

SECTION 01015
GENERAL REQUIREMENTS

PART 1 - GENERAL

1.01 DESCRIPTION

- A. This Section provides for miscellaneous provisions applicable to the Work.

1.02 RELATED SECTIONS

- A. Section 01011 – Special Project Procedures
- B. Section 01090 - References
- C. Section 01310 – Construction Schedules
- D. Section 01340 – Shop Drawings, Working Drawings and Samples
- E. Section 01530 –Existing Utilities
- F. Section 01570 – Traffic Regulation
- G. Section 01720 – Project Record Documents
- H. Other Sections as applicable.

1.03 TERMINOLOGY

- A. Throughout the Contract Documents, the following definitions apply:
 - 1. Owner - The individual or entity with whom Contractor has entered into the Agreement and for whom the Work is to be performed.
 - 2. Work - The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction, and furnishing, installing, and incorporating all materials and equipment into such construction, all as required by the Contract Documents.

1.04 SAFETY

- A. All work shall be done in a safe manner and in strict compliance with all requirements of the Federal Occupational Safety and Health Act (OSHA), The Florida Trench Safety Act and all other State and local safety and health regulations.

B. The Contractor shall comply promptly with such safety regulations as may be prescribed by the Owner or the local authorities having jurisdiction and shall, when so directed, properly correct any unsafe conditions created by, or unsafe practices on the part of, his employees. In the event of the Contractor's failure to comply, the Owner may take the necessary measures to correct the conditions or practices complained of, and all costs thereof will be deducted from any monies due. Failure of the Owner to direct the correction of unsafe conditions or practices shall not relieve the Contractor of his responsibilities.

C. The Contractor shall provide, erect and maintain as necessary, strong and suitable barricades, danger signs and warning lights for the protection of the public in accordance with Section 01570 – Traffic Regulation.

1.05 APPLICABLE CODES

A. The Contractor shall comply with the applicable standards codes and specifications governing the Contract Documents whether City, County, State or Federal. The Contractor is obligated to notify the Owner and Engineer of any deficiency contained in the Contract Documents immediately upon discovery. Where conflicts exist in such, the more stringent shall govern.

1.06 APPLICABLE PERMITS AND LICENSES

A. The Contractor shall abide by all permit conditions, whether, general, specific, limited or otherwise. A copy of all applicable permits and licenses, with the exception of City and County permits obtained by the Contractor, are attached hereto and made a part of the Contract Documents.

1.07 PUBLIC BID DISCLOSURE ACT 218.80 FS

A. All the local governmental entity permits or fees are to be disclosed, including, but not limited to, all license fees, permit fees, impact fees, or inspection fees, payable by the contractor to the unit of government that issued the bidding documents or other governmental agency,

B. The dollar amount or the percentage method or the unit method of all permits or fees which may be required by the local government as a part of this Contract are enumerated below:

Agency	Method	Amount
Town of Surfside Public Works		\$ 20.60
Miami Dade County Public Works Construction Permit	10 %	
Total	10 %	\$ 20.60

C. The total dollar amount determined above shall be presented in the Bid Form and reference shall be made to this Section.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.01 PRE-CONSTRUCTION RESPONSIBILITIES

A. Upon receipt of the Notice to Proceed, the Contractor shall arrange for a Pre-Construction meeting. The meeting shall be held with a minimum of one weeks' notice and shall include the Engineer, the Owner and Representatives for all affected utility companies including but not limited to:

COMPANY	CONTACT	TELEPHONE NUMBER
American Traffic Solutions	Kimberly Greis Santiago Martinez	(631)242-4100 (480)443-7000
Atlantic Broadband	Pete Freytag Edwin Zambrana	(305)861-8069ext. 5208 (305)861-8069 ext. 5411
AT & T Distribution	Steve Low	(305)222-8745
Miami Dade County Public Works	Nahum Fernandez	(305)679-0006
Florida Power & Light - Dade	Angel Larramendi	(386)329-5152
Florida Power & Light Transmission	Seved Halassadollah Chuck Kenworthy	(305)216-9136
Hotwire Communications	Walter Sancho Davila	(954)417-3606
Miami-Dade Water & Sewer	Maria Capote	(786)268-5329
Teco People Gas South Florida	Alex Roche	(954)453-0811
Town of Surfside	Randy Stokes	(305)861-4863
Florida Department of Transportation	Inkey Aromashodu	(786)877-1060 (305)640-7173

3.02 TEMPORARY UTILITIES

A. The Contractor shall be responsible to arrange for and supply all temporary utilities including, but not limited to, water, sewer and electricity.

B. The cost of temporary utilities shall be considered incidental to the cost of the Work and is therefore included in the Bid.

UNDERGROUND LOCATING SERVICE

A. Prior to underground construction, the Contractor is required by the Underground Facility Damage Prevention and Safety Act, Chapter 556 FS to contact Sunshine 811, for the location of underground utilities.

3.04 HURRICANE PREPAREDNESS PLAN

A. Should the performance of the Work occur during Hurricane Season, within thirty days of the date of Notice to Proceed, the Contractor shall submit to the Engineer and Owner a Hurricane Preparedness Plan. The plan should outline the necessary measures that the Contractor proposes to perform at no additional cost to the Owner in case of a hurricane warning. The plan shall detail these measures with specific action items defining responsible personnel.

3.05 INCLEMENT WEATHER

A. In the event of inclement weather, or whenever Engineer shall direct; Contractor will cause Subcontractors to protect carefully the Work and materials against damage or injury from the weather. If, in the opinion of the Engineer, any portion of Work or materials shall have been damaged or injured by reason of failure on the part of Contractor or any Subcontractor to so protect the Work, such Work and materials shall be removed and replaced at the expense of the Contractor.

B. PROTECTION OF WORK AND MATERIAL

C. During the progress of the work and up to the date of final payment, the Contractor shall be solely responsible for the care and protection of all work and materials covered by the Contract.

D. All work and materials shall be protected against damage, injury or loss from any cause whatsoever, and the Contractor shall make good any such damage or loss at his own expense. Protection measures shall be subject to the approval of the Owner and Engineer.

3.06 CONTRACTOR USE OF PREMISES

A. Contractor shall have limited use of the premises for construction operations, including limited use of the site. The Contractor's use of the premises is further limited to the Owner's right to perform construction operations with its own forces or to employ separate Contractors on portions of the project.

B. The Contractor shall be responsible for coordinating his daily activities in conjunction with any Contractors presently working within the vicinity of this project.

C. Confine operations to areas within rights-of-way and easements.

D. Keep existing driveways and entrances serving the premises clear and available to the Owner, Residents and the Owner's employees at all times.

1. Do not use these areas for parking or storage of materials.

2. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on site.

3.07 ENVIRONMENTAL PROTECTION

A. Provide protection, operate temporary facilities and conduct construction in ways

and by methods that comply with environmental regulations, and minimize the possibility that air, waterways and subsoil might be contaminated or polluted, or that other undesirable effects might result.

1. Adjustment of existing utilities

B. The Contractor shall raise or lower all manholes, valve boxes, etc. to finished grade. The cost of these adjustments shall be considered incidental to the cost of the Work and is therefore included in the Bid.

3.08 EXISTING IRRIGATION

A. All existing irrigation systems within the area of the Work shall be restored to original condition or better and adjusted to finished grade. The cost of repairs and/or adjustment to existing irrigation shall be considered incidental to the cost of the Work and is therefore included in the Bid.

3.09 DEMOLITION

A. Limits of demolition which may be shown in the Contract Documents are general in nature. Actual limits of demolition shall be as determined by the field conditions in conformance with the requirements of the Work.

B. All sidewalks within the limits of construction which are not ADA compliant (cross-slopes which exceed 2% and/or running slopes which exceed 5% and/or changes in level of ¼" or greater) shall be demolished and reconstructed to meet these requirements.

C. When sidewalk tie-ins exist outside the limits of construction which are not ADA compliant, the Contractor shall replace those sections as directed by the Owner.

END OF SECTION

SECTION 01045

CUTTING AND PATCHING

PART 1 - GENERAL

1.01 DESCRIPTION

A. Contractor shall be responsible for all cutting, fitting and patching required to complete the work or to:

1. Make its several parts fit together properly.
2. Uncover portions of the Work to provide for installation of ill-timed work.
3. Remove and replace defective work.
4. Remove and replace work not conforming to requirements of Contract Documents.
5. Remove samples of installed work as specified for testing.
6. Investigate subsurface conditions or utilities.

1.02 RELATED SECTIONS

- A. Section 01010 - Summary of Work
- B. Section 01011 - Special Project Procedures
- C. Section 01015 - General Requirements
- D. Other Sections as applicable.

1.03 SUBMITTALS

A. Submit a written request to the Engineer in advance of executing any cutting or alteration which affects:

1. Work of the Owner or any separate contractor.
2. Structural value or integrity of any element of the Project.
3. Integrity or effectiveness of weather-exposed or moisture-resistant elements or systems.
4. Efficiency, operational life, maintenance or safety of operational elements.
5. Visual qualities of sight-exposed elements.

- B. Request shall include:
1. Identification of the Project.
 2. Description of affected work.
 3. The necessity for cutting, alteration or excavation.
 4. Effect on work of Owner or any separate contractor, or on structural or weatherproof integrity of Project.
 5. Description of proposed work:
 - a. Scope of cutting, patching, alteration, or excavation.
 - b. Trades who will execute the work.
 - c. Products proposed to be used.
 - d. Extent of refinishing to be redone.
 6. Alternatives to cutting and patching.
 7. Cost proposal, when applicable.
 8. Written permission of any separate contractor whose work will be affected.
- C. Submit written notice to the Engineer designating the date and the time work will be uncovered.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Comply with specifications and standards for each specific project involved.

PART 3 - EXECUTION

3.01 INSPECTION

- A. Inspect existing conditions of Project, including elements subject to damage or to movement during cutting or patching.
- B. After uncovering work, inspect conditions affecting installation of Products, or performance of work.
- C. Report unsatisfactory or questionable conditions to the Engineer in writing; do not proceed with work until the Engineer has provided further instructions.

3.02 PREPARATION

- A. Provide adequate temporary support as necessary to assure structural value or integrity of affected portion of Work.
- B. Provide devices and methods to protect other portions of Project from damage.
- C. Provide protection from elements for that portion of the Project which may be exposed by cutting and patching work, and maintain excavations free from water.

3.03 PERFORMANCE

- A. Execute cutting and demolition by methods which will prevent damage to other work, and will provide proper surfaces to receive installation of repairs.
- B. Execute cutting methods which will prevent settlement or damage to other work.
- C. Employ original Installer or Fabricator to perform cutting and patching for:
 - 1. Weather-exposed or moisture-resistant surfaces.
 - 2. Sight-exposed finished surfaces.
- D. Execute fitting and adjustment of products to provide a finished installation to comply with specified products, functions, tolerances and finishes.
- E. Restore work which has been cut or removed; install new products to provide completed Work in accord with requirements of Contract Documents.
- F. Fit work airtight to pipes, sleeves, ducts, conduit and other penetrations through surfaces.
- G. Refinish entire surfaces as necessary to provide an even finish to match adjacent finishes:
 - 1. For continuous surfaces, refinish to nearest intersection.
 - 2. For an assembly, refinish entire unit.

END OF SECTION

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SECTION 01046

MODIFICATIONS TO EXISTING STRUCTURES, PIPING AND EQUIPMENT

PART 1 - GENERAL

1.01 DESCRIPTION

A. Furnish all labor, materials, equipment and incidentals required to modify, alter and convert existing structures as shown or specified and as required for the installation of new mechanical equipment, piping and appurtenances. Existing piping and equipment shall be removed, salvaged, abandoned or dismantled as necessary for the performance of the Work.

1.02 RELATED SECTIONS

- A. Section 01011 - Special Project Procedures
- B. Section 01045 - Cutting and Patching
- C. Section 01310 - Construction Scheduling
- D. Other Sections as applicable.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.01 GENERAL

A. The Contractor shall cut, repair, reuse, excavate, demolish or otherwise remove parts of the existing structures or appurtenances, as indicated on the Drawings or specified herein or necessary for the performance of the Work.

B. The above work shall include the cutting of grooves and chases in existing masonry to permit the proper bonding of new masonry to old, repainting of existing masonry, the drilling of holes into bolts, or other appurtenances, and the cutting of holes in masonry for the installation of pipe, conduits, and other appurtenances. The work shall include all necessary cutting and bending of reinforcing steel, structural steel, or miscellaneous metal work found embedded in the existing structures.

C. Blasting with explosives will not be permitted to complete any work under this Contract.

D. Care shall be taken not to damage any part of existing buildings, foundations and exterior structures both below and above ground.

E. No existing structure, equipment, or appurtenance shall be shifted, cut, removed, or otherwise altered except with the express approval of and to the extent approved by the Engineer.

F. When removing materials or portions of existing structures and when making openings in walls and partitions, the Contractor shall take all precautions and use all necessary barriers and other protective devices so as not to damage the structures or contents by falling or flying debris and not to damage the structures from excavation or undermining of existing structural supports, beams, footings, columns or any structural member.

G. Materials and equipment removed in the course of making alterations and additions shall remain the property of the Owner, except that items not salvageable, as determined by the Engineer and the Owner shall become the property of the Contractor to be disposed of by him off the site of the work at his own place of disposal. The Contractor shall assist the Owner in loading and hauling of salvageable materials within the City limits of the project.

H. All work of altering existing structures shall be done at such time and in such manner as will comply with the approved time schedule. So far as possible before any part of the work is started, all tools, equipment, and materials shall be assembled and made ready so that the work can be completed without delay.

I. All workmanship and new materials involved in constructing the alterations shall conform to the General Specifications for the classes of work insofar as such specifications are applicable.

J. All cutting of existing masonry or other material to provide suitable bonding to new work shall be done in a manner to meet the requirements of the respective section of these specifications covering the new work. When not covered, the work shall be carried on in the manner and to extent directed by the Engineer.

K. Where holes in existing masonry are required to be sealed, unless otherwise herein specified, they shall be sealed with cement mortar or concrete. The sides of the openings shall be provided with keyed joints and shall be suitably roughened to furnish a good bond and make a watertight joint. All loose or unsound material adjacent to the opening shall be removed and, if necessary, replaced with new material. The method of placing the mortar seal shall provide a suitable means of releasing entrapped air.

L. Surfaces of seals visible in the completed work shall be made to match as nearly as possible the adjacent surfaces.

M. Non-shrink grout shall be used for setting wall castings, sleeves, leveling pump bases, doweling anchors into existing concrete and elsewhere as shown.

N. Operating equipment shall be thoroughly cleaned and then lubricated and greased for protection during prolonged storage.

O. The Contractor shall provide flumes, hoses, piping, etc. to divert or provide suitable plugs, bulkheads or other means to hold back the flow of wastewater, water or other liquids, all as required in the performance of the work under this Contract.

3.02 SALVAGE

A. Any existing equipment or material, including but not limited to, motors, electrical components or controls, pipes, fittings, couplings, etc., which is removed or replaced as a result of construction under this project may be designated as salvage by the Engineer or Owner, and, if so, shall be removed or excavated, if necessary, and delivered to the Owner at a location directed by the Owner. Any equipment or material not worthy of salvaging, as directed by the Owner, shall be disposed of by the Contractor at a suitable location.

3.03 CONNECTING TO EXISTING PIPING AND EQUIPMENT

A. The Contractor shall verify exact location, material, alignment, joint, etc. of existing piping and equipment prior to making the connections called out in the Drawings. The verifications shall be performed with adequate time to correct any potential alignment or other problems prior to the actual time of connection.

B. The Contractor shall dismantle and remove all existing equipment, piping and other appurtenances required, he shall cut existing pipelines for the purpose of making connections thereto. Anchor bolts for equipment and structural steel removed shall be cut off one inch below the concrete surface. Surface shall be finished as specified in Division 3.

C. At the time that a new connection is made to an existing pipeline, additional new piping, extending to and including the most convenient new valve, shall be installed.

D. Where necessary or required for the purpose of making connections, the Contractor shall cut existing pipe lines in a manner to provide an approved joint. Where required, he shall weld beads, flanges or provide Dresser Couplings, all as specified and required.

END OF SECTION

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SECTION 01050

FIELD ENGINEERING AND SURVEYING

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Provide and pay for field Engineering and surveying services required for Project as follows:
1. Surveying work required for the lay-out and execution of Work.
 2. Surveying work required to identify and maintain existing control points, bench marks and property line corners.
 3. Surveying work required to verify existing utility locations.
 4. Surveying work as required to create Project Record Documents.
 5. Civil, structural, or other professional Engineering services specified, or required to execute the Contractor's construction methods.
 6. Testing, sampling, calibrating and training services specified, or required to execute the Contractor's construction methods including soils, concrete, material, etc.

1.02 RELATED SECTIONS

- A. Section 01410 – Materials and Installation Testing
- B. Section 01720 - Project Record Documents
- C. Other Sections as applicable.

