

Pay Item Manual for Water and Sewer Construction

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Your Own UtilitiesSM

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The following abbreviations are commonly used throughout the Pay Item Manual, Technical Specifications, and Construction Documents:

UNITS OF MEASURE	UTILITY INFRASTRUCTURE	GENERAL
AC - Acre	AC – Asbestos Cement	AWG – American Wire Gauge
CF – Cubic Feet	BFV – Butterfly Valve	BC – Back of Curb (also BOC)
CY – Cubic Yard	BV – Ball Valve	CL – Center Line (C/L)
EA - Each	CI – Cast Iron	COT – City of Tallahassee
LF – Linear Feet	CIP – Cast Iron Pipe	CPZ – Critical Protection Zone
LS – Lump Sum	CIPP – Cured in Place Pipe	EL – Elevation (also ELEV)
SF – Square Feet	CRCP – Circular Reinforced Concrete Pipe	EP – Edge of Pavement (also EOP)
SY – Square Yard	DI – Ductile Iron	FL – Flow Line (F/L)
TN – Ton (U.S.)	DIP – Ductile Iron Pipe	HP – High Pressure
VF – Vertical Feet	DIPS – Ductile Iron Pipe Size	IE – Invert Elevation
	ERCP – Elliptical Reinforced Concrete Pipe	INV – Invert
	FH – Fire Hydrant	LBR – Load Bearing Ratio
	FM – Force Main (Sanitary)	MOT – Maintenance of Traffic
	GV – Gate Valve	MUTCD – Manual on Urban Traffic Control Devices
	HDPE – High Density Polyethylene Pipe	PL – Property Line (P/L)
	IPS – Iron Pipe Size	RW – Right of Way (also ROW and R/W)
	M – Meter	SWPPP – Stormwater Pollution Prevention Plan
	MH - Manhole	TOB – Top of Bank
	PCCP – Prestressed Concrete Cylinder Pipe	TOP – Top of Pipe
	PRV – Pressure Regulating Valve	TOS – Toe of Slope
	PV – Plug Valve	TTC – Temporary Traffic Control
	PVC– Polyvinyl Chloride	
	RCP – Reinforced Concrete Pipe	
	S - Sewer (or SS – Sanitary Sewer)	
	SD – Storm Drain	
	TCP – Terra Cotta Pipe (TC – Terra Cotta)	
	VC – Vitrified Clay	
	VCP – Vitrified Clay Pipe	
	W – Water	
	WM – Water Main	

OGANIZATIONS
AASHTO – American Association of State Highway and Transportation Officials
ANSI – American National Standards Institute
APWA – American Public Works Association
ASTM – American Society for Testing & Materials
AWWA – American Water Works Association
COT – City of Tallahassee
FDEP – Florida Department of Environmental Protection
FDOT – Florida Department of Transportation
FHA – Federal Highway Administration
FM – Factory Mutual (Insurance Companies) [now known as FM Global]
ISO – International Organization for Standardization
NASSCO – National Association of Sewer Service Companies
NSF – National Sanitation Foundation
NFPA – National Fire Protection Association
UL – Underwriter’s Laboratories
USC-FCCC(HR) – University of Southern California Foundation for Cross Connection Control (and Hydraulic Research)

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MEASUREMENT OF QUANTITIES

UNIT PRICE: The determination of quantities of work acceptably performed under the terms of the contract will be made by the CITY, based upon the lines and grades as shown on the plans, and as given during the progress of the work; or as evidenced by approved tickets for weight or liquid measure, or by measurements made by the CITY. All items will be computed in U.S. Standard measurements used in common practice and as shown in the proposal and contract.

LUMP SUM: If the contract is based on a lump sum bid price, or contains one or more lump sum items for which progress payments are to be made, the CONTRACTOR shall prepare and submit a schedule of values covering each lump sum item to the CITY for approval. The schedule of values shall show the estimated value of each kind or item of work. The sum of the schedule of values for each lump sum item shall equal the contract lump sum for that item. Overhead and profit shall not be listed as separate items. The schedule of values shall be approved by the CITY before any progress payments are prepared and submitted. An unbalanced breakdown estimate providing for overpayment to the CONTRACTOR for items of work to be performed first will not be approved and shall be revised by the CONTRACTOR and resubmitted until acceptable to the CITY.

PAYMENT FOR LABOR AND MATERIALS

Payment for labor and materials shall be made in accordance with the General Provisions of the Contract.

PAY ITEM LIST

The Pay Item List shall be as provided in the Bid Form of the Contract Documents.

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PAY ITEM DESCRIPTIONS

GENERAL CONTRACT PAY ITEMS

MOBILIZATION

Mobilization shall be measured for payment per lump sum (LS) completed in accordance with the plans and specifications.

Mobilization shall be paid for at the contract unit price per lump sum (LS) as provided in the proposal and contract. The contract lump sum price shall be the total compensation for all preparatory work and operations which must be performed or cost incurred prior to beginning contract work; including, but not limited to, the cost to transport personnel, equipment, and materials to and from the project location; all costs for preparation of an approved construction schedule, an approved temporary traffic control plan, and an approved dewatering plan; all costs for preconstruction video, photographs, and survey/stake-out; preparing and submitting approved shop drawings; establishing and maintaining a construction field office and equipment and materials staging areas; furnishing and installing project signage; and project cleanup and demobilization.

The CONTRACTOR shall be eligible for up to 75% of the contract unit price for mobilization upon receipt and approval of the following items: construction schedule; quality control plan (when required); bypass flow management plan (when required); temporary water and sewer service plan (when required); dewatering plan; erosion, sediment and pollution prevention and control plan; trench safety plan; and furnishing and installing project signs. The balance of the contract unit price shall be paid upon completion of the CONTRACTOR's cleanup and demobilization. This pay item shall be subject to retainage amounts as stipulated in the contract.

TEMPORARY TRAFFIC CONTROL

When a separate pay item is provided, Temporary Traffic Control shall be measured for payment per lump sum (LS), or days (DY), of temporary traffic control completed in accordance with the plans and specifications.

When a separate pay item is provided, Temporary Traffic Control shall be paid for at the contract unit price per lump sum (LS), or days (DY) of temporary traffic control, complete in place, as provided in the proposal and contract. The contract lump sum or unit price shall be the total compensation for furnishing, installing, and maintaining the temporary traffic control plan; including, but not limited to, all transport, labor, equipment, materials, signage, message boards, barricades, temporary pavement, lighting, business access signage, and maintenance of access, in accordance with State, City, and/or County regulations, to safely maintain vehicular, bicycle, and pedestrian access and traffic and around or through the work zone. Execution of this item shall be in accordance with the edition of the State of Florida Department of Transportation (FDOT) Design Standards and the Federal Highway Administration (FHWA) Manual on Urban Traffic Control Devices (MUTCD) in effect at the time bids are received.

TEMPORARY EROSION, SEDIMENTATION AND WATER POLLUTION CONTROL

When a separate pay item is provided, Temporary Erosion Control, Sedimentation and Water Pollution Control shall be measured for payment per lump sum (LS) completed in accordance with the plans and specifications.

When a separate pay item is provided, Temporary Erosion Control, Sedimentation and Water Pollution Control shall be paid for at the contract unit price per lump sum (LS), complete in place, as provided in the proposal and contract. The contract unit price shall be the total compensation for development of the temporary erosion, sediment, and pollution control plan, dewatering plan, and SWPPP (when required); furnishing and placing all control measures; maintenance, replacement, and additional control measures as needed to ensure effectiveness throughout the duration of construction; water quality monitoring (when required); clean-up and remediation, disposal of all surplus material; and for all transport, labor, equipment, and materials necessary to complete the work. Execution of this item shall be in accordance with the plans and the most recent revision of the City of Tallahassee Technical Specifications for Water and Sewer Construction in effect at the time bids are received.

The CONTRACTOR shall be eligible to request payment for the portion of the contract unit price designated for this pay item that is proportional to the percent complete of the original total contract price. This pay item shall be subject to retainage amounts as stipulated in the contract.

SELECTIVE CLEARING AND GRUBBING

When a separate pay item is provided, Selective Clearing and Grubbing shall be measured for payment per lump sum (LS) completed in accordance with the plans and specifications.

