

**MEASUREMENT AND PAYMENT**  
**Revised for Addendum #1**

**Big Bend Road Stormwater Improvements**

**DESCRIPTION**

- A. This section describes the method used to determine quantities of Work performed or materials supplied for which a price is given in the Bid. It establishes the basis upon which payment will be made for Payment Items.
- B. Subject to the provisions in General Conditions, all Work and payment for the Work is represented by Payment Items and associated unit prices.

**PAYMENT**

- A. Subject to all other contract requirements, the Contractor shall be paid for "as built" quantities of Work for which a price is given in the bid.
- B. Quantities on the Bid Schedule are estimated and may be increased or decreased without limit and without changes to the unit prices.
- C. No separate payment will be made for one Payment Item as Work incidentally required to complete the Work of another.
- D. Payment for Work performed shall be made in accordance with the unit prices in the Bid.
- E. Contractor's payment applications approval is subject to all conditions of the Contract, City of Bonita Springs requirements and the receipt and approval (by the City, EOR, and/or CEI) of following from the Contactor:
  - 1. Up-to-date monthly Project Schedule, per the Construction Contract.
  - 2. Up-to-date 2 Week Look Ahead schedules (every 2 weeks).
  - 3. As-built red lines of completed work.
- F. No payment shall be made for stored material.

**MEASUREMENT FOR PAYMENT**

- A. Methods of Measurement:
  - 1. Measurements of lengths, widths, slope angles, and depths or elevations shall be made to determine "as-built" quantities of lengths, areas and volumes pertinent to Payment Items.
    - a. Unless otherwise specified, all lengths shall be horizontal distances.
    - b. Slope angles and elevations shall be measured using land surveying equipment.
  - 2. Graphic representations of measured quantities shall be drafted to scale using the Drawings where convenient and appropriate. Additional drawings shall be drafted if required.
    - a. Irregular shapes representing areas and volumes shall be measured using a compensating polar planimeter or a computer digitizer.
    - b. Regular shapes shall be scaled.

3. Use of Drawings:
  - a. Unless otherwise agreed upon between the Contractor and Owner, the Drawings shall be used as the basis to establish existing grades and other existing topographic features.

#### **PAYMENT ITEMS**

- A. No separate payment will be made for the following Work, and its cost shall be included in the Bid Price of the Payment Item to which it is associated:
  1. Trench excavation, sheeting, shoring and bracing.
  2. Dewatering and associated water quality testing as stipulated in the South Florida Water Management District Permit.
  3. Best management practices and controls required to meet dewatering discharge water quality standards.
  4. Erosion and sedimentation control and turbidity screening.
  5. Excavation, fill, backfill, pipe bedding (including 57 stone), compaction, and grading, including furnishing and installing imported material as required.
  6. Excavation of all material encountered, including rock, asphalt, organic, inorganic, and unsuitable material and all material transportation and disposal.
  7. Right-of-way, site, and all disturbed area restoration including grading, sod, mulch, plantings, trees, landscape, etc. Sod type shall be determined by the type of sod that constitutes 50% or more of the property to be restored.
  8. Final and temporary restoration.
  9. Removal and temporary replacement of driveways and roadways disturbed during construction to maintain stable condition and adhere with all requirements set forth by the City of Bonita Springs until permanent restoration is completed.
  10. Tree trimming and/or removal and disposal.
  11. Removal, repair, and replacement of existing irrigation located within the ROW.
  12. Maintaining irrigation systems in an operable condition during construction, including ensuring continued coverage of all existing vegetation outside of the work area or within private property.
  13. Removal and disposal of existing stormwater pipes, culverts, mitered ends, headwalls, and associated structures.
  14. Removal and re-installment of existing mailboxes. Replace mailbox with new if existing mailbox is damaged.
  15. Cleanup and site dust control, including daily sweeping and watering as needed to maintain a clean work area and daily collecting and disposal of all trash and debris within the project site.
  16. Testing, including all materials, fees, certifications, and equipment.
  17. Maintenance of utility service.
  18. Appurtenant work.
  19. Removal and replacement of fencing (replacement is to be on private property) and other structures within the ROW.
  20. Saw cutting.

21. Coordination with other contractors for work within the ROW and/or private property.
22. All transportation, storage, and labor.
23. Notifications to property owners of construction schedule and service interruptions.
24. Hiring of power company to relocate or support power poles as required.