1.03 QUALIFICATIONS OF PROFESSIONAL

- A. Florida Registered Professional Surveyor and Mapper, acceptable to the Owner and the Engineer.

1.04 FLORIDA REGISTERED PROFESSIONAL ENGINEER(S) OF THE SPECIALTY REQUIRED FOR ON THE PROJECT, ACCEPTABLE TO THE OWNER AND THE ENGINEER.

INSURANCE REQUIREMENTS

A. Professional Engineers specified, or required to execute the Contractor's construction methods shall carry the following insurance to remain in force for the duration of the project:

1. Commercial General Liability – Bodily Injury and Property Damage Combined Single Limit

Each Occurrence	\$1,000,000
Project Aggregate	\$1,000,000
General Aggregate	\$1,000,000
Personal Injury	\$1,000,000
Products/Completed Operations	\$1,000,000
Endorsements Required – Broad form Contractual Liability, Waiver of Subrogation, Premises/Operations, Products/Completed Operations, Independent Contractors, Owner and Contractors Protective Liability.	

2. Business Automobile Liability – Bodily injury and property damage, combined single limit.

Any one accident	\$1,000,000
Endorsements Required – Waiver of Subrogation.	

3. Workers Compensation and Employers Liability – Per Florida Statute 440

Employers Liability	\$1,000,000
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4. Professional Liability or Errors and Omissions Coverage

Each Claim	\$1,000,000
General Aggregate Limit	\$2,000,000
Deductible not to exceed \$100,000	

5. Additional Insured shall include Florida Department of Transportation 1000 NW 111 Ave Miami, FL 33172, Calvin, Giordano and Associates, Inc. and the Town of Surfside.

6. Insurance shall be provided by an A.M. Best’s “A” rating or better insurance company authorized to issue insurance policies in the State of Florida, subject to approval.

1.05 SURVEY REFERENCE POINTS

A. Horizontal and vertical control points for the Project are to be established by the Engineer and provided to the Contractor.

B. Locate and protect control points prior to starting work, and preserve all permanent reference points during construction.

1. Make no changes or relocations without prior written notice to the Engineer.
2. Report to the Engineer when any reference point is lost or destroyed, or requires relocation because of necessary changes in grades or locations.
3. Require surveyor to replace project control points which may be lost or destroyed.
 - a. Establish replacements based on original survey control.

1.06 PROJECT SURVEY REQUIREMENTS

- A. Establish a minimum of two temporary bench marks on site, referenced to data by survey control points.
 1. Record locations, with horizontal and vertical data, on Project Record Documents.
- B. Establish lines and levels, locate and lay out, by instrumentation and similar appropriate means:
 1. Site Improvements
 - a. Line and grade of pipe and structure installation; top of pipe, invert, slope, etc.
 - b. Grading for fill and topsoil placement, roadway sub-base and base installation.
 2. Controlling lines and levels required for all trades.
- C. From time to time, verify layouts by same methods.

1.07 RECORDS

- A. Maintain a complete, accurate log of all control and survey work as it progresses in accordance with Section 01720.

1.08 SUBMITTALS

- A. Submit name and address of Professional Surveyor and Mapper or Professional Engineer to the Engineer.
- B. On request of the Engineer, submit documentation to verify accuracy of field Engineering work.
- C. Submit certificate signed by registered surveyor certifying that elevations and locations of improvements are in conformance, or non-conformance, with Contract Documents.
- D. Submit Project Record Documents in accordance with Section 01720.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01090

REFERENCES

PART 1 - GENERAL

1.01 DESCRIPTION

A. **Applicable Publications:** Whenever in these specifications references are made to published specifications, codes, standards, or other requirements, it shall be understood that wherever no date is specified, only the latest specifications, standards, or requirements of the respective issuing agencies which have been published as of the date that the WORK is advertised for bids, shall apply; except to the extent that said standards or requirements may be in conflict with applicable laws, ordinances, or governing codes. No requirements set forth herein or shown on the drawings shall be waived because of any provision of, or omission from, said standards or requirements.

B. **Specialists, Assignments:** In certain instances, specification text requires (or implies) that specific work is to be assigned to specialists or expert entities, who must be engaged for the performance of that work. Such assignments shall be recognized as special requirements over which the Contractor has no choice or option. These assignments shall not be interpreted so as to conflict with the enforcement of building codes and similar regulations governing the WORK; also they are not intended to interfere with local union jurisdiction settlements and similar conventions. Such assignments are intended to establish which party or entity involved in a specific unit of work is recognized as "expert" for the indicated construction processes or operations. The final responsibility for fulfillment of the entire set of contract requirements remains with the Contractor.

1.02 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

A. Without limiting the generality of other requirements of the specifications, all work specified herein shall conform to or exceed the requirements of the following documents to the extent that the provisions of such documents are not in conflict with the requirements of these Specifications nor the applicable codes.

B. References herein to "Building Code" or "Code" shall mean the Florida Building Code. The latest edition of the code as approved and used at the local agency having jurisdiction, shall apply to the WORK herein, including, all addenda, modifications, amendments, or other lawful changes thereto.

C. In case of conflicts between codes, reference standards, drawings and other Contract Documents, the most stringent requirements shall govern. All conflicts shall be brought to the attention of the Engineer for clarifications and directions prior to ordering or providing any materials or labor. The Contractor shall bid the most stringent requirements.

D. Applicable Standard: The following Standards and Governing Regulations, as amended by the Contract Documents, are hereby incorporated by reference:

- a. Building Code as set forth in Chapter 8 of the Code of Miami-Dade County.
- b. Public Works Manual of Metropolitan Dade County (Public Works Manual).
- c. United States Department of Justice's 2010 ADA Standards For Accessible Design
- d. Miami-Dade County's Traffic Control Equipment Specifications and Standards for The Metro Traffic Control System Miami-Dade County (TCESS).
- e. Florida Department of Transportation's Design Standards for Design Construction, Maintenance and Utility Operations on the State Highway System (FDOT Design Standards).
- f. Florida Department of Transportation Standard Specifications for Road and Bridge Construction
- g. AASHTO – A Policy on Geometric Design of Highways and Streets
- h. Manual on Uniform Traffic Control Devices (MUTCD)

E. The Contractor shall construct all Work in accordance with the requirements of the Contract Documents, building codes and referenced standards specified herein.

F. References herein to "OSHA Regulations for Construction" shall mean Title 29, Part 1926, Construction Safety and Health Regulations, Code of Federal Regulations, including all changes and amendments thereto.

G. References herein to "OSHA Standards" shall mean Title 29, Part 1910, Occupational Safety and Health Standards, Code of Federal Regulations (OSHA), including all changes and amendments thereto.

1.03 ABBREVIATION

A. Wherever in these specifications references are made to the standards, specifications, or other published data of the various national, regional, or local organizations, such organizations may be referred to by their acronyms or abbreviation only. As a guide to the user of these specifications, the following acronyms and abbreviations which may appear in these specifications shall have the meanings indicated herein.

1.04 ABBREVIATIONS AND ACRONYMS

A. Abbreviations and acronyms contained in the Contract Documents may include, but not be limited to, the following:

AAMA	Architectural Aluminum Manufacturer's Association
AAR	Association of American Railroads
AASHTO	American Association of the State Highway and Transportation Officials

AATCC	American Association of Textile Chemists and Colorists
ACI	American Concrete Institute
ACPA	American Concrete Pipe Association
ACPPA	American Concrete Pressure Pipe Association
AFBMA	Anti-Friction Bearing Manufacturer's Association, Inc.
AGA	American Gas Association
AGC	Associated General Contractors
AGMA	American Gear Manufacturer's Association
AHAM	Association of Home Appliance Manufacturers
AI	The Asphalt Institute
AIA	American Institute of Architects
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
AITC	American Institute of Timber Construction
AMCA	Air Movement and Control Association
ANS	American Nuclear Society
ANSI	American National Standards Institute, Inc.
APA	American Plywood Association
API	American Petroleum Institute
APWA	American Public Works Association
AREA	American Railway Engineering Association
ASA	Acoustical Society of America
ASAE	American Society of Agricultural Engineers
ASCE	American Society of Civil Engineers
ASHRAE	American Society of Heating, Refrigerating, and Air-Conditioning Engineers
ASLE	American Society of Lubricating Engineers
ASME	American Society of Mechanical Engineers
ASPE	American Society of Plumbing Engineers
ASQC	American Society for Quality Control
ASSE	American Society of Sanitary Engineers
ASTM	American Society for Testing and Materials
AWPA	American Wood Preservers Association
AWPI	American Wood Preservers Institute
AWS	American Welding Society
AWWA	American Water Works Association
BBC	Basic Building Code, Building Officials and Code Administrators International
BHMA	Builders Hardware Manufacturers Association
CBM	Certified Ballast Manufacturers
CEMA	Conveyors Equipment Manufacturers Association
CGA	Compressed Gas Association
CLPCA	California Lathing and Plastering Contractors Association
CLFMI	Chain Link Fence Manufacturers Institute
CMA	Concrete Masonry Association
CRSI	Concrete Reinforcing Steel Institute
CSI	Construction Specifications Institute
DCDMA	Diamond Core Drill Manufacturers Association
DIPRA	Ductile Iron Pipe Research Association
EIA	Electronic Industries Association

ETL	Electrical Test Laboratories
FDOT	Florida Department of Transportation
FHWA	Federal Highway Administration
FM	Florida Method or Florida Sampling and Testing Method
F.S.	Florida Statutes
FSS	Federal Specifications and Standards
IEEE	Institute of Electrical and Electronics Engineers
HI	Hydraulic Institute
ICBO	International Conference of Building Officials
IEEE	Institute of Electrical and Electronic Engineers
IES	Illuminating Engineering Society
IME	Institute of Makers of Explosives
IP	Institute of Petroleum (London)
IPC	Institute of Printed Circuits
IPCEA	Insulated Power Cable Engineers Association
ISA	Instrument Society of America
ISO	International Organization for Standardization
ITE	Institute of Traffic Engineers
MBMA	Metal Building Manufacturers Association
MPTA	Mechanical Power Transmission Association
MTI	Marine Testing Institute
NAAM	National Association of Architectural Metal Manufacturers
NACE	National Association of Corrosion Engineers
NBS	National Bureau of Standards
NCCLS	National Committee for Clinical Laboratory Standards
NEC	National Electric Code
NEMA	National Electrical Manufacturers Association
NFPA	National Fire Protection Association
NFPA	National Forest Products Association
NGLI	National Grease Lubricating Institute
NMA	National Microfilm Association
NRCA	National Roofing Contractors Association
NWMA	National Woodwork Manufacturers Association
NWWA	National Water Well Association
OSHA	Occupational Safety and Health Administration
PCA	Portland Cement Association
PCI	Precast Concrete Institute
PDI	Plumbing and Drainage Institute
RIS	Redwood Inspection Service
RVIA	Recreational Vehicle Industry Association
RWMA	Resistance Welder Manufacturers Association
SAE	Society of Automotive Engineers
SAMA	Scientific Apparatus Makers Association
SBC	Southern Building Code Congress International, Inc. (SBCCI)
SIS	Swedish Standards Association
SJI	Steel Joist Institute
SMA	Screen Manufacturers Association
SPR	Simplified Practice Recommendation
SSBC	Southern Standard Building Code, Southern Building Code Congress
SSPC	Steel Structures Painting Council

SSPWC	Standard Specifications for Public Works Construction
TAPPI	Technical Association of the Pulp and Paper Industry
TFI	The Fertilizer Institute
UBC	Uniform Building Code
UL	Underwriters Laboratories, Inc.
USGS	United States Geological Survey
WCLIB	West Coast Lumber Inspection Bureau
WCRSI	Western Concrete Reinforcing Steel Institute
WIC	Woodwork Institute of California
WPCF	Water Pollution Control Federation
WRI	Wire Reinforcement Institute, Inc.
WWPA	Western Wood Products Association

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01152

APPLICATIONS FOR PAYMENT

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Submit Applications for Payment to the Engineer in accordance with the schedule established by Conditions of the Agreement between Owner and Contractor and the Contract Documents.

PART 2 - RELATED SECTIONS

- A. Section 01050 – Field Engineering and Surveying
- B. Section 01310 - Construction Schedules
- C. Section 01370 - Schedule of Values
- D. Section 01380 - Construction Photographs
- E. Section 01700 - Contract Close Out
- F. Section 01720 - Project Record Documents

2.02 FORMAT AND DATA REQUIRED

- A. Submit applications typed on forms provided by the Owner (or forms provided by Contractor and agreed to by Owner), Application for Payment, with itemized data typed on 8 1/2 inch x 14 inch white paper and continuation sheets.
- B. Payment forms shall show significant detail to substantiate request. Additional detail may be required by the Engineer.

2.03 PREPARATION OF APPLICATION FOR EACH PROGRESS PAYMENT

- A. Application Form:
 - 1. Fill in required information, including that for Change Orders executed prior to date of submittal of application.
 - 2. Fill in summary of dollar values to agree with respective totals indicated on continuation sheets.
 - 3. Execute certification with signature of a responsible officer of Contract firm.

B. Continuation Sheets:

1. Fill in total list of scheduled component items of work, with item number and scheduled dollar value for each item.
2. Fill in dollar value in each column for each scheduled line item when work has been performed or products stored.
 - a. Round off values to nearest dollar, or as specified.
3. List each Change Order Number, and description, as for an original component item or work.

2.04 SUBSTANTIATING DATA FOR PROGRESS PAYMENTS

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

1. Project
2. Application number and date
3. Detailed list of enclosures
4. For stored products:
 - a. Item number and identification as shown on application.
 - b. Description of specific material.
 - c. Copy of material invoice.
 - d. Address of location where item is stored
 - e. Photographs of item (if requested)

B. Submit one copy of data cover letter for each copy of application.

C. As a prerequisite for payment, Contractor is to submit the following:

1. a "Surety Acknowledgment of Payment Request" letter showing amount of progress payment which the Contractor is requesting,
2. updated record drawings for review by the Engineer,
3. updated construction schedule for review by the Engineer,
4. construction photographs.

2.05 PREPARATION OF APPLICATION FOR FINAL PAYMENT

A. Fill in Application form as specified for progress payments.

B. Provide FINAL COMPLETION documentation for the final statement of accounting as specified in Section 01700 - Contract Closeout.

C. Submit final record drawings.

2.06 SUBMITTAL PROCEDURE

- A. Submit Applications for Payment to the Engineer at the times stipulated in the Agreement.
- B. Number: Five copies of each Application.
- C. When the Engineer finds Application properly completed and correct, he will transmit certificate of payment to Owner, with copy to Contractor.

PART 3 - PRODUCTS (NOT USED)

PART 4 - EXECUTION (NOT USED)

END OF SECTION

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SECTION 01200

PROJECT MEETINGS

PART 1 - GENERAL

1.01 DESCRIPTION

A. The Contractor shall schedule and administer preconstruction meetings, periodic progress meetings, and specially called meetings throughout the progress of work. The Contractor shall:

1. Prepare agenda for meetings.
2. Make physical arrangements for meetings.
3. Preside at meetings.
4. Record in writing the minutes; include significant proceedings and decisions and submit to Engineer for approval prior to distribution.
5. Record the meeting with an audio recording device.
6. Reproduce and distribute copies of minutes within five working days after each meeting:
 - a. To participants in the meeting.
 - b. To parties affected by decisions made at the meeting.

B. Representatives of contractor, subcontractors and suppliers attending meetings shall be qualified and authorized to act on behalf of the entity each represents.

C. The Contractor shall attend meetings to assure that work is executed consistent with Contract Documents and construction schedules.

1.02 RELATED SECTIONS

- A. Section 01310 - Construction Schedules.
- B. Section 01340 - Shop Drawings, Working Drawings, and Samples.
- C. Section 01720 - Project Record Documents.
- D. Other Sections as applicable.

1.03 PRECONSTRUCTION MEETING

- A. Schedule a preconstruction meeting no later than 15 days after date of Notice to Proceed.
- B. Location: A central site, convenient for all parties designated by the Owner.
- C. Attendance:

1. Owner's Representative.
 2. Engineer and his Professional Consultants.
 3. Resident Project Representative.
 4. Contractor's Superintendent.
 5. Major Subcontractors.
 6. Major Suppliers.
 7. Utilities.
 8. Others as appropriate.
- D. Suggested Agenda:
1. Distribution and discussion of:
 - a. List of major subcontractors and suppliers.
 - b. Projected Construction Schedule.
 2. Critical work sequencing/critical path scheduling.
 3. Major equipment deliveries and priorities.
 4. Project Coordination.
 - a. Designation of responsible personnel.
 5. Procedures and processing of:
 - a. Field decisions.
 - b. Proposal requests.
 - c. Submittals.
 - d. Change Orders.
 - e. Applications for Payments.
 6. Adequacy of Distribution of Contract Documents.
 7. Procedures for maintaining Record Documents.
 8. Use of Premises:
 - a. Office, Work and Storage Areas.
 - b. Owner's Requirements.
 9. Construction facilities, controls and construction aids.
 10. Temporary Utilities.

