cable		
N 1470611.47					
E 522123.42	87.52	AT&T	4" Steel Casing Fiber Optic Cable		
N 1470711.94					
E 523233.42	89.37	AT&T	1" Direct Bury Fiber Optic Cable		
N 1471554.65					
E 520136.03	87.45	AT&T	3/4" Direct Bury Fiber Optic Cable		
N 1471554.65					
E 520136.03	87.92	DUKE	2-1/2" PVC Buried Electric		
N 1470718.19					
E 523281.73	86.18'	OCU	10" White PVC Force Main		
N 1470710.46					
E 523235.77	83.88'	OCU	10" White PVC Force Main		
	ALL ELEVA	ATIONS ARE TO TOP	OF UTILITY		
	Field work	performed Novem	ber 22, 2017		
	PVC	Polyvinyl Chloride			
TH-# Test Hole #					

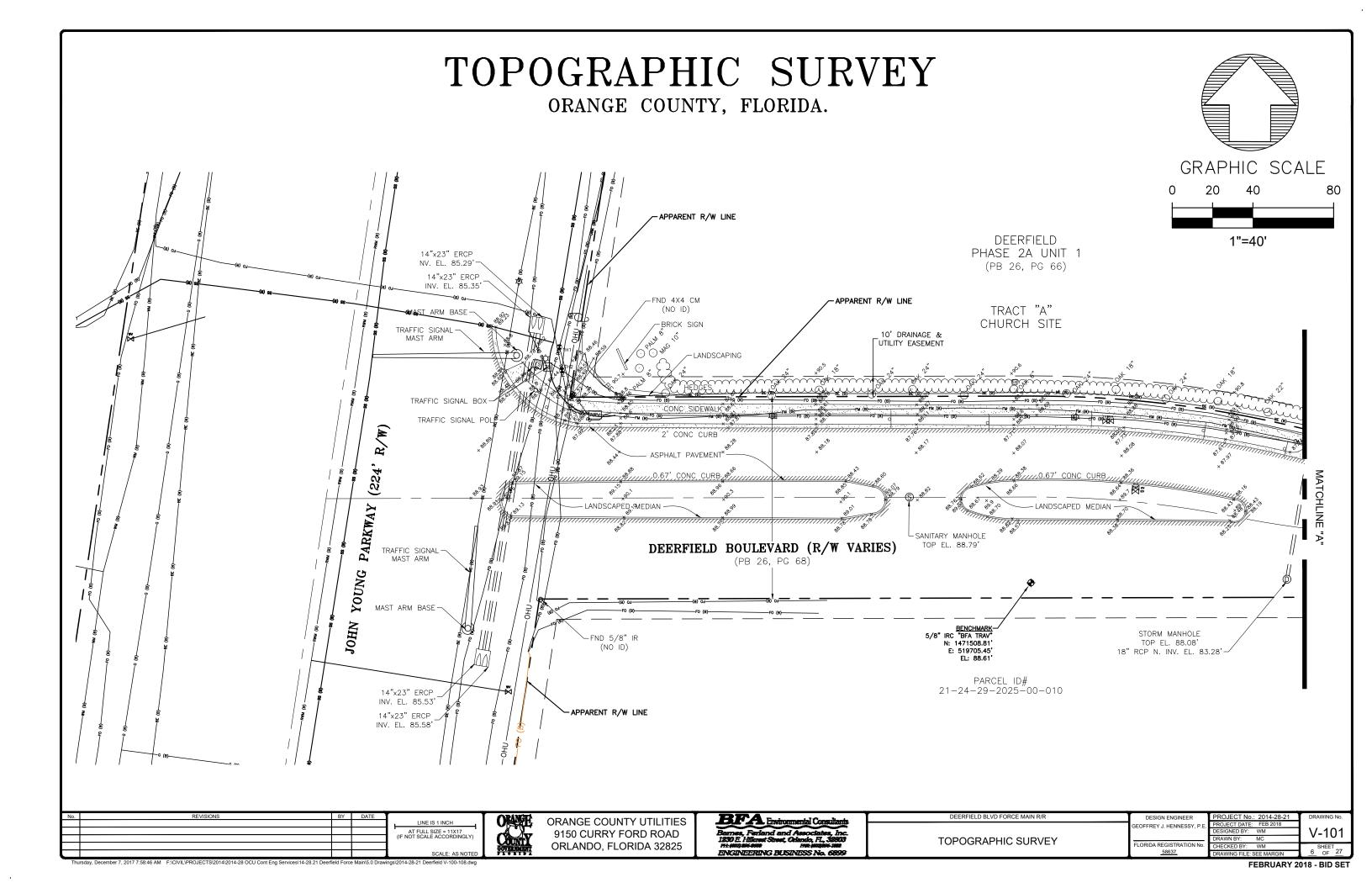
TEST HOLE DATA

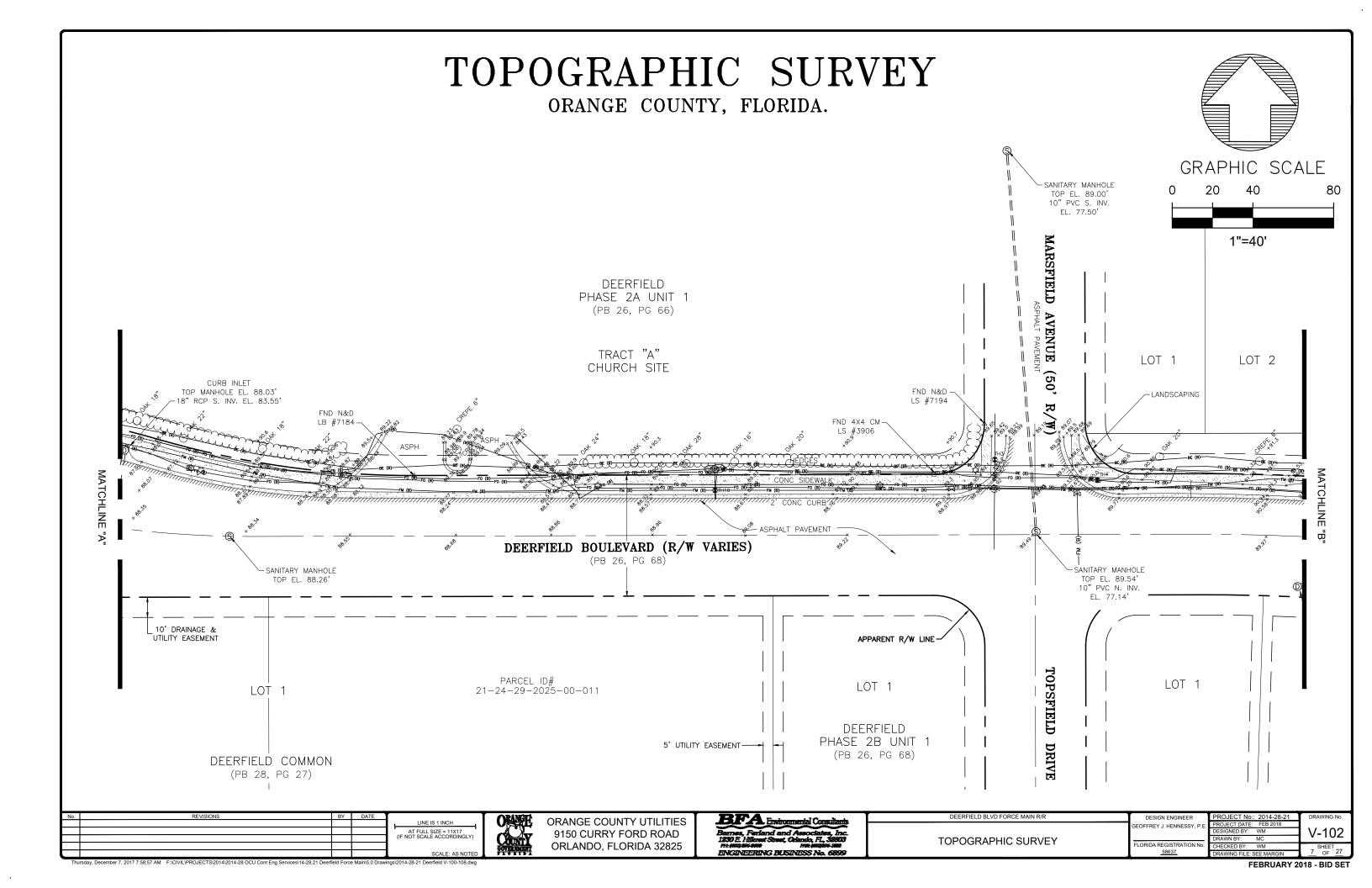
This Topographic Survey was prepared under my direction and is true and correct to the best of my knowledge and belief. This Topographic Survey was performed in conformance with the "Standards of Practice" as contained in Chapter 5J-17, Florida Administrative Code, pursuant to Florida Statute 472.

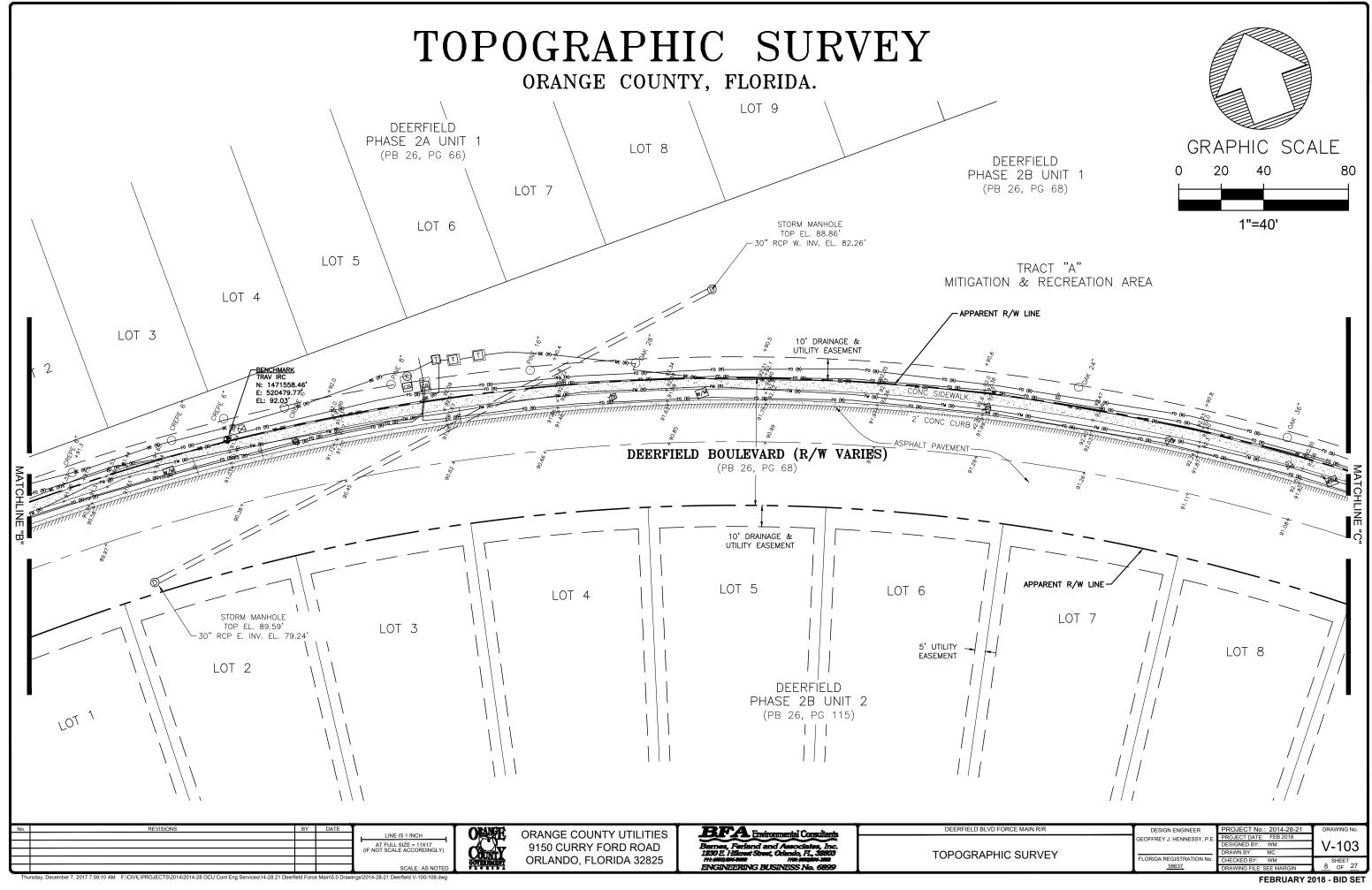
> William L. Miller, PLS Date Florida Surveyor and Mapper LS 5010 Barnes Ferland and Associates LB 7774

