

October 22, 2018

**BOARD OF COUNTY COMMISSIONERS
ORANGE COUNTY, FLORIDA
ADDENDUM NO. 3 / IFB NO. Y19-706-EB**

FORCE MAIN WEST AREA PACKAGE 2

REVISED BID OPENING DATE: November 1, 2018

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. CLARIFICATIONS

1. Q: Location 11: After reviewing the site locations and plan details; Detail 3, Sheet D-103 calls for soil cement to be utilized as a base material for Sienna Gardens Circle and Aliso Ridge Road. As soil cement has a significantly longer processing and cure time than high early strength Concrete, would the County consider changing this to high early strength concrete for the base? This should reduce the impact of the road restoration to the residents.

A: Orange County Public Works Department Standards only allow the use of high early strength concrete as a replacement roadway base when crossing a road perpendicularly. The same Standards require the use of soil cement for roadway base replacement when installing pipe in a linear fashion in a roadway as is occurring on Sienna Gardens Circle and Aliso Ridge Road at Location 11, and as is occurring on Reserve at Belmere Drive at Location 3.

2. Q: Location 11: The location identified as “Remove and Salvage Existing 4” FM” appears to be in conflict with three (3) electrical and/or phone boxes. Can this “Remove and Salvage” be relocated or eliminated?

A: The location of the segment of pipe to be removed and salvaged, which is identified as “88927-Loc11-Jt011” on the plans is relatively arbitrary and can therefore be moved further west to avoid conflicts with the electrical transformers outside the pump station. Please note a pipe sample from this area (and other areas at other locations as shown on the plans) is required to be delivered to the Owner, or to a Testing Laboratory in accordance with Specification Section 01450 – Sample Collection for Pipelines Being Repaired or Abandoned.

3. Q: Location 3: Should two (2) line stops be added to isolate the portion of force main to be taken out of service, so plug valves may be installed and line grouted?

A: The County has decided to add two (2) line stops and two (2) wet taps to this segment of 12-inch force main so that a bypass of Pump Station No. 3977 will no longer be necessary. As a result, Plan Sheets U-300, U-301 and X-300 are being reissued with this Addendum No. 3. In addition, "Bid Item No. 32 – Bypass Pump Station 3977 (Location 3: Reserve at Belmere), and "Bid Item No. 54 - Cut-in Connection to Existing FM (12" diameter)" are being deleted from the Bid Schedule. As a result, a Revised Bid Schedule is being issued with this Addendum No. 3. A Revised "Specification Section 01025 – Measurement and Payment" is also being issued with this Addendum No. 3 to match the Revised Bid Schedule pay item numbers.

4. Q: Location 3: Please provide additional information for "Bid Item 32 – Bypass Pump Station 3977 (Location 3: Reserve at Belemere)". All of the other locations have readily apparent bypass plans with the exception of Location 3. Please provide additional information for this bypass system. Where is PS 3977 located? Where is the bypass to discharge to?

A: Please refer to the response to Question 3 above. A bypass of Pump Station 3977 will no longer be necessary. Bid Item 32 is being deleted by this Addendum No. 3, and a pair of wet taps with a pair of line stops have been included in this Addendum No. 3.

5. Q: Location 3: Why not provide tapping sleeves and valves, and line stops for use in temporary bypass similar to other locations? Will this type of bypass be allowed?

A: Please refer to the response to Questions 3 and 4 above. A pair of wet taps and a pair of line stops have been included in this Addendum No. 3.

6. Q: There is no bid item for high early strength concrete used in the asphalt pavement restoration. Can we use soil cement in lieu of high early strength concrete?

A: The cost of high early strength concrete indicated in Figure A612 and in Figure A613 on Sheet D-102 of the plans is included in the associated Pay Item: "Pay Item 8 – Asphalt Pavement Replacement (1-½" thick w/ 8" thick conc. base). Please refer to Pay Item 8 in Specification Section 01025 – Measurement and Payment.

7. Q: Can we use soil cement base in lieu of high early strength concrete?

A: No.

8. Q: Can soil cement be used in lieu of temporary cold mix asphalt?

A: No.

B. IFB NO. Y19-706-EB BID SCHEDULE

Delete: Delete the ~~IFB NO. Y19-706-EB Bid Schedule~~ in its entirety.

Add: Add in its place IFB NO. Y19-706-EB Revised Bid Schedule, attached and labelled this Addendum No. 3.

IMPORTANT: Failure to submit your bid with the “Revised Bid Schedule” per this Addendum No. 3 shall be cause for your bid to be rejected as non-responsive.