1.04 PROGRESS MEETINGS

- A. Schedule regular periodic meetings. The progress meetings will be held as required by progress of the work or as required by the Engineer or the Owner.
- B. Hold called meetings as required by progress of the work.

C. Location of the meetings: Project field office of the Contractor or Engineer.

D. Attendance:

1. Engineer, and his professional consultants as needed.
2. Subcontractors as appropriate to the agenda.
3. Suppliers as appropriate to the agenda.
4. Others as appropriate.

E. Suggested Agenda:

1. Review, approval of minutes of previous meeting.
2. Review of work progress since previous meeting.
3. Field observations, problems and conflicts.
4. Problems which impede Construction Schedule.
5. Review of off site fabrication, delivery schedule.
6. Corrective measures and procedures to regain projected schedule.
7. Revisions to Construction Schedule.
8. Progress, schedule, during succeeding work period.
9. Coordination of schedules.
10. Review submittal schedules; expedite as required.
11. Maintenance of quality standards.
12. Pending changes and substitutions.
13. Review proposed changes for:
 - a. Effect on Construction Schedule and on a completion date.
 - b. Effect on other contracts of the Project.
14. Other business.
15. Construction schedule.
16. Critical/long lead items.

F. The Contractor is to attend progress meetings and is to study previous meeting minutes and current agenda items, in order to be prepared to discuss pertinent topics such as deliveries of materials and equipment, progress of work, etc.

G. The Contractor is to provide a current submittal log at each progress meeting in accordance with Section 01340.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01310

CONSTRUCTION SCHEDULES

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Promptly after Award of the Contract and within ten days after the effective date of the Agreement, prepare and submit to the Engineer an estimated construction progress schedules for the work, with sub-schedules of related activities which are essential to its progress.
- B. Submit revised progress schedules on a monthly basis.
- C. No partial payments shall be approved by the Engineer until there is an approved up to date construction progress schedule on hand.
- D. The Contractor shall designate an authorized representative of his firm who shall be responsible for development and maintenance of the schedule and of progress and payment reports. This representative of the Contractor shall have direct project control and complete authority to act on behalf of the Contractor's schedule.

1.02 RELATED SECTIONS

- A. Document 00700 – General Conditions of the Construction Contract
- B. Section 01010 - Summary of Work
- C. Section 01152 - Applications for Payment
- D. Section 01200 - Project Meetings
- E. Section 01340 - Shop Drawings, Working Drawings and Samples
- F. Other Sections as applicable.

1.03 FORM OF SCHEDULES

- A. Prepare schedules for submittal each month with pay request. The form of the schedule is to be Microsoft Project or approved equal. The Schedule is to indicate work completed to date and additions to or deletions from the schedule.
 - 1. Provide separate horizontal bar for each trade or operation within each structure or item.
 - 2. Horizontal time scale: In weeks from start of construction and identify the first work day of each month.
 - 3. Scale and spacing: To allow space for notations and future revisions.

B. Format of listings: The chronological order of the start of each item of work for each structure.

C. Identification of listings: By major specification section numbers as applicable and structure.

1.04 CONTENT OF SCHEDULES

A. Construction Progress Schedule:

1. Show the complete sequence of construction by activity.
2. Show the dates for the beginning of, and completion of, each major element of construction in no more than a two-week increment scale. Specifically list, but not limited to:
 - a. Receiving Materials
 - b. Pipeline Installations
 - c. Testing
 - d. Restoration
 - e. Startup
 - f. Record Drawings
 - g. Permit Close-out
 - h. Punch List
 - i. Owner Activities, Including Inspections
3. Show projected percentage of completion for each item, as of the first of each month.
4. Show projected dollar cash flow requirements for each month of construction.
5. Use of float suppression techniques such as preferential sequencing or logic, special lead/lag logic restraints, and extended activity times are prohibited, and use of float time disclosed or implied by use of alternate float-suppression techniques shall be shared to proportionate benefit of the Owner and Contractor.
6. Pursuant to above float-sharing requirement, no time extensions will be granted nor delay damages paid until a delay occurs which (i) impacts Project's critical path, (ii) consumes available float or contingency time, and (iii) extends work beyond contract completion date.
7. If the Contractor provides an accepted schedule with an early completion date, the Owner reserves the right to reduce the duration of the work to match the early completion date by issuing a deductive Change Order at no change in Contract Price.

B. Submittal Schedule for Shop Drawings and Samples in accordance with Section 01340. Must show:

1. The dates for Contractor's submittals.

2. The dates submittals will be required for owner furnished products, if applicable.
 3. The dates approved submittals will be required from the Engineer.
- C. A list of all long lead items (equipment, materials, etc).

1.05 PROGRESS REVISIONS

- A. Indicate progress of each activity to date of submission.
- B. Show changes occurring since previous submission of schedule:
1. Major changes in scope.
 2. Activities modified since previous submission.
 3. Revised projections of progress and completion.
 4. Other identifiable changes.
- C. Provide a narrative report as needed to define:
1. Problem areas, anticipated delays, and the impact on the schedule.
 2. Corrective action recommended, and its effect.
 3. The effect of changes on schedules of other prime contractors.

1.06 SUBMISSIONS

- A. Submit initial schedules to the Engineer within 10 days after the effective date of the Agreement.
1. The Engineer will review schedules and return review copy within 21 days after receipt.
 2. If required, resubmit within 7 days after return of review copy.
- B. Submit a minimum of five (5) copies of revised monthly progress schedules with that month's application for payment.

1.07 DISTRIBUTION

- A. Distribute copies of reviewed schedules to:
1. Owner (Two copies)
 2. Engineer (Two copies)
 3. Job Site File (One copy)
 4. Subcontractors (As needed)
 5. Other Concerned Parties (As needed)
- B. Instruct recipients to report promptly to the Contractor, in writing, any problems anticipated by the projections shown in the schedule.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01340

SHOP DRAWINGS, WORKING DRAWINGS AND SAMPLES

PART 1 - GENERAL

1.01 DESCRIPTION

A. The contractor shall submit to the Engineer for review, such working drawings, shop drawings, test reports and data on materials and equipment (hereinafter in this article called data), and material samples (hereinafter in this article called samples) as are required for the proper control of work, including but not limited to those working drawings, shop drawings, data and samples for materials and equipment specified elsewhere in the Specifications and in the Contract Drawings.

B. The Contractor shall submit five (5) copies of shop drawings or other data to the Engineer.

C. Within thirty (30) calendar days after the effective date of the Agreement, the Contractor shall submit to the Engineer a complete list of preliminary data for which Shop Drawings are to be submitted. Included in this list shall be the names of all proposed manufacturers furnishing specific items. Review of this list by the Engineer shall in no way expressed or implied relieve the Contractor from submitting complete Shop Drawings and providing materials, equipment, etc., fully in accordance with the Specifications. This procedure is required in order to expedite final review of Shop Drawings.

D. The contractor is to maintain an accurate updated submittal log and will bring this log to each scheduled progress meeting with the Owner and Engineer. This log should include the following items:

1. Submittal-Description and Number assigned.
2. Date to Engineer.
3. Date returned to Contractor (from Engineer).
4. Status of Submittal (Approved/Resubmit/Rejected).
5. Date of Resubmittal and Return (as applicable).
6. Date material released (for fabrication).
7. Projected date of fabrication.
8. Projected date of delivery to site.
9. Status of O & M submittal.

1.02 RELATED SECTIONS

- A. Section 01310 - Construction Schedules
- B. Section 01720 - Project Record Documents

C. Other Sections as applicable.

1.03 CONTRACTOR'S RESPONSIBILITY

A. It is the duty of the Contractor to check all drawings, data and samples prepared by or for him before submitting them to the Engineer for review. Each and every copy of the Drawings and data shall bear Contractor's stamp will be returned to the Contractor for conformance with this requirement. Shop drawings shall indicate any deviations in the submittal from requirements of the Contract Documents.

B. Determine and verify:

1. Field measurements
2. Field construction criteria
3. Catalog numbers and similar data
4. Conformance and Specifications

C. The Contractor shall furnish the Engineer a schedule of Shop Drawing submittals fixing the respective dates for the submission of shop and working drawings, the beginning of manufacture, testing and installation of materials, supplies and equipment. This schedule shall indicate those that are critical to the progress schedule.

D. Designate in the construction schedule, or in a separate coordinated schedule, the dates for submission and the dates that reviewed Shop Drawings, Working Drawings and Samples will be needed.

E. The Contractor shall not begin any of the work covered by a drawing, data, or a sample returned for correction until a revision or correction thereof has been reviewed and returned to him, approved by the Engineer.

F. The Contractor shall submit to the Engineer all shop drawings, working drawings and samples sufficiently in advance of construction requirements and shall account for Engineers Shop Drawing review time accordingly.

G. The Contractor shall submit two (2) copies of descriptive or product data submittals to complement shop drawings for the Engineer plus the number of copies which the Contractor requires. The Engineer will retain two (2) sets. All blueprint shop drawings shall be submitted with one (1) set of reproducible and four (4) sets of print. The Engineer will review the drawings and return to the Contractor the set of marked-up drawings with appropriate review comments.

H. The Contractor shall be responsible for and bear all cost of damages which may result from the ordering of any material or from proceeding with any part of work prior to the review and Approval by Engineer of the necessary Shop Drawings.

1.04 ENGINEER'S REVIEW OF SHOP DRAWINGS

A. The Engineer's review of drawings, data and samples submitted by the Contractor will cover only general conformity to the Specifications, external connections, and dimensions which affect the installation. The Engineer's review and exception if any, will not

constitute an approval of dimensions, quantities, and details of the material, equipment, device, or item shown.

B. The review of drawings and schedules will be general, and shall not be construed:

1. as permitting any departure from the Contract requirements;
2. as relieving the Contractor of responsibility for any errors, including details, dimensions, and materials;
3. as approving departures from details furnished by the Engineer, except as otherwise provided herein.

C. If the drawings or schedule as submitted describe variations and/or show a departure from the Contract requirements which Engineers finds to be in the interest of the Owner and to be minor as not to involve a change in the Contract Price or time for performance, the Engineer may return the reviewed drawings without noting an exception.

D. When reviewed by the Engineer, each of the Shop Drawings will be identified as having received such review being so stamped and dated. Shop Drawings stamped "REJECTED" and with required corrections shown will be returned to the Contractor for correction and resubmittal.

E. Resubmittals will be handled in the same manner as the first submittals. On resubmittals, the Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, to revisions other than the corrections requested by the Engineer on previous submissions. The Contractor shall make any corrections required by the Engineer.

F. If the Contractor considers any correction indicated on the drawings to constitute a change to the Contract Drawings or Specifications, the Contractor shall give written notice thereof to the Engineer.

G. The Engineer will review one submittal and one re-submittal after which cost of review will be borne by the Contractor. The cost of Engineering shall be equal to the Engineer's charges to the Owner under the terms of the Engineer's agreement with the Owner.

H. When the Shop Drawings have been completed to the satisfaction of the Engineer, the Contractor shall carry out the construction in accordance therewith and shall make no further changes therein except upon written instructions from the Engineer.

I. No partial submittals will be reviewed. Submittals not complete will be returned to the Contractor, and will not be considered "Rejected" until resubmitted.

J. The Engineer shall return Shop Drawing submittals to the Contractor within twenty-one (21) days calendar days from the date the Engineer receives them.

1.05 SHOP DRAWINGS

A. When used in the Contract Documents, the term "Shop Drawings" shall be considered to mean Contractor's plans for material and equipment which become an integral part of the Project. These drawings shall be complete and detailed. Shop Drawings shall consist of fabrication, erection and setting drawings and schedule drawings, manufacturer's scale drawings, and wiring and control diagrams. Cuts, catalogs, pamphlets, descriptive literature, and performance and test data, shall be considered only as supportive to required Shop Drawings as defined above.

B. Drawings and schedules shall be checked and coordinated with work of all trades involved, before they are submitted for review by the Engineer and shall bear the Contractor's stamp of approval as evidence of such checking and coordination. Drawings or schedules submitted without this stamp of approval shall be returned to the Contractor for resubmission.

C. Each Shop Drawing, shall have a blank area 3 1/2 inches by 3 1/2 inches, located adjacent to the title block. The title block shall display the following:

1. Number and title of the drawing.
2. Date of drawing or revision.
3. Name of project building or facility.
4. Name of contractor and subcontractor submitting drawing.
5. Clear identification of contents and location of work.
6. Specification title and number.

D. If drawings show variations from Contract requirements because of standard shop practice or for other reasons, the Contractor shall describe such variations in his letter of transmittal. If acceptable, proper adjustment in the Contract shall be implemented where appropriate. If the Contractor fails to describe such variations he shall not be relieved of the responsibility for executing the work in accordance with the Contract, even though such drawings have been reviewed.

E. Data on materials and equipment include, without limitation, materials and equipment lists, catalog data sheets, cuts, performance curves, diagrams, materials of construction and similar descriptive material. Materials and equipment lists shall give, for each item thereon, the name and location of the supplier or manufacturer, trade name, catalog reference, size, finish and all other pertinent data.

F. For all mechanical and electrical equipment furnished, the Contractor shall provide a list including the equipment name, address and telephone number of the manufacturer's representative and service company so that service and spare parts can be readily obtained. In addition, a maintenance and lubrication schedule for each piece of equipment shall be submitted along with each shop drawing submittal.

G. All manufacturers or equipment supplier who proposes to furnish equipment or products under Divisions 11, 12, 13, 14, 15 and 16 shall submit an installation list to the Engineer along with the required shop drawings. The installation list shall include at least five installations where identical equipment has been installed and has been in operation for a period of at least five (5) years.

H. Only the Engineer will utilize the color "red" in marking Shop Drawing submittals.

I. Before final payment is made, the Contractor shall furnish to Engineer two (2) sets of record shop drawings all clearly revised, complete and up to date showing the permanent construction as actually made for all reinforcing and structural steel, miscellaneous metals, process and mechanical equipment, piping, electrical system and instrumentation system.

1.06 WORKING DRAWINGS

A. When used in the Contract Documents, the term "working drawings" shall be considered to mean the Contractor's plans for temporary structures such as temporary bulkheads, support of open cut excavation, support of utilities, ground water control systems, forming and false-work; for underpinning; and for such other work as may be required for construction, but does not become an integral part of the project.

B. Copies of working drawings as noted in subparagraph 1.06A above, shall be submitted to the Engineer where required by the Contract Documents or requested by the Engineer, and shall be submitted at least thirty (30) calendar days (unless otherwise specified by the Engineer) in advance of their being required for work.

C. Working drawings shall be signed by a Registered Professional Engineer, currently licensed to practice in the State of Florida and shall convey, or be accompanied by, calculation or other sufficient information to completely explain the structure, machine, or system described and its intended manner of use. Prior to commencing such work, working drawings must have been reviewed without specific exceptions by the Engineer, which review will be for general conformance and will not relieve the Contractor in any way from his responsibility with regard to the fulfillment of the terms of the Contract. The Contractor assumes all risks of error; the Owner and Engineer shall have no responsibility therefore.

1.07 SAMPLES

A. The Contractor shall furnish, for the approval of the Engineer, samples required by the Contract Documents or requested by the Engineer. Samples shall be delivered to the Engineer as specified or directed. The Contractor shall prepay all shipping charges on samples. Materials or equipment for which samples are required shall not be used in work until approved by the Engineer.

B. Samples shall be of sufficient size and quantity to clearly illustrate:

1. Functional characteristics of the product, with integrally related parts and attachment devices.
2. Full range of color, texture and pattern.
3. A minimum of two samples of each item shall be submitted.

C. Each sample shall have a label indicating

1. Name of Project
2. Name of Contractor and Subcontractor
3. Material or Equipment Represented
4. Place of Origin
5. Name of Producer and Brand (if any)
6. Location in Project

(Samples of finished materials shall have additional marking that will identify them under the finished schedules.)

D. The Contractor shall prepare a transmittal letter in triplicate for each shipment of samples containing the information required in subparagraph 1.07B above. He shall enclose a copy of this letter with the shipment and send a copy of this letter to the Engineer. Approval of a sample shall be only for the characteristics or use named in such approval and shall not be construed to change or modify any Contract requirements.

E. Approved samples not destroyed in testing shall be sent to the Engineer or stored at the site of the work. Approved samples of the hardware in good condition will be marked for identification and may be used in the work. Materials and equipment incorporated in work shall match the approved samples. Samples which failed testing or were not approved will be returned to the Contractor at his expense, if so requested at time of submission.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

DOCUMENT 01370

SCHEDULE OF VALUES

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Submit to the Engineer a Schedule of Values allocated to the various portions of the Work, within 10 days after the effective date of the Agreement.
- B. The Contractor's Schedule of Values shall include all items listed in Section 01012 – Measurement and Payment, Part 3.
- C. Once approved, the Schedule of Values shall be used as the basis for the Contractor's Applications for Payment.

