

SECTION IV

MEASUREMENT AND PAYMENT

108th Avenue North and 109th Avenue North Public Utility Renewal 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.
- 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 the receipt of up-to-date monthly Project Schedule, per the Construction Contract, and up-to-date 2 Week Look Heads schedules (every 2 weeks).
- 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, 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 until permanent restoration is completed.
 10. Tree trimming.
 11. Removal, repair, and replacement of existing irrigation located within the ROW.
 12. Maintaining irrigation systems operable during construction.
 13. Removal and disposal of existing water main and associated appurtenances (other than AC water main piping).
 14. Removal and disposal of existing stormwater pipes, culverts, mitered ends, headwalls, and associated structures.
 15. Removal and replacement of existing bollards (wooden or concrete).
 16. Cleanup and site dust control, including daily sweeping and watering and as needed to maintain a clean work area and daily collecting and disposal of all trash and debris within the project site.
 17. Testing, including all materials, fees, certifications, and equipment.
 18. Maintenance of utility service.
 19. Appurtenant work.
 20. Removal and replacement of fencing and other structures within the ROW.
 21. Saw cutting.
 22. Coordination with other contractors.
 23. All transportation, storage, and labor.
 24. Notifications to property owners of construction schedule and service interruptions.
 25. 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: GENERAL REQUIREMENTS

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, home owners associations, and other interested parties, all meetings deemed necessary by Collier County, 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 5% of the subtotal base bid (without allowances) for each Avenue.

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 permitting, construction, and maintenance of any necessary detour facilities; the providing of necessary facilities for access to residences, business, etc., 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 County and FDOT standards.

1.3 Project Sign

- A. Measurement for various items covered under Project Sign will be based on the number of project signs installed and accepted.
- B. Payment for furnishing and installing the project sign will be made per Project Sign furnished, installed, and accepted, which price and payment shall be full compensation for furnishing, installing, maintaining, and removing the sign. The Project sign shall be in accordance with Collier County standards and as specified herein. A proof of the project sign shall be provided to the Engineer of Record and the County for approval prior to the production of the sign.

1.4 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, completion of an as-built survey, contractor's hand-drawn redlines, and the delivery of five (5) sets of signed and sealed record drawings and an electronic copy submitted to the County upon Contract close-out per County 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.

1.5 Pre-Construction Video & Photographs

- A. Measurement for various items covered under Pre-Construction Video & Photographs will not be made for payment, and all items shall be included in the contract lump sum price.
- B. Payment for providing pre-construction videos and photographs will be made at the full lump sum contract price for the item, which price and payment shall be full compensation for individual property assessments with a minimum of three pictures per lot to document pre-construction conditions, including, but not limited to, sod type, driveway condition, driveway condition outside of the right-of-way, and private irrigation system details documented on the Pre-Construction Condition Form specified herein; a wet weather video (in addition to a dry weather video) to document flood conditions that will take place during normal business hours. If documentation of the wet weather condition is not possible by a precipitation event, this shall include the cost to flood the ROW with a water truck to document stormwater drainage conditions. Preconstruction videos and pictures shall be re-taken individually for each phase a maximum of 30 days prior to commencement of construction in a new corresponding phase. This pay item includes performing a preconstruction video(s) and pre-assessment forms for all Contractor storage lots.

1.6 Post-Construction Video

- A. Measurement for various items covered under Post-Construction Video will not be made for payment, and all items shall be included in the contract lump sum price.

- B. Payment for providing post-construction videos will be made at the full lump sum contract price for the item, which price and payment shall be full compensation for a dry weather video and a wet weather video documenting conditions of the right-of-way and on private property, if documentation of the wet weather condition is not possible by a precipitation event, this shall include the cost to flood the ROW with a water truck to document stormwater drainage conditions within 15 days of project final completion.

1.7 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 items within the right-of-way within the project area, not included in another pay item, including grading. This pay item does not include the removal and disposal of mailboxes, sidewalks, driveways, and roadways.

1.8 Vibratory Monitoring

- A. Measurement for various items covered under Vibratory Monitoring will not be made for payment, and all items shall be included in the contract lump sum price.
- B. Payment for Vibratory Monitoring will be made at the contract lump sum price for the item, which price and payment shall be full compensation for vibratory monitoring by a third-party independent consultant to perform vibration monitoring adjacent to existing homes and structures during all construction activities for the duration of the project. Vibration monitoring and reporting shall follow the U.S. Bureau of Mines standards and reports shall be signed and sealed by a State of Florida Professional Engineer and delivered weekly to the County, EOR, and CEI.

