

SECTION 01025 - MEASUREMENT AND PAYMENT

1.0 MEASUREMENT OF QUANTITIES

- 1.1. **General** - Measurements of the completed work shall be in accordance with, and by instruments and devices calibrated to United States Standard Measures and the units of measurement for payment, and the limits thereof, shall be made as shown on the Plans, Specifications, General Requirements, and Supplementary Conditions.
- 1.2. **Units of Measurement** - Measurements shall be in accordance with U.S. Standard Measures. A pound is an avoirdupois pound. A ton is 2,000 pounds avoirdupois. The unit of liquid measure is the U.S. gallon.
- 1.3. **Certified Weights** - When payment is to be made on the basis of weight, the weighing shall be done on certified platform scales, or when approved by the Construction Manager, on a completely automated weighing and recording system. The Contractor shall furnish the Construction Manager with duplicate licensed weighmaster's certificates showing the actual net weights. The City will accept the certificates as evidence of the weights delivered.
- 1.4. **Methods of Measurement** - Materials and items of work which are to be paid for on the basis of measurement shall be measured in accordance with the method stipulated in the particular sections involved. In determining quantities, all measurements shall be made in a horizontal plane unless otherwise specified.

Material not used from a transporting vehicle shall be determined by the Construction Manager and deducted from the certified tag.

When material is to be measured and paid for on a volume basis and it would be impractical to determine the volume, or when requested by the Contractor in writing and approved by the Construction Manager in writing, the material will be weighed and converted to volume measurement for payment purposes. Factors for conversion from weight measurement to volume measurement will be determined by the Construction Manager and shall be agreed to by the Contractor before such method of measurement of pay quantities will be adopted.

Full compensation for all expense involved in conforming to the above requirements for measuring and weighing materials shall be considered as included in the unit prices paid for the materials being measured or weighed and no additional allowances will be made therefor.

Quantities of material wasted or disposed of in a manner not called for under the Contract; or rejected loads of material, including material rejected after it has been placed by reason of failure of the Contractor to conform to the provisions of the Contract; or material not unloaded from the transporting vehicle; or material placed outside the lines indicated on the plans or given by the Construction Manager; or material remaining on hand after completion of the Contract, will not be paid for and such quantities will be deducted from the final total quantities. No compensation will be allowed for hauling rejected material.

2.0 DESCRIPTION OF BID ITEMS

2.1. General

Bid Items 1 through 8 are presented to indicate major categories of the work for purposes of comparative bid analyses, payment breakdown for monthly progress payments. Bid items are not intended to be exclusive descriptions of work categories and the Contractor shall determine and include in its pricing all materials, labor, and equipment necessary to complete each Bid Item (work phase) as shown and specified.

2.2 Duration of Prices

Quoted prices accepted by the City shall be held good and in effect until the Work is completed and accepted by the City, unless modified by Change Order.

2.3 Bid Items

Compensation for all plant, equipment, tools, materials, labor, service, travel, and incidentals, and for doing the work and all other items required to complete the Work in conformity with the Contract Documents will be included in the payment provided in this Section unless specifically excluded. No other compensation will be made except for the items listed in the Bid Proposal. Work for which no separate payment has been provided will be considered as a subsidiary obligation of the Contractor, and the cost therefore included in the applicable contract price for the item to which the work applies. All measurements of work done will be made by the Construction Manager. No adjustment in prices will be made where any quantities provided in the Item Description vary from actual quantities, unless the work described and shown in the Contract Documents has been modified by the City.

- 2.3.1 Bid Item 1 - Bid Item 1 includes preparatory work and operations, including but not limited to, those necessary for the movement of personnel, equipment, supplies and incidentals to the project site; for the establishment of all offices, buildings and other facilities necessary for work on the project; for the marshaling of equipment; and for all other work and operations which must be performed or costs incurred prior to beginning work on the various contract items on the project site, including obtaining the bonds, insurance policies, and permits required by the Contract Documents for this Project.**

Payment for Bid Item 1 will be in the amount shown in the Bid Schedule and will be made on a lump sum basis at one hundred percent (100%) of the indicated amount contingent upon the Contractor furnishing, and the Construction Manager's acceptance of, the Construction Schedule, the Contractor's Cost Breakdown, and proof of acquisition of all required bonds, insurance, and permits. Payment for Bid Item 1 shall be subject to retention in accordance with applicable contract requirements.

- 2.3.2 Bid Item 2 - Bid Item 2 is a furnish and install item for the installation, configuration, and commissioning of the Water Utility SCADA system hardware and software as shown on the Drawings and as described in the Specifications, except for that work and items covered in Bid Items 1, and 3 through 8.**

Payment for Bid Item 2 will be made at the lump sum fixed price given in the Bid Schedule, in accordance with the accepted Contractor's Cost Breakdown and subject to retention in accordance with applicable contract requirements.

- 2.3.3 **Bid Item 3** – Bid Item 3 is a furnish item for the furnishing of RTU hardware and software as shown on the Drawings and as described in the Specifications, except for that work and items covered in Bid Items 1, 2, and 4 through 8.

Payment for Bid Item 3 will be made at the per each price given in the Bid Schedule, in accordance with the accepted Contractor=s Cost Breakdown and subject to retention in accordance with applicable contract requirements.

- 2.3.4 **Bid Item 4** - Bid Item 4 is an install item for the installation, testing, and commissioning of RTU hardware and software as shown on the Drawings and as described in the Specifications, except for that work and items covered in Bid Items 1, 2, 3, and 5, 6, 7, and 8.

Payment for Bid Item 4 will be made at the per each price given in the Bid Schedule, in accordance with the accepted Contractor=s Cost Breakdown and subject to retention in accordance with applicable contract requirements.