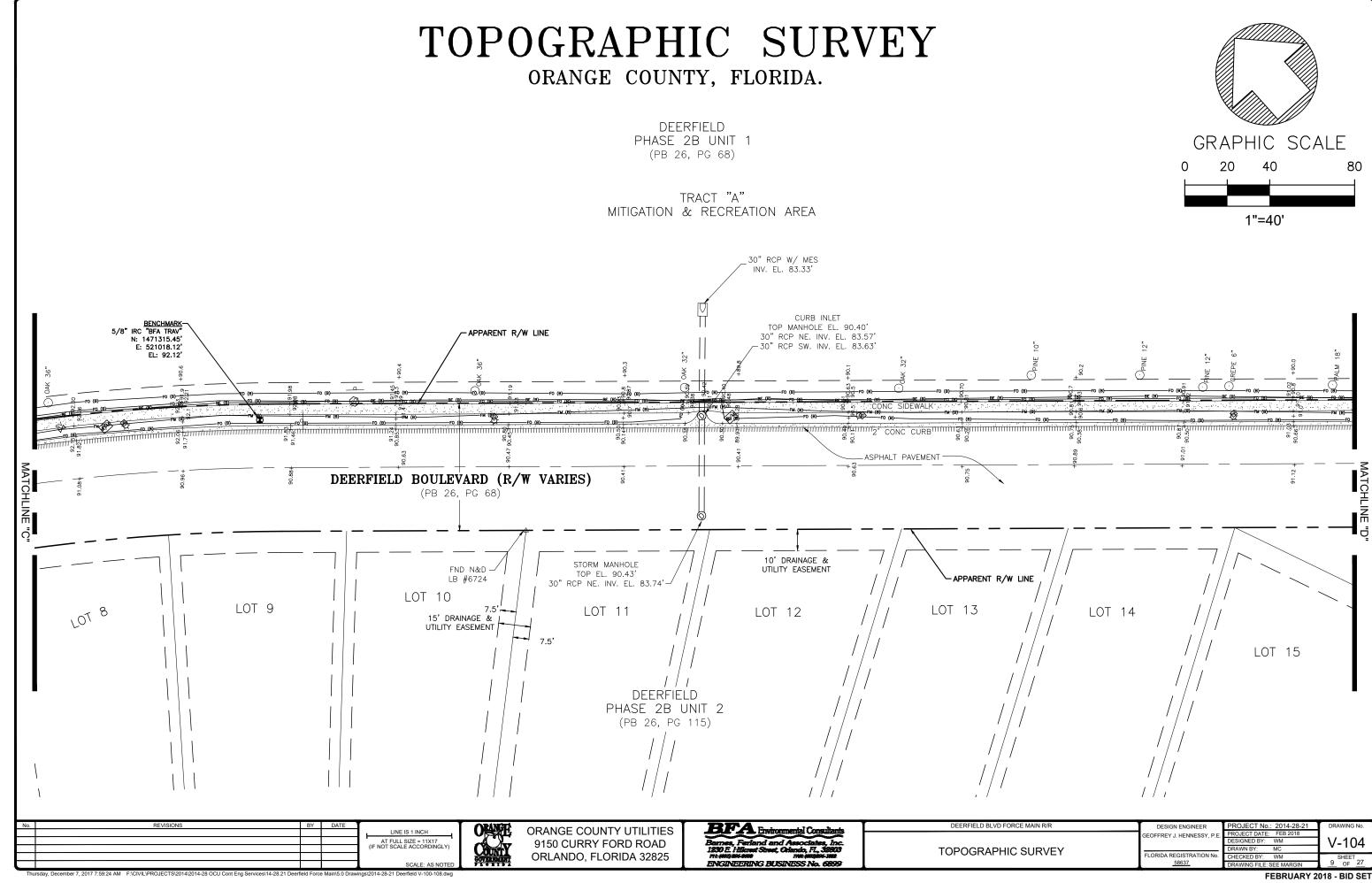
*Not valid without the signature and original raised seal of the Florida licensed surveyor and mapper

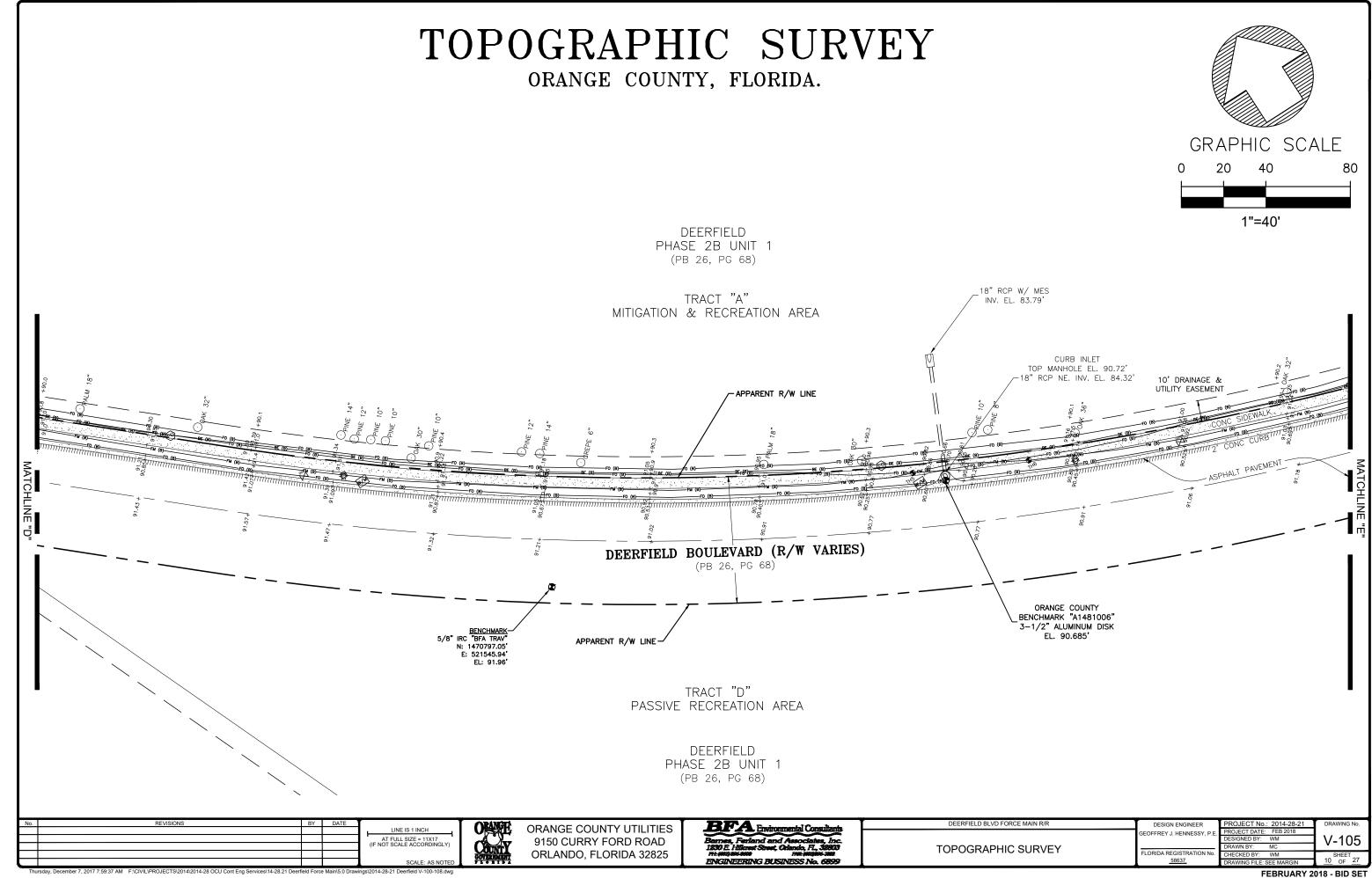
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	GEOFFREY J. HENNESSY, P.E.	PROJECT DATE: FEB 2018	
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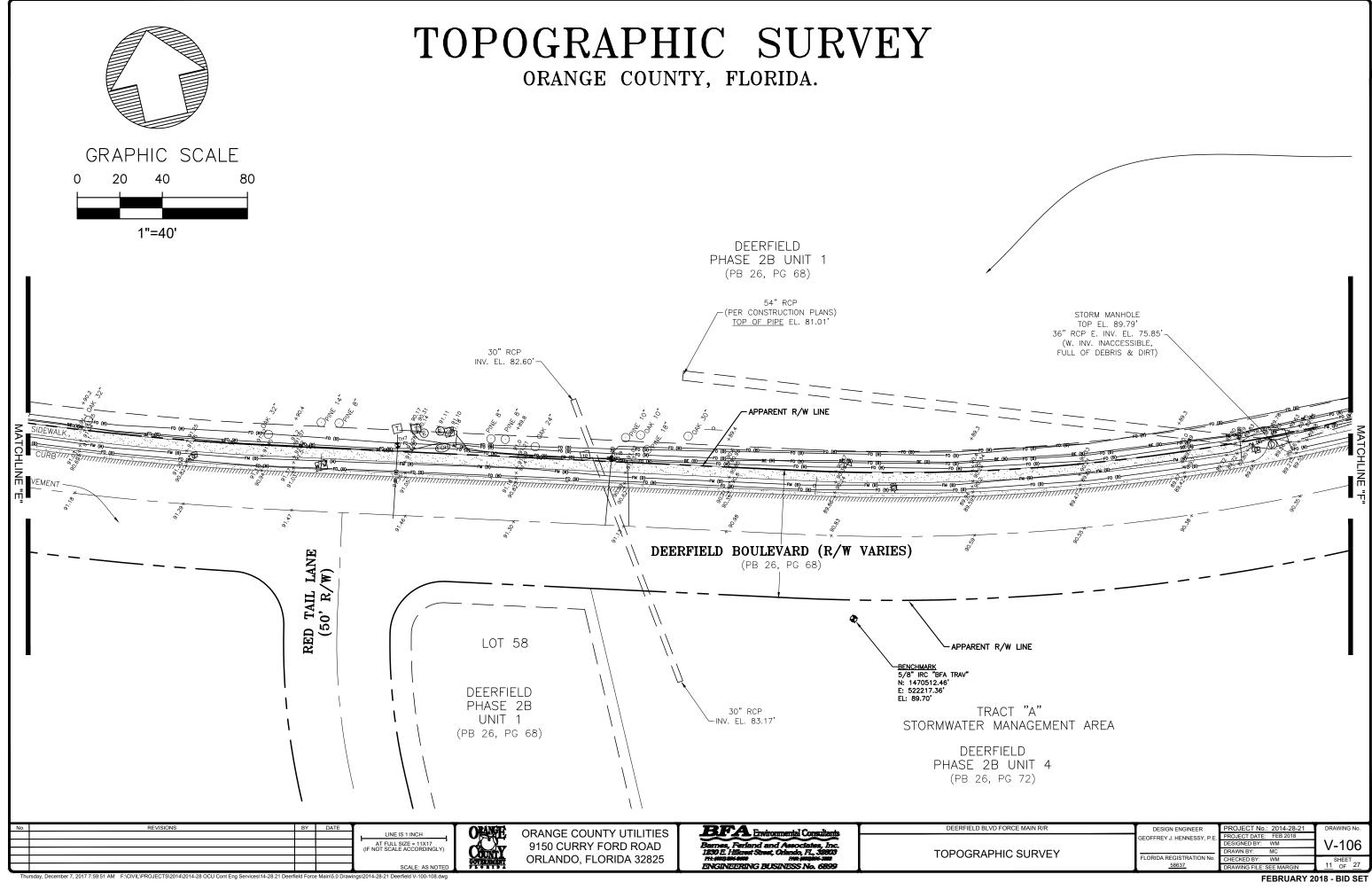