1.9 Remove, Dispose, and Replace Mailboxes

- A. Measurement for various items covered under Remove, Dispose, and Replace Mailboxes will be based on the number of mailboxes installed and accepted.
- B. Payment for removing, disposing, and furnishing and installing the new mailboxes will be made per Contract unit price which price and payment shall be full compensation for removal and disposal of existing mailboxes, adjustment, furnishing and installation of breakaway posts (single or double mailbox posts), concrete, and new mailboxes. This item also includes reinstalling the existing mailboxes as needed until the end of the project and maintaining the mailboxes per USPS guidelines and standards. Each temporary and new mailbox shall be installed per USPS guidelines and standards and as shown herein and include address numbering. New mailboxes shall include engineered high performance grade vinyl 2" x 1" address numbering (reflective black and silver/white finish) to provide enhanced visibility. The engineered high performance vinyl numbers shall be weather and fade resistant, designed to resist tearing and peeling damage from high temperatures and full sun exposure, and be rated for 6 years of use.

1.10 Remove and Dispose Concrete, Asphalt, Gravel, and Travertine Driveway

- A. Measurement for removing and disposal of concrete (including coated, finished, and stamped), asphalt, gravel, and travertine driveways will be based on the area of material removed as field measured and verified by County, CEI, and/or EOR.
- B. Payment for removing and disposing of the driveway (concrete, asphalt, gravel, and travertine) will be made at the appropriate Contract Unit price per square yard of concrete, asphalt, gravel, or travertine driveway actually removed and disposed of. Contractor shall confirm the limits and dimensions of all driveway removal in the field with the County, CEI, and/or EOR prior to removal. No additional measurement or payment will be made for varying driveway thicknesses. Driveway removal and disposal associated with the installation of the new water main shall not be made for payment under this item.

1.11 Remove and Store Brick Paver Driveway

- A. Measurement for removal and storage of brick paver driveway will be based on the area of material actually removed and stored as field measured and shown on as-built drawings and verified by County, CEI, and/or EOR.
- B. Payment for removing and storing brick paver driveway will be made at the appropriate Contract Unit price per square yard of paver driveway actually removed including removal, protection, and storage of brick pavers. No additional measurement or payment will be made for varying driveway thicknesses or pavers set in concrete.

1.12 Install Driveway

- A. Measurement for installing driveway (concrete, asphalt, brick pavers, travertine, or pervious 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, travertine, or pervious 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, brick paver, travertine, or pervious paver driveway actually placed for construction including furnishing of additional of additional brick pavers due to damage or to meet the specifications/drawings. Contractor to install all concrete driveways with reinforcement per Collier County standards. Contractor shall confirm the limits and dimensions of all driveway installation in the field with the County, CEI, 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 County), 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 Collier County Right of Way Standards and per the contract documents. Coatings/color and driveway stamping finishes are a separate pay item.

1.13 Driveway Coatings and Finishes

- A. Measurement for driveway coatings and finishes, including driveway stamping, will be based on the area of material actually placed as field measured and shown on as-built drawings.
- B. Payment for driveway coatings, color additives, finishes, and stamping will be made at the appropriate Contract Unit price per square yard of coatings, finishes, color additives and stamping placed including etching, preparatory work, stamping, and coating for all stamped and colored driveways. For decorative concrete coatings, payment shall include materials and labor to re-paint and re-stamp entire driveway (from EOP to end of driveway on private property) at the time of restoration, including coordination with the property owner to best match the current driveway stamp and color. Replace driveways to match existing elevations and materials of construction (unless shown otherwise on the Drawings or approved by the County). All driveways shall be constructed per Collier County Right of Way Standards and per the contract documents.

1.14 Remove, Dispose, and Replace Sidewalk

- A. Measurement for removing, disposal, and replacing asphalt and concrete sidewalks will be based on the total square yard of material actually placed as field measured and shown on as-built drawings.
- B. Payment for removing, disposal, and replacing asphalt and concrete driveways shall be made at the appropriate Contract unit price which price and payment shall be full compensation for removal and disposal of existing material, adjustment, furnishing subgrade and stabilizing material, furnishing and installing of sidewalk per FDOT Standard Index 310 or the Flexible Pavement Design Manual, per ADA requirements, and testing as specified herein. Pedestrian access and transit shall be provided at all times during construction.

1.15 Detectable Warnings

- A. Measurement for installing detectable warning strips will be based on the total square feet of material actually placed as field measured and shown on as-built drawings.
- B. Payment for installing detectable warning strips shall be made at the appropriate Contract unit price which price and payment shall be full compensation for furnishing and installing detectable warnings per FDOT Standard Index 304, per ADA requirements, and as specified herein. Detectable warnings must be installed either in concrete, cast-in-place, or with concrete anchors, per manufacturer's recommendations, including detectable warning within asphalt.