C. PROJECT MANUAL

SPECIFICATION SECTION 01025 – MEASUREMENT AND PAYMENT

Delete: Delete ~~Specification Section 01025 – Measurement and Payment~~ in its entirety.

Add: Add in its place Specification Section 01025 – Measurement and Payment, attached and labelled this Addendum No. 3.

D. PROJECT DRAWINGS

PLAN SHEET U-300

Delete: Delete ~~Plan Sheet U-300~~ in its entirety.

Add: Add in its place Plan Sheet U-300, attached and labelled this Addendum No. 3.

PLAN SHEET U-301

Delete: Delete ~~Plan Sheet U-301~~ in its entirety.

Add: Add in its place Plan Sheet U-301, attached and labelled this Addendum No. 3.

PLAN SHEET X-300

Delete: Delete ~~Plan Sheet X-300~~ in its entirety.

Add: Add in its place Plan Sheet X-300, attached and labelled this Addendum No. 3.

E. ACKNOWLEDGEMENT OF ADDENDA

1. The Proposer 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.
2. All other terms, conditions and specifications remain the same.
3. Receipt acknowledged by:

Authorized Signature

Date Signed

Title

Name of Firm

**ORANGE COUNTY UTILITIES DIVISION
ORANGE COUNTY, FLORIDA**

**IFB NO. Y19-706-EB
FORCE MAIN R/R WEST AREA PACKAGE 2 IMPROVEMENTS**

REVISED BID FORM

Bidder is to understand that the Total Bid Price is based on the estimated quantities indicated as follows and will control in awarding the Contract as provided in the Instructions to Bidders. It is further understood that the quantities stated in the Schedule of Bid Prices for various items are estimated only and may be increased or decreased as provided in the Contract.

ITEM NUMBER	DESCRIPTION	EST'D. QTY.	UNITS	UNIT PRICE (FIGURES)	TOTAL PRICE (FIGURES)
1	Mobilization, Demobilization, Bonds, and Permits (not to exceed 5% of the total of bid items 11 through 56)	1	LS		
2	Preconstruction Audio-Video Documentation (6 Locations)	1	LS		
3	Indemnification	1	LS	\$100.00	\$100.00
4	Project Record Documents (a minimum of 1% of the total of bid items 11 through 56)	1	LS		
5	Maintenance of Traffic (Location 2: Piedmont Wekiwa Road)	1	LS		
6	Maintenance of Traffic (Location 3: Reserve at Belmere Dr.)	1	LS		
7	Maintenance of Traffic (Location 6: North Powers Drive)	1	LS		
8	Maintenance of Traffic (Location 7: Westlake Blvd & Pomeroy Cir.)	1	LS		
9	Maintenance of Traffic (Location 8: Hempel Avenue)	1	LS		
10	Maintenance of Traffic (Location 11: Old Winter Garden Road)	1	LS		
11	Public Information Officer	1	LS		
12	Erosion and Sediment Control (Location 2: Piedmont Wekiwa Road)	1	LS		
13	Erosion and Sediment Control (Location 3: Reserve at Belmere Dr.)	1	LS		
14	Erosion and Sediment Control (Location 6: North Powers Drive)	1	LS		
15	Erosion and Sediment Control (Location 7: Westlake Blvd & Pomeroy Cir.)	1	LS		
16	Erosion and Sediment Control (Location 8: Hempel Avenue)	1	LS		
17	Erosion and Sediment Control (Location 11: Old Winter Garden Road)	1	LS		
18	Stabilized Subbase (12" thick)	324	SY		
19	Soil Cement Base (300 psi) (8" thick)	567	SY		
20	Temporary Paving (cold mix overlay) 1-1/2" thick	179	SY		
21	Milling and Resurfacing (1-1/2" thick)	1,486	SY		
22	Road Crossing Pavement Restoration	179	SY		
23	Asphalt Pavement Removal and Replacement (1-1/2" thick)	880	SY		
24	Concrete Pavement Replacement (4" thick)	770	SY		
25	Concrete Pavement Replacement (6' thick)	194	SY		
26	Construct Public Sidewalk ADA Ramp	5	EA		
27	Concrete Paver Replacement	15	SY		
28	Concrete Curb and/or Curb & Gutter Replacement	113	LF		
29	Sod Replacement (Bahia)	1,076	SY		
30	Sod Replacement (St. Augustine)	903	SY		