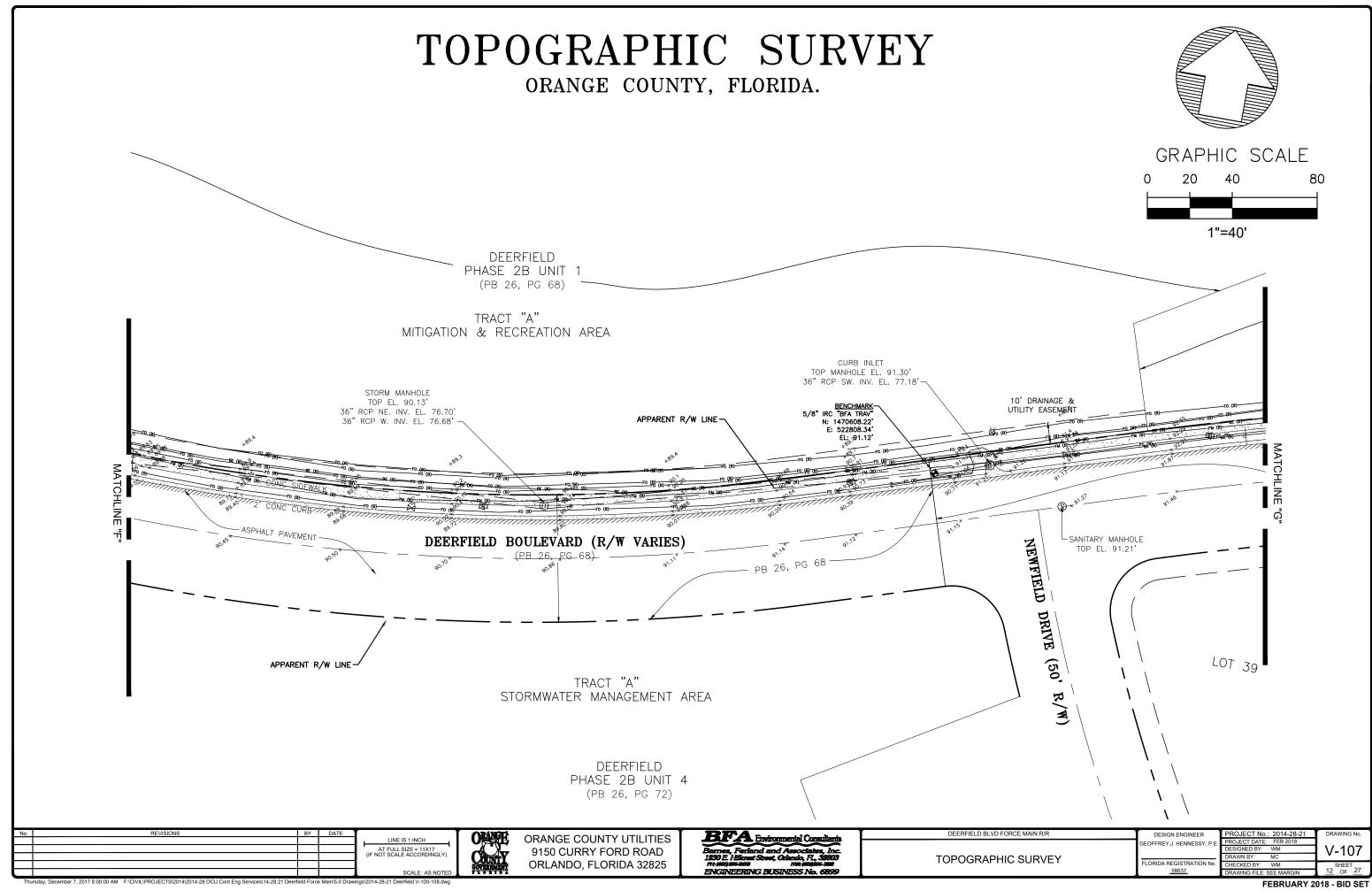


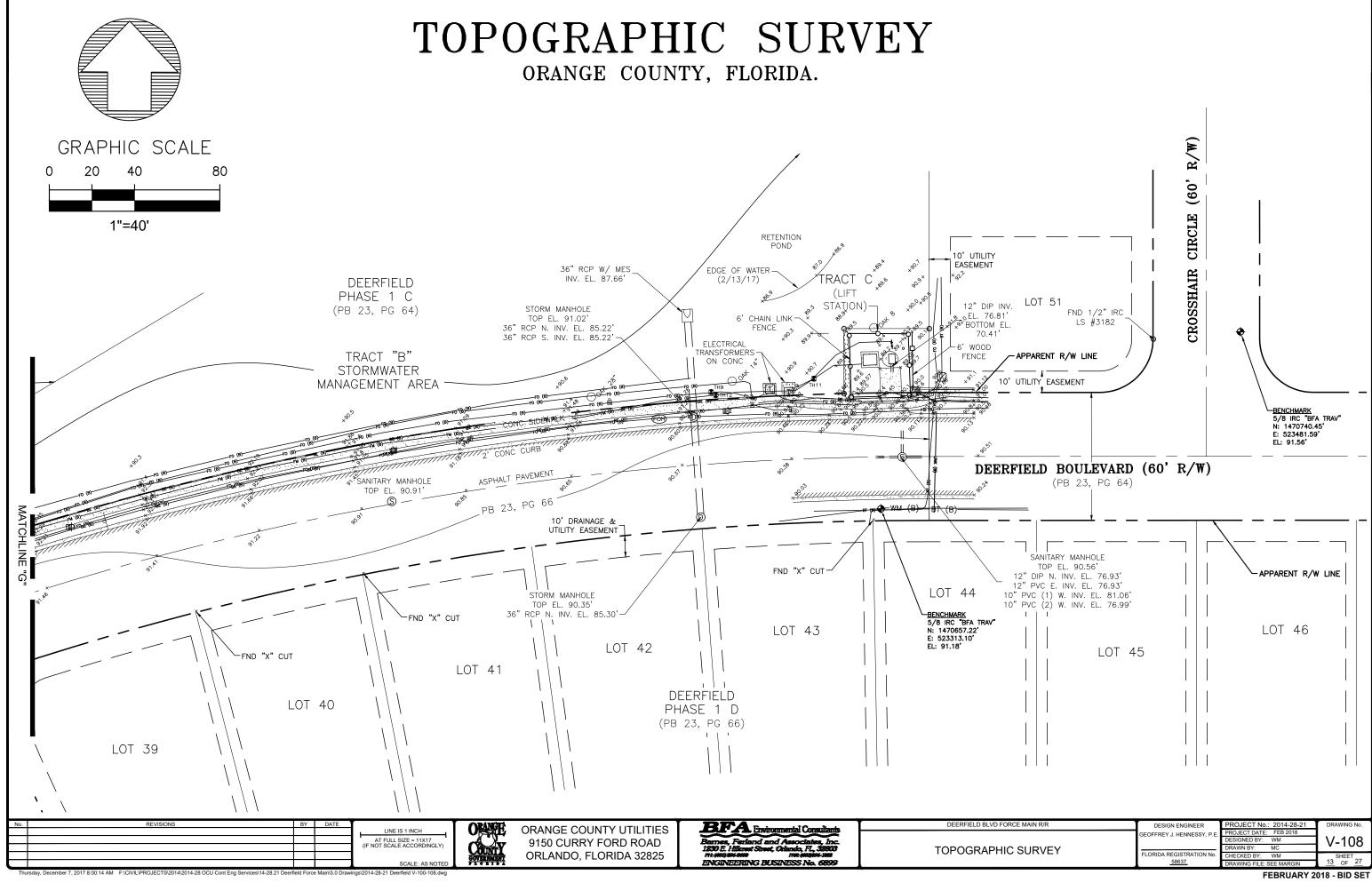


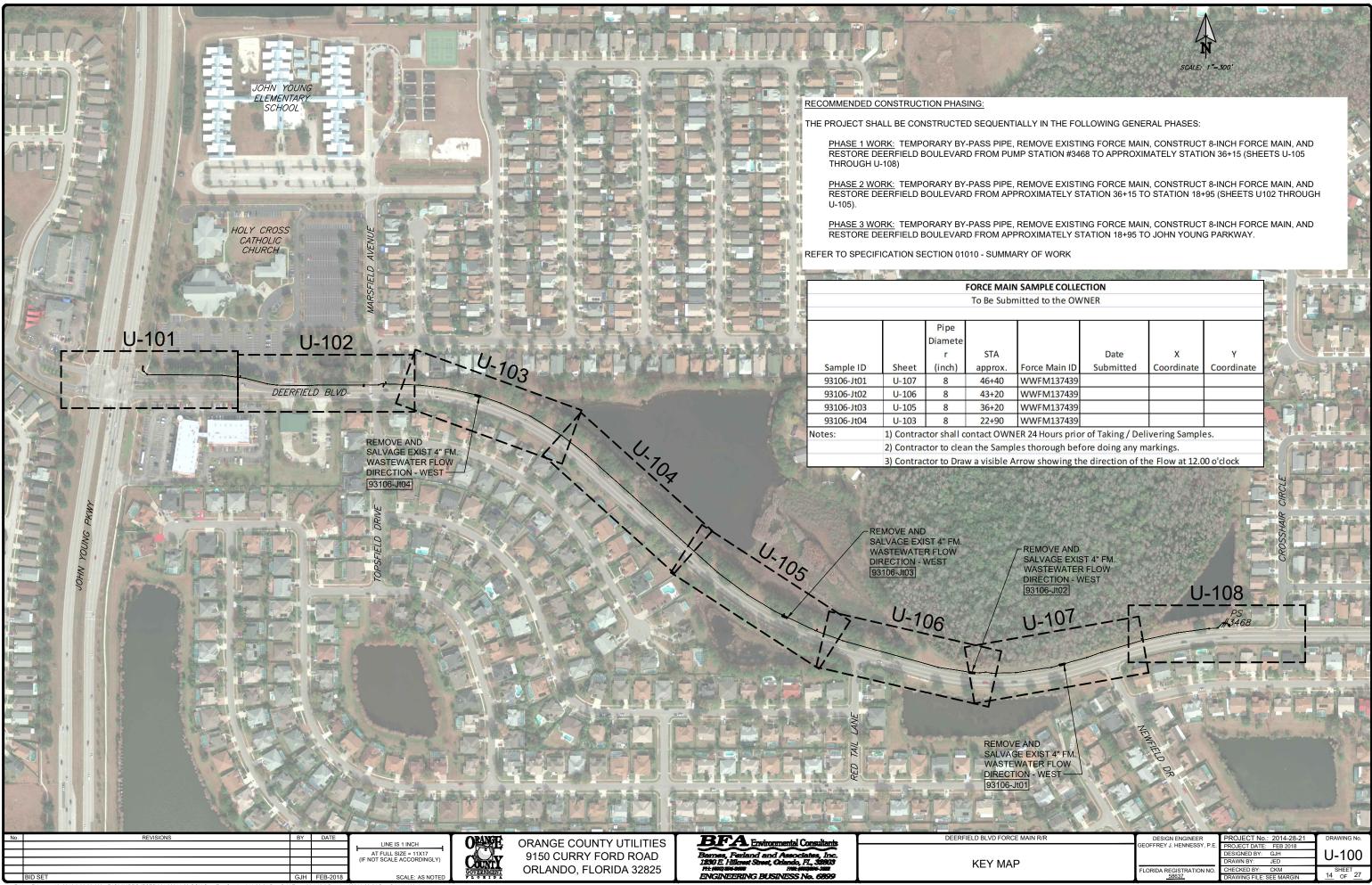






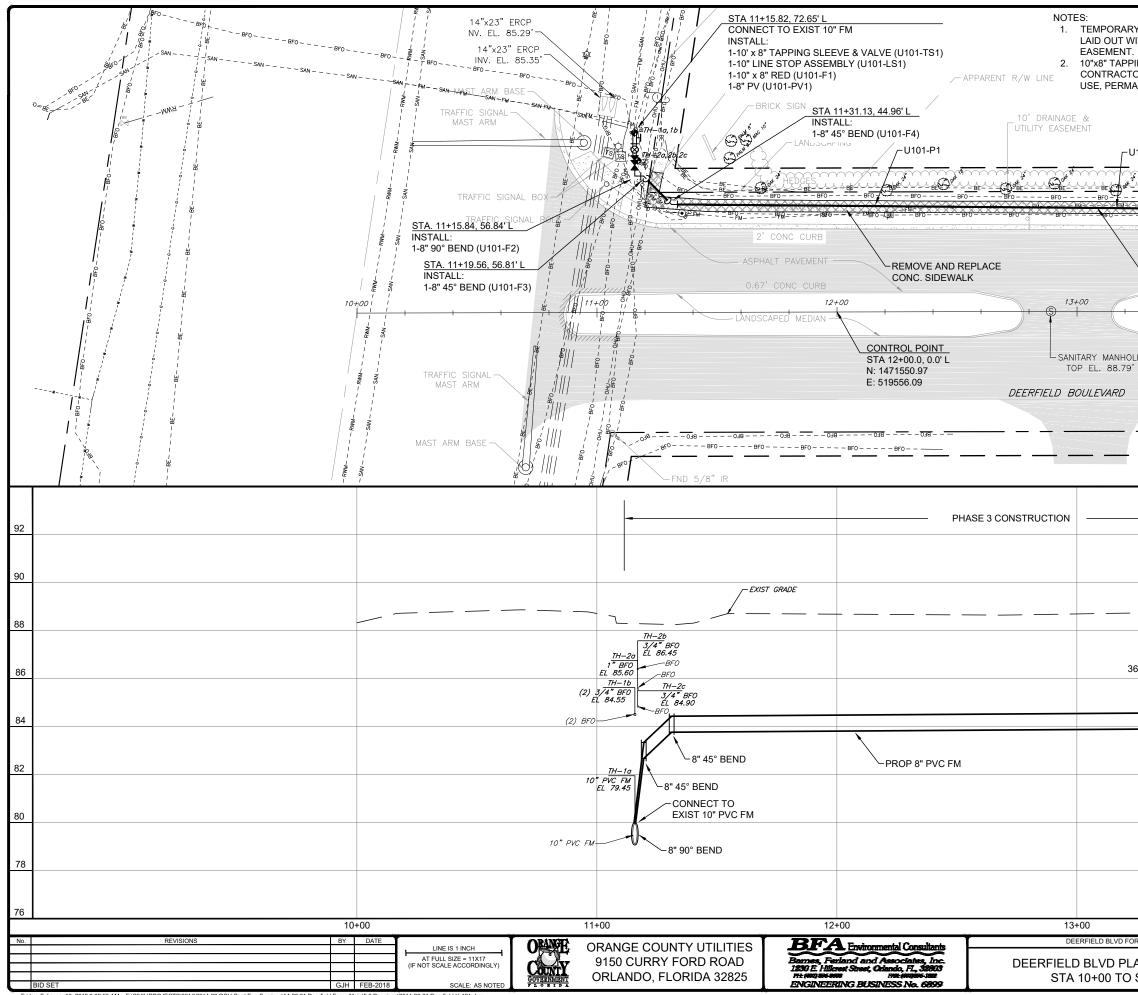






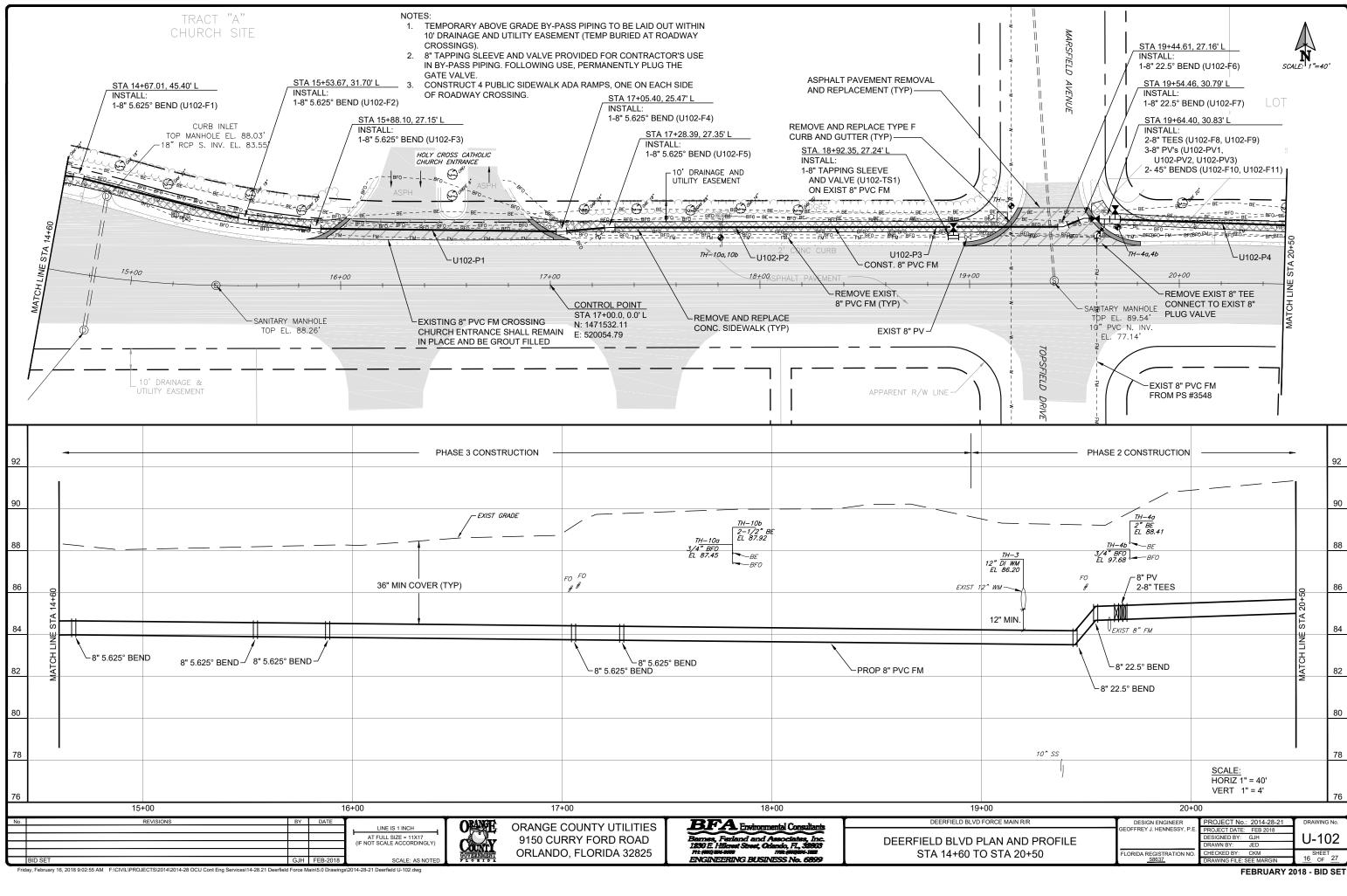
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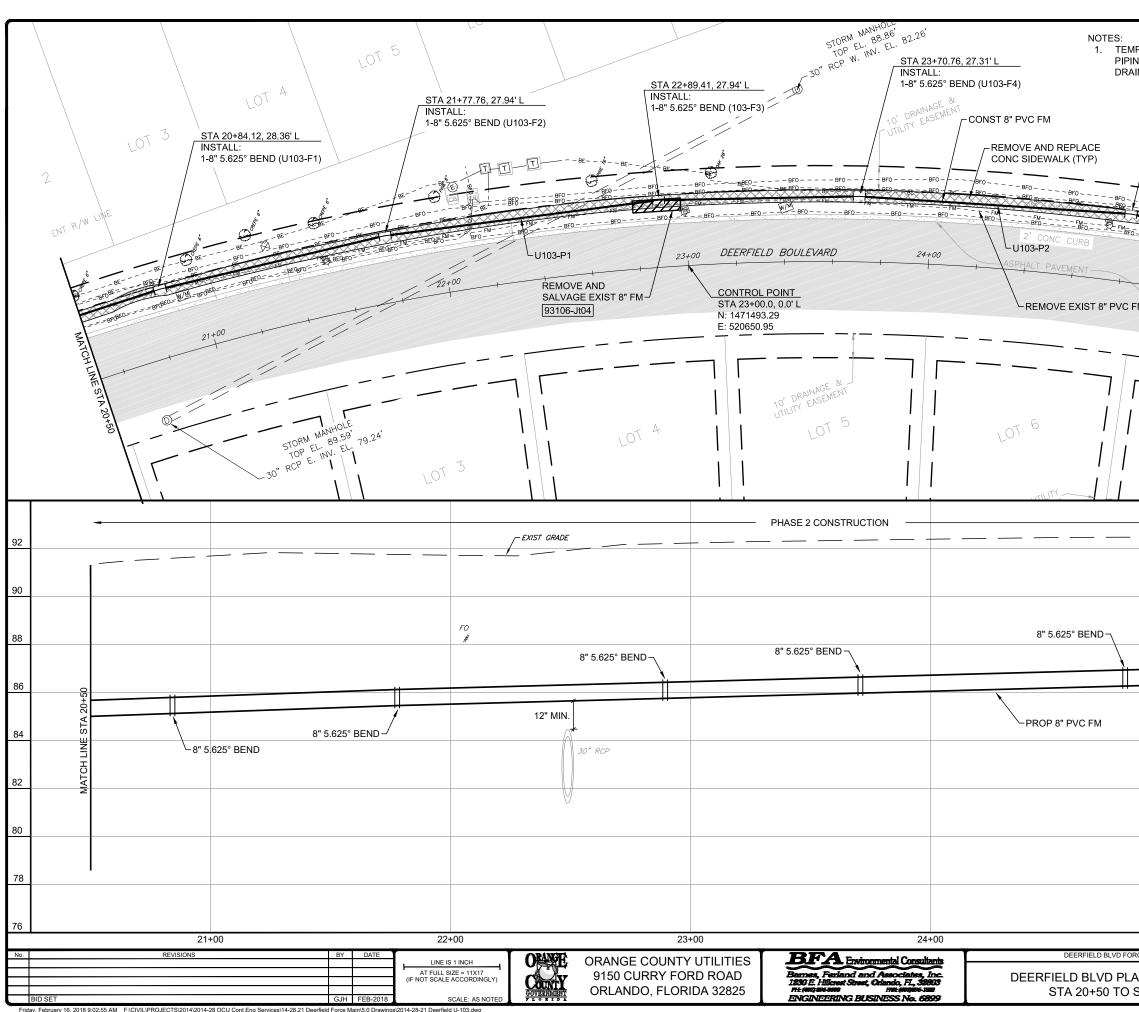
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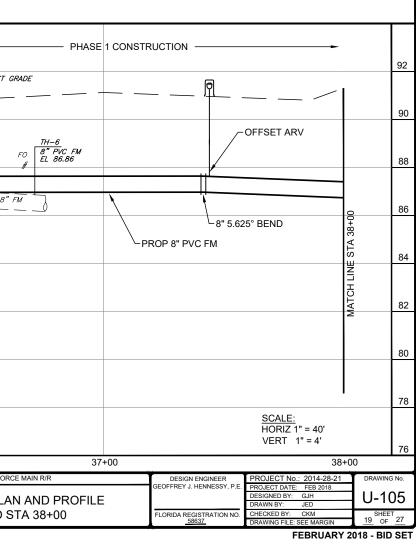
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EM	+	-U103-P3	- BFO - 26+0	PM- BEO-	A 26+20		
	EXIST	8" PLUG VALVE	/+	MATCH LINE ST.	5		
APPARENT RI	IN LINE			- MA			
							92
	36"						90
							88
		8" 5.625°	BEND-		6+20		86
					MATCH LINE STA 26+20		84
					MATCHI		82
							80
		SCALE:					78
25+00		HORIZ VERT	1" = 40' 1" = 4'	+00			76
RCE MAIN R/R		DESIGN ENGINEER GEOFFREY J. HENNESSY, P.E.	PROJECT PROJECT D DESIGNED				
AN AND PRO STA 26+20	FILE	FLORIDA REGISTRATION NO. 58637	DRAWN BY CHECKED B	: JED	N	U-1(