1.16 Private Property Tree Removal

- A. Measurement for private property tree removal will be based on the number of trees removed, disposed, and accepted as determined by the County, CEI and EOR.
- B. Payment for removal and disposal of private property trees as determined by the County, CEI, and EOR shall be made at the Contract unit price which price and payment shall be full compensation for determination of trees to be removed based on location, species, and potential to impact to utilities within the ROW, coordination with the homeowner, removing and disposing the tree, topping where required, adjustment, removal of the remaining stump to a minimum depth of 6 inches below finished grade,

filling, installation of topsoil, and restoration of the removed area with sod and root treatment (if required).

1.17 Vehicle Guard Post

- A. Measurement for vehicle guard posts will be based on the number of vehicle guard posts installed and accepted as determined by the County, CEI and EOR.
- B. Payment for vehicle guard posts, where necessary as determined by the County, CEI, and EOR, shall be made at the Contract unit price which price and payment shall be full compensation for furnishing and installing vehicle guard posts per Collier County Detail G-11 including adjustment, concrete, coating, restoration and all of other necessary equipment, material, and labor.

1.18 Allowance

- A. An allowance is established to cover unanticipated costs associated with the general requirement, including but not limited to additional landscaping (not covered under a pay item) within the ROW. (No additional payment shall be made for landscaping disturbed outside of the right-of-way). Use of Allowance must be approved by the Collier County 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, County, CEI, and EOR.

SECTION 2: WATER SYSTEM

2.1 Water Main Pipelines

- A. Measurement for water main pipelines, except as otherwise specified, will be based on the laying length of the pipe in linear feet actually placed as measured along the centerline of the completed pipe, including length of fittings measured along the centerline measured to the nearest foot, between the limits shown on the Drawings and restraint of pipe as required by contract documents.
- B. Payment for furnishing and installing water main pipelines will be made at the Contract unit price per linear foot for the pipe in place, which price and payment shall be full compensation for all work associated with the water main pipeline installation. Payment shall also include furnishing and installation of all pipe fittings, sidewalk and driveway removal and replacement (not included in another pay item), asphalt removal and replacement, curb and gutter removal and replacement, restraints, detectable tape, pretesting, flushing/filling of main, joint restraints, pressure testing, disinfection and sterilization, bacteriological testing and sampling assemblies, silt fencing, insulated conducting wire, connections to existing water main including restraint of existing pipe on all sides of the tie in, support of existing main, keeping existing main in service, removal and temporary replacement of driveways and roadways disturbed during construction to maintain usable condition until permanent restoration is completed; landscape and/or sodding not designated in bid as necessary, coordination with other contractors, stubs and valves for future connections to existing pipes, clean-up, temporary facilities for blow-offs, all cost to clean, repair new or existing piping and appurtenances, and all equipment and all other work necessary to complete the installation as specified. Contractor to assume all existing pipe is unrestrained at connection points and restrain existing pipes per Collier County standards.

2.2 Gate Valves/Insert Valves/Line Stops

- A. Measurement for Gate Valves/Insert Valves/Line Stops, except as otherwise specified, will be based on the number of actual gate valves/insert valves/line stops installed and accepted.
- B. Payment for furnishing and installing gate valves/insert valves/line stops will be made at the appropriate contract unit price per gate valve/insert valve/line stop installed which price and payment shall be full compensation for all labor and materials associated with furnishing, installing and testing the valve/line stop, valve stem, mechanical restraints (not listed in a separate pay item), restraint of existing mains, valve nut with extension, tie rods, valve box, valve box adjustments or extensions, valve concrete pad, valve disk, valve cover, and required marker balls. This item also includes the installation of base material below the valve/line stop and the removal and reinstallation of line stop as required in accordance with Collier County standards.

2.3 Fire Hydrant Assemblies

- A. Measurement for Fire Hydrant Assemblies, except as otherwise specified, will be based on the number of fire hydrants installed and accepted.
- B. Payment for furnishing and installing the fire hydrant assemblies will be made at the appropriate contract unit price per fire hydrant assembly installed which price and payment shall be full compensation for all labor and materials required to furnish and install the tee on the utility 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, and 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 the Collier County Specifications.