When a separate pay item is provided, Selective Clearing and Grubbing shall be paid for at the contract unit price per lump sum (LS), complete in place, as provided in the proposal and contract. The contract unit price shall be the total compensation for all transport, labor, equipment, and materials required for site clearing and tree and root removal; hauling and disposal of existing materials; erosion and sedimentation control (when separate pay items is not provided); and incidentals necessary to complete the work. Execution of this item shall be in accordance with the plans and the most recent revision of the City of Tallahassee Technical Specifications for Water and Sewer Construction in effect at the time bids are received.

The CONTRACTOR shall be eligible to request payment for the portion of the contract unit price designated for this pay item that is proportional to the percent complete of the original total contract price. This pay item shall be subject to retainage amounts as stipulated in the contract.

TREE PROTECTION

When a separate pay item is provided, Tree Protection shall be measured for payment per lump sum (LS) completed in accordance with the plans and specifications.

When a separate pay item is provided, Tree Protection shall be paid for at the contract unit price per lump sum (LS), complete in place, as provided in the proposal and contract. The contract unit price shall be the total compensation for all transport, labor, equipment, and materials required for tree protection, impact mitigation, and Certified Arborist's services; hauling and disposal of existing materials; erosion and sedimentation control (when separate pay items is not provided); and incidentals necessary to complete the work. Execution of this item shall be in accordance with the plans and the most recent revision of the City of Tallahassee Technical Specifications for Water and Sewer Construction in effect at the time bids are received.

The CONTRACTOR shall be eligible to request payment for the portion of the contract unit price designated for this pay item that is proportional to the percent complete of the original total contract price. This pay item shall be subject to retainage amounts as stipulated in the contract.

MISCELLANEOUS CONCRETE

When a separate pay item is provided, Miscellaneous Concrete shall be measured for payment per cubic yard (CY) completed in accordance with the plans and specifications.

When a separate pay item is provided, Miscellaneous Concrete shall be paid for at the contract unit price per cubic yard (CY), complete in place, as provided in the proposal and contract. The contract unit price shall be the total compensation for all transport, labor, equipment, formwork, tooling, finishing, and incidentals necessary to complete the work. Execution of this item shall be in accordance with the plans and the most recent revision of the City of Tallahassee Technical Specifications for Water and Sewer Construction in effect at the time bids are received

MISCELLANEOUS GRAVEL (# 57 STONE)

When a separate pay item is provided, Miscellaneous Gravel shall be measured for payment per cubic yard (CY) completed in accordance with the plans and specifications.

When a separate pay item is provided, Miscellaneous Gravel shall be paid for at the contract unit price per cubic yard (CY), complete in place, as provided in the proposal and contract. The contract unit price shall be the total compensation for all transport, labor, equipment, materials, placement, grading, and incidentals necessary to complete the work. Execution of this item shall be in accordance with the plans and the most recent revision of the City of Tallahassee Technical Specifications for Water and Sewer Construction in effect at the time bids are received.

MISCELLANEOUS RIP-RAP

When a separate pay item is provided, Miscellaneous Rip-Rap shall be measured for payment per cubic yard (CY) completed in accordance with the plans and specifications.

When a separate pay item is provided, Miscellaneous Rip-Rap shall be paid for at the contract unit price per cubic yard (CY), complete in place, as provided in the proposal and contract. The contract unit price shall be the total compensation for all transport, labor, equipment, materials, placement, and

incidentals necessary to complete the work. Execution of this item shall be in accordance with the plans and the most recent revision of the City of Tallahassee Technical Specifications for Water and Sewer Construction in effect at the time bids are received.

MISCELLANEOUS VALVE BOX ADJUSTMENT

When a separate pay item is provided, Miscellaneous Valve Box Adjustment shall be measured for payment per each (EA) existing valve box adjustment of various depths completed in accordance with the plans and specifications.

When a separate pay item is provided, Miscellaneous Valve Box Adjustment shall be paid for at the contract unit price per each (EA) existing valve box adjustment of various depths, complete in place, as provided in the proposal and contract. The contract unit price shall be the total compensation for the vertical adjustment of existing valve boxes (sewer, gas, or other utility); including all transport, labor, equipment, and materials required for adjustment, horizontal and vertical location documentation, saw-cutting, removal and disposal of existing materials, temporary lowering of valve box, raising valve box, select backfill, compaction, road base preparation, concrete collar, and asphalt replacement. Execution of this item shall be in accordance with the plans and the most recent revision of the City of Tallahassee Technical Specifications for Water and Sewer Construction in effect at the time bids are received.

The costs associated with adjusting new valve box covers shall be included in the unit cost of the new valve pay item. No separate payment shall be made for adjusting new valve boxes.

MISCELLANEOUS MANHOLE TOP ADJUSTMENT

When a separate pay item is provided, Miscellaneous Manhole Top Adjustment shall be measured for payment per each (EA) existing manhole top adjustment of various depths completed in accordance with the plans and specifications.

When a separate pay item is provided, Miscellaneous Manhole Top Adjustment shall be paid for at the contract unit price per each (EA) existing manhole top adjustment of various depths, complete in place, as provided in the proposal and contract. The contract unit price shall be the total compensation for the vertical adjustment of existing manhole top; including all transport, labor, equipment, and materials required for adjustment, horizontal and vertical location documentation, saw-cutting, removal and disposal of existing materials, temporary lowering of manhole top, raising manhole, select backfill, compaction, road base preparation, concrete collar, and asphalt replacement. Execution of this item shall be in accordance with the plans and the most recent revision of the City of Tallahassee Technical Specifications for Water and Sewer Construction in effect at the time bids are received.

The costs associated with adjusting new manhole tops shall be included in the unit cost of the new manhole pay item. No separate payment shall be made for adjusting new manhole tops.

ROAD SURFACE RESTORATION PAY ITEMS

STABILIZED SUBGRADE

When a separate pay item is provided, Stabilized Subgrade shall be measured for payment by the square-yard (SY) of stabilized subgrade completed in accordance with the plans and specifications.

When a separate pay item is provided, Stabilized Subgrade shall be paid for at the contract unit price per square yard (SY) of stabilized subgrade, complete in place, as provided in the proposal and contract. The contract unit price shall be the total compensation for furnishing and installing stabilized subgrade items; including, but not limited to, all transport, labor, equipment, and materials required for installation, grading, stabilization, compaction, and testing. Execution of this item shall be in accordance with the plans and the most recent revision of the governing agency's roadway design standards in effect at the time bids are received, or as provided in the proposal and contract.

ROAD BASE

When a separate pay item is provided, Road Base shall be measured for payment by the square-yard (SY) of road base completed in accordance with the plans and specifications.

When a separate pay item is provided, Road Base shall be paid for at the contract unit price per square yard (SY) of road base, complete in place, as provided in the proposal and contract. The contract unit price shall be the total compensation for furnishing and installing road base items; including, but not limited to, all transport, labor, equipment, and materials required for installation, grading, sub-base stabilization (when separate pay item is not provided), limerock placement, compaction, and testing. Execution of this item shall be in accordance with the plans and the most recent revision of the governing agency's roadway design standards in effect at the time bids are received, or as provided in the proposal and contract.

TEMPORARY ASPHALT PATCH

When a separate pay item is provided, Temporary Asphalt Patch shall be measured for payment by the square-yard (SY) of asphalt completed in accordance with the plans and specifications.

When a separate pay item is provided, Temporary Asphalt Patch shall be paid for at the contract unit price per square yard (SY) of asphalt, complete in place, as provided in the proposal and contract. The contract unit price shall be the total compensation for furnishing and installing asphalt items; including, but not limited to, all transport, labor, equipment, and materials required for milling and grade correction; tack coat; asphalt paving, compaction and testing; temporary road striping and signal loop replacement (when separate pay items are not provided). Execution of this item shall be in accordance with the plans and the most recent revision of the governing agency's roadway design standards in effect at the time bids are received, or as provided in the proposal and contract.

When a separate pay item is not provided, the costs associated with temporary asphalt patches for water, sewer, and reclaimed water pipeline installation shall be included in the unit cost of the pipeline.

All costs associated with temporary and permanent roadway striping, symbols, and text shall be included in the unit cost of the corresponding pay item.

STRUCTURAL ASPHALT

When a separate pay item is provided, Structural Asphalt shall be measured for payment by the square-yard (SY) of asphalt, of various type and thickness, as measured and completed in accordance with the plans and specifications.

When a separate pay item is provided, Structural Asphalt shall be paid for at the contract unit price per square yard (SY) of asphalt, complete in place, as provided in the proposal and contract. The contract unit price shall be the total compensation for furnishing and installing asphalt items; including, but not limited to, all transport, labor, equipment, and materials required for milling and grade correction; tack coat; temporary and permanent asphalt paving, compaction and testing; temporary and permanent road striping, and temporary signal loop replacement (when a separate pay item is not provided). Execution of this item shall be in accordance with the plans and the most recent revision of the governing agency's roadway design standards in effect at the time bids are received, or as provided in the proposal and contract.

