

June 27, 2019

**BOARD OF COUNTY COMMISSIONERS  
ORANGE COUNTY, FLORIDA  
IFB NO. Y19-767-TA/ ADDENDUM NO. 2**

**FORCE MAIN SOUTH AREA PACKAGE 2**

**BID OPENING DATE: July 11, 2019**

This Addendum is hereby incorporated into the bid documents of the project referenced above. The following items are clarifications, corrections, additions, deletions and/or revisions to and shall take precedence over the original documents. Additions are indicated by underlining, deletions are indicated by ~~strikethrough~~.

**A. QUESTIONS AND ANSWERS:**

**1. Q: ARVs V-4, V-5 and V-6 are shown on the bid set to be 2"; however, the details on D-101 from the county standards show 4". Please confirm the correct size ARV for bidding purposes.**

A: Follow the ARV standard detail Figure A115-2 on drawing number D-101 for ARV sizes based on force main diameter.

**2. Q: On X-100 Valve V-13 should be identified at 30" not 155.**

A: Sheet X-100 has been revised to show V-13 as a 30".

**3. Q: For Bid Item 1 the Measurement and Payment indicates that Mobilization is now limited to 5% of the total base bid (vs 10%) and 50% of this item is Paid Upon Mobilization and 50% is Paid for Demobilization. In the past the county typically allows 10% for mobilization and the measure and payment around this item was 75% paid at mobilization and 25% at demobilization, would the county reconsider utilizing the 10% and 75/25 model on this type of project? Just the costs of the bonds, insurance, permits for an Orange County project far exceed 2.5%.**

A: Orange County always had 5% for Mobilization and Demobilization. This remains unchanged.

**4. Q: There is not a Bid Item for 6" Concrete Pavement Replacement. The driveway on Sunflower Trail on C-200 should be 6" per Figure A705 on D-102. Please provide bid item for 6" concrete pavement.**

A: Refer to revised Bid Schedule that includes item no. 17 - Concrete Pavement Replacement (6" thick)

**5. Q: Please consider adding a bid item for sod and/or restorations associated with the project.**

A: Sod restoration is included under bid items 24 and 25 "Install 24-inch/30-inch PVC Force Main, with Fittings and RJ's." Refer to Section 01025 "Measurement and Payment" for details.

**6. Q: Please confirm that all bid items that are provided will be paid by the county for the actual quantities of work performed and not considered under the generalities of other pay items. (i.e. Fence, sod and restoration)**

A: Yes, the County will pay for the actual quantities of work under each pay item. "PVC Coating Chain Link Fence Install/Replacement" is bid item no. 20 and sod restoration is included under bid items 24 and 25 "Install 24-inch/30-inch PVC Force Main, with Fittings and RJ's." Refer to Section 01025 "Measurement and Payment" for details.

**7. Q: Can the roadway at Rhode Island Woods Circle be closed for the pipe installation?**

A: The Contractor is required to prepare and submit a maintenance of traffic plan to Orange County Public Works (OCPW.) Rhode Island Woods Circle cannot be closed without an approved MOT Plan by OCPW. At a minimum, variable message boards and detour route signage will be required as part of the MOT Plan.

**8. Q: What type of pipe is the existing force main that we will be tapping and removing?**

A: The existing force mains are 24-inch PVC and 30-inch PVC.

**9. Q: Can limerock or crushed concrete be used in lieu of soil cement?**

A: No. The project shall be bid in accordance with the Construction Drawings and Specifications.

**10. Q: Can time and half base be done instead of the stabilized subgrade?**

A: The Contractor may propose alternatives once the project is awarded in accordance with the terms and conditions of the bid.

**11. Q: What bypass is the notes referring to regarding removing all bypass apparatus once accepted?**

A: Bypass note has been deleted from sheets C100-C102 and C200-C201

12. **Q: Is a line item missing for force main samples to be submitted to Owner?**
- A: Force Main Samples have been added under Bid Items 22 & 23 “Remove Existing Pipping” and Additive 1 & 2 “Abandon-in-Place Pipe.” Refer to Section 01025 “Measurement and Payment.”
13. **Q: It looks like the 8” stub out to be removed at Station 12+62 on Sunflower Trail is in conflict with the installation of the new force main, is there an existing plug valve at that tee or will a line stop be required?**
- A: There is an existing valve at the stub out. A bid item has been created for the removal of the 8-in stub out.
14. **Q: Is a Project Identification Sign required for this project? If so, how many?**
- A: Yes. At least one at each location
15. **Q: Will the county allow Grout Fill abandonment in lieu of removal of force main in areas where demolition of existing landscaping areas will add substantial cost to bid for restoration of these landscaped areas on base bid? (IE Sta 10+50 Landscaped Median and Sta 11+50-12+50 (approx.) Landscaped Subdivision Entrance). If not allowed please provide bid item for Landscape/Irrigation Restoration.**
- A: Yes. “Landscape /Irrigation Restoration” cost to be absorbed under pipe removal cost (bid items 22 and 23)
16. **Q: Please clarify if it’s the County’s intention to replace Bid Additive 1 and 2 with bid items 22 and 23 if they choose bid additive?**
- A: The Additive bid items 1 and 2 are intended to replace bid items 22 and 23 as needed and approved by the County based on Field conditions.
17. **Q: No bid item provided for Pipe Sample Collections, will pipe be collected for Owner or Testing Lab?**
- A: Samples are only collected for the owner; no samples are intended for Lab Analysis. The collection of samples are included on bid items 22 and 23.
18. **Q: Areas where additional pavement, curb or sidewalk needed to be removed and replaced for installation or removal of force main but not called out on plans for demolition will these areas be paid for under the pay item or will the additional replacement limits be responsibility of the contractor?**

A: Please refer to paragraph 1.02 General Provisions of Section 01025 "Measurement and Payment".

**19. Q: Please add pay item for 8" PVC FM to be removed as shown on sheet C200.**

A: Pay item 21 has been revised to cover the removal of the 8-in PVC force main stub out.

**20. Q: Field office required for this project?**

A: A field office is not required for this project.

**21. Q: Where will the 1.5" Temporary Paving (cold mix overlay) be placed? Quantity doesn't match bid item 15 Asphalt Pavement Removal & Replacement (1.5").**

A: Refer to D-102 Figures A-612, A613 and R-100 for limits of asphalt replacement. Temporary Paving will be placed where there is any pavement removal for traffic flow when crews are not on-site.

**22. Q: There are no salvage sections shown for the Sunflower Trail location of work. Please confirm this is correct.**

A: Refer to table on Sheet K-200 for location of existing force main salvage pipe samples.

**23. Q: The note at STA 10+00 and at 21+57 of the Rhode Island location and at 10+00 and at 15+06 of the Sunflower location indicates to restrain the existing pipe per detail on sheet D100. Please clarify that the restraint is for a plug or for a valve.**

A: The note for both, Rhode Island Woods Circle and Sunflower Trail, refers to restraint joints, fittings and valves according to Figure A104-2 Sheet D-100.

**B. Part B- IFB Y19-767 BID SCHEDULE**

~~IFB Y19-767-TA BID SCHEDULE IS DELETED IN ITS ENTIRETY AND REPLACED WITH REVISED IFB Y19-767, REVISED PAGES D3-D5, ATTACHED AND LABELLED THIS ADDENDUM.~~

**IMPORTANT: Failure to submit your bid with the "Revised Bid Schedule" per this Addendum shall be cause for your bid to be rejected as non-responsive.**

**C. PART C- VOLUME II Technical Specifications:**

~~SECTION 01025 IS DELETED IN ITS ENTIRETY AND REPLACED WITH~~  
REVISED SECTION 01025- MEASUREMENT AND PAYMENT, ATTACHED  
AND LABELED THIS ADDENDUM.

**D. PART D- DRAWINGS**

THE FOLLOWING SHEETS ARE REVISED AND ATTACHED TO THIS  
ADDENDUM:

- a. **Removal of Bypass note on sheets C-100, C-101, C-102, C-200 and C-201.**
- b. **Revision of ARV size on sheets C-100, C-101 and C-102.**
- c. **Revision of valve size V-13 on sheet X-100.**

**E. ACKNOWLEDGEMENT OF ADDENDA**

- a. The Bidder shall acknowledge receipt of this addendum by completing the applicable section in the solicitation or by completion of the acknowledgement information on the addendum. Either form of acknowledgement must be completed and returned not later than the date and time for receipt of proposal.
- b. All other terms, conditions and specifications remain the same.
- c. Receipt acknowledged by:

\_\_\_\_\_  
Authorized Signature

\_\_\_\_\_  
Date Signed

\_\_\_\_\_  
Title

\_\_\_\_\_  
Name of Firm

**To the Board of County Commissioners  
Orange County, Florida**

The Undersigned, hereinafter called "Bidder", having visited the site of the proposed project and familiarized himself with the local conditions, nature and extent of the work, and having examined carefully the Contract Form, General Conditions, Supplementary Conditions, Plans and Specifications and other Contract Documents, with the Bond requirements herein, proposes to furnish all labor, materials, equipment and other items, facilities and services for the proper execution and completion of: **FORCE MAIN SOUTH AREA PACKAGE 2** in full accordance with the drawings and specifications prepared in accordance with the Contract Documents and, if awarded the Contract, to complete the said work within the time limits specified for the following ESTIMATED TOTAL BASE BID.

It is understood that this is a unit price Contract and the resultant Contract will contain estimated quantities, unit prices, extended totals and that the Estimated Total Base Bid is the sum of all pay item totals from the schedule of prices, REVISED PAGES Page D-3 through D-5.

The Contract resulting from this solicitation is based on estimated quantities. The contractor shall only be paid for materials installed in the work in accordance with the applicable unit prices for the specific work element (line item). No payment shall be made for excess materials delivered to the jobsite and not incorporated into the work. Therefore, it shall be the contractor's responsibility to determine the quantities of materials necessary to perform the project to its completion.

ESTIMATED TOTAL BASE BID:

\_\_\_\_\_ DOLLARS  
(In Words)

\$ \_\_\_\_\_

In the event the Contract is awarded to this Bidder, he/she will enter into a formal written agreement with the County in accordance with the accepted bid within ten (10) calendar days after said Contract is submitted to him/her and will furnish to the County a Contract Payment and Performance Bond with good and sufficient sureties, satisfactory to the County, in the amount of 100% of the accepted bid. The Bidder further agrees that in the event of the Bidder's default or breach of any of the agreements of this proposal, the said bid deposit shall be forfeited as liquidated damages.

**Failure of the Bidder to provide pricing for all unit priced items and/or the Base Bid and ALL requested additive/deductive bid items, or alternate bids shall be cause for rejection of the bid as non-responsive.**

The Bidder hereby agrees that there is attached:

- |     |   |     |             |
|-----|---|-----|-------------|
| 1.  | Non-Collusion Affidavit, Attachment A   | Yes | ___         |
| 2.  | Required Disclosure, Attachment B   | Yes | ___         |
| 3.  | M/WBE Forms   |     |             |
|     | Equal Opportunity Workforce Schedule, Attachment C-1                              | Yes | ___         |
|     | Subcontractor/Supplier Page, Attachment C-2                                       | Yes | ___         |
|     | Good Faith Effort, Attachment C-4   | Yes | ___ No ___  |
| 4.  | Trench Safety Act Form, Attachment D  | Yes | ___ N/A ___ |
| 5.  | Drug-Free workplace Form  | Yes | ___         |
| 6.  | <b>Bid Bond on Form in Exhibit 1</b> or Cashier's Check<br>(10% of Base Bid)      | Yes | ___ N/A ___ |
| 7.  | Original Bid Form (marked "Original") & 3<br>complete copies with all attachments | Yes | ___         |
| 8.  | References, Attachment E  | Yes | ___         |
| 9.  | Licenses  | Yes | ___ N/A ___ |
| 10. | Current W9  | Yes | ___         |
| 11. | Project Expenditure Report, Attachment F  | Yes | ___         |
| 12. | Relationship Disclosure Form, Attachment G  | Yes | ___         |
| 13. | Verification of Employment Status, Attachment H                                   | Yes | ___         |

**ACKNOWLEDGEMENT OF ADDENDA**

The Bidder shall acknowledge receipt of any addenda issued to the solicitation by completing the blocks below or by completion of the applicable information on the addendum and returning it not later than the date and time for receipt of the bid. Failure to acknowledge an addendum that has a material impact on the solicitation may negatively impact the responsiveness of your bid. Material impacts include but are not limited to changes to specifications, delivery time, performance period, quantities, bonds, letters of credit, insurance, qualifications, etc.

Addendum No. \_\_\_\_\_ Dated \_\_\_\_\_ Addendum No. \_\_\_\_\_ Dated \_\_\_\_\_

Addendum No. \_\_\_\_\_ Dated \_\_\_\_\_ Addendum No. \_\_\_\_\_ Dated \_\_\_\_\_

If awarded this construction Contract, the Bidder agrees to complete the work covered by this Contract as follows:

1. Work shall start at the project site within fourteen (14) days of the effective date of the Notice to Proceed.
2. Substantially complete in **240** consecutive calendar days from date of Official Notice to Proceed.
3. Final completion in **270** consecutive calendar days from date of Official Notice to Proceed.
4. Should the Successful Bidder fail to complete work as specified, the liquidated damage clause will apply (Part E, Contract).

The Bidder hereby agrees that the County reserves the right to waive informalities in any bid and to reject any or all bids, or to accept any bid that in its judgment will be for the best interest of the County.