2.4 Water Services

- A. Measurement for Water Services, except as otherwise specified, will be based on the number of water services by type actually installed and accepted.
- B. Payment for furnishing and installing water services will be made at the appropriate Contract unit price per each polyethylene short side and long side service (single and double) from the water main to and including the curb stop within the meter box acceptably installed which price and payment shall be full compensation for all labor, materials, and equipment to install all necessary pipe, fittings, connections, conduits/casings, meter stops, stainless steel tapping saddles, tapping sleeves, curb stops, electronic marker at curb stop and water main connection, locking curb stops at vacant properties as specified on the drawings, deflections, water meter/meter box adjustments (not included in a separate pay item), connection to existing meters, protection of existing utilities and facilities, removal of asphalt along utility corridor, placement of temporary asphalt along the utility corridor, removal and replacement of shrubs, pavement, culverts and storm sewers, sidewalks and other surface materials not specifically designated in the Bid, and all other work required for a complete installation.

2.5 Water Meter, Meter Box, and Backflow Device

- A. Measurement for Water Meters, Meter Boxes, and Backflow Device except as otherwise specified, will be based on the number of meters, meter boxes, and backflow devices installed and accepted.
- B. Payment for Water Meters, Meter Boxes, and Backflow Device, including furnishing and installing new meter boxes, relocating existing meters, and the relocation of existing, or installation of County provided new backflow devices, will be made at the Contract unit price per each meter, meter box, and backflow device installed/relocated to the property corner per Collier County Standards and Details installed and accepted which price and payment shall be full compensation for all labor, material, and furnishing and installing the piping, fittings, conduit/casings, bushings, reducers, adaptors, grading, restoration and all work necessary to connect private property water service piping to the relocated meters at the property lines, as depicted on the plans. All work on private property piping shall be performed by a Florida Certified Plumbing Contractor. For County provided backflow device pickup, it will be the responsibility of the Contractor to pick up parts at the distribution warehouse on 4370 Progress Avenue as needed and will need to sign the parts request form upon pickup to confirm that all parts are received. All parts requests should be made in writing at least three (3) business days in advance before request for pick up. Parts requests can be emailed to the project manager. The County shall provide all the necessary paperwork associated with the backflow device replacements. All existing materials removed shall be returned to the County or disposed of by the Contractor (at no additional cost) at the County's discretion. New meter boxes shall be Fibrelyte Composite FL12 with Fibrelyte Composite D (AMR and Reader Door) cover.

2.6 Water Meter Box (vacant property)

- A. Measurement for Water Boxes, except as otherwise specified, will be based on the number of meter boxes installed and accepted.
- B. Payment for furnishing and installing new meter boxes to vacant properties will be made at the Contract unit price per meter box installed and accepted, which price and payment shall be full compensation for all labor, furnishing and installing all material fittings, conduit/casings, bushings, reducers, adaptors, grading, restoration and all work necessary to connect the service to the proposed meter boxes and locking curb stop as depicted on the plans. All existing meter boxes removed shall be returned to the County or disposed of by the Contractor (at no additional cost) at the County's discretion. New meter boxes shall be Fibrelyte Composite FL12 with Fibrelyte Composite D (AMR and Reader Door) cover.

2.7 Connection to Existing Water Main

- A. Measurement for Connection to Existing Water Mains, except as otherwise specified, will be based on the number of connections actually installed and accepted.
- B. Payment for connecting the newly constructed water main to the existing water mains will be made at the appropriate Contract unit price per each connection acceptable installed which price and payment shall be full compensation to furnish and install all fittings, connections, insert valves and line stops (not included in a separate pay item), tapping sleeve and valve with valve box, blow-offs, miscellaneous piping not included

under a separate bid item; restraining existing and proposed piping, removal and replacement of existing concrete restraints as necessary, concrete work, field measurements, protection of existing utilities and facilities, bacteriological sample points testing, and all other work required for a complete installation.

2.8 Bacteriological Sample Points

- A. Measurement for furnishing and installing bacteriological sample points will be based on the number of bacteriological sample points (permanent or temporary) installed and accepted.
- B. Payment for furnishing and installing bacteriological sample points will be made at the appropriate contract unit price per each bacteriological sample point installed and accepted which price and payment shall be full compensation to furnish and install all valves, tubing, fittings, saddles, enclosure, all concrete, removal of temporary sample points, and incidentals necessary for a complete installation as shown on the drawings and as specified herein.

2.9 Air Release Valves

- A. Measurement for Air Release Valves, except as otherwise specified, will be based on the number of air release valves installed and accepted on the potable water main.
- B. Payment for furnishing and installing air release valves will be made at the appropriate contract unit price per each air release valve installed and accepted which price and payment shall be full compensation to furnish and install the valve, complete with tapping saddle, ballcorp, curb stop, supports, vents, vault, footing, frame, cover, access lid, piping, fitting and bends, enclosures, deflections under/over existing or proposed utilities, swales, or stormwater improvements, and other appurtenances. Air release valves shall be placed at the ROW line unless otherwise directed by the County.

