

SECTION 012000

MEASUREMENT AND PAYMENT

PART 1 - GENERAL

1.1 EXPLANATION AND DEFINITIONS

- A. The following explanation of Measurement and Payment for the bid form items is made for information and guidance. The omission of reference to any item in this description shall not, however, alter the intent of the bid form or relieve the Contractor of the necessity of furnishing such as a part of the contract at no additional cost.

1.2 MEASUREMENT

- A. The quantities set forth in the bid form are approximate and are given to establish a uniform basis for the comparison of bids. The City reserves the right to increase or decrease the quantity of any class or portion of the work during the progress of construction in accord with the terms of the Contract.
- B. The lump sum price for mobilization/demobilization shall not exceed five percent (5%) of the total of all other items bid (excluding this item). The Contractor shall provide a breakdown of the lump sum bid for mobilization. The breakdown shall identify items of preparatory work and operations with the corresponding cost per item.

1.3 PAYMENT

- A. Payment shall be made for the items listed on the Bid Form on the basis of the work actually performed, completed, and accepted by the City, such Work including but not limited to, the furnishing of all necessary labor, materials, equipment, transportation, cleanup, restoration of disturbed areas, and all other appurtenances to complete the construction and installation of the Work as shown on the Plans and described in these Technical Specifications.
- B. Unit prices are used as a means of computing the final figures for bid and Contract purposes, for periodic payments for Work performed, for determining value of additions or deletions, and wherever else reasonable.

- C. Measurement and payment for lump sum Bid Items will be made on a monthly basis based on a percentage of completion based on the Contractor's schedule of values.
- D. Monthly payments shall be subject to retainage as stated in the Contract.

1.4 MEASUREMENT FOR PAYMENT

A. Methods for Measurement: Units for measurement shall be:

1. Each (EA).
2. Linear Feet (LF).
3. Lump Sum (LS).
4. Square Feet (SF).
5. Square Yards (SY).

B. Unit Price Contracts/Items:

1. 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 centerline of 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.
2. Square Feet (SF) and Square Yards (SY) shall be measured as the amount of the material installed within the limits shown and specified in the Plans and these Technical Specifications. Slope angles and elevations shall be measured using land surveying equipment. The Contractor shall provide supporting documentation (i.e., drawings, delivery tickets, invoices, survey calculations, etc.) to verify the actual quantity installed.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.1 GENERAL

A. Payment shall be made on the basis of Work actually performed completing each item in the Bid Form, such Work including, but not limited to, the furnishing of all necessary labor, materials, equipment, transportation, cleanup, and all other appurtenances to complete the construction and installation of the work to the configuration and extent as shown on the Construction Plans and described in these Technical Specifications.

- B. Water used for flushing, pressure testing, and other activities shall be provided through a metered jumper. The cost of the City meter, fee for water used, and the necessary piping and appurtenances shall be included in the unit price for the Item in which the water is being used for.
- C. No payment will be made for work outside the scope of work performed prior to approval of a change order.
- D. No separate payment will be made for the following items and the cost of such Work shall be included in the applicable Bid Items:
1. Submittals.
 2. Obtaining and maintaining areas for storage and staging.
 3. Furnishing, installing, and maintaining erosion control and other environmental protection measures
 4. Dust control.
 5. Clearing and grubbing.
 6. Removal and replacement of all obstructions located in the path of the work including but not limited to signs, fences, trees, ornamental vegetation, landscaping structures, sidewalk, curbing, culverts, storm sewers, etc., unless paid for under a separate bid item.
 7. Stripping and stockpiling topsoil.
 8. Holding/staying utility poles to facilitate construction.
 9. Necessary pavement/slab removal, including but not limited to saw cutting and removing the entire thickness of the pavement/slab.
 10. Replacement or restoration of paved or unpaved roadways and grass and shrubbery plots outside of established pay limits.
 11. Restoration of shell and crushed stone drives unless paid for under a separate bid item.
 12. Replacement or restoration of curbing, gutter, sidewalk, and site restoration of any areas damaged during construction activities.
 13. Grading.
 14. Sodding.
 15. Removing/hauling and disposing of waste material due to construction.
 16. Cleanup.
 17. Maintaining the existing quality of service during construction.
 18. Utility notification and location and exploratory excavations for locating existing utilities.
 19. Protection of existing utilities during construction.
 20. Repair of existing utilities damaged during construction.
 21. Repair of utility service connections (including but not limited to sanitary sewer house laterals; potable water service lines; reclaimed water service lines; electric, cable, and telephone service lines) damaged during construction.
 22. Repair of irrigation systems damaged during construction.

23. Repair and/or cleaning of storm sewers, inlets, and catch basins damaged or filled with sediment during construction.
24. Providing the services of an independent testing laboratory for materials and compaction testing.
25. Providing the services of a professional land surveyor, licensed in the State of Florida, to establish horizontal and vertical control, layout the work, and assist with the preparation of as-built drawings.
26. Complying with permit requirements, including submitting notifications, reporting, and closeout documentation.
27. As-built drawings.
28. Noise suppression measures.
29. Removing, relocating, and resetting existing street signage to facilitate construction.
30. Removing, relocating, and resetting mailboxes to facilitate construction.
31. Protection existing landscaping during construction.
32. Repairing and/or replacing existing landscaping damaged or repaired during construction with in kind landscaping.
33. Warranties.
34. All other appurtenant work as required for a complete and operable system.

3.2 BID ITEMS

Examples are shown below, but this section needs to be tailored to the project.

A. Bid Item 1.0 – Mobilization and Demobilization: Payment for mobilization and demobilization will be made at the Contract lump sum price for mobilization/demobilization as one bid item for execution of the entire project. This price shall be full compensation for all costs incurred for preparatory work and operations including but not limited to:

- Applicable items of Paragraph 3.1 D. herein;
- Movement of personnel, equipment, supplies, and incidentals to and from the project site(s);
- The establishment and removal of facilities necessary for work on the project, including but not limited to safety and sanitary facilities;
- Bonds and insurance;
- Obtaining permits necessary for construction that were not obtained by the Engineer (including but not limited to obtaining coverage under an FDEP NPDES permit);
- Temporary facilities and controls during construction such as water/sanitary facilities, traffic control;
- Color audio-video preconstruction record;
- Maintenance of traffic;
- Scheduling;
- Subcontractor coordination; and

- Coordination with the City and the Engineer, including meetings.

The cost of this Bid Item shall not be permitted to exceed five percent (5%) of the sum of all other Bid Items unless the Contractor's bid submittal is accompanied by calculations demonstrating that the actual cost for the Work included in this Bid Item will be greater than five percent. Payment for this Bid Item shall be based on the schedule of values prepared by the Contractor.

| BID ITEM | DESCRIPTION | UNITS |
|----------|---------------------------------|-------|
| 1.0 | Mobilization and Demobilization | LS |

B. Bid Item 2.0 – PVC Water Main with D.I. Fittings: Payment for furnishing and installing PVC potable water main pipe and ductile iron fittings shall be made at the Contract unit price per linear foot of each size and type of a fully functional PVC potable water main (either with or without restrained joints) furnished and installed complete in place and ready for service. The price shall include all necessary labor, equipment, tools, and materials for furnishing, laying, and testing of the potable water main and shall include but not be limited to:

- Applicable items of Paragraph 3.1 D. herein;
- Coordinating with utility owners for locating buried cables and other utilities during construction;
- Excavation of all material encountered including rock;
- Shoring and sheeting
- Dewatering and disposal of surplus water;
- PVC pipe;
- Ductile iron fittings;
- Polyethylene sleeve on all ductile iron fittings;
- Joints restraints and/or concrete thrust blocks;
- Detectable tape and locator wire;
- Removal and replacement of unsuitable subgrade;
- Bedding, backfill, and other fill materials, including temporary fill;
- Pavement structure course, base, and subbase;
- Compaction;
- Density testing;
- Temporary jumpers and other temporary connections and appurtenances for filling, flushing, and testing;
- Water used for flushing, pressure testing, and other activities;
- Flushing and pigging (if required);
- Pressure testing;
- Disinfection and bacteriological testing;
- Placing into service; and
- All other work incidental to the installation of potable water main complete in place.

Payment for this bid item: Payment will be made at 75 percent of the unit price for pipe and fittings installed, backfilled, and compacted; at 90 percent of the unit price for pipe and fittings following satisfactory pressure testing; and at 100 percent of the unit price for pipe and fittings following disinfection and satisfactory bacteriological testing.

| BID ITEM | DESCRIPTION | UNITS |
|-----------------|--|--------------|
| 2.1 | 6-Inch PVC (C900 DR18) Pipe and D.I. Fittings | LF |
| 2.2 | 6-Inch PVC (C900 DR18) Pipe w/ Restrained Joints and D.I. Fittings | LF |

END OF SECTION