**REVISED IFB Y19-767-TA BID SCHEDULE ADDENDUM 2**

<b>ITEM NO.</b>	<b>DESCRIPTION</b>	<b>EST. QTY.</b>	<b>UNIT</b>	<b>UNIT PRICE</b>	<b>EXTENDED TOTAL</b>
1	Mobilization, Demobilization, Bonds, and Permits (not to exceed 5% of the total of bid items 8 through 32)	1	LS		
2	Preconstruction Audio-Video Documentation (2 Locations)	1	LS		
3	Indemnification	1	LS		
4	Project Record Documents (a minimum of 1% of the total bid items 8 through 32)	1	LS		
5	Maintenance of Traffic (Location 1: Rhode Island Woods Circle)	1	LS		
6	Maintenance of Traffic (Location 2: Sunflower Trail)	1	LS		
7	Public Information Officer	1	LS		
8	Erosion and Sediment Control (Location 1: Rhode Island Woods Circle)	1	LS		
9	Erosion and Sediment Control (Location 2: Sunflower Trail)	1	LS		
10	Stabilized Subgrade (12" thick)	620	SY		
11	Soil Cement Base (300 PSI) (8" thick)	1,230	SY		
12	Temporary Paving (cold mix overlay) (1½" thick)	820	SY		
13	Milling and Resurfacing (1½" thick)	350	SY		
14	Road Crossing Pavement Restoration	134	SY		
15	Asphalt Pavement Removal and Replacement (1½" thick)	1,200	SY		
16	Concrete Pavement Replacement (4" thick)	275	SY		
<u>17</u>	<u>Concrete Pavement Replacement (6" thick)</u>	<u>20</u>	<u>SY</u>		
18	Storm Underdrain Pipe Replacement (18" RCP)	15	LF		
19	Concrete Curb and/or Curb & Gutter Replacement	140	LF		
20	PVC Coating Chain Link Fence Install/Replacement (6' high)	20	LF		
<u>21</u>	<u>Remove Existing 8" Pipe</u>	<u>60</u>	<u>LF</u>		
22	Remove Existing 24" Pipe	1,150	LF		
23	Remove Existing 30" Pipe	470	LF		
24	Install 24-inch PVC Force Main, w/Fittings and RJ's	1,100	LF		
25	Install 30-inch PVC Force Main, w/Fittings and RJ's	500	LF		



**REVISED IFB Y19-767-TA BID SCHEDULE ADDENDUM 2**

<b>ITEM NO.</b>	<b>DESCRIPTION</b>	<b>EST. QTY.</b>	<b>UNIT</b>	<b>UNIT PRICE</b>	<b>EXTENDED TOTAL</b>
26	Plug Valve with Box (24" diameter)	2	EA		
27	Plug Valve with Box (30" diameter)	2	EA		
28	Tapping Sleeve and Valve Assembly (24" diameter)	2	EA		
29	Tapping Sleeve and Valve Assembly (30" diameter)	2	EA		
30	24-inch Line Stop Assemblies	2	EA		
31	30-inch Line Stop Assemblies	2	EA		
32	Air Release Valve Assembly (4" diameter)	3	EA		
ESTIMATED TOTAL (LINES 1 THROUGH 32)				\$	

**BID ADDITIVES**

<b>BID ADDITIVE ITEM NO.</b>	<b>DESCRIPTION</b>	<b>EST. QTY.</b>	<b>UNIT</b>	<b>UNIT PRICE</b>	<b>EXTENDED TOTAL</b>
1	Abandon-In-Place and Grout Fill 24-inch Force Main	1,150	LF		
2	Abandon-In-Place and Grout Fill 30-inch Force Main	470	LF		

REVISED SECTION 01025(ADDENDUM 2)

**MEASUREMENT AND PAYMENT**

**PART 1 - GENERAL**

1.01 REQUIREMENTS INCLUDED

- A. This Section specifies administrative and procedural requirements to define pay items and determine payable amounts, and includes but is not limited to:
  - 1. General Provisions
  - 2. Work Not Paid for Separately
  - 3. Measurement for Payment
  - 4. Partial Payment for Stored Materials and Equipment

1.02 GENERAL PROVISIONS

- A. This specification includes standard descriptions for all bid items. This Contract's specific bid items are listed in the Bid Schedule.
- B. The total Contract Amount shall cover the Work required by the Contract Documents. All costs in connection with the successful completion of the Work, including furnishing all materials, equipment, supplies, and appurtenances; providing all construction, equipment, and tools; and performing all necessary labor and supervision to fully complete the Work, shall be included in the unit and lump sum prices bid. All Work not specifically set forth as a pay item in the Bid Form shall be considered a subsidiary obligation of the Contractor and all costs in connection therewith shall be included in the prices bid.
- C. If used, all estimated quantities stipulated in the Bid Schedule or other Contract Documents are approximate and are to be used only (a) for the purpose of comparing the bids submitted for the Work, and (b) as a basis for determining an initial Contract Amount. The actual amounts of Work completed and materials furnished under unit price items may differ from the estimated quantities. The County does not expressly or by implication represent that the actual quantities involved will correspond exactly to the quantities stated in the Bid Schedule; nor shall the Contractor plead misunderstanding or deception because of such estimate or quantities or of the character, location or other conditions pertaining to the Work. Payment to the Contractor will be made only for the actual quantities of work performed or material furnished in accordance with the Drawings and other Contract Documents, and it is understood that the quantities may be increased or decreased as provided in the General Conditions.

- D. If used, the unit prices listed in the Bid Schedule shall include all services, obligations, responsibilities, labor, materials, devices, equipment, royalties and license fees, supervision, temporary facilities, construction equipment, bonds, insurance, taxes, clean up, traffic control, control surveys, field offices, close out, overhead and profit and all connections, appurtenances and any other incidental items of any kind or nature, as are necessary to complete the Work in accordance with the Contract Documents.
- E. Except for mobilization/demobilization and project record documents, payment for Work will be based on the percent of completed work of each item in the Schedule of Values, including stored materials, as determined by the County. Progress of work in each item of the Schedule of Values will be determined separately by the County. However, the County will issue a single payment certificate for progress on the Contract.
- F. The Contractor agrees that it will make no claim for damages, anticipated profits, or otherwise because of any difference between the amounts of work actually performed and materials actually furnished and the estimated amounts therefore.
- G. Where payment by scale weight is specified under certain items, the Contractor shall provide suitable weighing equipment which shall be kept in accurate adjustment at all times and certified. The weighing of all material shall be performed by the Contractor in the presence and under the supervision of the County.
- H. All schedules included in the Contract Documents are given for convenience and are not guaranteed to be complete. The Contractor shall assume all responsibility for the making of estimates of the size, kind, and quantity of materials and equipment included in work to be done under this Contract.
- I. Where pipe fittings are noted on the Drawings, such notation is for the Contractor's convenience and does not relieve the Contractor from laying and jointing different or additional items where required.
- J. All contracts shall be subject to 10% minimum retainage as defined in the General Conditions and the Agreement.

### 1.03 WORK NOT PAID FOR SEPARATELY

- A. Delivery: Payment for equipment delivery, storage or freight shall be included in the pay items including their installation and no other separate payment will be made therefore.
- B. Bonds: Payment for bonds required by the Contract shall be included in the pay items for the Work covered by the required bonds and no separate payment will be made.
- C. Preparation of Site: Payment for preparation of site shall be included in pay items proposed for the various items of Work and no separate payment will be made therefore. Preparation of site includes setting up construction plant, offices, shops, storage areas, sanitary and other facilities required by the specifications or state law or regulations; providing access to the site; obtaining necessary permits and licenses; payments of fees; general protection, temporary heat and utilities including electrical power; providing shop

and working drawings, certificates and schedules; providing required insurance; preconstruction photographs and videos; clearing and grubbing; removal of existing pavements, sidewalks and curbs; trench excavation, sheeting, shoring and bracing; dewatering and disposal of surplus water; structural fill, backfill, compaction and grading; testing materials and apparatus; maintenance of drainage systems; appurtenant work; record drawing and close-out documentation; cleaning up; and all other work regardless of its nature which may not be specifically referred to in a Bid Item but is necessary for the complete construction of the project set forth by the Contract.

D. Permitting & Permit Fees.

E. The County reserves the right to delete any item included in the Schedule of Values and decrease the Contract Price by the scheduled amount for the item deleted.

#### 1.04 MEASUREMENT FOR PAYMENT

A. Methods of Measurement - Generally:

1. Units of measurement shall be defined in general terms as follows:

- a. Linear Feet (LF)
- b. Square Feet (SF)
- c. Square Yards (SY)
- d. Cubic Yards (CY)
- e. Each (EA)
- f. Sacks (SK)
- g. Lump Sum (LS)

2. Unit Price Contracts/Items:

- a. Linear Feet (LF) shall be measured along the horizontal length of the centerline of the installed material, unless otherwise specified. Pipe shall be measured along the length of the completed pipeline, regardless of the type of joint required, without deduction for the length of valves or fittings. Pipe included within the limits of lump sum items will not be measured.
- b. Square Feet (SF), Square Yards (SY), Cubic Yards (CY), Each (EA) and Sacks (SK) shall be measured as the amount of the unit of measure installed and compacted within the limits specified and shown in the Specifications and Drawings. Slope angles and elevations shall be measured using land-surveying equipment. Contractor shall provide supporting documentation (i.e. drawings, delivery tickets, invoices, survey calculations, etc.) to verify actual installed quantities.

B. Lump Sum Contracts/Items - Generally:

1. Quantities provided in the Schedule of Values are for the purpose of estimating the completion status for progress payments. Payment will be made for each individual item on a percentage of completion basis as estimated by the Contractor and approved by the County.
2. Adjustments to costs provided in the accepted Schedule of Values may be made only by Change Order.
3. The County reserves the right to delete any item included in the Schedule of Values and decrease the Contract Price by the scheduled amount for the item deleted.

## 1.05 MEASUREMENT AND PAYMENT ITEMS

A. ***Only those bid items included in the Bid Schedule are applicable for this Contract.*** The County has standardized the measurement and payment items. Currently, there are approximately 100 measurement and payment items describing approximately 300 bid items. The bid item numbering system comprises five sections that are divided into 23 subsections. The sections and subsections are listed below.

- 10. General Requirements
  - 10.1 General
- 11. Site Work
  - 11.1 Miscellaneous
  - 11.2 Road Work
  - 11.3 Install/Replace Fence or Wall
  - 11.4 Bypass Pumping
  - 11.5 Abandon or Remove Pipe/Structure
- 12. Pressure Pipes
  - 12.1 Pressure Pipe and Fittings and Restrained Joints
  - 12.2 Valves
  - 12.3 Tapping Sleeve and Valve Assembly
  - 12.4 Cut-in Connections to Existing Main
  - 12.5 Piping Appurtenances
  - 12.6 Directional Drill
  - 12.7 Pipe Bursting
- 13. Wastewater Collection System
  - 13.1 Cleaning Sanitary Sewers
  - 13.2 CCTV Sanitary Sewers
  - 13.3 Install/Replace Sanitary Sewer
  - 13.4 Install/Replace Sanitary Manholes
  - 13.5 Sanitary Manhole Rehabilitation
  - 13.6 Sanitary Service Laterals and Cleanouts
  - 13.7 Cured-in-Place Pipe (CIPP) Liner
  - 13.8 Sanitary Sewer Pipe Bursting
- 14. Pump Stations
  - 14.1 Wastewater Duplex Pump Station
  - 14.2 Wastewater Triplex Pump Station

All of the subsections have bid item measurement and payment descriptions. Several bid items in the Project Bid Schedule may be described with the same bid item measurement and payment description in Table A, "Measurement and Payment Items". The bid items in the Project Bid Schedule are related to the Section 01025 measurement and payment items as follows:

1. All of the bid items in the Project Bid Schedule have 8 numerical digits.
2. Table A, "Measurement and Payment Items" for each of the bid items there are five numerical digits followed by ".xxx".
3. The first 5 numerical digits of the bid item in the Project Bid Schedule designate the measurement and payment item found in Table A, "Measurement and Payment Items."

**Table A**

<b>BID ITEM</b>	<b>MEASUREMENT AND PAYMENT ITEMS</b>
	<b>10 GENERAL REQUIREMENTS</b>
	<b>10.1 - General</b>
1	<b>Reference ID 10.110.110 Mobilization, Demobilization, Bonds, and Permits (not to exceed 5% of the total of all bid items except bid items under section 10.1 General)</b>
	<p>a. Measurement: Measurement of various items for Mobilization and Demobilization shall not be made for payment and all items shall be included in the lump sum price. <u>This lump sum price shall not exceed 5% of the total of all bid items except bid items under section 10.1 General.</u></p> <p>b. Payment: Payment of 50 percent of the applicable lump sum price for the item shall be full compensation for the Work consisting of the preparatory Work and operations in mobilizing for beginning Work on the Contract, including, but not limited to, movement of those personnel, equipment, supplies and incidentals to the project site, preparation of submittals, and for the establishment of temporary offices and buildings, safety equipment and first aid supplies, project signs, field surveys, sanitary and other facilities required by these specifications, and State and local laws and regulations. The costs of General Requirements (Section 01001), bonds, permits, and any required insurance, project signs total of two, one sign per location), and any other preconstruction expense necessary for the start of the work, excluding the cost of construction materials, shall also be included. This Work also consist of the general project management of the Work including, but not limited to, field supervision and office management, as well as other incidental cost for management of the Work during the duration of the Contract. This Work also includes maintenance of the field offices for the duration of the Contract.</p> <p>Payment of the remaining 50 percent of the applicable lump sum price for this item also consists of demobilization or the operations normally involved in ending Work on the project including, but not limited to, termination and removal of temporary utility service and field offices; demolition and removal of temporary structures and facilities; restoration of Contractor storage areas; disposal of trash and rubbish, and any other post-construction work necessary for the proper conclusion of the Work.</p>
2	<b>Reference ID 10.120.110 Preconstruction Audio-Video Documentation</b>
	<p>a. Measurement: Measurement shall be based on the satisfactory submittal of a comprehensive two-location pre-construction video in accordance with the County requirements and specifications (Section 01101).</p> <p>b. Payment: Payment of the applicable Contract lump sum price as stated in the proposal will be full compensation for furnishing all labor, materials, and</p>

	equipment necessary to create a comprehensive pre-construction video at each of the two project locations in accordance with the County requirements and specification.
3	<b>Reference ID 10.130.110 Indemnification</b>
	a. Payment: In consideration of the Contractor's Indemnity Agreement as set out in the Contract Documents, the County specifically agrees to give the Contractor a maximum of \$100.00 and other good and valuable consideration, receipt of which is acknowledged upon signing of the Agreement.
4	<b>Reference ID 10.140.110 Project Record Documents (a minimum of 1% of the total of all bid items except bid items under section 10.1 General)</b>
	a. Measurement: Measurement for this item shall be based on satisfactory progress of the Contractor to provide Project Record Documents in accordance with the County requirements and specifications (Section 01720). Various items for Project Record Documents shall not be made for individual payment and all items shall be included in the lump sum price. <u>This lump sum price shall be a minimum of 1% of the total of all bid items except bid items under section 10.1 General).</u> b. Payment: Payment of the applicable Contract lump sum price as stated in the proposal will be full compensation for furnishing all labor, materials, and equipment necessary to create the Project Record Drawings, including the certified as-built survey, in accordance with the County requirements and specifications. Payment will be made at the lump sum price divided into equal monthly payments based on the Contract Time and acceptance by County of the progressive as-built drawings and tables.
5 & 6	<b>Reference ID 10.150.110 Maintenance of Traffic</b>
	a. Measurement: Measurement shall be based on satisfactory Maintenance of Traffic (MOT) in accordance with County requirements and Florida Department of Transportation (FDOT) standards. b. Payment: Payment of the applicable Contract lump sum price as stated in the proposal will be full compensation for furnishing all labor, materials, and equipment necessary to maintain public roadway and pedestrian traffic including flag men, uniformed police officers, barricades, warning lights/flashers, and safety ropes. Also included is furnishing, installing and maintaining a Traffic Control Plan, control and safety devices, control of dust, temporary crossing structures over trenches, any necessary detour facilities, and other special requirements for the safe and expeditious movements of traffic.
7	<b>Reference ID 10.160.110 Public Information Officer</b>
	a. Measurement: Measurement shall be based on satisfactory Public Information/Relations in accordance with County requirements. b. Payment: Payment of the applicable Contract lump sum price as stated in the proposal will be full compensation for furnishing all labor, materials, and

	equipment necessary to provide and maintain communication with those individuals having a residence, business, or property adjacent to or within 1,000-feet of the construction area. Payment shall include the rental of venues, preparation of and conducting all meetings, and preparation of and disbursement of printed materials.
	<b>11 SITE WORK</b>
	<b>11.1 – Miscellaneous</b>
8 & 9	<b>Reference ID 11.110.110 Erosion and Sediment Control</b>
	<p>a. Measurement: Measurement shall be based on satisfactory Erosion and Sediment Control in accordance with the County requirements and specifications (Section 01560).</p> <p>b. Payment: Payment of the applicable Contract lump sum price as stated in the proposal will be full compensation for furnishing all labor, materials, and equipment to control and prevent sediment transportation from the Work area to adjacent properties, including installation, maintenance, and removal of temporary erosion and sediment controls.</p>
	<b>11.2 - Road Work</b>
10	<b>Reference ID 11.200.110 Stabilized Subgrade (12” thick)</b>
	<p>a. Measurement: Stabilized Subgrade shall be measured in actual square yard of Type B Stabilization (LBR 40) removed and installed in accordance with the County requirements and Specifications Section 02750.</p> <p>b. Payment: Payment will be made at the contract unit price bid per square yard as stated in the proposal for Stabilized Subgrade (12”) and shall include all labor, materials and equipment to remove existing subgrade and to stabilize the top 12” of subbase material to an LBR of 40 per FDOT Section 160. Any areas that are not feasible to stabilize and mix 12” deep, the Contractor may be allowed to substitute 50% more base thickness in place of stabilization at the same stabilization price.</p>
11	<b>Reference ID 11.212.111 Soil Cement Base (300 psi) (8” thick)</b>
	<p>a. Measurement: Soil Cement Base shall be measured in actual square yards of limerock base with prime and tack coats installed in accordance with the County requirements and specifications (Section 02571).</p> <p>b. Payment: Payment will be made at the contract unit price bid per square yard as stated in the proposal for Soil Cement Base and shall include all labor, materials and equipment to install, spread, and compact limerock base. No separate payment will be made for prime and tack coats.</p>
12	<b>Reference ID 11.220.110 Temporary Paving (cold mix overlay) (1½” thick)</b>
	<p>a. Measurement: Temporary Paving shall be measured in actual square yards of temporary paving furnished and installed in accordance with the Plans and Specifications.</p>