1.02 RELATED SECTIONS

- A. Section 01152 - Applications for Payment
- B. Other Sections as applicable.

1.03 FORM AND CONTENT OF SCHEDULE OF VALUES

- A. Present schedule on an 8-1/2 inch x 11 inch white paper; Contractor's standard forms and automated printout will be considered for approval by the Engineer upon Contractor's request. Identify schedule with:
 - 1. Title of Project and location
 - 2. Engineer and Project number
 - 3. Name and Address of Contractor
 - 4. Contract designation
 - 5. Date of submission
- B. Schedule shall list the installed value of the component parts to include individual equipment, piping, electrical, paving, of the Work (as required) in sufficient detail to serve as a basis for computing values for progress payments during construction and for additions and deletions to the Work.
- C. For the various portions of the Work:
 - 1. Each item shall include a directly proportional amount of the Contractor's overhead and profit.
- D. The sum of all values listed in the schedule shall equal the total Contract Sum.

1.04 ENGINEERS APPROVAL

- A. The Schedule of Values is subject to the Engineer's approval.
 - 1. Additional line item detail may be required.
 - 2. Supporting information may be required.
 - 3. Additional comparison trade bids may be required.

PART 2 - PRODUCTS (NOT USED)

PART 3 - PRODUCTS (NOT USED)

END OF SECTION

SECTION 01380

CONSTRUCTION PHOTOGRAPHS

PART 1 - GENERAL

1.01 DESCRIPTION

A. The Contractor shall employ a professional photographer to take digital construction record photographs for pre-construction conditions periodically during course of Work and post-construction.

1.02 RELATED SECTIONS

- A. Section 01152 - Application for Payment
- B. Section 01720 - Project Record Documents
- C. Other Sections as applicable.

1.03 PHOTOGRAPHY REQUIRED

- A. View and Quantities Required:
 - 1. Take a minimum of 24 images of the site and adjacent property at the following intervals:
 - a. Pre-construction
 - b. Monthly, or other interval, at the cut-off date in accordance with Applications for Payment.
 - c. At construction events or discoveries as directed by the Owner or Engineer.
 - d. At post-construction.
- B. Aerial photography shall be required in addition to ground level images for items out of sight of ground level photography.
- C. Photograph from locations to adequately illustrate condition of construction and state of progress.
- D. At successive periods of photography, take at least one photograph from the same overall view as previously.
- E. Consult with the Owner and Engineer at each period of photography for instructions concerning views required.

PART 2 - PRODUCTS

2.01 CAMERA REQUIREMENT

- A. A Digital Single Lens Reflex (DLSR) is required.
- B. Point and shoot, mobile phones and disposal cameras are not acceptable.

2.02 PHOTOGRAPHS

- A. The minimum file size is 6.0 megapixels per image.
- B. All images shall be color and in RGB format.
- C. Acceptable file formats include:
 - 1. Tagged Information File Format (TIFF)
 - 2. Joint Photographic Experts Group 2000 (JPEG2000)
 - 3. Digital Negative (DGN)
- D. Unacceptable file formats include:
 - 1. Bitmap (BMP)
 - 2. Graphics Interchange Format (GIFF)
 - 3. Portable Network Graphic (PNG)
 - 4. RAW format.

2.03 METADATA

- A. Each image must contain descriptive metadata as follows:
 - a. Name of Project
 - b. Orientation of View
 - c. Date and time of image
 - d. Name and address of photographer
 - e. Photographer's numbered identification of image.
 - f. Meaningful and descriptive filenames unique to each image.

2.04 COPYRIGHT

- A. No copyrighted photographs will be accepted.

2.05 EDITING

- A. Images shall not be edited in any way.

2.06 TECHNIQUE

- A. Factual presentation
- B. Magnification commensurate with the level of detail required.
- C. Correct image and focus
 - 1. High resolution and sharpness
 - 2. Maximum depth-of-field
 - 3. Minimum distortion

2.07 DELIVERY OF IMAGES

- A. Deliver electronic image file to the Owner and Engineer to accompany each Application for Payment or as directed.
- B. Electronic file storage media shall be a durable, commercial quality USB memory device of sufficient capacity to store the intended contents.
- C. Electronic file storage media shall be labeled and identified by project title and project number.
- D. The photographer shall keep electronic copies for a minimum of two years from Owner acceptance.

PART 3 - EXECUTION (NOT USED)

END OF SECTION

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SECTION 01381

AUDIO/VIDEO PRE-CONSTRUCTION RECORD

PART 1 - GENERAL

1.01 DESCRIPTION

- A. The Contractor shall provide a continuous color video with audio of the entire project prior to construction and at Owner acceptance.

1.02 RELATED SECTIONS

- A. As applicable.

1.03 SCHEDULE REQUIRED

- A. Video recordings shall not be made more than 30 days prior to construction. No construction shall begin prior to review and approval of the videos by the Engineer and the Owner.
- B. Videos not conforming to the Specifications shall be resubmitted at no additional charge.

1.04 PROFESSIONAL VIDEOGRAPHERS

- A. The Contractor shall engage the services of a professional videographer. The color audio-visual tapes shall be prepared by a responsible commercial firm known to be skilled and regularly engaged in the business of pre-construction color audio-visual documentation.

PART 2 - PRODUCTS

2.01 GENERAL

- A. The finished product shall be a bright, sharp, clear picture free of distortion and show in sufficient detail acceptable to the Owner and Engineer.
- B. All videos shall be color and in RGB format.
- C. The Contractor shall furnish to the Engineer and the Owner two (2) copies each of the electronic file, which becomes a project record document.
- D. Electronic file storage media shall be a durable, commercial quality USB memory device or compact disc of sufficient capacity to store the intended contents.
- E. Electronic file storage media shall be labeled and identified by project title and project number.
- F. The videographer shall keep electronic copies for a minimum of two years from

Owner acceptance.

2.02 METADATA

- A. Each video must contain descriptive metadata as follows:
 - a. Name of Project
 - b. Direction and road names
 - c. Date and time of image
 - d. Name and address of videographer
 - e. Meaningful and descriptive filenames unique to each image.

2.03 COPYRIGHT

- A. No copyrighted videos will be accepted.

2.04 EDITING

- A. Videos shall not be edited in any way.

PART 3 - EXECUTION

- A. The video recording shall show all surface features located within the construction zone. These features shall include, but not be limited to, roadways, sidewalks, outside of houses (front and sides), driveways, culverts, walls, fences and landscaping.
- B. Where station numbering is used, coverage shall begin at the lowest station number and be continuous until the highest station number is reached. Otherwise, the entire length of the project shall be documented including each plan sheet.
- C. Provide magnification (zoom) where appropriate to properly display details germane to the subject matter.
- D. Maintain camera speed slow enough to achieve detail acceptable to the Owner and Engineer.
 - 1. Videos with unacceptable camera speed will not be accepted.
 - 2. Videographer shall be responsible to meet all traffic laws at the time of video including all necessary and appropriate safety measures.

END OF SECTION

SECTION 01400

QUALITY CONTROL

PART 1 - GENERAL

1.01 DESCRIPTION

- A. This Section describes the Contractors minimum responsibilities in meeting the quality requirements of the Contract Documents.

1.02 RELATED SECTIONS

- A. Section 01050 – Field Engineering and Surveying
- B. Section 01410 – Materials and Installation Testing
- C. Section 02200 – Earthwork
- D. Other Sections as applicable.

1.03 OBSERVATION AT PLACE OF MANUFACTURE

- A. Unless otherwise specified, all products, materials, and time and equipment shall be subject to observation by the Owner and the Engineer at the place of manufacture.
- B. The presence of the Owner and/or the Engineer at the place of manufacture however, shall not relieve the Contractor of the responsibility for furnishing products, materials, and equipment which comply with all requirements of the Contract Documents. Compliance is a duty of the Contractor.
- C. The Contractor shall advise the Owner and Engineer promptly upon placing orders for materials and equipment so that arrangements may be made, if desired, for observation before shipment from the place of manufacture.
- D. The Engineer may require the Contractor to provide statements or certificates from the manufacturers and fabricators that the materials and equipment provided by them are manufactured or fabricated in full accordance with the standard specifications for quality and workmanship indicated in the Contractor Documents. All costs of this testing and providing statements and certificates shall be a subsidiary obligation of the Contractor, and no extra charge to the Owner shall be allowed on account of such testing and certification.

1.04 SAMPLING AND TESTING

- A. Unless otherwise specified, all sampling and testing shall be in accordance with the methods prescribed in the current standards of the ASTM, as applicable to the class and nature of the article or materials considered.
- B. The Owner and the Engineer reserve the right to use any generally accepted system

of sampling and testing which will insure the quality of the workmanship is in full accord with the Contract Documents.

C. Any waiver by the Owner or Engineer of any specific testing or other quality assurance measures, whether or not such waiver is accompanied by a guarantee of substantial performance as a relief from the specified testing or other quality assurance requirements as originally specified, and whether or not such guarantee is accompanied by a performance bond to assure execution of any necessary corrective or remedial Work, shall not be construed as a waiver of any requirements.

D. The Owner and Engineer reserve the right to make independent investigations and tests at any time.

E. Failure of any portion of the Work to meet any of the requirements of the Contract Document shall be reasonable cause for the Owner or Engineer to require the removal or correction and reconstruction of any such Work at the cost of the Contractor.

1.05 SITE INVESTIGATION AND CONTROL

A. The Contractor shall verify all dimensions in the field and shall check field conditions continuously during construction. The Contractor shall be solely responsible for any inaccuracies built into the Work due to its failure to comply with this requirement.

B. The Contractor shall inspect related and appurtenant work, and shall report in writing to the Owner and Engineer any conditions that will prevent proper completion of the Work. Failure to report any such conditions shall constitute acceptance of all site conditions, and any required removal, repair, or replacement caused by unsuitable conditions shall be performed by the Contractor at its cost.

1.06 OBSERVATION AND TESTING

A. The work or actions of the testing laboratory shall in no way relieve the Contractor of its obligations under the Contract. The laboratory testing work will include such observations and testing required by the Owner or Engineer. The testing laboratory will have no authority to change the requirements of the Contract Documents, nor perform, accept or approve any of the Contractor's Work.

B. The Contractor shall allow the Owner and Engineer ample time and opportunity for field observation and testing materials and equipment to be used in the Work.

C. The Contractor shall at all times furnish the Owner and the Engineer facilities, including labor, and allow proper time for inspecting and testing materials, equipment, and workmanship.

D. The Contractor must anticipate that possible delays may occur in the execution of its work due to the necessity of materials and equipment being inspected and accepted for use.

E. The Contractor shall furnish, at its own expense, all samples of materials required by the Owner or Engineer for testing, and shall make its own arrangements for providing water, electric power, or fuel for the various observations and tests of structures and equipment.

1.07 RIGHT OF REJECTION

- A. The Owner and Engineer, shall have the right, at all times and places, to reject any articles or materials to be furnished hereunder which, in any respect, fail to meet the requirements of the Contract Documents, regardless of whether the defects in such articles or materials are detected at the point of manufacture or after completion of the Work at the site.
- B. If the Owner or its representative, through an oversight or otherwise, has accepted materials or work which is defective or which is contrary to the Contract Documents, such materials, no matter in what stage or condition of manufacture, delivery, or erection, may be subsequently rejected.
- C. The Contractor shall promptly remove rejected articles or materials from the site of the Work after notification of rejection. All costs of removal and replacement of rejected articles or materials as specified herein shall be borne by the Contractor.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.01 BUOYANCY

- A. The CONTRACTOR shall be completely responsible for any tanks, pipelines, manholes, foundations or similar improvements that may become buoyant during the construction operations due to groundwater levels. Should there be any possibility of buoyancy, the Contractor shall take the necessary steps to prevent damage due to floating or flooding, and shall repair or replace said improvements at no additional cost.

3.02 DEVIATION FROM SPECIFICATIONS

- A. If any part of a submittal deviates from the plans and specifications, it is up to the Contractor to indicate such deviation—in writing—to the Engineer, for determination as to acceptance of the deviation. If no deviation is submitted, it is assumed that the Contractor has fully and completely followed the plans and specifications, and that any discrepancy discovered during construction shall be corrected completely at the expense of the Contractor.

3.03 AMERICANS WITH DISABILITIES ACT (ADA)

- A. The Contractor shall make every effort to ensure all concrete work including, but not limited to accessible sidewalks, routes, ramps and curb ramps is compliant with the ADA and Florida Building Code Accessibility.
- B. Prior to and during concrete placement, the contractor shall verify the formwork for compliance. Any and all concrete work which is not compliant shall be removed and replaced at no cost to the Owner.

END OF SECTION

SECTION 01410

MATERIALS AND INSTALLATION TESTING

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Contractor shall employ and pay for the services of an independent testing laboratory, approved by the Engineer, to perform materials and installation testing of the type and frequency specified in the Contract Documents including, but not limited to, Geotechnical Testing Services and concrete testing.
- B. Geotechnical Testing Services shall include, but not be limited to, periodic site inspections, soil proctor tests, soil classification tests and soil densities or compaction tests.
- C. The Engineer may, at any time, elect to have materials and equipment tested for conformity with the Contract Documents.
- D. Contractor shall include cost of testing in the Contract Price.

1.02 RELATED SECTIONS

- A. Section 01050 – Field Engineering and Surveying
- B. Section 02200 – Earthwork
- C. Other Sections as applicable.

1.03 REFERENCES

- A. FDOT Design Standards.
- B. FDOT Standard Specifications for Road and Bridge Construction.
- C. Miami-Dade County Traffic Control Equipment Standards and Specifications
- D. Manual on Uniform Traffic Control Devices (MUTCD)

1.04 LIMITATIONS OF AUTHORITY OF TESTING LABORATORY

- A. Laboratory is not authorized to:
 - 1. Release, revoke, alter or enlarge on requirements of Contract Documents
 - 2. Approve or accept any portion of the Work
 - 3. Perform any duties of the Contractor

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.01 CONTRACTOR'S RESPONSIBILITIES

- A. Provide all testing required by the Contract Documents as well as laws, ordinances, rules, regulations, orders, or approvals of public authorities.
- B. Employment of the laboratory shall in no way relieve Contractor's obligations to perform the Work of the Contract.
- C. Cooperate with laboratory personnel, and provide access to Work and to Manufacturer's operations.
- D. Secure and deliver to the laboratory adequate quantities of representational samples of materials proposed to be used and which require testing.
- E. 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.
- F. Furnish incidental labor and facilities:
 - 1. To provide access to Work to be tested
 - 2. To obtain and handle samples at the Project site or at the source of the product to be tested
 - 3. To facilitate inspections and tests
 - 4. For storage and curing of test samples
- G. Notify laboratory sufficiently in advance of operations to allow for laboratory assignment of personnel and scheduling of tests.
 - 1. When tests or inspections cannot be performed after such notice, reimburse Owner for laboratory personnel and travel expenses incurred due to Contractor's negligence.
- H. Employ and pay for the services of the same or a separate, equally qualified independent testing laboratory to perform additional inspections, sampling, and testing required for the Contractor's convenience.
- I. If the Owner requests tests in addition to those specified in the contract, and if the test results indicate the material or equipment complies with the Contract Documents, the Owner shall pay for the cost of the testing laboratory. If the tests and any subsequent retests indicate the materials and equipment fail to meet the requirements of the Contract Documents, the Contractor may pay for the laboratory costs directly to the testing firm or the total of such costs shall be deducted from any payments due the Contractor.
- J. The Contractor shall pay costs for additional trips to the project by the agency when scheduled times for tests and inspections are canceled and agency is not notified sufficiently

in advance of cancellation to avoid the trip.

3.02 TESTING

- A. Copies of all reports are to be sent to the Engineer immediately upon availability.
- B. If in the opinion of the Engineer, suitable compaction has not been achieved around structures, density tests may be required.
- C. Concrete compressive strength at the rate of three (3) cylinders per the lesser of 50 cubic yards or per day.
- D. Should any test indicate that any portion of the materials or workmanship does not comply with these Specifications; a retest shall be performed at the Contractor's expense. If the retest confirms the first test, that portion of the work shall be removed and replaced or reworked and retested at no additional cost to the Owner until satisfactory compliance is attained.
- E. Testing in the County right-of-way shall meet the requirements of the Florida Department of Transportation.

END OF SECTION

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SECTION 01505

CONTROL OF WORK

PART 1 - GENERAL

1.01 DESCRIPTION

A. The Contractor shall furnish personnel and equipment which will be efficient, appropriate and a quantity large enough to secure a satisfactory quality of work and a rate of progress which will insure the completion of the work within the time stipulated in the Proposal. If at any time such personnel appear to the Engineer to be inefficient, inappropriate or insufficient for securing the quality of work required or for producing the rate of progress aforesaid, he may order the Contractor to increase the efficiency, change the character or increase the personnel and equipment, and the Contractor shall conform to such order. Failure of the Engineer to give such order shall in no way relieve the Contractor of his obligations to secure the quality of the work and rate of progress required.