2.10 Conflict Avoidance (Deflection)

- A. Measurement for each conflict avoidance constructed (horizontal or vertical deflection) will be based on the number of each conflict avoidance of existing utilities and drainage installed and accepted.
- B. Payment for conflict avoidance 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 deflection installed and accepted which price and payment shall be full compensation to furnish and install pipe, fittings, ARVs as required (not included in another pay item), restraints, concrete work, existing utility protection and restraints, and any other incidentals necessary for a complete installation as specified herein. The linear feet of new water main piping installed associated with conflict avoidances shall be paid for under a separate pay item and will be measured, in a straight line, between the fitting that begins the deflection and ends the deflection.

2.11 Temporary Connection to Existing Water Main

- A. Measurement for installing a temporary connection to the existing water main will be based on the number of each temporary connection installed and accepted.
- B. Payment for temporary water main connections will be made at the appropriate contract unit price per each temporary connection installed and accepted which price and

payment shall be full compensation to furnish and install pipe, temporary jumpers, temporary meters, valves, fittings, joint restraints, existing utility protection, bacteriological sampling, abandonment once clearance is obtained, restoration, and all other work for a complete installation.

2.12 Removal and Disposal of Asbestos Concrete Water Main

- A. Measurement for removal and disposal of the existing asbestos concrete water main will be based on the laying length of the pipe in linear feet actually removed and disposed of as measured along the centerline of the pipe, including length of fittings and specials measured along the centerlines, between the limits shown on the Drawings and restraint of pipe as required by contract documents.
- B. Payment of removing and disposing asbestos concrete pipe will be made at the appropriate contract unit price per linear foot in accordance with Collier County Standard and as specified herein. Payment shall include all testing, including air monitoring. Each individual section (20' max) of asbestos concrete water main removed shall be individually wrapped and marked for disposal prior to being placed in a lined dump truck for transport to the landfill. One copy of the waste manifest from the disposal site shall be provided to Collier County within 48 hours of receipt. The Collier County landfill will not accept loads after 3pm (Monday through Friday) or on Saturday, Sunday, or Collier County recognized holidays.

2.13 Allowance

- A. An allowance is established to cover unanticipated costs including, but not limited to, un-located utilities and unforeseen site conditions. (No additional payment shall be made for rock excavation, replacement of fill material or dewatering). Use of Allowance must be approved by the Collier County 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, County, CEI, and EOR.

SECTION 3: WASTEWATER SYSTEM

3.1 8-inch PVC Gravity Sewer Pipe (Remove, Dispose, Replace)

- A. Measurement for gravity sewer pipe, except as otherwise specified, will be based on the horizontal laying length of the pipe in linear feet as measured to the nearest foot, including the lengths of manholes and fittings, as installed and accepted.
- B. Payment for furnishing and installing SDR 26 PVC gravity sewer will be made at the Contract unit price per linear foot for the pipe in place, removal and disposal of the existing VCP (including lined VCP), laying of the pipe, maintaining the wastewater collection system in operation at all times, bypass pumping, plugs, and pumper/vacuum trucks as necessary; support of existing sanitary sewer components, including manholes; support of existing and proposed utility components including potable water service laterals and conduits; compaction per FDOT standards, connections not specified elsewhere, coordination with other contractors, and temporary facilities for testing. Payment shall also include roadway removal and televising of the completed new sanitary sewer main and laterals (from the main to the private property cleanouts

at each home/structures) with results delivered to the County and EOR after the road limerock base is compacted, and prior to the placement of asphalt.

3.2 Sanitary Sewer Service Lateral (Remove, Dispose, and Reconnect)

- A. Measurement for furnishing and installing sanitary sewer services will be based on the number of each sanitary sewer lateral removed, replaced, and connected to the new sanitary sewer.
- 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, pavement, sidewalks and other surface materials not specifically designated in the another pay item with compaction per FDOT standards, and all other work required for a complete installation. Payment shall also including the televising of all existing sanitary sewer laterals, with a portable push camera system from the existing main to the private property cleanouts at each home/structures to determine the material and size of the existing private sanitary sewer lateral. The camera system shall have a 1 -inch diameter tip, 50 foot (min) insertion probe, flexible video camera head with bright LED lighting, and a 6” (min) TFT LCD color monitor. The results shall be logged by the Contractor, including, size, material, and location, and provided to the County, CEI, and EOR. 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 County 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. Cleanouts allowed within a driveway shall have an epoxy coated rim and cover.