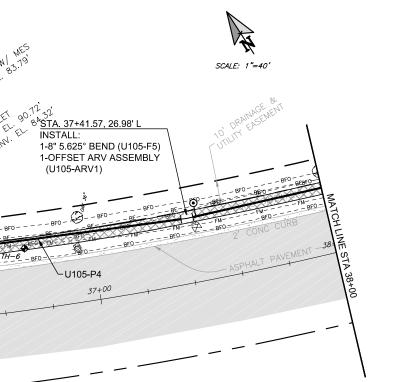
														5° 10. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.			NOTES: 1. TEMPORARY AE PIPING TO BE L DRAINAGE AND
		- BFO BFO - BFO BE= - = BFQE X X X			/ INSTAL 1-8" 5.6	LL: 625° BI	8, 28.38' L END (U104-F1) - = ==================================	- CONS	XXXXX	М — вго — — — — вгф=					BFO	NAGE AND ASEMENT - BFO	
		MATCH LINE STA 26+20		27+00				104-P2 28+00	-		the second se	-U104-P3 29+0	- 71 /	<u>CONTROL POINT</u> STA 29+00.0, 0.0' L N: 1471169.02 E: 521148.15		104-P4 ^{ONC} AS <i>30400</i> PA	CURB
	T				 			0		 	5084 ft. 14.		ר 	, 6 ¹ ^2		ז / ר 	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
92													SE 2 CONS	STRUCTION			
52						·			Ţ —					- EXIST G	GRADE		
90 88								36" MIN C	OVER (TYP	?)		30" MI	N COVER				
				ļ					•			1	6" MIN.				
86 84	STA 26+20			-8" 5.625	5° BEND							*	30" RCP				PROP 8" PVC
82	MATCH LINE												J				
80	2																
78																	
76	<u> </u>			7+00			28	+00				29+00				+00	
No.			REVISIONS		BY DA	ATE	LINE IS 1 INCH					ILITIES	B	EFA Environmental C	onsultants	-	
E	BID SET				GJH FEB	3-2018	AT FULL SIZE = 11X17 (IF NOT SCALE ACCORDIN SCALE: AS 1				CURRY FORD F NDO, FLORIDA		ENC	nes, Ferland and Associa DE Hillcret Street, Orlando, F Magaziane Street, Orlando, F GINEERING BUSINESS N	11675, 117C. 7., 32903 1676-782 10. 6899	D	EERFIELD BLVD PL STA 26+20 TO

Friday, February 16, 2018 9:02:55 AM F:CIVIL/PROJECTS/2014/2014-28 OCU Cont Eng Services/14-28.21 Deerfield Force Main/5.0 Drawings/2014-28-21 Deerfield U-104.dwg

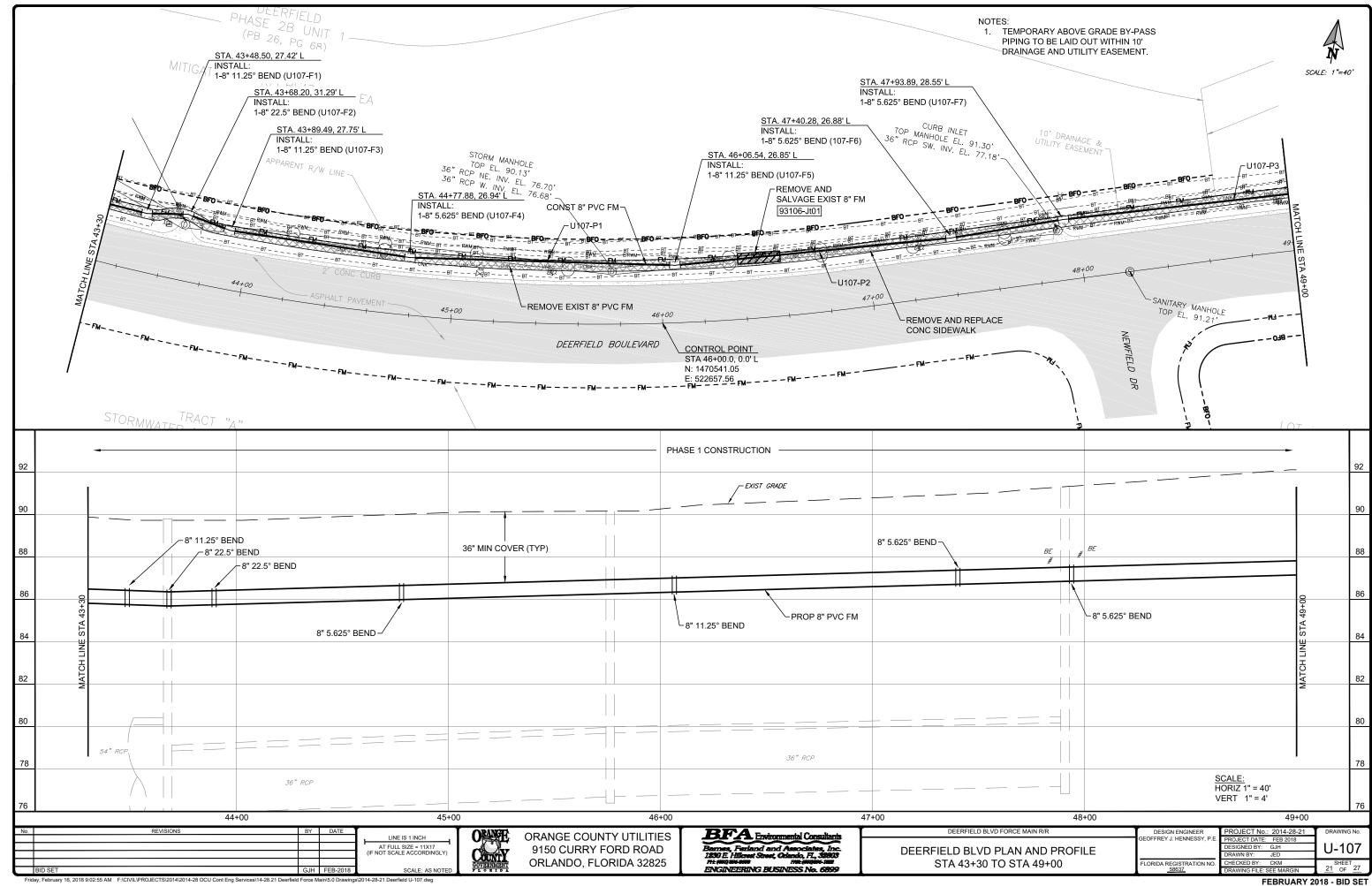
BOVE GRADE BY-PASS LAID OUT WITHIN 10' D UTILITY EASEMENT. Æ SCALE: 1"=40' 3 - 🥝 - - - 📿 - _{BFO} -Ð. - BFO - - - - BFO - - -- BFO -- -- - BFO - -- BEO BEDER 그 만드 ㅋㅋㅋ <u>____BE</u> = = BEato $\infty \times \times \times \times$ ****** U104-P5 U104-P6 31+00 32+00 Ш Ц 92 90 88 86 MATCH LINE STA 32+20 C FM 84 82 80 <u>SCALE:</u> HORIZ 1" = 40' VERT 1" = 4' 31+00 32+00 DESIGN ENGINEER GEOFFREY J. HENNESSY, P.E. PROJECT DATE: FEB 2018 DESIGNED BY: GJH DRAWN BY: JED DRCE MAIN R/R DRAWING No U-104 AN AND PROFILE FLORIDA REGISTRATION NO. 58637 STA 32+20 CHECKED BY: CKM 18 OF 27 RAWING FILE: SEE MAR

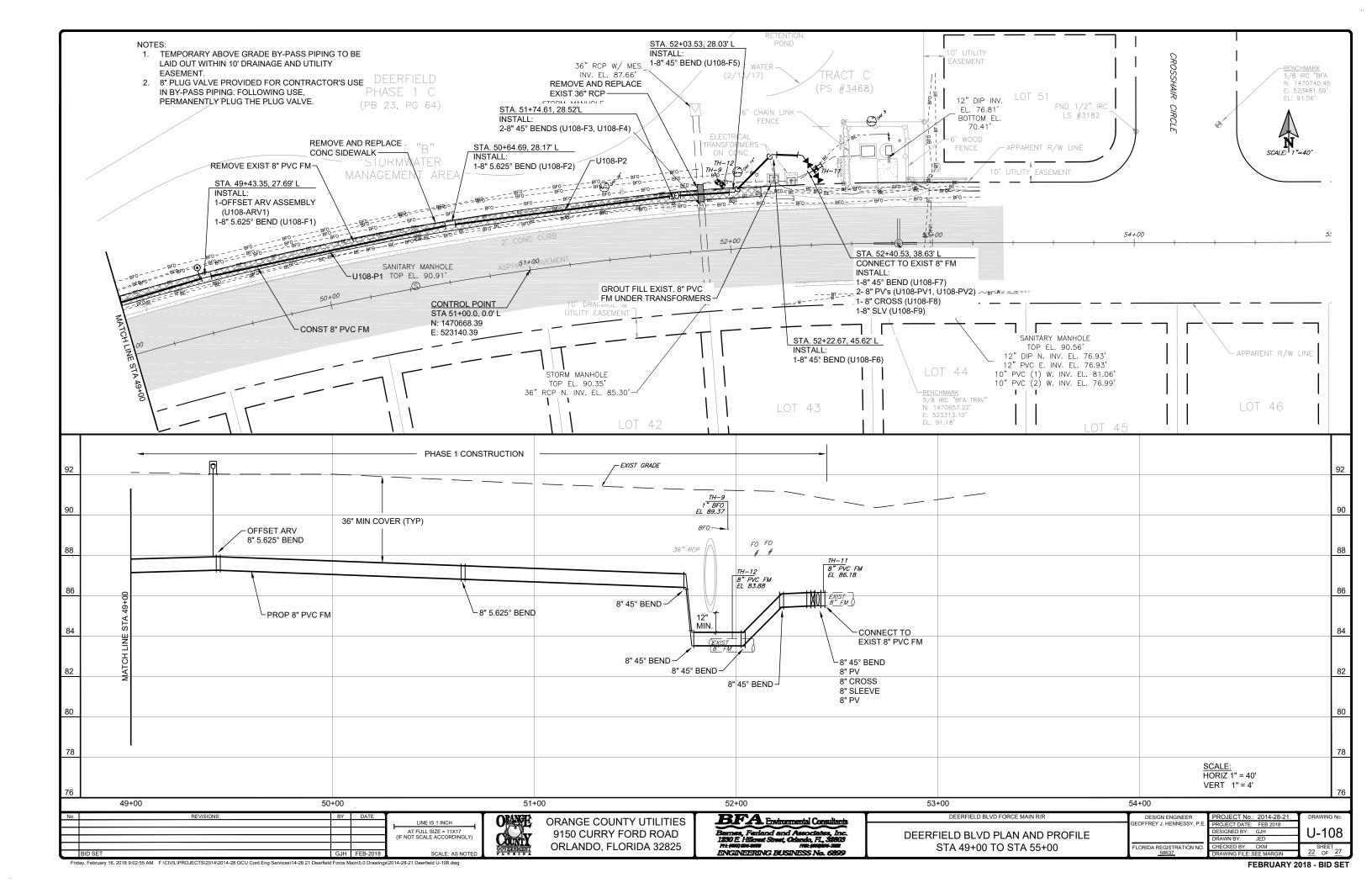
	NOTES: 1. TEMPORARY ABOVE GRADE BY-PASS PIPING TO BE LAID OUT WITHIN 10' DRAINAGE AND UTILITY EASEMENT. 2. 8" PLUG VALVE PROVIDED FOR CONTRACTOR'S USE IN BY-PASS PIPING. FOLLOWING USE, PERMANENTLY PLUG THE PLUG VALVE. 18" RCP 18" NV. E
STA. 33+33.41, 26. INSTALL: 1-8" 5.625° BEND (BF0 BF0	$\begin{array}{c} STA. 34+65.78, 26.50^{\circ}L \\ 1-8^{\circ} TEE (U105-F4) \\ 2-8^{\circ} PV's \\ 1-8^{\circ} S.625^{\circ} BEND (U105-F2) \\ (U105-PV1, U105-PV2) \\ STA. 35+81.36, 26.737'L \\ 1-8^{\circ} S.625^{\circ} BEND (U105-F3) \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ $
HTTP:///////////////////////////////////	PR PR<
	CONTROL POINT DEERFIELD BOULEVARD REMOVE AND SALVAGE EXIST 8" FM- STA 34+00.0, 0.0' L DEERFIELD BOULEVARD 93106-Jt03 N: 1470839.97 E: 521524.43 93106-Jt03
	08440E "A 48 00 DSK 08440E "A 400 DSK 08440E "A 400 DSK 08440E "A 400 BS' 8EL CHA" A 90 65'
92	- PHASE 2 CONSTRUCTION
90	36" MIN COVER (TYP) 36" MIN COVER (TYP) 8" TEE FO FO TH-5 8" PVC FM EL 87.16
86 0	8" 5.625° BEND 8" 5.625° BEND 12" MIN.
80	
78	
76	
33+00	34+00 35+00 36+00
No. REVISIONS BY DATE Image: Constraint of the second	CONTRIMUENT ORLANDO, FLORIDA 32825