1.02 RELATED SECTIONS

- A. Section 01010 – Summary of Work
- B. Section 01011 – Special Project Procedures
- C. Section 01015 – General Requirements
- D. Other Sections as applicable.

1.03 PIPE LOCATIONS

A. Pipeline shall be located substantially as indicated on the Drawings, but the Engineer reserves the right to make such modifications in locations as may be found desirable to avoid interference with existing structures or for other reasons.

1.04 OBSTRUCTIONS

A. The attention of the Contractor is drawn to the fact that during digging at the Project site, the possibility exists of the Contractor encountering various water, sewer, gas, telephone, electrical, or other lines not shown on the Drawings. The Contractor shall exercise extreme care before and during digging to locate and flag these lines so as to avoid damage to the existing lines. Should damage occur to an existing line, The Contractor shall repair the line at no cost to the Owner.

B. The Contractor shall protect all existing utilities and improvements not designated for removal and shall restore damaged or temporarily relocated utilities and improvements to a condition equal to or better than they were prior to such damage or temporary relocation, all in accordance with requirements of the Contract Documents.

C. The Contractor shall verify the exact locations and depths of all utilities shown and

the Contractor shall make exploratory excavations of all utilities that may interfere with the work. All such exploratory excavations shall be performed as soon as practicable after award of the contract and, in any event, a sufficient time in advance of construction to avoid possible delays to the Contractor's work. When such exploratory excavations show the utility location as shown to be in error, the Contractor shall so notify the Engineer.

D. The number of exploratory excavations required shall be that number which is sufficient to determine the alignment and grade of the utility. Test pits shall be dug at the Contractor's expense, as directed.

E. The Contractor shall protect all Underground Utilities and other improvements which may be impaired during construction operations. It shall be the Contractor's responsibility to ascertain the actual location of all existing utilities and other improvements that will be encountered in its construction operations, and to see that such utilities or other improvements are adequately protected from damage due to such operations. The Contractor shall take all possible precautions for the protection of unforeseen utility lines to provide for uninterrupted service and to provide such special protection as may be necessary.

F. In case it shall be necessary to move the property of any public utility or franchise holder, such utility company or franchise holder will, upon request of the Contractor, be notified by the Owner to move such property within a specified reasonable time. When utility lines that are to be removed are encountered within the area of operations, the Contractor shall notify the Engineer a sufficient time in advance for the necessary measures to be taken to prevent interruption of service.

G. Where the proper completion of the work requires the temporary or permanent removal and/or relocation of an existing utility or other improvement which is indicated, the Contractor shall remove and, without unnecessary delay, temporarily replace or relocate such utility or improvement in a manner satisfactory to the Engineer and the owner of the facility. In all cases of such temporary removal or relocation, restoration to former location shall be accomplished by the Contractor in a manner that will restore or replace the utility or improvement as nearly as possible to its former locations and to as good or better condition than found prior to removal.

H. Existing utility lines that are indicated or the locations of which are made known to the Contractor prior to excavation and that are to be retained, and all utility lines that are constructed during excavation operations shall be protected from damage during excavation and backfilling and, if damaged, shall be immediately repaired or replaced by the Contractor at the Contractor's expense. Sewer laterals are included.

I. All repairs to a damaged utility or improvement are subject to inspection and approval by an authorized representative of the utility or improvement owner before being concealed by backfill or other work.

J. All power, telephone or the communication cable ducts, gas and water mains, irrigation lines, sewer lines, storm drain lines, poles, and overhead power and communication wires and any other cables encountered along the line of the work shall remain continuously in service during all the operations under the Contract, unless other arrangements satisfactory to the Engineer are made with the owner of said pipelines, duct,

main, irrigation line, sewer, storm drain, pole, or wire or cable. The Contractor shall be responsible for and shall repair all damage due to its operations, and the provisions of this Section shall not be abated even in the event such damage occurs after backfilling or is not discovered until after completion of the backfilling.

1.05 OPEN EXCAVATIONS

A. All open excavations shall be adequately safeguarded by providing temporary barricades, caution signs, lights and other means to prevent accidents to persons, and damage to property. The Contractor shall, at his own expense, provide suitable and safe bridges and other crossings for accommodating travel by pedestrians and workmen. Bridges provided for access to private property during construction shall be removed when no longer required. The length of open trench will be controlled by the particular surrounding conditions, but shall always be confined to the limits prescribed by the Engineer. If the excavation becomes a hazard, or if it excessively restricts traffic at any point, the Engineer may require special construction procedures such as limiting the length of open trench or prohibiting stacking excavated material in the street, and requiring that the trenches shall not remain open overnight.

B. The Contractor shall take precautions to prevent injury to the public due to open trenches. All trenches, excavated material, equipment, or other obstacles which could be dangerous to the public shall be well lighted at night.

1.06 TEST PITS

A. Test pits for the purpose of locating underground pipeline or structures in advance of the construction shall be excavated and backfilled by the Contractor at his cost at the direction of the Engineer. Test pits shall be backfilled immediately after their purpose has been satisfied and the surface restored and maintained in a manner satisfactory to the Engineers.

1.07 UTILITY CROSSINGS

A. It is intended that wherever existing utilities such as service lines must be crossed, deflection of the pipe within recommended limits and cover shall be used to satisfactorily clear the obstruction unless otherwise indicated on the Drawings. However, when in the opinion of the Engineer or the Owner this procedure is not feasible he may direct the use of fittings.

1.08 SANITATION

A. Toilet Facilities - Fixed or portable chemical toilets shall be provided wherever needed for the use of employees. Toilets at construction job sites shall conform to the requirements of Part 1926 of the OSHA Standards for Construction.

B. Sanitary and Other Organic Wastes - The Contractor shall establish a regular daily collection of all sanitary and organic wastes. All wastes and refuse from sanitary facilities provided by the Contractor or organic material wastes from any other source related to the Contractor's operations shall be disposed of away from the site in a manner satisfactory to the Engineer and in accordance with all laws and regulations pertaining thereto.

1.09 RELOCATIONS

A. The Contractor shall be responsible for the relocation of structures, including but not limited to light poles, signs, sign poles, fences, piping, conduits and drains that interfere with the positioning of the work as set out on the Drawings. The cost of all such relocations shall be included in the bid for the project and shall not result in any additional cost to the Owner.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.01 COOPERATION WITHIN THIS CONTRACT

A. All firms or persons authorized to perform any work under this Contract shall cooperate with the General Contractor and his subcontractors or trades, and shall assist in incorporating the work of other trades where necessary or required.

B. Cutting and patching, drilling and fitting shall be carried out where required by the trade or subcontractor having jurisdiction, unless otherwise indicated herein or directed by the Engineer.

3.02 PROTECTION OF CONSTRUCTION AND EQUIPMENT

A. All newly constructed work shall be carefully protected from injury in any way. No wheeling or walking or placing of heavy loads on it shall be allowed and all portions injured shall be reconstructed by the Contractor at his own expense.

B. Further, the Contractor shall take all necessary precaution to prevent damage to any structure due to water pressure during and after construction and until such structure is accepted and taken over by the Owner.

3.03 PRIVATE LAND

A. The Contractor shall not enter or occupy private land outside of easements, except by written permission of the land owner.

3.04 RESTORATION

A. Temporary restoration shall be completed within five days of pipe installation. Temporary restoration shall include all driveways, sidewalks and roadways. They shall be swept clean and be maintained free of dirt and dust. All areas disturbed by the construction activities shall be restored to proper grade, cleaned up, including the removal of debris, trash, and deleterious materials. All construction materials, supplies, or equipment, including piles of debris shall be removed from the area. All temporarily restored areas shall be maintained by the Contractor. These areas shall be kept clean and neat, free of dust and dirt, until final restoration operations are completed. The Contractor is responsible to utilize dust abatement operations in the temporarily restored areas as required, to the satisfaction of the Engineer.

B. Wherever sidewalks or private roads have been removed for purposes of construction, the Contractor shall place suitable temporary sidewalks or roadways promptly after backfilling and shall maintain them in satisfactory condition for the period of time fixed by the authorities having jurisdiction over the affected portions before proceeding with the final restoration or, if no such period of times is so fixed, the Contractor shall maintain said temporary sidewalks or roadways until the final restoration thereof has been made.

C. Final restoration shall be completed within thirty days of pipe acceptance. Final restoration shall include the completion of all required pavement replacement of roadways, driveways, curbs, gutters, sidewalks and other existing improvements disturbed by the construction; final grading, placement of sod, pavement marking, etc., all complete and finished, acceptable to the Engineer.

D. In order to obtain a satisfactory junction with adjacent surfaces, the Contractor shall saw cut back and trim the edge so as to provide a clean, sound, vertical joint before permanent replacement of an excavated or damaged portion of pavement. Damaged edges of pavement along excavations and elsewhere shall be trimmed back by saw cutting in straight lines. All pavement restoration and other facilities restoration shall be constructed to finish grades compatible with the adjacent undisturbed pavement.

E. The Contractor shall test an installed section of pipeline within five calendar days from completion of the pipeline. A section of pipe is defined as a pipe section which can be isolated by valves for appurtenances is satisfactorily completed, the Contractor shall provide the Engineer with a "Schedule of Existing Facilities Restoration" which will be reviewed and be acceptable to the Engineer. The schedule shall show the existing facilities to be restored and schedule of beginning and completion dates for each item of restoration. The work for completing the final restoration of existing facilities for a tested section of work shall be completed within 30 days of acceptance of the pipeline testing.

END OF SECTION

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SECTION 01510

TEMPORARY UTILITIES

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Furnish, install and maintain temporary utilities required for construction, remove on completion of work.
- B. Pay all fees associated with temporary utilities including water consumption charges.

1.02 RELATED SECTIONS

- A. Section 01010: Summary of Work
- B. Other Sections as applicable.

1.03 REQUIREMENTS OF REGULATORY AGENCIES

- A. Comply with National Electric Code.
- B. Comply with Federal, State and Local codes and regulations and with utility company requirements.
- C. Comply with County Health Department and Environmental Regulations.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. 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.

2.02 TEMPORARY ELECTRICITY AND LIGHTING

- A. Arrange with utility company, provide service required for power and lighting, and pay all costs for service and for power used in the construction, testing and trial operation prior to final acceptance of the work by the Owner.
- B. Install circuit and branch wiring, with the area distribution boxes located so that power and lighting is available throughout the construction by the use of construction type power cords.
- C. Provide adequate artificial lighting for all areas of work when natural light is not adequate to work, and all areas accessible to the public.

2.03 TEMPORARY WATER

- A. Arrange with the water utility provider to provide water for construction purposes.
- B. Install branch piping with taps located so that water is available throughout the construction by the use of hoses.
- C. Install at each and every connection to the Owner water supply a backflow preventer meeting the requirements of ANSI A40.6 and AWWA C511. Contractor shall be required to meter and pay for all water used.

2.04 TEMPORARY SANITARY FACILITIES

- A. Provide sanitary facilities in compliance with laws and regulations.
- B. Service, clean and maintain facilities and enclosures.

PART 3 - EXECUTION

3.01 GENERAL

- A. Maintain and operate systems to assure continuous service.
- B. Modify and extend systems as work progress requires.

3.02 REMOVAL

- A. Completely remove temporary materials and equipment when their use is no longer required.
- B. Clean and repair damage caused by temporary installations or use of temporary facilities.
- C. Restore permanent facilities used for temporary services to specified condition.

END OF SECTION

SECTION 01530

EXISTING UTILITIES

PART 1 - GENERAL

1.01 DESCRIPTION

- A. This Section provides for specifications related to construction in the vicinity of existing utilities.

1.02 RELATED SECTIONS

- A. Section 01010 – Summary of Work
- B. Section 01011 – Special Project Procedures
- C. Section 01015 – General Requirements
- D. Other Sections as applicable.

1.03 CONTRACTOR RESPONSIBILITIES

- A. The term existing utilities shall be deemed to refer to both publicly-owned and privately-owned utilities including, but not limited to, electric power and lighting, telephone, water, gas, storm drains, process lines, sanitary sewers and all appurtenant structures.
- B. Prior to underground construction, the Contractor is required by the Underground Facility Damage Prevention and Safety Act, Chapter 556 FS to contact Sunshine 811, for the location of underground utilities.
- C. Where existing utilities and structures are indicated in the Contract Documents, it shall be understood that all of the existing utilities and structures affecting the work may not be shown and that the locations of those shown are approximate only. It shall be the responsibility of the Contractor to ascertain the actual extent and exact location of existing utilities and structures. In every instance, the Contractor shall notify the proper authority having jurisdiction and obtain all necessary directions and approvals before performing any work in the vicinity of existing utilities.

1.04 NOTIFICATION OF UTILITY OWNER

- A. Prior to any excavation in the vicinity of any existing underground facilities, including all water, sewer, storm drain, gas, petroleum products, or other pipelines; all buried electric power, communications, or television cables; all traffic signal and street lighting facilities; and all roadway and state highway rights-of-way the Contractor shall notify the respective authorities representing the owners or agencies responsible for such facilities not less than three days nor more than seven days prior to excavation so that a representative may be present during such excavation.

1.05 RIGHT-OF-WAY'S

- A. The Contractor shall not do any work that would affect any oil, gas, sewer, or water pipeline; any telephone, telegraph, or electric transmission line; any fence; or any other structure, nor shall the Contractor enter upon the rights-of-way involved until notified by the Engineer that the Owner has secured authority therefore from the proper party. After authority has been obtained, the Contractor shall give said party due notice of its intention to begin work, if required by said party, and shall remove, shore, support, or otherwise protect such pipeline, transmission line, ditch, fence, or structure or replace the same. When two or more contracts are being executed at one time on the same or adjacent land in such manner that work on one contract may interfere with that on another, the Owner shall determine the sequence and order of the work. When the territory of one contract is the necessary or convenient means of access for the execution of another contract, such privilege of access or any other reasonable privilege may be granted by the Owner to the Contractor so desiring, to the extent and amount, and in the manner and at the times permitted. No such decision as to the method or time of conducting the work or the use of territory shall be made the basis of any claim for delay or damage.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.01 TEMPORARY CONNECTIONS

- A. The work shall be carried out in a manner to prevent disruption of existing services and to avoid damage to the existing utilities. Temporary connections shall be provided, as required, to insure no interruption of existing services. Any damage resulting from the work of this Contract shall be promptly repaired by the Contractor at his own expense in a manner approved by the Engineer and further subject to the requirements of any authority having jurisdiction. Where it is required by the authority having jurisdiction that they perform their own repairs or have them done by others, the Contractor shall be responsible for all costs thereof.

3.02 UTILITY SUPPORT

- A. Where excavations by the Contractor require any utility lines or appurtenant structures to be temporarily supported and otherwise protected during the construction work, such support and protection shall be provided by the Contractor. All such work shall be performed in a manner satisfactory to the respective authority having jurisdiction over such work.

3.03 UTILITY CROSSINGS

- A. It is intended that wherever existing utilities such as water, chemical, electrical, or other service lines must be crossed, deflection of the pipe within limits recommended by the pipe manufacturer and the required minimum cover shall be used to satisfactorily clear the obstruction unless otherwise indicated on the Drawings. However, when, in the opinion of the Owner or Engineer, this procedure is not feasible the Engineer may direct the use of fittings for a utility crossing as detailed on the Drawings. All existing utilities shall be pothole

located prior to construction of conflicting piping.

3.04 ADVANCE INVESTIGATIONS

A. The Contractor shall be responsible for uncovering and exposing existing utilities sufficiently in advance of pipe laying operations to confirm elevation, size, material and clearance separation(s). If, upon excavation, an existing utility is found to be in conflict with the proposed construction or be of a size or material different from what is shown on the plans, the Contractor shall immediately notify the Engineer, who will in turn prepare a recommendation. Failure of the Contractor to perform the advance investigation shall not relieve it of any claims for delay or damages.

3.05 UNFORESEEN UTILITIES

A. The attention of the Contractor is drawn to the fact that during excavation, the possibility exists of encountering water, sewer, petroleum, gas, telephone, electrical, or other utilities not shown on the Drawings. The Contractor is responsible for obtaining utility locations from the utility owners or utility locating company. The Contractor shall exercise extreme care before and during digging to locate and flag these lines so as to avoid damage to the existing lines. Should damage occur to an existing line, the Contractor shall repair the line at the no cost to the Owner.

3.06 CONNECTIONS TO EXISTING SYSTEMS

A. The Contractor shall perform all work necessary to locate, excavate, and prepare for connections to the terminus of the existing mains all as shown on the Drawings or where directed by the Owner. The cost of this work and the cost for the actual connection to the existing mains shall be included in the bid price as a separate item and shall not result in any additional cost to the Owner.

3.07 MAINTENANCE OF EXISTING STORM WATER FACILITIES OPERATION

A. The Contractor shall take notice that existing storm water pump station is operated in the construction area. It is the responsibility of the Contractor to contact the Owner's utility operator and ascertain the extent of any specific service area.

