SECTION 01 11 00
SUMMARY OF WORK

PART 1 - GENERAL

The work described by these specifications is located in Cobb County, Georgia along Highway 41 between Franklin Road and Herodian Way. The project consists of new 36", 42" and 54" water mains connecting to the Cobb County-Marietta Water Authority's existing water transmission system. The project will also include new 16-inch water main connecting to the Marietta BLW existing distribution system.

PART 2 - PRODUCT

2.1 The work to be done consists of furnishing all labor, equipment and materials required to construct the water main and appurtenances as shown in the contract drawings.

2.2 Major items of construction are:

1. Approximately 5,590 LF of 36" DIP Water Main.
2. Approximately 3,750 LF of 42" DIP Water Main.
3. Approximately 595 LF of 54" DIP Water Main.
4. Connection to existing 36" Water Main at Franklin Drive.
5. Connection to existing 36" Water Main at Caswell Drive and existing 42" Water Main south of Windy Hill Road.
6. Connection to existing 36" Water Main at Herodian Way.
7. Connections to existing water distribution mains for the Cobb County Water System.
8. Approximately 5,250 LF of 16" DIP Water Main.
9. Connection to existing water distribution mains for the Marietta Board of Lights and Water.
10. 4 Large Diameter Gate Valve installations.
11. 1 – 84" Tunnel installation.

PART 3 - EXECUTION

Coordinate and install the proposed water main and appurtenances as shown in the contract documents.

END OF SECTION

SECTION 01 21 16
ALLOWANCES

PART 1 - GENERAL

The Contractor shall include in his bid the allowances listed in the bid proposal. These allowances shall cover work, manufactured equipment or services that will be provided either by the Contractor or by others who may be selected by the Owner. All work performed under allowances shall be subject to Owner approval and under special terms described herein. The contractor shall coordinate and cause the work covered by these allowances. In accordance with the Contract General Conditions Paragraph 11.02 Allowances, The Contractor's costs including markup and profit are included in the Contract Price and no additional payment will be made for these costs. The final amount of any allowance item listed in the bid proposal shall be adjusted accordingly by change order to reflect actual cost.

PART 2 - SCHEDULE OF ALLOWANCES

Allowance Accounts are allocated to the Cobb County-Marietta Water Authority (CCMWA) and the Marietta Board of Lights and Water (BLW).

2.1 The following Allowance Accounts are allocated to the CCMWA.

2.1.1 ALLOWANCE FOR FORCE ACCOUNT WORK

The purpose for this allowance is to reimburse the Contractor for force account work as directed by the Owner. Payment under this allowance shall be full compensation for all tools, labor, equipment, materials, traffic control, and any incidentals necessary for the work directed. The Contractor shall coordinate such work with the water main installation. In order to be eligible for payment under this item, the Contractor must submit a written proposal to the Owner for approval before any work begins. Reimbursement to the Contractor will be paid at the actual cost.

2.1.2 ALLOWANCE FOR TESTING

The purpose for this allowance is to reimburse the Contractor for the services of a testing laboratory to perform required testing of materials on this project. The Contractor must submit a written proposal to the Owner for approval stating the geotechnical or materials testing firm's qualifications before any work begins In order to be eligible for payment, tests must (a) be ordered by the Engineer, (b) show that the material met specifications, and (c) be performed by an approved testing laboratory. Laboratory fees will be paid by the Contractor. Reimbursement to the Contractor will be made at the actual cost of eligible tests.

2.1.3 ALLOWANCE FOR UTILITY RELOCATION BY OTHERS

The purpose for this allowance is to reimburse the Contractor for the work of relocating or adjusting or replacing any required utility as necessary to complete the construction of the proposed water main. In order to be eligible for payment under this item, the Contractor must submit a written proposal to the Engineer for approval for the required relocation or adjustments of the existing utilities before work begins in these areas. Reimbursement to the Contractor will be paid at the actual cost.

2.1.4 ALLOWANCE FOR LANDSCAPING

The purpose for this allowance is to reimburse the Contractor for the services of a contracting firm specializing in landscape restoration and to pay for the materials required for such work. Such materials include trees, recreational equipment, and playground equipment. Payment under this allowance shall be full compensation for all tools, labor, equipment, materials, traffic control, and any incidentals necessary for the restoration as required. The Contractor shall coordinate such work with the water main installation such that the restoration work is performed immediately after the water main installation. In order to be eligible for payment under this item, the Contractor must submit a written proposal to the Owner for approval before any work begins. Reimbursement to the Contractor will be paid at the actual cost.

2.1.5 ALLOWANCE FOR TRAFFIC CONTROL

The purpose for this allowance is to reimburse the Contractor for the services of a firm specializing in development of traffic control plans and the implementation of traffic control. This allowance shall be used to reimburse the Contractor for the use of police officers to control traffic if required. This allowance will be used to reimburse Contractor for development of a travel control plan, the implementation of the traffic control plan, safety barriers, traffic signal men, and other items required to maintain safety on the project site. Payment under this allowance shall be full compensation for all tools, labor, equipment, materials, and any incidentals. The Contractor shall coordinate all work with the water main installation. In order to be eligible for payment under this item, the Contractor must submit a written proposal to the Owner for approval before any work begins. Reimbursement to the Contractor will be paid at the actual cost.

Approved vendors are:

1. U.S. Traffic Technologies
   3151 Nifda Blvd SE
   Smyrna, GA 30080
   404-350-0441
2. Traffic Specialties, Inc
   4611 Greer Circle, Suite M
   Stone Mountain, GA 30083
   678- 990-1324

2.1.6 ALLOWANCE FOR CORROSION CONTROL

The purpose for this allowance is to reimburse the Contractor for the services of a firm specializing in design of corrosion control for pipelines and for the implementation of that design. Payment under this allowance shall be full compensation for all tools, labor, equipment, materials, and any incidentals. The Contractor shall coordinate all work with the water main installation. In order to be eligible for payment under this item, the Contractor must submit a written proposal to the Owner for approval before any work begins. Reimbursement to the Contractor will be paid at the actual cost.

2.1.7 ALLOWANCE FOR WATER MAIN DISINFECTION

The purpose for this allowance is to reimburse the Contractor for the services of a firm specializing in disinfection of water mains and in the development of disinfection plans necessary to comply with the requirements of the AWWA C651. Payment under this allowance shall be full compensation for all tools, labor, equipment, materials, and any incidentals used during disinfection of the water main. The Contractor shall coordinate all work with the water mains installation. This allowance will **not** be used to reimburse Contractor for cleaning the water main or maintaining a clean water main or for pressure testing the pipe. The Contractor will be responsible for the installation and removal of sample points as required by AWWA C651 on the water main. In order to be eligible for payment under this item, the Contractor must submit a written proposal to the Owner for approval before any work. Reimbursement to the Contractor will be paid at the actual cost.

2.1.8 ALLOWANCE FOR TEMPORARY BUS STOP REMOVAL

The purpose for this allowance is to reimburse the Contractor for temporary removal of CCDOT bus stops. Costs under this allowance item will be for the temporary removal of the bus stop before construction and the re-installation of the bus stop after construction. The work shall be performed by CCDOT or the CCDOT's contractor. The Contractor is responsible for the coordination of such work with the Contractor's work. In order to be eligible for payment under this item, the Contractor must submit a written proposal to the Owner for approval before any work.

In order to be eligible for payment under each allowance item, the Contractor must submit a written proposal, for the Owner's approval, prior to beginning work covered under said allowance.

2.1.9 ALLOWANCE FOR GATE VALVE PURCHASE

The purpose for this allowance is to reimburse the Contractor for the purchase of pre-selected Gate Valves:

1. 1 - 36" Gate Valve with flex ring joints.
2. 1 – 42" Gate Valve with flex ring joints.

3. 1 - 48" Gate Valve with flex ring joints.
4. 1 – 48" Gate Valve with flex ring joint and with 48"x54" Increaser

The supplier of the equipment is responsible for the following: Preparation of shop drawings associated with the equipment supplied, Preparation of Operation and Maintenance Manuals, Freight to the job site, and Equipment warranty. The Contractor shall be responsible for, but not limited to, all work and construction of all items listed below: The Contractor to coordinate all work, The Contractor is responsible for unloading the equipment at the jobsite, providing temporary storage as necessary, and installing the equipment and materials in place, Installation of pre-selected Gate Valves, The furnishing and installation of all piping, valves and appurtenances not supplied by the pre-selected supplier or as shown on Drawings, Installing all equipment in accordance with Manufacturer's Instructions, Providing field painting of equipment, Insurance to cover damages or loss after equipment is delivered to the site, and Payment of sales tax related to equipment under this work. Payment under this allowance shall be full compensation for all tools, labor, equipment, materials, and any incidentals. The Contractor shall coordinate all work with the water main installation. In order to be eligible for payment under this item, the Contractor must submit a written proposal to the Owner for approval before any work begins. Reimbursement to the Contractor will be paid at the actual cost.

2.2 The following Allowance Accounts are allocated to the Marietta BLW.

2.2.1 ALLOWANCE FOR FORCE ACCOUNT WORK

The purpose for this allowance is to reimburse the Contractor for force account work as directed by the Owner. Payment under this allowance shall be full compensation for all tools, labor, equipment, materials, traffic control, and any incidentals necessary for the work directed. The Contractor shall coordinate such work with the water main installation. In order to be eligible for payment under this item, the Contractor must submit a written proposal to the Owner for approval before any work begins. Reimbursement to the Contractor will be paid at the actual cost.

2.2.2 ALLOWANCE FOR TESTING

The purpose for this allowance is to reimburse the Contractor for the services of a testing laboratory to perform required testing of materials on this project. The Contractor must submit a written proposal to the Owner for approval stating the geotechnical or materials testing firm's qualifications before any work begins In order to be eligible for payment, tests must (a) be ordered by the Engineer, (b) show that the material met specifications, and (c) be performed by an approved testing laboratory. Laboratory fees will be paid by the Contractor. Reimbursement to the Contractor will be made at the actual cost of eligible tests.

2.2.3 ALLOWANCE FOR UTILITY RELOCATION BY OTHERS

The purpose for this allowance is to reimburse the Contractor for the work of relocating or adjusting or replacing any required utility as necessary to complete the construction of the proposed water main. In order to be eligible for payment under this item, the Contractor must submit a written proposal to the Engineer for approval for the required relocation or adjustments of the existing utilities before work begins in these areas. Reimbursement to the Contractor will be paid at the actual cost.