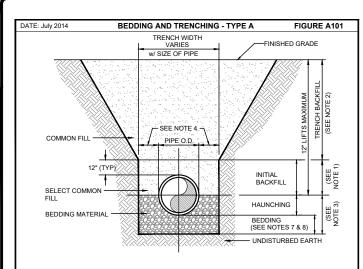




			54" RCP (PER CONSTRUCTION PLANS) (PER CONSTRUCTION 81.01' TOP OF PIPE EL. 81.01'	NOTES: 1. TEMPORARY ABOVE GRADE BY-PASS PIPING TO BE LAID OUT WITHIN 10' DRAINAGE AND UTILITY	Ν	
			(PER CONSTITUTION OF PIPE EL. OT	EASEMENT.	TV I	
STA. 38+46.95, / INSTALL:						
1-8" 5.625° BEN	30"	RCP 82.60'		STA. 43+08.38, 27.03' L INSTALL:	STORM MANHOLE TOP EL. 89.79 "RCP E. INV. EL. 75.85' (W. INV. INACCESSIBLE, (W. INV. INACCESSIBLE, W. INV. INACCESSIBLE, ALL OF DEBRIS & DIRT)	
	APPARENT R/W LINE	TI I	CONST 8" PVC FM <u>STA. 41+95.67, 2</u> INSTALL:		AUL OF DE	
$\begin{array}{c} 9FO BFO BFO BFO BFO$			1-8" 5.625° BENE	U10		
Pro-FM-BFO-FM-BFO-FM-FF-BFO-FM-BFO-FM-BFO-FM-BFO-FM-BFO-FM-BFO-FM-BFO-FM-BFO-FM-BFO-FM-BFO-FM-BFO-FM-FF-BFO-FM-FF-BFO-FM-BFO-FM-FF-BFO-FB-FF-BF-FF-BF-FF-BF-FF-BF-BFO-FB-FF-BF-FF-	M		Υ		BE BrO = = = BE = BFO BrO BrO BFO	
500 U	+00 U106-P2		рони — вро		DVE AND PAGE EXIST 8" FM	
ATCHL	407		REMOVE AND REPLACE	REMOVE EXIST 8" PVC FM [93106 42+00		
×		CONTROL POINT // STA 40+00.0, 0.0' L //	DEERFIELD BOULEVARD		43+30	
	R	N: 1470594.84				
	RED TAIL	— — _ \ \'				
	LANE				I	
		58				
		PHASE 1 CONSTRUC				
92			EXIST_GRADE			92
90		ТН-Ва 2″ ВFO EL 89.78	/			90
	(2) 2' BE, $\frac{TH-7}{1' BE}$ EL 87.52	BFO ————————————————————————————————————	36" MIN COVER (TYP)			
88	BE	4" STEEL FO CASING EL 87.52		8" 5.625° BEND	8" 5.625° BEND	88
86 8						86
₩ ₩ 4 -8" 5.625° BEND		6" MIN	PROP 8" PVC FM			
						84
82 HOL		¥			МАТСН	82
80						80
78						78
70					<u>SCALE:</u> HORIZ 1" = 40' VERT 1" = 4'	
76 38+00 39 No. REVISIONS BY DAT	+00 40		41+00	42+00 DEERFIELD BLVD FORCE MAIN R/R	43+00 DESIGN ENGINEER PROJECT No.: 2014-28-21	76 DRAWING No.
	LINE IS 1 INCH AT FULL SIZE = 11X17 (IF NOT SCALE ACCORDINGLY) 9150	GE COUNTY UTILITIES CURRY FORD ROAD	BFA Environmental Consultants Barness, Farland and Associates, Inc. 1230 E Hillowst Street, Orlando, FL, 32803 Int: congast-see ENGINEERING BUSINESS No. 6899	DEERFIELD BLVD PLAN AND PROFILE	GEOFFREY J. HENNESSY, P.E. PROJECT DATE: FEB 2018 DESIGNED BY: GJH DRAWN BY: JED	U-106
BID SET GJH FEB-2 Fiday, February 16, 2018 9:02:55 AM F:\CIVIL\PROJECTS\2014\2014-28 OCU Cont Eng Services\14-28.21 Deeffield Force MainIs.0 D	2018 SCALE: AS NOTED FLORIDA	ANDO, FLORIDA 32825	ENGINEERING BUSINESS No. 6899	STA 38+00 TO STA 43+30	FLORIDA REGISTRATION NO. CHECKED BY: CKM <u>58637</u> DRAWING FILE: SEE MARGIN FEBRUARY 2	20 OF 27







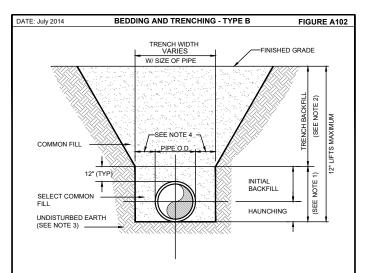
NOTES:

DATE: July 2014

(TYP)

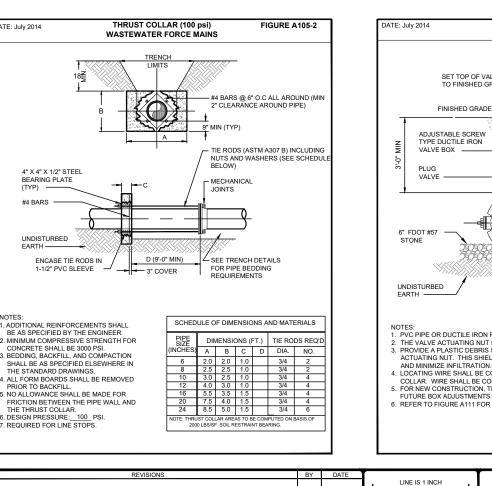
FARTH

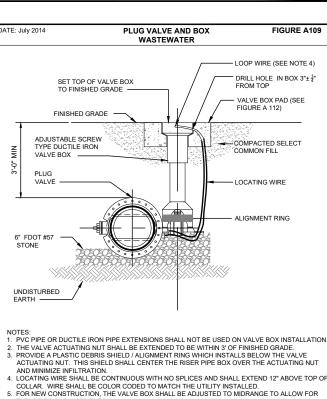
- INITIAL BACKFILL: SELECT COMMON FILL COMPACTED TO 95% (98% UNDER PAVEMENT) OF THE MAXIMUM DENSITY AS PER AASHTO T-180.
- TRENCH BACKFILL: COMMON FILL COMPACTED TO 95% (98% UNDER PAVEMENT) OF THE MAXIMUM DENSITY AS PER AASHTO T-180.
- 3. TYPE A BEDDING MATERIAL SHALL CONFORM TO FDOT NO. 57 AGGREGATE.
- 15" MAX. (12" MIN.) FOR PIPE DIAMETER LESS THAN 24" AND 24" MAX (12" MIN) FOR PIPE DIAMETER 24" AND LARGER.
- 5. WATER SHALL NOT BE PERMITTED IN THE TRENCH DURING CONSTRUCTION
- 6. ALL PIPE TO BE INSTALLED WITH BELL FACING UPSTREAM TO THE DIRECTION OF THE FLOW.
- BEDDING DEPTH SHALL BE 4" MINIMUM FOR PIPE DIAMETER UP TO 12" AND 6" MINIMUM FOR PIPE DIAMETER 16" AND LARGER. B. DEPTH FOR REMOVAL OF UNSUITABLE MATERIAL SHALL GOVERN DEPTH OF BEDDING ROCK BELOW THE PIPE, UTILITIES SHALL DETERMINE IN THE FIELD REQUIRED REMOVAL OF UNSUITABLE
- MATERIAL TO REACH SUITABLE FOUNDATION. 9. FINAL RESTORATION IN IMPROVED AREAS SHALL BE IN COMPLIANCE WITH ALL APPLICABLE
- REGULATIONS OF GOVERNING AGENCIES. SURFACE RESTORATION WITH ACAME COUNTY RIGHT-OF-WAY SHALL COMPLY WITH REQUIREMENTS OF RW UTILIZATION REGULATIONS AND ROAD CONSTRUCTION SPECIFICATIONS.

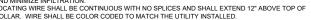


NOTES

- 1. INITIAL BACKFILL AND HAUNCHING: SELECT COMMON FILL COMPACTED TO 95% (98% UNDER PAVEMENT) OF THE MAXIMUM DENSITY AS PER AASHTO T-180.
- 2. TRENCH BACKFILL: COMMON FILL COMPACTED TO 95% (98% UNDER PAVEMENT) OF THE MAXIMUM DENSITY AS PER AASHTO T-180.
- 3. PIPE BEDDING UTILIZING SELECT COMMON FILL OR BEDDING ROCK IN ACCORDANCE WITH TYPE A BEDDING AND TRENCHING DETAIL MAY BE REQUIRED AS DIRECTED BY UTILITIES.
- 4. 15" MAX. (12" MIN.) FOR PIPE DIAMETER LESS THAN 24" AND 24" MAX (12" MIN) FOR PIPE DIAMETER 24" AND LARGER.
- 5. WATER SHALL NOT BE PERMITTED IN THE TRENCH DURING CONSTRUCTION.
- 6. ALL PIPE TO BE INSTALLED WITH BELL FACING UPSTREAM TO THE DIRECTION OF THE FLOW.
- 7. FINAL RESTORATION IN IMPROVED AREAS SHALL BE IN COMPLIANCE WITH ALL APPLICABLE REGULATIONS OF GOVERNING AGENCIES. SURFACE RESTORATION WITHIN ORANGE COUNTY RIGHT-OF-WAY SHALL COMPLY WITH REQUIREMENTS OF RIGHT-OF-WAY UTILIZATION REGULATIONS AND ROAD CONSTRUCTION SPECIFICATIONS.







- 6. REFER TO FIGURE A111 FOR INSTALLATIONS AT A DEPTH OF 6' OR GREATER.

OMME

County

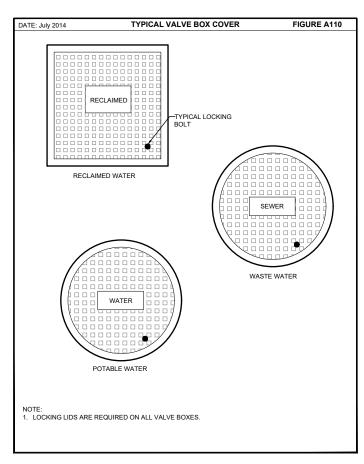
AT FULL SIZE = 11X17 (IF NOT SCALE ACCORDINGLY

DATE: July 2014 SEPARATION REQUIREMENTS FOR FIGURE A116 WATER, WASTEWATER AND RECLAIMED WATER MAINS

HORIZONTAL & VERTICAL SEPARATION REQUIREMENTS													
PROPOSED UTILITY	POTA WAT		RECL/ WA			WATER TY & FM)	STORM SEWER						
	HORIZ	VERT	HORIZ	VERT	HORIZ	VERT	HORIZ	VERT					
POTABLE WATER	3' NOTE 1	12"	3' NOTE 1 & 3	12" NOTE 3	6' NOTE 3	12" NOTE 3	3' NOTE 1 & 3	12"/18" NOTE 2 &					
RECLAIMED WATER	3' NOTE 1 & 3	12" NOTE 3	3' NOTE 1	12"	3' NOTE 1	12"	3' NOTE 1	12"/18" NOTE 2					
WASTEWATER (GRAVITY AND FM)	6' NOTE 3	12" NOTE 3	3' NOTE 1	12"	3' NOTE 1	12"	3' NOTE 1	12"/18" NOTE 2					
RIGHT OF WAY	3' NOTE 1	N/A	3' NOTE 1	N/A	3' NOTE 1	N/A	N/A	N/A					

NOTES

- THIS SEPARATION REQUIREMENT IS TO PROVIDE ACCESSIBILITY FOR CONSTRUCTION AND MAINTENANCE. THREE FEET OF HORIZONTAL SEPARATION IS THE MINIMUM FOR PIPES WITH THREE FEET OF COVER. FOR PIPES INSTALLED AT GREATER DEPTHS, PROVIDE AN ADDITIONAL FOOT OF SEPARATION FOR EACH ADDITIONAL FOOT OF DEPTH.
- SEPARATION FOR EACH ADDITIONAL FOOT DEFINIT THE 18-INCH SEPARATION REQUIREMENT APPLIES WHEN THE STORM PIPE CROSSES ABOVE THE OCU MAIN, AND WHEN THE STORM PIPE HAS A DIAMETER EQUAL TO OR GREATER THAN 24 INCHES. OTHERWISE, THE REQUIRED SEPARATION IS 12 INCHES. THIS SEPARATION REQUIREMENT COMPLIES WITH MINIMUM FDEP SEPARATION REQUIREMENTS
- OUTLINED IN 62-555.314, FAC, VARIANCES FROM THE FDEP REQUIREMENTS MUST COMPLY WITH
- So tended in USSI 14, 142, VARANCE STRUCTURE INCOMENTED AND COL. 62555.314(5), FAC AND MUST BE APPROVED INDIVIDUALLY BY BOTH FDEP AND COL. DISTANCES GIVEN ARE FROM OUTSIDE OF PIPE TO OUTSIDE OF PIPE. NO WATER FIPE SHALL PASS THROUGH OR COME IN CONTACT WITH ANY PART OF SANITARY OR STORM WATER MANHOLE OR STRUCTURE.





ORANGE COUNTY UTILITIES 9150 CURRY FORD ROAD ORLANDO, FLORIDA 32825

BFA Environmental Consultants and and Associa , Inc et, Oriendo, FL, 32 1290 F H ENGINEERING BUSINESS No. 6899

DATE: July 2014

RESTRAINED PIPE TABLE WASTEWATER FORCE MAINS

FIGURE A104-2

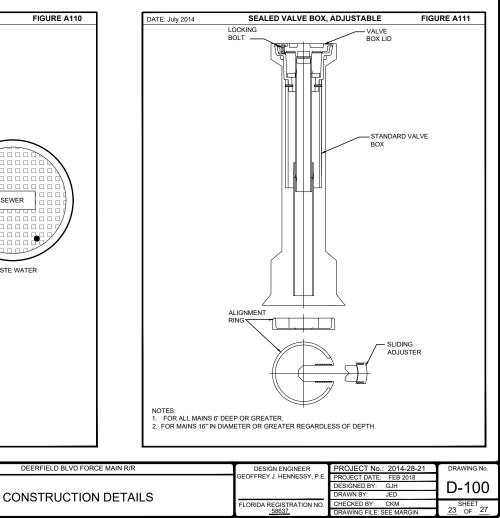
MINIMUM LENGTH (FT) TO BE RESTRAINED ON EACH SIDE OF FITTING(S)												
TYPE		PVC PIPE SIZE										
TTPE	4"	6"	8"	10"	12"	16"	20"	24"	30"	36"		
90° BEND	18	24	31	38	43	55	65	75	88	100		
45° BEND	8	10	13	15	18	23	26	31	38	43		
22-1/2° BEND	4	5	6	8	9	11	13	15	18	20		
11-1/4° BEND	2	3	4	5	6	8	9	10	11	13		
PLUG OR BRANCH OF TEE	38	50	65	79	90	117	139	163	194	223		
VALVE	19	25	32	40	45	59	70	82	98	112		
REDUCER	VARIES BY SIZE; TO BE DETERMINED BY THE DESIGN ENGINEER.											

NOTES:

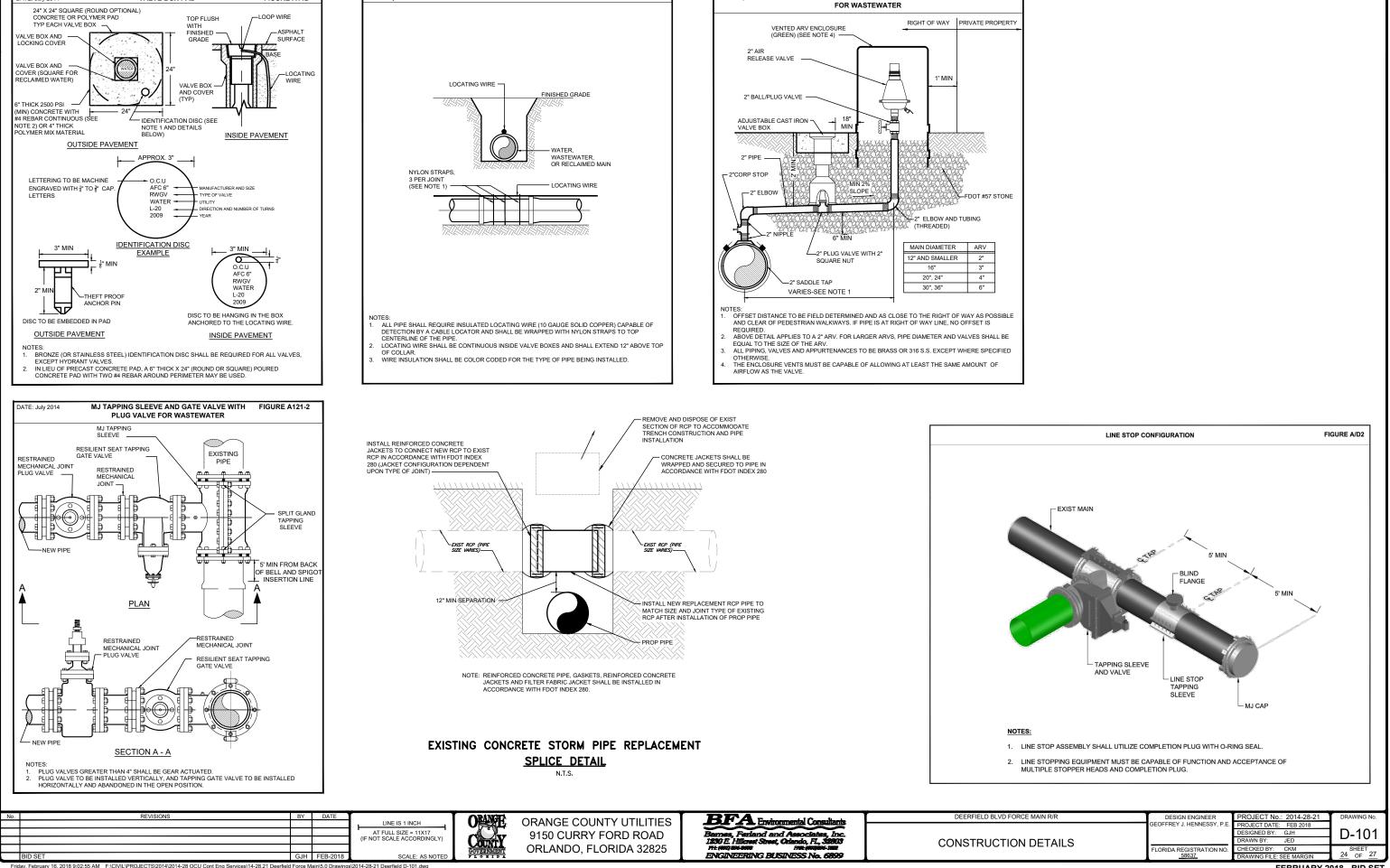
- 1. FITTINGS SHALL HAVE RESTRAINED JOINTS UNLESS OTHERWISE INDICATED 2. INSTALL FULL LENGTH JOINTS WITH TOTAL LENGTH EQUAL TO OR GREATER THAN
- INSTALL FOLL LENGTH JOINTS WITH TOTAL LENGTH EQUAL TO OR GREATER THAN LENGTH SHOWN IN THE TABLE. WHERE TWO OR MORE FITTINGS ARE IN SERIES, SELECT FITTING RESTRAINT LENGTH THAT YIELDS THE LONGEST RESTRAINT DISTANCE.
- 4. ALL INLINE VALVES SHALL BE RESTRAINED.
- WHERE INTERNAL RESTRAINED JOINTS ARE USED. THE ENTIRE BELL SHALL BE PAINTED, RED. Whence INVERVIGAL RESTRAINED JOINT SHARE USED, THE ENTITLE DETAILED STALL DE PAIL 6. LENGTHS SHOWN IN THE TABLE WERE CALCULATED IN ACCORDANCE WITH PROCEDURES OUTLINED IN "THRUST RESTRAINT DESIGN FOR DUCTILE IRON PIPE" GUIDELINES PUBLISHED BY DIPRA, USING THE ASSUMPTIONS SHOWN BELOW:

WORKING PRESSURE: 100 PSI SOIL DESIGNATION: SM (SAND SILT) LAYING CONDITIONS: <u>3</u> DEPTH OF COVER: <u>3 FT</u> SAFETY FACTOR: <u>1.5</u> CONVERSION FACTOR FOR PVC PIPE: 1.25

THE DESIGN ENGINEER SHALL INCREASE THE VALUES IN THE TABLE AS WARRANTED BY SITE-SPECIFIC PARAMETERS, SUCH AS SOIL DESIGNATIONS AND LAYING CONDITIONS



FEBRUARY 2018 - BID SET



VALVE BOX PAD

DATE: July 2014

FIGURE A112

DATE: July 2014

PIPE LOCATING WIRE

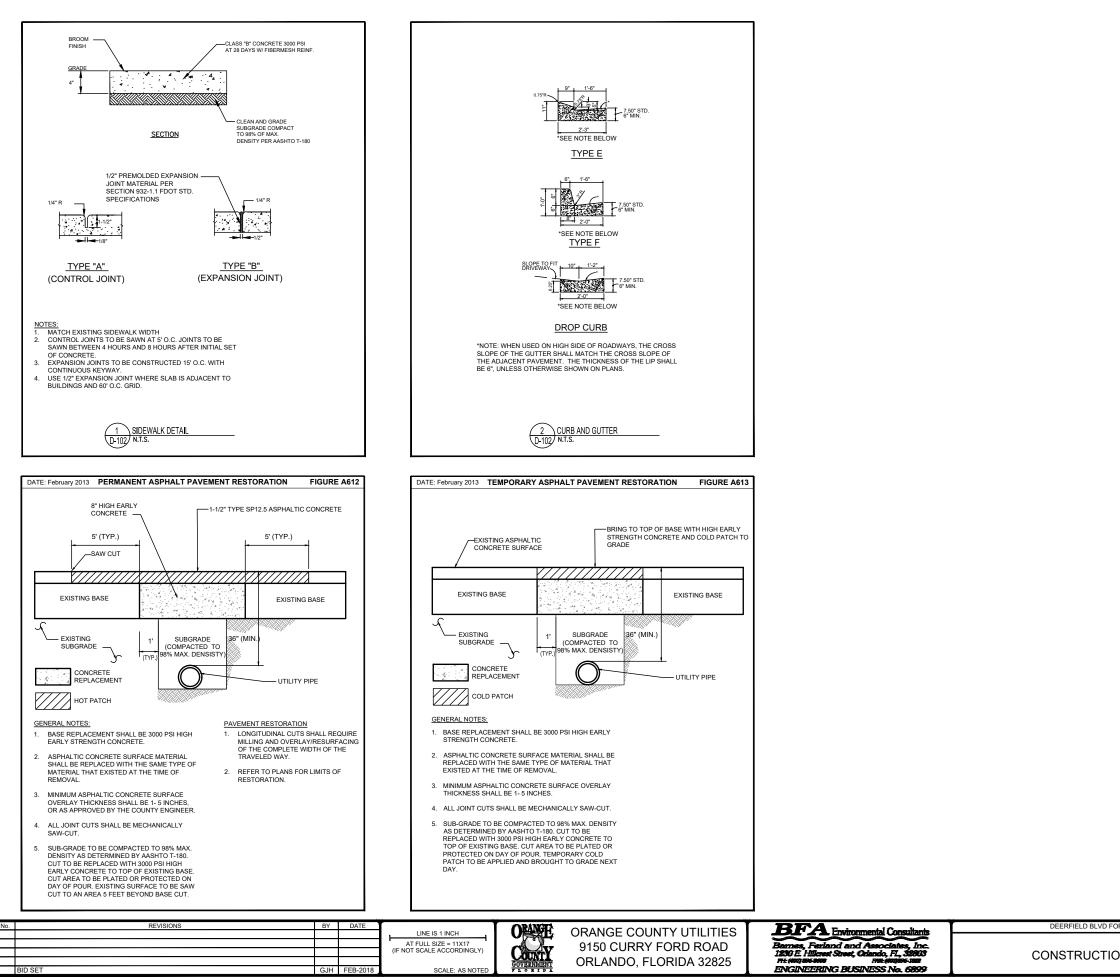
FIGURE A114

DATE: July 2014

COMBINATION AIR RELEASE VALVE

FIGURE A115-2

FEBRUARY 2018 - BID SET



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ORCE MAIN R/R	DESIGN ENGINEER	PROJECT No.: 2014-28-21	DRAWING No.
	GEOFFREY J. HENNESSY, P.E.	PROJECT DATE: FEB 2018	
		DESIGNED BY: GJH	D-102
ON DETAILS		DRAWN BY: JED	D 102
	FLORIDA REGISTRATION NO.	CHECKED BY: CKM	SHEET
	58637	DRAWING FILE: SEE MARGIN	<u>25</u> OF <u>27</u>