Y19-706-B;
Addendum No. 3
October 22, 2018

REVISED D-3

2017-29.1 Force Main R/R - West Area Package 2 Improvements

31	Chain Link Fence Replacement (6' high)	38	LF		
32	Bypass Pump Station F3142 (Location 11: Old Winter Garden Road)	1	LS		
33	Temporary Bypass Piping w/ fittings & RJs (4" diameter)	177	LF		
34	Temporary Bypass Piping w/ fittings & RJs (6" diameter)	665	LF		
35	Temporary Bypass Piping w/ fittings & RJs (12" diameter)	510	LF		
36	Abandon-In-Place 4" Pipe	202	LF		
37	Abandon-In-Place 12" Pipe	490	LF		
38	Remove Existing 4" Pipe	115	LF		
39	Remove Existing 6" Pipe	943	LF		
40	Remove Existing 12" Pipe	457	LF		
41	Sample Collection for Pipelines (Laboratory Testing)	2	EA		
42	Sample Collection for Pipelines (Joints to Owner)	12	EA		
43	Forcemain w/fittings & RJs (4" diameter, PVC)	399	LF		
44	Forcemain w/fittings & RJs (6" diameter, PVC)	943	LF		
45	Forcemain w/fittings & RJs (12" diameter, PVC)	973	LF		
46	Plug Valve with Box (4" diameter)	2	EA		
47	Plug Valve with Box (6" diameter)	6	EA		
48	Plug Valve with box (12" diameter)	4	EA		
49	Tapping Sleeve and Valve Assembly (4" diameter)	1	EA		
50	Tapping Sleeve and Valve Assembly (6" diameter)	5	EA		
51	Tapping Sleeve and Valve Assembly (12" diameter)	4	EA		
52	Cut-in Connection to Existing FM (4" or 6" diameter)	1	EA		
53	Line Stop Assembly (4" diameter)	1	EA		
54	Line Stop Assembly (6" diameter)	5	EA		
55	Line Stop Assembly (12" diameter)	4	EA		
56	Offset Air Release Valve Assembly (2" diameter)	1	EA		
				TOTAL BID	

TOTAL ESTIMATED BASE BID, ITEMS 1 THROUGH 56: \$ _____

SECTION 01025

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, 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

Table A

BID ITEM	MEASUREMENT AND PAYMENT ITEMS Pg 1
	10 GENERAL REQUIREMENTS
	10.1 - General
1	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)
	<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>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 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 six, 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 consists 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. 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; 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	Reference ID 10.120.110 Preconstruction Audio-Video Documentation
	<p>a. Measurement: Measurement shall be based on the satisfactory submittal of a comprehensive six-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 equipment necessary to create a comprehensive pre-construction video</p>

	at each of the six project locations in accordance with the County requirements and specification.
3	Reference ID 10.130.110 Indemnification
	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	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)
	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 - 10	Reference ID 10.150.110 Maintenance of Traffic
	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.
11	Reference ID 10.160.110 Public Information Officer
	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.
	11 SITE WORK
	11.1 – Miscellaneous
12 - 17	Reference ID 11.110.110 Erosion and Sediment Control
	<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>
	11.2 - Road Work
18	Reference ID 11.200.110 Stabilized Subgrade (12” thick)
	<p>a. Measurement: Stabilized Subgrade shall be measured in actual square yards of Type B Stabilization (LBR 40) removed and installed in accordance with the County requirements and Specification 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>
19	Reference ID 11.212.111 Soil Cement Base (300 psi) (8” thick)
	<p>a. Measurement: Soil Cement Base shall be measured in actual square yards of existing base material removed and replaced with 300 psi soil cement base including prime and tack coats installed in accordance with the County requirements and specifications (Section 02572).</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 saw cut, remove and properly dispose of existing base material, install, spread, and compact soil cement base on to a properly prepared stabilized subbase and apply prime and tack coats. No separate payment will be made for prime and tack coats.</p>
20	Reference ID 11.220.110 Temporary Paving (cold mix overlay) (1 ½” thick)
	<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>
21	<p>Reference ID 11.230.110 Milling and Resurfacing (1 ½” thick)</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 the specified asphalt surface overlay in accordance with County requirements and specifications. The unit price bid shall also include traffic signalization repair, and permanent striping and markings.</p>
22	<p>Reference ID 11.240.110 Road Crossing Pavement Restoration</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. 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>
23	<p>Reference ID 11.242.110 Asphalt Pavement Removal and Replacement (1 ½” thick)</p>
	<p>a. Measurement: Asphalt Pavement Removal and Replacement shall be measured in actual square yards of existing asphalt paving removal and replacement furnished and installed in accordance with the County requirements and specifications. The width measured for payment of asphalt pavement removal and replacement, 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</p>