B. Measurement and Payment Items as listed in the Bid Schedule:

## **SECTION 1: City of Bonita Springs Stormwater Improvements**

### **1.1. Mobilization/Demobilization**

- A. Measurement for various items covered under Mobilization/Demobilization will not be made for payment, and all items shall be included in the contract lump sum price.
- B. Payment for mobilization and demobilization will be made at the Contract lump sum price and shall include all necessary meetings for the project, including but not limited to: meetings with property owners and other interested parties, all meetings deemed necessary by the City of Bonita Springs, the attendance of the Contractor's field superintendent(s) at all progress meetings, and all other public meetings required to complete the project in accordance with the contract documents, preparatory work and operations in mobilizing for beginning work on the Project and demobilizing for ending work on the Project. Additionally, this item shall include locating and potholing all existing utilities (including existing sanitary sewer laterals at the ROW line, water meters and backflow devices) a minimum of two (2) weeks prior to beginning work, providing the required report and notification to the Engineer of Record and County of any discrepancies found; the establishment of safety equipment, first aid supplies, sanitary and other facilities, as required by these specifications, State and local laws and any other preconstruction expense necessary for the state of the Work, insurance and bonds, the cost of field engineering, including permits and fees, construction schedules (updated schedules are required monthly), shop drawings, temporary facilities, lay down storage area, construction aids, work associated with Contractor support during Owner/Engineer testing, reviews and inspection, re-inspection and any rework resulting from same, cleaning, and project records documents. The Contractor shall submit invoices substantiating the cost of mobilization with each pay request. Fifteen percent (15%) of the cost for mobilization and demobilization will be withheld until substantial completion acceptance of the entire project. This payment item cannot exceed more than ten percent (10%) of the subtotal base bid (without allowances).

### **1.2. Maintenance of Traffic**

- A. Measurement for various items covered under Maintenance of Traffic will not be made for payment, and all items shall be included in the contract lump sum price.
- B. Payment for Maintenance of Traffic will be made at the Contract lump sum price for the item, which price and payment shall be full compensation for developing a maintenance of traffic control plan, permitting, construction, and maintenance of any necessary detour facilities; the providing of necessary facilities for access to

residences, along the project; the furnishing, installing and maintaining of traffic control, barricades, railings, message boards (VMS), warning lights, and other safety devices during construction, the control of dust (daily and as further needed), providing the services of uniformed off-duty police officers, flag men, watchmen, and other special requirements for the safe and expeditious movements of traffic per City and FDOT standards.

### **1.3. Survey Layout & Record Drawings**

- A. Measurement for various items covered under Survey Layout & Record Drawings will not be made for payment, and all items shall be included in the contract lump sum price.
- B. Payment for providing all survey and record drawings will be made at the contract lump sum price for the item, which price and payment shall be full compensation for project stake-out, staking and continued maintenance of ROW staking at each property, completion of an as-built survey, contractor's hand-drawn redlines, and the delivery of signed and sealed record drawings and an electronic copy submitted to the City upon Contract close-out per City standards. Electronic (CAD) files shall be provided to the Engineer of Record. Up-to-date Contractor redlines shall be provided with every pay request. Pay requests submitted without up-to-date Contractor redlines shall be rejected.

### **1.4. Clearing & Grubbing**

- A. Measurement for various items covered under Clearing & Grubbing will not be made for payment, and all items shall be included in the contract lump sum price.
- B. Payment for Clearing & Grubbing will be made at the contract lump sum price for the item, which price and payment shall be full compensation for the clearing and grubbing (removal and disposal) of all necessary items within the right-of-way within the project area, not included in another pay item, including grading. This pay item includes the removal and replacement of mailboxes, as necessary.

### **1.5. Mill & Resurface Existing Asphalt Pavement, 1" Avg. Depth (S-III Asphalt)**

- A. Measurement for milling and resurfacing street pavement surface will be based on the area actually placed as field measured and shown on as-built drawings.
- B. Payment for milling and resurfacing street pavement surface will be made at the appropriate Contract unit price per square yard for pavement milled and resurfaced. Mill and resurface all pavement surface in accordance with the City of Bonita Springs Standard Details and details as shown on the Plans and per the July 2021 FDOT Standard Specifications for Road and Bridge Construction Section 327. This payment item shall be all encompassing for all asphalt, sign removal and replacements, reflective pavement markers, and temporary and final striping placed. This payment item shall include 1-inch minimum milling with Type S-III asphalt (1-inch minimum) placed with the final lift of asphalt.

**1.6. Road Restoration for Storm Pipe Crossing**

- A. Measurement for road restoration for storm pipe crossing will be based on the area actually placed as field measured and shown on as-built drawings.
- B. Payment for road restoration for storm pipe crossing will be made at the appropriate Contract unit price per square yard for pavement surface shown on the Drawings and included on the road and trench restoration detail. Restore trench and replace all pavement surface in accordance with the City of Bonita Springs Standard Road and Trench Restoration Detail included in the drawings. This payment item shall be all encompassing for all fill, asphalt, testing, and temporary and final striping and markings. Flowable fill, as required per City detail, shall begin 12" above Bonita Springs Utilities water main and gravity main.

**1.7. Catch Basin**

- A. Measurement for the construction of catch basins shall be based on the number of catch basins actually installed and accepted.
- B. Payment for furnishing and installing the catch basins will be made at the contract bid unit price per catch basin installed, including, disposal of excess material, inlet bottom, field adjustments, cutting, concrete reinforcement work, riser (if required), frame, adjustments, concrete weir plates, grate or cover, fill material as required, swale grading (from edge of pavement to right-of-way), any incidental regrading, and all transportation, labor equipment and all other incidentals required to construct the new inlet complete in place per the July 2021 FDOT Standard Specifications for Road and Bridge Construction Section 425.

**1.8. Junction Box**

- A. Measurement for the construction of junction boxes shall be based on the number of junction boxes actually installed and accepted.
- B. Payment for furnishing and installing junction boxes shall be made at the unit price for each junction box furnished and installed. Payment will be full compensation for all junction boxes, grading/regarding, fittings, adaptors, and all transportation, labor, equipment, swale grading (from edge of pavement to right-of-way), any incidental grading/regarding, and all other incidentals required to install the junction boxes as shown on the Drawings per the July 2021 FDOT Standard Specifications for Road and Bridge Construction Section 425.

**1.9. Yard Drain**

- A. Measurement for the construction of yard drains shall be based on the number of yard drains actually installed and accepted.
- B. Payment for furnishing and installing yard drains shall be made at the unit price for each yard drain furnished and installed. Payment will be full compensation for all yard drains, grading/regarding, fittings, adaptors, and all transportation, labor, equipment, swale grading (from edge of pavement to right-of-way), any incidental grading/regarding, and all other incidentals required to install the yard drains as shown on the Drawings.

**1.10 18-inch RCP**

- A. Measurement for 18-inch Reinforced Concrete Pipe (RCP) shall be based on the horizontal laying length of the pipe in linear feet as measured from inside wall to inside wall of inlets, and accepted in accordance with the Drawings and Specifications, as measured along the center line of the completed pipe.
- B. Payment for furnishing and installing 18-inch Reinforced Concrete Pipe (RCP) will be made at the contract bid for unit price per linear foot and shall include disposal of excess material, removal and disposal of existing storm culvert pipe, gravel trench, installation of pipe and fittings, gaskets, all equipment, swale grading (from edge of pavement to right-of-way), any incidental regrading, and all other incidentals necessary to complete the installation as specified and per the July 2021 FDOT Standard Specifications for Road and Bridge Construction Section 430.

**1.11. 14" x 23" ERCP**

- A. Measurement for 14" x 23" Elliptical Reinforced Concrete Pipe (ERCP) shall be based on the horizontal laying length of the pipe in linear feet as measured from inside wall to inside wall of inlets, and accepted in accordance with the Drawings and Specifications, as measured along the center line of the completed pipe.
- B. Payment for furnishing and installing 14" x 23" Elliptical Reinforced Concrete Pipe (ERCP) will be made at the contract bid for unit price per linear foot and shall include disposal of excess material, removal and disposal of existing storm culvert pipe, gravel trench, installation of pipe and fittings, gaskets, all equipment, swale grading (from edge of pavement to right-of-way), any incidental regrading, and all other incidentals necessary to complete the installation as specified and per the July 2021 FDOT Standard Specifications for Road and Bridge Construction Section 430.

**1.12. Mitered End Section**

- A. Measurement for Mitered End Section (MES), except as otherwise specified, will be based on the number of mitered end sections installed and accepted.
- B. Payment for mitered end sections will be made at the appropriate contract price and shall include the furnishing and installation of all forms, concrete work, field adjustments, cutting, concrete reinforcement work, riser, swale grading (from edge of pavement to right-of-way), any incidental regrading, and all transportation, labor equipment and all other incidentals required to construct the mitered end section complete in place per the July 2021 FDOT Standard Specifications for Road and Bridge Construction Section 430.

**1.13. Wapro Valve**

- A. Measurement for installing Wapro Valves, except as otherwise specified, will be based on the number of actual valves installed and accepted.
- B. Payment for furnishing and installing valves will be made at the appropriate contract unit price per valve installed which price and payment shall be full compensation for all labor and materials associated with furnishing, installing and testing the valve, valve stem, mechanical restraints (not listed in a separate pay item). This item also

includes the installation of base material below the valve as required in accordance with City of Bonita Springs standards.

**1.14. Sod Restoration**

- A. Measurement for sod restoration will be based on the area of material actually placed as field measured and shown on as-built drawings.
- B. Payment for sod restoration will be made at the appropriate Contract Unit price per square yard of sod actually placed. Contractor to install sod per City of Bonita Springs standards. Contractor shall confirm the type of sod (match existing), limits and dimensions of all areas to be restored in the field with the City and/or EOR prior to placement.

**1.15. Install Driveway**

- A. Measurement for installing driveways (concrete, asphalt, brick pavers) will be based on the area of material actually placed as field measured and shown on as-built drawings.
- B. Payment for installing driveway (concrete, asphalt, brick pavers) will be made at the appropriate Contract Unit price per square yard of concrete (including the concrete placed for decorative and colored concrete), asphalt, or brick paver driveway actually placed for construction including furnishing of additional brick pavers due to damage or to meet the specifications/drawings. Contractor to install all concrete driveways with reinforcement per City of Bonita Springs standards. Contractor shall confirm the limits and dimensions of all driveway installation in the field with the City and/or EOR prior to placement. Replace driveways to match existing elevations and materials of construction (unless shown otherwise on the Drawings or approved by the City), except dirt and gravel driveways which shall be replaced with reinforced concrete. Include surface restoration required for driveway removal and replacement and reinforcement of driveway flares in this item. No additional measurement or payment will be made for varying driveway thicknesses, subsurface preparation, subgrade, base, limerock, and stabilizing material. All driveways shall be constructed per City of Bonita Springs ROW Standards and per the contract documents.

**1.16. City Controlled Allowance**

- A. An allowance is established to cover unanticipated costs. Use of Allowance must be approved by the City of Bonita Springs prior to the execution of the work. All work must be billed on a time and material price basis as agreed upon by the Contractor, City, and EOR.

**SECTION 2: BSU Utility Adjustments**

**2.1 Water Service Adjustment/Replacement**

- A. Measurement for Water Service Adjustment/Replacement, except as otherwise specified, will be based on the number of water services actually adjusted/replaced and accepted.

- B. Payment for Water Service Adjustment/Replacement will be based on the number of services (1" or 2") installed and accepted. This item includes all labor, material, equipment, and restoration from the water main to the meter box; all necessary pipe, fittings, connections, conduits/casings, tapping saddles, tapping sleeves, curb stops, electronic markers, deflections, water meter/meter box adjustments/relocations; connection to existing meters; protection of existing utilities and facilities; removal of asphalt, placement of temporary asphalt, removal and replacement of landscape and hardscape, pavement, curbing, and other surface materials; and all other work required for a complete installation in accordance with BSU standards. Flowable fill, as required per City's road and trench restoration detail, shall begin 12" above Bonita Springs Utilities water mains and services.

The connections to the water meters shall be performed by:  
Rohaley & Sons Plumbing Contractors, Inc.  
600 Danley Drive  
Fort Myers, FL 33907  
(239) 437-0123 Phone  
(239) 437-0043 Fax  
sewerdudes@rohaley.com

## **2.2 Fire Hydrant Adjustment**

- A. Measurement for Fire Hydrant Adjustment, except as otherwise specified, will be based on the number of fire hydrants adjusted, installed and accepted.
- B. Payment for fire hydrant adjustment will be made at the appropriate contract unit price per fire hydrant assembly adjusted and installed which price and payment shall be full compensation for all labor and materials required to furnish and install the tee on the water main, all necessary fittings, joint restraint from the valve to the tee, necessary piping from the tee to the hydrant location with the installation of barrel (riser) section to meet finished grade at the locations depicted in the drawings, hydrant extension if needed, deflections under/over existing or proposed utilities, swales, or stormwater improvements; control gate valve, valve box, pavement marker, coordination with the fire department, chains, and any concrete work. Contractor is responsible to set the hydrant to grade in accordance with the details shown on the Plans and in accordance with BSU standards.

## **2.3 Stabilized Access Road Restoration**

- A. Measurement for various items covered under stabilized access road restoration will not be made for payment, and all items shall be included in the contract lump sum price.
- B. Payment for stabilized access road restoration will be made at the full lump sum contract unit price for the item, which price and payment shall be full compensation for furnishing all material (existing material use is not to be assumed), compaction, testing, equipment, and disposal of old material to restore a stabilized access road to



the existing sanitary sewer pump station. All activities should be in accordance with BSU standards.

#### **2.4 Sanitary Sewer Service Adjustment w/ Cleanout Re-establishment (unpaved area)**

- A. Measurement for furnishing and installing sanitary sewer services will be based on the number of each sanitary sewer lateral removed, replaced, adjusted, and reconnected to the sanitary sewer, including cleanout re-establishment in an unpaved area.
- B. Payment for furnishing and installing sanitary sewer services will be made at the appropriate Contract unit price per PVC sewer service acceptably installed, including all necessary pipe, fittings, connections, solvent welded sleeves and adaptors, flexible coupling (existing clay to new PVC connections only), cleanouts, two-way cleanouts where specified, protection of existing utilities and facilities, locating existing sewer laterals, maintaining sanitary sewer service at all times, service markers, plugs, removal and replacement of landscaping and other surface materials not specifically designated in the another pay item with compaction per the July 2021 FDOT Standard Specifications for Road and Bridge Construction, and all other work required for a complete installation. Only one connection to the sanitary main shall be allowed per sanitary service which shall be in a straight line, perpendicular to the sanitary sewer main, from the final location of the BSU-owned ROW cleanout. The location of the new sanitary sewer lateral, including the point of connection to existing piping shall be marked in the Contractor's provided red line as-builts.

#### **2.5 Sanitary Sewer Service Adjustment w/ Cleanout Re-establishment (paved area)**

- A. Measurement for furnishing and installing sanitary sewer services will be based on the number of each sanitary sewer lateral removed, replaced, adjusted, and reconnected to the sanitary sewer, including cleanout re-establishment where pavement is disturbed.
- B. Payment for furnishing and installing sanitary sewer services will be made at the appropriate Contract unit price per PVC sewer service acceptably installed, including all necessary pipe, fittings, connections, solvent welded sleeves and adaptors, flexible coupling (existing clay to new PVC connections only), cleanouts, two-way cleanouts where specified, protection of existing utilities and facilities, locating existing sewer laterals, maintaining sanitary sewer service at all times, service markers, plugs, removal and replacement of landscaping, roadway (pavement includes trench width), and other surface materials not specifically designated in the another pay item with compaction per the July 2021 FDOT Standard Specifications for Road and Bridge Construction, and all other work required for a complete installation. Only one connection to the sanitary main shall be allowed per sanitary service which shall be in a straight line, perpendicular to the sanitary sewer main, from the final location of the BSU-owned ROW cleanout. The location of the new sanitary sewer lateral, including the point of connection to existing piping shall be marked in the Contractor's provided red line as-builts.

## **2.6 Force Main Relocation**

- A. Measurement for the Force Main Relocation will be based on the number of each force main relocation installed and accepted.
- B. Payment for Force Main Relocation not included in a separate pay item and not already noted on the plans, will be made at the appropriate contract unit price per each relocation installed and accepted which price and payment shall be full compensation to furnish and install pipe, fittings, ARVs as required, restraints, concrete work, existing utility protection and restraints, and any other incidentals necessary for a complete installation as specified herein.

## **2.7 Water Main Deflection**

- A. Measurement for each Water Main Deflection constructed (horizontal or vertical deflection) will be based on the number of each water main deflection installed and accepted.
- B. Payment for water main deflections will be based on the number of water main deflections installed and accepted. This item includes all labor and material, clearing and disposal of trees and bushes, all necessary fittings, ARVs as required, connections to existing, deflections under/over proposed utilities; signs, dewatering, compaction, density testing, pipe bedding, backfilling, restrained joint piping, detectable tape, locating markers, clamps, casings, harnessing, plugs and caps, adapters, excavation of all material encountered, replacement of landscape and hardscape, clearing and grubbing, restoration of pavement, driveways, sidewalks, curbing, mailboxes, lights, culverts, storm sewers, and other surface materials not specifically designated in the Bid; clean-up, temporary facilities for testing and tests in accordance with BSU standards.

## **2.8 Pump Station Electrical Service Relocation**

- A. Measurement for the pump station electrical service relocation will not be made for payment, and all items shall be included in the lump sum price.
- B. Payment for the pump station electrical service relocation shall be made at the appropriate contract lump sum price. This item includes all the necessary labor, materials, equipment, services, and all work for the demolition, construction, and maintenance testing and placing in trouble-free operation of the relocated pump station electrical service. The work includes any necessary coordination and fees with the local power utility for service connections and any permitting that may be required.

**END OF SECTION**