2.2.4 ALLOWANCE FOR LANDSCAPING

The purpose for this allowance is to reimburse the Contractor for the services of a contracting firm specializing in landscape restoration and to pay for the materials required for such work. Such materials include trees, recreational equipment, and playground equipment. Payment under this allowance shall be full compensation for all tools, labor, equipment, materials, traffic control, and any incidentals necessary for the restoration as required. The Contractor shall coordinate such work with the water main installation such that the restoration work is performed immediately after the water main installation. In order to be eligible for payment under this item, the Contractor must submit a written proposal to the Owner for approval before any work begins. Reimbursement to the Contractor will be paid at the actual cost.

2.2.5 ALLOWANCE FOR TRAFFIC CONTROL

The purpose for this allowance is to reimburse the Contractor for the services of a firm specializing in development of traffic control plans and the implementation of traffic control. This allowance shall be used to reimburse the Contractor for the use of police officers to control traffic if required. This allowance will be used to reimburse Contractor for development of a travel control plan, the implementation of the traffic control plan, safety barriers, traffic signal men, and other items required to maintain safety on the project site. Payment under this allowance shall be full compensation for all tools, labor, equipment, materials, and any incidentals. The Contractor shall coordinate all work with the water main installation. In order to be eligible for payment under this item, the Contractor must submit a written proposal to the Owner for approval before any work begins. Reimbursement to the Contractor will be paid at the actual cost.

Approved vendors are:

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   4611 Greer Circle, Suite M
   Stone Mountain, GA 30083
   678- 990-1324

2.2.6 ALLOWANCE FOR WATER MAIN DISINFECTION

The purpose for this allowance is to reimburse the Contractor for the services of a firm specializing in disinfection of water mains and in the development of disinfection plans necessary to comply with the requirements of the AWWA C651. Payment under this allowance shall be full compensation for all tools, labor, equipment, materials, and any incidentals used during disinfection of the water main. The Contractor shall coordinate all work with the water mains installation. This allowance will **not** be used to reimburse Contractor for cleaning the water main or maintaining a clean water main or for pressure testing the pipe. The Contractor will be responsible for the installation and removal of sample points as required by AWWA C651 on the water main. In order to be eligible for payment under this item, the Contractor must submit a written proposal to the Owner for approval before any work. Reimbursement to the Contractor will be paid at the actual cost.

END OF SECTION

SECTION 01 22 00
MEASUREMENT AND PAYMENT

PART 1 - GENERAL

1.1 GENERAL

No quantities shall be measured for payment except items listed in the proposal, unless the Owner has approved "extra" work in accordance with the contract documents and has so advised the Contractor before the work was actually performed.

Any and all other material, labor, etc., furnished and required shall be considered as incidental to the items to be measured and shall be included in the unit price bid for water main.

The unit or lump sum prices bid for the various items shall be full compensation for furnishing all materials, tools, equipment, labor and incidentals necessary and/or required to complete the work as shown on the plans and called for in the specifications.

The quantities to be paid for shall be determined by actual measurement of the amounts placed. The Engineer shall make all measurements and the contractor shall make certain all work has been measured before concealing; otherwise, he may be required to uncover or make accessible any work so concealed in order to receive payment for such items.

PART 2 - PAY ITEMS

2.1 WATER MAINS

Measurement of the pipe in place will be along the main axis of the pipeline. No deduction in the length of pipe will be made for space occupied by valves, specials, and fittings.

The unit price bid for pipe shall include all of the materials, labor and incidentals necessary for the completion of the pipeline as called for under SECTION 33 11 13, WATER MAIN CONSTRUCTION and/or SECTION 02601 BLW WATER MAIN CONSTRUCTION, except as specifically called for in other pay items herein.

The unit price bid for water line shall include and cover all clearing and grubbing on the entire pipeline right-of-way and the disposal of all debris in dressing and finishing after the line is laid. There will be no additional pay where extra depth is incurred due to valve locations, tie-ins, restrained joint requirements, conflicts with other utilities, or other field conditions.

The Contractor shall be responsible for the reuse of acceptable in-place material including

the drying or wetting to obtain suitable moisture content for compaction during backfill operations under Pay item 2.1. All excess excavated material shall be disposed of without extra cost to the Owner.

Pipe will be paid for at the unit price bid for various sizes and types.

2.2 RESTRAINED JOINTS / RETAINER GLANDS

Special restrained joints will be counted in place and paid for at the unit price bid per each type and size listed in bid proposal. A restrained joint shall be defined as the separated or loose portion of materials that are installed separately from pipe, fittings, or valves. Portions of restraint that are permanently attached to pipe, fittings, or valves and/or are an integral part of the system, do not qualify for additional payment. The restraint system shall be counted only once and shall be a complete system for each joint that is to be restrained.

In the case of straight pipe, the payment for each restrained joint will be paid separate from the unit price per foot of pipe. In the case of ductile iron fittings, the payment for restrained joints will be paid separately from the payment for fittings. In the case of valves, the payment for each restrained joint will be paid separate from the unit price bid for each valve.

In the case of Owner furnished restrained joints, this extra payment for each restrained joint will be paid separate from the unit price bid for each valve or fitting. This extra payment shall include all materials, labor and incidentals necessary for a complete installation necessary to install the restrained joint and make ready for operation of the water main.

2.3 DUCTILE IRON FITTINGS

Measurement of all diameter fittings shall be measured in place and payment made for approved fitting installation per pound of all diameter fittings installed. The unit price bid for fittings shall include all materials, labor and incidentals necessary for the complete installation of each fitting as called for in these specifications. Weight of iron fittings for payment purposes shall be determined by the AWWA C110 weight or AWWA C153 weight for the lightest weight fitting as appropriate for service intended not including joint accessories.

Fittings that will be counted for payment under this item will include: (a) main-line fittings that are labeled on the plans, (b) plugs that are shown on stub-outs and temporary ends for future connections, (c) fittings on blow-off piping. Fittings for special cross connections and existing water main tie-ins shall be measured and paid for under a separate bid item. Fittings installed for the Contractor's convenience or negligence will not be counted for payment.

Additional fittings called for in the bid proposal and not shown on the drawings shall be

installed as directed by the Engineer or Owner. If the additional fittings are not installed, they shall be delivered to the Owner to be placed in the Owner's inventory.

All straight pipes of any length shall be defined as pipe rather than fittings, unless it is listed on the bid proposal as a special pay item.

2.4 VALVES

Measurement of each valve shall be measured in place and payment made for approved valve installation per each valve installed. The unit price bid for valves shall include all materials, labor and incidentals necessary for the complete installation of each valve as called for in these specifications.

Access manholes for valves shall be paid for under a separate bid item. Other valves and valve boxes will be paid for at the unit price bid for valves per each, for each size and type of valve listed in the proposal. Unit price shall include all excavation, furnishing and installing of the valves, valve boxes, and valve extensions as required, concrete collar around the valve boxes, operator and all necessary incidentals to complete the work.

2.5 PIPE OUTLETS

Measurement of each welded outlet shall be measured in place and payment made for approved welded outlet installation per each welded outlet installed. The unit price bid for welded outlets shall include all materials, labor and incidentals necessary for the complete installation of each welded outlet as called for in these specifications.

Unit price for outlets shall include additional cost for parent pipe wall thickness increase necessary for welding and shall be based on a twenty-foot length of parent pipe. No extra payment for increased parent pipe wall thickness under this item or other bid items shall be paid.

Blind Flange with Flanged outlets or welded-on bosses, which are not included for payment under other bid items, will be counted in place and paid for at the unit price bid for each type and size listed in the proposal.

Provide all blind flanges require flanged outlets of the size shown on the drawings. For manway applications, provide blind flanges as required.

2.6 AIR & VACUUM VALVE

Measurement of each air and vacuum relief valve shall be measured in place and payment made for approved air and vacuum relief valve installation per each installed. The unit price bid for air and vacuum relief valves shall include all materials, labor and incidentals necessary for the complete installation of each air and vacuum relief valve and associated gate valve as called for in these specifications.

2.7 CONCRETE MANHOLE ASSEMBLY

Measurement of each concrete manhole assembly shall be measured in place and payment made for approved concrete manhole assembly installation per each installed. The unit price bid for concrete manhole assembly shall include all materials, labor and incidentals necessary for the complete installation of each concrete manhole assembly as called for in these specifications.

Unit price for each concrete manhole assembly shall include up to ten vertical feet of complete manhole assembly. A complete manhole assembly at a minimum shall consist of base foundation preparation and materials, a manhole base, riser sections of the diameter called for on the contract drawings, a reducer section, grade rings, manhole ring, and manhole cover. The manhole assembly shall provide a means of egress via embedded ladder rungs or other as shown on the contract drawings. No extra payment for grade ring adjusters for final grade shall be paid.

Unit price for each vertical foot in excess of ten vertical feet shall be measured and paid per vertical foot installed of the manhole riser section installed.

2.8 POLYETHYLENE ENCASEMENT

Polyethylene encasement will be measured in place along the length of pipe and paid for at the unit price bid per linear foot for double wrap encasement as listed in the bid proposal. Payment will be for the double wrap encasement of all pipes as required by Specification Section 33 11 13.

2.9 SAMPLE TEST STATION

Measurement of sample test station shall be measured in place and payment made for approved test station installations per each inline valve at which test stations are installed. The unit price bid for sample test station shall include all materials, labor and incidentals necessary for the complete installation of each sample test station at the inline valve locations as called for in these specifications and as shown in contract drawings. Payment will include the cost of two saddles, two pipe taps, two corporation cocks, copper tubing Type K in the size shown, copper fittings, two test hydrants as specified, and piping supports.

Each test station is inclusive of all work shown at each inline valve location.

2.10 STEEL CASING

Measurement of steel casing shall be measured in place and payment made for approved steel casing installation per lineal foot installed. The unit price bid for steel casing shall include all materials, labor, jacking, boring, and/or open trench installation, sealing the ends of the casing pipe, stabilize the carrier pipe inside the casing against movement and

floatation, and incidentals necessary for the complete installation of each steel casing as called for in these specifications.

Additional payment for rock will be made when rock is encountered. Rock for bores is defined as the same as ROCK EXCAVATION in Specification SECTION 33 11 13 - WATER MAIN CONSTRUCTION. For open trench installation of casing, additional payment for rock will be made at the unit bid price for SOLID ROCK EXCAVATION IN TRENCH. For jack and bore installation of casing, additional payment for rock will be made at the unit bid price for ADDITIONAL COMPENSATION FOR ROCK ENCOUNTERED IN BORE. Payment will be made only after the Engineer has been notified and has verified presence of rock and the requirement to use a rock boring head. Extra payment will be made for the removal of rock encountered in the bore. Measurement will be made from the point of the bore where rock is first encountered to the point of the bore where evidence indicates that soil is encountered. The length of the bore affected by rock shall be measured and recorded for basis of payment of additional compensation.