B. The Contractor shall fully cooperate at all times with the Owner in order to maintain the operation of the existing facilities with the least amount of interference and interruption possible. Continuous service, public health, and safety considerations shall exceed all others and the Contractor's schedule, plans, and work shall at all times be subject to alteration and revision, if necessary, for the above considerations.

C. The Engineer and Owner reserve the right to require the Contractor to work 24 hours per day in all cases where, in their opinion, interference with operation of the system may result.

D. In no case will the Contractor be permitted to interfere with the existing system until all materials, supplies, equipment, tools, and incidentals necessary to complete the interfering portion of the work are on the site, or a temporary by-pass system is effectively in place. All existing utilities shall be pothole located prior to construction of conflicting piping.

E. The Contractor shall provide emergency storm drainage pumping as specified in the Contract Documents.

3.08 RESTORATION OF PAVEMENT

A. General: All paved areas including concrete, asphaltic concrete, berms cut or damaged during construction shall be replaced with similar materials and of equal thickness to match the existing adjacent undisturbed areas, except where specific resurfacing requirements have been called for in the Contract Documents. All pavements which are subject to partial removal shall be neatly saw-cut in straight lines.

B. Temporary Resurfacing: Wherever required by the public authorities having jurisdiction, the CONTRACTOR shall place temporary surfacing promptly after backfilling and shall maintain such surfacing for the period of time fixed by said authorities before proceeding with the final restoration of improvements.

C. Permanent Resurfacing: In order to obtain a satisfactory junction with adjacent surfaces, the CONTRACTOR shall saw-cut back and trim the edge so as to provide a clean, sound, vertical joint before permanent replacement of an excavated or damaged portion of pavement. Damaged edges of pavement along excavations and elsewhere shall be trimmed back by saw cutting in straight lines. All pavement restoration and other facilities restoration shall be constructed to finish grades compatible with adjacent undisturbed pavement.

END OF SECTION

SECTION 01531

PROTECTION OF EXISTING PROPERTY

PART 1 - GENERAL

1.01 DESCRIPTION

A. The Contractor shall be responsible for the preservation and protection of property adjacent to the work site against damage or injury as a result of his operations under this project. Any damage or injury occurring on account of any act, omission or neglect on the part of the Contractor shall be restored in a proper and satisfactory manner or replaced by and at the expense of the Contractor to an equal or superior condition than previously existed.

B. In the event of any claims for damage or alleged damage to property as a result of work, the Contractor shall be responsible for all costs in connection with the settlement of or defense against such claims. Prior to commencement of work in the vicinity of property adjacent to the work site, the Contractor, at his own expense, shall take such surveys as may be necessary to establish the existing condition of the property. Before final payment can be made, the Contractor shall furnish satisfactory evidence that all claims for damage have been legally settled or sufficient funds to cover such claims have been placed in escrow, or that an adequate bond to cover such claims has been obtained.

1.01 RELATED SECTIONS

- A. Section 01011 – Special Project Procedures
- B. Section 01015 – General Requirements
- C. Section 01570 – Traffic Regulation
- D. Other Sections as applicable.

1.02 PRESERVATION AND RESTORATION

A. Contractor shall be responsible for the preservation and protection of property adjacent to the work site against damage or injury as a result of his operations under this project. Any damage or injury occurring on account of any act, omission or neglect on the part of the Contractor shall be restored in a proper and satisfactory manner or replaced by and at the expense of the Contractor to an equal or superior condition than previously existed.

1.03 ADJACENT PROPERTY OWNER NOTIFICATION

- A. The Contractor shall prepare a written notice to property owners adjacent to the project work site notifying them of the schedule of work affecting them and anticipated inconveniences they may expect. The notice shall meet the approval of the Engineer and be delivered to property owners at least 72 hours prior to

construction adjacent to their property. This notice shall indicate the work to be performed, the time it will take to perform the work, and the time when the water service to the property owner will be disrupted.

1.04 PROTECTION OF STREET OR ROADWAY MARKERS

- A. The Contractor shall not destroy, remove, or otherwise disturb any existing survey markers or other existing street or roadway markers without proper authorization. No pavement breaking or excavation shall be started until all survey or other permanent marker points that will be disturbed by the construction operations have been properly referenced for easy and accurate restoration. It shall be the Contractor's responsibility to notify the proper representatives of the Owner of the time and location that work will be done. Such notification shall be sufficiently in advance of construction so that there will be no delay due to waiting for survey points to be satisfactorily referenced for restoration. All survey markers or points disturbed by the Contractor without proper authorization by the Engineer will be accurately restored by the Owner at the Contractor's expense after all street or roadway resurfacing has been completed.

1.05 BARRICADES, WARNING SIGNS AND LIGHTS

- A. In addition to the requirements of Section 01570 - Traffic Regulation, the Contractor shall provide, erect and maintain as necessary, strong and suitable barricades, danger signs and warning lights for the preservation and protection of property adjacent to the work site. All barricades and obstructions along public roads shall be illuminated at night and all lights for this purpose shall be kept burning from sunset to sunrise.

1.06 TREES AND LANDSCAPING PROTECTION

- A. General: The Contractor shall exercise all necessary precautions so as not to damage or destroy any trees or landscaping in or near the project site, and shall not trim or remove any trees or landscaping unless such trees or landscaping have been approved for trimming or removal by the jurisdictional agency or owner. All existing trees or landscaping which are damaged during construction shall be replaced by the Contractor or a certified tree/landscaping company to the satisfaction of the owner.
- B. Replacement: The Contractor shall immediately notify the jurisdictional agency or owner if any tree or landscaping is damaged by the Contractor's operations. If, in the opinion of the jurisdictional agency or owner, the damage is such that replacement is necessary, the Contractor shall replace the tree or landscaping at its own expense. The tree or landscaping shall be of a like size and variety as the tree or landscaping damaged, or, if of a smaller size, the Contractor shall pay any compensatory payment.
- C. All permit fees associated with the removal and replacement of trees and landscaping damaged or destroyed shall be the responsibility of the Contractor.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

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SECTION 01540

SECURITY

PART 1 - GENERAL

1.01 DESCRIPTION

- A. This Section provides for requirements of security, entry control, personnel identification and miscellaneous restrictions.

1.02 RELATED SECTIONS

- A. Section 01010 - Summary of Work
- B. Other Sections as applicable.

1.03 SECURITY PROGRAM

- A. Protect Work, existing premises and Owner's operations from theft, vandalism and unauthorized entry.
- B. Initiate program in coordination with Owner's existing security system at job mobilization.
- C. Maintain program throughout construction period until Owner occupancy as directed by Engineer.

1.04 ENTRY CONTROL

- A. Restrict entrance of persons and vehicles into project site and existing facilities.
- B. Allow entrance only to authorized persons with proper identification.
- C. Maintain log of workmen and visitors, make available to Owner on request.
- D. Coordinate access of Owner's personnel to site in coordination with Owner's security forces.

1.05 PERSONNEL IDENTIFICATION

- A. All personnel shall wear clothing bearing the company information of which they are employed.
- B. Provide additional security as required by the Owner.
- C. Become familiar with Owner and Engineer representatives and restrict access to job site to these representatives.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01550

SITE ACCESS AND STORAGE

PART 1 - GENERAL

1.01 GENERAL

- A. This section provides general specifications for the contractors' mobilization, demobilization, access to the site and limitations on storage or lay-down area.

1.02 RELATED SECTIONS

- A. Section 01011 – Special Project Procedures
- B. Section 01015 – General Requirements
- C. Section 01505 – Control of Work
- D. Other Sections as applicable.

1.03 REFERENCES

- A. FDOT Standard Specifications for Road and Bridge Construction
- B. FDOT Design Standards
- C. Standards and Specifications of the allocable local municipality
- D. The requirements of the Owner

1.04 HIGHWAY LIMITATIONS

- A. The Contractor shall make his own investigation of the condition of available public and private roads and of clearances, restrictions, bridge load limits, and other limitations affecting transportation and ingress and egress to the site of the work.

1.05 CONTRACTOR'S WORK AND STORAGE AREA

- A. Contractors work and storage area plan shall be submitted for Owners approval no later than 30 days after NTP.
 - 1. Owner approval of the work area and storage plan is required prior to commencement.
 - 2. The limits of the Contractor's staging area and other applicable restrictions shall be subject to the local municipality.
- B. The Contractor shall make his own arrangements and pay for any necessary off-site storage or shop areas necessary for the proper execution of the work.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.01 GENERAL

A. The Contractor shall set up construction facilities in a neat and orderly manner within designated areas and shall confine operations to work and storage areas.

3.02 RESTORATION

A. All areas disturbed by the construction activities shall be restored to proper grade, cleaned up, including the removal of debris, trash, and deleterious materials.

B. Temporary restoration shall include all driveways, sidewalks and roadways. They shall be swept clean and be maintained free of dirt and dust.

C. All construction materials, supplies, or equipment, including piles of debris shall be removed from the area.

D. All temporarily restored areas shall be maintained by the Contractor. These areas shall be kept clean and neat, free of dust and dirt, until final restoration operations are completed.

E. Temporary restoration shall be completed within five days of pipe installation or as specified.

F. The Contractor is responsible to utilize dust abatement operations in the temporarily restored areas as required, to the satisfaction of the Engineer.

G. Final restoration shall be completed within thirty days of pipe acceptance. Final restoration shall include the completion of all required pavement replacement of roadways, driveways, curbs, gutters, sidewalks and other existing improvements disturbed by the construction; final grading, placement of sod, pavement marking, etc., all complete and finished, acceptable to the Engineer.

H. In order to obtain a satisfactory junction with adjacent surfaces, the Contractor shall saw cut back and trim the edge so as to provide a clean, sound, vertical joint before permanent replacement of an excavated or damaged portion of pavement. Damaged edges of pavement along excavations and elsewhere shall be trimmed back by saw cutting in straight lines. All pavement restoration and other facilities restoration shall be constructed to finish grades compatible with the adjacent undisturbed pavement.

3.03 DEMOBILIZATION

A. At the completion of Work the Contractor shall remove its personnel, equipment, and temporary facilities from the site in a timely manner. The Contractor shall also be responsible for transporting all unused materials belonging to the Owner to a place of storage on site designated by the Owner and for removing from the site and disposing of all

other materials and debris resulting from the construction. It shall then return all areas used for its activities to a condition as recorded in the pre-construction video or better.

END OF SECTION

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SECTION 01570

TRAFFIC REGULATION

PART 1 - GENERAL

1.01 DESCRIPTION

- A. The Work to be performed under this section shall include furnishing all materials and labor necessary to regulate vehicular and pedestrian traffic.
- B. Provide, operate and maintain equipment, services and personnel, with traffic control and protective devices, as required to expedite vehicular traffic flow around the construction area.
- C. Remove temporary equipment and facilities when no longer required, restore grounds to original, or to specified conditions.

1.02 RELATED SECTIONS

- A. Section 01011 – Special Project Procedures
- B. Section 01015 – General Requirements
- C. Section 01505 – Control of Work
- D. Other Sections as applicable.

1.03 REFERENCES

- A. The Work under this Contract shall be in strict accordance with the following codes and standards.
 - 1. The applicable municipality
 - 2. Miami-Dade County Standards and Specifications
 - 3. Florida Department of Transportation Design Standards and Specifications
 - 4. OSHA Safety and Health Standards for Construction.
 - 5. Federal Highway Administration Manual of Uniform Traffic Control Devices for Streets and Highways (MUTCD)
 - 6. Federal Highway Administration Traffic Controls for Street and Highway Construction and Maintenance Operations

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.01 MAINTENANCE OF TRAFFIC

- A. For the maintenance and protection of vehicular and pedestrian traffic in public or private streets and ways, the Contractor shall provide, place, and maintain all necessary barricades, traffic cones, warning signs, lights and other safety devices in accordance with the requirements of the "Manual of Uniform Traffic Control Devices, Part VI - Traffic Controls for Street and Highway Construction and Maintenance Operations," published by U.S. Department of Transportation, Federal Highway Administration (ANSI D6.1).
- B. The Contractor shall provide a Maintenance of Traffic Plan, sealed by a Professional Engineer registered in the State of Florida holding a current FDOT MOT certificate. The plan, and subsequent revisions, must be approved by the Florida Department of Transportation and/or the applicable local municipality.
- C. The Contractor shall take all necessary precautions for the protection of the work and the safety of the public. All barricades and obstructions shall be illuminated at night, and all lights shall be kept burning from sunset until sunrise. The Contractor shall station such guards or flaggers and shall conform to such special safety regulations relating to traffic control as may be required by the public authorities within their respective jurisdictions. All signs, signals, and barricades shall conform to the requirements of OSHA and Subpart G, Part 1926, of the OSHA Safety and Health Standards for Construction.
- D. The Contractor shall remove traffic control devices when no longer needed, shall repair all damage caused by installation of the devices, and shall remove post settings and backfill the resulting holes to match grade.

3.02 CORRECTIONS

- A. Upon notification by the owner either verbally or in writing, the contractor shall correct any noted deficiencies within one hour.
- B. Inspection of all traffic control items shall be accomplished at least twice per day. One of these inspections shall be at the end of the work day or at night.

3.03 TRAFFIC AND VEHICULAR ACCESS:

- A. Emergency Vehicles: No single family residence, multi-family residence, apartment, commercial building or place of employment shall be without access to emergency vehicles for a period longer than three hours. The Contractor shall notify in writing the Engineer, the police, fire and other emergency departments and agencies when and where work is to be accomplished that will affect their operations at least two days in advance of such work.
- B. Commercial Properties: Access to commercial property shall not be blocked for a period of more than 30 minutes during the time such properties are open for business.

C. Residential Property: Access to residential property shall not be blocked for a period of more than 4 hours.

3.04 ROAD CLOSURE

A. No roads shall be blocked to traffic without adequate detour facilities for a period of more than 30 minutes or as directed by the governing authority.

B. At least seven days prior to a proposed road closure, the contractor shall submit to the City Engineer a complete traffic control plan. This plan shall include the following minimum information:

1. Sketch of work site and all area roads, streets and mark driveways.
2. Proposed detour route.
3. All necessary traffic control devices to be used.
4. Emergency contractor contact person name and phone to be available 24 hours a day.
5. Estimated times/dates of road closure.

3.05 CONSTRUCTION IN STATE HIGHWAY RIGHT-OF-WAY:

A. Construction within all State highway right-of-way shall be made in full compliance with all requirements and to the satisfaction of the Florida Department of Transportation. All necessary barricades, detours, lights and other protective measures shall be provided for the protection of both pedestrian and vehicular traffic.

3.06 CONSTRUCTION IN OTHER THAN STATE HIGHWAY RIGHT-OF-WAY:

A. Construction within right-of-way other than State highway shall be made in full compliance with all requirements of the Florida Department of Transportation and to the satisfaction of the local governing bodies. All necessary barricades, detours, lights and other protective measures shall be provided for the protection of both pedestrian and vehicular traffic.

B. The Contractor shall provide and maintain such other warning signs and barricades in areas of and around their respective work as may be required for the safety of all those employed in the work or those visiting the site.

3.07 FLAGMEN

A. Provide qualified and suitably equipped flagmen when construction operations encroach on traffic lanes, as required for regulation of traffic.

3.08 FLARES AND LIGHTS

A. Provide lights as required to clearly delineate traffic lanes and to guide traffic as

required.

- B. Provide lights for use by flagmen in directing traffic.
- C. Provide illumination of critical traffic and parking areas as required.

3.09 CONSTRUCTION PARKING CONTROL

- A. Control vehicular parking to preclude interference with public traffic or parking, access by emergency vehicles, Owner's operations, or construction operations.
- B. Monitor parking of construction personnel's private vehicles.
- C. Maintain free vehicular access to and through parking areas and driveways.
- D. Prohibit parking on or adjacent to access roads, or in non-designated areas.

END OF SECTION

SECTION 01580

PROJECT IDENTIFICATION SIGNS

PART 1 - GENERAL

1.01 REQUIREMENTS INCLUDED

- A. Furnish, install and maintain three project identification signs.
- B. Remove sign upon completion of construction.
- C. Allow no other signs to be displayed without approval of Owner.

1.02 PROJECT IDENTIFICATION SIGN

- A. One painted or printed sign of size, design and lettering as shown on sample provided by Owner.
 - 1. Locate as directed by Owner.
 - 2. Colors as indicated.

1.03 QUALITY ASSURANCE

- A. Provide one electronic proof for Owner approval prior to release for printing or painting.

PART 2 - PRODUCTS

2.01 SIGN MATERIALS

- A. Structure and framing shall be pressure treated (2) 4"x4"x10' posts.
- B. Foundation shall be two eighty pound bags of concrete per post.
- C. Sign Surfaces shall be exterior grade plywood 8 feet wide by 4 feet high with a minimum thickness of 5/8 inch.
- D. Rough Hardware: Galvanized
- E. Finishes and painting shall be adequate to resist weathering and fading for scheduled construction period.