- 2.3.5 **Bid Item 5** - Bid Item 5 is The requirements of Sections 6705 and 6707 of the California Labor Code apply to this project. However, the City expects that all excavations for the Work under this contract will be less than 5 feet in depth.

In the event that utility or other conflicts require excavations of 5 feet or greater in depth, a lump sum bid price for providing shoring, sheeting, bracing, dewatering and other safety measures for all excavations 5 feet or more in depth has been included in the Bid Schedule. Before any excavation work requiring permits is commenced, secure and pay for the required excavation permits.

Payment for Bid Item 5 will be made on a force account basis from the lump sum price given in the Bid Schedule, and is subject to retention in accordance with applicable contract requirements.

- 2.3.6 **Bid Item 6** - Bid Item 6 includes performing the work and the payment of all related expenses necessary for instructing and training the City's personnel as shown on the Drawings and as described in the Specifications.

Payment for Bid Item 6 will be made at the lump sum fixed price given in the Bid Schedule, in accordance with the accepted Contractor=s Cost Breakdown and subject to retention in accordance with applicable contract requirements. Any costs for Bid Item 6 not covered by the fixed price given in the Bid Schedule shall be considered as included in the lump sum fixed prices given in the Bid Schedule for Bid Items 2, 3, 4, 7, and 8, and no additional compensation will be made therefore.

- 2.3.7 **Bid Item 7** - Bid Item 7 includes performing the work and the payment of all related expenses necessary for providing Instruction (O&M) Manuals on all work as shown on the Drawings and as described in the Specifications.

Payment for Bid Item 7 will be made at the lump sum fixed price given in the Bid Schedule, in accordance with the accepted Contractor=s Cost Breakdown and subject to retention in accordance with applicable contract requirements. Any costs for Bid Item 7 not covered by the fixed price given in the Bid Schedule shall be considered as included in the lump sum fixed prices given in the Bid Schedule for Bid Items 2, 3, 4, 6, and 8, and no additional compensation will be made therefore.

- 2.3.8 **Bid Item 8** - Bid Item 8 includes performance of the work necessary for the maintenance and submission of the Contractor's Record Drawings, as shown on the Drawings and as described in the Specifications.

Payment for Bid Item 8 will be made at the lump sum fixed price given in the Bid Schedule, in accordance with the accepted Contractor's Cost Breakdown and subject to retention in accordance with applicable contract requirements. Any costs for Bid Item 8 not covered by the fixed price given in the Bid Schedule shall be considered as included in the lump sum fixed prices given in the Bid Schedule for Bid Items 2 through 7, and no additional compensation will be made therefore.

- 2.3.9 Total Bid - The total amount bid includes the summation of Bid Items 1 through and represents the total price bid to provide the work as shown on the drawings and as specified.

3.0 CONTRACTOR'S COST BREAKDOWN

((OPTION 1))

Lump Sum Price Breakdown - For work to be performed for a lump sum price, the Contractor shall submit a price breakdown to the Construction Manager prior to the first payment and within ten (10) days after Notice to Proceed. The price breakdown, as agreed upon by the Contractor and the Construction Manager, shall be used for preparing future estimates for partial payments to the Contractor, and shall list the major items of work with a price fairly apportioned to each item.

If not identified as a bid item, mobilization, overhead, bond, insurance, other general costs and profit shall be prorated to each item so that the total of the prices for all items equal the lump sum price. At the discretion of the Construction Manager, mobilization, bond and insurance costs may be provided for separately if accompanied by invoices to verify actual expenses.

The price breakdown shall be generally in the same format as the Contract specifications divisions and subdivisions, with major items of work listed individually. The price breakdown shall be by structure, civil, landscaping, or other logical division of work. The price breakdown for architectural, structural, mechanical, and electrical work shall include separate items for identifiable portions of the structures. The price breakdown shall include separate allowances for any testing and startup work required. Measurable approximate quantities of work performed by the Contractor or its subcontractors shall be provided. For quantities that are the sum total of several individual quantities, backup summaries shall be provided which list the individual descriptions and quantities. These summaries then will be used to determine the quantities of work in place in subsequent progress payment requests.

The above is a statement of the intent of the Contract Documents to provide a moderate level of detail, acceptable to the Construction Manager, to allow a fair and reasonable estimate to be made of the value of work installed. The detail of the price breakdown must be sufficient to provide timely processing of the monthly progress payment request.

The price breakdown will be subject to the approval of the Construction Manager, and upon request, the Contractor shall substantiate the price for any or all items and provide additional level of detail, including quantities of work. The price breakdown shall be sufficiently detailed to permit its use by the Construction Manager as one of the bases for evaluating requests for payments. The Construction Manager shall be the sole judge of the adequacy of the price breakdown.

((OPTION 2))

Cost Loaded Schedule - The Contractor shall submit, concurrently with the schedule provided for in Section 01310, **PROGRESS SCHEDULES**, a detailed cost breakdown for all work. The breakdown shall be submitted to the Construction Manager; and upon favorable review, the breakdown will then become the basis for progress payment determination. This breakdown shall be the "Cost value of each activity" from the Construction Schedule. Overhead costs and profit shall not be considered an item of cost for this purpose but shall be prorated over each activity. At the discretion of the Construction Manager, mobilization, bond and insurance costs may be provided for separately if accompanied by invoices to verify actual expenses.

In the event the cost breakdown is not favorably reviewed by the Construction Manager, another cost breakdown shall be submitted that is acceptable to the Construction Manager. The Construction Manager shall be the sole judge of the adequacy of the cost breakdown.

The Contractor's partial payment estimate as specified in Paragraph 00700-8.2, **Partial Payments**, shall be based on the cost value of each activity as provided in the Monthly Schedule Report defined in Section 01310, **PROGRESS SCHEDULES**

**** END OF SECTION ***