FRICTION COURSE

When a separate pay item is provided, Friction Course asphalt shall be measured for payment by the square-yard (SY) of asphalt, of various type and thickness, as measured and completed in accordance with the plans and specifications.

When a separate pay item is provided, Friction Course asphalt shall be paid for at the contract unit price per square yard (SY) of asphalt, complete in place, as provided in the proposal and contract. The contract unit price shall be the total compensation for furnishing and installing asphalt items; including, but not limited to, all transport, labor, equipment, and materials required for tack coat; asphalt paving, compaction and testing; permanent road striping and signal loop replacement (when separate pay items are not provided). Execution of this item shall be in accordance with the plans and the most recent revision of the governing agency's roadway design standards in effect at the time bids are received, or as provided in the proposal and contract.

All costs associated with temporary and permanent roadway striping, symbols, and text shall be included in the unit cost of the corresponding asphalt pay item.

ASPHALT MILLING

When a separate pay item is provided, Asphalt Milling shall be measured for payment by the square yard (SY) of milled asphalt completed in accordance with the plans and specifications.

When a separate pay item is provided, Asphalt Milling asphalt shall be paid for at the contract unit price per square yard (SY) of milled asphalt, complete in place, as provided in the proposal and contract. The contract unit price shall be the total compensation for performing asphalt milling items; including, but

not limited to, all transport, labor, equipment, and materials required for milling, hauling and disposal of mill chips, erosion and sedimentation control (when separate pay items is not provided), sweeping, and dust abatement. Execution of this item shall be in accordance with the plans and the most recent revision of the governing agency's roadway design standards in effect at the time bids are received, or as provided in the proposal and contract.

SIGNAL LOOP REPAIR / REPLACEMENT

Signal Loop Repair / Replacement shall be measured for payment by per each (EA) signal loop repaired / replaced and completed in accordance with the plans and specifications.

Signal Loop Repair / Replacement shall be paid for at the contract unit price per each (EA) signal loop repaired / replaced, complete in place, as provided in the proposal and contract. The contract unit price shall be the total compensation for furnishing and installing signal loop repair / replacement items; including, but not limited to, all transport, labor, equipment, and materials required for installing detector housings, saw-cutting asphalt, loop wire installation, loop meter testing, reconnecting to signal controller, final signal testing, and sealing loop wires. Execution of this item shall be in accordance with the plans and the most recent revision of the governing agency's roadway design standards in effect at the time bids are received, or as provided in the proposal and contract.

CONCRETE CURB AND GUTTER

Concrete Curb and Gutter shall be measured for payment by the linear foot (LF) for each type of curb and gutter completed in accordance with the plans and specifications.

Concrete Curb and Gutter shall be paid for at the contract unit price per linear foot (LF) for each type of curb and gutter, complete in place, as provided in the proposal and contract. The contract unit price shall be the total compensation for furnishing and installing curb and gutter items; including, but not limited to, all transport, labor, equipment, and materials required for installing formwork, reinforcing, concrete placement, tooling, finishing, construction joints, and saw-cutting expansion joints. Execution of this item shall be in accordance with the plans and the most recent revision of the governing agency's roadway design standards in effect at the time bids are received, or as provided in the proposal and contract.

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MISCELLANEOUS SURFACE RESOTRATION PAY ITEMS

MISCELLANEOUS CONCRETE SURFACE

Miscellaneous Concrete Surface shall be measured for payment by the square yard (SY) of concrete of various thicknesses completed in accordance with the plans and specifications.

Miscellaneous Concrete Surface shall be paid for at the contract unit price per square yard (SY) of concrete of various thicknesses, complete in place, as provided in the proposal and contract. The contract unit price shall be the total compensation for furnishing and installing miscellaneous concrete sidewalks, driveways, aprons, flumes, ditch bottom, or other concrete items of various thickness, not otherwise specified in the proposal and contract; including, but not limited to, all transport, labor, equipment, and materials required for grading, compaction, installing formwork, underlayment, reinforcing, concrete placement, tooling, finishing, construction joints, and saw-cutting expansion joints. Execution of this item shall be in accordance with the plans and the most recent revision of the City of Tallahassee Technical Specifications for Water and Sewer Construction in effect at the time bids are received.

SOLID SODDING

When a separate pay item is provided, Solid Sodding shall be measured for payment in square yards (SY) of sodded area completed in accordance with the plans and specifications.

When a separate pay item is provided, Solid Sodding shall be paid for at the contract unit price per square yard (SY) of sodded area, complete in place, as provided in the proposal and contract. The contract unit price shall be the total compensation for furnishing and placing all sod; including, but not limited to all transport, labor, equipment, and materials necessary to complete the work, rolling and tamping, watering and fertilizing necessary to assure the sod takes root and maintains coverage throughout the maintenance period, and disposal of all surplus material, all in accordance with the plans and these specifications. Execution of this item shall be in accordance with the plans and the most recent revision of the City of Tallahassee Technical Specifications for Water and Sewer Construction in effect at the time bids are received.

When sod is paid as a separate item and the limits of measurements are not specified, it shall be measured as the limiting trench width as defined in the latest edition of the City of Tallahassee Technical Specifications for Water and Sewer Construction, or the approved excavation limits based on the City's direction.

SEEDING AND MULCHING

When a separate pay item is provided, Seeding and Mulching shall be measured for payment in square yards (SY), or in acres (ac), of seeded and mulched area completed in accordance with the plans and specifications.

When a separate pay item is provided, Seeding and Mulching shall be paid for at the contract unit price per square yard (SY), or acre (AC) of seeded and mulched area, complete in place, as provided in the proposal and contract. The contract unit price shall be the total compensation for furnishing and applying seeding (broadcast or disked) and hydraulic mulching; including, but not limited to, all transport, labor, equipment, and materials necessary to complete the work, watering and fertilizing necessary to assure the seed germinates and maintains coverage throughout the maintenance period, and disposal of all surplus material, all in accordance with the plans and these specifications. Execution of this item shall be in accordance with the plans and the most recent revision of the City of Tallahassee Technical Specifications for Water and Sewer Construction in effect at the time bids are received.

When seeding and mulching is paid as a separate pay item and the limits of measurements are not specified, it shall be measured as the limiting trench width as defined in the latest edition of the City of Tallahassee Technical Specifications for Water and Sewer Construction, or the approved excavation limits based on the City's direction.

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WATER SYSTEM PAY ITEMS

WATER MAIN – STANDARD INSTALLATION

Water Main – Standard Installation shall be measured for payment by the linear foot (LF) of laying length, as measured above ground and through valves and fittings, for each material and diameter completed in accordance with the plans and specifications.

Water Main – Standard Installation shall be paid for at the contract unit price per linear foot (LF) for each material and diameter complete in place, as provided in the proposal and contract. The contract unit price shall be the total compensation for furnishing and installing potable water main of various materials and sizes by means of open-cut trench installation; including all transport, labor, equipment, and materials required for sub-surface investigation; maintaining water service; saw-cutting; excavation, sheeting, and shoring; hauling and disposal of existing materials; dewatering; erosion and sedimentation control (when separate pay items is not provided); adjustment of utilities; installing water main pipe, fittings, and restraints (when separate pay items are not provided); obtaining swing ties to critical components; placement and compaction of backfill, stabilized subgrade, and road base (when separate pay items are not provided); temporary asphalt patching; pressure and leakage testing of water mains and services; sterilizing and bacteriological testing of water mains and services; and reconnecting existing water mains and services. Execution of this item shall be in accordance with the plans and the most recent revision of the City of Tallahassee Technical Specifications for Water and Sewer Construction in effect at the time bids are received.

WATER MAIN - TRENCHLESS INSTALLATION

Water Main – Trenchless Installation shall be measured for payment by the linear foot (LF) of laying length, as measured above ground and through valves and fittings, for each material and diameter completed in accordance with the plans and specifications.