PART 3 - EXECUTION

3.01 PROJECT IDENTIFICATION SIGN

- A. Paint exposed surfaces of supports, framing and surface material; one coat of primer and one coat of exterior paint.
- B. Paint graphics in styles, sizes and colors selected.
- C. Lettering shall be as noted.
- D. Logo shall be shown as directed by Owner.
- E. Background shall be white.

3.02 SIGN LOCATION

- A. Sign shall be located within the right of way or in an area approved by the Owner.

3.03 MAINTENANCE

- A. Maintain sign and supports in a neat, clean condition; repair damages to structure, framing or sign.
- B. Relocate sign as required by progress of the work.

3.04 REMOVAL

- A. Remove sign, framing, supports and foundations at completion of project or at direction of the Engineer.

END OF SECTION

SECTION 01600

MATERIAL AND EQUIPMENT

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Material and equipment incorporated into the Work.
 - 1. Conform to applicable specifications and standards.
 - 2. Comply with size, make, and type and qualify specified, or as specifically approved in writing by the Engineer.
 - 3. Manufactured and Fabricated Products.
 - a. Design, fabricate, and assemble in accord with the best Engineering and shop practices.
 - b. Manufacture like part of duplicate units to standard sizes and gauges, to be interchangeable.
 - c. Two or more items of the same kind shall be identical, by the same manufacturer.
 - d. Products shall be suitable for service conditions.
 - e. Equipment capacities, sizes, and dimensions shown or specified shall be adhered to unless variations are specifically approved in writing.
 - 4. Do not use material or equipment for any purpose other than that for which it is designed or is specified.

1.02 RELATED SECTIONS

- A. Section 01340 - Shop Drawings, Product Data, and Samples
- B. Section 01630 - Substitutions
- C. Section 01720 - Project Record Documents
- D. Other Sections as applicable.

1.03 APPROVAL OF MATERIALS

- A. Only new materials and equipment shall be incorporated in the work. All materials and equipment furnished by the Contractor shall be subject to the inspection and approval of the Engineer. No material shall be delivered to the work without prior approval of the Engineer.

B. Within 30 days after the effective date of the Agreement, the Contractor shall submit to the Engineer, data relating to materials and equipment he proposes to furnish for the work. Such data shall be in sufficient detail to enable the Engineer to identify the particular product and to form an opinion as to its conformity to the specifications. The data shall comply with Paragraph 1.08 of this Section.

C. Facilities and labor for handling and inspection of all materials and equipment shall be furnished by the Contractor. If the Engineer requires, either prior to beginning or during progress of the work, the Contractor shall submit samples of materials for such special tests as may be necessary to demonstrate that they conform to the specifications. Such samples shall be furnished, stored, packed, and shipped as directed at the Contractor's expense. Except as otherwise noted, the Owner will make arrangements for and pay for the tests.

D. The Contractor shall submit data and samples sufficiently early to permit work. Any delay of approval resulting from the Contractor's failure to submit samples or data promptly shall not be used as a basis of claim against the Owner or the Engineer.

E. In order to demonstrate the proficiency of workmen or to facilitate the choice among several textures, types, finishes, and surfaces, the Contractor shall provide such samples of workmanship or finish as may be required.

F. The materials and equipment used on the work shall correspond to the approved samples or other data.

1.04 MANUFACTURER'S INSTRUCTIONS FOR INSTALLATION

A. When Contract Documents require that installation of work shall comply with manufacturer's printed instruction, obtain, and distribute copies of such instructions to parties involved in the installation, including copies to the Engineer.

1. Maintain one set of complete instructions at the job site during installation and until completion.

B. Handle, install, connect, clean, condition, and adjust products in strict accord with such instructions and in conformity with specified requirements.

1. Should job conditions or specified requirements conflict with manufacturer's instructions, consult with Engineer for further instructions.

2. Do not proceed with work without clear instructions.

C. Perform work in accord with manufacturer's instructions. Do not omit any preparatory step or installation procedure unless specifically modified or exempted by Contract Documents.

1.05 TRANSPORTATION AND HANDLING

A. Arrange deliveries of Products in accord with construction schedules; coordinate to avoid conflict with work and conditions at the site.

1. Deliver Products in undamaged condition, in manufacturer's original containers or packaging, with identifying labels intact and legible.
 2. Immediately upon delivery, inspect shipments to assure compliance with requirements of Contract Documents and approved submittals, and that Products are properly protected and undamaged.
- B. Provide equipment and personnel to handle Products by methods to prevent soiling or damage to Products or packaging.

1.06 STORAGE AND PROTECTION

A. The Contractor shall furnish a covered, weather-protected storage structure, providing a clean, dry, noncorrosive environment for all mechanical equipment, valves, electrical and instrumentation equipment, and special equipment to be incorporated into this project. Storage of equipment shall be performed to allow easy access and be in strict accordance with the "instructions for storage" of each equipment supplier and manufacturer including weather/humidity protection, connection of heaters, placing of storage lubricants in equipment, blocking, or skid storage, etc. Corroded, damaged, or deteriorated equipment and parts shall be replaced before acceptance of the project.

B. Store Products in accord with manufacturer's instructions, with seals and labels intact and legible.

1. Store products subject to damage by the elements in weather-tight enclosures.
2. Maintain temperature and humidity within the ranges required by manufacturer's instructions.
3. Store fabricated products above the ground, on blocking or skids, to prevent soiling or staining. Cover products which are subject to deterioration with impervious sheet coverings. Provide adequate ventilation to avoid condensation.
4. Store loose granular materials in a well drained area on solid surfaces to prevent mixing with foreign matter.

C. All materials and equipment to be incorporated in the work shall be handled and stored by the Contractor before, during, and after shipment in a manner to prevent warping, twisting, bending, breaking, chipping, rusting, and any injury, theft or damage of any kind whatsoever to the material or equipment.

D. Cement, sand, and lime shall be stored under a roof, off the ground, and shall be kept completely dry at all times. All structural and miscellaneous steel and reinforcing steel shall be stored off the ground, or otherwise, to prevent accumulations of dirt or grease, and to minimize rusting. Brick, block, and similar masonry products shall be handled and stored in a manner to reduce breakage, chipping, cracking, and spalling to a minimum.

E. Moving parts shall be rotated a minimum of once weekly to insure proper lubrications, and to avoid metal-to-metal "welding". Upon installation of the equipment, the Contractor shall start the equipment, at least half-load, once weekly, for an adequate period of time to ensure that the equipment does not deteriorate from lack of use. All materials which, in the opinion of the Engineer, have become so damaged as to be unfit for the use intended or specified, shall be promptly removed from the site of the work, and the Contractor shall receive no compensation for the damaged material or its removal.

F. Arrange storage in a manner to provide easy access for inspection. Make periodic inspections of stored Products to assure that Products are maintained under specific conditions, and free from damage or deterioration.

G. Contractor shall be responsible for protection after installation by providing substantial coverings as necessary to protect installed products from damage from traffic and subsequent construction operations.

H. The Contractor shall be responsible for all materials, equipment, and supplies sold and delivered to the Owner under this Contract, until final inspection of the work and acceptance thereof by the Owner. In the event any such material, equipment, and supplies are lost, stolen, damaged, or destroyed prior to final inspection and acceptance, the Contractor shall replace same without additional cost to the Owner.

I. Should the Contractor fail to take proper action on storage and handling of equipment supplied under this Contract within seven days after written notice to do so has been given, the Owner retains the right to correct all deficiencies noted in previously transmitted written notice and deduct the cost associated with these corrections from the Contractor's Contract. These costs may be comprised of expenditures for labor, equipment usage, administrative, clerical, Engineering, and any other costs associated with making the necessary corrections.

1.07 SPECIAL TOOLS

A. Manufacturers of equipment and machinery shall furnish any special tools (including grease guns or other lubricating devices) required for normal adjustment, operations and maintenance, together with instructions for their use. The Contractor shall preserve and deliver to the Owner these tools and instructions in good order no later than upon completion of the Contract.

1.08 STORAGE AND HANDLING OF EQUIPMENT ON SITE

A. Because of the long period allowed for construction, special attention shall be given to the storage and handling of equipment on site. As a minimum, the procedure outlined below shall be followed.

1. Equipment shall not be shipped until approved by the Engineer. The intent of this requirement is to reduce on-site storage time prior to installation and/or operation. Under no circumstances shall equipment be delivered to the site more than one month prior to installation without written authorization from the Engineer, unless upon arrival it is to be stored as specified in Paragraph 1.06. Operation and maintenance data, as described in Paragraph 1.08 of Section 01730 shall be submitted to the Engineer for review prior to shipment of equipment.

2. All equipment having moving parts, such as gears, electric motors, etc. and/or instruments, shall be stored in a temperature and humidity controlled building approved by the Engineer, until such time as the equipment is to be installed.
3. All equipment shall be stored fully lubricated with oil, grease, etc. unless otherwise instructed by the manufacturer.
4. Manufacturer's storage instructions shall be carefully studied by the Contractor and reviewed with the Engineer by him. These instructions shall be carefully followed and a written record of this kept by the Contractor.
5. Moving parts shall be rotated a minimum of once weekly to insure proper lubrication, and to avoid metal-to-metal "welding". Upon installation of the equipment, the Contractor shall start the equipment, at least half-load, once weekly for an adequate period of time to ensure that the equipment does not deteriorate from lack of use.
6. Lubricants shall be changed upon completion of installation and as frequently as required thereafter during the period between installation and acceptance. Mechanical equipment to be used in the work, if stored for longer than ninety (90) days, shall have the bearings cleaned, flushed, and lubricated prior to testing and start up, at no extra cost to the Owner.
7. Prior to acceptance of the equipment, the Contractor shall have the manufacturer inspect the equipment and certify that its condition has not been detrimentally affected by the long storage period. Such certifications by the manufacturer shall be deemed to mean that the equipment is judged by the manufacturer to be in a condition equal to that of equipment that has been shipped, installed, tested, and accepted in a minimum time period. As such, the manufacturer will guarantee the equipment equally in both instances. If such a certification is not given, the equipment shall be judged to be defective. It shall be removed and replaced at the Contractor's expense.

1.09 WARRANTY

- A. For all major pieces of equipment, submit a warranty from the equipment manufacturer as specified in Section 01740.

1.10 SPARE PARTS

- A. Spare parts for certain equipment provided under Division 11 through 16 have been specified in the pertinent sections of the Specifications. The Contractor shall collect and store all spare parts so required in an area to be designated by the Engineer. In addition, the Contractor shall furnish to the Engineer an inventory listing all spare parts, the equipment they are associated with, the name and address of the supplier, and the delivered cost of each item. Copies of actual invoices for each item shall be furnished with the inventory to substantiate the delivered cost.

1.11 LUBRICANTS

- A. During testing and prior to acceptance, the Contractor shall furnish all lubricants necessary for the proper lubrication of all equipment furnished under this Contract.

1.12 GREASE, OIL AND FUEL

- A. All grease, oil, and fuel required for testing of equipment shall be furnished with the respective equipment. The Owner shall be furnished with a year's supply of required lubricants including grease and oil of the type recommended by the manufacturer with each item of the equipment supplied under Division 11 through 16.
- B. The Contractor shall be responsible for changing the oil in all drives and intermediate drives of each mechanical equipment after initial break-in of the equipment, which in no event shall be any longer than three weeks of operation.

1.13 PROTECTION AGAINST ELECTROLYSIS

- A. Where dissimilar metals are used in conjunction with each other, suitable insulation shall be provided between adjoining surfaces so as to eliminate direct contact and any resultant electrolysis. The insulation shall be bituminous impregnated felt, heavy bituminous coatings, nonmetallic separators or washers, or other acceptable materials.

1.14 FASTENERS

- A. All necessary bolts, anchor bolts, nuts, washers, plates and bolt sleeves shall be furnished by the Contractor. Bolts shall have suitable washers and, where so required, their nuts shall be hexagonal.
- B. All bolts, anchor bolts, nuts, washers, plates, and bolt sleeves shall be Type 316 stainless steel unless otherwise specifically indicated or specified.
- C. Fasteners of dis-similar metals shall be provided with nylon spacer washers.
- D. Unless otherwise specified, stud, tap, and machine bolts shall be of the best quality refined bar iron. Hexagonal nuts of the same quality of metal as the bolts shall be used.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.01 EQUIPMENT, TESTING & INSPECTION

- A. Regardless of the number of days specified in the individual sections for the manufacturer's representative to be present on the site for inspection and testing, if the equipment fails to perform as specified, then the representative shall remain on site until the malfunction is corrected.
- B. The cost for the additional days shall not be added to the cost for the Owner, but shall be to the account of the Contractor.

END OF SECTION

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SECTION 01630

SUBSTITUTIONS

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Furnish and install products specified and named in their respective Specifications or on the Drawings unless substitution is allowed.
- B. For products specified only by reference standard, select product meeting that standard, by any manufacturer.
- C. For products specified by naming several products or manufacturers, select any one of those products and manufacturers names which complies with their respective Specifications.
- D. For products specified by naming only one or more products or manufacturers and stating "or equal", submit a request as for substitutions, for any product or manufacturer which is not specifically named.
- E. Requests for any substitutions not submitted in accordance with the instructions herein will be denied.

1.02 RELATED SECTIONS

- A. Section 01340 – Shop Drawings, Working Drawings and Samples
- B. Other Sections as Applicable

1.03 PRODUCTS LIST

- A. Within 30 days after award of Contract, submit to Engineer five copies of complete list of major Products which are proposed for installation.
- B. Product selection is governed by the Contract Documents and governing regulations, not by previous project experience.
 - 1. Where a single or multiple products or manufacturers are named, provide one of the products indicated or submit a request for substitution for any product or manufacturer not named unless no substitutions are permitted
 - 2. Where the Specifications only require compliance with performance requirements, an imposed code, standard or regulation, select a product that complies with the requirements, standards, codes or regulations specified.
 - 3. Manufacturers named in a Specification section are those manufacturers considered capable of manufacturing products conforming to the specified requirements. The naming of a particular manufacturer does not imply acceptance or approval of just any standard product of that manufacturer.

- C. Tabulate Products by specification section number and title.
- D. For products specified only by reference standards, list for each such Product:
 - 1. Name and address of manufacturer.
 - 2. Trade Name.
 - 3. Model or catalog designation.
 - 4. Manufacturer's data:
 - a. Reference standards.
 - b. Performance test data.

1.04 SUBSTITUTION SUBMITTAL REQUIREMENTS

- A. For convenience in designation in the Contract Documents, materials to be incorporated in the Work may be designated under a trade name or the name of a manufacturer and its catalog information. The use of alternative material which is equal in quality and of the required characteristics for the purpose intended will be permitted, subject to the following requirements:
 - 1. The burden of proof as to the quality and suitability of such alternative equipment, products, or other materials shall be upon the Contractor.
 - 2. The Engineer will be the sole judge as to the comparative quality and suitability of such alternative equipment, products, or other materials and its decisions shall be final.
 - 3. Base Bid requirements outlined in the Bid Form.
- B. The Contractor may offer any material, process, or equipment which it considers equivalent to that indicated. Unless otherwise authorized in writing by the ENGINEER, the substantiation of offers of equivalency must be submitted within 30 days after execution of the Agreement. The Contractor, at its sole expense, shall furnish data concerning items it has offered as equivalent to those specified. The Contractor shall have the material as required by the Engineer to determine that the quality, strength, physical, chemical, or other characteristics, including durability, finish, efficiency, dimensions, service, and suitability are such that the items will fulfill its intended function. Installation and use of a substitute item shall not be made until accepted by the Engineer. If a substitute offered by the Contractor is found to be not equal to the specified material, the Contractor shall furnish and install the specified material.
- C. The Contractor's attention is further directed to the requirement that failure to submit data substantiating a request for the substitution of an "or equal" item within said 30-day period after the execution of the Agreement, shall be deemed to mean that the Contractor intends to furnish one of the specific brand-named products named in the specification, and the Contractor does hereby waive all rights to offer or use substitute products in each such case. Wherever a proposed substitute product has not been submitted within said 30-day period, or wherever

the submission of a proposed substitute product fails to meet the requirements of the specifications and an acceptable resubmittal is not received by the Engineer within said 30-day period, the Contractor shall furnish only one of the products originally-named in the Contract Documents.

D. Within a period of 30 days after award of Contract, Engineer will consider formal requests from the Contractor for substitution of specified products.

E. After the end of that period, the request will be considered only in case of product unavailability or other conditions beyond the control of the Contractor.

F. Submit a separate request for each substitution. Support each request with:

1. Complete data substantiating compliance of the proposed substitution with requirements stated in the Contract Documents:

a. Product identification, including manufacturer's name and address.

b. Manufacturer's literature; identify:

1) Product description.

2) Reference standards.

3) Performance and test data.

c. Samples, as applicable.

d. Name and address of similar projects on which product has been used, and the date of each installation.