Carrier pipe inside the steel casing shall be paid for separately. Spacers used on the water main inside the casing will also be paid for separately.

2.11 CASING SPACERS IN STEEL CASING

Measurement of each casing spacer shall be measured in place and payment made for approved casing spacer installation per each installed. The unit price bid for casing spacer shall include all materials, labor and incidentals necessary for the complete installation of each casing spacer as called for in these specifications.

Casing spacers used in steel casing will be paid for at the unit per each size as listed in the proposal.

2.12 CONNECTION TO EXISTING WATER MAINS

Payment for this item will be at the unit price bid for each location and size listed in the bid proposal. Payment shall be full compensation for locating, cutting-in and connecting to the existing facilities and removal of existing piping as necessary to complete the connection. Pipe and special fittings used in making the connection will be paid for separately.

2.13 CONNECT BLOW-OFF TO STORM DRAIN FACILITY

Payment for this item will be made at the unit price bid for this work and shall be full payment for extra work required for connecting to the existing storm drainage structure. Piping and fittings will be paid for separately.

2.14 WATER MAINS REMOVE & DISPOSE

Measurement of the water main removed will be along the main axis of the pipeline in place. No deduction in the length of pipe will be made for space occupied by valves, specials, and fittings.

The unit price bid for pipe shall include all of the materials, labor and incidentals necessary for the complete removal and suitable disposal of the pipeline except as specifically called for in other pay items herein.

The unit price bid for water line shall include and cover all excavation, backfilling, and the disposal of all debris, after the water main is removed. There will be no additional pay where extra depth is incurred due to valve locations, tie-ins, restrained joint requirements, conflicts with other utilities, or other field conditions.

Measurement of the meter vaults removed will be for each removed in place.

The unit price bid for meter vault removal shall include all of the materials, labor and incidentals necessary for the complete removal and suitable disposal of the materials within the vault and the vault except as specifically called for in other pay items herein.

The unit price bid for meter vault removal shall include and cover all excavation, backfilling, and the disposal of all debris, after the line is removed. There will be no additional pay where extra depth is incurred due to valve locations, tie-ins, restrained joint requirements, conflicts with other utilities, or other field conditions.

2.15 LOCATOR BALL INSTALLATION

The locator ball installation will be paid for at the unit price bid per each installation. The price shall be compensation for all labor, tools, equipment, and materials necessary to complete the installation as shown on the plans. The Contractor is responsible for installation PVC pipe at the time of construction, maintaining pipe during construction, installation of backfill after pipe location has been surveyed, furnishing and installation of locator balls with appropriate information, capping of pipe, and backfilling.

This unit price bid includes the cost of the locator balls to be installed.

2.16 FLUSHING AND DISINFECTING OF WATER MAINS

Payment for flushing and disinfecting water mains shall be made under an allowance item. The payment from this allowance shall be full compensation for all tools, labor, equipment, materials, and any incidentals necessary for the flushing and disinfecting of water mains as required.

Pressure testing of the pipeline is the responsibility of the Contractor and the cost of this testing shall be included in the cost of the installation of the pipeline. Cleanliness of pipeline is the responsibility of the Contractor and the cost of cleaning and maintaining

the cleanliness of the pipeline shall be included in the cost of the installation of the pipeline.

2.17 SUBGRADE STABILIZER STONE

Measurement for payment for subgrade stabilizer stone will be made by the ton.

Weight for payment will be taken from dray tickets for stone actually placed in accordance with the following limitations:

a. Stone used for stabilizing trench bottom in wet areas will be paid for.
b. Stone used for type 4 and type 5 bedding conditions will be paid for.
c. Stone used for constructing temporary driveways will be paid for.
d. Stone used for constructing temporary travel lane adjacent to existing roadway will be paid for.
e. Stone used for construction haul roads will not be measured for payment, nor will that which is placed contrary to contract requirements.

2.18 SOLID ROCK EXCAVATION IN TRENCH

Rock will be measured in place, and the quantity paid for shall be the length of the excavation, measured along the centerline of the pipe, times the average depth of the excavation, times the width equal to the nominal diameter of the pipe plus four feet.

2.19 MISCELLANEOUS CONCRETE

Miscellaneous concrete will be measured in place and paid for at the unit price bid per cubic yard. Reinforcing steel, where required, will be paid for separately as outlined.

2.20 STRUCTURAL CONCRETE

The unit price shall include all delivery, placing, and curing costs associated with installing concrete within formwork. The concrete volume will be measured in place and paid for at the unit price bid per cubic yard. Only work directed by the Engineer will be paid for. Concrete structures damaged or replaced due to Contractor error or negligence will not be paid for. No compensation will be allowed for removal of existing concrete.

2.21 REINFORCING STEEL

The unit price shall include all costs associated with the furnishing and installing reinforcing steel of the sizes required for a concrete structure. The amount of reinforcing steel will be measured in place and paid for at the unit price bid per pound. Only work directed by the Engineer will be paid for.

2.22 GRADED AGGREGATE BASE

Graded aggregate base is measured by the ton, mixed and accepted in place.

Graded aggregate base will be paid for at the contract unit price per ton. This unit price shall be full compensation for materials, the shaping and the compaction of the existing roadbed, loading, hauling, and unloading, crushing and processing, mixing, spreading, watering, compacting and shaping, maintenance, priming, when required, and all incidentals necessary to complete the work.

2.23 BORROW MATERIAL

Borrow material is measured by the cubic yard, compacted to specified soil density, and accepted in place.

Borrow material will be paid for at the contract unit price per cubic price. This unit price shall be full compensation for materials, the shaping and the compaction of the existing roadbed or pipe trench, loading, hauling, and unloading, processing, mixing, spreading, watering, compacting and shaping, maintenance, priming, when required, and all incidentals necessary to complete the work. This unit price includes the geotechnical engineering services and testing necessary to document the suitability of the borrow material as backfill material.

2.24 GEOGRID SOIL REINFORCEMENT

Geogrid soil reinforcement, complete and accepted, is measured for payment by the square yard.

Payment for geogrid soil reinforcement will be made at the unit price bid per square yard for work complete in place and accepted. The unit price bid shall be full compensation for all tools, labor, equipment, materials, traffic control, protection of concrete against traffic and weather and any incidentals necessary for the installation of the geogrid soil reinforcement as required.

2.25 MILLING EXISTING PAVEMENT

Milling existing pavement is measured by the square yard.

Milling existing pavement will be paid for at the contract unit price per square yard. Payment is full compensation for furnishing labor and equipment, milling, hauling, disposing of milled material, and satisfactorily performing the work.

2.26 PAVEMENT OVERLAY

Pavement overlay is measured by the square yard.

Pavement overlay will be paid for at the contract unit price per square yard. The unit price shall include the application of a tack coat prior to pavement overlay and the placement of a surface pavement of the type shown on drawings and to the depth shown on drawings.

Payment is full compensation for furnishing labor, material, and equipment, applying tack coat, placing pavement overlay, and satisfactorily performing the work.

2.27 PAVEMENT TRENCH BASE

Pavement trench base is measured by the square yard.

Pavement trench base will be paid for at the contract unit price per square yard. The unit price shall include the application of a tack coat prior to pavement trench base and the placement of either base or binder course of the type and to the depth shown on drawings. Payment is full compensation for furnishing labor, material, and equipment, applying tack coat, placing pavement, and satisfactorily performing the work.

2.28 REMOVE & REPLACE ASPHALT DRIVEWAYS AND PARKING LOTS

Measurement shall be the length of the pavement replaced, measured along the centerline of the pipe multiplied by the trench width. The unit of measurement shall be the square yard.

Asphalt driveways and parking lots replaced will be measured in place and paid for at the unit price bid per square yard. Asphalt driveway or parking lot surfaces damaged or removed due to contractor error or negligence will not be paid for. The unit price bid shall be full compensation for the asphalt, tack, GAB, and all materials, labor, tools and equipment required to complete the replacement as shown on drawings. Maintenance of the driveway and parking lot during construction until replacement shall be included in unit price. No compensation will be allowed for the removal of existing asphalt driveways and parking lots.

2.29 REMOVE & REPLACE CONCRETE DRIVEWAYS AND PARKING LOTS

Measurement shall be the length of the pavement replaced, measured along the centerline of the pipe multiplied by the trench width plus two feet. The unit of measurement shall be the square yard.

Concrete driveways and parking lots replaced will be measured in place and paid for at the unit price bid per square yard. Concrete driveway or parking lot surfaces damaged or removed due to contractor error or negligence will not be paid for. The unit price bid shall be full compensation for the concrete, and all materials, labor, tools and equipment required to complete the replacement as shown on drawings. Maintenance of the driveway and parking lot during construction until replacement shall be included in unit price. No compensation will be allowed for the removal of existing concrete driveways and parking lots.

2.30 REMOVE AND REPLACE GRAVEL DRIVEWAY

Gravel driveways will be measured in place and the unit of measurement shall be the

square yard.

Gravel driveways will be measured in place and payment will be made at the contract unit price bid per square yard. The unit price will be full compensation for smoothing the driveway bed and leveling a 12" thick layer of graded aggregate base. Maintenance of the driveway during construction shall be included in unit price.

2.31 REMOVE & REPLACE CONCRETE SIDEWALK

Sidewalks removed and replaced shall be measured in place and the unit of measurement shall be the square yard.

Sidewalks removed and replaced shall be measured in place and shall be paid for at the unit price bid per square yard. Concrete sidewalks shall be replaced with a minimum thickness of 4" and of a matching width, unless directed otherwise by the Engineer. The unit price bid shall include the cost of saw cutting the existing sidewalk. Sidewalks shall be constructed in accordance with GDOT standard specifications and details. The work shall include the installation of ramps for handicap accessibility, the installation of detectable warning surfaces, and other work necessary to comply with current GDOT requirements.

2.32 REMOVE & REPLACE CURB AND GUTTER (ALL TYPES & SIZES)

Curb or curb and gutter completed in place and accepted is measured in linear feet along the face of the curb.

Each type of curb and curb and gutter remove and replaced shall be paid for at the contract unit price bid per linear foot. Payment is full compensation for removal of existing curb or curb and gutter, furnishing of materials, preparing subgrade or pavement surface, installing, and maintaining curb or curb and gutter installed.

