

## SECTION 01025 MEASUREMENT AND PAYMENT

**PART 1 GENERAL**SCOPE

- A. Payment for the various items in the Bid Schedule, as further specified herein, shall include all compensation to be received by CONTRACTOR for furnishing all tools, equipment, supplies, and manufactured articles, and for all labor, operations, and incidentals appurtenant to the items of work being described, as necessary to complete the various items of the WORK all in accordance with requirements of the Contract Documents, including all appurtenances thereto, and including all costs of compliance with regulations of public agencies having jurisdiction, including Safety and Health Requirements of the Occupational Safety and Health Administration of the U.S. Department of Labor (OSHA). No separate payment will be made for any item that is not specifically set forth in the Bid Schedule, and all costs therefore shall be included in prices named in Bid Schedule for various appurtenant items of work.

## 1. MOBILIZATION (Bid Item No. 1)

- A. Measurement for payment of Mobilization/General Requirements shall be based upon the completion of mobilization and/or general require operations at the project site. Mobilization shall include but not be limited to the following principle items:
1. Moving on to site of all CONTRACTOR's plant and equipment.
  2. Arranging for, and erection of, CONTRACTOR's work and storage yard as needed by CONTRACTOR.
  3. Submittal of all required subcontractor insurance certificates and bonds.
  4. Obtaining and paying for all required permits.
  5. Posting all OSHA required notices and establishment of safety programs at the jobsite.
  6. Have CONTRACTOR's superintendent at job site full time.

Demobilization shall include but not be limited to the following principle items:

1. Removal of all temporary construction facilities.
2. Removal of all equipment and excess materials.
3. Cleanup and restoration of the site to conditions existing or better than prior to construction.

NPDES general construction permit compliance shall be included in this bid item and shall include but not be limited to the following principle items:

1. Prevention of erosion and siltation of waterways and storm sewer systems by provision of artificial coverings.
2. Mowing.
3. Sandbagging.
4. Slope drains.
5. Sediment basins.
6. Sediment basins cleanout.
7. Baled hay or straw.
8. Floating turbidity barrier.
9. Staked turbidity barrier.
10. Staked silt fence.
11. Preparation of NPDES permit inclusive of preparation of Notice of Intent documents, preparation of Pollution Prevention Plan, and the Notice of Termination as required.
12. All other appurtenant work.

- B. CONTRACTOR's attention is directed to condition that no payment for mobilization, or any part thereof, will be recommended for payment under the Contract until all mobilization items listed above have been completed as specified.
- C. Payment for mobilization/general requirements shall be made as follows. The Contract unit price named shall be distributed for completion of mobilization and general requirements as follows: Payment will constitute as full compensation for the provision of work as listed above plus all other appurtenant or incidental work as required to properly complete the mobilization/general requirements.

<u>Item</u>	<u>% of Bid Item No. 1</u>
Mobilization	25
General Requirements	65 (Prorated over length of contract)
Demobilization	10

2. TEMPORARY SAFETY FENCE (Bid Item No. 2)

- A. Measurement for payment will be for the length, in feet, of fence as specified on the Drawings.
- B. Payment will be full compensation for furnishing, installing, relocating, maintaining and removing the temporary safety fence.

3. CLEARING AND GRUBBING (Bid Item No. 3)

- A. Measurement for payment will be full compensation for all clearing and grubbing required for the roadway right-of-way and for ditches, channel changes, or other outfall areas, and any other clearing and grubbing indicated, or required for the construction of the entire project, including all necessary hauling, furnishing equipment, equipment operation, furnishing any areas required for disposal of debris, leveling of terrain and the landscaping work of trimming or root pruning, etc. It also includes removal of existing drainage systems.
- B. Payment will be a lump sum amount as full compensation for all work required and as specified on Drawings.

4. REGULAR EXCAVATION (Bid Item No. 4)

- A. Measurement for payment will be the volume, in cubic yards, of material excavated, all in accordance with the requirements of the Contract Documents.
- B. Payment will be full compensation for all work specified on the Drawings, including excavating, dredging, hauling, placing, and compacting; dressing the surface of the earthwork; maintaining and protecting the complete earthwork.