	to provide a safe, smooth driving surface. The Work shall include saw cutting; asphalt pavement removal and proper disposal of existing pavement, installing prime coat, tack coat, and replacement 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 Pavement Removal and Replacement.
24 & 25	Reference ID 11.250.110 and 111 Concrete Pavement Replacement (various thickness)
	<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>
26	Reference ID 11.251.112 Construct Public Sidewalk ADA Ramp
	<p>a. Measurement: Measurement for Construct Public Sidewalk ADA Ramp shall be made per actual number of sidewalk ramps with detectable warning surface installed.</p> <p>b. Payment: Payment for Construct Public Sidewalk ADA Ramp 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 for installing new concrete sidewalk ramps to current FDOT Index 304. This includes clearing, grubbing compaction, forming, concrete and detectable warning surface placement, finishing, restoration and clean up.</p>
27	Reference ID 11.252.110 Concrete Paver Replacement
	<p>a. Measurement: Concrete Paver Replacement shall be measured in actual square yards of existing concrete pavers removed and replaced. Replaced portions of road or driveways shall conform to the lines and grades of removed portions of road or driveways.</p> <p>b. Payment: Payment will be made at the contract unit price bid per square yard as stated in the proposal for Concrete Paver Replacement and shall include all labor, materials, and equipment for saw-cutting, removal and proper storage of existing concrete pavers, furnishing and installing new pavers to replace damaged pavers where required, furnishing and installing new stabilized subbase materials, new concrete aggregate base materials, new sand setting bed, new joint filling sand, new edge restraints, compaction, , restoration, and clean-up for a complete installation</p>

28	<p>Reference ID 11.280.110 Concrete Curb and/or Curb and Gutter Replacement</p>
	<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>
29 & 30	<p>Reference ID 11.290.110 and 111 Sod Replacement</p>
	<p>a. Measurement: Sod Replacement shall be measured in actual square yards of sod furnished, laid, fertilized, watered and maintained to match existing sod for all areas as specified on 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 Sod Replacement and shall include all labor, materials, and equipment necessary to furnish, install, fertilize, water and maintain a healthy stand of grass to match existing, including any soil amendments or conditioning required to bring the existing soil to within acceptable pH levels as recommended by the sod grower.</p>
	<p>11.3 - Install/Replace Fence or Wall</p>
31	<p>Reference ID 11.310.111 Chain Link Fence Install/Replacement (6' high)</p>
	<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>
	<p>11.4 - Bypass Pumping</p>
32	<p>Reference ID 11.420.110 Bypass Pump Station (< 500 gpm)</p>
	<p>a. Measurement: Measurement for this item shall be based on the complete bypass operation and contingency plan in accordance with the County requirements and specifications.</p> <p>b. Payment: Payment of the applicable Contract lump sum price shall be full</p>

	<p>compensation for furnishing all labor, materials, equipment as necessary for bypass operations and contingency plan as required, including pumps, piping, and hoses; tankers; temporary bypass and service piping; hauling and proper disposal of wastewater; plugging; gasoline/diesel fuel; protection of existing facilities, utilities, and property; traffic maintenance; signs and barriers; and all incidental work required to satisfactorily complete this item.</p>
33 - 35	<p>Reference ID 11.430.110 through 114 Temporary Bypass Piping with Fittings and Restrained Joints (various sizes)</p>
	<p>a. Measurement: Temporary Bypass Piping with Fittings and Restrained Joints shall be measured in actual linear feet satisfactorily laid above grade (and below grade where necessary), as measured along the centerline of the completed temporary bypass pipeline regardless of the type of joints required, without deduction for the length of valves and fittings.</p> <p>b. Payment: Payment will be made at the contract unit price bid per linear feet as stated in the proposal for Temporary Bypass Piping with Fittings and Restrained Joints and shall include all labor materials and equipment to construct the temporary above grade (and below grade piping where necessary) including coordination with existing utilities, protection and relocation of existing irrigation, trees, shrubs and landscaping, coordination with Homeowner's Associations, coordination with residents and business owners, all pressure testing of temporary piping, restoration and clean up. This item also includes all necessary ductile iron fittings for RJ PVC pipe, fused fittings for HDPE pipe, temporary valves, flanges, flange adaptors, joint and fitting restraining devices.</p>
	<p>11.5 - Abandon or Remove Pipe/Structure</p>
36 & 37	<p>Reference ID 11.510.111 Abandon-in-Place Pipe (various sizes)</p>
	<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.</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. Also included in this item is 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, trees and landscaping and clean-up. Also included in this item is the removal of existing valve boxes located on valves connected to piping</p>