3.3 Private Property Sewer Service Lateral Replacement

- A. Measurement for private property service lateral replacement shall be based on the number of linear feet of private sanitary service lateral replaced and accepted.
- B. Payment for replacing the private property sanitary service lateral further than the right-of-way (into private property) as determined on a case by case basis by the County, CEI, and EOR, will be made at the appropriate Contract unit price per linear foot of PVC sewer service lateral replaced, acceptably installed, including all necessary pipe, fittings, connections, solvent welded sleeves and adaptors, flexible coupling (existing clay to new PVC connections only where approved by the County, CEI, and EOR), cleanouts, protection of existing utilities and facilities, removal and disposal of existing lateral pipe, maintaining sanitary sewer service at all times, service markers, plugs, removal and replacement of landscaping, including private property landscaping and restoration, pavement, sidewalks and other surface materials not specifically designated in the another pay item, and all other work required for a complete installation.

3.4 Relocate Driveway Sanitary Service Lateral

- A. Measurement for relocating each sanitary service lateral located in a driveway will be based on the number of sanitary service laterals relocated to the property corner and accepted.
- B. Payment for relocating sanitary service laterals located in the driveway (up to the house cleanout line, into private property) will be made at the appropriate Contract unit price per PVC sewer service lateral relocate to the property corner, 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, including private property landscaping and restoration, pavement, sidewalks and other surface materials not specifically designated in the another pay item, and all other work required for a complete installation. Sanitary sewer service laterals within driveways shall be adjusted per the Clean-out Adjustment detail. 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 County owned ROW cleanout. Temporary piping is acceptable during construction to connect the existing sanitary sewer lateral to the final location of the lateral to main connection. Temporary lateral to main connections are not permitted. If the relocation of a sanitary sewer service lateral outside of a driveway is not possible due to existing site conditions, the Contractor shall request written permission from the County to install a sanitary sewer lateral within a driveway. Cleanouts installed within a driveway shall have an epoxy coated rim and cover.

3.5 Precast Polymer Concrete Manholes (Remove, Dispose, Replace)

- A. Measurement for installation and furnishing of precast polymer manholes, except as otherwise specified, will be based on the number of precast polymer manholes installed and accepted on the sanitary sewer main.
- B. Payment for furnishing and installing precast polymer manholes will be based on the actual number of manholes installed and accepted, including removal and disposal of all existing concrete manholes unless otherwise specified, all compacted gravel or crushed stone bedding, anti-flotation collars, HDPE or polymer concrete grade rings, sawing, concrete and epoxy work for reinforcements, drop manhole assembly installation, field adjustments, maintaining the wastewater collection system in operation at all times, bypass pumping, plugs, and pumper/vacuum trucks as necessary; protection of adjacent utilities and facilities, manhole frames and covers, coatings and linings, manhole joints, bottom channels, compaction per FDOT standards, and sanitary sewer connections. All precast polymer concrete manholes shall have a buoyancy collar at the manhole base.

3.6 Connect Existing Gravity Sewer to New Polymer Concrete Manhole

- A. Measurement for connection of the gravity main to the new polymer concrete manhole, except as otherwise specified, will be based on the number of connections installed and accepted.

- B. Payment for installing the new connection to the manholes will be made at the appropriate contract unit price and shall include all required installation of pipe, collars to protect/restrain existing pipe lining, fittings, boots, maintaining the wastewater collection system in operation at all times, bypass pumping, plugs, and pumper/vacuum trucks as necessary; and all other items necessary to make the connection to the new polymer concrete manholes. All patching shall be per the manufactures recommendation and approved by County, CEI, and EOR.

3.7 Connect New Gravity Sewer to Existing Manhole

- A. Measurement for connection of the new gravity main to the existing manhole, except as otherwise specified, will be based on the number of connections installed and accepted.
- B. Payment for installing the new connection to the existing manholes will be made at the appropriate contract unit price and shall include all required drop manhole adjustment/removal/replacement, core drilling, sawing, installation of pipe, fittings, boots, coatings, maintaining the wastewater collection system in operation at all times, bypass pumping, plugs, and pumper/vacuum trucks as necessary; and all other items necessary to make the connection to the existing manhole.

3.8 Conflict Crossing Through Existing Box

- A. Measurement for conflict crossing through an existing stormwater box shall, except as otherwise specified, will be based on the number of crossings installed and accepted.
- B. Payment for conflict crossing through an existing stormwater box be made at the appropriate contract unit price and shall include all required sawing, coring, casing, concrete work, grouting, including patching; piping, conduit, Link-Seal, spacers, fittings, maintaining the wastewater and stormwater collection systems in operation at all times, bypass pumping, plugs, and pumper/vacuum trucks as necessary; and all other items necessary to make the crossing through an existing stormwater box.

3.9 Existing Sanitary Force Main Removal and Disposal

- A. Measurement for existing sanitary force main removal and disposal, except as otherwise specified, will be based on the linear feet of piping removed and disposed as measured to the nearest foot, including fittings and valves.
- B. Payment for existing sanitary force main removal and disposal will be made at the Contract unit price per linear foot for the pipe removed, including removal and disposal of all existing concrete restraints and thrust blocks; plugs/caps, draining of existing force main; pumper/vacuum trucks; support of existing utilities; grading and compaction; field adjustments, maintaining the wastewater collection system in operation at all times; protection of adjacent utilities and facilities; and all other necessary items to remove and dispose of the exiting sanitary force main.

3.10 Road Restoration – Stabilized Subgrade

- A. Measurement for removing and replacing FDOT certified stabilized subgrade will be based on the area of material actually placed as field measured and shown on as-built drawings.

- B. Payment for removing and replacing stabilized subgrade will be made at the appropriate contract unit price per square yard installed including furnishing all FDOT certified material, compaction per FDOT standards, testing, equipment, and disposal of old material. All activities should be in accordance with the Collier County ROW Standards and as detailed on the Plans.

3.11 Road Restoration - Limerock Base (8-inch)

- A. Measurement for removing and replacing roadway base will be based on the area actually placed as field measured and shown on as-built drawings.
- B. Payment for removing and replacing roadway base will be made at the appropriate Contract unit price per square yard for FDOT certified base installed including furnishing all material, compaction per FDOT standards, testing, equipment, and disposal of old material. Replace all base in accordance with the Collier County ROW Standards and details shown on the Plans.

3.12 Road Restoration – 2-1/2” Asphalt (Two Lifts)

- A. Measurement for removing and replacing street pavement surface will be based on the area actually placed as field measured and shown on as-built drawings.
- B. Payment for removing, disposing and replacing street pavement surface will be made at the appropriate Contract unit price per square yard for pavement surface installed in the work. Replace all pavement surface in accordance with the Collier County ROW Standard Details and details shown on the Plans. This payment item shall be all encompassing for all asphalt, sign removal and replacements, reflective pavement markers, testing, and temporary striping and markings. This payment item shall cover both lifts of asphalt. Contractor may apply for fifty percent (50%) payment at the completion of the first lift of asphalt, and the remaining fifty percent (50%) shall be paid at the completion and acceptance of the second lift.

3.13 Final Paving Striping/Marking

- A. Measurement for various items covered under Final Paving Striping/Marking will not be made for payment, and all items shall be included in the contract lump sum price.
- B. Payment for Final Paving Striping/Marking will be made at the contract lump sum price for the item, which price and payment shall be full compensation for final pavement striping and markings within the project area.

3.14 Remove, Dispose, and Replace Concrete Curb

- A. Measurement for removing, disposal, and replacing concrete curb and gutter will be based on the total linear feet of material actually placed as field measured and shown on as-built drawings.
- B. Payment for removing, disposal, and replacing concrete curb and gutter shall be made at the appropriate Contract unit price which price and shall include removal and disposal of existing material, adjustment, furnishing subgrade and stabilizing material, furnishing and installing of concrete curb and gutter to match the current conditions per FDOT Standards, and testing as specified herein. Existing stormwater patterns shall be maintained at all times during construction.

3.15 Milling & Resurfacing

- A. Measurement for milling and resurfacing 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 Collier County Standard Details and details as shown on the Plans. This payment item shall be all encompassing for all asphalt, sign removal and replacements, reflective pavement markers, and temporary striping placed. This payment item shall include 1-inch minimum milling with Type SP-9.5 asphalt (1-inch minimum) placed with the final lift of asphalt.

3.16 Allowance

- C. An allowance is established to cover unanticipated costs including, but not limited to, un-located utilities and unforeseen site conditions. (No additional payment shall be made for rock excavation, replacement of fill material or dewatering). Use of Allowance must be approved by the Collier County 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, County, CEI, and EOR.

SECTION 4: STORMWATER SYSTEM

4.1-4.7 Drainage Pipe (Various Types and Sizes)

- A. Measurement for drainage pipe 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 various types and sizes of storm drain pipe 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, silt socks, gaskets, all equipment, installation of gravel water quality trenches as specified in the plans, swale grading (from edge of pavement to right-of-way), any incidental regrading, and all other incidentals necessary to complete the installation as specified. Repair of silt sock shall be per manufacturer's recommendations and as approved by the County, CEI, and EOR. All ADS drainage pipe shall have a smooth interior and annular exterior corrugations.