Water Main – Trenchless Installation shall be paid for at the contract unit price per linear foot (LF) for each material and diameter complete in place, as provided in the proposal and contract. The contract unit price shall be the total compensation for furnishing and installing potable water main of various materials and sizes by means of horizontal directional drill (HDD) or pipe bursting/splitting installation; including all transport, labor, equipment, and materials required for sub-surface investigation; maintaining water service; saw-cutting and excavation of bore pits; erosion and sedimentation control (when separate pay items is not provided); proper handling and use of drilling fluids; hauling and disposal of materials; fusing water main (including documentation of all fused joints); drilling and reaming bore hole; pipe pull-back; tracking of vertical and horizontal location; transition fittings and restraints (when separate pay items are not provided); obtaining swing ties to critical components; placement and compaction of backfill, stabilized subgrade, and road base (when separate pay items are not provided); temporary asphalt patching; pressure and leakage testing of water mains (before and after pipe pull-back); sterilizing and bacteriological testing of water mains; and reconnecting existing water mains and services. Execution of this item shall be in accordance with the plans and the most

recent revision of the City of Tallahassee Technical Specifications for Water and Sewer Construction in effect at the time bids are received.

BORE & JACK STEEL CASING WITH POTABLE WATER CARRIER PIPE

Bore and Jack Steel Casing with Potable Water Carrier Pipe shall be measured for payment by the linear foot (LF) of laying length, as measured above ground, for each diameter carrier pipe completed in accordance with the plans and specifications.

Bore and Jack Steel Casing with Potable Water Carrier Pipe shall be paid for at the contract unit price per linear foot (LF) of laying length for each diameter carrier pipe, complete in place, as provided in the proposal and contract. The contract unit price shall be the total compensation for furnishing and installing steel casing and carrier pipe; including all transport, labor, equipment, and materials required for sub-surface investigation; maintaining water service; saw-cutting; excavation, sheeting, and shoring; hauling and disposal of existing materials; dewatering; erosion and sedimentation control (when separate pay items is not provided); adjustment of utilities; boring and jacking steel casing; installing water main and restraints; installing casing spacers and skids; sealing casing ends; obtaining swing ties to critical components; placement and compaction of backfill, stabilized subgrade, and road base (when separate pay items are not provided); temporary asphalt patching; pressure and leakage testing of water mains; and sterilizing and bacteriological testing of water mains. Execution of this item shall be in accordance with the plans and the most recent revision of the City of Tallahassee Technical Specifications for Water and Sewer Construction in effect at the time bids are received.

WATER MAIN FITTINGS & THRUST RESTRAINTS

When a separate pay item is provided, Water Main Fittings shall be measured for payment by the ton (TN) for ductile iron fittings (based on published weights for each size and type, exclusive of linings, coatings, and hardware) and Thrust Restraints shall be measured for payment per each (EA) thrust restraint completed in accordance with the plans and specifications.

When a separate pay item is provided, Water Main Fittings shall be paid for at the contract unit price per ton (TN) of ductile iron fittings and Thrust Restraints shall be paid for at the contract unit price per each (EA) thrust restraint, complete in place, as provided in the proposal and contract. The contract unit price shall be the total compensation for furnishing and installing potable water main fittings of various sizes for changes in vertical or horizontal alignment; and locking gaskets, pipe bell and mechanical joint thrust restraints of potable water mains; including all transport, labor, equipment, and materials required for installation of fittings and restraints; and gaskets, glands, clamps, and hardware. Pressure testing, leakage testing, sterilizing, and bacteriological testing of water main fittings is included in the associate water main pay item. Execution of this item shall be in accordance with the plans and the most recent revision of the City of Tallahassee Technical Specifications for Water and Sewer Construction in effect at the time bids are received.

WATER SERVICES – STANDARD INSTALLATION

Water Services – Standard Installation shall be measured for payment per each (EA) water service of various laying length categories, as measured above ground from the water main to the meter setting, for each material and diameter completed in accordance with the plans and specifications.

Water Services – Standard Installation shall be paid for at the contract unit price per each (EA) water service of various laying length category for each material and diameter, complete in place, as provided in the proposal and contract. The contract unit price shall be the total compensation for furnishing and installing potable water services of various laying lengths, materials, and sizes by means of open-cut trench installation; including all transport, labor, equipment, and materials required for sub-surface investigation; maintaining water service; saw-cutting; excavation, sheeting, and shoring; hauling and disposal of existing materials; dewatering; erosion and sedimentation control (when separate pay items is not provided); installing water service saddle, corporation stop, tapping water main, service pipe, and curb stop; making necessary connections; obtaining swing ties to critical components; placement and compaction of backfill, stabilized subgrade, and road base (when separate pay items are not provided); temporary asphalt patching; miscellaneous concrete surface restoration (when separate pay item is not included) pressure and leakage testing of water service; sterilizing and bacteriological testing of water service. Execution of this item shall be in accordance with the plans and the most recent revision of the City of Tallahassee Technical Specifications for Water and Sewer Construction in effect at the time bids are received.

WATER SERVICES – TRENCHLESS INSTALLATION

Water Services – Trenchless Installation shall be measured for payment per each (EA) water service of various laying length categories, as measured above ground from the water main to the meter setting, for each material and diameter completed in accordance with the plans and specifications.

Water Services – Trenchless Installation shall be paid for at the contract unit price per each (EA) water service of various laying length category for each material and diameter, complete in place, as provided in the proposal and contract. The contract unit price shall be the total compensation for furnishing and installing potable water services of various laying lengths, materials, and sizes by means of HDD, mole bore, or pipe bursting/splitting installation; including all transport, labor, equipment, and materials required for sub-surface investigation; maintaining water service; saw-cutting; entry and exit pit excavation; hauling and disposal of existing materials; dewatering; erosion and sedimentation control (when separate pay items is not provided); installing water service saddle, corporation stop, tapping water main; drilling and reaming bore hole; service pipe pull-back; tracking of vertical and horizontal location; making necessary connections; obtaining swing ties to critical components; placement and compaction of backfill, stabilized subgrade, and road base (when separate pay items are not provided); temporary asphalt patching; pressure and leakage testing of water service; sterilizing and bacteriological testing of water service. Execution of this item shall be in accordance with the plans and the most

recent revision of the City of Tallahassee Technical Specifications for Water and Sewer Construction in effect at the time bids are received.

WATER METER SETTING

Water Meter Setting shall be measured for payment per each (EA) water meter setting of various size and number completed in accordance with the plans and specifications.

Water Meter Setting shall be paid for at the contract unit price per each (EA) water meter setting, complete in place, as provided in the proposal and contract. The contract unit price shall be the total compensation for furnishing and installing water meter settings of various sizes and number including, but not limited to, all transport, labor, equipment, and materials required for maintaining water service; removal and disposal existing meter setting(s) (when required); and installing pipe nipples, fittings, manifolds (when required), angle valve(s), meter yoke(s), and customer valve(s), and meter box(es); connecting to existing building plumbing; and setting water meter (supplied by City). In applications where existing meters are followed by private backflow prevention assemblies, this pay item shall also include testing, repair (if necessary), and certification of backflow prevention assemblies. Execution of this item shall be in accordance with the plans and the most recent revision of the City of Tallahassee Technical Specifications for Water and Sewer Construction and the City of Tallahassee Rules and Regulations for Backflow Prevention and Cross-Connection Control in effect at the time bids are received.

WATER SERVICES COMPLETE - STANDARD INSTALLATION

Water Services – Trenchless Installation shall be measured for payment per each (EA) water service of various laying length categories including water meter setting, as measured above ground from the water main to the meter setting, for each material and diameter completed in accordance with the plans and specifications.

Water Services – Trenchless Installation shall be paid for at the contract unit price per each (EA) water service of various laying length category for each material and diameter including meter setting, complete in place, as provided in the proposal and contract. The contract unit price shall be the total compensation for furnishing and installing potable water services of various laying lengths, materials, and sizes by means of open-cut trench installation; including all transport, labor, equipment, and materials required for sub-surface investigation; maintaining water service; saw-cutting; excavation, sheeting, and shoring; hauling and disposal of existing materials; dewatering; erosion and sedimentation control (when separate pay items is not provided); installing water service saddle, corporation stop, tapping water main, service pipe, and curb stop; making necessary connections; obtaining swing ties to critical components; placement and compaction of backfill, stabilized subgrade, and road base (when separate pay items are not provided); temporary asphalt patching; miscellaneous concrete surface restoration (when separate pay item is not included) pressure and leakage testing of water service; sterilizing and bacteriological testing of water service. Execution of this item shall be in accordance with

the plans and the most recent revision of the City of Tallahassee Technical Specifications for Water and Sewer Construction in effect at the time bids are received.