5. INLET PROTECTION SYSTEM (Bid Item No. 5)

- A. Measurement for payment will be for all work in accordance with the requirements of the Contract Documents including protecting, replacing the filter fabric when damaged and removing sediments on a constant basis during the project's duration.
- B. Payment will be a cost for each inlet protected for the duration of the construction as full compensation for all work required and as specified on the Drawings.

6. SILT FENCE (Bid Item No. 6)

- A. Measurement for payment will be for the length, in feet, of silt fence as specified on the Drawings, completed and accepted.

- B. Payments will be full compensation for all work specified on the Drawings, including construction and routine maintenance of temporary erosion control devices. Separate payment will not be made for the cost of constructing temporary earth berms along the edges of the roadways to prevent erosion during grading and subsequent operations.
7. 12 INCH STABILIZATION (Bid Item No. 7)
- A. Measurement for payment for furnishing and placing stabilized subgrade material will be based upon the number of square yards of such materials actually compacted in place at the depth indicated, all in accordance with the requirements as specified on the Drawings.
- B. Price and payment will constitute full compensation for all work and materials specified on the Drawings, for handling, cleaning, positioning and compacting of said bedding to a Load-Bearing Ratio (LBR) of 40, importing fill material and disposal of excess waste or unsuitable material.
8. 6 INCH LIMEROCK BASE (Bid Item No. 8)
- A. Measurement for payment for furnishing and placing limerock base material will be based upon the number of square yards of such materials actually compacted in place at the depth indicated, all in accordance with the requirements as specified on the Drawings.
- B. Price and payment will constitute full compensation for all work and materials specified on the Drawings, for applying prime coat and furnishing all such material, in place, including all transportation, handling, cleaning, positioning and compacting of said bedding and disposal of waste or unsuitable material.
9. SUPERPAVE ASPHALTIC CONCRETE, TRAFFIC A, 2" AVERAGE DEPTH, SP-9.5 (Bid Item No. 9)
- A. Measurement for payment will be the plan quantity area, in square yards. The quantity will be based on the quantity placed on the project, limited to 105% of the adjusted plan quantity for the pay item.
- B. Payment will be full compensation, at the unit price in the original bid, for all work specified on the Drawings.
10. CONCRETE CURB TYPE D (Bid Item No. 10)
- A. Measurement for payment will be the quantity to be paid will be the plan quantity, in feet, measured along the face of the completed and accepted curb or curb and gutter.
- B. Payment will be full compensation for all work specified on the Drawings, including reinforcement steel, dowels, asphalt pavement and base under traffic separator, joint materials and asphalt curb pad.
11. 3,000 PSI CONCRETE (EQUIPMENT PAD) (Bid Item No. 11)
- A. Measurement for Payment will be the plan quantity, in cubic yards, as specified on the Drawings, completed and accepted.
- B. Payment will be full compensation for all work specified on the Drawings, including wire mesh reinforcement and incidental materials necessary to complete the work.
12. 4,500 PSI CONCRETE (TRUCK WASH STATION) (Bid Item No. 12)
- A. Measurement for Payment will be the plan quantity, in cubic yards, as specified on the Drawings, completed and accepted.