2.33 REMOVE AND REPLACE FENCE (All Sizes & Types)

Payment for this item will be at the bid price per linear foot for all sizes and types of fence as listed in the bid proposal. The length shall be measured in place after replacement. Fencing shall be removed only where necessary for carrying out the work or as directed by the Engineer. Where the existing fence materials are unsuitable for replacement, the Contractor shall furnish new materials, the costs of which are to be included in the bid price. Bid price shall include all labor, material, tools and equipment to carry out the work. No payment will be made except when fence is replaced.

2.34 TRAFFIC STRIPE

Traffic Stripe (all types) is measured by the linear mile.

Payment for applying traffic stripe will be made at the unit price bid per linear mile. The

unit price bid shall be full compensation for all tools, labor, equipment, materials, traffic control, protection of traffic stripe against traffic and weather and any incidentals necessary for the installation of the traffic stripe as required. The unit bid shall be for solid and skip traffic stripe of any size and color required.

2.35 TEMPORARY SILT FENCE

Temporary silt fence shall be paid for at the unit price bid per linear foot and will be measured in place. The quantity shall be field measured and only the quantity installed at the engineer's approval will be measured for payment. The unit price bid shall be full compensation for all material, labor, tools and equipment necessary to install, maintain, and remove the temporary silt fence as specified in the contract documents. Silt fence will only be measured for payment once.

2.36 HAY BALE BARRIER

Hay bale barriers will be measured in place and paid for the unit price bid per linear foot. Payment shall be full compensation for all labor tools, equipment, materials and any incidentals necessary to install, maintain and remove hay bale barriers. No payment will be made for hay bale barriers placed without the approval of the engineer.

2.37 ROCK CHECK DAM

Rock check dams will be counted in place and paid for at the unit price bid for each. Payment shall be full compensation for all labor, tools, equipment, materials and any incidentals necessary to install, maintain and remove check dams. No payment will be made for check dams placed without the approval of the engineer.

2.38 RIP-RAP

Rip-Rap will be measured in place paid for at the unit price bid per square yard. Placement of Rip-Rap will be as directed by the engineer. Unit price bid shall be full compensation for all labor, materials and equipment required to furnish and install required rip-rap.

2.39 CONSTRUCTION EXIT

Construction exits will be counted in place and paid for at the unit price bid for each. The unit price bid shall be full compensation for all material, labor, tools and equipment necessary to install, maintain and remove all construction exits as specified in the contract documents. Only exit locations approved by engineer will be counted for payment.

2.40 STRAW MULCH STABILIZATION

Straw mulch stabilization shall be paid for at the unit price bid per square yard and will be measured in place. Measurement shall be along the centerline of the pipeline

multiplied by the average width of the area mulched. The unit price bid shall be full compensation for all material, labor, tools and equipment necessary to install the straw mulch stabilization as specified in the contract documents.

2.41 GRASSING

Grassing shall be paid for at the unit price bid per square yard of grassing. Contractor shall be responsible for replacing all grass destroyed during installation of water main. Grassing area measured for payment will be limited to a strip not to exceed 40 FEET wide measured along the length of the water main. Where grassing is required in areas adjacent to any residential or commercial lawn, the type of grass to be planted and grown shall match the type of grass growing on the adjacent lawn. No modification shall be made in the unit price.

2.42 EROSION MAT (SLOPES)

Payment for erosion mat will be made at the unit price bid per square yard. The unit price bid shall be full compensation for all tools, labor, equipment, materials, protection of erosion mat against weather, and any incidentals necessary for the installation of the erosion mat as required.

2.43 INLET SEDIMENT TRAP

Inlet sediment traps will be counted in place and paid for at the unit price bid for each. Payment shall be full compensation for all labor, tools, equipment, materials and any incidentals necessary to install, maintain and remove sediment traps. No payment will be made for sediment traps placed without the approval of the engineer.

2.44 STORM DRAIN OUTLET PROTECTION

Storm drain outlet protection will be counted in place and paid for at the unit price bid for each. Payment shall be full compensation for all labor, tools, equipment, materials and any incidentals necessary to install, maintain and remove outlet protection. No payment will be made for outlet protection placed without the approval of the engineer.

2.45 TREE SAVE FENCE

Temporary tree save fence shall be paid for at the unit price bid per linear foot and will be measured in place. The quantity shall be field measured and only the quantity installed at the engineer's approval will be measured for payment. The unit price bid shall be full compensation for all material, labor, tools and equipment necessary to install, maintain and remove the tree save fence as specified in the contract documents. Tree save fence will only be measured for payment once.

2.46 CUT AND PLUG EXISTING WATER MAIN

Water mains cut and plugged with a mortared brick wall shall be paid at the unit price bid for each. The unit price bid shall be full compensation for all labor, materials, tools, and equipment necessary to complete the procedure.

2.47 NPDES PERMIT COMPLIANCE

Payment for compliance with NPDES permit requirements shall be made under a lump sum bid. The lump sum bid shall be full compensation for compliance with NPDES requirements as described in Specification Section 01 41 00 including the employment of an Environmental Professional for specified services. This item is inclusive of all associated fees to the Georgia Environmental Protection Division (EPD), Cobb County, and other agencies as necessary for the compliance with erosion control requirements as specified and shown on drawings and required by law or regulation.

2.48 REMOVAL OF EXISTING FIRE HYDRANT

The unit price for this item shall be full compensation for removing the existing fire hydrant in good condition and delivering it to the Owner's yard.

2.49 INSTALLATION OF NEW FIRE HYDRANT

Fire hydrants will be counted in place.

Fire hydrants will be paid for at the unit price bid for each. Fire hydrant extension shall be paid for at the unit price bid per vertical foot.

The unit price shall be full compensation for the cost of excavation, preparation of foundation, furnishing and placing stone, blocking hydrant, setting hydrant, testing hydrant, and all expenses incidental to completing the work. The connecting pipe between the fire hydrant and the main will be paid for separately at the unit price bid for the size pipe used. Locked hydrant adapters and locked hydrant tees are paid for under miscellaneous fittings.

2.50 COPPER TUBING

Copper tubing for service connections shall be paid for at the unit price bid per linear foot of pipe installed. The cost of corporation cocks, curb stops, service fittings, and service saddles shall be included in the payment of this item.

2.51 WATER SERVICE INSTALLATION

Water service installation shall be paid for at the unit price bid per each existing service connected. The price shall be compensation for all labor, tools, equipment, and materials necessary to complete the installation as shown on the plans. The Contractor shall connect new water services to existing meter, meter box, and backflow preventer relocated to back of right of way by the contractor and reconnected to existing water

service by contractor.

2.52 TEMPORARY WATER MAIN

Where required, the Contractor shall install temporary water main of the size and type indicated to meet the needs of the property owners. The water main shall be buried to the depth necessary for protection from damage by traffic. The cost of the removal shall be included in the unit price bid. The cost of a temporary connection to an existing water main or fire hydrant shall be included in the unit price bid. The water main shall be installed only at the direction of the Engineer. Bid price shall include all labor, material, tools, and equipment necessary for the installation and maintenance of the temporary water main. Payment under this item shall be made at the unit price bid per linear foot of temporary water main installed.

2.53 TEMPORARY WATER SERVICE

Where required, the Contractor shall install temporary water service of the size and type required to meet the needs of the property owners. The water service shall be buried to the depth necessary for protection from damage by traffic. The cost of the removal shall be included in the unit price bid. The water service shall be installed only at the direction of the Engineer. Bid price shall include all labor, material, tools, and equipment necessary for the installation, connection, and maintenance of the temporary water service. Payment under this item shall be made at the unit price bid per linear foot of temporary water service installed.

2.54 TEMPORARY SEWER SERVICE

Where required, the Contractor shall install a temporary sewer service of the size and type required to meet the needs of the property owners. The temporary sewer service shall be installed to the line and grade necessary to maintain flow. The cost of the removal shall be included in the unit price bid. The temporary sewer service shall be installed only at the direction of the Engineer. Bid price shall include all labor, material, tools, and equipment necessary for the installation, connection, and maintenance of the temporary sewer service. Payment under this item shall be made at the unit price bid per linear foot of temporary sewer service installed.

2.55 PERMANENT SEWER SERVICE

Where required, the Contractor shall install a permanent sewer service of the size and type indicated to meet the needs of the property owners. The permanent sewer service shall be installed to the line and grade necessary for maintain flow. The permanent sewer service shall be installed only at the direction of the Engineer. Bid price shall include all labor, material, tools, and equipment necessary for the installation of the permanent sewer service. Payment under this item shall be made at the unit price bid per linear foot of permanent sewer service installed.

2.56 GROUTING EXISTING WATER MAIN

Measurement for the grouting of existing water mains shall be on the linear foot basis for each size of water main as measured in place.

Payment for grouting existing water main shall be made under a unit price bid per linear feet. The unit price bid shall be full compensation for all work including cutting of existing water main, installation of vents as required, grout materials compliant with GDOT requirements, installation of grout, and removal of vents.

2.57 FLOWABLE FILL

Payment for this item will be made at the unit price bid listed in the proposal and shall be full compensation for all tools, materials, equipment, and labor necessary to place flowable fill within Project. Payment shall be based on the actual length of the pipeline times the depth and width of pipeline trench. The Engineer prior to placement must approve calculation of the amount of material to be placed.

2.58 WATER SERVICE CASING AND PIPE BURSTING

Payment for this item will be made at the unit price bid listed in the proposal and shall be full compensation for all tools, materials, equipment, and labor necessary to either install PVC casing pipe under an existing roadway or burst an existing water service for installation of a new water service. Measurement for payment shall be based on the actual length of the installed casing pipe or actual length of bursted water service.

2.59 COUPLINGS

Payment for this item will be made at the unit price bid listed in the proposal and shall be full compensation for all tools, materials, equipment, and labor necessary to place either install pipe couplings jointing pipes of different material. Measurement for payment shall be based on each coupling installed.

2.60 REMOVE & REPLACE CULVERT PIPE (ALL TYPES & SIZES)

Culvert pipe completed in place and accepted is measured in linear feet along the center line of the pipe.

Each type of culvert pipe removed and replaced shall be paid for at the contract unit price bid per linear foot. Payment is full compensation for removal of existing culvert pipe, furnishing of materials, preparing bedding and installing backfill and subgrade materials, installing, and maintaining culvert pipe installed and connecting new culvert pipe to existing culvert pipe.

2.61 CONSTRUCT BLOWOFF STRUCTURE

The blowoff structure shall be counted in place.