WATER SERVICES COMPLETE - TRENCHLESS INSTALLATION

Water Services – Standard Installation shall be measured for payment per each (EA) water service of various laying length categories including water meter setting, as measured above ground from the water main to the meter setting, for each material and diameter completed in accordance with the plans and specifications.

Water Services – Standard Installation shall be paid for at the contract unit price per each (EA) water service of various laying length category for each material and diameter including meter setting, complete in place, as provided in the proposal and contract. The contract unit price shall be the total compensation for furnishing and installing potable water services of various laying lengths, materials, and sizes by means of HDD, mole bore, or pipe bursting/splitting installation; including all transport, labor, equipment, and materials required for sub-surface investigation; maintaining water service; saw-cutting; excavation, sheeting, and shoring; hauling and disposal of existing materials; dewatering; erosion and sedimentation control (when separate pay items is not provided); installing water service saddle, corporation stop, tapping water main, service pipe, and curb stop; making necessary connections; obtaining swing ties to critical components; placement and compaction of backfill, stabilized subgrade, and road base (when separate pay items are not provided); temporary asphalt patching; miscellaneous concrete surface restoration (when separate pay item is not included) pressure and leakage testing of water service; sterilizing and bacteriological testing of water service. Execution of this item shall be in accordance with the plans and the most recent revision of the City of Tallahassee Technical Specifications for Water and Sewer Construction in effect at the time bids are received.

ADJUST OR RELOCATE WATER METER AND BOX

Adjust or Relocation of Water Meter and Box shall be measured for payment per each (EA) water meter and box relocated in accordance with the plans and specifications.

Adjust or relocate water meter and box shall be paid for at the contract unit price per each (EA) for each existing water meter and box adjusted or relocated complete in place. The contract price shall be the total compensation to adjust or relocate existing water meters and boxes that are in conflict with new proposed sidewalks, drainage structures, or other roadway features including but not limited to laying lengths, materials, open-cut trench installation; including all transport, labor, equipment, and materials required for sub-surface investigation; service; saw-cutting; excavation, hauling and disposal of existing materials; erosion and sedimentation control (when separate pay items is not provided); placement and compaction of backfill, stabilized subgrade, and road base or miscellaneous concrete surface restoration (when separate pay item is not provided); and making necessary connections. This item includes adjusting and reconnecting all service piping from sizes 5/8-inch through and including 1-inch. Execution of this item shall be in accordance with the plans and the most recent revision of the City of Tallahassee Technical Specifications for Water and Sewer Construction in effect at the time bids are received.

FIRE HYDRANT INSTALLATION AND MAINTENANCE

Fire Hydrant Installation and Maintenance shall be measured for payment per each (EA) fire hydrant installation and maintenance item completed in accordance with the plans and specifications.

Fire Hydrant Installation and Maintenance shall be paid for at the contract unit price per (EA) fire hydrant assembly and maintenance item, complete in place, as provided in the proposal and contract. The contract unit price shall be the total compensation for furnishing and installing fire hydrant assemblies and maintenance items, including, but not limited to, all transport, labor, equipment, and materials required for removal and disposal of existing fire hydrant assemblies (when required); installing new fire hydrant assemblies, hydrant tees, tapping sleeves and valves, taps, pipe, fittings, hydrant valve(s), thrust restraints, and standpipe and operator stem extensions (when required); all tools, gauges, hoses, and diffusers required for flow testing; installation of replacement gaskets, seals, o-rings, grease fittings, shear pins, and related hardware for servicing existing fire hydrant assemblies; sandblasting, priming, and painting; and miscellaneous concrete work associated with fire hydrant assembly installation. For fire hydrant replacement, the contractor shall salvage fire hydrants and gate valves. Deliver items to the City Water Operation Yard on Jackson Bluff Road Monday through Friday between 8 a.m. and 4 p.m. Coordinate with on-site inspector for delivery contact information. Execution of this item shall be in accordance with the plans and the most recent revision of the City of Tallahassee Technical Specifications for Water and Sewer Construction in effect at the time bids are received.

WATER VALVES

Water Valves shall be measured for payment per each (EA) water valve of various size and type completed in accordance with the plans and specifications.

Water Valves shall be paid for at the contract unit price per each (EA) water valve of various size and type, complete in place, as provided in the proposal and contract. The contract unit price shall be the total compensation for furnishing and installing water valves; including, but not limited to, all transport, labor, equipment, and materials required for installation of gaskets, glands, clamps, hardware, thrust restraints, operational testing, cast iron valve box, and valve box adjustment. Pressure testing, leakage testing, sterilizing, and bacteriological testing of water valves are included in the associated water pipe pay item. If there is no associated water pipe, testing of water valves is included in this pay item. Execution of this item shall be in accordance with the plans and the most recent revision of the City of Tallahassee Technical Specifications for Water and Sewer Construction in effect at the time bids are received.

WATER VALVE BOX ADJUSTMENT

When a separate pay item is provided, Water Valve Box Adjustment shall be measured for payment per each (EA) existing water valve box adjustment of various depths completed in accordance with the plans and specifications.

When a separate pay item is provided, Water Valve Box Adjustment shall be paid for at the contract unit price per each (EA) existing water valve box adjustment of various depths, complete in place, as provided in the proposal and contract. The contract unit price shall be the total compensation for the vertical adjustment of existing potable water valve boxes; including all transport, labor, equipment, and materials required for adjustment, horizontal and vertical location documentation, saw-cutting, removal and disposal of existing materials, temporary lowering of valve box, raising valve box, select backfill, compaction, road base preparation, concrete collar, and asphalt replacement. Execution of this item shall be in accordance with the plans and the most recent revision of the City of Tallahassee Technical Specifications for Water and Sewer Construction in effect at the time bids are received. Furnish a valve cover and lid if lost, stolen, or damaged due to the contractor's negligence.

The costs associated with adjusting new valve box covers shall be included in the unit cost of the new water valve pay item. No separate payment shall be made for adjusting new water valve boxes.

WATER VALVE BOX ADJUSTMENT AND REPLACEMENT

Measurement and payment shall be per each, complete and in-place. Price shall include new valve box and lid, paving and concrete related items (sidewalk, driveways, curb and or gutter), sod, costs for barricading, and all other incidental work.

The work shall include removal and replacement of the valve cover, replacing the single piece valve box with a new two-piece adjustable cast iron valve box, and resetting the valve cover and lid to finished grade. Valve boxes shall be centered directly over the valve nut. Valve boxes and lid shall be per Section 8.2.3 of the latest edition of the Technical Specifications for Water and Sewer Construction. Furnish a valve cover and lid if lost, stolen, or damaged due to the contractor's negligence.

CUT-IN CONNECTION TO EXISTING WATER MAIN

Cut-In Connections to Existing Water Main shall be measured for payment per each (EA) cut-in connection of various water main sizes completed in accordance with the plans and specifications.

Cut-In Connections to Existing Water Main shall be paid for at the contract unit price per each (EA) cut-in connection of various water main sizes, complete in place, as provided in the proposal and contract. The contract unit price shall be the total compensation for furnishing and installing cut-in connections; including all transport, labor, equipment, and materials required for sub-surface investigation; maintaining water service; saw-cutting; excavation, sheeting, and shoring; hauling and disposal of existing materials; dewatering; erosion and sedimentation control (when separate pay items is not provided); adjustment of utilities; installing water main piping, sleeves, fittings, and restraints; obtaining swing ties to critical components; placement and compaction of backfill, stabilized subgrade, and road base (when separate pay items are not provided); temporary asphalt patching; pressure and leakage testing of water mains; and sterilizing and bacteriological testing of water mains. Execution of this item shall be in accordance with the plans and the most recent revision of the City of Tallahassee Technical Specifications for Water and Sewer Construction in effect at the time bids are received.

TAPPING SLEEVE AND VALVE CONNECTION (WATER MAINS)

Tapping Sleeve and Valve Connection on water mains shall be measured for payment per each (EA) tapping sleeve and valve connection of various water main and branch sizes completed in accordance with the plans and specifications.

Tapping Sleeve and Valve Connection on water mains shall be paid for at the contract unit price per each (EA) cut-in connection of various water main and branch sizes, complete in place, as provided in the proposal and contract. The contract unit price shall be the total compensation for furnishing and installing tapping sleeve and valve; including all transport, labor, equipment, and materials required for sub-surface investigation; saw-cutting; excavation, sheeting, and shoring; hauling and disposal of existing materials; dewatering; erosion and sedimentation control (when separate pay items is not provided); adjustment of utilities; installing tapping sleeve, valve, and tapping existing water main; thrust restraints; obtaining swing ties to critical components; cast iron valve box and concrete collar; placement and compaction of backfill, stabilized subgrade, and road base (when separate pay items are not provided); temporary asphalt patching; pressure and leakage testing of water mains; and sterilizing and bacteriological testing of water mains. Execution of this item shall be in accordance with the plans and the most recent revision of the City of Tallahassee Technical Specifications for Water and Sewer Construction in effect at the time bids are received.