	designated to be retired. Valve boxes shall be removed, backfilled and compacted with suitable material.
38 - 40	Reference ID 11.530.110 Remove Existing Pipe (various sizes)
	<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 hydrant assemblies.</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. 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>
41 & 42	Reference ID 11.531.110 and 111 Sample Collection for Pipelines (Laboratory Testing and Joints to Owner)
	<p>a. Measurement: Measurement for Sample Collection for Pipelines shall be made per number of samples of existing pipe satisfactorily removed, salvaged, shipped to specified facilities, and tested in accordance with the County requirements and specifications (Section 01450).</p> <p>b. Payment: Payment for Sample Collection for Pipelines shall be made per actual number of samples of existing pipe removed and salvaged of the lengths specified for all services and sizes designated "to be removed and salvaged" on the Drawings including all coordination with Orange County Utilities and specified testing laboratories, labor, materials, and equipment to excavate, backfill, compact, photograph, label, clean, palletize, and properly ship samples to specified facilities. Also included are all fees associated with required laboratory testing in accordance with Specification Section 01450 and submittal of laboratory analysis report to Owner.</p>
	12 PRESSURE PIPES
	12.1 - Pressure Pipes with Fittings and Restrained Joints
43 - 45	Reference ID 12.130.110 through 113 Forcemain with Fittings and Restrained Joints (various sizes)
	<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 removal and replacement of fences and gates, single and cluster box unit mailboxes, trees, shrubs, irrigation sprinklers and other obstructions, coordination with Homeowners Associations, protection, repair and/or replacement of existing irrigation systems, trees, shrubs and landscaping.</p>
	12.2 – Valves
46 - 48	Reference ID 12.220.110 through 114 Plug Valve with Box (various sizes)
	<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 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.</p>
	12.3 - Tapping Sleeve and Valve Assembly
49 - 51	Reference ID 12.310.110 through 114 Tapping Sleeve and Valve Assembly (various sizes)
	<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 Associations, protection repair</p>

	and/or replacement of existing irrigation systems, trees, shrubs and landscaping, restoration and all other items required for a complete, acceptable and operable installation.
	12.4 – Cut-in Connections to Existing Mains
52	Reference ID 12.430.110 Cut-in Connection to Existing Forcemain (various sizes)
	<p>a. Measurement: Measurement for cut-in connections to the existing forcemain shall be made per number of cut-in connections made complete and in place regardless of the type and size from the constructed forcemain to the existing forcemain as authorized in the Contract Documents regardless of the depth of the connection.</p> <p>b. Payment: Payment for the Cut-in Connection to the Existing Forcemain 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 to make a cut-in connection from the constructed forcemain to the existing forcemain including coordination with existing utilities, protection and/or relocation of existing utilities and service connections, excavation, sheeting, shoring and bracing, dewatering, cutting pipe, completely drain and properly dispose of existing pipe contents, connection to existing forcemain, thrust collar or restraint of existing forcemain in accordance with the County requirements, backfill, compaction, grading, swabbing, coordination with Homeowners Associations, protection repair and/or replacement of existing irrigation systems, trees, shrubs and landscaping, restoration and clean-up. This item also includes all necessary fittings and appurtenances, reducers, bends, tees, and wyes.</p>
	12.5 - Piping Appurtenances
53 - 55	Reference ID 12.510.110 through 114 Line Stop Assembly (various sizes)
	<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, thrust collars in accordance with County requirements, swabbing, coordination with existing utilities, protection and/or relocation of existing utilities and service connections, coordination with Homeowners Associations, protection repair and/or replacement of</p>

	existing irrigation systems, trees, shrubs and landscaping, restoration and clean-up and all other items required for a complete, acceptable and operable installation.
56	Reference ID 12.530.110 Offset Air Release Valve Assembly (2" diameter)
	<p>a. Measurement: Measurement for Offset Air Release Valve Assembly shall be made per actual number of offset air release valves with enclosures satisfactorily furnished and installed to provide a complete and functional unit.</p> <p>b. Payment: Payment for the Offset 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>

PART 2 - PRODUCTS (NOT USED)

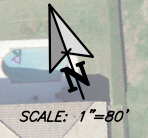
PART 3 - EXECUTION (NOT USED)