- B. Payment will be full compensation for all work specified on the Drawings, including wire mesh reinforcement and incidental materials necessary to complete the work.
13. REINFORCING STEEL (Bid Item No. 13)
- A. Measurement for Payment will be the plan quantity, in pounds, of reinforcing steel, stainless reinforcing steel, or low carbon chromium reinforcing steel incorporated into the completed work and accepted, subject to any changes approved by the Engineer. The quantity will not include the reinforcing steel (all types) in any item of work for which the basis of payment already includes the steel reinforcement. No additional payment will be made for substitutions of welded deformed wire reinforcement proposed by the Contractor. The lengths to be used in the calculation will be the detailed lengths of bars as shown in the Plans.
- B. Payment will be full compensation for all work specified on the Drawings, including all welding, all clips, spacers, ties, mechanical couplers, etc., and wire or other material used for fastening the reinforcement in place. If spliced bars are used when full length bars might reasonably be required, the quantity paid for will be only that which would be obtained if full length bars were used, with no allowance for lap.
14. INLETS (DBI TYPE D) >10 FT (Bid Item No. 14)
- A. Measurement for payment will be the number of inlets specified on the Drawings, completed and accepted.
- B. Payment will be full compensation for furnishing all materials and completing all work described herein or shown in the Plans, including all clearing and grubbing outside the limits of clearing and grubbing as shown in the Plans, all excavation except the volume included in the measurement designated to be paid for under the items for the grading work on the project, all backfilling around the structures, the disposal of surplus material, and the furnishing and placing of all aprons, gratings, frames, covers, and any other necessary fittings. Includes baffles as specified on the Drawings.
15. INLETS (DBI TYPE H) <10 FT (Bid Item No. 15)
- A. Measurement for payment will be the number of inlets specified on the Drawings, completed and accepted.
- B. Payment will be full compensation for furnishing all materials and completing all work described herein or shown in the Plans, including all clearing and grubbing outside the limits of clearing and grubbing as shown in the Plans, all excavation except the volume included in the measurement designated to be paid for under the items for the grading work on the project, all backfilling around the structures, the disposal of surplus material, and the furnishing and placing of all aprons, gratings, frames, covers, and any other necessary fittings. Include baffles as specified on Drawings.
16. MANHOLES TYPE 7 (J BOTTOM) 5 x 7 (Bid Item No. 16)
- A. Measurement for payment will be the number of manholes specified on the Drawings, completed and accepted.
- B. Payment will be full compensation for furnishing all materials and completing all work described herein or shown in the Plans, including all clearing and grubbing outside the limits of clearing and grubbing as shown in the Plans, all excavation except the volume included in the measurement designated to be paid for under the items for the grading work on the project, all backfilling around the structures, the disposal of surplus material, and the furnishing and placing of all aprons, gratings, frames, covers, and any other necessary fittings.

17. 36 INCH FRENCH DRAIN (Bid Item No. 17)
- A. Measurement for payment will be the length in feet, measure in place from inside wall of structure to inside wall of structure and as specified on Drawings, completed and accepted.
  - B. Payment will be paid for at the Contract Documents unit price per foot for French drains. Such prices and payments will be full compensation for all the work specified on Drawings and will include all materials and all excavation, and will also include sheeting or shoring, if required, the disposal of surplus material, pavement restoration, service lateral repairs, backfilling and tamping, but will not include payment for items paid for elsewhere in the specifications.
18. 36 INCH STORM SEWER PIPE (ADS GRAY DRAINAGE PIPE) (Bid Item No. 18)
- A. Measurement for payment will be the quantity of storm sewer pipe, installed including excavation or trenching and specified on Drawings, completed and accepted. The Drawings quantity will be determined from the inside wall of the structure and from station/offset location for end treatments as shown in the Drawings, along the centerline of the pipe. Adjustment to bid quantities will not be allowed for increases, decreases or changes in material or installation requirements due to the use of any optional pipe materials. If adjustments are required due to Drawings errors or omissions or authorized field changes, the plotted material and not the material elected would be used to establish new quantities.
  - B. Payment will be full compensation for all work specified on Drawings, including all excavation except the volume included in the items for the grading work on the project, and except for other items specified for separate pay items; service lateral repairs; all backfilling material and compaction; disposal of surplus material; and all clearing and grubbing outside of the required limits of clearing and grubbing as shown in the Drawings. No payment will be made for, products taken out of service, or incomplete installations.
19. PERFORMANCE TURF, SOD (Bid Item No. 19)
- A. Measurement for payment will be quantity in square yards based on the area shown on the Drawings, completed and accepted.
  - B. Payment will be full compensation for all work specified on Drawings.
20. RETRO-REFLECTIVE PAVEMENT MARKERS (RPM'S) (Bid Item No. 20)
- A. Measurement for payment will be the quantity per each, furnished and installed, completed and accepted.
  - B. Payment will be full compensation for all work specified on Drawings, including the cost of labor, materials, and incidental items required to complete the work.
21. THERMOPLASTIC PAVEMENT MARKINGS STD, WHITE SOLID 4 INCH (Bid Item No. 21)
- A. Measurement for payment will be the length in linear feet, of transverse lines, diagonal lines, chevrons and parking spaces shown on the Drawings, completed and accepted.
  - B. Payment will be full compensation for all work specified on Drawings, including, all cleaning and preparing of surfaces, furnishing of all materials, application, curing and protection of all items, protection of traffic, furnishing of all tools, machines and equipment, and all incidentals necessary to complete the work. Final payment will be withheld until all deficiencies are corrected.
22. THERMOPLASTIC PAVEMENT MARKINGS STD, WHITE SOLID 6 INCH " (Bid Item No. 22)
- A. Measurement for payment will be the length in linear feet, of transverse lines, diagonal lines, chevrons and parking spaces shown on the Drawings, completed and accepted.

- B. Payment will be full compensation for all work specified on Drawings, including, all cleaning and preparing of surfaces, furnishing of all materials, application, curing and protection of all items, protection of traffic, furnishing of all tools, machines and equipment, and all incidentals necessary to complete the work. Final payment will be withheld until all deficiencies are corrected.
23. THERMOPLASTIC PAVEMENT MARKINGS STD, WHITE SOLID 24 INCH (Bid Item No. 23)
- A. Measurement for payment will be the length in linear feet, of transverse lines, diagonal lines, chevrons and parking spaces shown on the Drawings, completed and accepted.
- B. Payment will be full compensation for all work specified on Drawings, including, all cleaning and preparing of surfaces, furnishing of all materials, application, curing and protection of all items, protection of traffic, furnishing of all tools, machines and equipment, and all incidentals necessary to complete the work. Final payment will be withheld until all deficiencies are corrected.
24. THERMOPLASTIC PAVEMENT MARKINGS STD, YELLOW SOLID 6 INCH (Bid Item No. 24)
- A. Measurement for payment will be the length in linear feet, of transverse lines, diagonal lines, chevrons and parking spaces shown on the Drawings, completed and accepted.
- B. Payment will be full compensation for all work specified on Drawings, including, all cleaning and preparing of surfaces, furnishing of all materials, application, curing and protection of all items, protection of traffic, furnishing of all tools, machines and equipment, and all incidentals necessary to complete the work. Final payment will be withheld until all deficiencies are corrected.
25. THERMOPLASTIC PAVEMENT MARKINGS STD, WHITE SOLID ARROWS (Bid Item No. 25)
- A. Measurement for payment will number of pavement messages, symbols, and arrows. Each arrow is paid as a complete marking, regardless of the number of "points" or directions.
- B. Payment will be full compensation for all work specified on Drawings, including, all cleaning and preparing of surfaces, furnishing of all materials, application, curing and protection of all items, protection of traffic, furnishing of all tools, machines and equipment, and all incidentals necessary to complete the work. Final payment will be withheld until all deficiencies are corrected.
26. THERMOPLASTIC PAVEMENT MARKINGS STD, YELLOW, SKIP, 10-30, 6" WIDE (Bid Item No. 26)
- A. Measurement for payment will be the length, in gross miles, of solid, 10'-30' skip, 3'-9' dotted, 6'-10' dotted, 2'-2' dotted, and 2'-4' dotted lines. The gross mile measurement will be taken as the distance from the beginning of the thermoplastic line to the end of the thermoplastic line and will include the unmarked gaps for skip and dotted lines. The gross mile measurement will not include designated unmarked lengths at intersections, turn lanes, etc.
- B. Payment will be full compensation for all work specified in this Section, including, all cleaning and preparing of surfaces, furnishing of all materials, application, curing and protection of all items, protection of traffic, furnishing of all tools, machines and equipment, and all incidentals necessary to complete the work. Final payment will be withheld until all deficiencies are corrected.
27. STOP SIGNS (Bid Item No. 27)
- A. Measurement for payment to furnish and install sign posts will be based on the actual quantity, per each, of sign posts. For single post and multi post sign assemblies, an assembly consists of all the signs mounted on a single structure. The Contract unit price per assembly for ground mounted signs (single

- post and multi-post), furnished and installed, will include furnishing the sign panels, support structure, foundation, hardware, and labor necessary for a complete and accepted installation.
- B. Price and payment will be full compensation for all work specified on Drawings.
28. DO NOT ENTER SIGNS (Bid Item No. 28)
- A. Measurement for payment to furnish and install sign posts will be based on the actual quantity, per each, of sign posts. For single post and multi post sign assemblies, an assembly consists of all the signs mounted on a single structure. The Contract unit price per assembly for ground mounted signs (single post and multi-post), furnished and installed, will include furnishing the sign panels, support structure, foundation, hardware, and labor necessary for a complete and accepted installation.
- B. Price and payment will be full compensation for all work specified on Drawings.
29. ONE WAY SIGNS (Bid Item No. 29)
- A. Measurement for payment to furnish and install sign posts will be based on the actual quantity, per each, of sign posts. For single post and multi post sign assemblies, an assembly consists of all the signs mounted on a single structure. The Contract unit price per assembly for ground mounted signs (single post and multi-post), furnished and installed, will include furnishing the sign panels, support structure, foundation, hardware, and labor necessary for a complete and accepted installation.
- B. Price and payment will be full compensation for all work specified on Drawings.
30. 2 INCH PVC WATER MAIN (Bid Item No. 30)
- A. Measurement for payment will be the quantity in linear feet of 2-inch water line including all bends and connecting sleeves/clamps to have a complete and operating system, as shown on the Drawings, completed and accepted.
- B. Payment will be full compensation for all work specified on the Drawings, including the cost of labor, materials, and incidental items required to complete the work.
31. 2 INCH VALVE AND VALVE BOX (Bid Item No. 31)
- A. Measurement for payment will be the quantity for each valve with valve box furnished and installed as shown on the Drawings.
- B. Payment will be full compensation for furnishing and installing all valves, all tapping sleeves and valves as specified, including excavation, valve, riser pipe, valve box, valve box cover, valve extensions, concrete collar, backfilling, and any other necessary fittings.
32. 8 INCH PVC SANITARY SEWER (Bid Item No. 32)
- A. Measurement for payment for furnishing and installing sewer pipe will be based upon the number of linear feet of such pipe actually constructed in each depth range. Length of sewer pipe shall be determined by measurement along the centerline of the pipe in place, not including through structures. The calculation of the depth range for the entire segment of sewer pipe between sewer structures shall be the same as the depth of the down-stream invert depth, all in accordance with the requirements of the Contract Documents.
- B. Payment for furnishing and installing sewer pipe will be made at the unit price per linear foot of pipe named in the Bid Schedule, which shall constitute full compensation for a complete operation, and including but not limited to pipe, excavation, dewatering, backfilling, testing, restoration and

compaction.

33. SANITARY MANHOLE (Bid Item No. 33)
- A. Measurement for payment to furnish and install sanitary sewer maintenance access structures will be based upon the actual quantity, per each, of such structures constructed per depth range, all in accordance with the requirement of the Contract Documents.
  - B. Payment for furnishing and installing sanitary sewer maintenance access structures will be made at the unit price per each named in the Bid Schedule, which price shall constitute full compensation for the completed installation of the structure including but not limited to excavation, dewatering, backfill and compaction, and construction of the reinforced concrete structure, testing and plugged openings (bricks and non-shrink grout or as approved by the ENGINEER). The depth of the structure shall be based on the elevation difference between the rim of the structure and the down-stream invert.
34. 8 INCH PVC SANITARY CLEANOUT (C.O.) (Bid Item No. 34)
- A. Measurement for payment to furnish and install sanitary sewer maintenance access structures will be based upon the actual quantity, per each, of such structures constructed per depth range, all in accordance with the requirement of the Contract Documents.
  - B. Payment for furnishing and installing sanitary sewer maintenance access structures will be made at the unit price per each named in the Bid Schedule, which price shall constitute full compensation for the completed installation of the structure.
35. OIL/WATER SEPARATOR (CB-1) (Bid Item No. 35)
- A. Measurement for payment to furnish and install sanitary sewer maintenance access structures will be based upon the actual quantity, per each, of such structures constructed per depth range, all in accordance with the requirement of the Contract Documents.
  - B. Payment will be full compensation for furnishing and installing sanitary sewer maintenance access structures will be made at the unit price per each named in the Bid Schedule, which price shall constitute full compensation for the completed installation of the structure including but not limited to excavation, dewatering, backfill and compaction, and construction of the reinforced concrete structure, testing and plugged openings (bricks and non-shrink grout or as approved by the ENGINEER), and the furnishing of gratings, frames, covers, and any other necessary fittings.
36. UNDERGROUND STORAGE SYSTEM (Bid Item No. 36)
- A. Measurement for payment to design, furnish and install underground storage system will be lump sum for all work in accordance with the requirements of the Contract Documents.
  - B. Payment will be full compensation for designing, furnishing all materials connecting to site drainage system, and completing all work described or shown on the Drawings, all excavation, all backfilling around the structures, disposal of surplus material, and incidentals necessary to complete the work.
37. REMOVE CONCRETE WALL (Bid Item No. 37)
- A. Measurement for payment will be based upon the quantity, in feet of the horizontal length of the wall, of existing concrete wall elements, acceptably removed and disposed of, as specified on the drawings.
  - B. Payment will be full compensation for performing and completing all the work of removal and satisfactory disposal.



38. INSTALL CONCRETE WALL (Bid Item No. 38)
- A. Measurement for payment will be based upon the quantity, in feet of the horizontal length of the wall, completed and accepted. Any additions or deletions thereto as authorized by the Engineer will be determined by plan dimensions, station-to-station dimensions, final measurement, or any combination thereof, as measured along the face of the completed and accepted wall.
  - B. Payment will be full compensation for all work specified on Drawings, including all materials and incidentals necessary to complete the work.
39. INSTALL CONDUITS PVC SCH 80 1/2" (Bid Item No. 39)
- A. Measurement for payment to furnish and install conduit placed underground will be based on the horizontal length, in feet, of the trench or bore measured in a straight line between the centers of pull boxes, cabinets, poles, etc., in linear feet, regardless of the length or number of conduits installed. No allowance will be made for sweeps or vertical distances below the ground.
  - B. Payment will be full compensation for all work specified on the Drawings.
40. CABLE F&I #12 AWG (Bid Item No. 40)
- A. Measurement for payment to furnish and install cables will be based on the quantity, in linear feet, of cable as specified on the Drawings, completed and accepted. Price includes the surge protector, fuse holders with fuses, waterproof connectors and the waterproof wiring connection to the luminaires.
  - B. Payment will be full compensation for all work specified on the Drawings, including all materials, equipment and tests.
41. POLE WITH FOUNDATION (Bid Item No. 41)
- A. Measurement for payment will be based on the quantity, per each, of poles specified on the Drawings. Prices includes the pole, internal vibration damping device, truss arm, anchor bolts with lock nuts and washers, frangible base and foundation.
  - B. Payment will be full compensation for all work specified on the Drawings, including all materials, equipment and tests.
42. LIGHTING FIXTURES (Bid Item No. 42)
- A. Measurement for payment will be based on the quantity, per each, of lighting fixtures specified on the Drawings. Price will include the luminaire with lamp and necessary mounting hardware.
  - B. Payment will be full compensation for all work specified on the Drawings, including all materials, equipment and tests.
43. NEW PANEL 200 AMPS (Bid Item No. 43)
- A. Measurement for payment will be based on the quantity, per each, of lighting fixtures specified on the Drawings.
  - B. Payment will be full compensation for all work specified on the Drawings, including all materials, equipment and tests.

44. WASH STATION EQUIPMENT (Bid Item No. 44)

- A. Measurement for payment to furnish and install wash station equipment system will be lump sum for all work, labor hours, selected parts and equipment, and installation in accordance with the requirements of the Contract Documents.
- B. Payment will be full compensation for all work, including all materials, equipment, spare parts, installation and tests.

45. 24 INCH FRENCH DRAIN (Bid Item No. 45)

- A. Measurement for payment will be the length in feet, measure in place from inside wall of structure to inside wall of structure and as specified on Drawings, completed and accepted.
- B. Payment will be paid for at the Contract Documents unit price per foot for French drains. Such prices and payments will be full compensation for all the work specified on Drawings and will include all materials and all excavation, and will also include sheeting or shoring, if required, the disposal of surplus material, pavement restoration, service lateral repairs, backfilling and tamping, but will not include payment for items paid for elsewhere in the specifications.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

Not used.

END OF SECTION