PLACING EXISTING WATER MAIN AND APPURTENANCES OUT OF SERVICE

Placing Existing Water Mains Out of Service shall be measured for payment by the cubic yard (CY) of grout (flowable fill) required to fill water main, and placing existing valves out of service shall be measured for payment per each (EA) valve completed in accordance with the plans and specifications.

When a separate pay item is provided, Placing Existing Water Mains Out of Service shall be paid for at the contract unit price per cubic yard (CY) of grout required to fill water main, and valves shall be paid for at the contract unit price per each (EA) valve placed out of service, as provided in the proposal and contract. The contract unit price shall be the total compensation for placing the existing water mains and valves out of service; including all transport, labor, equipment, and materials required for sub-surface investigation; saw-cutting; excavation, sheeting, and shoring; hauling and disposal of existing materials; dewatering; erosion and sedimentation control (when separate pay items is not provided); cutting pipe; installing plugs, caps, and fill ports; furnishing and installing grout; cutting valve stem; removing valve box; obtaining swing ties to components placed out of service; placement and compaction of backfill, stabilized subgrade, and road base (when separate pay items are not provided); and temporary asphalt patching. Execution of this item shall be in accordance with the plans and the most recent revision of the City of Tallahassee Technical Specifications for Water and Sewer Construction in effect at the time bids are received.

ADDITIONAL EXCAVATION AND BACKFILL (WATER MAINS AND APPURTENANCES)

When a separate pay item is provided, Additional Excavation and Backfill for water mains, services, and appurtenances shall be measured for payment by the linear foot (LF) of laying length of new

infrastructure, as measured above ground and through valves and fittings, and at various intervals of depth below 4-feet, as measured from existing grade to the flow line of water main (less 4-feet) completed in accordance with the plans and specifications.

When a separate pay item is provided, Additional Excavation and Backfill for water mains, services, and appurtenances shall be paid for at the contract unit price per linear foot (LF) of laying length of new infrastructure at various intervals of depth below 4-feet, complete in place, as provided in the proposal and contract. The contract unit price shall be the total compensation for additional excavation and backfill; including, but not limited to, all transport, labor, equipment, and materials required for additional saw cutting, sheeting, and shoring; hauling and disposal of existing materials; dewatering; erosion and sedimentation control (when separate pay items are not provided); and placement and compaction of additional backfill. Execution of this item shall be in accordance with the plans and the most recent revision of the City of Tallahassee Technical Specifications for Water and Sewer Construction in effect at the time bids are received.

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SANITARY SEWER SYSTEM PAY ITEMS

PRECAST CONCRETE SEWER MANHOLES

Precast Concrete Sewer Manholes shall be measured for payment per each (EA) sewer manhole of various type, size, and depth completed in accordance with the plans and specifications.

Precast Concrete Sewer Manholes shall be paid for at the contract unit price per each (EA) sewer manhole of various type, size, and depth, complete in place, as provided in the proposal and contract. The contract unit price shall be the total compensation for furnishing and installing precast concrete sewer manholes; including all transport, labor, equipment, and materials required for sub-surface investigation; bypass pumping and maintaining sewer service; saw-cutting; excavation, sheeting, and shoring; removal and disposal (when required); dewatering; erosion and sedimentation control (when separate pay items is not provided); adjustment of utilities; transporting, handling, and placement of sewer manhole; verify rim and invert elevations; sewer pipe connections; drop connections; placement and compaction of backfill, stabilized subgrade, and road base (when separate pay items are not provided); manhole ring and cover adjustment; and temporary asphalt patching. Execution of this item shall be in accordance with the plans and the most recent revision of the City of Tallahassee Technical Specifications for Water and Sewer Construction in effect at the time bids are received.

GRAVITY SEWER MAIN

Gravity Sewer Main shall be measured for payment by the linear foot (LF) of laying length, as measured above ground through fittings, and at various intervals of depth, as measured from existing grade to the flow line of gravity sewer main, for each material and diameter completed in accordance with the plans and specifications.

Gravity Sewer Main shall be paid for at the contract unit price per linear foot (LF) of laying length at various depths for each material and diameter complete in place, as provided in the proposal and contract. The contract unit price shall be the total compensation for furnishing and installing gravity sewer main of various materials and sizes by means of open-cut trench installation; including all transport, labor, equipment, and materials required for sub-surface investigation; bypass pumping and maintaining sewer service; saw-cutting; excavation, sheeting, and shoring; removal and disposal (when required); dewatering; erosion and sedimentation control (when separate pay items are not provided); adjustment of utilities; installing sewer main; connecting to manholes; obtaining swing ties to critical components; placement and compaction of backfill, stabilized subgrade, and road base (when separate pay items are not provided); temporary asphalt patching; closed circuit television inspection; and air testing of sewer mains. Execution of this item shall be in accordance with the plans and the most recent revision of the City of Tallahassee Technical Specifications for Water and Sewer Construction in effect at the time bids are received.

BORE AND JACK STEEL CASING WITH GRAVITY SEWER CARRIER PIPE

Bore and Jack Steel Casing with Gravity Sewer Carrier Pipe shall be measured for payment by the linear foot (LF) of laying length, as measured above ground, for each diameter carrier pipe completed in accordance with the plans and specifications.

Bore and Jack Steel Casing with Gravity Sewer Carrier Pipe shall be paid for at the contract unit price per linear foot (LF) of laying length for each diameter carrier pipe, complete in place, as provided in the proposal and contract. The contract unit price shall be the total compensation for furnishing and installing steel casing and carrier pipe; including all transport, labor, equipment, and materials required for sub-surface investigation; bypass pumping and maintaining sewer service; saw-cutting; excavation, sheeting, and shoring; hauling and disposal of existing materials; dewatering; erosion and sedimentation control (when separate pay items is not provided); adjustment of utilities; boring and jacking steel casing on grade with pipe slope; installing sewer main and restraints; installing casing spacers and skids; sealing casing ends; obtaining swing ties to critical components; placement and compaction of backfill, stabilized subgrade, and road base (when separate pay items are not provided); temporary asphalt patching; closed circuit television inspection; and air testing of sewer mains. Execution of this item shall be in accordance with the plans and the most recent revision of the City of Tallahassee Technical Specifications for Water and Sewer Construction in effect at the time bids are received.

SANITARY SEWER SERVICES – STANDARD INSTALLATION

Sanitary Sewer Services – Standard Installation shall be measured for payment per each (EA) sewer service of various laying length categories, as measured above ground through fittings from the sewer main to the right-of-way or clean-out and box, for each material and diameter completed in accordance with the plans and specifications.

Sanitary Sewer Services – Standard Installation shall be paid for at the contract unit price per each (EA) sewer service of various laying length category for each material and diameter, complete in place, as provided in the proposal and contract. The contract unit price shall be the total compensation for furnishing and installing sanitary sewer services of various laying lengths, materials, and sizes by means of open-cut trench installation; including all transport, labor, equipment, and materials required for sub-surface investigation; bypass pumping and maintaining sewer service; saw-cutting; excavation, sheeting, and shoring; hauling and disposal of existing materials; dewatering; erosion and sedimentation control (when separate pay items is not provided); installing sewer service wye, fittings, service pipe, and clean-out with cast iron box; making necessary connections; obtaining swing ties to critical components; placement and compaction of backfill, stabilized subgrade, and road base (including but not limited to curb & gutter items, sidewalks, driveways, aprons, flumes, ditch bottom or other concrete items of various thickness not otherwise specified in the contract); temporary asphalt patching; miscellaneous concrete surface restoration (when separate pay item is not included); and air testing of sewer services. Execution of this item shall be in accordance with the plans and the most recent revision of the City of

Tallahassee Technical Specifications for Water and Sewer Construction in effect at the time bids are received.

SANITARY SEWER SERVICES – TRENCHLESS INSTALLATION

Sanitary Sewer Services – Trenchless Installation shall be measured for payment per each (EA) sewer service of various laying length categories, as measured above ground through fittings from the sewer main to the right-of-way or clean-out, for each material and diameter completed in accordance with the plans and specifications.

Sanitary Sewer Services – Trenchless Installation shall be paid for at the contract unit price per each (EA) sewer service of various laying length category for each material and diameter, complete in place, as provided in the proposal and contract. The contract unit price shall be the total compensation for furnishing and installing sanitary sewer services of various laying lengths, materials, and sizes by means of trenchless installation (HDD, pipe bursting, or pipe splitting); including all transport, labor, equipment, and materials required for sub-surface investigation; bypass pumping and maintaining sewer service; saw-cutting; entry and exit pit excavation; hauling and disposal of existing materials; dewatering; erosion and sedimentation control (when separate pay items are not provided); installing sewer service wye, fittings, service pipe, and clean-out; drilling and reaming bore hole; service pipe pull-back; tracking of vertical and horizontal location; making necessary connections; obtaining swing ties to critical components; placement and compaction of backfill, stabilized subgrade, and road base (when separate pay items are not provided); temporary asphalt patching; miscellaneous concrete surface restoration (including but not limited to curb & gutter items, sidewalks, driveways, aprons, flumes, ditch bottom or other concrete items of various thickness not otherwise specified in the contract); and air testing of sewer services. Execution of this item shall be in accordance with the plans and the most recent revision of the City of Tallahassee Technical Specifications for Water and Sewer Construction in effect at the time bids are received.

SANITARY SEWER LATERAL ADJUSTMENTS

Standard Installation shall be measured for payment per each (EA) sewer lateral adjustment due to a conflict of various depths completed in accordance with the plans and specifications.

When a separate pay item is provided, Sanitary Sewer Lateral Adjustments shall be paid for at the contract unit price per each (EA) sewer lateral adjustment due to a proposed conflict service of various laying length category for each material and diameter, complete in place, as provided in the proposal and contract. The contract unit price shall be the total compensation for furnishing and connecting new sanitary sewer service piping of various laying lengths, bends, tracer wire of materials, and sizes by means of open-cut trench installation; including all transport, labor, equipment, and materials required for sub-surface investigation; bypass pumping and maintaining sewer service; saw-cutting; entry and exit pit excavation; hauling and disposal of existing materials; dewatering; erosion and sedimentation control (when separate pay items are not provided);

A minimum of 10-gauge tracer wire (green) will run from the main to the clean out, connect to existing tracer wire at main, wrap wire around pipe with 2 wraps per joint, the extend up to cleanout cap. A minimum of 24" of tracing wire to be coiled in box over cleanout. Execution of this item shall be in accordance with the plans and the most recent revision of the City of Tallahassee Technical Specifications for Water and Sewer Construction in effect at the time bids are received.

SEWER MANHOLE TOP ADJUSTMENT

When a separate pay item is provided, Sewer Manhole Top Adjustment shall be measured for payment per each (EA) existing manhole top adjustment of various depths completed in accordance with the plans and specifications.

When a separate pay item is provided, Sewer Manhole Top Adjustment shall be paid for at the contract unit price per each (EA) existing manhole top adjustment of various depths, complete in place, as provided in the proposal and contract. The contract unit price shall be the total compensation for the vertical adjustment of existing manhole top; including all transport, labor, equipment, and materials required for adjustment, horizontal and vertical location documentation, saw-cutting, removal and disposal of existing materials, temporary lowering of manhole top, raising manhole, select backfill, compaction, road base preparation, concrete collar, and asphalt replacement. Execution of this item shall be in accordance with the plans and the most recent revision of the City of Tallahassee Technical Specifications for Water and Sewer Construction in effect at the time bids are received.

The costs associated with adjusting new sewer manhole tops shall be included in the unit cost of the new precast concrete sewer manhole pay item. No separate payment shall be made for adjusting new sewer manhole tops.

SEWER FORCE MAIN - STANDARD INSTALLATION

Sewer Force Main – Standard Installation shall be measured for payment by the linear foot (LF) of laying length, as measured above ground and through valves and fittings, for each material and diameter completed in accordance with the plans and specifications.

Sewer Force Main – Standard Installation shall be paid for at the contract unit price per linear foot (LF) for each material and diameter complete in place, as provided in the proposal and contract. The contract unit price shall be the total compensation for furnishing and installing sewer force main of various materials and sizes by means of open-cut trench installation; including all transport, labor, equipment, and materials required for sub-surface investigation; bypass pumping and maintaining sewer service; saw-cutting; excavation, sheeting, and shoring; hauling and disposal of existing materials; dewatering; erosion and sedimentation control (when separate pay items is not provided); adjustment of utilities; installing force main pipe, fittings, and restraints (when separate pay items are not provided); obtaining swing ties to critical components; placement and compaction of backfill, stabilized subgrade, and road base (when separate pay items are not provided); temporary asphalt patching; and pressure and leakage testing of sewer force mains. Execution of this item shall be in accordance with the plans

and the most recent revision of the City of Tallahassee Technical Specifications for Water and Sewer Construction in effect at the time bids are received.

SEWER FORCE MAIN - HORIZONTAL DIRECTIONAL DRILL (HDD) INSTALLATION

Sewer Force Main – HDD Installation shall be measured for payment by the linear foot (LF) of laying length, as measured above ground and through valves and fittings, for each material and diameter completed in accordance with the plans and specifications.

Sewer Force Main – HDD Installation shall be paid for at the contract unit price per linear foot (LF) for each material and diameter complete in place, as provided in the proposal and contract. The contract unit price shall be the total compensation for furnishing and installing sewer force main of various materials and sizes by means of HDD installation; including all transport, labor, equipment, and materials required for sub-surface investigation; bypass pumping and maintaining sewer service; saw-cutting and excavation of bore pits; erosion and sedimentation control (when separate pay items is not provided); proper handling and use of drilling fluids; hauling and disposal of materials; fusing sewer force main (including documentation of all fused joints); drilling and reaming bore hole; pipe pull-back; tracking of vertical and horizontal location; transition fittings and restraints (when separate pay items are not provided); obtaining swing ties to critical components; placement and compaction of backfill, stabilized subgrade, and road base (when separate pay items are not provided); temporary asphalt patching; and pressure and leakage testing of sewer force mains (pre- and post- pipe pull-back). Execution of this item shall be in accordance with the plans and the most recent revision of the City of Tallahassee Technical Specifications for Water and Sewer Construction in effect at the time bids are received.

BORE & JACK STEEL CASING WITH SEWER FORCE MAIN CARRIER PIPE

Bore and Jack Steel Casing with Sewer Force Main Carrier Pipe shall be measured for payment by the linear foot (LF) of laying length, as measured above ground, for each diameter carrier pipe completed in accordance with the plans and specifications.

Bore and Jack Steel Casing with Sewer Force Main Carrier Pipe shall be paid for at the contract unit price per linear foot (LF) of laying length for each diameter carrier pipe, complete in place, as provided in the proposal and contract. The contract unit price shall be the total compensation for furnishing and installing steel casing and carrier pipe; including all transport, labor, equipment, and materials required for sub-surface investigation; bypass pumping and maintaining sewer service; saw-cutting; excavation, sheeting, and shoring; hauling and disposal of existing materials; dewatering; erosion and sedimentation control (when separate pay items is not provided); adjustment of utilities; boring and jacking steel casing; installing sewer force main and restraints; installing casing spacers and skids; sealing casing ends; obtaining swing ties to critical components; placement and compaction of backfill, stabilized subgrade, and road base (when separate pay items are not provided); temporary asphalt patching; and pressure and leakage testing of sewer force main. Execution of this item shall be in accordance with the plans

and the most recent revision of the City of Tallahassee Technical Specifications for Water and Sewer Construction in effect at the time bids are received.

SEWER VALVES

Sewer Valves shall be measured for payment per each (EA) sewer valve of various size and type completed in accordance with the plans and specifications.

Sewer Valves shall be paid for at the contract unit price per each (EA) sewer valve of various size and type, complete in place, as provided in the proposal and contract. The contract unit price shall be the total compensation for furnishing and installing sewer valves; including, but not limited to, all transport, labor, equipment, and materials required for installation of gaskets, glands, clamps, hardware, thrust restraints, operational testing, cast iron valve box, and valve box adjustment. Pressure testing and leakage testing of sewer valves are included in the associated sewer pipe pay item. If there is no associated sewer pipe, testing of sewer valves is included in this pay item. Execution of this item shall be in accordance with the plans and the most recent revision of the City of Tallahassee Technical Specifications for Water and Sewer Construction in effect at the time bids are received.

SEWER FORCE MAIN FITTINGS & THRUST RESTRAINTS

When a separate pay item is provided, Sewer Force Main Fittings shall be measured for payment by the ton (TN) for ductile iron fittings (based on published weights for each size and type, exclusive of linings, coatings, and hardware) and Thrust Restraints shall be measured for payment per each (EA) thrust restraint completed in accordance with the plans and specifications.

When a separate pay item is provided, Sewer Force Main Fittings shall be paid for at the contract unit price per ton (TN) of ductile iron fittings and Thrust Restraints shall be paid for at the contract unit price per each (EA) thrust restraint, complete in place, as provided in the proposal and contract. The contract unit price shall be the total compensation for furnishing and installing sewer force main fittings of various sizes for changes in vertical or horizontal alignment; and locking gaskets, pipe bell and mechanical joint thrust restraints of sewer force mains; including all transport, labor, equipment, and materials required for installation of fittings and restraints; and gaskets, glands, clamps, and hardware. Pressure testing and leakage testing of sewer force main fittings is included in the associated sewer force main pay item. Execution of this item shall be in accordance with the plans and the most recent revision of the City of Tallahassee Technical Specifications for Water and Sewer Construction in effect at the time bids are received.

CUT-IN CONNECTION TO EXISTING SEWER FORCE MAIN

Cut-In Connections to Existing Sewer Force Main shall be measured for payment per each (EA) cut-in connection of various sewer force main sizes completed in accordance with the plans and specifications.

Cut-In Connection to Existing Sewer Force Main shall be paid for at the contract unit price per each (EA) cut-in connection of various sewer force main sizes, complete in place, as provided in the proposal and

contract. The contract unit price shall be the total compensation for furnishing and installing cut-in connections; including all transport, labor, equipment, and materials required for sub-surface investigation; bypass pumping and maintaining sewer service; saw-cutting; excavation, sheeting, and shoring; hauling and disposal of existing materials; dewatering; erosion and sedimentation control (when separate pay items is not provided); adjustment of utilities; installing sewer force main piping, sleeves, fittings, and restraints; obtaining swing ties to critical components; placement and compaction of backfill, stabilized subgrade, and road base (when separate pay items are not provided); temporary asphalt patching; and pressure and leakage testing of sewer force mains. Execution of this item shall be in accordance with the plans and the most recent revision of the City of Tallahassee Technical Specifications for Water and Sewer Construction in effect at the time bids are received.

DROP CONNECTION TO EXISTING SEWER MANHOLE

Drop Connections to Existing Sewer Manholes shall be measured for payment per each (EA) drop connection of various sewer main sizes completed in accordance with the plans and specifications.

Drop Connection to Existing Sewer Manholes shall be paid for at the contract unit price per each (EA) drop connection of various sewer main sizes, complete in place, as provided in the proposal and contract. The contract unit price shall be the total compensation for furnishing and installing drop connections; including all transport, labor, equipment, and materials required for sub-surface investigation; bypass pumping and maintaining sewer service; saw-cutting; excavation, sheeting, and shoring; hauling and disposal of existing materials; dewatering; erosion and sedimentation control (when separate pay items is not provided); adjustment of utilities; installing sewer main piping, sleeves, fittings, and restraints; concrete encasement; obtaining swing ties to critical components; placement and compaction of backfill, stabilized subgrade, and road base (when separate pay items are not provided); temporary asphalt patching; and pressure and leakage testing of sewer mains. Execution of this item shall be in accordance with the plans and the most recent revision of the City of Tallahassee Technical Specifications for Water and Sewer Construction in effect at the time bids are received.

TAPPING SLEEVE AND VALVE CONNECTION (SEWER FORCE MAINS)

Tapping Sleeve and Valve Connections on sewer force mains shall be measured for payment per each (EA) tapping sleeve and valve connection of various sewer force main and branch sizes completed in accordance with the plans and specifications.

Tapping Sleeve and Valve Connections on sewer force mains shall be paid for at the contract unit price per each (EA) cut-in connection of various sewer force main and branch sizes, complete in place, as provided in the proposal and contract. The contract unit price shall be the total compensation for furnishing and installing tapping sleeve and valve; including all transport, labor, equipment, and materials required for sub-surface investigation; saw-cutting; excavation, sheeting, and shoring; hauling and disposal of existing materials; dewatering; erosion and sedimentation control (when separate pay items are not provided); adjustment of utilities; installing tapping sleeve, valve, and tapping existing sewer force main; thrust restraints; obtaining swing ties to critical components; cast iron valve box and

concrete collar; placement and compaction of backfill, stabilized subgrade, and road base (when separate pay items are not provided); temporary asphalt patching; and pressure and leakage testing of sewer force mains. Execution of this item shall be in accordance with the plans and the most recent revision of the City of Tallahassee Technical Specifications for Water and Sewer Construction in effect at the time bids are received.

CORE-DRILL CONNECTION TO SEWER MANHOLE (INCLUDING BENCH MODIFICATIONS)

Core-Drill Connections to Sewer Manholes shall be measured for payment per each (EA) core-drill connection of various sewer main diameters, as measured by the nominal diameter of the sewer main, completed in accordance with the plans and specifications.

Core-Drill Connections to Sewer Manholes shall be paid for at the contract unit price per each (EA) core-drill connection of various sewer main diameters, complete in place, as provided in the proposal and contract. The contract unit price shall be the total compensation for furnishing and installing core-drill connection; including all transport, labor, equipment, and materials required for sub-surface investigation; bypass pumping and maintaining sewer service; saw-cutting; excavation, sheeting, and shoring; hauling and disposal of existing materials; dewatering; erosion and sedimentation control (when separate pay items are not provided); adjustment of utilities; core-drilling manhole, pipe-to-manhole connector; manhole bench modifications; grouting; placement and compaction of backfill, stabilized subgrade, and road base (when separate pay items are not provided); and temporary asphalt patching. Execution of this item shall be in accordance with the plans and the most recent revision of the City of Tallahassee Technical Specifications for Water and Sewer Construction in effect at the time bids are received.

ADDITIONAL EXCAVATION AND BACKFILL (SEWER FORCE MAINS AND APPURTENANCES)

When a separate pay item is provided, Additional Excavation and Backfill for sewer force mains and appurtenances shall be measured for payment by the linear foot (LF) of laying length of new infrastructure, as measured above ground and through valves and fittings, and at various intervals of depth below 4-feet, as measured from existing grade to the flow line of sewer force main (less 4-feet) completed in accordance with the plans and specifications.

When a separate pay item is provided, Additional Excavation and Backfill for sewer force mains and appurtenances shall be paid for at the contract unit price per linear foot (LF) of laying length of new infrastructure at various intervals of depth below 4-feet, complete in place, as provided in the proposal and contract. The contract unit price shall be the total compensation for additional excavation and backfill; including, but not limited to, all transport, labor, equipment, and materials required for additional saw-cutting, sheeting, and shoring; hauling and disposal of existing materials; dewatering; erosion and sedimentation control (when separate pay items is not provided); and placement and compaction of additional backfill. Execution of this item shall be in accordance with the plans and the most recent revision of the City of Tallahassee Technical Specifications for Water and Sewer Construction in effect at the time bids are received.

SANITARY SEWER PUMP STATION

Sanitary Sewer Pump Stations shall be measured for payment per lump sum (LS) completed in accordance with the plans and specifications.

Sanitary Sewer Pump Stations shall be paid for at the contract unit price per lump sum (LS) as provided in the proposal and contract. The contract unit price shall be the total compensation for furnishing and installing a sanitary sewer pump station; including, but not limited to, all transport, labor, equipment, and materials required for sub-surface investigation; bypass pumping and maintaining sewer service; clearing and grubbing; site grading; excavation, sheeting, and shoring; hauling and disposal of existing materials; dewatering; erosion and sedimentation; adjustment of utilities; foundation preparation; wet well and valve vault structures and associated hatches; pipe, fittings, valves, and appurtenances; pumps, motors, and controls; standby emergency power generator and fuel storage; switchgear and SCADA controls; odor control equipment; water service, backflow preventer, and associated plumbing fixtures; placement and compaction of backfill, stabilized subgrade, and road base; miscellaneous concrete and driveway construction; fencing; landscaping and irrigation; as-built survey; and pump station start-up and testing. Execution of this item shall be in accordance with the plans and the most recent revision of the City of Tallahassee Technical Specifications for Water and Sewer Construction in effect at the time bids are received.

END OF SECTION 2