END OF SECTION

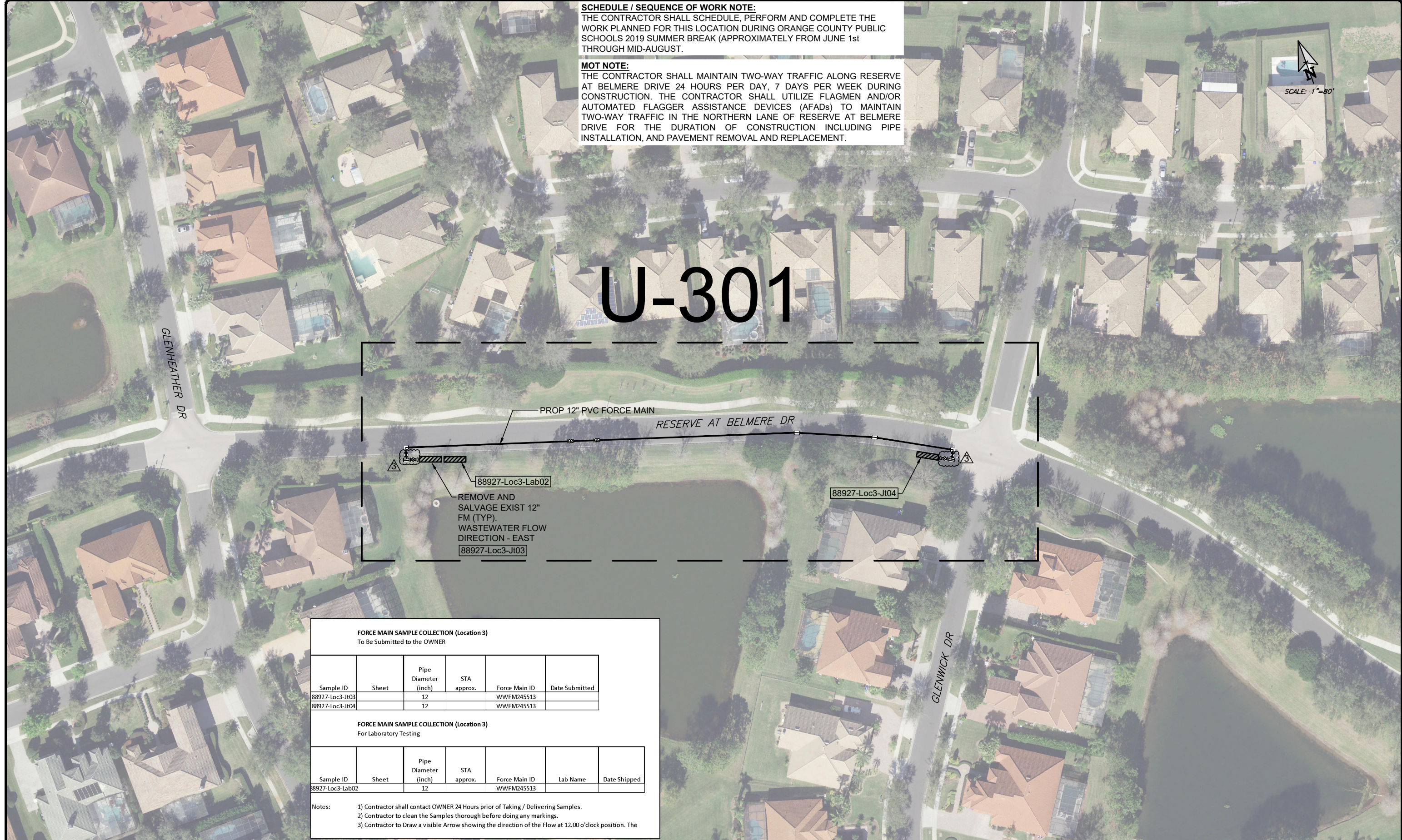
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SCHEDULE / SEQUENCE OF WORK NOTE:
 THE CONTRACTOR SHALL SCHEDULE, PERFORM AND COMPLETE THE WORK PLANNED FOR THIS LOCATION DURING ORANGE COUNTY PUBLIC SCHOOLS 2019 SUMMER BREAK (APPROXIMATELY FROM JUNE 1st THROUGH MID-AUGUST).

MOT NOTE:
 THE CONTRACTOR SHALL MAINTAIN TWO-WAY TRAFFIC ALONG RESERVE AT BELMERE DRIVE 24 HOURS PER DAY, 7 DAYS PER WEEK DURING CONSTRUCTION. THE CONTRACTOR SHALL UTILIZE FLAGMEN AND/OR AUTOMATED FLAGGER ASSISTANCE DEVICES (AFADs) TO MAINTAIN TWO-WAY TRAFFIC IN THE NORTHERN LANE OF RESERVE AT BELMERE DRIVE FOR THE DURATION OF CONSTRUCTION INCLUDING PIPE INSTALLATION, AND PAVEMENT REMOVAL AND REPLACEMENT.