4.8-4.10 Catch Basin (Various Types and Sizes)

- A. Measurement for the construction of Catch Basins (including Sedimentation Catch Basins and Weir 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, 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.

4.11 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 (inline or offset) furnished and installed. Payment will be full compensation for all drains, including side drain adaptors, grading/regrading, fittings, adaptors, and all transportation, labor, equipment, swale grading (from edge of pavement to right-of-way), any incidental grading/regrading, and all other incidentals required to install the yard drains as shown on the Drawings. Yard drain rim elevations depicted in the drawings are approximate, the exact rim elevations shall be field determined per the maximum slopes as defined in the contract documents.

4.12 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 the junction boxes will be made at the contract bid unit price per junction box installed, including, disposal of excess material, field adjustments, cutting, concrete reinforcement work, riser (if required), frame adjustments, grate or cover, swale grading (from edge of pavement to right-of-way), any incidental regrading, any incidental regrading, and all transportation, labor equipment and all other incidentals required to construct the new structure complete in place.

4.13 Private Property Yard Drains

- C. Measurement for the construction of Private Property Yard Drains shall be based on the number of private property yard drains actually installed and accepted.
- D. Payment for furnishing and installing private property yard drains shall be made at the unit price for each private property yard drain furnished and installed. Payment will be full compensation for incidental regrading, fittings, adaptors, and all transportation, labor, equipment, grading/regrading, connections, and all other incidentals required to install the private property yard drains. Private property yard drains shall be NDS 12” Square Catch Basins (Items 1200, 1212, 1206, and 1266) or approved equal.

4.14 Connection to Existing Storm Structure

- A. Measurement for connection of the new stormwater pipe to the existing catch basin, except as otherwise specified, will be based on the number of connections installed and accepted.
- B. Payment for installing the new connection to the existing catch basins will be made at the appropriate contract price and shall include all required structure modifications, sawing, grouting, bricking, reinforced concrete, coating, and installation of pipe, fittings, swale grading (from edge of pavement to right-of-way), any incidental regrading, and all other items necessary to make the connection to the existing catch basin.

4.15 Modification of Existing Storm Structure

- A. Measurement for adjustment of an existing storm structure except as otherwise specified, will be based on the number of existing storm structures modified and accepted.
- B. Payment for modifying existing catch basins will be made at the appropriate contract price and shall include all required structure modifications, sawing, grouting, bricking, reinforced concrete, coating, and installation of pipe, fittings, swale grading (from edge of pavement to right-of-way), any incidental regrading, and all other items necessary to make the modification to the existing catch basin.

4.16 Mitered End Section

- A. Measurement for Mitered End Section, 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, reinforcement for a 2.5:1 'mini' MES, field adjustments, cutting, concrete reinforcement work, riser, swale grading (from edge of pavement to right-of-way), any incidental regrading, any incidental regrading, and all transportation, labor equipment and all other incidentals required to construct the new structure complete in place.

4.17 Swale Grading (not associated with the above pay items)

- E. Measurement for swale grading shall be based on the number of linear feet of swale (as measured from top of bank to top of bank) actually graded and accepted in areas where storm pipe is not installed below the swale.
- F. Payment for swale grading shall be made at the unit price per linear foot of swale graded (from edge of pavement to right-of-way). Payment will be full compensation for all grading to the elevation shown on plans minus the depth of sod (accounting for approved field modifications), disposal of excess spoils, sod, and other incidentals required to grade the swales as shown on the drawings and/or directed by the County. This pay item does not include swale grading associated with the pay items for drainage pipes, catch basins, yard drains, junction boxes, private property yard drains, connections to existing storm structures, modifications to existing storm structures, and miter end sections. This pay item is for swale grading outside the limits of any proposed stormwater improvements, including new infrastructure and connections/modifications to existing structures.

4.18 Root Barrier

- G. Measurement for root barrier shall be based on the number of linear feet of root barrier installed and accepted.
- H. Payment for root barrier shall be made at the unit price per linear foot of 48-inch (minimum depth), 4-inch (minimum) reinforced subgrade curb root barrier or approved root barrier panel. Payment will be full compensation for all excavation, root trimming (by a certified Florida Arborist), disposal of excess spoils, sod, and other incidentals required to install the root barrier as shown on the drawings and/or directed by the County.

4.19 Allowance

- A. An allowance is established to cover unanticipated costs including, but not limited to, un-located utilities and unforeseen site conditions. (No additional payment shall be made for rock excavation, replacement of fill material or dewatering). Use of Allowance must be approved by the Collier County 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, County, CEI, and EOR.

END OF SECTION