The blow structure shall be paid for at the unit price for each. This price shall include all cost for materials to be supplied and shown on contract drawings, all labor, tools, equipment, and incidental material necessary to construct the blowoff structure at the structure location.

The cost of any concrete, gravel, pipe fittings, valves, or other materials included within other unit price bids necessary to construct the structure, or that is contained within the structure shall be paid under that price bid.

2.62 VIDEO DOCUMENTATION

Video documentation will be paid for under a lump sum bid. This price shall include all cost for all materials, all labor, tools, equipment, and incidentals necessary to video record the project.

The Contractor shall employ the services of a professional video company to record the project conditions prior to construction. The video record shall document the project from beginning to end within the construction limits. The Pre-Construction Video shall document existing damage to curbs, streets, sidewalks, driveways, trees, poles, and surrounding structures. The video recording shall be time and date stamped and geo-coded with northings, eastings, and direction of view. The video recording shall be suitable for legal proceedings.

2.63 REMOVE & REPLACE GUARDRAIL

Guardrail will be measured in place and the unit of measurement shall be in linear feet.

Payment for removing and replacing guardrail will be made at the unit price bid per linear foot. The unit price bid shall be full compensation for all tools, labor, equipment, materials, traffic control, temporary guardrail for the protection of traffic, weather and any incidentals necessary for the removal and replacement of guardrail. The unit bid shall be for guardrail of any size and type. Existing guardrail shall be removed and replaced the type of guardrail matching the existing and compliant with current GDOT specifications and standards.

2.64 TAPPING SLEEVE, VALVE, AND BOX

Tapping sleeves and valves will be paid for at the unit price bid for each size and type. The price bid for tapping sleeve and valve shall include required tapping sleeve, tapping valve, valve box with concrete collar and all other materials and labor to complete a tap on an existing water main.

2.65 BONDED JOINTS

A. Measurement for the bonding of joints shall be for each pipe joint bonded.

B. Payment at the unit price bid will include installation of double bonding of joints as shown. Payment for bonded joints will be made after successful testing of joints.

2.66 CATHODIC TEST STATIONS

A. Measurement for the cathodic test stations shall be for each station installed.

B. Payment at the unit price bid will include installation of cathodic test stations as shown. Payment of cathodic test stations will be made after successful testing of test stations.

2.67 WATER METER AND CONCRETE VAULT

Measurement of water meter and concrete vault shall be for installed and in place.

Payment for water meter and concrete vault shall be made on the basis of lump sum bid price. Water meters and all other materials are to be supplied by the Contractor unless noted otherwise. This price shall include all cost for materials to be supplied and shown in contract drawings, all labor, tools, equipment, and all incidental material necessary to construct or set the vault, transport and assemble the meter, and connect to the water mains at the meter location.

The cost of any concrete, gravel, steel reinforcement, pipe, pipe fittings, associated valves, or other material necessary to construct the vault, or that is contained within the vault shall be included in the price bid.

Any concrete, gravel, pipe, pipe fittings, or other material necessary to construct the pipeline outside the vault will be paid for separately as outlined in the "Measurement and Payment Section" of these Contract Documents.

2.68 CONCRETE VALVE MARKERS

Valve markers will be counted in place, and will be paid for at the unit price bid per each.

2.69 STOPAQ

The application of Stopaq corrosion protection wrap will be measured in place along the length of pipe and paid for at the unit price bid per linear foot as listed in the bid proposal.

The unit price bid shall include all materials, labor, equipment, and incidentals necessary for the complete installation of Stopaq wrap.

2.70 SODDING

Sodding shall be paid for at the unit price bid per square yard of sod. Contractor shall be responsible for placing sod required during installation of water main. Sodded area measured for payment will be measured along the length of the water main for the width of sod. Where sodding is required in areas adjacent to any residential or commercial lawn, the type of grass to be planted and grown shall match the type of grass growing on the adjacent lawn. No modification shall be made in the unit price.

END OF SECTION

SECTION 01 29 00
APPLICATIONS FOR PAYMENT

PART 1 - GENERAL

1.1 Submit applications for Payment to the Engineer in accord with the schedule established by Conditions of the Contracts and Agreements between Owner and Contractor.

1.2 Related Requirements in other parts of the Project Manual:

1.2.1 Lump Sum and Unit Prices: Agreement between Owner and Contractor.

1.2.2 Progress payments, retainages and final payment: General Conditions of the Contract.

1.3 Related Requirements specified in other Sections:

1.3.1 Contract Closeout: Section 01 77 00

PART 2 - FORMAT AND DATA REQUIRED

2.1 Submit applications on the form approved by Engineer, with itemized data typed in proper format.

PART 3 - SUBSTANTIATING DATA FOR PROGRESS PAYMENTS

3.1 When the Owner or the Engineer requires substantiating data, Contractor shall submit suitable information, with a cover letter identifying:

3.1.1 Project.

3.1.2 Application number and date.

3.1.3 Detailed list of enclosures.

3.1.4 For stored products:

3.1.4.1 Item number and identification as shown on application.

3.1.4.2 Description of specific material.

3.1.5 Submit one copy of data and cover letter for each copy of application.

3.2 Submit application for payment to the Engineer at the times stipulated in the Agreement.

3.2.1 Number: Six copies of each application.

3.2.2 When the Engineer finds the application properly completed and correct, he will transmit a certificate for payment to Owner, with a copy to Contractor.

END OF SECTION

SECTION 01 31 13
COORDINATION OF WORK

PART 1 - GENERAL

1.1 GENERAL

Management of the project shall be through the use of a logical method of construction planning, scheduling, and cost value documentation as further described in Section 01 32 16, CONSTRUCTION SCHEDULES, of these Specifications.

1.2 EXISTING UTILITIES

1.2.1 The existing water mains will remain in operation while the new construction is in progress.

1.2.2 The Contractor shall coordinate his work with the Owner so that the construction will not restrain or hinder the operation of the existing Water Authority or BLW facilities. If, at any time, any portion of these facilities are out of service, the Contractor must obtain approval from the owner as to the date, time and length of time that portion of the facilities will be out of service.

1.2.3 Connections to the existing facilities or alteration of existing facilities will be made at times when the piping is not in use or at times, established by the Owner, when the use of the piping can be conveniently interrupted for the period of time needed to make the connection or alteration.

1.2.4 After having coordinated his work with the Owner, the Contractor shall notify the Engineer of the time, time limits and methods of each connection or alteration and have the approval of the Engineer before any work is undertaken on the connections or alterations.

1.3 OTHER UTILITIES

1.3.1 Information regarding underground utilities on the contract drawings is not guaranteed as to accuracy or completeness. Prior to beginning work, the Contractor shall request a field location through the Utilities Protection Center and any utility owners thought to have facilities in the area. The Contractor shall promptly compare these field-marked locations with the project plans and then notify the Engineer of any anticipated problems or need for contract changes. It is the Contractor's responsibility to excavate or cause the utility owner to excavate for the purpose of determining exact elevations or locations at utility crossings and other critical locations well in advance of the work under this contract.

END OF SECTION

SECTION 01 32 16
CONSTRUCTION SCHEDULES

PART 1 - GENERAL

1.1 GENERAL

1.1.1 Promptly after award of the contract, the Contractor shall prepare and submit to the Engineer estimated construction progress schedules for the Work, with sub-schedules of related activities which are essential to its progress.

1.1.2 Submit revised progress schedules as necessary.

PART 2 - PRODUCT

2.1 FORM OF SCHEDULES

2.1.1 As determined by the Contractor and acceptable to the Engineer.

2.2 CONTENT OF SCHEDULES

2.2.1 Construction Progress Schedule:

2.2.1.1 Show the complete sequence of construction by activity.

2.2.1.2 Show the dates for the beginning, and completion of, each major element of construction.

2.2.2 Products Delivery Schedule Dates.

2.2.3 Provide sub-schedules to define critical portions of prime schedules.

2.3 PROGRESS REVISIONS

2.3.1 Indicate progress of each activity to date of submission.

2.3.2 Show changes occurring since previous submission of schedules:

2.3.2.1 Major changes in scope.

2.3.2.2 Activities modified since previous submission.

2.3.2.3 Revised projections of progress and completion.

2.3.2.4 Other identifiable changes.

2.3.3 Provide a narrative report as needed to define:

2.3.3.1 Problem areas, anticipated delays, and the impact on the schedule.

2.3.3.2 Corrective action recommended, and its effect.

PART 3 - EXECUTION

3.1 SUBMISSIONS

3.1.1 Submit initial schedules within 15 days after award of Contract.

3.1.1.1 The Engineer will review schedules and return review copy within 15 days after receipt.

3.1.1.2 If required, resubmit within 7 days after return of review copy.

3.1.2 Submit revised progress schedules with each application for payment.

3.1.3 Submit one reproducible transparency and one opaque reproduction.

3.2 DISTRIBUTION

3.2.1 Distribute copies of the reviewed schedules to:

3.2.1.1 Job site file.

3.2.1.2 Subcontractors.

3.2.1.3 Other concerned parties.

3.2.2 Instruct recipients to report promptly to the Contractor, in writing, any problems anticipated by the projections shown in the schedules.

END OF SECTION

SECTION 01 32 23
FIELD ENGINEERING

PART 1 - GENERAL

1.1 GENERAL

1.1.1 The Contractor shall provide, at no additional cost to the owner, field engineering services required for the construction of the proposed water main.

1.1.1.1 Survey work required in execution of the Project.

1.1.1.2 Civil, structural or other professional engineering services specified, or required to execute Contractor's construction methods.

1.1.2 Prior to construction or site work the Engineer will identify existing control points indicated on the drawings, as needed.

PART 2 - PRODUCT

2.1 SURVEY REFERENCE POINTS

2.1.1 Existing basic horizontal and vertical control points for the project are those designated on drawings.

2.1.2 The contractor shall locate and protect control points prior to starting any clearing, grubbing or construction, and preserve all permanent reference points during construction. The Contractor shall provide, at his expense, any temporary staking, including necessary off-set staking to preserve the control points.

2.1.2.1 Make no changes or relocation without prior written notice to Engineer.

2.1.2.2 Report to Engineer when any reference point is lost or destroyed, or requires relocation due to changes in the scope of the project.

2.1.2.3 Require a surveyor to replace project control points which may be lost or destroyed. Establish replacements based on original survey control.

2.2 PROJECT SURVEY REQUIREMENTS

2.2.1 Establish lines and levels, locate and lay out, by instrumentation and similar appropriate means.

2.2.2 Construction Staking

2.2.2.1 Stakes for pipeline alignment.

2.2.2.2 Invert elevations.

2.2.2.3 From time to time, verify layouts by the same methods.

PART 3 - EXECUTION

3.1 RECORDS

Maintain a complete, accurate log of all control and survey work as it progresses.

3.2 SUBMITTALS

On request of the Engineer, submit documentation to verify accuracy of field engineering work.

END OF SECTION

SECTION 01 33 00
SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

PART 1 - GENERAL

1.1 GENERAL

1.1.1 Submit shop drawings, product data and samples required by the Contract Documents.

1.1.2 Designate in the construction schedule, or in a separate coordinated schedule, the dates for submission and the dates that reviewed shop drawings, product data and samples will be needed.

1.2 SHOP DRAWINGS

1.2.1 Shop drawings shall be submitted in a clear and thorough manner to the Engineer. Copies returned to the Contractor will be marked as follows:

- "No Exceptions Noted" - Indicates the drawings have been reviewed for conformance with the contract documents and no exceptions have been taken. Proceed with the work.

- "Make Corrections Noted" - Indicates the drawings have been reviewed for conformance with the contract documents and work may proceed in accordance with all comments. Resubmittal will not be required.

- "Revise and Resubmit" - Indicates the drawings have been reviewed for conformance with the contract documents, and work may not proceed. After items to which exceptions have been taken are corrected, Contractor shall again submit copies for review.

- "Rejected" - Indicates the drawings have been reviewed for conformance with the contract documents and are too incomplete or in an unacceptable condition for review. A notation will be made on the shop drawings as to the exceptions taken. Drawings shall be revised and resubmitted for review before proceeding with the work.

- "Submit Specified Item" - Indicates that one or more items in the submittal were missing or incomplete. Work may commence on any items to which no exceptions were taken; missing or incomplete items must be submitted as noted.

1.2.2 Details shall be identified by reference to sheet and detail, schedule or room numbers shown on Contract Drawings.

1.3 PRODUCT DATA

1.3.1 Preparation

1.3.1.1 Clearly mark each copy to identify pertinent products or models.

1.3.1.2 Show performance characteristics and capacities.

1.3.1.3 Show dimensions and clearances required.

1.3.1.4 Show wiring or piping diagrams and controls.

1.3.2 Manufacturer's standard schematic drawings and diagrams:

1.3.2.1 Modify drawings and diagrams to delete information which is not applicable to the work.

1.3.2.2 Supplement standard information to provide information specifically applicable to the work.

1.4 SAMPLES

Office samples shall be of sufficient size and quantity to clearly illustrate:

- Functional characteristics of the product, with integrally related parts and attachment devices.
- Full range of color, texture and pattern.

1.5 CONTRACTOR RESPONSIBILITIES

1.5.1 Review shop drawings, product data and samples prior to submission.

1.5.2 Determine and verify:

1.5.2.1 Field measurements.

1.5.2.2 Field construction criteria.

1.5.2.3 Catalog numbers and similar data.

1.5.2.4 Conformance with specifications.

1.5.3 Coordinate each submittal with requirements of the work and of the contract documents.

1.5.4 Notify the Engineer in writing, at time of submission, of any deviations in the submittals from requirements of the contract documents.

1.5.5 Begin no fabrication or work which requires submittals until return of submittals with Engineer approval.

1.6 SUBMISSION REQUIREMENTS

1.6.1 Make submittals promptly in accordance with approved schedule, and in such sequence as to cause no delay in the work or in the work of any other contractor. Shop Drawings shall be submitted in a folder for each set of drawings. The folder shall contain one drawing for each item submitted. The folder shall be labeled with the full project name. All submittals shall be indexed.

1.6.2 Number of submittals required:

1.6.2.1 Shop drawings: Submit the number of opaque reproductions which the Contractor requires plus three copies which will be retained by the Engineer.

1.6.2.2 Product data: Submit the number of copies which the Contractor requires, plus three which will be retained by the Engineer.

1.6.2.3 Samples: Submit the number stated in each specification section.

1.6.3 Submittals shall contain:

1.6.3.1 The date of submission and the dates of any previous submissions.

1.6.3.2 The project title and number.

1.6.3.3 Contract identification.

1.6.3.4 The names of:

1.6.3.4.1 Contractor.

1.6.3.4.2 Supplier.

1.6.3.4.3 Manufacturer.

1.6.3.5 Identification of the product, with the specification section number.

1.6.3.6 Field dimensions, clearly identified as such.

1.6.3.7 Relation to adjacent or critical features of the work or materials.

1.6.3.8 Applicable standards, such as ASTM or Federal Specifications numbers.

1.6.3.9 Identification of deviations from contract documents.

1.6.3.10 Identification of revisions on resubmittals.

1.6.3.11 An 8 in. x 3 in. blank space for Contractor and Engineer stamps.

1.6.3.12 Contractor's stamp, initialed or signed, certifying his review of submittal, verification of products, field measurements and field construction criteria, and coordination of the information within the submittal with requirements of the Work and of Contract Documents.

1.7 RESUBMISSION REQUIREMENTS

1.7.1 Make any corrections or changes in the submittals required by the Engineer and resubmit until approved.

1.7.2 Shop Drawings and Product Data:

1.7.2.1 Revise initial drawings or data, and resubmit as specified for the initial submittal.

1.7.2.2 Indicate any changes which have been made other than those requested by the Engineer.

1.7.3 Samples: Submit new samples as required for initial submittal.

END OF SECTION

SECTION 01 35 13
SPECIAL PROJECT PROCEDURES

PART 1 - GENERAL

1.1 PROJECT MANAGEMENT

The Contractor shall schedule and coordinate all work by his forces and subcontractors and others involved to maintain the accepted progress schedule. The Contractor's duties also include the planning of work, the scheduling or ordering and delivery of materials, and checking and control of all work under this contract. Construction schedules shall be submitted to the Engineer for review prior to the start of any work. Schedules shall be verified or updated as necessary.

The Contractor shall be responsible for complete supervision and control of his subcontractors as though they were his own forces. Notice to the Contractor shall be considered notice to all affected subcontractors.

The Contractor shall appoint a qualified representative to act as the, "Project Coordinator, Project Manager or the Project Superintendent", who shall be responsible for coordinating all work and providing liaison with the Engineer and the Owner. This person shall be responsible for all duties described above and in all matters represent the Contractor regarding this project in the absence of a Corporate Officer or Principal of the firm. This person will be on the Project site for the duration of the project.

The Contractor shall give daily notice of all activities via internet communications to the following:

1. Georgia DOT
2. Cobb DOT.
3. Cobb Police.
4. Cobb Fire & Emergency.
5. Cobb County Water System
6. Marietta Police.
7. Marietta Fire & Emergency.
8. Smyrna Police.
9. Smyrna Fire & Emergency.
10. Smyrna Utility Services.
11. Owner.
12. Engineer.

The Contractor shall employ only competent and skilled personnel on the work. At all times when the work is in progress, the Contractor shall have a competent Superintendent or Foreman present with authority to receive orders, execute the work and to promptly supply materials, tools, plant equipment and labor as may be required. Should the Engineer demand, the Contractor shall immediately remove any Superintendent, Foreman or worker

whom the Engineer considers incompetent, or undesirable, or both.

1.2 CREW SUPERVISION

The contractor's laborers, pipelayer(s) and equipment operator(s) must be supervised by a non-operator certified foreman or certified superintendent experienced in laying 36" and 42" ductile iron pressure water main. The foreman's and superintendent's resume, including OSHA certification status must be submitted to the Engineer and Owner for review prior to award of the contract.

1.3 WORK HOURS AND RESTRICTIONS

Except in the case of an emergency or other unusual circumstance, no work shall be done on the project outside of Owner-approved work hours. Except in an emergency, the Contractor must obtain approval of the Owner before scheduling additional work hours.

There shall be **no** traffic lane closures during weekdays between the hours of 5 AM to 9 AM and 3 PM to 6 PM. Exception to this requirement will only be made the approval of the Georgia DOT.>>> Week end?

Work within the Caswell Parkway, affecting ingress and egress to the residents on Caswell Parkway is limited to 30 days. Access by emergency vehicles must be maintained.

If milling or excavation is performed within 1,000 feet of any existing traffic signal or flashing beacon, contact GDOT District 7 District Traffic Operations (DTO) at 770-986-1765.

1.4 CLOSING VALVES

Except in an emergency the Contractor shall not close or open valves on any water main without first gaining approval from the Owner of the water main.

1.5 TRENCH SAFETY ORDINANCE

Cobb County has enacted a local ordinance which requires strict adherence to OSHA regulations Subpart P, Part 1926 pertaining to trenching and excavation. All bidders are advised to be familiar with both the OSHA regulations and the local ordinance before bidding this project.

1.6 ACCESS TO ADJACENT PROPERTY

The Contractor shall be responsible for ensuring vehicular access to business and residences adjacent to the pipeline route. If site conditions allow, the contractor will construct a temporary gravel driveway for access; in this case, gravel will be paid for at the unit price bid, but site grading will not be considered for separate payment.

The Contractor will not be permitted to deny access to any property along the route. If two drives are available, only one drive may be closed at a time. If one drive is available, the drive can only be closed one half at a time while access is maintained on the other half. The work on a drive must be completed within one day's time. The drive must be repaved within 10 working days of disturbance due to construction.

1.7 OWNER FURNISHED MATERIALS

Certain materials may be furnished by the Owner and are currently stored at the Wyckoff Water Plant located off Mars Hill Road, Acworth, Georgia. Contractor is responsible for loading, transporting, and unloading these materials at the job site. These Owner furnished items have been paid for by the Owner.
The Owner is furnishing no materials for this project.

1.8 TIE-INS

All tie-ins to the CCMWA's and other utilities' existing water mains shall be performed in a timely and efficient manner in order to minimize the down-time to the system. If necessary, the Water Authority may require two crews working simultaneously at each end of the relocation section during the tie-in operations to minimize the system down-time.

1.9 EROSION CONTROL

It is the Contractor's responsibility to furnish, install and maintain any and all erosion control devices and silt fencing as may be required by any County, State or Federal agency that may have jurisdiction over the area in which work is being performed in the execution of this contract. In the event there are conflicting requirements, the most stringent regulations shall apply. It will be the responsibility of the Contractor to remove all erosion control devices and silt fencing upon completion of the work at such time that a suitable ground cover has been established and final stabilization has been reached. See sections 01 41 00 and 31 25 00 for further details on regulatory requirements and erosion control methods.

1.10 WORK ZONE TRAFFIC CONTROL

The Contractor shall provide, erect and maintain all necessary barricades, suitable and sufficient warning lights, danger signals, and signs, provide sufficient number of watchmen, and take all necessary precautions for the protection of the work and the safety of the public. Contractor shall comply with all local and state ordinances concerning traffic control. No road closings will be allowed without prior approval of the local governing authority.

All personnel involved in traffic control and doing any flagging must have received training and a certificate upon completion of the training from a GDOT approved training program. All costs for providing certified flaggers will be borne by the Contractor. Failure to provide certified flaggers as required above shall be reason for suspending work regarding the

flagger(s) until a certified flagger can be provided. Flagging personnel shall be equipped with radio communication.

It is the Contractor's responsibility to submit and obtain approval for traffic control from the appropriate governing authority. The Contractor shall employ a firm that provides traffic control planning on a professional basis and shall submit that firm and its qualifications for review. All traffic control plans shall be prepared in accordance with Manual on Uniform Traffic Control Devices (MUTCD).

The Contractor shall have on-site a Certified Traffic Control Supervisor. The Certified Traffic Control Supervisor shall have completed Temporary Traffic Control Design and Supervision instruction by the National Safety Council or equivalent training. Proof of such training will be provided. The Certified Traffic Control Supervisor shall be on-site during all times traffic is interrupted by construction activities; during normal work times and during emergencies outside normal work times. The Certified Traffic Control Supervisor shall have the authority to direct necessary work activities to maintain a safety work environment for the public and for the workers. The Certified Traffic Control Supervisor's sole duty shall be to supervise traffic safety and shall perform no other duties on the project.

1.11 CREEK CROSSING

Upon award of the project, the Contractor shall submit, to the engineer and Owner, his detailed plans for any creek crossing within the scope of this project. These plans will also be reviewed by the Cobb County Community Development Department for erosion control methods. The Contractor will be responsible for furnishing and incorporating any additional erosion control methods required by the Community Development Department.

1.12 CLOSURES

Closures shall be made in straight sections of pipe using a solid long body mechanical joint sleeve. Installation shall include a filler/spacer ring to compensate for the final lap joint. Fit shall be tight as practical. Closure shall be at least one pipe length away from an adapter. Closing with no spacer ring or by "bucking" pipe sections together with no sleeve will not be allowed.

1.13 ACCEPTANCE AND FINAL PAYMENT

When the project provided for under this contract has been completed by the Contractor, and all parts of the work have been approved by the Engineer according to the contract, the Engineer shall, within ten (10) days unless otherwise provided, make final inspection and advise the Contractor to prepare a final estimate, showing the value of work as soon as the necessary measurements and computations can be made. Contractor and Owner acknowledge that all progress certificates or estimates upon which payments shall have been made, will have been based on approximations only, and will be subject to correction in the final payment. Contractor shall prepare the final estimate and submit the same for payment

within ninety (90) days of notification of final acceptance of the project by the Engineer. If Contractor fails to submit a final estimate and bill within said ninety (90) day period, the Contractor will be deemed to have conclusively waived, relinquished and forfeited any amounts remaining due under this contract, and the Owner may defund the project and re-appropriate said funds with no further liability under this contract or otherwise to Contractor. The amount of the final estimate, less any sums that may have been deducted or retained under the provisions of this contract, will be paid to the Contractor within sixty (60) days after approval by the Engineer, provided that the Contractor has properly maintained and operated the project as specified under the attached specifications, and provided, that he has furnished to the Owner a sworn affidavit to the effect that all bills are paid and no suits are pending in connection with the work performed or labor and material furnished under this contract.

1.14 PIPE STORAGE

Pipe storage is subject to approval by the Georgia Department of Transportation.

1.15 Not Applicable

1.16 SCHEDULE REQUIRMENTS

Connection to 36" Water Main north of Windy Hill Road and to the 42" Water Main south of Windy Hill Road can only be made after February 25, 2016.

1.17 TEST REQUIRMENTS

The Contractor is responsible for providing temporary pipe restraint necessary to restrain the water main during hydrostatic test. The hydrostatic test pressure for this project is 250 psi. Water mains shall be tested independently of any existing water main prior to connection.

1.18 ROADWAY MAINTENANCE

The Contractor shall maintain the surface of the roadway in a suitable condition for the safe traverse by traffic.

1. At the end of each work day, in those work areas within the roadway, place a temporary asphalt surface. Provide 3" 12.5 mm SuperPave asphalt.
2. Maintain traffic surface until asphalt base and binder has been placed.
3. Place asphalt base and binder courses after 500 feet of water main have been installed.
4. Mill and overlay pavement after completion of water main construction.

Steel plates will only be used with the agreement of the Engineer. Any steel plate installed within a travel lane must have edges asphalted and pinned and comply with the requirements

of the Utility Accommodation Manual.

1.19 METERS

The following is a list of existing BLW meters to be connected with new water services.

METER ADDRESS				Meter Number	Meter Size
1690	COBB	PKWY	SOUTH	96029030	1
1702	COBB	PKWY	SOUTH	F00433	0.75
1710	COBB	PKWY	SOUTH	9452	0.75
1736	COBB	PKWY	SOUTH	V02313	0.75
1740	COBB	PKWY	SOUTH		0.75
1750	COBB	PKWY	SOUTH	756	0.75
1764	COBB	PKWY	SOUTH	V03061	0.75
1770	COBB	PKWY	SOUTH	51606525WR	0.75
1800	COBB	PKWY	SOUTH	L00970	0.75
1830	COBB	PKWY	SOUTH	VL3849	1

Contractor is field verify meters and meter sizes.

1.20 DISPOSAL OF MATERIALS

The Owner reserves the right to retain ownership of existing materials; pipe, valves, and fittings. The Contractor shall make Owner-designated materials available for recovery by the Owner. All other materials shall become the responsibility of the Contractor for disposal.

END OF SECTION

SECTION 01 35 25
CONFINED SPACE ENTRY

PART 1 - GENERAL

1.1 GENERAL

Whenever it is necessary for the Engineer to enter a confined space to perform inspection or other functions necessary to the project, the Contractor shall provide two trained personnel to assist and equipment appropriate to the type of confined space to be entered.

PART 2 - PRODUCT

2.1 EQUIPMENT

The Contractor shall follow all the requirements stipulated in 29 CFR 1910.146 and shall provide equipment necessary to perform confined space entry in accordance with 29 CFR 1910.146. Equipment shall include but not be limited to the following:

2.1.1 Tripod, Hoist and Harness

2.1.2 Gas Monitor

2.1.3 Two Way Radios

2.1.4 Cellular Telephone

2.2 PERSONNEL

The Contractor shall provide two personnel trained in confined space entry (to the level of attendant) to assist the engineer with confined space entry.

2.3 TRAINING

If the equipment provided by the contractor is different from equipment the Engineer is accustomed to, then the Contractor shall provide training in the use of that equipment. The Contractor however is not responsible for providing confined space entry training to Engineer.

PART 3 - EXECUTION

3.1 GENERAL

The contractor will be provided with a list of the Owner's and Engineer's personnel that are trained in confined space entry as entrants or attendants. Persons not trained in confined space entry will not be allowed entry.

The Contractor shall be responsible for providing, filling out, and filing confined space entry permits.

END OF SECTION

SECTION 01 35 55
JOB SITE SECURITY

PART 1 - GENERAL

1.1 BARRICADES, LIGHTS AND WATCHMEN

1.1.1 The Contractor shall furnish and erect such barricades, fences, lights, and danger signals, shall provide such watchmen, and shall provide such other precautionary measures for the protection of persons or property and of the work as are necessary. Barricades shall be painted in a color that will be visible at night. From sunset to sunrise, the Contractor shall furnish and maintain at least one light at each barricade and sufficient numbers of barricades shall be erected to keep vehicles from being driven on or into any work under construction. The Contractor shall furnish watchmen in sufficient numbers to protect the work if determined to be necessary by the Owner.

1.1.2 The Contractor will be held responsible for all damage to the work due to failure of barricades, signs, lights, and watchmen to protect it and whenever evidence is found of such damage, the Contractor shall immediately remove the damaged portion and replace it at his cost and expense. The Contractor's responsibility for the maintenance of barricades, signs, lights, and for providing watchmen shall not cease until the project shall have been accepted by the Owner.

** END OF SECTION **

SECTION 01 41 00
REGULATORY REQUIREMENTS

PART 1 - GENERAL

1.1 GENERAL

The Contractor shall, without additional expense to the Owner, be responsible for obtaining any necessary licenses, permits and complying with any and all applicable Federal, State and Municipal laws, codes and regulations in connection with the prosecution of the work included in this contract.

1.2 SAFETY AND HEALTH

The Contractor shall take proper safety and health precautions to protect the Work, the workers, the public, and the property of others.

1.3 NPDES PERMIT

The Contractor shall be required to become the primary permittee under the General Permit GAR100002 "Storm Water Discharges Associated with Construction Activity for Infrastructure Construction Projects". The Contractor shall be responsible for the filing of the Notice of Intent (NOI) and NPDES fee payment associated with the NOI and the Notice of Termination (NOT) for this project in accordance with the regulations and requirements of the Georgia Environmental Protection Division (GA EPD). Prior to the commencement of any land disturbance activities, a copy of the "NOI" and NPDES fee payment record must be received by the Engineer, Owner, and the GA EPD. Prior to any final payment, a copy of the "NOT" must be received by the Engineer, the Owner, and the GA EPD.

PART 2 – PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 GENERAL REQUIREMENTS

The Contractor shall be required to become the primary permittee under the General Permit GAR100002 "Storm Water Discharges Associated with Construction Activity".

3.2 FILING REQUIREMENTS

The Contractor shall be responsible for the filing of the Notice of Intent (NOI) and the Notice of Termination (NOT) for this project in accordance with the regulations and requirements of the Georgia Environmental Protection Division (GA EPD). Prior to the

commencement of any land disturbance activities, a copy of the "NOI" must be received by the Engineer, Owner, and the GA EPD. Prior to any final payment, a copy of the "NOT" must be received by the Engineer, the Owner, and the GA EPD.

3.3 EMPLOYMENT OF PROFESSIONAL CERTIFIED PERSONNEL

The Contractor shall employ the services of Professional Certified Personnel as defined in the GAR 10002 for the purpose of monitoring and reporting upon the Contractor's erosion and sediment control. The Contractor shall submit to the Owner and Engineer the qualifications of the Professional Certified Person for review. The Professional Certified Person or an individual under the direct supervision of the Professional Certified Person shall perform the following duties:

3.3.1 Inspect and monitor the site as required by the General Permit GAR100002 "Storm Water Discharges Associated with Construction Activity for Infrastructure Construction Projects". Within 24 hours of any inspection or site monitoring, submit electronic copies of any report to the Engineer and the Owner. Within 7 days of any inspection or site monitoring, submit written reports to the Engineer and the Owner. Copies of all reports will be maintained on the project site by the Contractor.

3.4 DUTIES OF CONTRACTOR

The Contractor as a minimum shall perform the following duties:

3.4.1 Maintain the Erosion, Sedimentation and Pollution Control Plans and the Comprehensive Monitoring Plan on the project site until the project is closed by filing the NOT.

3.4.2 Install and maintain the erosion and sedimentation control devices and practice best management practices to comply with the requirements and intent of the Erosion, Sedimentation and Pollution Control Plans and the Comprehensive Monitoring Plan.

END OF SECTION

SECTION 01 45 29
TESTING LABORATORY SERVICES

PART 1 - GENERAL

1.1 GENERAL

Materials furnished for all construction shall be subject to test at all times by the Engineer, and any samples or specimens selected for test shall be furnished at no cost. The cost of all such tests shall be borne by the Owner. All tests shall be made by a recognized testing laboratory, acceptable to the Engineer. The following minimum testing will be required:

1.1.1 Soils compaction control.

1.1.2 Disinfection.

1.1.3 Cement.

1.1.4 Fine Aggregate.

1.1.5 Coarse Aggregate.

1.1.6 Concrete.

1.1.7 Reinforcing Steel

1.1.8 Brick.

1.1.9 Ductile Iron Pipe.

1.1.10 Joint Materials.

1.1.11 Asphaltic Concrete.

PART 2 - PRODUCT

2.1 Meet "Recommended Requirements for Independent Laboratory Qualification", published by American Council of Independent Laboratories.

2.2 Meet basic requirements of ASTM E 329, "Standards of Recommended Practice for Inspection and Testing Agencies for concrete and steel as used in construction."

2.3 Authorized to operate in the State in which the Project is located.

2.4 Laboratory Duties

Promptly submit written report of each test and inspection: One copy each to the Engineer, Owner, Contractor, and one copy to Record Documents file. Each report shall include:

2.4.1 Date issued.

2.4.2 Project title and number.

2.4.3 Testing laboratory name, address and telephone number.

2.4.4 Name and signature of laboratory inspector.

2.4.5 Date and time of sampling or inspection.

2.4.6 Record of temperature and weather conditions.

2.4.7 Date of test.

2.4.8 Identification of product and specification section.

2.4.9 Location of sample or test in the project.

2.4.10 Type of inspection or test.

2.4.11 Results of tests and compliance with contract documents.

2.4.12 Interpretation of test as required by the Engineer or the Owner.

2.4.13 Perform additional tests as required by the Engineer or the Owner.

2.5 LIMITATIONS OF AUTHORITY OF TESTING LABORATORY

2.5.1 Laboratory is not authorized to:

2.5.2 Release, revoke, alter or enlarge on requirements of Contract Documents.

2.5.3 Approve or accept any portion of the work.

2.5.4 Perform any duties of the contractor.

PART 3 - EXECUTION

3.1 Cooperate with laboratory personnel to provide access to work, to Manufacturer's operations.

3.2 Secure and deliver to the laboratory adequate quantities of representative samples of materials proposed to be used and which require testing.

3.3 Provide to the laboratory the preliminary design mix proposed to be used for concrete, and other materials mixes which require control by the testing laboratory.

3.4 Furnish copies of products test reports as required.

3.5 Furnish incidental labor and facilities:

3.5.1 To provide access to work to be tested.

3.5.2 To obtain and handle samples at the project site or at the source of the product to be tested.

3.5.3 To facilitate inspections and tests.

3.5.4 For storage and curing of test samples.

3.6 Notify laboratory sufficiently in advance of operations to allow for laboratory assignment of personnel and scheduling of tests.

3.7 When tests or inspections cannot be performed after such notice, reimburse Owner for laboratory personnel and travel expenses incurred due to Contractor's negligence.

3.8 Employ and pay for the services of a separate, equally qualified independent testing laboratory to perform additional inspections, sampling and testing required:

3.8.1 For the Contractor's convenience.

3.8.2 When initial tests indicate work does not comply with Contract Documents.

END OF SECTION

SECTION 01 51 00
TEMPORARY UTILITIES

PART 1 - GENERAL

1.1 DESCRIPTION

Furnish, install and maintain temporary utilities required for construction, remove on completion of work.

1.2 REQUIREMENTS OF REGULATORY AGENCIES

1.2.1 Comply with National Electric Code.

1.2.2 Comply with Federal, State and local codes and regulations and with utility company requirements.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

Materials may be new or used, but must be adequate in capacity for the required usage, must not create unsafe conditions, and must not violate requirements of applicable codes and standards.

2.2 TEMPORARY ELECTRICITY AND LIGHTING

2.2.1 Arrange with utility company, provide service required for power and lighting, and pay all costs for service and for power used.

2.2.2 Provide adequate artificial lighting for all areas of work when natural light is not adequate for work, and for areas accessible to the public.

2.3 TEMPORARY HEAT AND VENTILATION

2.3.1 Provide temporary heat and ventilation as required to maintain adequate environmental conditions to facilitate progress of the work, to meet specified minimum conditions for the installation of materials, and to protect materials and finishes from damage due to temperature or humidity.

2.3.2 Provide adequate forced ventilation for enclosed areas for curing of installed materials, to disperse humidity, and to prevent hazardous accumulations of dust, fumes, vapors, or gases.

2.3.3 Portable heaters shall be standard approved units complete with controls.

2.3.4 Pay all costs of installation, maintenance, operation and removal, and for fuel consumed.

2.4 TEMPORARY WATER

2.4.1 Arrange to provide metered water for construction purposes; pay all costs for installation, maintenance and removal, and service charges for water used.

2.4.2 Water service must have a backflow preventer sized for the line installed. Backflow preventer must be a "reduced pressure zone" type (Watts Series 009QT) or an alternate approved by the local water authority.

2.5 TEMPORARY SANITARY FACILITIES

2.5.1 Provide sanitary facilities in compliance with laws and regulations.

2.5.2 Service, clean and maintain facilities and enclosures.

PART 3 - EXECUTION

3.1 GENERAL

3.1.1 Maintain and operate systems to assure continuous service.

3.1.2 Modify and extend system as work progress requires.

3.2 REMOVAL

3.2.1 Completely remove temporary materials and equipment when their use is no longer required.

3.2.2 Clean and repair damage caused by temporary installations or use of temporary facilities.

END OF SECTION

SECTION 01 56 17
DUST CONTROL & PROPERTY PROTECTION

PART 1 - GENERAL

1.1 DUST CONTROL

Limit blowing dust caused by construction operations by applying water or employing other appropriate means or methods to maintain dust control, subject to the approval of the Owner.

1.2 PROTECTION OF ADJACENT PROPERTY

1.2.1 The bidders shall visit the site and note the buildings, landscaping, roads, parking areas and other facilities near the work site that may be damaged by their operations. The Contractor shall make adequate provision to fully protect the surrounding area and will be held fully responsible for all damages resulting from his operations.

** END OF SECTION **

SECTION 01 77 00
CONTRACT CLOSEOUT

PART 1 – GENERAL

1.1 GENERAL

1.1.1 Comply with requirements stated in conditions of the contract and in specifications for administrative procedures in closing out the work.

1.1.2 Related requirements in other parts of the contract documents.

1.1.2.1 Fiscal provisions, legal submittals and additional administrative requirements: Conditions of the Contract.

1.1.3 Related requirements specified in other sections:

1.1.3.1 NA

1.2 SUBSTANTIAL COMPLETION

1.2.1 When contractor considers the work is substantially complete, he shall submit to Engineer:

1.2.1.1 A written notice that the work or designated portion thereof, is substantially complete.

1.2.1.2 A list of items to be completed or corrected.

1.2.2 Within a reasonable time after receipt of such notice, the Engineer will make a construction review to determine the status of completion.

1.2.3 Should Engineer determine that the work is not substantially complete:

1.2.3.1 Engineer will promptly notify the contractor in writing giving the reasons therefore.

1.2.3.2 Contractor shall remedy the deficiencies in the work, and send a second written notice of substantial completion to the Engineer.

1.2.3.3 Engineer will again review the work for completion status.

1.2.4 When the Engineer finds that the work is substantially complete, he will:

1.2.4.1 Prepare and deliver to Owner a tentative certificate of Substantial Completion with a tentative list of items to be completed or corrected before final payment.

1.2.4.2 After consideration of any objections made by the Owner as provided in conditions of the contract, and when Engineer considers the work substantially complete, he will execute and deliver to the Owner and the Contractor a definite Certificate of Substantial Completion with a revised tentative list of items to be completed or corrected.

1.3 FINAL CONSTRUCTION REVIEW

1.3.1 When Contractor considers the work is complete, he shall submit written certification that:

1.3.1.1 Contract documents have been reviewed.

1.3.1.2 Work has been reviewed for substantial compliance with contract documents.

1.3.1.3 Work has been completed generally in accordance with contract documents.

1.3.1.4 Equipment and systems have been tested in the presence of the Owner's representative and are operational.

1.3.1.5 Work is completed and ready for final construction review.

1.3.2 Engineer will perform a review to verify the status of completion with reasonable promptness after receipt of such certification.

1.3.3 Should Engineer consider that the work is incomplete or defective:

1.3.3.1 Engineer will promptly notify the Contractor in writing, listing the incomplete or defective work.

1.3.3.2 Contractor shall take immediate steps to remedy the stated deficiencies, and send a second written certification to Engineer that the work is complete.

1.3.3.3 Engineer will again review the work.

1.3.4 When the Engineer finds that the work is acceptable under the contract documents, he shall request the contractor to make closeout submittals.

1.4 CONTRACTOR'S CLOSEOUT SUBMITTALS TO ENGINEER

1.4.1 Operating and maintenance data, instructions to Owner's personnel.

1.4.2 Evidence of Payment and Release of Liens: To requirements of General and Supplementary Conditions.

1.4.3 Certificate of Insurance for Products and Completed Operation.

1.5 FINAL ADJUSTMENT OF ACCOUNTS

1.5.1 Submit a final statement of accounting to the Engineer.

1.5.2 Statement shall reflect all adjustments to the Contract Sum:

1.5.1.1 The original Contract Sum.

1.5.1.2 Additions and deductions resulting from:

1.5.1.2.1 Previous change orders.

1.5.1.2.2 Allowances.

END OF SECTION