U-301



FORCE MAIN SAMPLE COLLECTION (Location 3)
To Be Submitted to the OWNER

Sample ID	Sheet	Pipe Diameter (inch)	STA approx.	Force Main ID	Date Submitted
88927-Loc3-Jt03		12		WWFM245513	
88927-Loc3-Jt04		12		WWFM245513	

FORCE MAIN SAMPLE COLLECTION (Location 3)
For Laboratory Testing

Sample ID	Sheet	Pipe Diameter (inch)	STA approx.	Force Main ID	Lab Name	Date Shipped
88927-Loc3-Lab02		12		WWFM245513		

Notes:

- Contractor shall contact OWNER 24 Hours prior of Taking / Delivering Samples.
- Contractor to clean the Samples thorough before doing any markings.
- Contractor to Draw a visible Arrow showing the direction of the Flow at 12.00 o'clock position. The

No.	REVISIONS	BY	DATE
ADDENDUM No. 3		GJH	10-17-2018
BID SET		GJH	7-27-2018

LINE IS 1 INCH
 AT FULL SIZE = 11X17
 (IF NOT SCALE ACCORDINGLY)
 SCALE: AS NOTED

ORANGE COUNTY UTILITIES
 9150 CURRY FORD ROAD
 ORLANDO, FLORIDA 32825

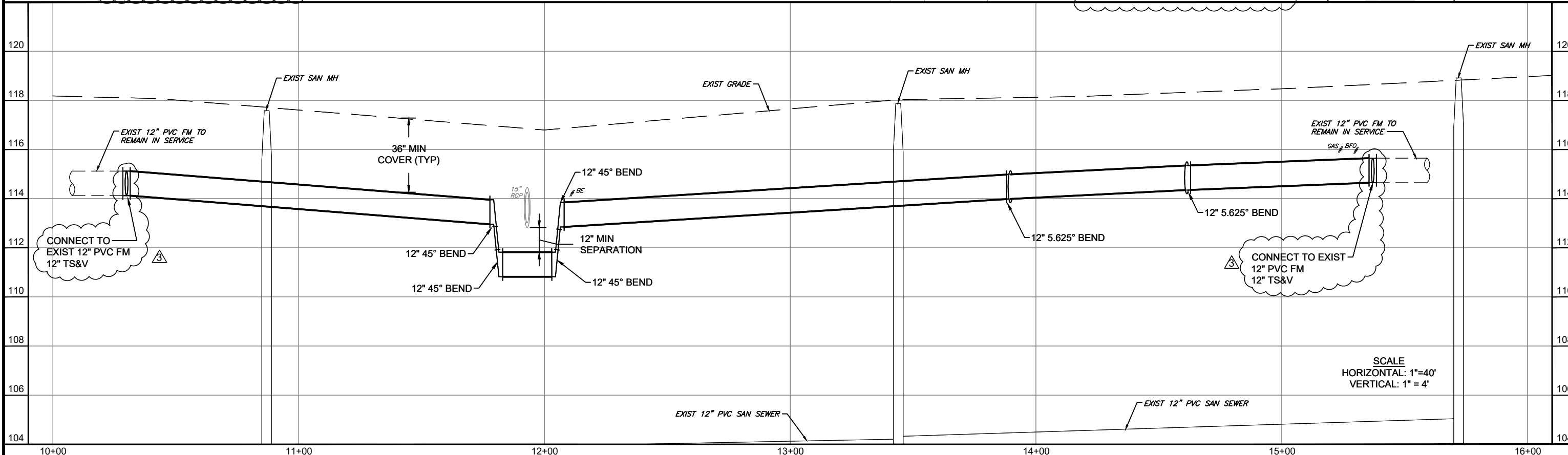
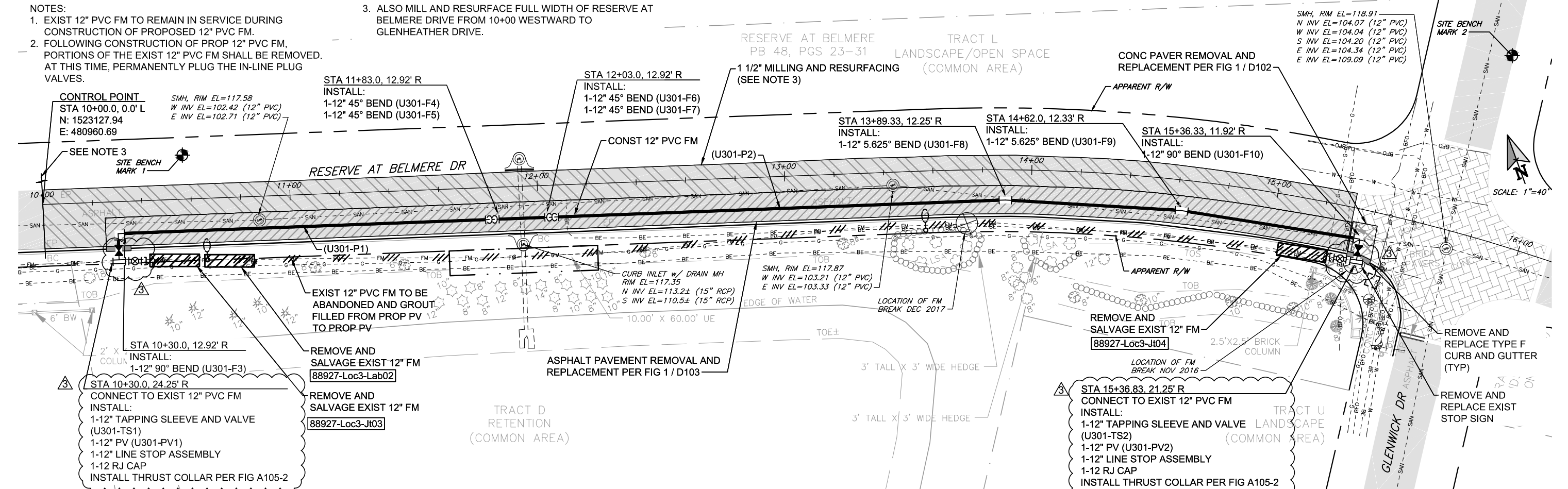
BFA Environmental Consultants
 Barnes, Ferland and Associates, Inc.
 1230 E. Hillcrest Street, Ste 100, Orlando, FL 32805
 407.440.7200
 ENGINEERING BUSINESS No. 6899

