

**SOUTH SEMINOLE & NORTH ORANGE COUNTY
WASTEWATER TRANSMISSION AUTHORITY**

MEMORANDUM

DATE: December 8, 2009

TO: Distribution

FROM: Marc A. Cannata, Project Manager, Reiss Engineering, Inc (REI)

SUBJECT: **Addendum No. Three, RFP No. 2009-003
Request for Proposal
Wastewater Pump Station Construction and Rehabilitation
Contractor Continuing Services**

This Addendum is being issued to provide information as a result of written questions received since the non-mandatory pre-proposal meeting Thursday, December 3, 2009, at 10:00 a.m. at the Authority's offices. Please note the requirement to acknowledge all Addendum numbers in final RFP Submittal package. Please note no additional question will be taken or responded to after December 8, 2009 at 3:00PM.

NOTE: Please note the deadline for questions has been extended to December 9, 2009 at 5:00PM, then no additional question will be taken or responded to after that date and time.

Question: Has the original submission date been changed from 2:00 p.m. (EST) on December 10, 2009?

Answer: *Yes. The new submission date is December 14, 2009 at 1:00PM (EST).*

Question: Are the stainless steel pressure gauge assemblies as referenced in bid items 41, 43, 45 and 47 to be quoted per the assembly shown in Lakes of Aloma Plan Set sheet 4 of 4 or as a Flg Isolation Ring as per the project specs section 40 91 19 (pressure gauges)?

Answer: *Please use specification reference 40 91 19 for line item sheet.*

Question: Is there an isolation valve between the valve vault and emergency pump out on the Lakes of Aloma WW Pump Station?

Answer: *Yes there is an isolation valve between the valve vault and emergency pump(s).*

Question: Our PVC pipe manufacturer that supplies the 30-inch and 36-inch proposed force main pipes mentioned it will not be available in DR18 as requested, would DR25 be acceptable in these larger diameters?

Answer: *Yes, DR25 is acceptable for the 30-inch and 36-inch diameters.*

Question: On your schedule of unit price proposal, #'s 41, 43, 45 and 47, there are no quantities for how much pipe is required. Please advise how you want the vendors to bid these line items?

Answer: *Please use a length of 30 ft through valve vault and into existing submersible pump station.*

Question: Will a Measurement & Payment specification be provided to ensure clarity for the Owner in evaluating each contractor's bid proposal? For example, the Sewer By-Pass Bid Items 4-11 could vary significantly depending on the contractor's interpretation of the bid item title. Also, not knowing the duration expected for the pump rental makes providing a price with a unit of "each" very difficult?

Answer: *Please see enclosed Measurement and Payment Specification 01 22 00 for reference. Assume pump rental based on 14 days.*

Question: Which bid item should the contractors use to include the costs associated with the pump installation, including guide rails, chain, etc?

Answer: *Please see revised Attachment A with line item 70 added for these items.*

Question: Question 7 on Addendum # 2 is pertaining to the Coating and Liner Bid Items. The answer states: "A revised Attachment A is included with this Addendum addressing this item." The Attachment A is a revised Bid Form with no changes to these Bid Items. Did another attachment get issued?

Answer: *No other attachment issued, the reference was changed from "and" to "or" and please enclosed Measurement and Payment Specification 01 22 00 for reference.*

Question: In the RFP, Section II – Submittal Due Date, Content - A. Time and Location: it states that Four sets of submittals plus one cost fee proposal are to be given to the Owner. Under the same section part B it states that Section 8 of the Submittal is to be the Cost Fee Proposal for Lakes of Aloma Pump Station Rehabilitation. In the pre-proposal meeting, I understood that the contractors are only submitting pricing for Attachment A and that the Drawings for Lakes of Aloma are simply given to provide a “typical pump station” to base our bid dollars for each item. Please specify what documents are to be submitted to the Owner for pricing.

Answer: *Correct as stated, the only pricing being provided is Attachment A – Schedule of Unit Price Proposal. Disregard statement under Section II-B about Section 8: Cost Fee Proposal for Lakes of Aloma Pump Station Rehabilitation.*

Question: Bid items 65 & 66 pertain to electrical items. All the pump stations are existing, and have adequate power and infrastructure for the existing pumps. Are we to assume that all control panels will remain and that pulling feeds to the newly installed pumps (through existing conduit) will be all that is required for an electrician? If so, will bid items 65 & 66 be revised?

Answer: *Please see enclosed Measurement and Payment Specification 01 22 00 for reference. Place a value of \$30,000 for line item number 66.*

ATTACHMENT A - Revised

South Seminole & North Orange County Wastewater Transmission Authority Schedule of Unit Price Proposal

Item/Description			Estimated Qty	Total Costs
1	Mobilization / Demobilization (Not Using this Line Item for Pricing)	Not Used	Not Used	Not Used
2	Demolition and Removal of Pre-Existing Mechanically Fastened or Embedded Liner Materials	SF	1000	
3	Dry Abrasive Blasting and Removal of Existing Coating Material	SF	1000	
	High Pressure Water Blasting (Minimum 5000 p.s.i.) of Existing Substrate	SF	1000	
Sewer By-Pass				
4	Bypass 8-inch Sewer Setup	EACH	1	
5	Bypass 10-inch to 12-inch Sewer Setup	EACH	1	
6	Bypass 15-inch to 18-inch Sewer Setup	EACH	1	
7	Bypass 24-inch Sewer Setup	EACH	1	
8	Bypass 4-inch Pump	EACH	1	
9	Bypass 6-inch Pump	EACH	1	
10	Bypass 8-inch Pump	EACH	1	
11	Bypass 10-inch Pump	EACH	1	
Cementitious Coating or 100% Solid Epoxy Liner				
12	Condition I -- 100% Pure Solids High-Build Epoxy on Liner	SF	1000	
13	Condition II -- 100% Pure Fused Calcium Aluminate Cementitious Coating	SF	1000	
14	Condition III -- Composite Level 1 (Minimum 0.5 inch Cementitious or 60 mil Epoxy Combination)	SF	1000	
15	Condition IV -- Composite Level 2 (Minimum 1 inch Cementitious or 100 mil Epoxy Combination)	SF	1000	
16	Supplemental 40 mil Thick Layer(s) of Epoxy Top Coat added to Conditions I, III, and IV	SF	1000	
17	Supplemental 0.5 inch Thick Layer(s) of Cementitious Build-Back added to Conditions II, III, and IV	SF	1000	

ATTACHMENT A - Revised

South Seminole & North Orange County Wastewater Transmission Authority Schedule of Unit Price Proposal

Manhole Supplemental Items				
18	Reset or Adjust Existing Manhole Casting within Asphaltic Pavement	EACH	1	
19	Reset or Adjust Existing Manhole Casting within Green Area	EACH	1	
20	Furnish and Install New Ring and Cover	EACH	1	
21	Re-Construct Existing Manhole Bench and Invert Channel	EACH	1	
22	Furnish and Install New Manhole Chimney Seal	EACH	1	
Lift Station Supplemental Items				
<i>Install New Base Plate and New Pump Base</i>				
23	4-inch	EACH	3	
24	6-inch	EACH	3	
25	8-inch	EACH	3	
<i>Re-Install Existing Pump Base</i>				
26	4-inch	EACH	3	
27	6-inch	EACH	3	
28	8-inch	EACH	3	
<i>Furnish and Install New Base Plate with Existing Pump Base</i>				
29	4-inch	EACH	3	
30	6-inch	EACH	3	
31	8-inch	EACH	3	
<i>Furnish and Install 6" PVC Interior Drop</i>				
32	2' to 4'	EACH	1	
33	4' to 6'	EACH	1	
34	6' to 8'	EACH	1	
<i>Furnish and Install 8" PVC Interior Drop</i>				
35	2' to 4'	EACH	1	
36	4' to 6'	EACH	1	
37	6' to 8'	EACH	1	

ATTACHMENT A - Revised

South Seminole & North Orange County Wastewater Transmission Authority Schedule of Unit Price Proposal

<i>Re-Construct Lift Station Fillet</i>				
38	6' Diameter	EACH	1	
39	8' Diameter	EACH	1	
40	10' Diameter	EACH	1	
<i>Remove and Replace Existing Piping and Valves within Existing Submersible Lift Station through Existing Valve Vault</i>				
41	Furnish & Install 4-inch piping and stainless steel pressure guage assembly (single pump)	EACH	1	
42	Furnish & install 4-inch check valve and plug valve	EACH	1	
43	Furnish & Install 6-inch piping and stainless steel pressure guage assembly (single pump)	EACH	1	
44	Furnish & install 6-inch check valve and plug valve	EACH	1	
45	Furnish & Install 8-inch piping and stainless steel pressure guage assembly (single pump)	EACH	1	
46	Furnish & install 8-inch check valve and plug valve	EACH	1	
47	Furnish & Install 10-inch piping and stainless steel pressure guage assembly (single pump)	EACH	1	
48	Furnish & install 10-inch check valve and plug valve	EACH	1	
49	Install Valve Vault Drain to Wet Well	EACH	1	
Emergency Pipe Repair and/or Replacement (No Roadwork Associated Work)				
50	Furnish and Install 12-inch HDPE	LF	200	
51	Furnish and install 12-inch PVC (C900, DR18)	LF	200	
52	Furnish and install 16-inch HDPE	LF	200	
53	Furnish and install 16-inch PVC (C905, DR18)	LF	200	
54	Furnish and install 20-inch HDPE	LF	200	
55	Furnish and install 20-inch PVC (C905, DR18)	LF	200	
56	Furnish and install 24-inch HDPE	LF	200	
57	Furnish and install 24-inch PVC (C905, DR18)	LF	200	
58	Furnish and install 30-inch HDPE	LF	200	
59	Furnish and install 30-inch PVC (C905, DR18)	LF	200	
60	Furnish and install 36-inch HDPE	LF	200	
61	Furnish and install 36-inch PVC (C905, DR18)	LF	200	

ATTACHMENT A - Revised

**South Seminole & North Orange County
Wastewater Transmission Authority
Schedule of Unit Price Proposal**

Air Release Valve Repair and Maintenance				
62	Inspect	EACH	2	
63	Clean	EACH	2	
64	Repair	EACH	2	
Electrical Service and Controls				
65	Install Control Panel Support System	EACH	1	
66	Install Control Panel, Conduit, Wiring and Need Components to Pedestal	EACH	1	
67	Place the Lift Station into Service	EACH	1	
68	Dispose of Construction Related Debris	EACH	1	
69	Restore the Site to its Original Condition	EACH	1	
Pump Installation				
70	Intall pump including guide rails, chain	EACH	1	
			TOTAL =	

SECTION 01 22 00

MEASUREMENT AND PAYMENT

PART 1 - GENERAL

1.01 DESCRIPTION

- A. The Contractor shall receive and accept the compensation provided in the proposal and the Contract as full payment for furnishing all materials, labor, tools and equipment, for performing all operations necessary to complete the work under the Contract, and also in full payment for all losses or damages arising from the nature of the work, or from any discrepancy between the actual quantities of work and quantities herein estimated by the Engineer, or from the action of the elements or from unforeseen difficulties which may be encountered during the prosecution of the work until the final acceptance by the owner.
- B. The process stated in the Bid Form include all costs and expenses for taxes, labor, equipment, materials, commissions, transportation charges and expenses, patent fees and royalties, labor for handling materials during inspection, together with any and all other costs and expenses for performing and completing the work as shown on the Drawings and specified herein. The basis of payment for an item at the unit price shown in the Bid Form shall be in accordance with the description of that item in this section.
- C. The Contractor's attention is again called to the fact that the quotations for various items of work are intended to establish a total price for completing the work in its entirety. Should the Contractor think that the cost for any item of work has not been established by the Bid Form or Payment Items, he/she shall include the cost for that work in some other applicable bid item, so that his/her proposal for the project does reflect his/her total price for completing the work in its entirety.

1.02 MEASUREMENT AND PAYMENT

- A. Payment for all work done in compliance with the Contract Documents, inclusive of furnishing all manpower, equipment, materials and performance of all operations relative to construction of this project, will be made under the pay items listed herein and in accordance with the accepted Bid.
- B. Methods of Measurement:
 - 1. Units of measurement shall be defined in general terms as follows:
 - a. Linear Feet (LF)
 - b. Square Yards (SY)
 - c. Cubic Feet (CF)
 - d. Each (EA)
 - e. Lump Sum (LS)



2. Unit Price Items:
 - a. Linear Feet (LF) shall be measured along the horizontal length of centerline of installed material, unless otherwise specified. Pipe shall be measured along the length of valves or fittings. Pipe included within the limits of lump sum items will not be measured.
 - b. Square Yards (SY), cubic feet (CF) and Each (EA) shall be measured as the amount of unit measure installed within the limits specified and shown in Specifications and Drawings. Slope angles and elevations shall be measured using land surveying equipment. Contractor shall provide supporting documentation (i.e.: drawings, truck tickets, invoices, etc.) to verify the actual quantities installed.
3. Lump Sum Items:
 - a. Measurement of work for lump sum (LS) items shall be based on information provided in the Contract Documents and compiled through Contractor's own field verification.

1.03 BASIS OF PAYMENT

Measurement and payment for each bid item shall include all labor, materials and equipment required to perform the work included for that respective item to provide a complete and operable installation whether specifically described, mentioned or implied.

1. **Demolition and Removal of Pre-Existing Mechanically Fastened or Embedded Liner Material (Item 2)**
 - A. Description - The work specified in this item consists of furnishing all labor, equipment, and materials for the demolition and removal of existing liner materials either mechanically fastened or embedded in the existing wetwell. The liner and any associated fittings or hardware shall be removed, and the resulting holes patched in accordance with the specifications. In addition, all demolished materials shall be removed and properly disposed of in accordance with State and Federal regulations for materials used in wastewater collection and treatment.
 - B. Measurement - The quantity for the work specified in this item shall be the area in square feet of lining material demolished and removed.
 - C. Payment - Payment of the applicable unit price shall be full compensation for furnishing all labor, materials, equipment, services completely in accordance with the specifications and Drawings.
2. **Dry Abrasive Blasting and Removal of Existing Coating Material (Item 3)**
 - A. Description - The work specified in this item consists of furnishing all labor, equipment, and materials for dry abrasive blasting, removal, and proper disposal of existing coating material. Dry abrasive blasting shall be conducted in accordance with the coating manufacturer's recommendations for surface preparation, and disposal of the removed coating material and used abrasive shall be in accordance with State and Federal regulations.

- B. Measurement - The quantity for the work specified in this item shall be the area in square feet of concrete surface properly dry abrasive blasted.
- C. Payment – Payment of the applicable unit price shall be full compensation for furnishing all labor, materials, equipment, services completely in accordance with the specifications and Drawings.

3. High Pressure Water Blasting of Existing Substrate (Item 3)

- A. Description - The work specified in this item consists of furnishing all labor, equipment, and materials for high pressure water blasting of existing substrate in accordance with the coating manufacturer’s recommendations for surface preparation. The water blasting shall be conducted at a minimum pressure of 5000 p.s.i.
- B. Measurement - The quantity for the work specified in this item shall be the area in square feet of concrete surface properly water blasted.
- C. Payment – Payment of the applicable unit price shall be full compensation for furnishing all labor, materials, equipment, services completely in accordance with the specifications and Drawings.

4. By-Pass 8-inch Sewer Setup (Item 4)

By-Pass 10-inch to 12-inch Sewer Setup (Item 5)

By-Pass 15-inch to 18-inch Sewer Setup (Item 6)

By-Pass 24-inch Sewer Setup (Item 7)

- A. Description - The work consists of furnishing all labor, equipment, services and supervision necessary to install a temporary by-pass piping system at pump stations including the disconnection of the existing manifold piping and connection of the temporary by-pass piping at the pump station. This item also includes all necessary fittings, reducers, bends and joint restraining devices, clearing and grubbing of shrubs, removal and replacement of fencing and handling of all other obstacles within the limits of this item. All items not covered under separate line items in the Contract bid form necessary to successfully complete this task shall be included within the unit cost in this item.
- B. Measurement – Measurement for this item to provide the by-pass piping shall be included as a unit price for complete and successful installation and all other associated work.
- C. Payment – Payment shall be made at the Contract unit price for furnishing all labor, materials, equipment, services and supervision, which price and payment constitutes full compensation for all the work described herein.

5. By-Pass 4-inch Pump (Item 8)

By-Pass 6-inch Pump (Item 9)

By-Pass 8-inch Pump (Item 10)

By-Pass 10-inch Pump (Item 11)

- A. Description - The work consists of furnishing all labor, equipment, services and supervision necessary to install temporary by-pass pump of size and type specified at pump stations. This item also includes all necessary fittings, reducers, bends and joint restraining devices, clearing and grubbing of shrubs, removal and replacement of fencing and handling of all other obstacles within the limits of this item. All items not covered under separate line items in the Contract bid form necessary to successfully complete this task shall be included within the unit cost in this item.



- B. Measurement – Measurement for this item to provide the by-pass pump shall be included as a unit price for complete and successful installation and all other associated work.
- C. Payment – Payment shall be made at the Contract unit price for furnishing all labor, materials, equipment, services and supervision, which price and payment constitutes full compensation for all the work described herein.

6. 100% Pure Solids High-Build Epoxy on Liner (Item 12)

100% Pure Fused Calcium Aluminate Cementitious Coating (Item 13)

Composite Level 1 Coating (Item 14)

Composite Level 2 Coating (Item 15)

Supplemental Epoxy Top Coat (Item 16)

Supplemental Cementitious Build-Back (Item 17)

- A. Description - The work specified in this item consists of furnishing all labor, equipment, and materials for proper preparation, application, and cleaning of the cementitious coating or epoxy liner in accordance with the coating manufacturer's recommendations. The product supplied shall meet the requirements of and be applied in accordance with the proper condition (I, II, III, or IV) as stated in the specifications. In addition, supplemental coatings shall be included where required by the manufacturer's recommendations, or indicated in the specifications.
- B. Measurement - The quantity for the work specified in this item shall be the area in square feet of concrete properly prepared, coated, and accepted.
- C. Payment – Payment of the applicable unit price shall be full compensation for furnishing all labor, materials, equipment, services completely in accordance with the specifications and Drawings.

7. Reset or Adjust Existing Manhole Casting within Asphaltic Pavement (Item 18)

Reset or Adjust Existing Manhole Casting within Green Area (Item 19)

- A. Description - The work specified in this item consists of furnishing all labor, equipment, and materials to reset or adjust the existing manhole casting to match the surrounding area grade. This includes any top soil, fine grading, seeding, sodding, water, and fertilizer to restore the surrounding area in Green Spaces. For manholes within Asphaltic Pavement, this includes grading, patching, sealing, asphalt, and subgradign necessary to match the grade of the surrounding area.
- B. Measurement - The quantity for the work specified in this item shall be the actual number of manhole casings reset or adjusted.
- C. Payment – Payment of the applicable unit price shall be full compensation for furnishing all labor, materials, equipment, services completely in accordance with the specifications and Drawings.

8. Furnish and Install New Manhole Ring and Cover (Item 20)

- A. Description - The work specified in this item consists of furnishing all labor, equipment, and materials to furnish and properly install new ring and covers for each manhole indicated.
- B. Measurement - The quantity for the work specified in this item shall be the actual number of manhole rings and covers furnished, properly installed, and accepted.

- C. Payment – Payment of the applicable unit price shall be full compensation for furnishing all labor, materials, equipment, services completely in accordance with the specifications and Drawings.

9. Re-Construct Existing Manhole Bench and Invert Channel (Item 21)

- A. Description - The work specified in this item consists of furnishing all labor, equipment, and materials to re-construct the existing manhole bench and invert channel in accordance with the drawings and specifications.
- B. Measurement - The quantity for the work specified in this item shall be the actual number of benches and invert channels properly re-constructed, and accepted.
- C. Payment – Payment of the applicable unit price shall be full compensation for furnishing all labor, materials, equipment, services completely in accordance with the specifications and Drawings.

10. Furnish and Install New Manhole Chimney Seal (Item 22)

- A. Description - The work specified in this item consists of furnishing all labor, equipment, and materials to furnish and properly install new chimney seal for each manhole indicated.
- B. Measurement - The quantity for the work specified in this item shall be the actual number of manhole chimney seals furnished, properly installed, and accepted.
- C. Payment – Payment of the applicable unit price shall be full compensation for furnishing all labor, materials, equipment, services completely in accordance with the specifications and Drawings.

11. Furnish & Install New Base Plate and New Pump Base (Item 23, 24 and 25)

- A. Description - The work consists of furnishing all labor, equipment and materials and installing the new base plate and new pump base of the size and type specified, but not included in other items. The unit price shall include the cost of procuring the new base plate and new pump base.
- B. Measurement – Measurement for payment of this item will be the actual number of new base plate and new pump base specified herein, furnished, installed complete in-place as designated and accepted.
- C. Payment – Payment of the applicable unit price shall be full compensation for furnishing all labor, materials, equipment, services and installing the new base plate and new pump base complete in place in accordance with the specifications and Drawings.

12. Re-Install Existing Pump Base (Item 26, 27 and 28)

- A. Description - The work consists of furnishing all labor, equipment and materials and re-installing the existing pump base of the size and type specified, but not included in other items.
- B. Measurement – Measurement for payment of this item will be the actual number of existing pump base specified herein, installed complete in-place as designated and accepted.
- C. Payment – Payment of the applicable unit price shall be full compensation for furnishing all labor, materials, equipment, services and re-installing the existing pump base complete in place in accordance with the specifications and Drawings.

13. Furnish & Install New Base Plate with Existing Pump Base (Item 29, 30 and 31)

- A. Description - The work consists of furnishing all labor, equipment and materials and installing the new base plate with existing pump base of the size and type specified, but not included in other items. The unit price shall include the cost of procuring the new base plate.
- B. Measurement – Measurement for payment of this item will be the actual number of new base plate with existing pump base specified herein, furnished, installed complete in-place as designated and accepted.
- C. Payment – Payment of the applicable unit price shall be full compensation for furnishing all labor, materials, equipment, services and installing the new base plate with existing pump base complete in place in accordance with the specifications and Drawings.

14. Furnish & Install 6-inch PVC Interior Drop (Item 32, 33 and 34)

Furnish & Install 8-inch PVC Interior Drop (Item 35, 36 and 37)

- A. Description - The work consists of furnishing all labor, equipment and materials and installing the PVC interior drop of the size and type specified, but not included in other items. The unit price shall include the cost of procuring the piping and associated appurtenances.
- B. Measurement – Measurement for payment of this item will be the actual number of PVC interior drop type specified herein, furnished, installed complete in-place as designated and accepted.
- C. Payment – Payment of the applicable unit price shall be full compensation for furnishing all labor, materials, equipment, services and installing the PVC interior drop complete in place in accordance with the specifications and Drawings.

15. Re-Construct 6' Diameter Lift Station Fillet (Item 38)

Re-Construct 8' Diameter Lift Station Fillet (Item 39)

Re-Construct 10' Diameter Lift Station Fillet (Item 40)

- A. Description - The work consists of furnishing all labor, equipment and materials and installing the lift station fillet of the size and type specified. The unit price shall include the cost of procuring the necessary materials.
- B. Measurement – Measurement for payment of this item will be the actual number of lift station fillets, installed complete in-place as designated and accepted.
- C. Payment – Payment of the applicable unit price shall be full compensation for furnishing all labor, materials, equipment, services and installing the lift station fillet complete in place in accordance with the specifications and Drawings.

16. Furnish & Install 4-inch piping and stainless steel pressure gauge assembly (Item 41)

Furnish & Install 6-inch piping and stainless steel pressure gauge assembly (Item 43)

Furnish & Install 8-inch piping and stainless steel pressure gauge assembly (Item 45)

Furnish & Install 10-inch piping and stainless steel pressure gauge assembly (Item 47)

- A. Description - The work consists of furnishing all labor, equipment and materials and installing the piping (length of 30 ft) and stainless steel pressure gauge assembly of the size and type specified, but not included in other items. The unit price shall include the cost of procuring the piping and pressure gauge assembly including isolation rings and diaphragm.

- B. Measurement – Measurement for payment of this item will be the actual number of piping and stainless steel pressure gauge assemblies type specified herein, furnished, installed complete in-place as designated and accepted.
- C. Payment – Payment of the applicable unit price shall be full compensation for furnishing all labor, materials, equipment, services and installing the piping and stainless steel pressure gauge assemblies complete in place in accordance with the specifications and Drawings.

17. Furnish & Install 4-inch Check Valve and Plug Valve (Item 42)

Furnish & Install 6-inch Check Valve and Plug Valve (Item 44)

Furnish & Install 8-inch Check Valve and Plug Valve (Item 46)

Furnish & Install 10-inch Check Valve and Plug Valve (Item 48)

- A. Description - The work consists of furnishing all labor, equipment, supervision and materials and installing check valve and plug valves of the size and type specified, but not included in other items. The unit price shall include the cost of preparing and submitting shop drawings and submittals, procuring the valves, installation of valves, jointing materials, including rings, restraining joints, bolts and gaskets, installation costs, concrete support in accordance with the specifications and Drawings.
- B. Measurement – Measurement for payment of this item will be the actual number of check and plug valves of the size and type specified herein, furnished, installed complete in-place as specified and accepted.
- C. Payment – Payment shall be made at the Contract unit price for the actual quantity of installed check and plug valves of the size and type specified complete, in place as specified in accordance with the specifications and Drawings.

18. Install Valve Vault Drain to Wet Well (Item 49)

- A. Description - The work consists of furnishing all labor, equipment, supervision and materials and installing a valve vault drain which terminates inside the wet well in accordance with the plans and specifications.
- B. Measurement – Measurement for payment of this item will be the actual number of valve vault drains, furnished, installed complete in-place as specified and accepted.
- C. Payment – Payment shall be made at the Contract unit price for the actual quantity of installed valve vault drains complete, in place as specified in accordance with the specifications and Drawings.

19. Install 12-Inch HDPE PE (DR-11) Wastewater Force Main (Item 50)

Install 16-Inch HDPE PE (DR-11) Wastewater Force Main (Item 52)

Install 20-Inch HDPE PE (DR-11) Wastewater Force Main (Item 54)

Install 24-Inch HDPE PE (DR-11) Wastewater Force Main (Item 56)

Install 30-Inch HDPE PE (DR-11) Wastewater Force Main (Item 58)

Install 36-Inch HDPE PE (DR-11) Wastewater Force Main (Item 60)

- A. Description – The work consists of furnishing all labor, equipment, materials and supervision necessary for the installation of the HDPE DR-11 wastewater force main. Payment of the unit price shall be for full compensation for furnishing all labor, materials, equipment and services necessary to install the HDPE force main pipe within the right-of-way including clearing and grubbing, all costs necessary to prepare and submit shop drawings and submittals, procure the

pipe, all excavation, shoring and bracing, trench safety, dewatering, sheeting and shoring, necessary ground water control, installation of HDPE DR11 pipe, joint restraints, locate wires, locate disks, locate devices, locate wire testing, welding, fittings, butt fusing of all polyethylene joints, filling, flushing, air testing, hydrostatic pressure and leakage testing, connecting and transitioning both ends to the new force main, backfill, compaction, complete restoration of disturbed areas and utilities and all other related and necessary materials required to construct a complete and operable pipeline in accordance with the Contract Documents.

- B. Measurement – Measurement for payment for this item shall be the actual number of linear feet of HDPE DR-11 pipe measured along the centerline of the pipe through fittings in-place, completed, tested and accepted.
- C. Payment – Payment shall be made at the Contract unit price per linear foot installed, as described above.

20. Install 12-Inch PVC C-900 (DR-18) Wastewater Force Main (Item 51)

Install 16-Inch PVC C-905 (DR-18) Wastewater Force Main (Item 53)

Install 20-Inch PVC C-905(DR-18) Wastewater Force Main (Item 55)

Install 24-Inch PVC C-905 (DR-18) Wastewater Force Main (Item 57)

Install 30-Inch PVC C-905 (DR-25) Wastewater Force Main (Item 59)

Install 36-Inch PVC C-905 (DR-25) Wastewater Force Main (Item 61)

- A. Description - The work consists of furnishing all labor, equipment, materials and supervision necessary for the installation of the PVC wastewater force main of the size and type specified, but not specifically included in other items. The unit price shall contain all costs necessary to prepare and submit shop drawings and submittals, procure the pipe, install the pipe (including survey layout), right-of-way clearing & grubbing, trench excavation, sheeting, shoring and bracing, trench safety, dewatering, furnishing and installing pipe bedding, location wires, pipe identification marking, tracer tape installation, utility crossings, property protection, flushing, hydrostatic pressure and leakage testing, location wire testing, backfilling, compaction, grading, temporary silt and erosion control, site restoration, re-vegetation and all other related and necessary materials required to construct a complete and operable pipeline in accordance with the Contract Documents. This item also includes all necessary DIP fittings, reducers, bends, tees, wyes, caps, and joints and joint restraining devices, removal/replacement of fences, trees, shrubs, mailboxes, temporary support of utility poles, support of utility piping/cables or other obstacles.
- B. Measurement – Measurement for payment for this item shall be the actual number of linear feet of the PVC pipe of size and type installed as measured along the centerline of the pipe through fittings in-place, completed, tested and accepted.
- C. Payment – Payment shall be made at the Contract unit price per linear foot installed of the size and type specified, as described above.

21. Air Release Valve Repair and Maintenance (Item 62, 63, and 64)

- A. Description - The work consists of furnishing all labor, equipment and materials for inspecting, cleaning and/or repairing the air release valves of the size and type specified, but not included in other items.
- B. Measurement – Measurement for payment of this item will be the actual number of air release valves inspected, cleaned or repaired of each size and type specified herein, inspected, cleaned, and/or repaired in-place to finished grade and accepted.

- C. Payment – Payment of the applicable unit price shall be full compensation for furnishing all labor, materials, and equipment for inspecting, cleaning and/or repairing the air release valves complete in place to finish grade in accordance with the specifications and Drawings.

22. Install Control Panel Support System (Item 65)

- A. Description - The work consists of furnishing all labor, equipment and materials and installing the control panel support system and type specified, but not included in other items. The unit price shall include the cost of procuring the concrete post, stainless steel unistrut, and stainless steel anchors to support the control panel.
- B. Measurement – Measurement for payment of this item will be the actual number of control panel support system specified herein, furnished, installed complete in-place as designated and accepted.
- C. Payment – Payment of the applicable unit price shall be full compensation for furnishing all labor, materials, equipment, services and installing the control panel support system complete in place in accordance with the specifications and Drawings.

23. Install Control Panel, Conduit, Wiring and Need Components to Pedestal (Item 66)

- A. Description - The work consists of furnishing all labor, equipment and materials and installing the control panel, conduit, wiring and needed components to the pedestal and type specified, but not included in other items. The unit price shall include the cost of procuring the control panel, conduit, wiring and needed components.
- B. Measurement – Measurement for payment of this item will be the actual number of control panel, conduit, wiring and needed components specified herein, furnished, installed complete in-place as designated and accepted.
- C. Payment – Payment of the applicable unit price shall be full compensation for furnishing all labor, materials, equipment, services and installing the control panel, conduit, wiring and needed components complete in place in accordance with the specifications and Drawings.

24. Place the Lift Station Into Service (Item 67)

- A. Description - The work consists of furnishing all labor, equipment, materials, and supervision necessary to execute performance testing and place the lift station into service in accordance to the procedures outlined in the specifications. This includes the preparation, production, and delivery of all forms and documents indicated in the specification.
- B. Measurement – Measurement for payment of this item will be a lump sum for the execution of the work described herein.
- C. Payment - The quantities, as determined above, shall be paid for at the contract lump sum price, which price and payment constitutes full compensation for all the work described herein. The Contractor shall submit to the Owner and Engineer sufficient documentation substantiating percentage complete of the overall item with each pay request.

25. Dispose of Construction Related Debris (Item 68)

- A. Description - The work consists of furnishing all labor, equipment, materials, and supervision necessary to remove, and properly dispose of all construction related debris including demolished piping, valves and fittings, concrete, miscellaneous metals, and other debris removed from the site. The lump sum price shall include labor, excavation, sheeting, shoring,

bracing, trench safety, dewatering, property protection, wastewater removal and disposal of contents, saw cutting, pipe removal and proper disposal. In addition, all demolished materials shall be removed and properly disposed of in accordance with State and Federal regulations for materials used in wastewater collection and treatment.

- B. Measurement – Measurement for payment of this item will be a lump sum for the execution of the work described herein.
- C. Payment - The quantities, as determined above, shall be paid for at the contract lump sum price, which price and payment constitutes full compensation for all the work described herein. The Contractor shall submit to the Owner and Engineer sufficient documentation substantiating percentage complete of the overall item with each pay request.

26. Restore Site to its Original Condition (Item 69)

- A. Description - The work specified in this item consists of furnishing all labor, equipment, supervision, top soil, fine grading, sod, water and fertilizer to properly prepare finish grade, plant and maintain sod in disturbed areas as a result of wastewater transmission main installation and/or other associated work. In addition, the work consists of furnishing all labor, equipment, and supervision necessary to remove, dispose and replace miscellaneous concrete structures to their original line, grade and configuration. The work shall include, saw cutting, demolition, excavation, removal, disposal, backfilling, compaction, grading, formwork, reinforcement, and concrete to reconstruct the miscellaneous concrete structure
- B. Measurement - The quantity for the work specified in this item shall be the area in square yards of sod and /or concrete actually removed, installed complete and accepted.
- C. Payment - The quantities, as determined above, shall be paid for at the contract lump sum price, which price and payment constitutes full compensation for all the work described herein. The Contractor shall submit to the Owner and Engineer sufficient documentation substantiating percentage complete of the overall item with each pay request.

27. Intall Pump Including Guide Rails, Chain (Item 70)

- A. Description - The work specified in this item consists of furnishing all labor, equipment, and materials to furnish and properly install pumps and all pump accessories according to the specifications.
- B. Measurement - The quantity for the work specified in this item shall be the actual number of pumps furnished, properly installed, and accepted.
- C. Payment – Payment of the applicable unit price shall be full compensation for furnishing all labor, materials, equipment, services completely in accordance with the specifications and Drawings.

END OF SECTION