	<p>b. Payment: Payment will be made at the contract unit price bid per square yard as stated in the proposal for Temporary Paving and shall include all labor, materials, and equipment to apply the cold mix overlay in accordance with County requirements and specifications. The unit price bid shall also include traffic signalization repair, and temporary striping and markings.</p>
13	<p><b>Reference ID 11.230.110 Milling and Resurfacing (1½” thick)</b></p>
	<p>a. Measurement: Milling and Resurfacing shall be measured in actual square yards over which the milling and subsequent resurfacing is completed and accepted at the thickness as indicated in the Drawings.</p> <p>b. Payment: Payment will be made at the contract unit price bid per square yard as stated in the proposal for Milling and Resurfacing and shall include all labor, materials, and equipment to mill surface; dispose of milled materials; and apply Type SP 12.5 asphalt surface overlay in accordance with County requirements and specifications. The unit price bid shall also include traffic signalization repair, and permanent and temporary striping and markings.</p>
14	<p><b>Reference ID 11.240.110 Road Crossing Pavement Restoration</b></p>
	<p>a. Measurement: Road Crossing Pavement Restoration shall be measured in actual square yards of existing asphalt paving and subgrade removal and replacement furnished and installed in accordance with the County requirements and specifications. The width measured for payment of asphalt surface repair, as measured perpendicular to the centerline of the pipe, shall be limited to the width shown on the Drawings (maximum pay width of 8-feet). The length shall be as measured along the centerline of the pipe.</p> <p>b. Payment: Payment will be made at the contract unit price bid per square yard as stated in the proposal for Road Crossing Pavement Restoration and shall include all labor, materials, and equipment necessary to provide a safe, smooth driving surface. The Work shall include saw cutting, pavement removal and proper disposal of exiting pavement, installing high early concrete and asphalt surface into a properly prepared subgrade, traffic signalization repair, and temporary and permanent striping and markings in accordance with the County requirements and specifications.</p>
15	<p><b>Reference ID 11.241.110 Asphalt Pavement Removal and Replacement (1½” thick)</b></p>
	<p>a. Measurement: Asphalt Pavement Removal and Replacement shall be measured in actual square yards of existing asphalt paving and removal and replacement furnished and installed in accordance with the County requirements and specifications. The width measured for payment of asphalt surface repair, as measured perpendicular to the centerline of the pipe, shall be limited to the width shown on the Drawings. The length shall be as measured along the centerline of the pipe.</p> <p>b. Payment: Payment will be made at the contract unit price bid per square yard as stated in the proposal for Asphalt Pavement Removal and Replacement and shall include all labor, materials, and equipment necessary to provide a</p>

	safe, smooth driving surface. The Work shall include saw cutting; pavement removal and proper disposal of exiting pavement, installing prime coat, tack coat, and asphalt, compaction, traffic signalization repair, and temporary and permanent striping and markings in accordance with the County requirements and specifications. Payment will be made once and shall include both temporary and permanent Asphalt Roadway Replacement.
16 & 17	<b>Reference ID 11.250.110 Concrete Pavement Replacement (4" and 6" thick)</b>
	<p>a. Measurement: Concrete Pavement Replacement shall be measured in actual square yards of concrete removed and replaced. Width of replaced sidewalk shall match that of existing sidewalk. Replaced portions of driveways shall conform to the lines and grades of removed portions of driveways. Thickness of pavement shall be as indicated in the plans and specifications.</p> <p>b. Payment: Payment will be made at the contract unit price bid per square yard as stated in the proposal for Concrete Pavement Replacement and shall include all labor, materials, and equipment for saw-cutting, removal and proper disposal of existing concrete, compaction, form work, concrete replacement, restoration, and clean-up for a complete installation.</p>
18	<b>Reference ID 11.270.110 Storm Underdrain Pipe Replacement (18" diameter)</b>
	<p>a. Measurement: Storm Underdrain Pipe Replacement shall be measured in actual linear feet satisfactorily removed and replaced, as measured along the length of the centerline of the completed pipeline.</p> <p>b. Payment: Payment will be made at the contract unit price bid per linear feet as stated in the proposal for Storm Underdrain Pipe Replacement and shall include all labor, materials, and equipment to remove and replace the respective storm pipe including temporary stormwater management, protection of existing utilities and irrigation, dewatering, excavation, pipe replacement, connection to existing storm pipes utilizing collars wrapped in 6-feet of filter fabric, replacement of mitered end sections, backfill, compaction, grading, sod replacement, restoration and clean-up.</p>
19	<b>Reference ID 11.280.110 Concrete Curb and/or Curb and Gutter Replacement</b>
	<p>a. Measurement: Concrete Curb and/or Curb and Gutter Replacement shall be measured in actual linear feet removed and replaced measured along the centerline of the curb within the excavation of the trench to a maximum width equal to the width of asphalt pavement cut. All additional curb and gutter damaged shall be replaced by the Contractor at his own expense.</p> <p>b. Payment: Payment will be made at the contract unit price bid per linear feet as stated in the proposal for Concrete Curb and Gutter Replacement and shall include all labor, materials, and equipment for saw-cutting, removal and proper disposal of existing concrete curb and gutter, compaction, and concrete curb and gutter replacement for a complete installation.</p>

	<b>11.3 - Install/Replace Fence or Wall</b>
20	<b>Reference ID 11.310.111 PVC Coated Chain Link Fence Install/Replacement (6' high)</b>
	<p>a. Measurement: Chain Link Fence Replacement shall be measured in actual linear feet removed and replaced as measured along the centerline of the fence within the construction excavation. All additional fencing damaged shall be replaced by the Contractor at his own expense.</p> <p>b. Payment: Payment will be made at the contract unit price bid per linear feet as stated in the proposal for Chain Link Fence Replacement and shall include all labor, materials, and equipment to remove and properly dispose of existing chain link fence and concrete and install new chain link fence including replacement fence, gate, support posts and concrete for a complete installation.</p>
	<b>11.5 - Abandon or Remove Pipe/Structure</b>
ADD. 1 & 2	<b>Reference ID 11.510.111 Abandon-in-Place Pipe (24" and 30" diameter)</b>
	<p>a. Measurement: Abandon-in-Place Pipe, regardless of size and material, shall be measured in actual linear feet satisfactorily abandoned-in-place in accordance with the County requirements and specifications (Section 02080). Pipe abandonment shall be measured along the centerline without deduction for valves and fittings. <u>Measurement for Sample Collection for Pipelines shall be made per number of samples of existing pipe satisfactorily removed, salvaged and provided to Orange County Utilities.</u></p> <p>b. Payment: Payment will be made at the contract unit price bid per linear feet as stated in the proposal for Abandon-in-Place Pipe and shall include all labor, materials, and equipment to excavate, backfill and compact; sheet, shore, and brace; dewater; completely drain and properly dispose of pipe contents; grout fill, and plug or cap existing pipes of all services and sizes designated "to be abandoned" on the Drawings; <u>payment for sample collection of pipeline shall be made per actual number of samples of existing pipe removed and salvage of the lengths specified for all services and sizes designated "remove and salvage pipe sample" on the Drawings including all coordination with Orange County Utilities.</u> Also included in this item is the removal of existing valve boxes located on valves connected to piping designated to be retired. Valve boxes shall be removed, backfilled and compacted with suitable material.</p>
21, 22 & 23	<b>Reference ID 11.530.110 Remove Existing Pipe (8", 24" and 30" diameter)</b>
	<p>a. Measurement: Remove Existing Pipe, regardless of size and material, shall be measured in actual linear feet satisfactorily excavated, removed, and salvaged in accordance with the County requirements and specifications (Section 02080). Pipe removal shall be measured along the centerline without deduction for valves and fittings. Also included in this item is the removal and salvage of items including air release valves and vaults, and fire</p>

	<p>hydrant assemblies. <u>Measurement for Sample Collection for Pipelines shall be made per number of samples of existing pipe satisfactorily removed, salvaged and provided to Orange County Utilities.</u></p> <p>b. Payment: Payment will be made at the contract unit price bid per linear feet as stated in the proposal for Remove Existing Pipe and shall include all labor, materials, and equipment to sheet, shore, and brace; dewater; excavate; completely drain and properly dispose of pipe contents; plug or cap; restoration, sod, clean-up; remove and salvage pipe of all services and sizes designated "to be removed" on the Drawings, backfill and compact; <u>payment for sample collection of pipeline shall be made per actual number of samples of existing pipe removed and salvaged of the lengths specified for all services and sizes designated "remove and salvage pipe sample" on the Drawings including all coordination with Orange County Utilities.</u> Also included in this item is the removal and salvage of items (as listed in Specification Section 02080) attached to the piping to be removed.</p>
	<b>12 PRESSURE PIPES</b>
	<b>12.1 - Pressure Pipes with Fittings and Restrained Joints</b>
24 & 25	<b>Reference ID 12.130.XXX Forcemain with Fittings and Restrained Joints (RJ) (24" and 30")</b>
	<p>a. Measurement: Forcemain installation regardless of type and size shall be measured in actual linear feet satisfactorily furnished and laid, as measured along the length of the centerline of the completed pipeline, regardless of the type of joint required, without deduction for the length of valves and fittings. Pipe included within the limits of lump sum pay items will not be measured for payment under this item.</p> <p>b. Payment: Payment will be made at the contract unit price bid per linear feet as stated in the proposal for Forcemain w/Fittings and RJs and shall include all labor, materials, and equipment to construct the respective pipeline including coordination with existing utilities, protection and/or relocation of existing utilities including service connections, tree protection, excavation, sheeting, shoring and bracing, dewatering, groundwater treatment and disposal, backfill, compaction, and grading, all testing, restoration, sod and clean-up. This item also includes all necessary fittings, reducers, bends, tees, wyes, plugs, restraining devices, polyethylene encasement where required, metallic tracer wire, line locator, identification markers, and protection, removal and/or replacement of fences and gates, mailboxes, trees, shrubs, irrigation systems, landscaping and other obstructions.</p>
	<b>12.2 - Valves</b>
26 & 27	<b>Reference ID 12.220.xxx Plug Valve with Box (24" and 30")</b>
	<p>a. Measurement: Measurement for Plug Valve with Box shall be made per actual number of plug valves with valve boxes satisfactorily furnished and installed complete with covers and concrete collars.</p> <p>b. Payment: Payment for the Plug Valve with Box shall be made based on the authorized quantity at the unit price indicated in the Bid. Payment of the applicable Contract unit price shall be full compensation for furnishing all</p>

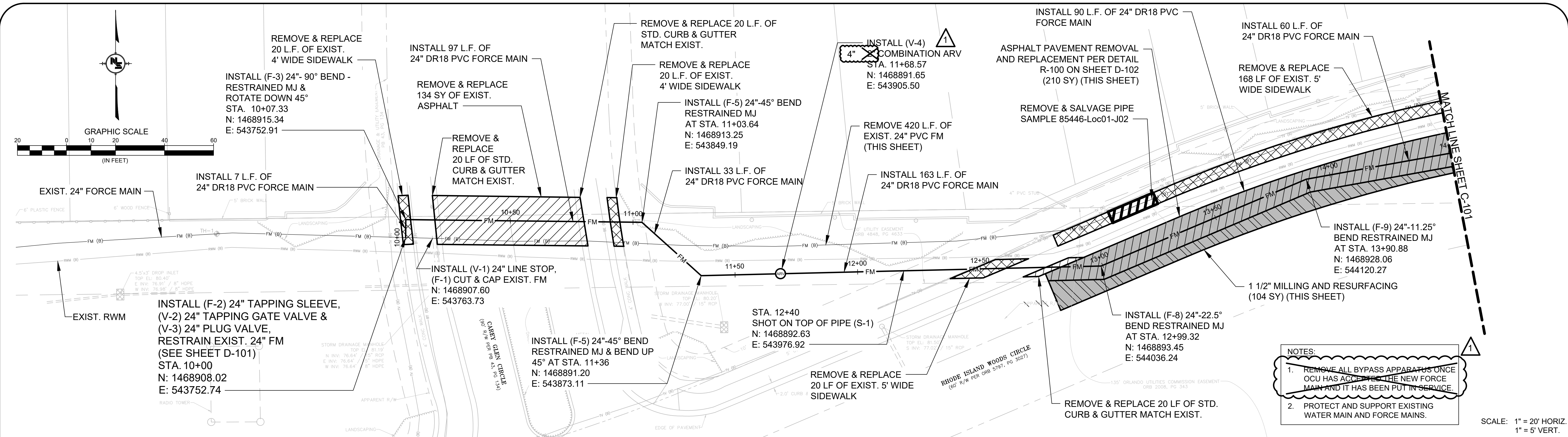
	labor, materials and equipment to install the valve, valve box, valve box extensions, test station box and cap, operating nut extensions, valve wrenches, restraining devices, covers, concrete collars, excavation, dewatering, sheeting, shoring, bracing, backfill, compaction, restoration and all other items required for a complete, acceptable and operable installation.
	<b>12.3 - Tapping Sleeve and Valve Assembly</b>
28 & 29	<b>Reference ID 12.310.118 Tapping Sleeve and Valve Assembly (24" and 30")</b>
	<p>a. Measurement: Measurement for Tapping Sleeve and Valve Assembly shall be made per actual number of tapping sleeves and valves satisfactorily furnished and installed to provide a complete and functional unit.</p> <p>b. Payment: Payment for the Tapping Sleeve and Valve Assembly shall be made based on the authorized quantity at the unit price indicated in the Bid. Payment of the applicable Contract unit price shall be full compensation for furnishing all labor, materials and equipment necessary to perform a wet tap to an existing main including excavation, sheeting, shoring, bracing, dewatering, backfill, compaction, grading, tapping sleeve, tapping valve, valve box extensions, operating nut extensions, valve wrenches, restraining devices, protection of potable water system, disinfection, coordination with existing utilities, protection and/or relocation of existing utilities and service connections, coordination with Homeowners Association, protection, repair and/or replacement of existing irrigation systems, trees, shrubs and landscaping, restoration and all other items required for a complete, acceptable and operable installation.</p>
	<b>12.5 - Piping Appurtenances</b>
30 & 31	<b>Reference ID 12.510.XXX Line Stop Assembly (24" and 30")</b>
	<p>a. Measurement: Measurement for Line Stopping Assembly shall be made per actual number of line stops satisfactorily furnished and installed to permanently or temporarily stop the flow within the indicated main at the locations shown on the Drawings.</p> <p>b. Payment: Payment for the Line Stopping Assembly shall be made based on the authorized quantity at the unit price indicated in the Bid. Payment of the applicable Contract unit price shall be full compensation for furnishing all labor, materials and equipment necessary to perform a permanent or temporary line stop on an existing main including excavation, sheeting, shoring, bracing, dewatering, backfill, compaction, grading, tapping sleeve, plug, restraining devices, restraint of existing piping in accordance with the County requirements, swabbing, restoration and clean-up and all other items required for a complete, acceptable and operable installation.</p>
32	<b>Reference ID 12.520.110 Air Release Valve Assembly (4" diameter)</b>
	<p>a. Measurement: Measurement for Air Release Valve Assembly shall be made per actual number of air release valves with enclosures satisfactorily furnished and installed to provide a complete and functional unit.</p>

	<p>b. Payment: Payment for the Air Release Valve Assembly shall be made based on the authorized quantity at the unit price indicated in the Bid. Payment of the applicable Contract unit price shall be full compensation for furnishing all labor, materials and equipment necessary to install the valve including saddle, fittings, pipe, concrete pad, pre-cast vault or enclosure, excavation, sheeting, shoring, bracing, dewatering, backfill, compaction, grading, restoration and all other items required for a complete, acceptable and operable installation.</p>
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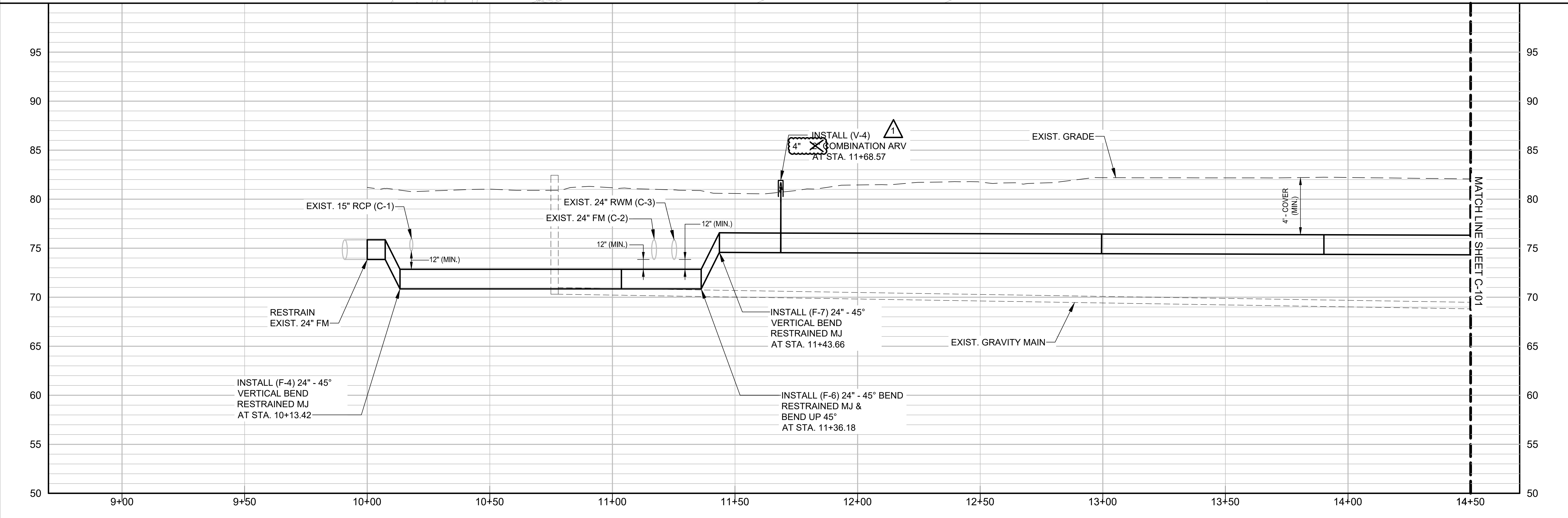
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**PART 3 - EXECUTION (NOT USED)**

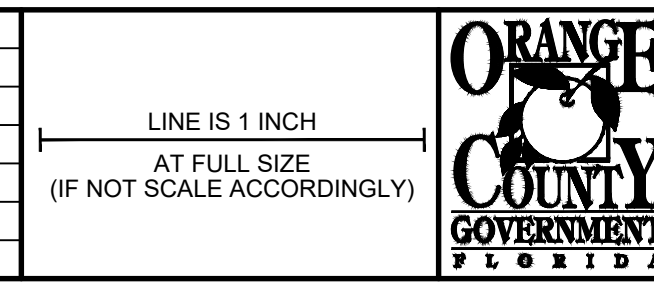
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- NOTES:
1. REMOVE ALL BYPASS APPARATUS ONCE OCU HAS ACCEPTED THE NEW FORCE MAIN AND IT HAS BEEN PUT IN SERVICE.
  2. PROTECT AND SUPPORT EXISTING WATER MAIN AND FORCE MAINS.



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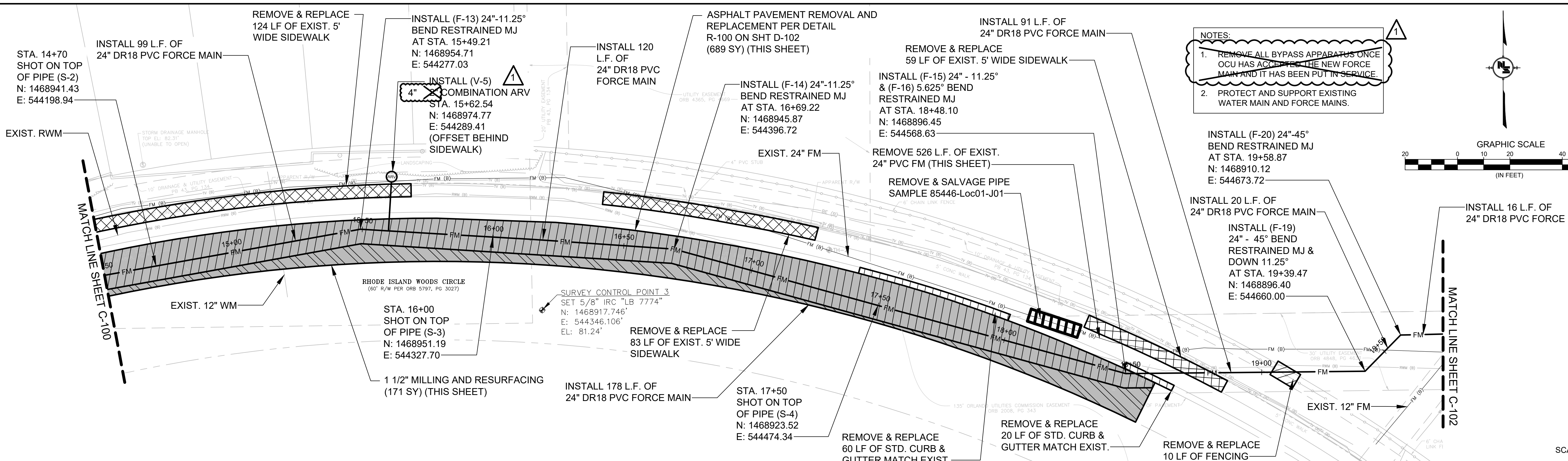
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STEVEN R. COCKERHAM, P.E. PROFESSIONAL ENGINEER FLORIDA LICENSE # 62285

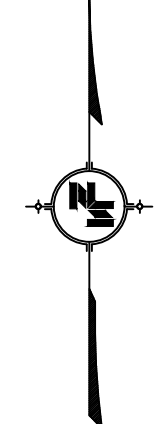
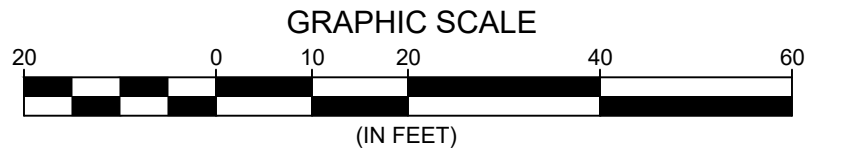
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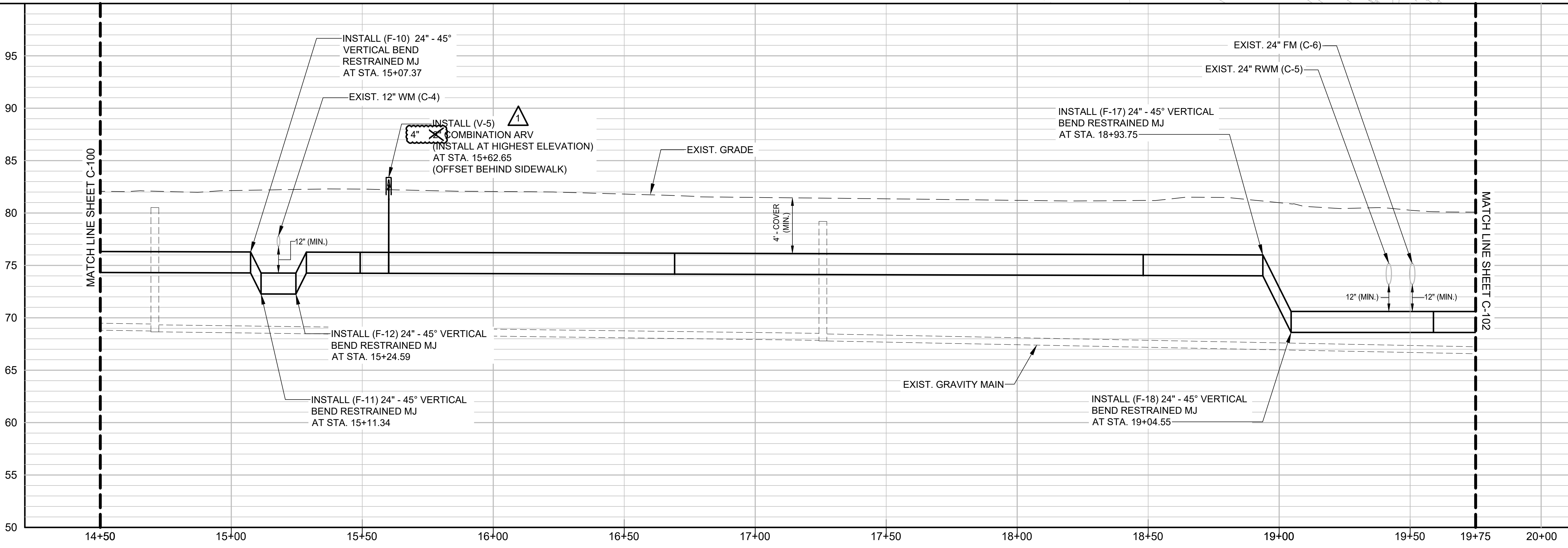


**NOTES:**

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LINE IS 1 INCH  
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LOCATION 1  
RHODE ISLAND WOODS CIRCLE  
STA. 14+50 TO STA. 19+75

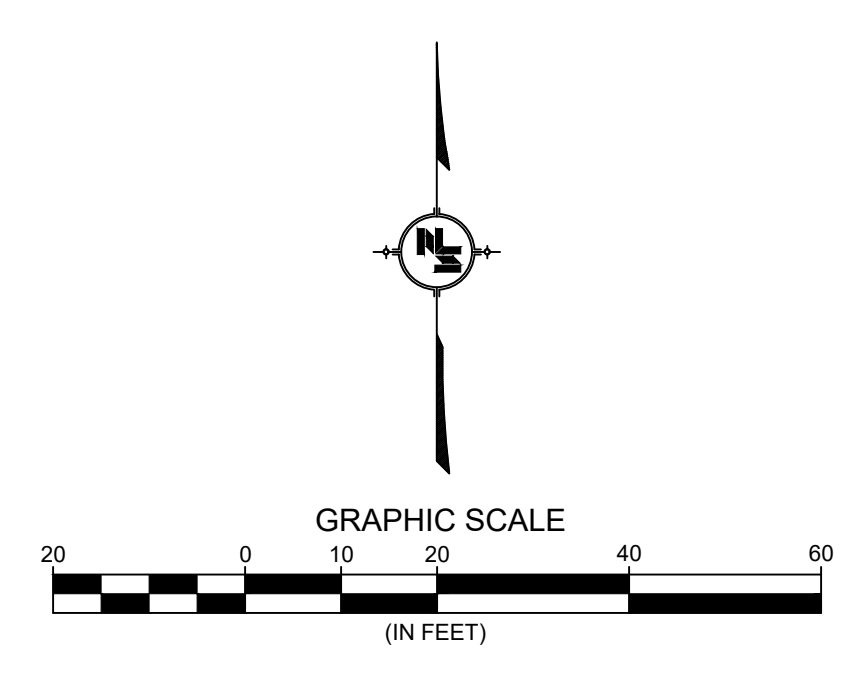
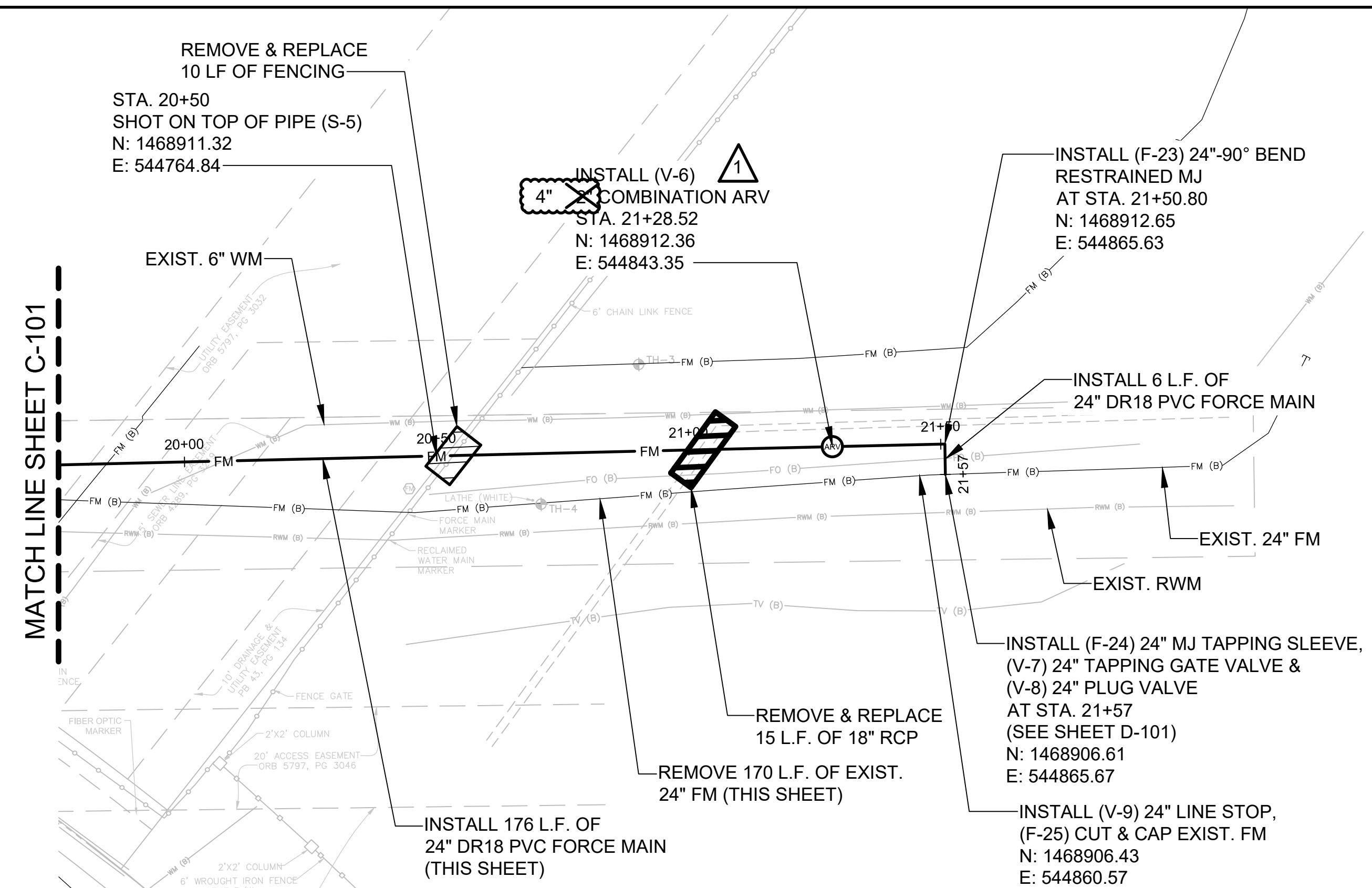
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FLORIDA LICENSE # 62285

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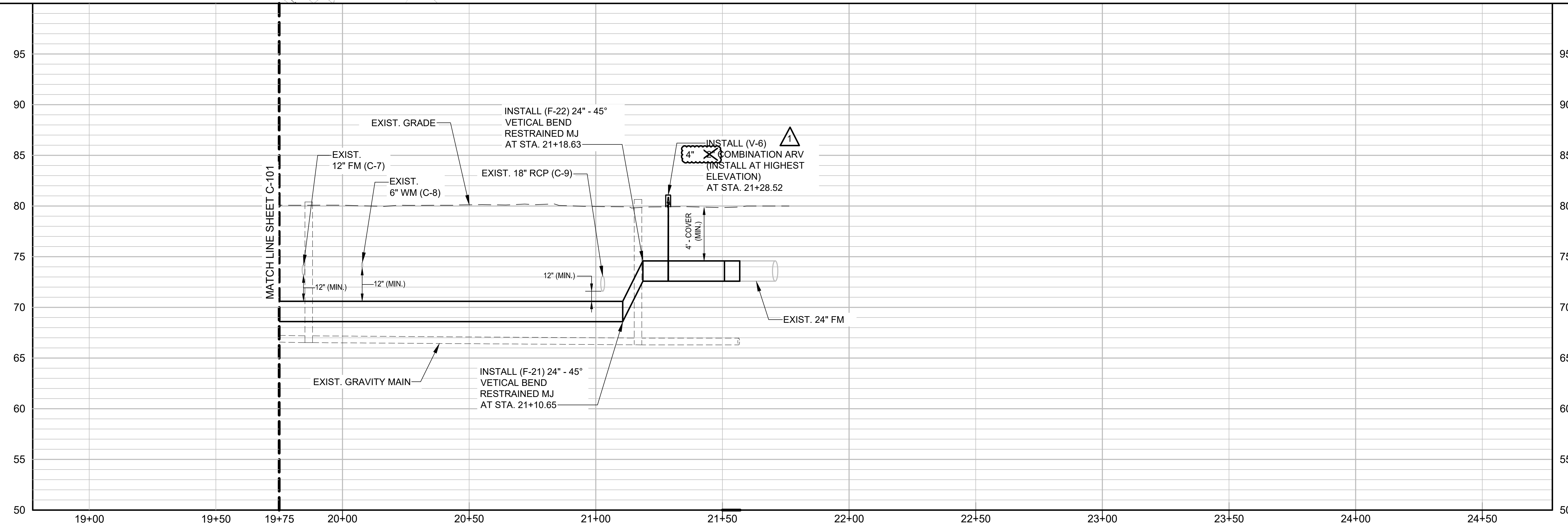
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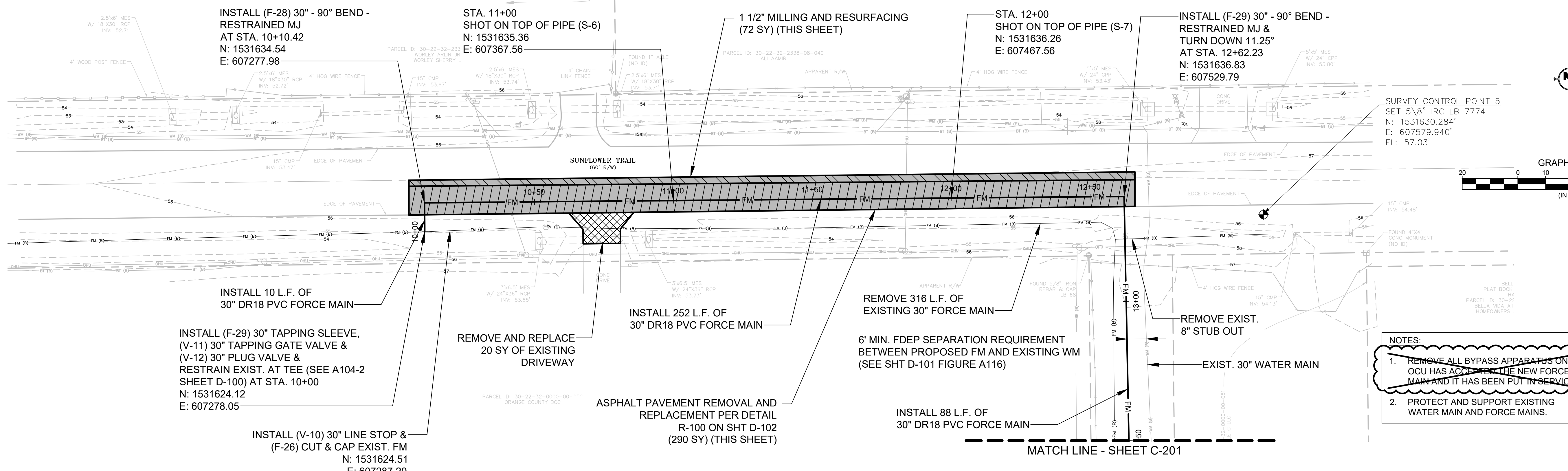
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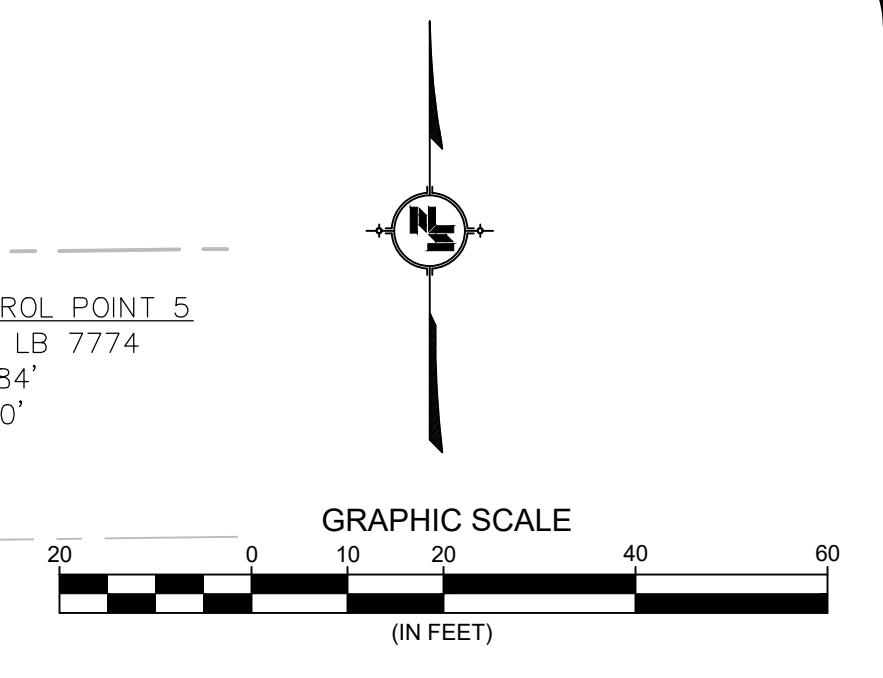
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SHEET: 10 OF 17

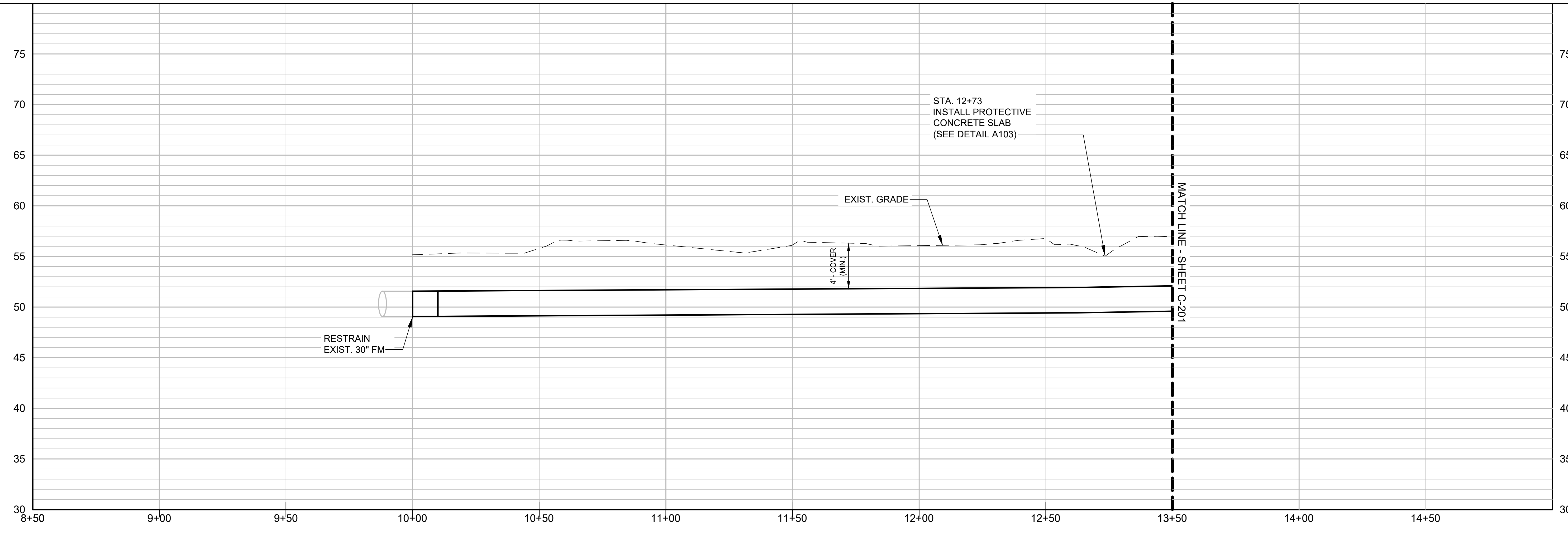
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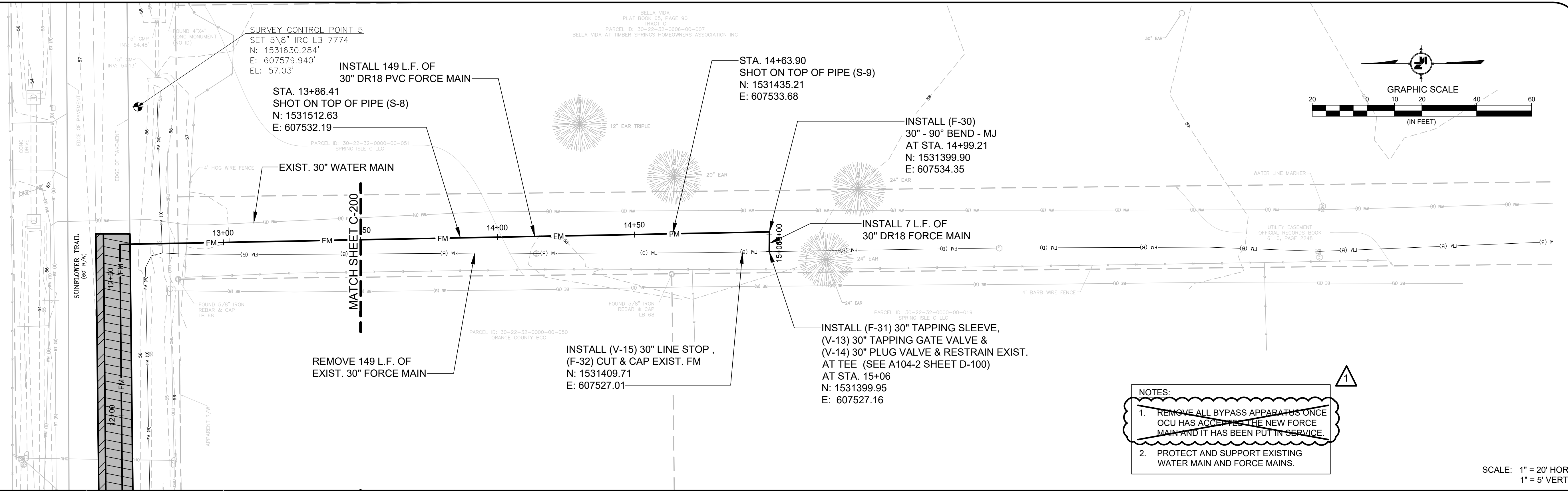
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 LOCATION 2  
 SUNFLOWER TRAIL  
 STA. 10+00 TO STA. 13+50

STEVEN R. COCKERHAM, P.E.  
 PROFESSIONAL ENGINEER  
 FLORIDA LICENSE # 62285

OCU FILE NO.: 85446  
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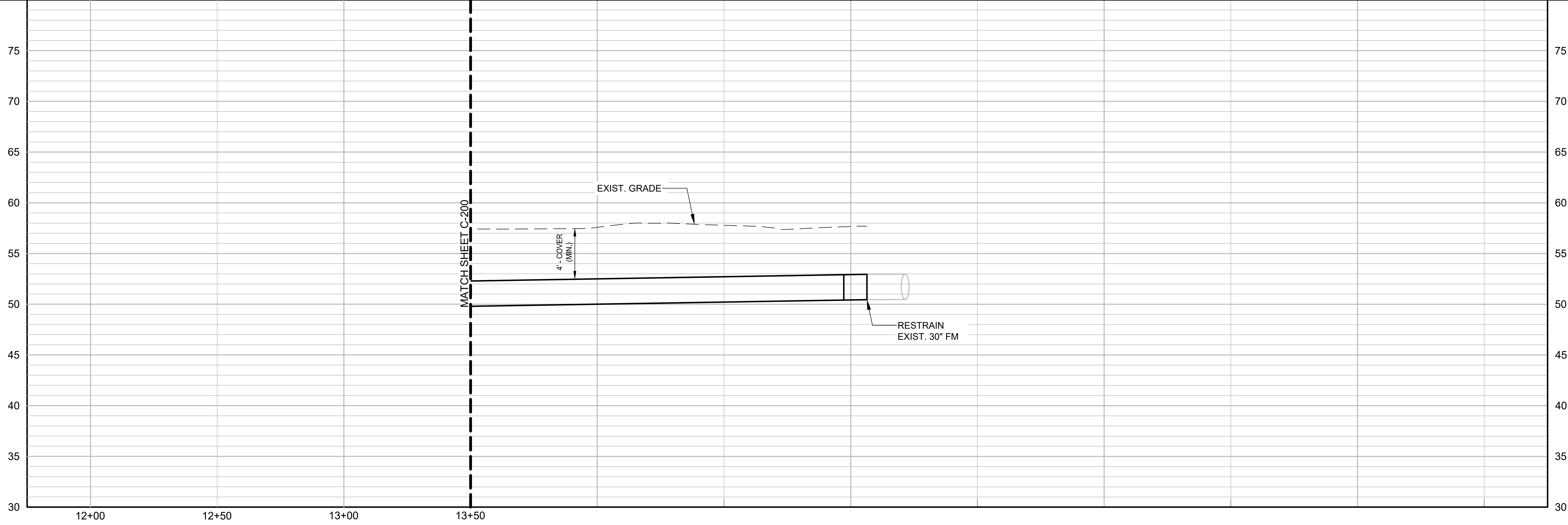
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PLAN AND PROFILE  
 LOCATION 2  
 SUNFLOWER TRAIL  
 STA. 13+50 TO STA. 15+06

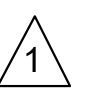
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 CHECKED BY: SRC  
 CADD FILE: C-201.dwg

STEVEN R. COCKERHAM, P.E.  
 PROFESSIONAL ENGINEER  
 FLORIDA LICENSE # 62285

SCALE: AS SHOWN  
 DRAWING NO.: **C-201**  
 SHEET: 13 OF 17

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 Tue, 25 Jun 2019 11:25pm

V-1	C-100				Line Stop	Force Main	24"
V-2	C-100				Gate	Force Main	24"
V-3	C-100				Plug	Force Main	24"
V-4	C-101				ARV - Combination	Force Main	2"
V-5	C-102				ARV - Combination	Force Main	2"
V-6	C-102				ARV - Combination	Force Main	2"
V-7	C-102				Gate	Force Main	24"
V-8	C-102				Plug	Force Main	24"
V-9	C-102				Line Stop	Force Main	24"
V-10	C-200				Line Stop	Force Main	30"
V-11	C-200				Gate	Force Main	30"
V-12	C-200				Plug	Force Main	30"
V-13	C-201				Gate	Force Main	30" 183
V-14	C-201				Plug	Force Main	30"
V-15	C-201				Line Stop	Force Main	30"



F-1	C-100				Force Main	Cap	24"
F-2	C-100				Force Main	Tapping Sleeve	24"
F-3	C-100				Force Main	Bend 90°	24"
F-4	C-100				Force Main	Bend 11 1/4°	24"
F-5	C-100				Force Main	Bend 45°	24"
F-6	C-100				Force Main	Bend 45°	24"
F-7	C-100				Force Main	Bend 45°	24"
F-8	C-100				Force Main	Bend 22-1/2°	24"
F-9	C-100				Force Main	Bend 11 1/4°	24"
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F-11	C-101				Force Main	Bend 45°	24"
F-12	C-101				Force Main	Bend 45°	24"
F-13	C-101				Force Main	Bend 11 1/4°	24"
F-14	C-101				Force Main	Bend 11 1/4°	24"
F-15	C-101				Force Main	Bend 11 1/4°	24"
F-16	C-101				Force Main	Bend 11 1/4°	24"
F-17	C-101				Force Main	Bend 45°	24"
F-18	C-101				Force Main	Bend 45°	24"
F-19	C-101				Force Main	Bend 45°	24"
F-20	C-101				Force Main	Bend 45°	24"
F-21	C-102				Force Main	Bend 45°	24"
F-22	C-102				Force Main	Bend 45°	24"
F-23	C-102				Force Main	Bend 45°	24"
F-24	C-102				Force Main	Tapping Sleeve	24"
F-25	C-102				Force Main	Cap	24"
F-26	C-200				Force Main	Cap	30"
F-27	C-201				Force Main	Tapping Sleeve	30"
F-28	C-201				Force Main	Bend 90°	30"
F-29	C-201				Force Main	Bend 90°	30"
F-30	C-201				Force Main	Bend 90°	30"
F-31	C-201				Force Main	Tapping Sleeve	30"
F-32	C-201				Force Main	Cap	30"

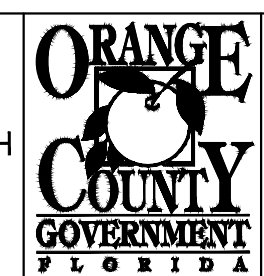
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S-2	C-101				Force Main	Shot on Pipe
S-3	C-101				Force Main	Shot on Pipe
S-4	C-101				Force Main	Shot on Pipe
S-5	C-102				Force Main	Shot on Pipe
S-6	C-200				Force Main	Shot on Pipe
S-7	C-200				Force Main	Shot on Pipe
S-8	C-201				Force Main	Shot on Pipe
S-9	C-201				Force Main	Shot on Pipe

C-1	C-100				75.2	70.6	Storm Main	15"
C-2	C-100				75.2	70.6	Force Main	24"
C-3	C-101				75.2	70.6	Reclaimed Water Main	24"
C-4	C-100				77.6	74.8	Water main	12"
C-5	C-100				75.1	71.3	Reclaimed Water Main	24"
C-6	C-100				75.1	71.2	Force Main	24"
C-7	C-100				74.8	71	Force Main	12"
C-8	C-100				74.9	70.9	Water main	6"
C-9	C-100				73	70.6	Storm Main	18"

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REV	DATE	DESCRIPTION
1	06/2019	ADDENDUM No. 2

LINE IS 1 INCH  
 AT FULL SIZE  
 (IF NOT SCALE ACCORDINGLY)



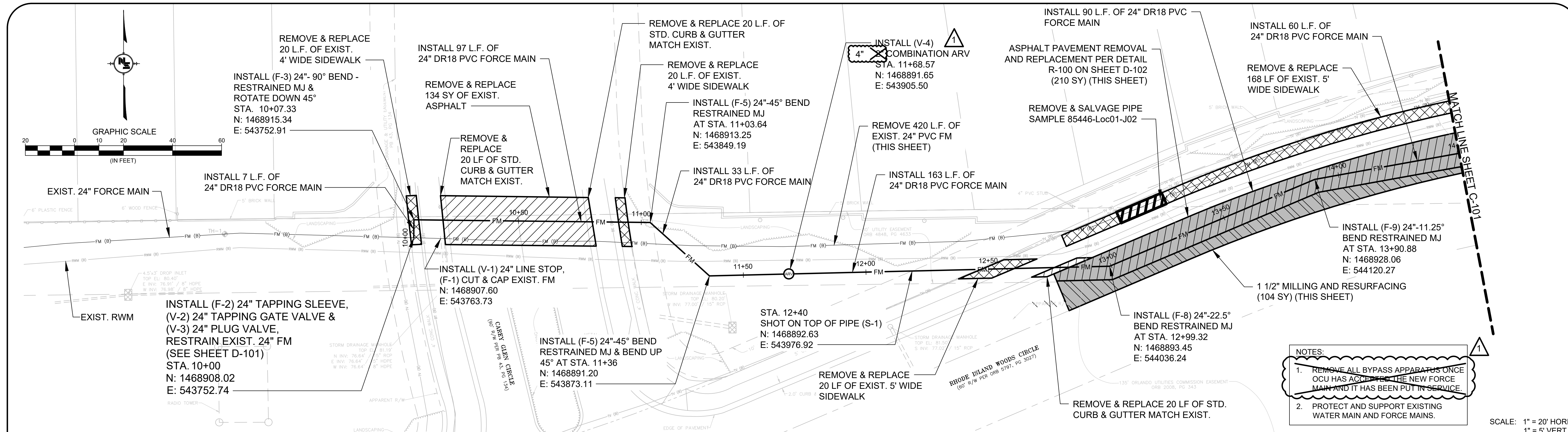
**ORANGE COUNTY UTILITIES DEPARTMENT ENGINEERING DIVISION**  
 9150 CURRY FORD ROAD ORLANDO, FL. 32825



COORDINATE ASSET TABLES  
 FOR LOCATION1 RHODE ISLAND WOODS  
 & LOCATION 2 SUNFLOWER TRAIL

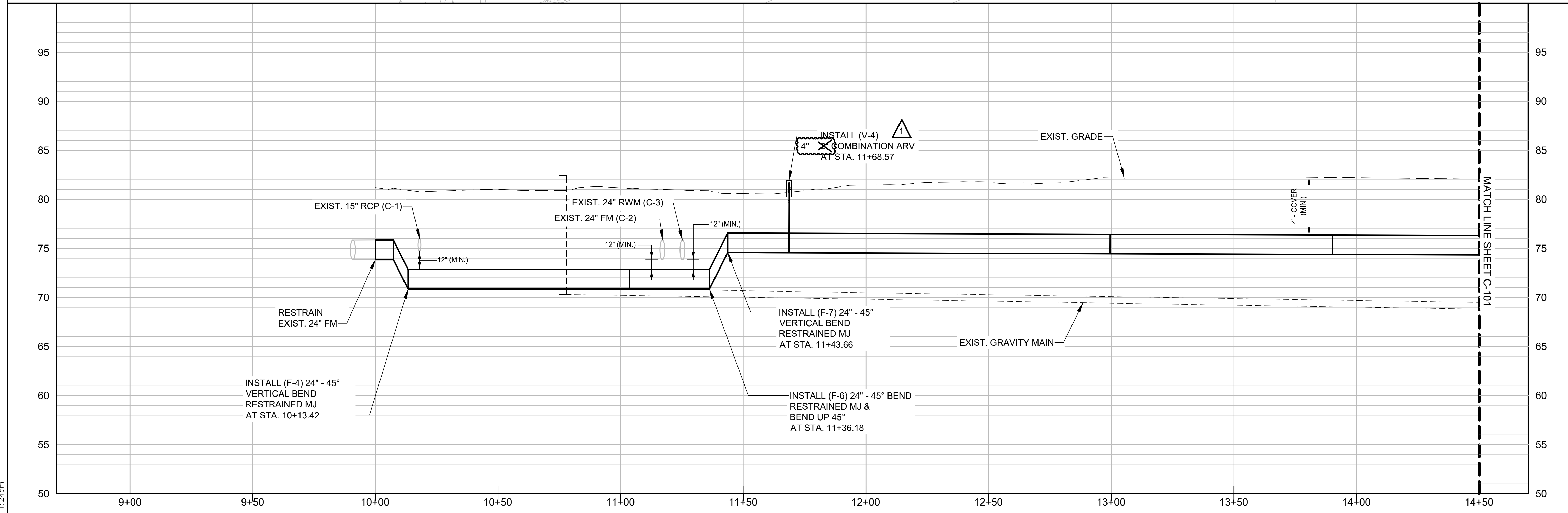
STEVEN R. COCKERHAM, P.E.  
 PROFESSIONAL ENGINEER  
 FLORIDA LICENSE #62285

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DESIGNED BY: CHH	DRAWING NO. : X-100
DRAWN BY: EDW	CHECKED BY: SRC
CADD FILE: X-100.dwg	SHEET: 17 OF 17



- NOTES:
1. REMOVE ALL BYPASS APPARATUS ONCE OCU HAS ACCEPTED THE NEW FORCE MAIN AND IT HAS BEEN PUT IN SERVICE.
  2. PROTECT AND SUPPORT EXISTING WATER MAIN AND FORCE MAINS.

SCALE: 1" = 20' HORIZ.  
1" = 5' VERT.



REV	DATE	DESCRIPTION
1	06/2019	ADDENDUM No. 2

LINE IS 1 INCH  
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**ORANGE COUNTY**  
UTILITIES DEPARTMENT  
ENGINEERING DIVISION

9150 CURRY FORD ROAD ORLANDO, FL. 32825

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2301 Lucien Way, Suite 300  
Maitland, Florida 32751  
PH: (407) 647-6623  
CA8556

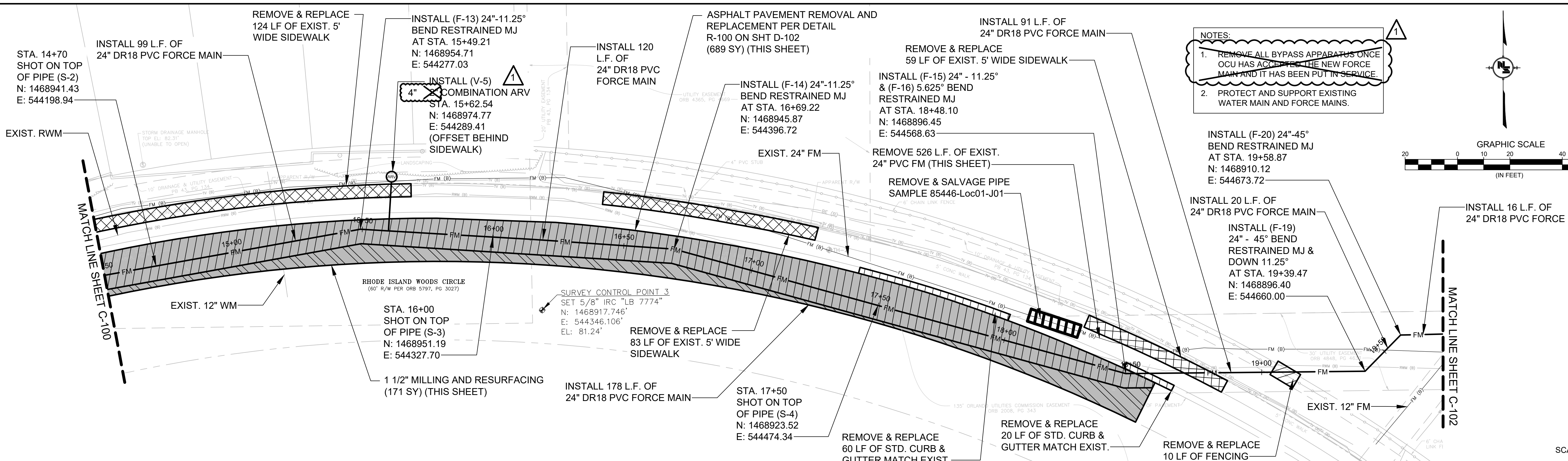
PLAN AND PROFILE  
LOCATION 1  
RHODE ISLAND WOODS CIRCLE  
STA. 10+00 TO STA. 14+50

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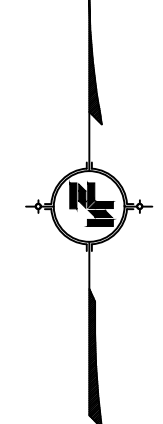
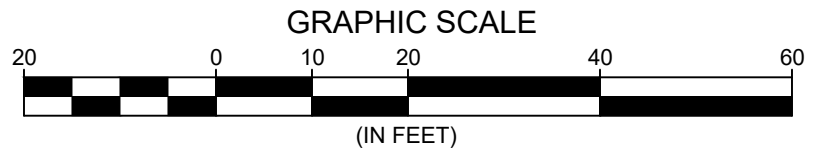
STEVEN R. COCKERHAM, P.E.  
PROFESSIONAL ENGINEER  
FLORIDA LICENSE # 62285

SCALE: AS SHOWN  
DRAWING NO.:  
**C-100**  
SHEET: 8 OF 17

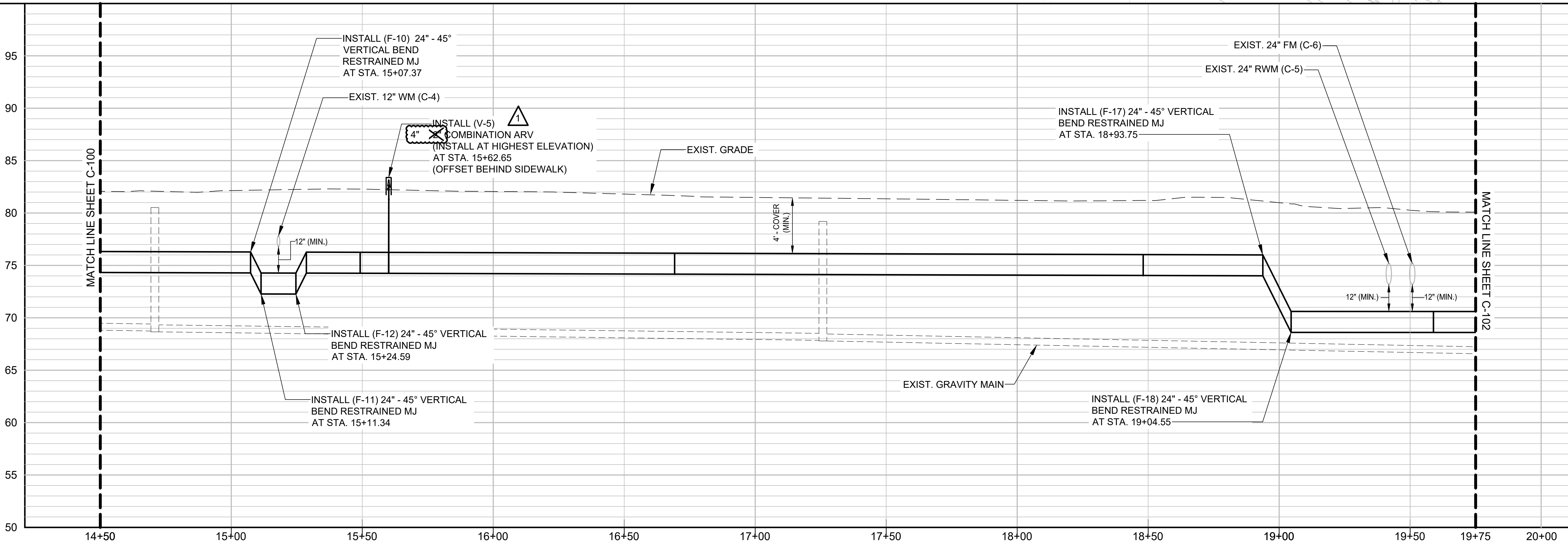
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Tue, 25 Jun 2019 11:24pm



NOTES:  
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 2. PROTECT AND SUPPORT EXISTING WATER MAIN AND FORCE MAINS.



SCALE: 1" = 20' HORIZ.  
 1" = 5' VERT.



REV	DATE	DESCRIPTION
1	06/2019	ADDENDUM No. 2

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**ORANGE COUNTY**  
 UTILITIES DEPARTMENT  
 ENGINEERING DIVISION  
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 CA6556

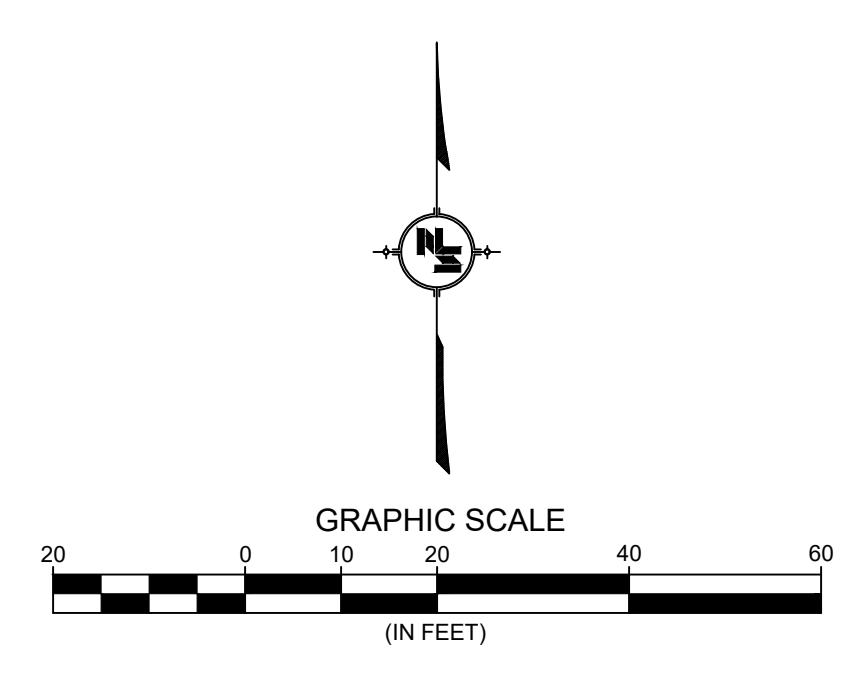
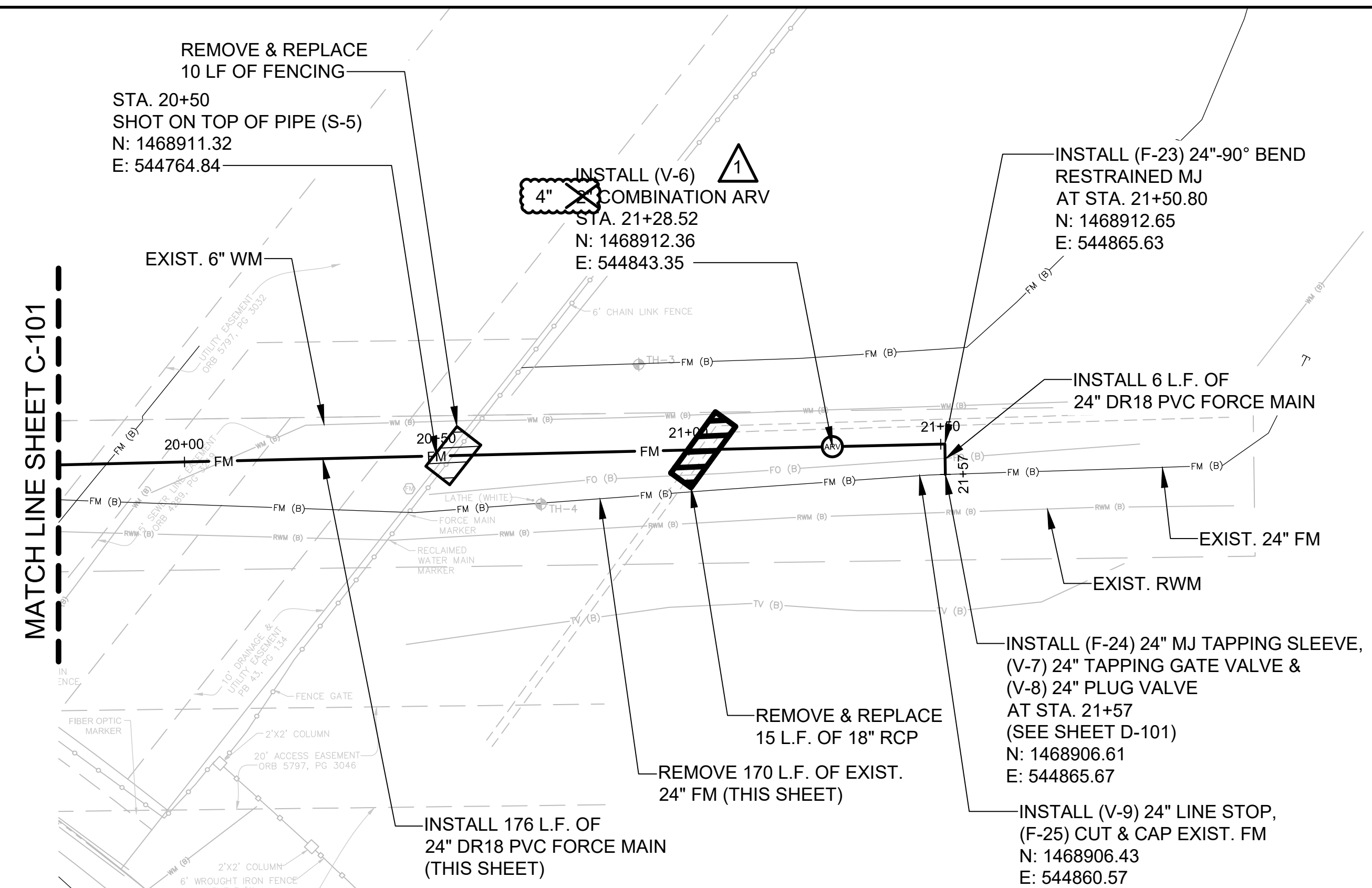
PLAN AND PROFILE  
 LOCATION 1  
 RHODE ISLAND WOODS CIRCLE  
 STA. 14+50 TO STA. 19+75

OCU FILE NO.: 85446  
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 DRAWN BY: EDW  
 CHECKED BY: SRC  
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STEVEN R. COCKERHAM, P.E.  
 PROFESSIONAL ENGINEER  
 FLORIDA LICENSE # 62285

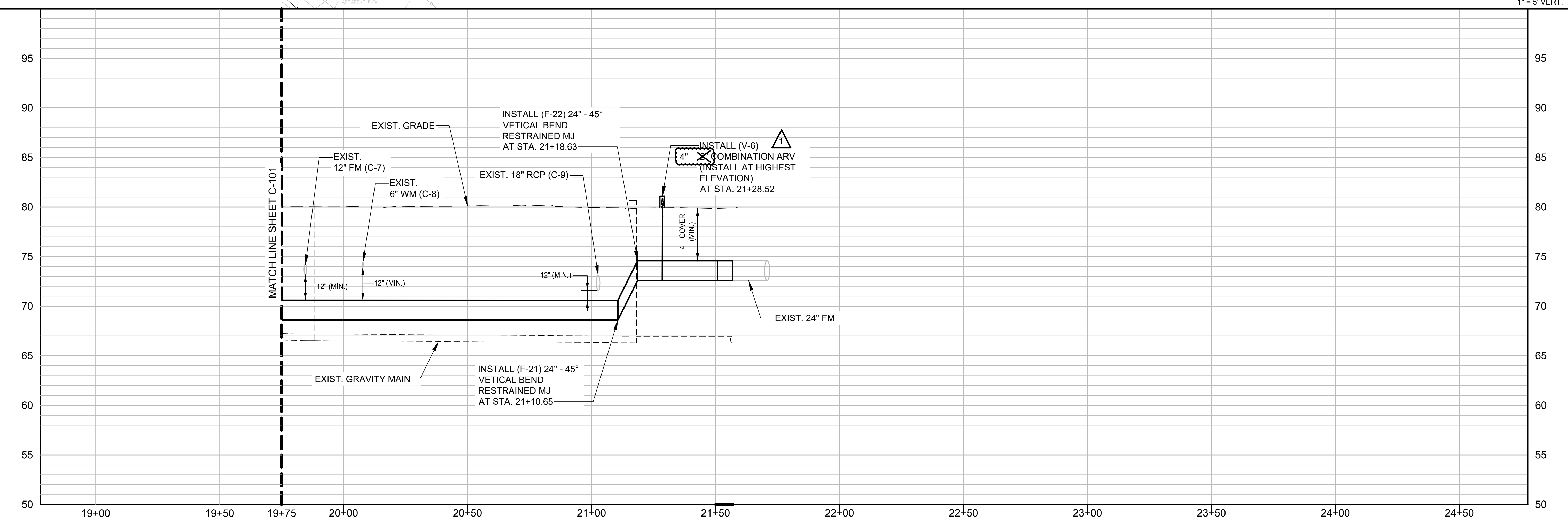
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- NOTES:
- REMOVE ALL BYPASS APPARATUS ONCE OCU HAS ACCEPTED THE NEW FORCE MAIN AND IT HAS BEEN PUT IN SERVICE.
  - PROTECT AND SUPPORT EXISTING WATER MAIN AND FORCE MAINS.

SCALE: 1" = 20' HORIZ.  
1" = 5' VERT.