FORCE MAIN R/R WEST AREA PACKAGE 2 IMPROVEMENTS
LOCATION 3 - RESERVE AT BELMERE DRIVE KEY MAP

DESIGN ENGINEER GEOFFREY J. HENNESSY, P.E.	PROJECT No.: 2017-29-01 PROJECT DATE: MAY 2018	DRAWING No. U-300
FLORIDA REGISTRATION No. 58637	DESIGNED BY: GJH DRAWN BY: LBZ CHECKED BY: JPJ DRAWING FILE: SEE MARGIN	SHEET 22 OF 42

- NOTES:
 1. EXIST 12" PVC FM TO REMAIN IN SERVICE DURING CONSTRUCTION OF PROPOSED 12" PVC FM.
 2. FOLLOWING CONSTRUCTION OF PROP 12" PVC FM, PORTIONS OF THE EXIST 12" PVC FM SHALL BE REMOVED. AT THIS TIME, PERMANENTLY PLUG THE IN-LINE PLUG VALVES.

3. ALSO MILL AND RESURFACE FULL WIDTH OF RESERVE AT BELMERE DRIVE FROM 10+00 WESTWARD TO GLENHEATHER DRIVE.



No.	REVISIONS	BY	DATE
1	ADDENDUM No. 3	GJH	10-17-2018
2			
3			
4	BID SET	GJH	7-27-2018

LINE IS 1 INCH
 AT FULL SIZE = 11X17
 (IF NOT SCALE ACCORDINGLY)
 SCALE: AS NOTED

ORANGE COUNTY UTILITIES
 9150 CURRY FORD ROAD
 ORLANDO, FLORIDA 32825

BFA Environmental Consultants
 Barnes, Ferland and Associates, Inc.
 1230 E. Hillcrest Street, Ste 100, Orlando, FL 32805
 ENGINEERING BUSINESS No. 6899

FORCE MAIN R/R WEST AREA PACKAGE 2 IMPROVEMENTS
LOCATION 3 - RESERVE AT BELMERE PLAN AND PROFILE STA 10+00 TO STA 16+00

DESIGN ENGINEER GEOFFREY J. HENNESSY, P.E.	PROJECT No.: 2017-29-01 PROJECT DATE: MAY 2018	DRAWING No. U-301
FLORIDA REGISTRATION No. 58637	DESIGNED BY: GJH DRAWN BY: LBZ CHECKED BY: JPJ DRAWING FILE: SEE MARGIN	SHEET 23 OF 42