2. Itemized comparison of the proposed substitution with product specified; List significant variations.

3. Comparison of the qualities of the proposed substitution with that specified.

4. Changes required in other elements of the work because of the substitution.

5. Availability of maintenance service, and source of replacement materials.

6. Data relating to changes in the construction schedule.

7. Any effect of the substitution on separate contracts.

8. List of changes required in other work or products.

9. Accurate cost data comparing proposed substitution with product specified.

10. Designation of required license fees or royalties.

11. Designation of availability of maintenance services, and sources of replacement materials.

12. Cost data is complete and includes related costs under his Contract, but not:

a. Cost data comparing the proposed substitution with the product

specified.

b. Any required license fees or royalties.

c. Engineer's costs of redesign or revision of Contract Documents.

13. Substitute products shall not be ordered or installed without written acceptance of Engineer.

G. Do not imply or indicate substitutions on shop drawings or product data submittals without a separate formal request.

H. Only one request for substitution for each product will be considering. If not accepted, Contractor shall provide specified product.

1.05 SUBSTITUTIONS WILL NOT BE CONSIDERED FOR ACCEPTANCE WHEN:

A. They are indicated or implied on Shop Drawings or product data submittals without a formal request from Contractor.

B. The manufacture of the product substitution does not meet the Qualifications as stated in the specifications as determined by the Engineer.

C. They are requested directly by a subcontractor or supplier.

D. No data is provided relating to changes in construction schedule.

E. There is any effect of substitution on separate contracts.

F. Changes are required in other work or products.

G. There is no accurate cost data comparing proposed substitution with product specified.

H. There are required license fees or royalties above and beyond the specified vendor.

I. Availability of maintenance services, sources of replacement materials does not equal that provided by the specified vendor.

J. Acceptance will require substantial revision of Contract Documents.

1.06 CONTRACTOR'S REPRESENTATION

A. A request for a substitution constitutes a representative that Contractor:

1. He has investigated proposed product and has determined that it is equal to or superior in all respects to that specified.

2. He will provide the same warranties or bonds for substitution as for product specified.

3. He will coordinate installation of accepted substitution into the Work, and

will make such changes as may be required for the Work to be complete in all respects.

4. He waives claims for additional costs caused by substitution which may subsequently become apparent.

1.07 ENGINEER DUTIES

1. Review Contractor's requests for substitutions in accordance the Shop Drawing review requirements.

2. Notify Contractor, in writing, of decision to accept or reject requested substitution.

3. The Engineer shall be the judge of the acceptability of the proposed substitution.

1.08 SUBSTITUTION SUBMITTAL REQUIREMENTS – “NO SUBSTITUTIONS PERMITTED”

A. Contractor may not request a substitute item or vendor/manufacturer for which the specifications indicate “No Substitutions Permitted”.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

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SECTION 01700
CONTRACT CLOSEOUT

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Administrative and procedural requirements for project closeout.
 - 1. Inspection procedures.
 - 2. Project Record Document submittal.
 - 3. Final cleaning.
- B. Warranty and bond submittal.
- C. Closeout submittals, warranties and bonds required for specific products of work.

1.02 RELATED SECTIONS

- A. Section 01310 - Construction Schedules
- B. Section 01370 - Schedule of Values
- C. Section 01380 - Construction Photographs
- D. Section 01710 - Cleaning
- E. Section 01720 - Project Record Documents
- F. Section 01740 - Warranties and Bonds
- G. Other Sections as applicable.

1.03 SUBSTANTIAL COMPLETION

- A. Before requesting inspection for certification of Substantial Completion, complete the following. List exceptions in the request.
 - 1. If 100 percent completion cannot be shown, include a list of incomplete items, the value of incomplete construction, and reasons the Work is not complete.
 - 2. Advise Owner of pending insurance change-over requirements.
 - 3. Submit specific warranties, workmanship bonds, maintenance agreements, final certifications and similar documents.
 - 4. Obtain and submit releases enabling the Owner unrestricted use of the Work and access to services and utilities; include occupancy permits, operating certificates and similar releases.

5. Submit record drawings, maintenance manuals, and similar final record information.
 6. Complete start-up testing of systems, and instruction of the Owner's operating and maintenance personnel. Discontinue or change over and remove temporary facilities from the site, along with construction tools, mock-ups, and similar elements.
- B. When the Contractor considers the Work to be substantially complete, he shall submit a written notice to the Engineer that the Work, or designated portion of the Work, is complete and ready for inspection.
- C. Within a reasonable time of receipt of a request for inspection, the Engineer will either proceed with inspection or advise the Contractor of unfulfilled requirements. When the Engineer and Owner concur that the Work, or designated portion of the Work, is substantially complete, the Engineer will prepare the Certificate of Substantial Completion following inspection.
- D. Should the Engineer determine that the Work is not substantially complete, he will advise the Contractor of construction that must be completed or corrected before the certificate will be issued.
1. The Engineer will repeat inspection when requested and assured that the Work has been substantially completed.
 2. Results of the completed inspection will form the basis of requirements for final acceptance.

1.04 FINAL COMPLETION

- A. When Contractor considers the Work to be complete, he shall submit written certification to the Engineer that the Work is completed and ready for final inspection. Include the following:
1. Submit the final payment request with releases and supporting documentation not previously submitted and accepted. Include certificates of insurance for products and completed operations where required.
 2. Submit an updated final statement, accounting for final additional changes to the Contract Sum.
 3. Submit a certified copy of the Engineer's final inspection list of items to be completed or corrected, stating that each item has been completed or otherwise resolved for acceptance, the list has been endorsed and dated by the Engineer.
 4. Submit final meter readings for utilities, a measured record of stored fuel, and similar data as of the date of Substantial Completion, or when the Owner took possession of and responsibility for corresponding elements of the Work.
 5. Submit consent of surety to final payment.
 6. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
- B. The Engineer will inspect the Work upon receipt of notice that the Work, including

inspection list items from earlier inspections, has been completed, except items whose completion has been delayed because of circumstances acceptable to the Engineer.

1. Upon completion of inspection, the Engineer will prepare a certificate of final acceptance, or advise the Contractor of Work that is incomplete, or of obligations that have not been fulfilled but are required for final acceptance.

2. If necessary, re-inspection process will be repeated.

C. RECORD DOCUMENT SUBMITTALS (refer to Section 01720 - Project Record Documents).

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

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SECTION 01710

CLEANING

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Execute cleaning, during progress of the Work, and at completion of the Work, as required by General Conditions.

1.02 RELATED SECTIONS

- A. Section 01010 – Summary of Work
- B. Section 01505 – Control of Work
- C. Section 01550 – Site Access and Storage
- D. Other Sections as applicable.

1.03 DISPOSAL REQUIREMENTS

- A. Do not dispose of any unsuitable fill, hazardous or organic material onsite. All such material shall be disposed of in a legal manner by the Contractor, the cost of which shall be included in the Bid.
- B. Conduct cleaning and disposal operations to comply with applicable codes, ordinances, regulations, and anti-pollution laws.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Use only those cleaning materials which will not create hazards to health or property and which will not damage surfaces.
- B. Use only those cleaning materials and methods recommended by manufacturer of the surface material to be cleaned.
- C. Use cleaning materials only on surfaces recommended by cleaning material manufacturer.

PART 3 - EXECUTION

3.01 DURING CONSTRUCTION

- A. The Contractor shall keep the area of the work and other areas utilized or impacted by construction in a neat and clean condition, free from any accumulation of rubbish. The Contractor shall dispose of all rubbish and waste materials of any nature occurring at the work site, and shall establish regular intervals of collection and disposal of such materials and waste. The Contractor shall also keep its haul roads free from dirt, rubbish, and unnecessary obstructions resulting from its operations.
- B. Disposal of all rubbish and surplus materials shall be off the site of construction in accordance with local codes and ordinances governing locations and methods of disposal, and in conformance with all applicable safety laws, and to the particular requirements of Part 1926 of the OSHA Safety and Health Standards for Construction.
- C. Provide on-site containers for the collection of waste materials, debris and rubbish as required.

3.02 DUST ABATEMENT

- A. The Contractor shall furnish all labor, equipment, and means required and shall carry out effective measures wherever and as often as necessary to prevent its operation from producing dust in amounts damaging to property, cultivated vegetation, or domestic animals, or causing a nuisance to persons living in or occupying buildings in the vicinity. Means for the control of dust shall include, but not be limited to, sweeping and water trucks. The Contractor shall be responsible for any damage resulting from any dust originating from its operations. The dust abatement measures shall be continued until the Contractor is relieved of further responsibility by the Engineer.

3.03 FINAL CLEANING

- A. Remove temporary protection and facilities installed for protection of the Work during construction.
- B. Comply with regulations of authorities having jurisdiction and safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on the Owner's property. Do not discharge volatile, harmful or dangerous materials into drainage systems. Remove waste materials from the site and dispose of in a lawful manner.
- C. Where extra materials of value remaining after completion of associated Work have become the Owner's property, arrange for disposition of these materials as directed.

END OF SECTION

DOCUMENT 01720

PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.01 DESCRIPTION

A. This Section includes the requirements for maintaining, recording and submitting Project Record Documents including, but not limited to,

1. Record Drawings or As-Built Drawings
2. Record Specifications and other Contract Documents
3. Record Samples, Shop Drawings or Record Product Data

1.02 RELATED SECTIONS

- A. Section 01050 – Field Engineering and Surveying
- B. Section 01152 – Applications for Payment
- C. Section 01340 - Shop Drawings, Working Drawings and Samples
- D. Section 01700 – Project Closeout
- E. Other Sections as applicable.

1.03 MAINTENANCE OF DOCUMENTS AND SAMPLES

A. Maintain at the site for the Owner and Engineers review one record copy of:

1. Drawings
2. Specifications
3. Addenda
4. Change Orders and other Modifications to the Contract
5. Engineer's Field Orders or Written Instructions
6. Approved Shop Drawings, Working Drawings, and Samples
7. Field Test Reports
8. Construction Photographs

B. Store Record Documents in the Contractor's field office apart from documents used for construction.

C. File Record Documents in accordance with the CSI format number system utilized in the Contract Documents.

- D. Maintain Record Documents in a clean, dry, legible condition and in good order. Do not use Record Documents for construction purposes.
- E. Make Record Documents available at all times for inspection by the Engineer.
- F. As a prerequisite for monthly progress payments, the Contractor is to exhibit the currently updated Record Documents for review by the Engineer and the Owner.

1.04 RECORDING

A. Record Drawings:

1. Maintain a clean, undamaged set of prints of Contract Drawings to serve as the project Record Drawings.
2. Label each sheet "RECORD DRAWING" in neat large printed letters with red erasable pencil; use other colors to distinguish between variations in separate categories of the Work.
3. The Record Drawings shall be presented at the same scale as the Contract Drawings.
4. The Record Drawings shall correctly and accurately show all changes from the Contract Drawings made during construction.
5. All information shall be verified and certified by an independent Professional Surveyor and Mapper registered in the State of Florida.
6. All vertical information shall be provided in the datum indicated in the Contract Drawings.
7. Horizontal and vertical locations referenced to base-line or permanent surface improvements.
8. Mark whichever drawing is most capable of showing conditions fully and accurately; where Shop Drawings are used, record a cross reference at the corresponding location on the Record Drawings.
9. Give particular attention to concealed elements that would be difficult to measure and record at a later date.
10. Mark new information that was not shown on Contract Drawings or Shop Drawings.
11. Note related Change Order numbers where applicable.
12. Organize Record Drawing sheets into manageable sets, bind with durable paper cover sheets, and print suitable titles, dates and other identification on the cover of each set.
13. Do not use Record Drawings for construction purposes.
14. Record information concurrently with construction progress.

B. The Record Drawings shall be neat and legible including the following:

1. Depths of various elements of foundation in relation to finish first floor datum.

2. All underground piping with elevations and dimensions. Changes to piping location. Horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements. Actual installed pipe material, class, etc.
3. Location of internal utilities and appurtenances concealed in the construction, referenced to visible and accessible features of the structure.
4. Field changes of dimensions and details.
5. Changes made by Field Order or by Change Order.
6. Details not on original contract drawings.
7. Electrical, instrumentation and controls:
 - a. Horizontal location of all electrical equipment and control cabinetry.
 - b. Elevations of the bottom of all electrical and control panels.
 - c. Horizontal location and elevation of all conduits including conduit size, route and wire size.
 - d. Horizontal location of all light poles and junction boxes.

C. Record Specifications: Maintain one complete copy of the Project Manual, including addenda, and one copy of other written construction documents such as Change Orders and modifications issued in printed form during construction.

1. Mark these documents to show substantial variations in actual Work performed in comparison with the text of the Specifications and modifications.
2. Give particular attention to substitutions, selection of options and similar information on elements that are concealed or cannot otherwise be readily discerned later by direct observation.
3. Note related record drawing information and Product Data.
4. Manufacturer, trade name, catalog number, and supplier of each product and item of equipment actually installed.
5. Changes made by field order or by Change Order.

D. Record Product Data (Shop Drawings): Maintain one copy of each Product Data submittal.

1. Mark these documents to show significant variations in actual Work performed in comparison with information submitted. Include variations in products delivered to the site, and from the manufacturer's installation instructions and recommendations.
2. Give particular attention to concealed products and portions of the work which cannot otherwise be readily discerned later by direct observation.
3. Note related Change Orders and mark-up of record drawings and Specifications.

E. Record Sample Submitted: Immediately prior to the date or dates of Substantial

Completion, the Contractor will meet at the site with the Engineer and the Owner to determine which of the submitted Samples that have been maintained during progress of the Work are to be transmitted to the Owner for record purposes. Comply with delivery to the Owner's Sample storage area.

F. Miscellaneous Record Submittals: Refer to other Specification Sections for requirements of miscellaneous record-keeping and submittals in connection with actual performance of the Work.

1.05 SUBMITTAL

A. Project Record Documents, demonstrating construction progress, shall be submitted with each Application for Payment.

B. Interim Project Record Drawings shall be submitted at significant project milestones including:

1. Construction of wet well or other structures.
2. Construction of catch basins, manholes, pipes and appurtenances.
3. As required by the Engineer.

C. Project Record Documents, demonstrating construction completion shall be submitted with the balance of Closeout documents at the conclusion of construction including:

1. Three sets of signed and sealed sets of prints.
2. One compact disc copy of record drawings in Autocad format.

D. Accompany submittals with transmittal letter in duplicate, containing:

1. Date
2. Project Title and Number
3. Contractor's Name and Address
4. Title and Number of each Record Document
5. Signature of Contractor or his Authorized Representative

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01740

WARRANTIES AND BONDS

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Compile warranties and bonds as specified in the Contract Documents.
- B. Co-execute submittals when so specified.
- C. Review submittals to verify compliance with Contract Documents.
- D. Submit to the Engineer for review and transmittal to Owner.

1.02 RELATED SECTIONS

- A. Section 01011 - Special Project Procedures
- B. Section 01700 - Contract Closeout
- C. Other Sections as applicable.

1.03 SUBMITTAL REQUIREMENTS

- A. Assemble warranties, bond, service and maintenance contracts, executed by each of the respective manufacturers, suppliers, and subcontractors.
- B. Number of original signed copies required: two (2) each.
- C. Table of Contents: neatly typed, in orderly sequence. Provide complete information for each item.
 - 1. Product or work item
 - 2. Firm, with name of principal, address and telephone number
 - 3. Scope
 - 4. Date of beginning of Warranty, bond or service and maintenance contract
 - 5. Duration of warranty, bond or service maintenance contract
 - 6. Provide information for Owner's personnel:
 - a. Proper procedure in case of failure
 - b. Instances which might affect the validity of warranty or bond
 - 7. Contractor, name of responsible principal, address and telephone number

1.04 FORM OF SUBMITTALS

- A. Prepare in duplicate packets
- B. Format:
 - 1. Size 8 1/2 inches x 11 inches, punch sheets for standard 3-post binder
 - 2. Cover: Identify each packet with typed or printed title "WARRANTIES AND BONDS". List:
 - a. Title of Project
 - b. Name of Contractor
- C. Binders: Commercial quality, three-post (3) binder, with durable and cleanable plastic covers and maximum post width of 2 inches.

1.05 WARRANTY SUBMITTAL REQUIREMENTS

- A. For all equipment, submit a one-year warranty from the equipment manufacturer, unless otherwise specified. The manufacturer's warranty period shall be concurrent with the Contractor's for one year commencing at the time of acceptance by the Owner.
- B. The Contractor shall be responsible for obtaining certificates for equipment warranty for all major equipment and which has a 1 HP motor or which lists for more than \$1,000. The Engineer reserves the right to request warranties for equipment not classified as major. The Contractor shall still warrant equipment not considered to be "major" in the Contractor's one-year warranty period even though certificates of warranty may not be required.
- C. In the event that the equipment manufacturer or supplier is unwilling to provide a one-year warranty commencing at the time of Owner acceptance, the Contractor shall obtain from the manufacturer a two (2) year warranty commencing at the time of equipment delivery to the job site. This two-year (2) warranty from the manufacturer shall not relieve the Contractor of the one-year warranty starting at the time of Owner acceptance of the equipment.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION