



**WATER – SEWER DISTRICT**

**HIBISCUS IQ ASSEMBLY  
ACCESS IMPROVEMENTS**

**TECHNICAL SPECIFICATIONS  
ISSUED FOR BIDDING**

**June 2018**



HM Project No. 2016.060A

COLLIER COUNTY WATER SEWER DISTRICT  
HIBISCUS IQ ASSEMBLY ACCESS IMPROVEMENTS  
SUPPLEMENTAL PROJECT REQUIREMENTS

The following Supplemental Project Requirements have been provided for the Hibiscus IQ Assembly Access Improvements project. These Project Requirements are intended to supplement the existing Collier County Water-Sewer District Utilities Standards Manual Technical Specifications. These technical specifications can be obtained from the Collier County Government website.

# COLLIER COUNTY WATER-SEWER DISTRICT

## HIBISCUS IQ ASSEMBLY ACCESS IMPROVEMENTS

### DIVISION 1 – GENERAL REQUIREMENTS

Section 01110 – Summary of Work  
Section 01130 – Measurement and Payment  
Section 01135 – Allowance Fund  
Section 01150 – Protection of Existing Facilities  
Section 01200 – Project Meetings  
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Section 01410 – Regulatory Requirements  
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Section 01470 – Color Audio-Video Preconstruction Record  
Section 01540 – Security  
Section 01541 – Field Engineering  
Section 01570 – Temporary Environmental Controls  
Section 01770 – Contract Closeout  
Section 01781 – Project Record Documents

### ADDITIONAL ITEMS

#### Permits and User Agreements

- FDOT Driveway Connection Permit
- FPL Memorandum of Right of Way Consent
- Utility Easements
- Collier County SDPI Permit
- Forge Engineering Subsurface Investigation

**SECTION 01110**  
**SUMMARY OF WORK**

**PART 1 - GENERAL**

1.01 SECTION INCLUDES

General description of the Work required under this Contract.

1.02 WORK COVERED BY CONTRACT DOCUMENTS

- A. Work of this Contract comprises construction at the Hibiscus Golf Course related to access improvements to the existing IQ assembly. The Contractor shall refer to the Contract Documents for a more complete description of the Work.
- B. The Work can be summarized to include furnishing labor, materials, equipment, services, incidentals for the following items:
  - 1. The construction of an elevated 10 foot (nominal) grassed geoweb access way from US41 to the existing golf course pathway. This shall include an equalizer storm water pipe system.
  - 2. The removal and replacement of an existing gravel/concrete cart path with a grassed drivable concrete access way.
  - 3. The construction of the conduit and pull box system for a future fiber optic communication link.
  - 4. Construction of temporary golf course cart paths to serve as detour during construction and restoration upon completion.
  - 5. Site restoration and cleanup.
- C. The Contractor shall organize, coordinate schedule and execute the Contract Work so as to be in strict compliance with the following:
  - 1. Special Project Requirements as noted on Contract Drawing Sheet G-2.
- D. Execution of the Work will require coordination and planning with the Hibiscus Golf Course Superintendent and the County's Project Manager. The Work shall be executed in a manner and schedule that does not interfere with the on-going normal operations of the golf course.

1.04 SITE ACCESS

The Contractor shall use the US41 driveway apron for all entering and departing construction traffic. The Contractor shall coordinate and regulate all site access/egress with the Hibiscus Golf Course Superintendent and the County Project Manager. No

turn lanes or sidewalk closures are permitted at US41. The driveway shall be cleaned each day.

1.05 CONTRACT METHOD

Construct the Work under a single contract. Certain materials as described in the Contract Documents may be furnished by the Owner for unloading, storing, installation, start-up and testing assistance by the Contractor. The Contractor shall provide coordination and technical support associated with Owner furnished material.

1.06 WORK BY OTHERS

During the construction period for this project, the Owner (either with his own forces or under a separate contract), Golf Course and FPL may be performing other work that will require the cooperation of the Contractor in scheduling and his coordination to avoid conflicts. This coordination shall include submitting weekly schedules and cooperating with other contractors.

**END OF SECTION**

## SECTION 01130

### MEASUREMENT AND PAYMENT

#### PART 1 - GENERAL

##### 1.01 THE REQUIREMENT

- A. Payment for the various items in the Schedule of Payment as further specified herein, shall include all compensation to be received by the Contractor for furnishing all tools, equipment, supplies, and manufactured articles, and for all labor, operations, taxes, materials, commissions, transportation and handling, bonds, permit fees, insurance, overhead and profit, and incidentals appurtenant to the items of Work being described, as necessary to complete the various items of the Work all in accordance with the requirements of the Contract Documents, including all appurtenances thereto, and including all costs of compliance with the regulations of public agencies having jurisdiction, including Safety and Health Requirements of the Occupational Safety and Health Administration of the U.S. Department of Labor (OSHA). Such compensation shall also include payment for any loss or damages arising directly or indirectly from the Work.
- B. The Contractor's attention is called to the fact that the quotations for the various items of Work are intended to establish a total price for completing the Work in its entirety. Should the Contractor feel that the cost for any item of Work has not been established by the Schedule of Payment items or this Section, it shall include the cost for that Work in some other applicable bid item, so that its proposal for the project does reflect its total price for completing the Work in its entirety.

##### 1.02 PAYMENT ITEMS

- A. The Contractor shall submit a Schedule of Payment Values for review with the return of the executed Agreement to the Owner. The schedule shall contain the installed value of the component parts of Work broken down into labor and material categories for the purpose of making progress payments during the construction period.
- B. The schedule shall be given in sufficient detail for proper identification of Work accomplished. The Schedule of Payment Values shall coincide with the activities of work detailed in the construction progress schedule and the construction network analysis in order to accurately relate construction progress to the requested payment. Each item shall include its proportional share of all costs including the Contractor's overhead, contingencies and profit. The sum of all scheduled items shall equal the total value of the Contract.
- C. If the Contractor anticipates the need for payment for materials stored on the project site, it shall also submit a separate list covering the cost of materials, delivered and unloaded with taxes paid. This list shall also include the installed value of the item with coded reference to the Work items in the Schedule of Payment Values. Similar procedures shall be employed for undelivered specifically manufactured equipment and materials as specified herein.

D. Payment will not be made for materials stored off-site.

**PART 2 - PRODUCTS (Not Used)**

**PART 3 - EXECUTION (Not Used)**

**END OF SECTION**

**SECTION 01135**  
**ALLOWANCE FUND**

**PART 1 – GENERAL**

1.01 SECTION INCLUDES

1.02 CONTRACT ALLOWANCE

- A. The Contractor shall include in its Contract Price an allowance equal to Allowance Fund shown in the bid schedule for additional work required due to unforeseen conditions.
- B. The price negotiated (between Contractor and Owner) for any work falling under this category shall be compensation in full for all labor, materials and equipment necessary.
- C. The provisions for the Allowance Fund are not a guarantee the Contractor will be paid any portion or the full amount of such Allowance Fund.

1.03 ALLOWANCE FUND

- A. Refer to the Bid Schedule for the Allowance Fund amount.
- B. Allowance for Owner's use as directed for unforeseen work and costs associated with the project.

**END OF SECTION**



## SECTION 01150

### PROTECTION OF EXISTING FACILITIES

#### PART 1 – GENERAL

##### 1.01 SECTION INCLUDES

Requirements for protection of existing facilities and completed construction

##### 1.02 GENERAL

- A. 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.
- B. The Contractor shall verify the exact locations and depths of all utilities shown and the Contractor shall make exploratory hand excavations of all utilities that may interfere with the Work. All such exploratory hand excavations shall be performed as soon as practicable after award of 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.
- C. The number of exploratory excavations required shall be that number which is sufficient to determine the alignment and grade of the utility.

##### 1.03 RIGHTS-OF-WAY

- 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 therefor from the proper party. After authority has been obtained, the Contractor shall give said party due notice of its intention to begin Work.
- B. 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 of another, the Owner shall determine the sequence and order of the Work.
- C. 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, amount, in the manner, and at the times permitted.
- D. 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.

- E. The Owner's Right of Access is reserved to the Owner and to the owners of public utilities and franchises to enter at any time upon any public street, alley, right-of-way, or easement for the purpose of making changes in their property.

#### 1.05 PROTECTION OF SURVEY STREET OR ROADWAY MARKERS

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 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.

#### 1.06 EXISTING UTILITIES AND IMPROVEMENTS

- A. Maintaining in Service: All oil and gasoline pipelines, power, and telephone or other communication cable ducts, gas and water mains, irrigation lines, sewer lines, storm drain lines, poles, and overhead power and communication wires and 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, wire or cable.
- B. 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.
- C. Where the proper completion of the Work requires the temporary or permanent removal, or relocation of an existing utility or other improvement which is shown, the Contractor shall contact the utility owner and proceed as specified in Section 01160 – Alteration of Existing Facilities.
- D. Unrecorded Underground Utilities or Improvements
  1. Plans show features of topography and underground utilities, but do not purport to show in complete detail all such lines or obstructions.
  2. Existing utilities shown on Drawings are based upon available records. Data regarding existing utilities is presented for Contractor's convenience only, and shall not be used as a basis for claims of extra compensation.
  3. Examine available records and make exploratory excavations whenever necessary to determine locations of existing pipes, valves, or other underground improvements.
  4. Take prudent precautions not to damage unrecorded underground utilities and improvements.

5. If unrecorded underground utilities or other improvements are encountered, immediately notify the Engineer and inform the Engineer of the conditions encountered. Include written report of conditions encountered with Progress Schedule covering period in which unrecorded underground utilities or improvements were encountered. Provide unscheduled impact on CPM schedule for each occurrence. If unrecorded underground utilities or improvements conflict with Work, changes shall be made under the terms of the Agreement. Changes to the Work shall be as approved by the Owner.
6. The Contractor shall contact the affected utility owner and proceed as specified in the Contract Documents.

#### 1.07 TREES WITHIN STREET RIGHTS-OF-WAY AND PROJECT LIMITS

- A. The Contractor shall exercise all necessary precautions so as not to damage or destroy any trees or shrubs, and shall not trim or remove any trees unless such trees have been approved for trimming or removal by the jurisdictional agency or owner.
- B. All existing trees and shrubs which are damaged during construction shall be repaired or replaced by the Contractor as specified in Section 01160 – Alteration of Existing Facilities.

#### 1.08 NOTIFICATION BY THE CONTRACTOR

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 3 days nor more than 7 days prior to excavation so that a representative of said owners or agencies can locate their facilities or be present during such work if they so desire.

**PART 2 – PRODUCTS (not used)**

**PART 3 – EXECUTION (not used)**

**END OF SECTION**

**SECTION 01200**  
**PROJECT MEETINGS**

**PART 1 - GENERAL**

1.01 PRECONSTRUCTION MEETING

- A. A preconstruction meeting will be held after Award of Contract, but prior to starting work at the site. The Engineer shall prepare and distribute the meeting agenda and shall preside at the meeting. The Engineer shall record and distribute minutes of the proceedings and decisions.
  
- B. Attendance:
  - 1. Owner
  - 2. Engineer
  - 3. Contractor
  - 4. Major subcontractors
  - 5. Hibiscus Golf Course
  
- C. Minimum Agenda:
  - 1. Tentative construction and submittal schedules
  - 2. Critical work sequencing
  - 3. Designation of responsible personnel
  - 4. Processing of Field Decisions and Change Orders
  - 5. Adequacy of distribution of Contract Documents
  - 6. Submittal of Shop Drawings and samples
  - 7. Procedures for maintaining record documents
  - 8. Use of site and Owner's requirements
  - 9. Major equipment deliveries and priorities
  - 10. Safety and first aid procedures
  - 11. Security procedures
  - 12. Housekeeping procedures
  - 13. Processing of Partial Payment Requests

14. General regard for community relations

1.02 PROGRESS MEETING

- A. Progress meetings will be held as needed at the project site or other determined location during the performance of the field work of this Contract. Additional meetings may be called as progress of work dictates.
- B. Engineer will prepare and distribute agenda, preside at meetings and record minutes of proceedings and decisions. Engineer will distribute copies of minutes to participants.
- C. Attendance:
  - 1. Owner
  - 2. Engineer
  - 3. Contractor
  - 4. Subcontractors, only with Engineer's approval or request, as pertinent to the agenda
  - 5. Hibiscus Golf Course
- D. Minimum Agenda:
  - 1. Review and approve minutes of previous meetings.
  - 2. Review progress of Work since last meeting.
  - 3. Review proposed 30-60 day construction schedule.
  - 4. Note and identify problems which impede planned progress.
  - 5. Develop corrective measures and procedures to regain planned schedule.
  - 6. Revise construction schedule as indicated and plan progress during next work period.
  - 7. Maintaining of quality and work standards.
  - 8. Complete other current business.
  - 9. Schedule next progress meeting.

**PART 2 – PRODUCTS (not used)**

**PART 3 – EXECUTION (not used)**

**END OF SECTION**

## SECTION 01330

### SUBMITTALS

#### PART 1 - GENERAL

##### 1.01 SECTION INCLUDES

Requirements and procedures for submittals.

##### 1.02 SCHEDULE

- A. Transmit submittals in accordance with approved Progress Schedule, and in such sequence to avoid delay in the Work or work of other contracts.
- B. Do not fabricate products or begin work that requires submittals until return of submittal with Engineer acceptance.
- C. Identify the appropriate specification sections and parts on each submittal.

##### 1.03 CONTRACTOR REVIEW

- A. Review submittals prior to transmittal; determine and verify field measurements, field construction criteria, manufacturer's catalog numbers, and conformance of submittal with requirements of Contract Documents.
- B. Contractor's submittal review shall include coordination of all trades.
- C. Sign each sheet of shop drawings and product data, and each sample; label to certify compliance with requirements of Contract Documents. **Notify Engineer of any deviations from requirements of Contract Documents in writing at time of submittal.**
- D. Identify the relevant specification sections and parts on each submittal.

##### 1.04 SUBMITTAL REQUIREMENTS

- A. Apply Contractor's stamp, signed certifying to review and approval, verification of products, field dimensions and field construction criteria, and coordination of information with requirements of Work and Contract Documents.
- B. Number each submittal sequentially beginning with 001. Each submittal shall describe only one product or equipment. Re-submittals shall use the same number identifier with a letter suffix; e.g. 001A. Submittals shall identify the relevant Specifications Section(s).
- C. Coordinate submittals into logical groupings to facilitate interrelation of the several items:
  - 1. Finishes that involve Engineer selection of colors, textures, or patterns.
  - 2. Associated items that require correlation for efficient function or for installation.

- D. Submit under transmittal letter. Identify Project by title and number.
- E. If any submittal requires more than three reviews (normally an original and two re-submittals), the Engineer may charge the Contractor for additional review time based on his actual incurred time and expenses. These charges shall be summarized for the Contractor and deducted from the Contractor's next pay request.
- F. The Contractor may expect most submittals to be reviewed within 21 calendar days following receipt of the submittal. Certain submittals such as Owner color selection or instrumentation may require a longer review time.
- G. The submission of submittals will be by email subject to the requirements noted below. Before the first electronic submittal, the Contractor must meet with the Engineer to review the format and protocols for such submittals.

Any digital file submittal or re-submittal must be complete in every respect. Any digital file submittal must include one piece of material or equipment. All submittals with color documentation shall be submitted in color.

- H. Provide submittals on the following items and as required by the Contract Documents:
  - 1. Geoweb and drivable grass material, geo-fabric and infill material.
  - 2. Sod and grassing material.
  - 3. Conduit and pull boxes

#### 1.05 NUMBER OF COPIES

- A. In the event of non-digital submittal, hard copy should be submitted. Provide the number of copies listed below.

Submittal	Number of Copies	
	To Engineer	Returned to Contractor
Progress Schedules	4 copies	1 copy
Shop Drawings & Product Data	5 copies	1 copy
Samples & Test Reports	3 copies	1 copy
O&M Data	3 copies	---
Certificates of Compliance	3 copies	---
Request for Substitution	2 copies	1 copy
Requests for authorization, requests for information, and other similar requests	2 copies	1 copy

- B. Additional Copies: If additional copies of shop drawings, product data, or shop drawings and product data are required by the Contractor, submit up to two additional copies to Engineer.

#### 1.06 SCHEDULE OF SUBMITTALS

- A. Submit copies of Preliminary Schedule of Submittals prior to the Preconstruction Conference.
- B. Within 10 days after Preconstruction Conference, submit the revised copies of Schedule of Submittals.

#### 1.07 PROGRESS SCHEDULES

Submit progress schedules in accordance with Contract documents

#### 1.08 SHOP DRAWINGS

- A. Present in a clear and thorough manner. Title each drawing with Project name and number. Transmittal letter shall reference item as listed on Submittal Schedule.
- B. Identify each element of drawings by reference to sheet number and specification section of Contract Documents.
- C. Identify field dimensions; show relation to adjacent or critical features or Work or products.
- D. Submit outline of manufacturer's representative services with Shop Drawings. Outline of manufacturer's representative services shall include man-hours or man-days of service to be provided for each of the following:
  - 1. Minimum man-hours or man-days of service to be provided for installation inspection, assistance, and certification.
  - 2. Minimum man-hours or man-days of service to be provided for functional testing and start-up.
  - 3. Minimum man-hours or man-days of service to be provided for training Owner's operation and maintenance personnel.
  - 4. Outline of manufacturer's representative services shall identify services and minimum man-hours, or minimum man-days, to be provided by factory representative and by equipment supplier, or distributor.

#### 1.09 PRODUCT DATA

- A. Submit only pages that are pertinent. Mark or highlight each copy of standard printed data to identify pertinent products. Show reference standards, performance characteristics, and capacities; wiring and piping diagrams and controls; component parts; finishes; dimensions; and required clearances.
- B. Modify manufacturer's standard schematic drawings and diagrams to supplement standard information and to provide information specifically applicable to the Work. Delete information not applicable.

#### 1.10 SAMPLES

- A. Submit full range of manufacturer's standard finishes except when more restrictive requirements are specified, indicating colors, textures, and patterns, for Owner selection.



- B. Submit samples to illustrate functional characteristics of products, including parts and attachments.
- C. Approved samples that may be used in the Work are indicated in the Specification section.
- D. Label each sample with identification required for transmittal letter.
- E. Provide field samples of finishes at Project, at location acceptable to Engineer, as required by individual Specifications section. Install each sample complete and finished. Acceptable finishes in place may be retained in completed work.
- E. Accepted samples shall establish the standards by which the completed Work will be judged.

#### 1.11 SUBSTITUTIONS

Submit requests for substitutions as specified in section 01600 – Materials and Equipment.

#### 1.12 REQUESTS

If there are any questions about interpretations of plans, specifications or Contract Documents, the Contractor may submit a written request for information or a request for clarification to the Engineer.

#### 1.13 RESUBMITTAL

- A. Make resubmittals under procedures specified for initial submittals; identify changes made since previous submittal.
- B. Identify resubmittal as a resubmittal and reference previous submittal.
- C. Identify changes made since previous submittal.

#### 1.14 DISTRIBUTION

- A. Distribute reproductions of shop drawings, copies of product data, samples, substitutions and other submittals which bear Engineer's review stamp, to job site file, Record Documents file, subcontractors, suppliers, and other entities requiring information.
- B. Instruct recipients to promptly report any inability to comply with provisions.

### **PART 2 - PRODUCTS (not used)**

### **PART 3 - EXECUTION (not used)**

**END OF SECTION**

**SECTION 01410**  
**REGULATORY REQUIREMENTS**

**PART 1 - GENERAL**

1.01 SECTION INCLUDES

Requirements and procedures for obtaining permits and complying with permits.

1.02 PERMITS

- A. Contractor will obtain County, State and Federal permits not obtained by County, including but not limited to building permits, South Florida Water Management District dewatering permits, right-of-way permits, burning permits, tree removal permits, excavation permits, demolition permits and Florida Dept. of Environmental Protection NPDES Stormwater Pollution Prevention Plan.
- B. The Contractor must file a minimum of 48 hours prior to start of construction a Notice of Intent with the DEP.
- C. Contractor shall schedule and document all inspections and re-inspections (if needed) required by permitting agencies.
- D. County will obtain the Collier County Site Plan approval and FPL Use Agreement.
- E. Documents:
  - 1. County will furnish signed and sealed sets of Contract Documents for permit applications.
  - 2. County will furnish copies of permits obtained by County and required to be posted on the job site. Copies of permits will be forwarded to Contractor prior to start of construction.
  - 3. Contractor shall furnish copies of permits obtained by the Contractor. Forward copies of permits to the County prior to commencement of work requiring permits.

1.03 CODES AND ORDINANCES

- A. Codes applicable to this project include, but are not necessarily limited to, the following:
  - 1. Standard building codes as applicable.
  - 2. Title 29, Part 1926, Construction Safety and Health Regulations, Code of Federal Regulations (OSHA), including all changes and amendments thereto.

3. Title 29, Part 1910, Occupational Safety and Health Standards, Code of Federal Regulations (OSHA), including all changes and amendments thereto.
  4. Accessibility Requirements Manual, Department of Community Affairs, Florida Board of Building Codes and Standards.
  5. The Americans with Disabilities Act (ADA) 1990 36 CFR Part 1191 Architectural and Transportation Barriers Compliance Requirements.
  6. NFPA 101 Life Safety Code, Latest Edition.
  7. Standard Fire Prevention Code, Latest Edition.
  8. State Fire Marshal's Uniform Fire Safety Rules.
- B. All materials and workmanship shall conform to local city or county ordinances.
- C. If there is a conflict in regulations, codes, or regulations and codes, the more stringent requirements shall govern.

## **PART 2 - PRODUCTS (not used)**

## **PART 3 - EXECUTION**

### **3.01 VERIFICATION AND CONFORMANCE**

- A. Conform to all requirements of all permits.

**END OF SECTION**

**SECTION 01420**  
**REFERENCE STANDARDS**

**PART 1 - GENERAL**

1.01 SECTION INCLUDES

Description of reference standards and requirements relative to reference standards.

1.02 QUALITY CONTROL

For products or workmanship specified by association, trade, or Federal Standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.

1.03 REFERENCE PUBLICATIONS

- A. The date of reference publications shall be the latest in effect at the time of the award of Contract.
- B. Reporting and resolving discrepancies relative to reference publications shall be as specified in the General Conditions and Division 1 of the specifications.
- C. Document precedence shall be as specified in the General Conditions.

1.04 SCHEDULE OF STANDARDS ORGANIZATIONS

AA	Aluminum Association
AAMA	Architectural Aluminum Manufacturer's Association
AAN	American Association of Nurserymen, Inc.
AASHTO	American Association of State Highway and Transportation Officials
ACI	American Concrete Institute
ACPA	American Concrete Pipe Association
AFBMA	Anti-Friction Bearing Manufacturer's Association, Inc.
AGC	Associated General Contractors of America
AGMA	American Gear Manufacturer's Association
AHDGA	American Hot Dip Galvanizers Association
AI	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 Moving and Conditioning Association
ANSI	American National Standards Institute
APA	American Plywood Association
API	American Petroleum Institute
APHA	American Public Health Association
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
ASMM	Architectural Sheet Metal Manual
ASTM	American Society for Testing and Materials
AWPA	American Wood-Preservers' Association
AWPI	American Wood Preservers Institute
AWWA	American Water Works Association
AWS	American Welding Society
BHMA	Builders Hardware Manufacturer's Association
CMA	Concrete Masonry Association
CRSI	Concrete Reinforcing Steel Institute
DEP	Florida Department of Environmental Protection

DIPRA	Ductile Iron Pipe Research Association
EIA	Electronic Industries Association
EJCDC	Engineers' Joint Contract Documents Committee
EPA	Environmental Protection Agency
ETL	Electrical Test Laboratories
FDEP	Florida Department of Environmental Protection
FDOT	Florida Department of Transportation
FS	Federal Specification General Services Administration Specification and Consumer Information Distribution Section (WFSIS)
HI	Hydraulic Institute
IEEE	Institute of Electrical and Electronics Engineers
IES	Illuminating Engineering Society
IMIAC	International Masonry Industry All-Weather Council
IPCEA	Insulated Power Cable Engineers Association
ISA	Instrument Society of America
ISO	International Organization for Standardization
MBMA	Metal Building Manufacturer's Association
MTI	Marine Testing Institute
NAAMM	National Association of Architectural Metal Manufacturers
NACE	National Association of Corrosion Engineers
NBS	National Bureau of Standards
NEC	National Electric Code
NEMA	National Electrical Manufacturers' Association
NFPA	National Fire Protection Association
NRCA	National Roofing Contractor's Association
OSHA Labor	Occupational Safety and Health Administration, Federal Department of Labor

PCA	Portland Cement Association
SBC	Standard Building Code
SDI	Steel Door Institute
SJI	Steel Joist Institute
SMACCNA	Sheet Metal and Air Conditioning Contractors National Association
SSPC	Steel Structures Painting Council
UL	Underwriter's Laboratories, Inc.
WEF	Water Environment Federation

**PART 2 - PRODUCTS (not used)**

**PART 3 - EXECUTION (not used)**

**END OF SECTION**

**SECTION 01430**  
**MATERIALS TESTING**

**PART 1 - GENERAL**

1.01 SECTION INCLUDES

Requirements and procedures for testing laboratory services.

1.02 REFERENCES

- A. General: as specified in Section 01420 - Reference Standards.
- B. ANSI/ASTM Standards
  - 1. ANSI/ASTM D3740 Practice for Evaluation of Agencies Engaged in Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction
  - 2. ANSI/ASTM E329 Practice for Inspection and Testing Agencies for Concrete, Steel, Bituminous Materials as Used in Construction

1.03 SELECTION AND PAYMENT

- A. The Contractor shall employ services of one or more independent testing laboratories to perform specified inspection and testing.
- B. Employment of testing laboratory shall in no way relieve Contractor of obligation to perform work in accordance with requirements of Contract Documents.

1.04 QUALITY ASSURANCE

- A. Standards: Comply with requirements of ANSI/ASTM E329 and ANSI/ASTM D3740.
- B. Laboratory: Authorized to operate in State in which Project is located.
- C. Laboratory Staff: Maintain a full time Registered Professional Engineer on staff to review services.
- D. Testing Equipment: Calibrated at reasonable intervals with devices of accuracy traceable to either National Bureau of Standards (NBS) Standards or accepted values of natural physical constants.

1.05 LABORATORY RESPONSIBILITIES

- A. Test samples submitted by Contractor.
- B. Provide qualified personnel at site. Cooperate with Engineer and Contractor in performance of services.



- C. Perform specified inspection, sampling, and testing of Products in accordance with specified standards.
- D. Ascertain compliance of materials and mixes with requirements of Contract Documents.
- E. Promptly notify Engineer and Contractor of observed irregularities or non-conformance of Work or Products.
- F. Perform additional inspections and tests required by Engineer.
- G. Attend preconstruction conferences and progress meetings as appropriate.

#### 1.06 LABORATORY REPORTS

- A. After each inspection and test, the laboratory shall promptly submit three (3) copies of laboratory report to Engineer, Contractor and County.
- B. Report shall include:
  - 1. Date issued,
  - 2. Project title and number,
  - 3. Name of inspector or technician,
  - 4. Date and time of sampling or inspection,
  - 5. Identification of product and Specifications section,
  - 6. Location in the Project,
  - 7. Type of inspection or test,
  - 8. Date of test,
  - 9. Results of tests,
  - 10. Conformance with Contract Documents.
- C. When requested by Engineer, provide interpretation of test results.

#### 1.08 LIMITS ON TESTING LABORATORY AUTHORITY

- A. Laboratory may not release, revoke, alter, or enlarge on requirements of Contract Documents.
- B. Laboratory may not approve or accept any portion of the Work.
- C. Laboratory may not assume any duties of Contractor.
- D. Laboratory has no authority to stop the Work.

#### 1.09 CONTRACTOR RESPONSIBILITIES

- A. Deliver to laboratory, at designated location, adequate samples of proposed materials that require testing, along with proposed design data as required.

- B. Cooperate with laboratory personnel, and provide access to the Work.
- C. Provide incidental labor and facilities to provide access to Work to be tested, to obtain and handle samples at the site or at source of Products to be tested, to facilitate tests and inspections, storage and curing of test samples.
- D. Notify Engineer and laboratory 24 hours prior to expected time for operations requiring inspection and testing services.
- E. Payment for testing and laboratory services.

#### 1.10 SCHEDULE OF INSPECTIONS AND TESTS

As specified in individual Product Specification sections

#### **PART 2 - PRODUCTS (not used)**

#### **PART 3 - EXECUTION (not used)**

**END OF SECTION**

## SECTION 01470

### COLOR AUDIO-VIDEO PRECONSTRUCTION RECORD

#### PART 1 - GENERAL

##### 1.01 SCOPE

Prior to commencing work, the Contractor shall take a continuous color audio-video digital DVD recording of Project site to serve as a record of pre-construction conditions.

##### 1.02 APPROVAL

No construction shall begin prior to review and approval by Engineer of the DVD recording covering construction area. The Engineer shall have authority to reject all or any portion of the recording not conforming to specifications and order that it be done again at no additional charge. The Contractor shall reschedule unacceptable coverage within five days after being notified. The Engineer shall designate those areas, if any, to be omitted from or added to the audio-video coverage. Recordings shall not be made more than 60 days prior to construction in any area. All DVDs and written records shall become property of the County. Prior to video recording, there will be a meeting between Engineer, Contractor and electrographer.

##### 1.03 PROFESSIONAL ELECTROGRAPHERS

Engage the services of a professional electrographer. The color audio-video recording shall be prepared by a responsible commercial firm known to be skilled and regularly engaged in the business of preconstruction color audio-video documentation. The electrographer shall furnish to Engineer a list of names and addresses of two references that electrographer has performed color audio-video recording for projects of a similar nature.

#### PART 2 - PRODUCTS

##### 2.01 AUDIO-VIDEO DVDs

Audio-video DVDs shall be new as manufactured by Maxell or equal. Reprocessed disks will not be acceptable. The Contractor shall submit two copies of each DVD recording for review and approval.

##### 2.02 EQUIPMENT

A. Furnish all equipment, accessories, materials and labor to perform this service. The total audio-video system shall reproduce bright, sharp, clear pictures with accurate colors and shall be free from distortion, tearing, rolls or any other form of imperfection. The audio portion of the recording shall reproduce the commentary of the camera operator with proper volume, clarity and be free from distortion and interruptions.

- B. The color video camera used in the recording system shall have a horizontal resolution of 300 lines at center, a luminance signal to noise ratio of 45 dB and a minimum illumination requirement of 25 foot-candles.

## **PART 3 - EXECUTION**

### **3.01 SCHEDULING**

No recording shall be done during precipitation, mist or fog. Recording shall only be done when sufficient sunlight is present to properly illuminate the subjects of recording and to produce bright, sharp video recordings of those subjects.

### **3.02 RECORDED INFORMATION – AUDIO**

Each recording shall begin with current date, project name and Owner and followed by general location, i.e., viewing side and direction of progress. Audio track shall consist of an original live recording. Recording shall contain the narrative commentary of electrographer, recorded simultaneously with his fixed elevation video record of the zone of influence of construction.

### **3.03 RECORDED INFORMATION - VIDEO**

All video recordings must, by electronic means, display continuously and simultaneously generated with the actual taping transparent digital information to include the date and time of recording, and station numbers as shown on the Drawings. Date information shall contain the month, day and year. Time information shall contain the hour, minutes and seconds. Additional information shall be displayed periodically. Such information shall include but not be limited to project name, contract number, name of street or structure, direction of travel and view. This transparent information shall appear on the extreme upper left hand third of the screen.

### **3.04 AREA OF COVERAGE**

- A. Recorded coverage shall include all surface features located within the zone of construction supported by appropriate audio coverage. Such coverage shall include special attention to existing driveways, sidewalks, curbs, pavements, structures, exposed piping, electrical and control devices, landscaping, culverts, fences, signs and headwalls within the area covered.
- B. When a conventional wheeled vehicle is appropriate for use, distance from the camera lens to the ground shall not be less than twelve feet. Rate of speed in the general direction of travel of the vehicle used during recording shall not exceed 15 feet per minute. Panning, zoom-in and zoom-out rates shall be sufficiently controlled to maintain a clear view of the object. Tape coverage may be required in areas not accessible by vehicles. Such coverage shall be obtained by walking or special conveyance approved by the Engineer.

**END OF SECTION**

## SECTION 01540

### SECURITY

#### PART 1 - GENERAL

##### 1.01 SECTION INCLUDES

Requirements for project site security

##### 1.02 SITE SECURITY

- A. Facilities Partially Occupied by Owner: Site security of partially occupied sites shall be joint responsibility of Contractor and Owner.
  - 1. Contractor shall provide security for the following:
    - a. Contractor's and subcontractors' staging areas and storage areas.
    - b. Field offices and sheds.
    - c. New facilities under construction.
    - d. Existing facilities being renovated.
  - 2. Owner shall provide security for the following:
    - a. Facilities occupied by Owner.
    - b. Site areas solely occupied by Owner.
  - 3. Site Entrance
    - a. Site access shall be through the US41 driveway.
- B. All field workers associated with execution of the Contract Work must obtain security badges from the Facilities Department of Collier County.
  - 1. Each worker must go to the Facilities Department at the Government Center on Tamiami Trail East for fingerprinting, photographing and completion of security application. Workers that fail the security clearance requirements shall not be allowed on the project.
  - 2. The Contractor shall be responsible for payment to the County of the fee associated with each security badge.
  - 3. The Contractor is responsible for renewal of the security badges and for maintaining a current badge for each worker.
  - 4. The Contractor shall retrieve the security badge from each worker no longer employed at the site and turn badge over to the County.

- C. The Contractor shall be fully responsible for security of construction equipment, products, small tools, and other items related to the construction.

#### 1.03 SECURITY PROGRAM

- A. Protect Work from theft, vandalism, and unauthorized entry.
- B. Maintain program throughout construction period until Owner acceptance precludes the need for Contractor security.

#### 1.04 ENTRY CONTROL

- A. Restrict entrance of persons and vehicles into construction site.
- B. Owner will control entrance of persons and vehicles related to Owner's operations.

### **PART 2 - PRODUCTS (not used)**

### **PART 3 - EXECUTION (not used)**

**END OF SECTION**

**SECTION 01541**  
**FIELD ENGINEERING**

**PART 1 - GENERAL**

1.01 SECTION INCLUDES

Surveying services required for proper layout of work and record information.

1.02 QUALITY CONTROL

A Land Surveyor: Registered in the State of Florida and acceptable to Engineer shall be used for layout of all process piping, layout of building footprints and all Record Drawing information. Refer to Section 01781 – Project Record Documents.

1.03 SUBMITTALS

- A. Submit name, address, and telephone number of Registered Land Surveyor to the Engineer before starting work.
- B. On request, submit documentation verifying accuracy of survey work for project boundary and vertical and horizontal control.
- C. Submit certificate signed by Surveyor with Project Record Documents certifying that elevations and locations of improvements are in conformance, or non-conformance, with Contract Documents.

1.04 PROJECT RECORD DOCUMENTS

- A. Maintain complete, accurate log of control and survey work as it progresses.
- B. Maintain one set of plans that all record drawing information is kept on. These plans shall show the record information within one week of installation of work or information being made available. Record Drawings will be available for review by the Engineer at any time during the normal work day.
- C. Submit Record Documents as specified in Section 01770 - Contract Closeout and Section 01781 – Project Record Documents and in the Collier County Utilities Standards Manual, current version with updates.

**PART 2 - PRODUCTS (not used)**

**PART 3 - EXECUTION**

3.01 INSPECTION

- A. Verify locations of survey control points prior to starting work.

- B. Promptly notify Engineer of any discrepancies discovered.

### 3.02 SURVEY REFERENCE POINTS

- A. Protect survey control points prior to starting site work; preserve permanent reference points during construction. Make no changes without prior written notice to Engineer.
- B. Promptly report to Engineer the loss or destruction of any reference point or relocation required because of changes in grades or other reasons. Replace dislocated survey control points based on original survey control.

### 3.03 SURVEY REQUIREMENTS

- A. Engineer shall provide one bench mark for vertical control and horizontal control during construction. Contractor shall be responsible for laying out the work, shall protect and preserve the established bench mark and shall make no changes or relocations without prior approval of Owner. Contractor shall report to Engineer whenever any reference point is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points by professionally qualified personnel.
- B. Contractor shall establish line and levels, locate and lay out by instrumentation and similar appropriate means:
  - 1. Site improvements, including pavements, stakes for grading, fill and topsoil placement, utility locations, slopes, and invert, or centerline, elevations. Submit cut sheets for gravity sewers to Engineer three days prior to construction.
  - 2. Grid or axis for structures.
  - 3. Building foundation, column locations, and ground floor elevations.
  - 4. Piping locations, slopes, and invert, or centerline, elevations.
- C. Periodically verify layouts by same means.
- D. Contractor shall provide horizontal and vertical record locations of improvements as specified in Section 001781 – Project Record Documents and shall include the following:
  - 1. Corner coordinates of rectangular or square buildings, structures, and tanks.
  - 2. Center coordinates of circular buildings, structures, and tanks.
  - 3. Building floor elevations.
  - 4. Floor elevations of structures and tanks as required to define floor slope.
  - 5. Top elevations of structures and tanks.



6. Channel floor elevations at each change in slope.
  7. Channel top elevations.
  8. Manhole center coordinates for sanitary sewers, storm sewers, and electrical duct banks.
  9. Pipe coordinates at changes in direction.
  10. Coordinates of buried valves, tees and fittings.
  11. All underground piping invert or centerline elevations including at changes in slope.
  12. All underground pipe invert or centerline elevations at tees and crosses.
  13. Pipe invert, or centerline, elevations at crossing with other pipe.
  14. Invert, or centerline, elevations and coordinates of existing pipe at crossing with underground pipe installed under this project.
  15. Invert elevations of manhole pipe inlets and outlets.
  16. Duct bank coordinates at changes in direction.
  17. Top and bottom elevations of duct banks at manholes and handholes.
  18. Other horizontal and vertical record data pertinent to completed Work.
- E. Ground surface record/information shall include the following:
1. Spot elevations should be shown at a minimum 100-foot rectangular grid, sufficient to show all the important topographic features.
  2. Drainage swales.
  3. All elevations shown on the construction drawings shall be confirmed or amended on the Project Record Drawings if finished elevations are different.

**END OF SECTION**

## SECTION 01570

### TEMPORARY ENVIRONMENTAL CONTROLS

#### PART 1 - GENERAL

##### 1.01 SECTION INCLUDES

Requirements for temporary environmental controls of water, dust, noise, erosion, pollution and pests.

##### 1.02 WATER CONTROL

- A. Dewatering Excavations – Shall conform to Section 02240 - Dewatering
- B. Surface Water Control
  - 1. Protect site from puddling or running water.
  - 2. Grade construction areas so that storm water drains to storm water system or to dewatering systems.
- C. Disposal of Discharge Water
  - 1. Do not contaminate or disturb the environment of properties adjacent to the Work.
  - 2. Do not contaminate streams or other surface waters.
  - 3. Do not use sanitary sewers for disposal of water from water control systems.

##### 1.03 DUST CONTROL

- A. Provide continuous dust control systems, construction methods, or both which control dust generation and dispersment.
- B. Control dust from construction operations, construction traffic, and other traffic on the job site so that:
  - 1. Visibility is not reduced below safe limits for construction operations and traffic.
  - 2. Adjacent property does not receive dust from the project site.
  - 3. Persons, animals, or persons and animals are not injured by dust from the project site.
  - 4. Dust from the project does not cause a nuisance to the Owner or persons in the vicinity of the project site.

#### 1.04 EROSION AND SEDIMENT CONTROL

Shall conform to Section 02310 - Erosion and Sediment Control

#### 1.05 NOISE CONTROL

- A. Provide systems, measures, or both so that noise from construction operations, equipment and traffic does not exceed levels permitted by local ordinances.
- B. Control noise from construction operations, equipment and traffic so that:
  - 1. Noise does not impede the performance of Owner's personnel at the project site.
  - 2. Persons, animals, or persons and animals are not injured by noise from the project site.
  - 3. Noise from the project does not cause a nuisance to the Owner or persons in the vicinity of the project site.
- C. Provide hearing protection within the project site for Contractor's personnel, Owner's personnel, and Engineer wherever noise levels exceed occupational exposure limits.

#### 1.06 PEST CONTROL

- A. Provide insect and rodent control for construction areas, staging area, storage area, field offices, and sheds.
- B. Keep storage areas clean and neat.
- C. Provide routine cutting of grass and weeds.
- D. Instruct construction personnel on the prevention of bites from poisonous snakes and spiders when picking up materials and performing other tasks.

#### 1.07 POLLUTION CONTROL

Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious substances, toxic substances, and pollutants produced by construction operations.

#### 1.09 ACCESS AND HAUL ROUTE

Contractor shall maintain public access roadways, right-of-way, and haul route free from mud, debris, trash and dust created by the Contractor's activities. Contractor shall provide all services necessary to accomplish this Contract requirement, including continuous crews and equipment, if necessary.

## **PART 2 - PRODUCTS**

### **2.01 CHEMICALS**

Chemicals used during project construction or furnished for project operation, whether herbicide, pesticide, disinfectant, polymer, reactant or of other classification, must show approval of either EPA or USDA.

## **PART 3 - EXECUTION**

### **3.01 USE OF CHEMICALS**

Use of chemicals and disposal of residues shall be in strict conformance with manufacturer's instructions, government regulations, or both, as applicable.

**END OF SECTION**

**SECTION 01770**  
**CONTRACT CLOSEOUT**

**PART 1 - GENERAL**

1.01 SECTION INCLUDES

Requirements for contract closeout.

1.02 CLOSEOUT PROCEDURES

- A. Comply with procedures stated in General Conditions of the Contract for issuance of Certificate of Substantial Completion.
- B. When Contractor considers work has reached final completion, submit written certification that Contract Documents have been reviewed, work has been inspected, and that Work is complete in accordance with Contract Documents and ready for Engineer's inspection.
- C. In addition to submittals required by the conditions of the Contract, provide submittals required by governing authorities, and submit a final statement of accounting giving total adjusted Contract Sum, previous payments, and sum remaining due.
- D. If appropriate, Engineer will issue a final Change Order reflecting approved adjustments to Contract Sum not previously made by Change Order.

1.03 PROJECT RECORD DOCUMENTS

- A. Project Record Documents shall be as specified in Section 01781 – Project Record Documents.
- B. Prior to Contract closeout, submit Record Documents to Engineer with transmittal letter containing date, Project title, Contractor's name and address, list of documents, and signature of Contractor.

1.04 WARRANTIES AND BONDS

Contractor shall ensure that all warranties and bonds have been received and submitted to Owner as specified in the Contract Documents.

**PART 2 - PRODUCTS (not used)**

**PART 3 – EXECUTION**

3.01 FINAL CLEANING

- A. Execute prior to final inspection.

- B. Clean site, sweep paved areas, and rake clean other surfaces.
- C. Remove waste, surplus materials, rubbish and temporary construction facilities from the site.

**END OF SECTION**

## SECTION 01781

### PROJECT RECORD DOCUMENTS

#### PART 1 – GENERAL

##### 1.01 SECTION INCLUDES

Requirements for preparation, maintenance and submittal of project record documents. **The Contractor's attention is specifically directed to Part 3.02.B of this Section.**

##### 1.02 SUBMITTALS

- A. General: as specified in Section 1330 - Submittals
- B. At Contract close out, deliver one copy of record documents to Engineer as specified in Section 01770 – Contract Closeout.

##### 1.03 REQUIREMENTS

Contractor shall maintain at the site for the Owner one record copy of:

- A. Drawings
- B. Specifications
- C. Addenda
- D. Change orders and other modifications to the Contract
- E. Engineer's field orders or written instructions
- F. Approved shop drawings, working drawings and samples
- G. Field test records
- H. Construction photographs
- I. Detailed Progress Schedule

#### PART 2 – PRODUCTS (not used)

#### PART 3 – EXECUTION

##### 3.01 MAINTENANCE OF DOCUMENTS AND SAMPLES

- A. Project record documents shall be stored in Contractor's field office or other location approved by the OWNER apart from documents used for construction
- B. Maintain documents in a clean, dry, legible condition and in good order. Do not use record documents for construction purposes.

- C. Make documents and samples available at all times for inspection by the Engineer and/or Owner.

### 3.02 RECORDING

#### A. General

1. Label each document "PROJECT RECORD" in neat, large printed letters.
2. Record information concurrently with construction progress. Do not conceal any work until required information is recorded.
3. Record information in red ink.

#### B. Record Drawings

1. **Record information on Drawings shall be as specified in Section 01541 – Field Engineering. The Record Drawings require certification of all as-built information, including vertical and horizontal data, for above and below ground improvements by a Florida Registered Land Surveyor.**
2. Drawings shall indicate all deviations from Contract Drawings including:
  - a) Field changes of dimension and detail
  - b) Changes made by Change Order
  - c) Details, utilities, piping or structures not on original Contract Drawings.
  - d) Equipment and piping relocations.

#### C. Specifications and Addenda

Legibly mark each Section to record:

1. Manufacturer, trade name, catalog number and supplier of each product and item of equipment actually installed.
2. Changes made by Field Order or Change Order.

#### D. Shop Drawings

1. Keep one copy of the final, approved shop drawing with the Record Documents. Do not keep previously rejected submittals unless they are necessary to complete the submittal.
2. Record documents should include all shop drawing information submitted. Additional information submitted during the Engineer's review process should be filed with the appropriate submittal.

**END OF SECTION**