				FITTING			
ID NUMBER	PLAN SHEET #	EASTING	NORTHING	ELEVATION	MAIN TYPE	FITTING TYPE	COMMENTS
U101-F1	U-101				FORCE MAIN	10" X 8" REDUCER	
U101-F2	U-101				FORCE MAIN	8" 90° BEND	
U101-F3	U-101				FORCE MAIN	8" 45° BEND	
U101-F4	U-101				FORCE MAIN	8" 45° BEND	
U101-F5	U-101				FORCE MAIN	8" 5.625° BEND	
U102-F1	U-102				FORCE MAIN	8" 5.625° BEND	
U102-F2	U-102				FORCE MAIN	8" 5.625° BEND	
U102-F3	U-102				FORCE MAIN	8" 5.625° BEND	
U102-F4	U-102				FORCE MAIN	8" 5.625° BEND	
U102-F5	U-102				FORCE MAIN	8" 5.625 BEND	
U102-F6	U-102				FORCE MAIN	8" 22.5° BEND	
U102-F7	U-102				FORCE MAIN	8" 22.5° BEND	
U102-F8	U-102				FORCE MAIN	8" x 8" TEE	
U102-F9	U-102				FORCE MAIN	8" x 8" TEE	
U102-F10	U-102				FORCE MAIN	8" 45° BEND	
U102-F11	U-102				FORCE MAIN	8" 45° BEND	
U103-F1	U-103				FORCE MAIN	8" 5.625° BEND	
U103-F2	U-103				FORCE MAIN	8" 5.625° BEND	
U103-F3	U-103				FORCE MAIN	8" 5.625° BEND	
U103-F4	U-103				FORCE MAIN	8" 5.625° BEND	
U103-F5	U-103				FORCE MAIN	8" 5.625° BEND	
U103-F6	U-103				FORCE MAIN	8" 5.625° BEND	
U104-F1	U-104				FORCE MAIN	8" 5.625° BEND	
U105-F1	U-105				FORCE MAIN	8" 5.625° BEND	
U105-F2	U-105				FORCE MAIN	8" 5.625° BEND	
U105-F3	U-105				FORCE MAIN	8" 5.625° BEND	
U105-F4	U-105				FORCE MAIN	8" TEE	
U105-F5	U-105				FORCE MAIN	8" 5.625° BEND	
U106-F1	U-106				FORCE MAIN	8" 5.625° BEND	
U106-F2	U-106				FORCE MAIN	8" 5.625° BEND	
U106-F3	U-106				FORCE MAIN	8" 5.625° BEND	
U107-F1	U-107				FORCE MAIN	8" 11.25° BEND	
U107-F2	U-107				FORCE MAIN	8" 22.5° BEND	
U107-F3	U-107				FORCE MAIN	8" 11.25° BEND	
U107-F4	U-107				FORCE MAIN	8" 5.625° BEND	
U107-F5	U-107				FORCE MAIN	8" 11.25° BEND	
U107-F6	U-107				FORCE MAIN	8" 5.625° BEND	
U107-F7	U-107				FORCE MAIN	8" 5.625° BEND	
U108-F1	U-108				FORCE MAIN	8" 5.625° BEND	
U108-F2	U-108				FORCE MAIN	8" 5.625° BEND	
U108-F3	U-108				FORCE MAIN	8" 45° BEND	
U108-F4	U-108				FORCE MAIN	8" 45° BEND	
U108-F5	U-108				FORCE MAIN	8" 45° BEND	
U108-F6	U-108				FORCE MAIN	8" 45° BEND	
U108-F7	U-108				FORCE MAIN	8"45° BEND	
U108-F8	U-108				FORCE MAIN	8" CROSS	
U108-F9	U-108				FORCE MAIN	8" SLEEVE	
			1	1			

BFA Environmental Consultants Barnes, Farland and Associates, Inc. 1230 E. Hillowst Sbeet, Orlando, FL, 32803 Int. (mgassisse ENGINEERING BUSINESS No. 6899

ORANGE COUNTY GOVERNMENT BY DATE ORANGE COUNTY UTILITIES LINE IS 1 INCH AT FULL SIZE = 11X17 (IF NOT SCALE ACCORDINGLY) 9150 CURRY FORD ROAD ORLANDO, FLORIDA 32825 GJH FEB-2018 SCALE: AS NOTE

Friday, February 16, 2018 9:02:55 AM F:\CIVIL\PROJECTS\2014\2014-28 OCU Cont Eng Services\14-28.21 D	Deerfield Force Main\5.0 Drawings\2014-28-21 Deerfield X-100.dwg	

REVISIONS

COORDINATE ATTR

FEBRUARY 2018 - BID SET

		16	
DEERFIELD BLVD FORCE MAIN R/R	DESIGN ENGINEER	PROJECT No.: 2014-28-21	DRAWING No.
	GEOFFREY J. HENNESSY, P.E.	PROJECT DATE: FEB 2018	
		DESIGNED BY: GJH	X-100
RDINATE ATTRIBUTE TABLES		DRAWN BY: JED	7,100
	FLORIDA REGISTRATION NO.	CHECKED BY: CKM	SHEET
	58637	DRAWING FILE: SEE MARGIN	<u>26</u> OF <u>27</u>
,		EEPDILARY 2	

	VALVE														
ID NUMBER	PLAN SHEET #	EASTING	NORTHING	ELEVATION	VALVE TYPE	MAIN TYPE	VALVE SIZE	VALVE MFR	VALVE MODEL #	# OF TURNS TO CLOSE	GEAR ACTUATOR	GEAR RATIO	SIDE ACTUATOR	ACTUATOR MFR	COMMENTS
U101-TS1	U-101				8" TAPPING VALVE	FORCE MAIN									
U101-LS1	U-101				8" LINE STOP	FORCE MAIN									
U101-PV1	U-101				8" PLUG VALVE	FORCE MAIN									
U101-ARV1	U-101				2" AIR RELEASE	FORCE MAIN									
U102-TS1	U-102				8" TAPPING VALVE	FORCE MAIN									
U102-PV1	U-102				8" PLUG VALVE	FORCE MAIN									
U102-PV2	U-102				8" PLUG VALVE	FORCE MAIN									
U102-PV3	U-102				8" PLUG VALVE	FORCE MAIN									
U105-PV1	U-105				8" PLUG VALVE	FORCE MAIN									
U105-PV2	U-105				8" PLUG VALVE	FORCE MAIN									
U105-ARV1	U-105				2" AIR RELEASE	FORCE MAIN									
U108-PV1	U-108				8" PLUG VALVE	FORCE MAIN									
U108-PV2	U-108				8" PLUG VALVE	FORCE MAIN									
U108-ARV1	U-108				2" AIR RELEASE	FORCE MAIN									

PIPE											
ID NUMBER	PLAN SHEET #	EASTING	NORTHING	ELEVATION	MAIN TYPE	TYPE OF SHOT	CONSTRUCTION METHOD	MATERIAL	PRESSURE CLASS	MANUFACTURER	COMMENTS
U101-P1	U-101				FORCE MAIN	TOP OF PIPE					
U101-P2	U-101				FORCE MAIN	TOP OF PIPE					
U102-P1	U-102				FORCE MAIN	TOP OF PIPE					
U102-P2	U-102				FORCE MAIN	TOP OF PIPE					
U102-P3	U-102				FORCE MAIN	TOP OF PIPE					
U102-P4	U-102				FORCE MAIN	TOP OF PIPE					
U103-P1	U-103				FORCE MAIN	TOP OF PIPE					
U103-P2	U-103				FORCE MAIN	TOP OF PIPE					
U103-P3	U-103				FORCE MAIN	TOP OF PIPE					
U104-P1	U-104				FORCE MAIN	TOP OF PIPE					
U104-P2	U-104				FORCE MAIN	TOP OF PIPE					
U104-P3	U-104				FORCE MAIN	TOP OF PIPE					
U104-P4	U-104				FORCE MAIN	TOP OF PIPE					
U104-P5	U-104				FORCE MAIN	TOP OF PIPE					
U104-P6	U-104				FORCE MAIN	TOP OF PIPE					
U105-P1	U-105				FORCE MAIN	TOP OF PIPE					
U105-P2	U-105				FORCE MAIN	TOP OF PIPE					
U105-P3	U-105				FORCE MAIN	TOP OF PIPE					
U105-P4	U-105				FORCE MAIN	TOP OF PIPE					
U106-P1	U-106				FORCE MAIN	TOP OF PIPE					
U106-P2	U-106				FORCE MAIN	TOP OF PIPE					
U106-P3	U-106				FORCE MAIN	TOP OF PIPE					
U106-P4	U-106				FORCE MAIN	TOP OF PIPE					
U107-P1	U-107				FORCE MAIN	TOP OF PIPE					
U107-P2	U-107				FORCE MAIN	TOP OF PIPE					
U107-P3	U-107				FORCE MAIN	TOP OF PIPE					
U108-P1	U-108				FORCE MAIN	TOP OF PIPE			1		
U108-P2	U-108				FORCE MAIN	TOP OF PIPE					

No.		REVISIONS	BY	DATE	
					LINE IS 1 INCH
					AT FULL SIZE = 11X17
					(IF NOT SCALE ACCORDINGLY)
	BID SET		GJH	FEB-2018	SCALE: AS NOTE
Fri	day, February 16, 2018 9:02:55 AM	F:\CIVIL\PROJECTS\2014\2014-28 OCU Cont Eng Services\14-28.21 Deerfiel	d Force M	ain\5.0 Drawing	s\2014-28-21 Deerfield X-101.dwg

ORANYE COUNTY COUNTY COUNTY LINE IS 1 INCH AT FULL SIZE = 11X17 DT SCALE ACCORDINGLY)

ORANGE COUNTY UTILITIES 9150 CURRY FORD ROAD ORLANDO, FLORIDA 32825

BFA Environmental Consultants Barnes, Farland and Associates, Inc. 1230 E. Hillowst Sbeet, Orlando, FL, 32803 Int. (mgassisse ENGINEERING BUSINESS No. 6899

DEERFIELD BLVD FOR

DRCE MAIN R/R	DESIGN ENGINEER	PROJECT No.: 2014-28-21	DRAWING No.
	GEOFFREY J. HENNESSY, P.E.	PROJECT DATE: FEB 2018	
		DESIGNED BY: GJH	X_101
RIBUTE TABLES		DRAWN BY: JED	
	FLORIDA REGISTRATION NO.	CHECKED BY: CKM	SHEET
	58637	DRAWING FILE: SEE MARGIN	<u>27</u> OF <u>27</u>
	-11		