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REV	DATE	DESCRIPTION
1	06/2019	ADDENDUM No. 2

LINE IS 1 INCH  
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**ORANGE COUNTY**  
UTILITIES DEPARTMENT  
ENGINEERING DIVISION  
9150 CURRY FORD ROAD ORLANDO, FL. 32825

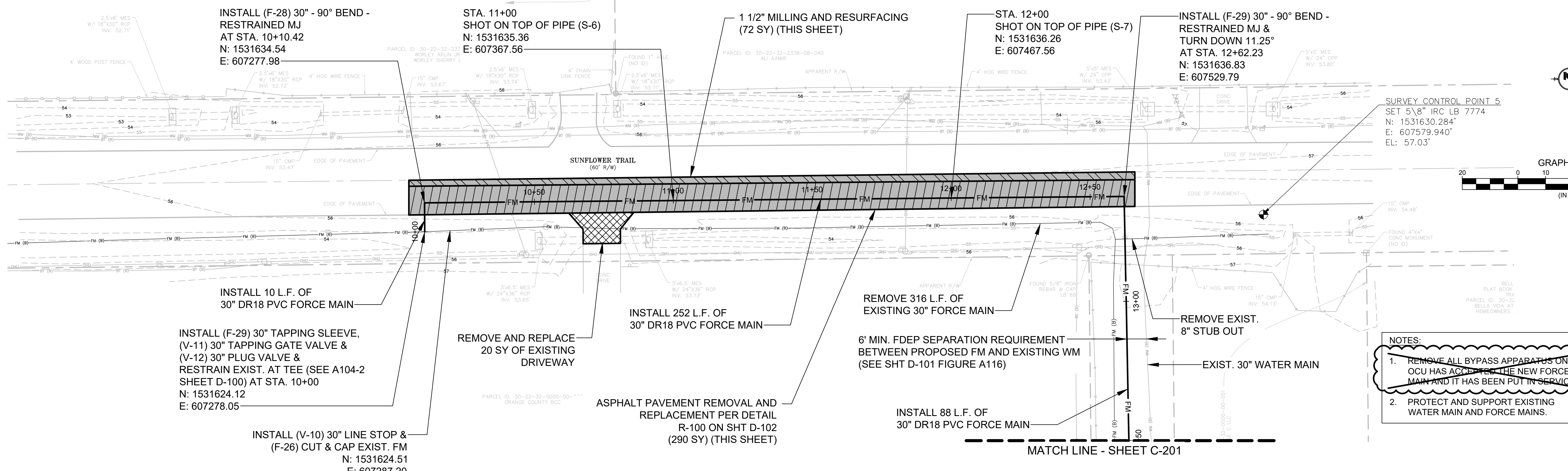
**NEEL-SCHAFFER**  
SOLUTIONS YOU CAN BUILD UPON  
2301 Lucien Way, Suite 300  
Maitland, Florida 32751  
PH: (407) 647-6623  
CA6556

PLAN AND PROFILE  
LOCATION 1  
RHODE ISLAND WOODS CIRCLE  
STA. 19+75 TO STA. 21+57

STEVEN R. COCKERHAM, P.E.  
PROFESSIONAL ENGINEER  
FLORIDA LICENSE # 62285

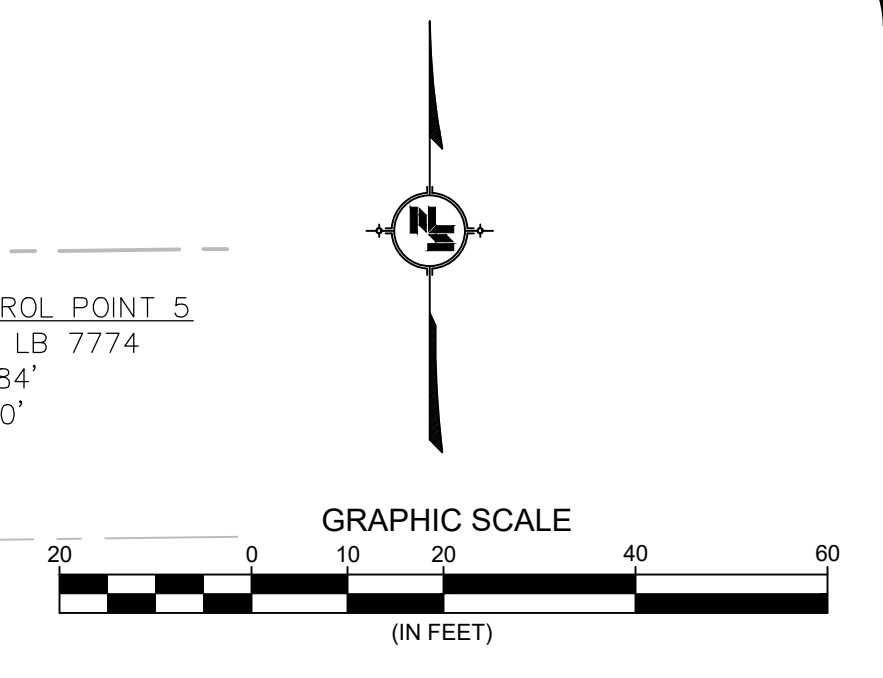
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**C-102**  
SHEET: 10 OF 17

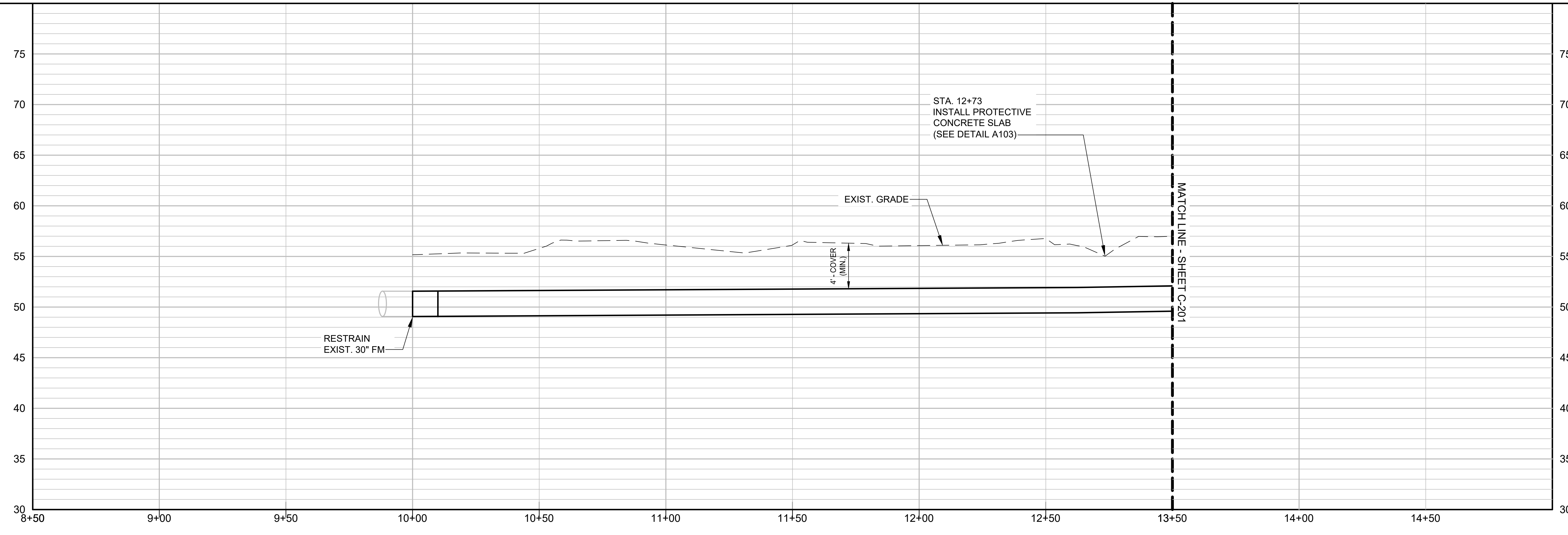


**NOTES:**

- REMOVE ALL BYPASS APPARATUS ONCE OCU HAS ACCEPTED THE NEW FORCE MAIN AND IT HAS BEEN PUT IN SERVICE.
- PROTECT AND SUPPORT EXISTING WATER MAIN AND FORCE MAINS.



SCALE: 1" = 20' HORIZ.  
1" = 5' VERT.



REV	DATE	DESCRIPTION
1	06/2019	ADDENDUM No. 2

LINE IS 1 INCH  
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**ORANGE COUNTY**  
  
**ORANGE COUNTY UTILITIES DEPARTMENT**  
**ENGINEERING DIVISION**  
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 CA6556

PLAN AND PROFILE  
 LOCATION 2  
 SUNFLOWER TRAIL  
 STA. 10+00 TO STA. 13+50

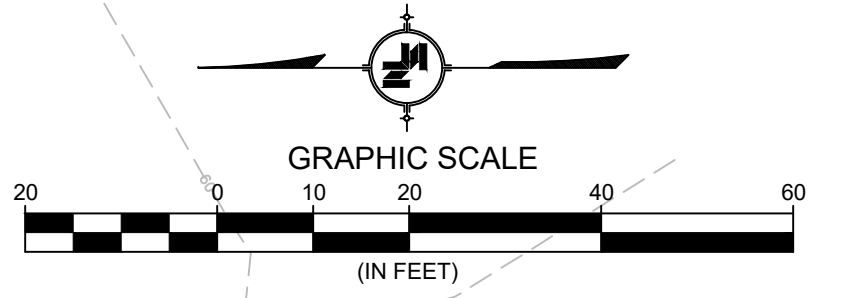
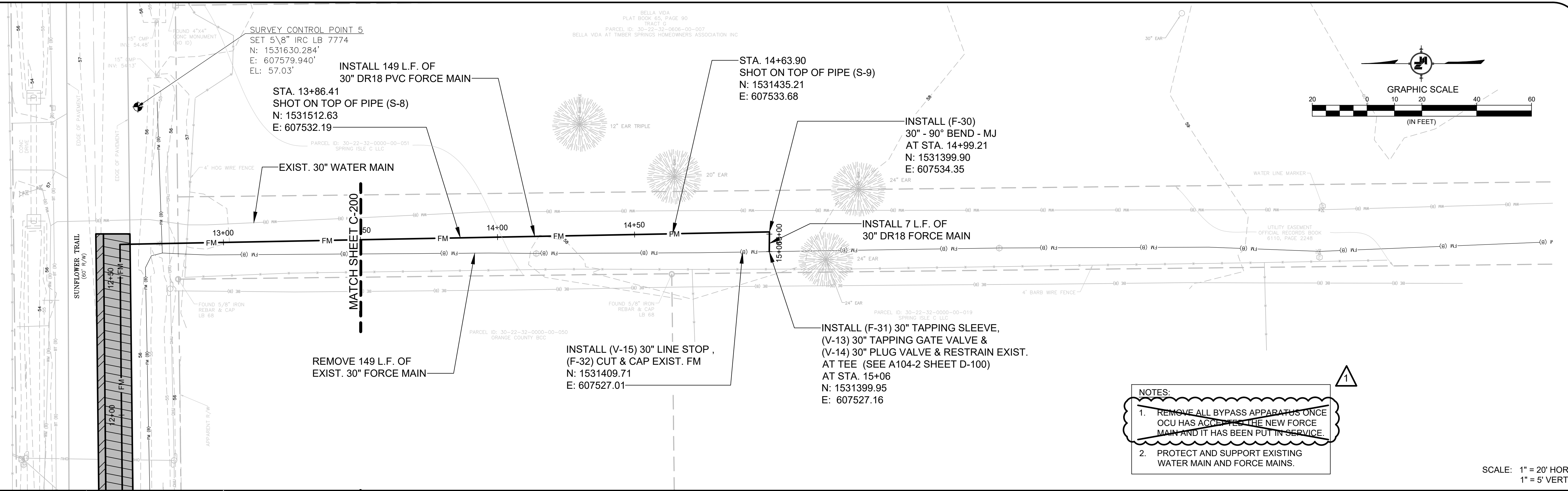
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STEVEN R. COCKERHAM, P.E.  
 PROFESSIONAL ENGINEER  
 FLORIDA LICENSE # 62285

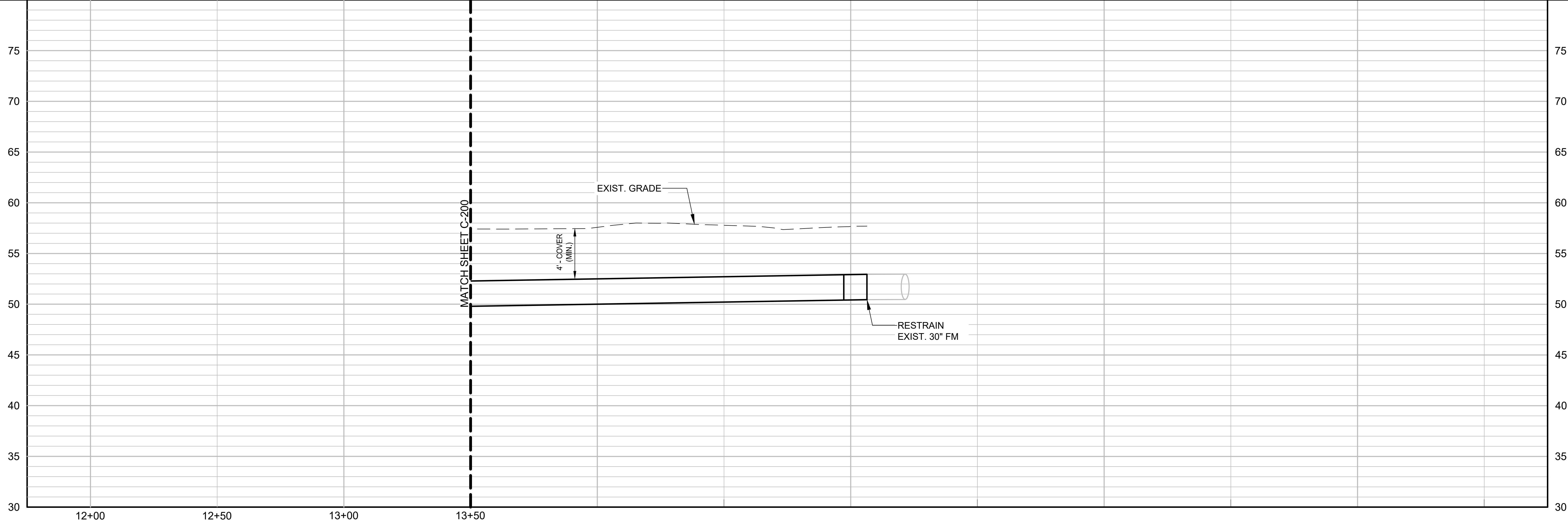
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 Tue, 25 Jun 2019 11:24pm





SCALE: 1" = 20' HORIZ.  
 1" = 5' VERT.



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1	06/2019	ADDENDUM No. 2

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**ORANGE COUNTY GOVERNMENT**  
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 9150 CURRY FORD ROAD ORLANDO, FL. 32825

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 CA8556

**PLAN AND PROFILE**  
**LOCATION 2**  
**SUNFLOWER TRAIL**  
**STA. 13+50 TO STA. 15+06**

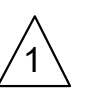
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STEVEN R. COCKERHAM, P.E.  
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 FLORIDA LICENSE # 62285

SCALE: AS SHOWN  
 DRAWING NO.: **C-201**  
 SHEET: 13 OF 17

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V-1	C-100				Line Stop	Force Main	24"
V-2	C-100				Gate	Force Main	24"
V-3	C-100				Plug	Force Main	24"
V-4	C-101				ARV - Combination	Force Main	2"
V-5	C-102				ARV - Combination	Force Main	2"
V-6	C-102				ARV - Combination	Force Main	2"
V-7	C-102				Gate	Force Main	24"
V-8	C-102				Plug	Force Main	24"
V-9	C-102				Line Stop	Force Main	24"
V-10	C-200				Line Stop	Force Main	30"
V-11	C-200				Gate	Force Main	30"
V-12	C-200				Plug	Force Main	30"
V-13	C-201				Gate	Force Main	30" 183
V-14	C-201				Plug	Force Main	30"
V-15	C-201				Line Stop	Force Main	30"



F-1	C-100				Force Main	Cap	24"
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F-29	C-201				Force Main	Bend 90°	30"
F-30	C-201				Force Main	Bend 90°	30"
F-31	C-201				Force Main	Tapping Sleeve	30"
F-32	C-201				Force Main	Cap	30"

S-1	C-100				Force Main	Shot on Pipe
S-2	C-101				Force Main	Shot on Pipe
S-3	C-101				Force Main	Shot on Pipe
S-4	C-101				Force Main	Shot on Pipe
S-5	C-102				Force Main	Shot on Pipe
S-6	C-200				Force Main	Shot on Pipe
S-7	C-200				Force Main	Shot on Pipe
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 9150 CURRY FORD ROAD ORLANDO, FL. 32825



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 CA8556

COORDINATE ASSET TABLES  
 FOR LOCATION1 RHODE ISLAND WOODS  
 & LOCATION 2 SUNFLOWER TRAIL

STEVEN R. COCKERHAM, P.E.  
 PROFESSIONAL ENGINEER  
 FLORIDA LICENSE #62285

OCU FILE NO.: 79645	SCALE: N.T.S.
DESIGNED BY: CHH	DRAWING NO. :
DRAWN BY: EDW	<b>X-100</b>
CHECKED BY: SRC	SHEET: 17 OF 17
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